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RCRA BACKGROUND INVESTIGATION

for

NAVAL AIR STATION
CORPUS CHRISTI, TEXAS

Prepared For:

DEPARTMENT OF THE NAVY
NAVAL AIR STATION CORPUS CHRISTI
PUBLIC WORKS, CODE 189
CORPUS CHRISTI, TEXAS

Contract No. N62467-94-D-7562

HALFF ASSOCIATES, INC.
8616 Northwest Plaza Drive
Dallas, Texas 75225
(214) 739-0094

AVO 15365

NOVEMBER 1996

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NOVEMBER 1996

Jackie (Jack) Cooper, Jr.
Project Geologist

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Halff Associates
ENGINEERS • ARCHITECTS • SCIENTISTS
PLANNERS • SURVEYORS

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November 18, 1996
AVO 15365

Mr. Terry Boone
Department of the Navy
Naval Air Station Corpus Christi
Public Works Department
Building 19, Code 189
Corpus Christi, Texas 78419

Re: RCRA Background Investigation for
Naval Air Station Corpus Christi
Corpus Christi, Texas 78419

Dear Mr. Boone:

Attached please find the report RCRA Background Investigation prepared by Halff Associates, Inc. in accordance with the RCRA Facility Investigation Workplan for Naval Air Station Corpus Christi.

Halff Associates, Inc. is pleased to be of service to the Department of the Navy on this project. If you have any questions regarding this report, please feel free to call.

Sincerely,

HALFF ASSOCIATES, INC.

Jackie (Jack) Cooper, Jr.
Project Geologist

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RCRA BACKGROUND INVESTIGATION

for

NAVAL AIR STATION
CORPUS CHRISTI, TEXAS

1.0 PURPOSE AND SCOPE

1.1 Purpose

Halff Associates, Inc. (Halff Associates) was retained by the Department of the Navy to conduct a RCRA Background Investigation at Naval Air Station, Corpus Christi, Texas (NASCORPC). The purpose of the investigation was to gather and evaluate data in accordance with the RCRA Facility Investigation Workplan (Workplan), dated September 23, 1994, prepared by Professional Service Industries, Inc. (PSI), modified and approved by the Texas Natural Resource Conservation Commission (TNRCC) through written correspondence dated May 26, 1995. A copy of the approval letter from the TNRCC is included as Appendix A. The Location Map depicting the property location relative to the surrounding area is presented as Figure 1.

1.2 Scope

Field activities for the RCRA Background Investigation began on April 1, 1996 and were completed on July 10, 1996. A copy of the field notes documenting these activities is presented in Appendix B. The scope of services performed in conjunction with the background investigation included the following tasks:

- Installation of seven hand-augered soil borings to a depth of approximately five feet below ground surface or to first encountered groundwater;

- Collection of one composite soil sample from each of the hand-augered soil borings for submission to an analytical laboratory to be analyzed for Total Volatile Organic Compounds (VOCs) by EPA Method 8260, Semivolatile Organic Compounds (SVOCs) by EPA Method 8270, Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1, Total RCRA Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Method 6010/7471,

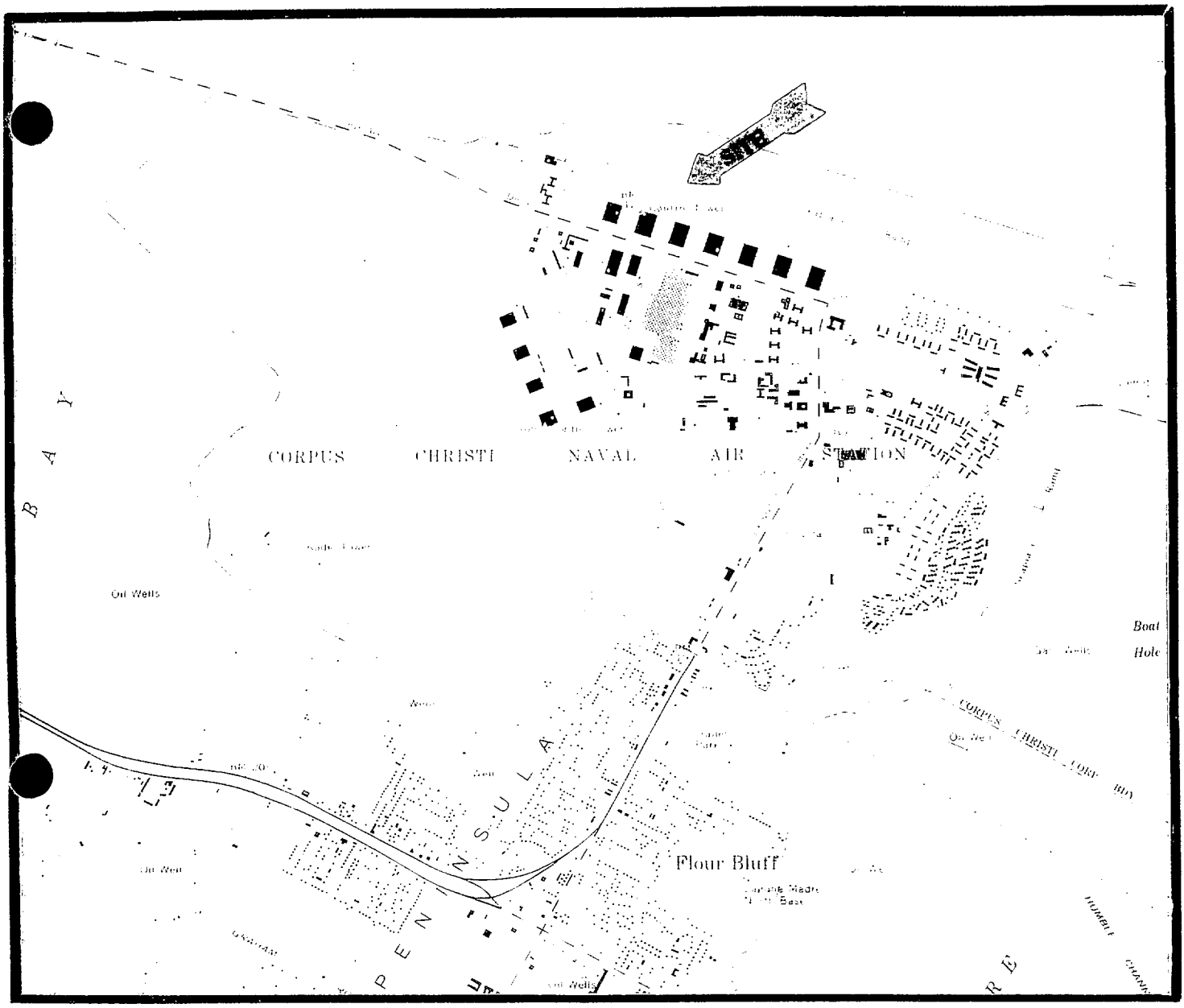


FIGURE 1

OSO CREEK NE QUADRANGLE
TEXAS–NUECES CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

LOCATION MAP

copper, iron, nickel and zinc by EPA Method 6010, cyanide by EPA Method 9010, and total phenolics by EPA Method 9065;

- Installation of five soil borings to an approximate depth of 25.0 feet or at least five feet below the top of the water table using hollow stem auger drilling techniques;

- Collection of soil samples from each soil boring, on approximately 5-foot intervals, for submission to an analytical laboratory to be analyzed for VOCs by EPA Method 8260, SVOCs by EPA Method 8270, TPH by EPA Method 418.1, Total RCRA Metals by EPA Method 6010/7471, copper, iron, nickel, and zinc by EPA Method 6010, cyanide by EPA Method 9010, and total phenolics by EPA Method 9065;

- Completion of each of the five soil borings as 2-inch diameter PVC monitoring wells;

- Collection of one groundwater sample from each of the five newly installed monitoring wells and three previously installed monitoring wells (BG-1, BG-2, and BG-3) for submission to an analytical laboratory to be analyzed for VOCs by EPA Method 8260, SVOCs by EPA Method 8270, TPH by EPA Method 418.1, Total RCRA Metals by EPA Method 6010/200.7/7470, copper, iron, manganese, nickel, and zinc by EPA Method 6010, cyanide by EPA Method 335.2, total phenolics by EPA Method 420.1, sulfates and chlorides by EPA Method 300.0, Total Dissolved Solids (TDS) by SM 18th Method 2450, Total Organic Halogen (TOX) by EPA Method 9020, and Total Organic Carbon (TOC) by SM 18th Method 5310;

- Conduct one additional groundwater sampling event, as described above, after a period of at least two months; and,

- Preparation of a RCRA Background Investigation Report summarizing the activities conducted and the information gathered, including an appropriate

statistical evaluation of the data to determine constituent background concentrations for the site facility.

After the installation of monitoring well BG-110, it was determined that the well did not yield enough groundwater to properly purge and sample the well. Therefore, one additional soil boring (BG-101) was drilled, and completed as a monitoring well, sampled, and analyzed for the constituents described above.

2.0 SITE DESCRIPTION

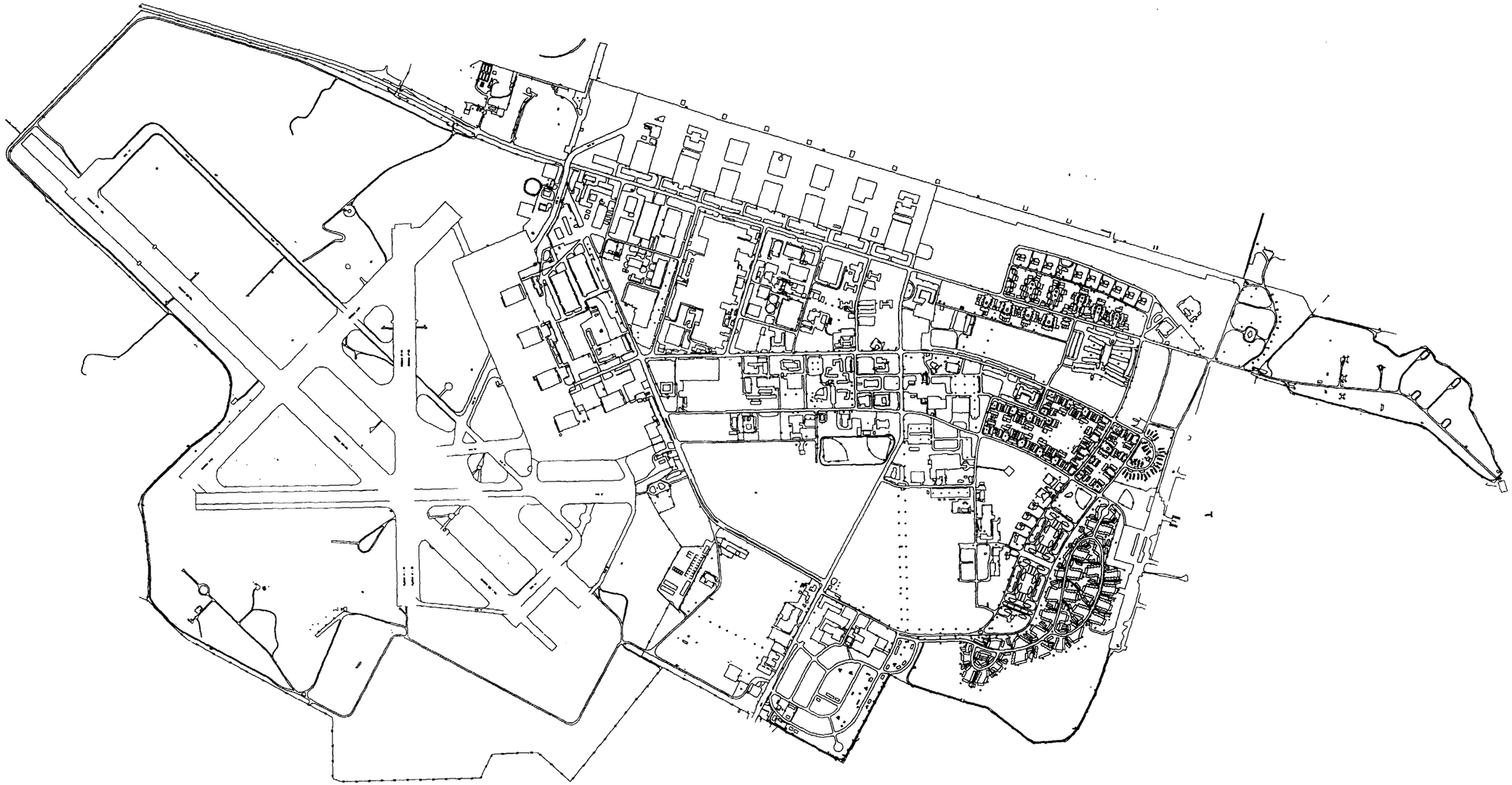
2.1 Site Location

Naval Air Station Corpus Christi (NASCORPC) occupies approximately 2,340 acres located on State Highway 358 (Naval Station Drive), approximately 3 miles southeast of Corpus Christi, Nueces County, Texas. NASCORPC is located on the Encinal Peninsula and is bound to the north by Corpus Christi Bay, to the east by Laguna Madre, to the west by Cayo Del Oso Bay, and to the south by a residential area. A site location map is presented as Figure 1.

2.2 Site History and Usage

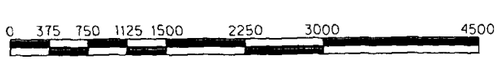
NASCORPC was established as a naval aviator training facility and has occupied the same location sing 1940. Presently, the facility also functions as a maintenance and logistical facility for Navy, Army, and Coast Guard aviation units. Operations conducted at the facility include metal plating, engine and air frame cleaning, fuel and ordinance storage, instrumentation maintenance and repair, and general aircraft maintenance. NASCORPC also maintains housing and medical care facilities for use by military personnel working on-site. A site schematic is presented as Figure 2.

The NASCORPC site is permitted as a Class I Hazardous, Storage and Processing On Site facility under Permit No. HW-50038 issued by the TNRCC (formerly Texas Water Commission). As required by the permit, the permittee would conduct a RCRA Facility Investigation to determine whether hazardous constituents listed in 40 CFR 264, Appendix IX (Appendix IX) have



PLAN - NAVAL AIR STATION CORPUS CHRISTI

SCALE: 1"=1500'



SITE SCHEMATIC						
DEPARTMENT OF THE NAVY						
NAVAL AIR STATION CORPUS CHRISTI						
ALBERT H. HALFF ASSOCIATES, INC. ENGINEERS • SCIENTISTS • SURVEYORS						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
J.C.	CADD	AUGUST 1996	NOTED	15365 3655/TE		2

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been released to the environment. The permit identified 61 waste management units which would require investigation.

Prior to conducting the RCRA Facility Investigation, a RCRA Facility Investigation Workplan (Workplan) was prepared and approved by the TNRCC as required by the permit. As stated previously, the Workplan was submitted and approved with TNRCC modifications. Included in the Workplan were provisions for a RCRA Background Investigation. The sections of the Workplan relating to the performance of the background investigation are presented in Appendix C.

3.0 ENVIRONMENTAL SETTING

3.1 Geographic Location

NASCORPC is located in Nueces County on the Encinal Peninsula on the Gulf of Mexico within the Gulf Coastal Plain Physiographic Province. This region is characterized by flat to gently rolling terrain composed mainly of sediments derived from adjacent uplands and the slowly subsiding Gulf of Mexico.

3.2 Geologic Setting

Nueces County is located on the downdip edge of the Gulf Coastal Plain adjacent to the Gulf of Mexico. This region is underlain by a gulfward-thickening wedge of unconsolidated to semiconsolidated sedimentary rocks of Cenozoic age. These sediments overlie rocks of Mesozoic age and range in thickness from a few feet near the landward limit to more than 30,000 feet in southern Louisiana. The Cenozoic rocks consist mainly of sand, silt, and clay derived from nearby continental upland areas.

According to the "Geologic Atlas of Texas, Corpus Christi Sheet," (Bureau of Economic Geology, University of Texas at Austin), the project area is located on the outcrop of the Beaumont Formation. This formation consists primarily of clay, silt, sand and gravel with sediments of barrier island and beach deposits. NASCORPC is located within an area designated

to be barrier island and beach deposits which consists primarily of fine grained sands and is generally less than 60 feet in thickness. Figures 3 and 3A show the surficial geology of the project area.

3.3 Regional Hydrogeology

NASCORPC is located within the mapped region of the Gulf Coast aquifer. The Gulf Coast aquifer is considered to be composed of the Catahoula, Oakville, Lagarto, Goliad, Willis, Lissie, and Beaumont Formations, as well as overlying surficial deposits. The aquifer consists of alternating beds of clay, silt, sand, and gravel which are considered to be hydrogeologically connected and form a large, leaky confined aquifer system. Its principal water-bearing units are the Goliad, Willis, and Lissie Formations. The water produced from the Gulf Coast aquifer is typically fresh to slightly saline. However, the intrusion of salt water near the coastline may contribute to the deterioration of groundwater quality due to increased chloride content.

4.0 FIELD INVESTIGATION

4.1 Soil Boring Installation

On April 1 through April 4, 1996, in accordance with the approved Workplan, Halff Associates supervised the installation of twelve soil borings at NASCORPC along the southern fenceline of the property. The locations of the soil borings (and subsequent monitoring well locations) were selected by NASCORPC personnel with the approval of the TNRCC. The locations of the soil borings are shown on Figure 4.

The soil borings were installed by Professional Service Industries, Inc. (PSI) using a Mobile B-59 truck-mounted drill rig and hollow stem auger drilling techniques. Each of the soil borings were advanced with 6.0-inch outside diameter augers and continuously sampled using either 2-foot shelby tubes or split-tube samplers. Soil borings SB-101, SB-102, SB-103, SB-105, SB-107, SB-109, and SB-111 ("shallow borings") were advanced and sampled to a depth of approximately 5.0 feet or to first encountered groundwater. Soil borings BG-104, BG-106, BG-108, BG-110, and BG-112 ("deeper borings") were advanced to depths ranging from 14.0 to 26.0 to allow for the completion of monitoring wells. Based on the lack of groundwater recharge in

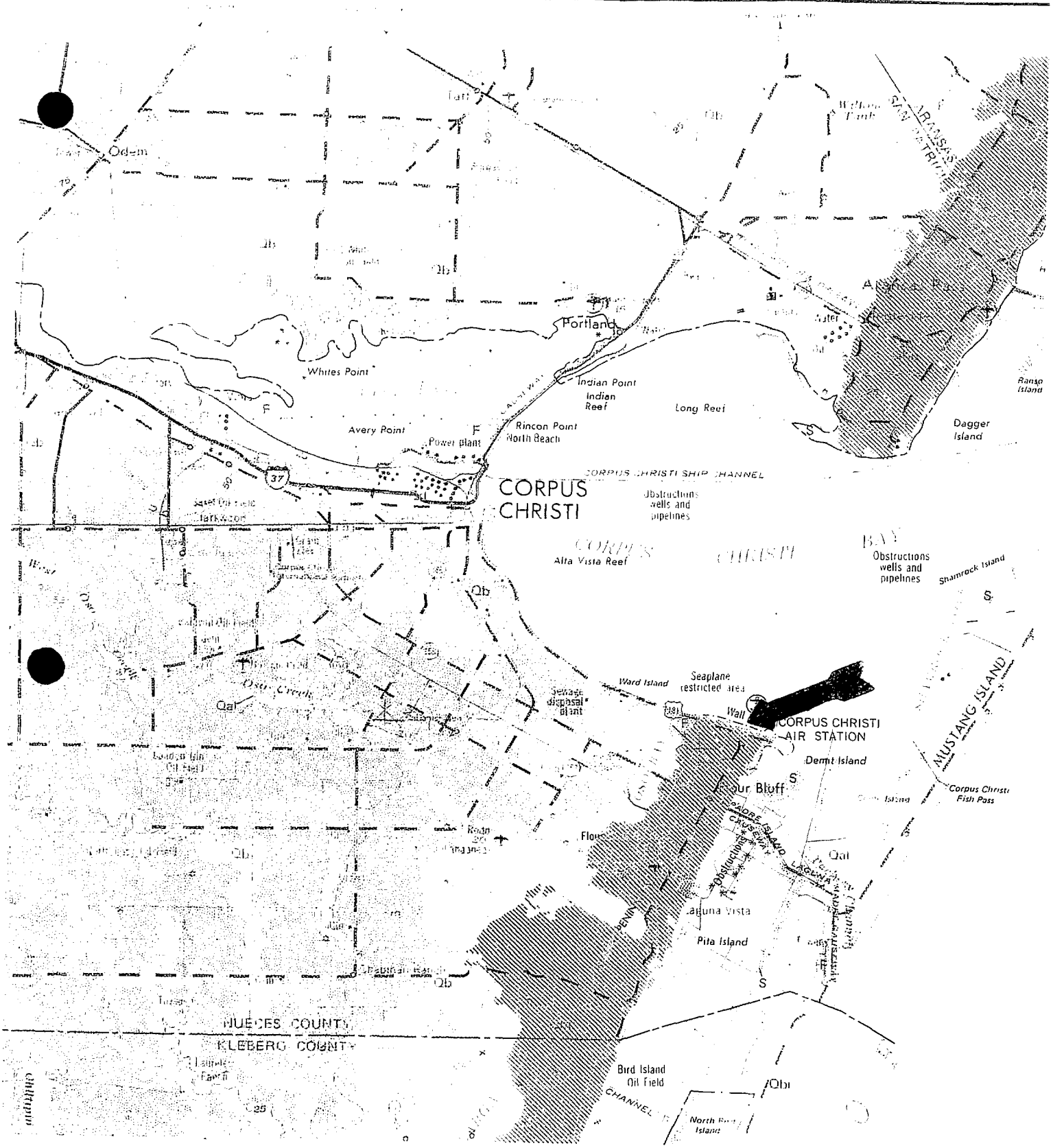


FIGURE 3

SURFICIAL GEOLOGY MAP

SCALE : 1" = 4.1 miles

EXPLANATION

F S

Fill and Spoil

Fill, F, material dredged for raising land surface above alluvium and barrier island deposits and for creating land. Spoil, S, dredged material forming islands along waterways. Properties highly variable, mixed mud, silt, sand and shell, mud and silt winnowed when reworked

Qal

Alluvium

Clay, silt, sand, and gravel, organic material abundant locally; includes point bar, natural levee, stream channel, backswamp, coastal marsh, mud flat, clay dune, sand dune, and oyster reef deposits. Includes some terrace deposits along streams other than the Nueces

Qbb

Barrier island deposit

Sand, silt, and clay, mostly sand, well sorted, fine grained, abundant shells and shell fragments, interfingers with silt and clay in landward direction, includes beach ridge, spit, tidal channel, tidal delta, washover fan, and sand dune deposits. "high to very high permeability, low water-holding capacity, low compressibility, low shrink swell potential, good drainage, high shear strength, low plasticity"

Recent

Qcd | Qsd | Qds | Qs | Qsl

Windblown deposits

Includes clay dune and clay sand dune deposits, Qcd, *active dunes and dune complexes,* Qsd, *stabilized sand dune deposits,* Qds, *sand sheet deposits,* Qs, *and silt sheet deposits,* Qsl *Small areas of Pleistocene deposits within these various units not separately mapped*

Clay dune and clay sand dune deposits, Qcd, *clay, silt, and sand ranging from mostly clay and silt in coastal areas to a mixture of clay, silt, and sand inland, light gray, calcareous, forms elongate deposits mostly on downwind side of intermittently wet basins, relief ≤ 30 feet, physical properties similar to those of the sandy and silty Beaumont*

Active dunes and dune complexes on mainland Qsd, *barrier dunes common, local barchan dunes, relief up to 30 feet "very high permeability, low water-holding capacity, low compressibility, low shrink-swell potential, good drainage, high shear strength low plasticity unstable because of migration"*

Stabilized sand dune deposits, Qds, *strong relief coian grain, sparse grass, includes active blowout areas with depressed relief, hummocky, locally becomes fresh-water marsh in wet season, and well stabilized sand dunes with dense live-oak mottes and scrub "moderate to very high permeability, low to moderate water holding capacity, low compressibility, low shrink swell potential good to fair drainage, high shear strength, low plasticity, shallow water table"*

Sand sheet deposits, Qs, *no relief grain, sparse grass physical properties similar to those of "Stabilized sand dune deposits,"* Qds

Silt sheet deposits, Qsl, *silt and fine sand in thin, locally discontinuous sheet winnowed from other "Windblown deposits," brush and grass covered rests on various Pleistocene deposits, has physical properties similar to those of other "Windblown deposits," but because of its thinness engineering plans should consider the nature of the underlying materials*

QUATERNARY

Pleistocene

Recent or Late (?) Pleistocene

Qd

Deweyville Formation

Sand, silt, clay, and gravel, includes point bar, natural levee, and stream channel deposits, surface characterized by relief meanders of much larger radius of curvature than those of present streams occurs along Nueces River at three levels ≤ 20, 20-30, and 40-55 feet above level of Recent floodplain

Qbb | Qb

Beaumont Formation

Beaumont Formation, Qb, *with barrier island and beach deposits,* Qbb, *mapped separately. Beaumont Formation,* Qb, *mostly clay, silt, sand, and gravel, includes mainly stream channel, point bar, natural levee, and backswamp deposits, and to a lesser extent coastal marsh, mud flat, lagoonal, Recent and older lake, clay dune, and sand dune deposits, concretions and massive accumulations of calcium carbonate (caliche) and concretions of iron oxide and iron-manganese oxides in zone of weathering, surface pitted by shallow lakes or dry lake beds with associated clay dunes which in places align along meanderbelt ridges, pimple mounds only in vicinity of* Qbb *unit; thickness 100± feet*

The stippled overprint (source shown in Index to Geologic Mapping) shows areas that are "Dominantly clay and mud of low permeability, high water-holding capacity, high compressibility, high to very high shrink-swell potential, poor drainage, level to depressed relief, low shear strength, and high plasticity, geologic units include interdistributary muds, abandoned channel-fill muds, and fluvial overbank muds." The nonstippled areas are "Dominantly clayey sand and silt of low-moderate permeability, moderate drainage, level relief with local mounds and ridges, and high shear strength, geologic units include meanderbelt, levee, crevasse splay, and distributary sands"

Barrier island and beach deposits, Qbb, *mostly fine-grained sand, shells scarce, surface slightly higher than that of surrounding deposits, characterized by numerous pimple mounds and poorly defined relict beach ridges; includes many Recent, locally active sand dunes, probably part of "Ingleside" barrier island system, thickness less than 60 feet*

Ql

Lissie Formation undivided

Sand, silt, clay, and minor amount of gravel, iron oxide and iron-manganese nodules common in zone of weathering, in upper part locally calcareous, some concretions of calcium carbonate, surface fairly flat and featureless except for numerous rounded shallow depressions and pimple mounds, lower part very gently rolling; characterized by "moderate permeability, moderate drainage, and high shear strength, geologic units include meanderbelt, levee, crevasse splay, and distributary sands and floodbasin mud over meanderbelt sand," thickness 200± feet

QUATERNARY

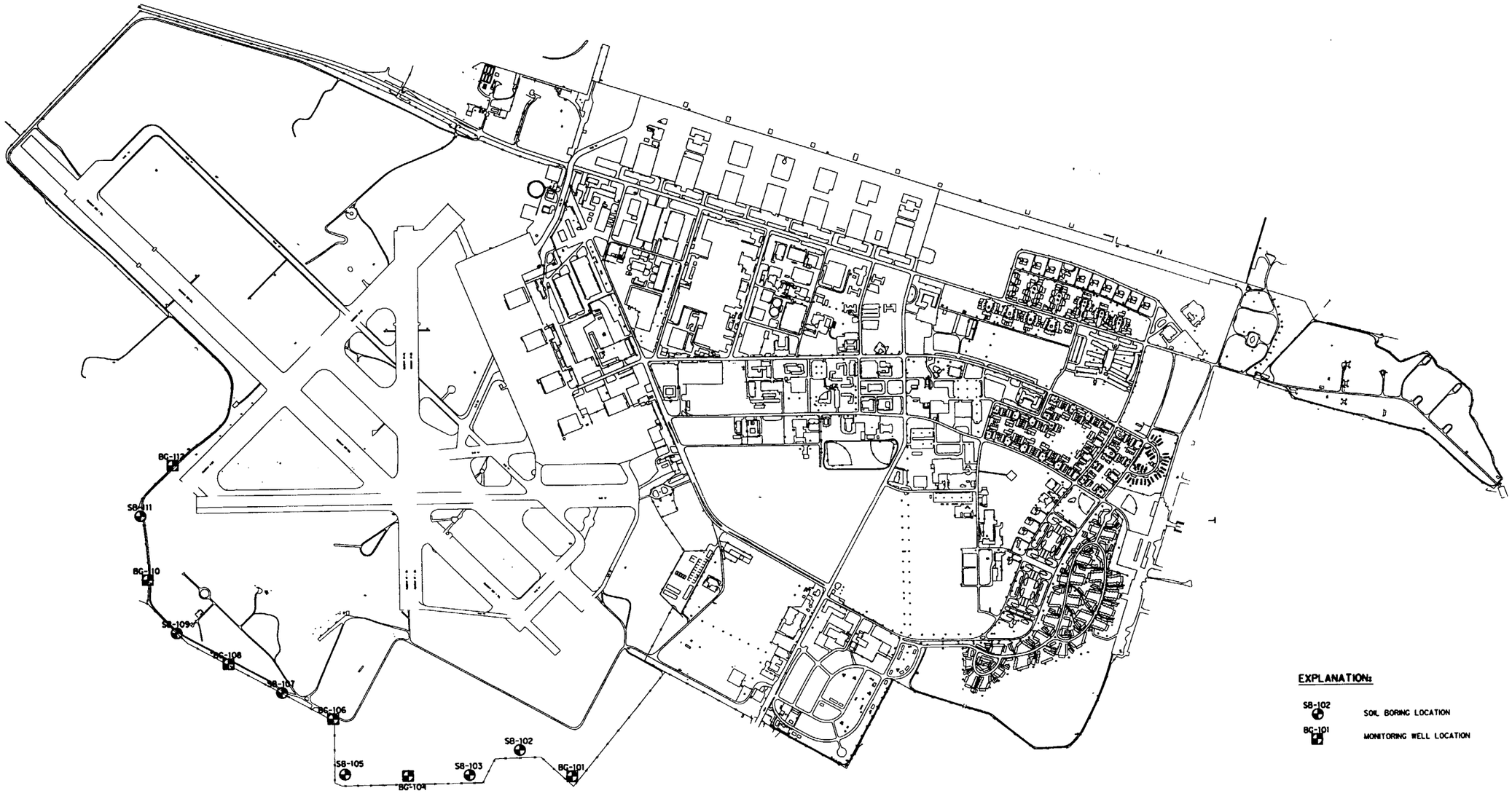
Fault

U D

U *upthrown side,* D, *downthrown side, dashed where inferred*

FIGURE 3A

LEGEND - SURFICIAL GEOLOGY



EXPLANATION:

SB-102 — SOIL BORING LOCATION

BG-101 — MONITORING WELL LOCATION

PLAN - NAVAL AIR STATION CORPUS CHRISTI

N

SCALE: 1"=1500'

0 375 750 1125 1500 2250 3000 4500

SOIL BORING LOCATION MAP						
DEPARTMENT OF THE NAVY						
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DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
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BG-110 (measured after completion as a monitoring well), it was determined that an additional monitoring well would be required to fulfill the Workplan. Thus SB-101 was redrilled and sampled to a depth of 16.0 feet and completed as a monitoring well designated BG-101.

Groundwater was encountered in shallow borings SB-101, SB-102, SB-103, and SB-105 at depths of approximately 3.0 and 3.5 feet. Groundwater was not encountered in borings SB-107, SB-109, or SB-111 which were installed to a depth of 5.0 feet. Groundwater was encountered in each of the deeper borings at depths ranging from 3.0 feet in boring BG-104 to 14.0 feet in BG-110. As proposed by NASCORPC personnel and approved by the TNRCC, soil borings BG-104, BG-106, BG-108, BG-110, and BG-112 were completed as 2-inch permanent monitoring wells. However, due to the lack of groundwater present in monitoring well BG-110, BG-101 was drilled adjacent to the location of SB-101, sampled, and completed as a 2-inch diameter monitoring well.

Downhole drilling equipment was thoroughly steam cleaned before advancing each boring to prevent the possibility of cross-contamination. In addition, downhole sampling equipment was decontaminated prior to the collection of each sample by first washing with a laboratory-grade detergent and tap water solution, followed by distilled water rinse, a laboratory-grade isopropyl alcohol rinse, a 0.1 N nitric acid rinse, and a final rinse with distilled water.

Following completion of soil sampling activities, the boreholes which were not completed as monitoring wells were filled with grout·

4.2 Soil Sampling and Analysis

Soil samples were collected in order to evaluate the shallow hydrogeology beneath the site and to determine constituent background concentrations. Each soil boring was continuously sampled from ground surface to total depth. The soil samples were visually described and logged by a Halff Associates' geologist. Each sample was screened in the field for visual and olfactory indications of contamination. Samples were also continuously monitored for volatile aromatics using an Organic Vapor Meter (OVM) with a photoionization detector equipped with a 10.0 eV bulb and calibrated with isobutylene gas. For samples collected from the deeper borings, a

representative portion of each soil sample was divided into two portions using a decontaminated stainless steel knife. One portion of the sample was placed in a laboratory-supplied sample jar with a Teflon-lined lid. The sample was appropriately labeled and placed in an ice-filled, insulated cooler. The remaining portion was placed in a resealable plastic bag and allowed to sit at ambient field conditions for approximately ten minutes. The head space in the bag was then analyzed for the presence of organic vapors with the OVM. Boring logs were developed for each of the deeper borings and are presented in Appendix D. The results of the head space analyses are included on the soil boring logs.

Composite soil samples were collected from the shallow borings by placing soil samples in a clean container and mixing thoroughly. A representative portion was removed from the mixing container with a decontaminated stainless steel trowel and placed on clean plastic. The sample was then divided into two portions with one portion of the sample being placed in a laboratory-supplied sample jar with a Teflon-lined lid. The sample was appropriately labeled and placed in an ice-filled, insulated cooler. The remaining portion was placed in a resealable plastic bag and allowed to sit at ambient field conditions for approximately ten minutes. The head space in the bag was then analyzed for the presence of organic vapors with the OVM. Boring logs were developed for each of the shallow borings and are presented in Appendix D. The results of the head space analyses are included on the soil boring logs.

Based on criteria established in the Workplan, field observations, and field screening, soil samples were selected from each soil boring for laboratory analysis. One composite soil sample was collected from each of the shallow soil borings. Soil samples from each approximate 5-foot interval, the interval exhibiting the highest OVM readings, and/or intervals exhibiting visual evidence of contamination were selected from each of the deeper borings. In addition, for quality control, two duplicate soil samples were collected and submitted for laboratory analysis. The soil samples selected for laboratory analysis were stored an ice-filled, insulated cooler to await delivery to the analytical laboratory.

Soil samples selected for laboratory analysis were delivered to Core Laboratories, Inc. (Core Labs) in Corpus Christi, Texas, using appropriate chain of custody procedures. Each soil sample was submitted for laboratory analysis for total volatile organics (VOCs) using EPA

Method 8260, total semivolatile organics (SVOCs) using EPA Method 8270, total petroleum hydrocarbons (TPH) by EPA Method 418.1, total RCRA metals and copper, iron, nickel, and zinc using EPA Method 6010/7471, total cyanide using EPA Method 9010, and total phenolics using EPA Method 9065.

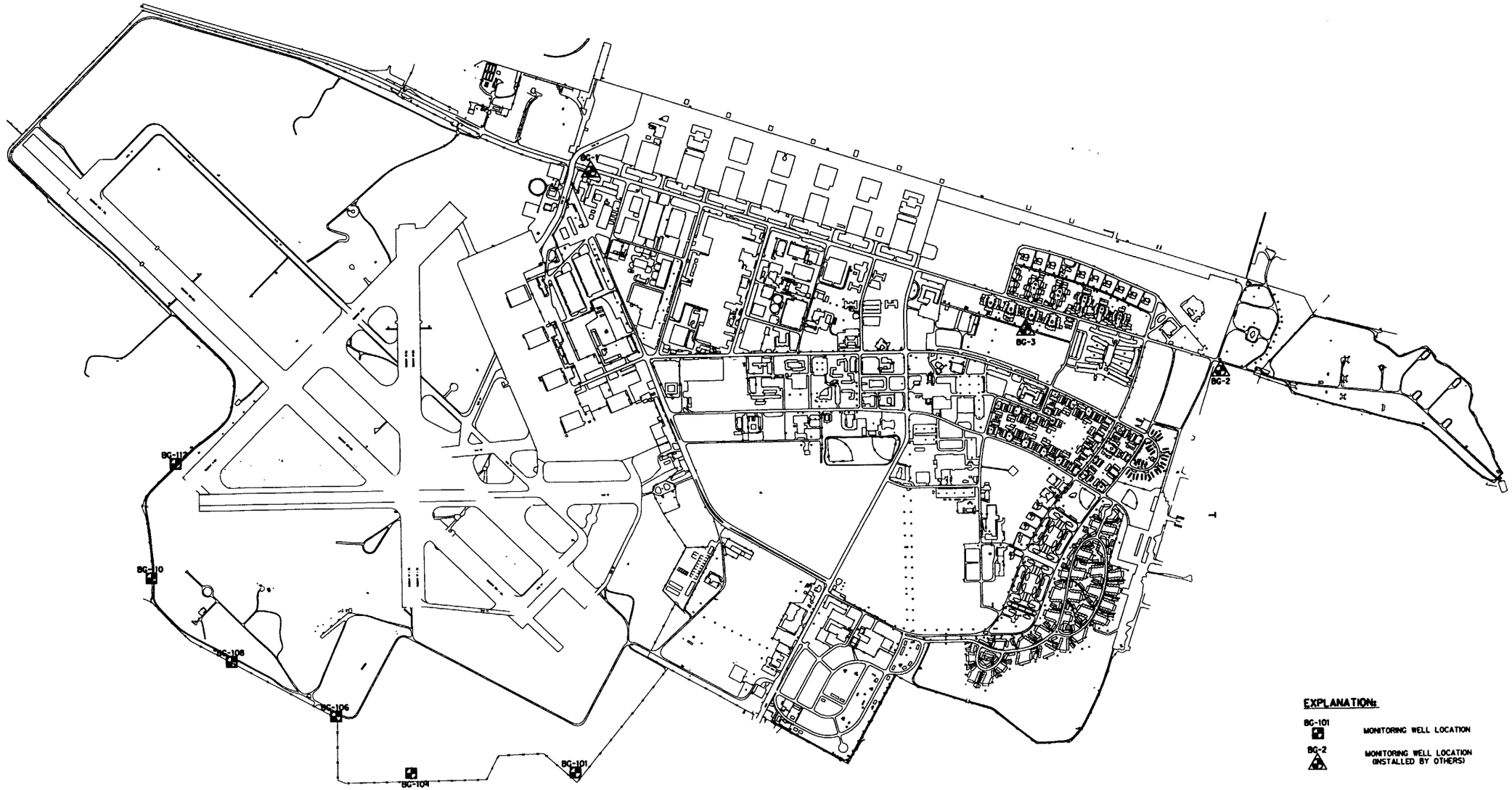
4.3 Monitoring Well Installation

Following soil sampling activities, soil borings BG-104, BG-106, BG-108, BG-110, and BG-112 were completed as monitoring wells. Due to the lack of groundwater recharge in monitoring well BG-110, soil boring BG-101 was also completed as a monitoring well. The construction details are shown on the boring logs in Appendix D. The State of Texas Well Reports for each of the newly installed monitoring wells are presented in Appendix E. Each well was constructed of 2-inch diameter, flush jointed threaded Schedule 40 polyvinyl chloride (PVC) casing and 0.010-inch, machine slotted PVC well screen. The annular space between the screen and the borehole wall was packed with 20-40 washed silica sand. The sand-packed interval extended at least two foot above the top of the well screen. A pelletized bentonite seal was placed above the sand interval and hydrated. The wells were completed as flush-mount surface completions, sealed with a locking watertight cap and covered with a manhole cover. For well protection, four concrete-filled, steel bollards were placed around each monitoring well completion. The locations of the monitor wells are shown on Figure 5. A typical monitoring well construction diagram is presented as Figure 6.

Each monitor well was developed by manual bailing. Disposable bailers were utilized to prevent the possibility of cross-contamination. Water was removed from each well until relatively clay and silt free water was produced.

4.4 Monitoring Well Gauging and Purging

After the monitoring wells were developed and allowed to stand for approximately 24 hours, the static water level was gauged. In addition to the newly installed monitoring wells, previously installed monitoring wells BG-1, BG-2, and BG-3 were also to be gauged, purged and



EXPLANATIONS:

BG-101 — MONITORING WELL LOCATION

BG-2 — MONITORING WELL LOCATION (INSTALLED BY OTHERS)

PLAN - NAVAL AIR STATION CORPUS CHRISTI

N

SCALE: 1"=1500'

0 375 750 1125 1500 2250 3000 4500

MONITORING WELL LOCATION MAP						
DEPARTMENT OF THE NAVY						
NAVAL AIR STATION CORPUS CHRISTI						
ALBERT H. HALFF ASSOCIATES, INC. ENGINEERS • SCIENTISTS • SURVEYORS						
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J.C.	CADD	AUGUST 1996	NOTED	15365 365MWMAP		5

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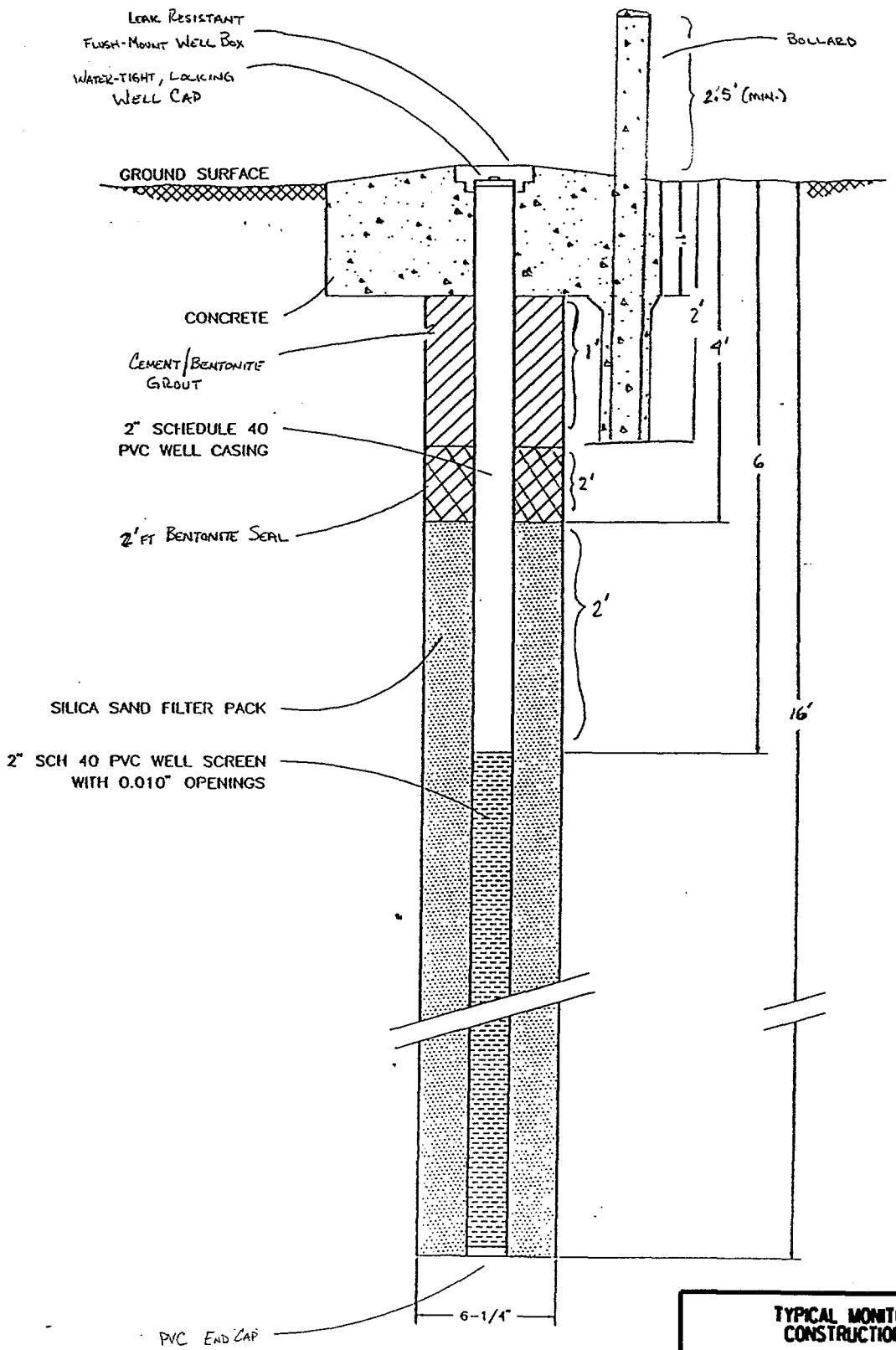

TYPICAL MONITORING WELL CONSTRUCTION DIAGRAM						
DEPARTMENT OF THE NAVY						
NAVAL AIR STATION CORPUS CHRISTI						
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DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
J.C.	CMB	AUGUST 1996	NOTED	15365 365TMW		6

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sampled. The depth to groundwater from the top of the well casing was measured using a water level meter. The depth to groundwater measurements were recorded to the nearest 0.01 foot.

After the static groundwater level measurements were taken, each of the newly installed monitoring wells, as well as monitoring wells BG-1, BG-2, and BG-3, were purged. Purging was accomplished by manual bailing. The temperature, specific conductivity, and pH were measured during purging at 0.5 well volume intervals. When each of the three parameters listed above stabilized to within 5 percent, the well was deemed to be stable and ready for sampling. However, at least 3 well volumes were removed from each monitoring well. Gauging and purging were performed prior to sampling for each event.

Due to a laboratory log-in error, resampling of the wells for certain parameters (i.e., TOC, TOX, sulfate, chloride, and TDS) was required. For this resampling event which was conducted on July 8, 1996, the wells were purged prior to sampling using the same procedures described above.

4.5 Groundwater Sampling and Analysis

After purging, a groundwater sample was collected from each of the newly installed wells and wells BG-1, BG-2, and BG-3. Monitoring well BG-110 did not recharge sufficiently to allow for sampling in either of the two scheduled sampling events. New disposable bailers were utilized to obtain groundwater samples which were placed directly into laboratory-supplied glass containers with Teflon-lined lids. The samples were appropriately labelled and placed in an insulated, ice-filled cooler. After the completion of groundwater sampling activities, the samples were delivered to Core Labs for laboratory analysis of VOCs by EPA Method 8260, SVOCs by EPA Method 8270, TPH (TPH) by EPA Method 418.1, total RCRA metals and copper, iron, manganese, nickel, and zinc using EPA Method 6010/200.7/7471, total cyanide using EPA Method 335.2, and total phenolics using EPA Method 420.1.

After a period of at least two months, per the Workplan, the monitoring wells were resampled. The sampling activities for the second scheduled sampling event were conducted according to the procedures described above.

Quality control samples collected during groundwater sampling activities included duplicates of selected monitoring wells and field blanks. One duplicate and one field blank were collected during each of the two scheduled sampling events. These quality control samples were preserved and submitted to Core Labs in the same manner as the groundwater samples. The duplicates and field blanks were analyzed for the same parameters as the groundwater samples collected during each of the two sampling events. In addition, one trip blank was submitted with each cooler to monitor for the presence of cross-contamination of the samples by VOCs.

4.6 Investigation Derived Waste Containment and Disposal

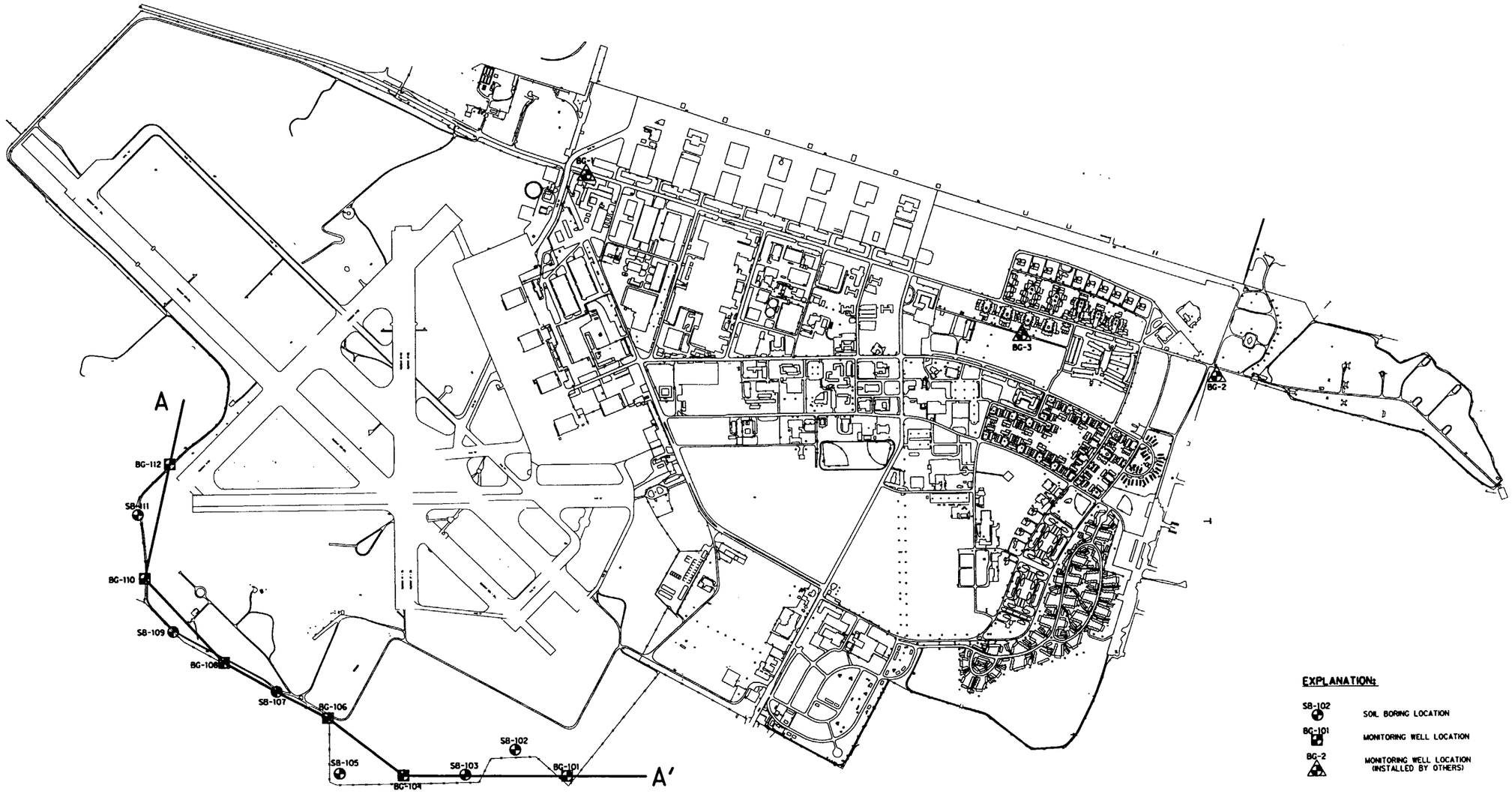
Soil cuttings and sample remains were placed in steel drums and staged on-site to await proper disposal. Water produced during development and purging activities was placed into steel drums and transported to the industrial wastewater treatment facility, located on site, for disposal. Personal protective equipment and other refuse was placed into steel drums to await proper disposal.

5.0 RESULTS

5.1 Site Geology

The lithologies of strata encountered during drilling activities consisted primarily of sand, sandy and silty clay, and clay. Three distinct lithologic units which extend from the ground surface to a maximum depth of 26.0 feet were identified beneath the project area. A baseline for a geologic cross section is shown on Figure 7. A geologic cross section illustrating the lithologies encountered in the project area is presented as Figure 8.

Unit I was encountered from the ground surface to total depths ranging from 16.0 feet below ground surface in borings BG-101 and BG-104 to 8.0 feet below ground surface in borings BG-110 and BG-112. This unit consists of a tan, light gray and greenish gray sand with interbedded silty and sandy clay units. Unit I is generally moist and loose to soft. Unit I was encountered in each soil boring installed during this investigation.



EXPLANATION:

SB-102 — SOIL BORING LOCATION

BG-101 — MONITORING WELL LOCATION

BG-2 — MONITORING WELL LOCATION (INSTALLED BY OTHERS)

PLAN - NAVAL AIR STATION CORPUS CHRISTI

N

SCALE: 1"=1500'

0 375 750 1125 1500 2250 3000 4500

CROSS SECTION BASELINE MAP						
DEPARTMENT OF THE NAVY						
NAVAL AIR STATION CORPUS CHRISTI						
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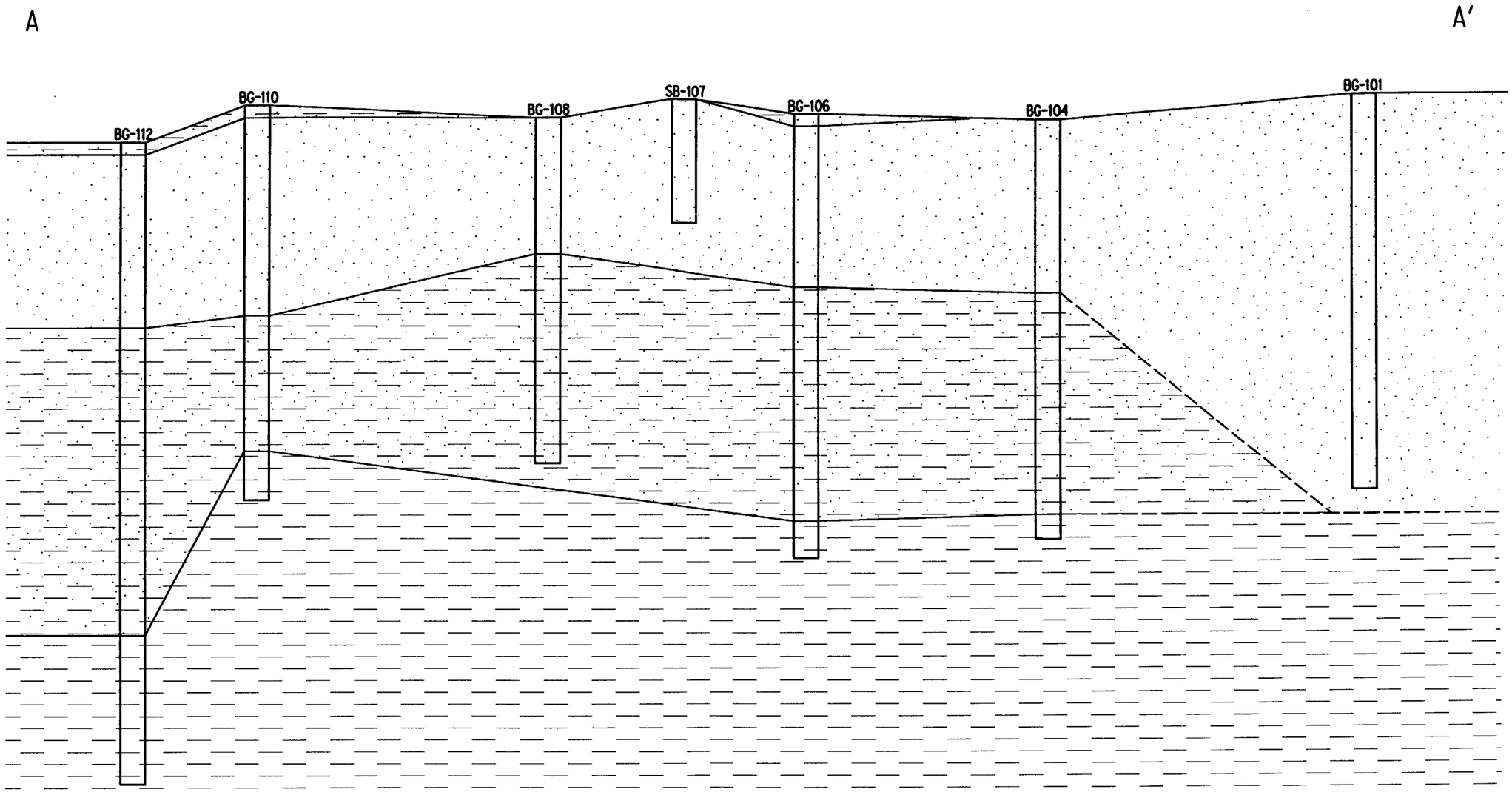
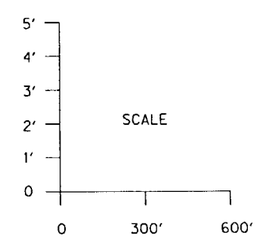


EXPLANATION:

- UNIT I - SAND
- UNIT II - SANDY CLAY
- UNIT III - CLAY



GEOLOGIC CROSS SECTION A-A'

DEPARTMENT OF THE NAVY

NAVAL AIR STATION CORPUS CHRISTI

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15365 • EAQZ • 365SECTA.DGN

Unit II was encountered form immediately beneath Unit I to depths ranging from 14.0 to 20.0 feet. This unit consisted of a tan/light gray sandy clay which exhibited blue/green mottling with depth. Unit II is generally slightly moist to moist and stiff. Unit II was encountered in each of the deeper soil borings with the exception of BG-101.

Unit III was encountered from the bottom of Unit II to total depths of up to 26.0 feet below ground surface. This unit typically consists of blue-green and orange-brown mottled clay. Unit III is generally slightly moist to moist and stiff. Unit II was encountered in each of the deeper borings with the exception of BG-101 and BG-108.

5.2 Site Hydrogeology

The groundwater monitoring wells were allowed to stand undisturbed for at least twenty-four hours following well development activities before groundwater level measurements were taken. The location and elevation of each soil boring and monitoring well (including wells BG-1, BG-2, and BG-3) were surveyed by Naismith Engineering, Inc. (Naismith) relative to a National Geodetic Survey (N.G.S.) benchmark located near the security check-in point near the south gate entrance to the NASCORPC facility. Groundwater elevations were calculated based on this survey data. The groundwater level measurements and corresponding elevations are presented in Table 1. Groundwater gradient maps constructed for the April and June, 1996 sampling events are presented as Figures 9 and 10.

TABLE 1

Summary of Groundwater Elevations
Naval Air Station
Corpus Christi, Texas

Well Number	Meaurement Date	Top of Casing Elevation	Depth to Groundwater	Groundwater Elevation
BG-1	4-5-96	14.79	8.58	6.21
	6-3-96	14.79	9.12	5.67
BG-2	4-5-96	11.30	12.05	-0.75
	6-3-96	11.30	12.62	-1.32
BG-3	4-5-96	14.03	11.75	2.28
	6-3-96	14.03	11.98	2.05
BG-101	4-5-96	18.12	5.16	12.96
	6-3-96	18.12	5.89	12.23

TABLE 1 (continued)

Summary of Groundwater Elevations
Naval Air Station
Corpus Christi, Texas

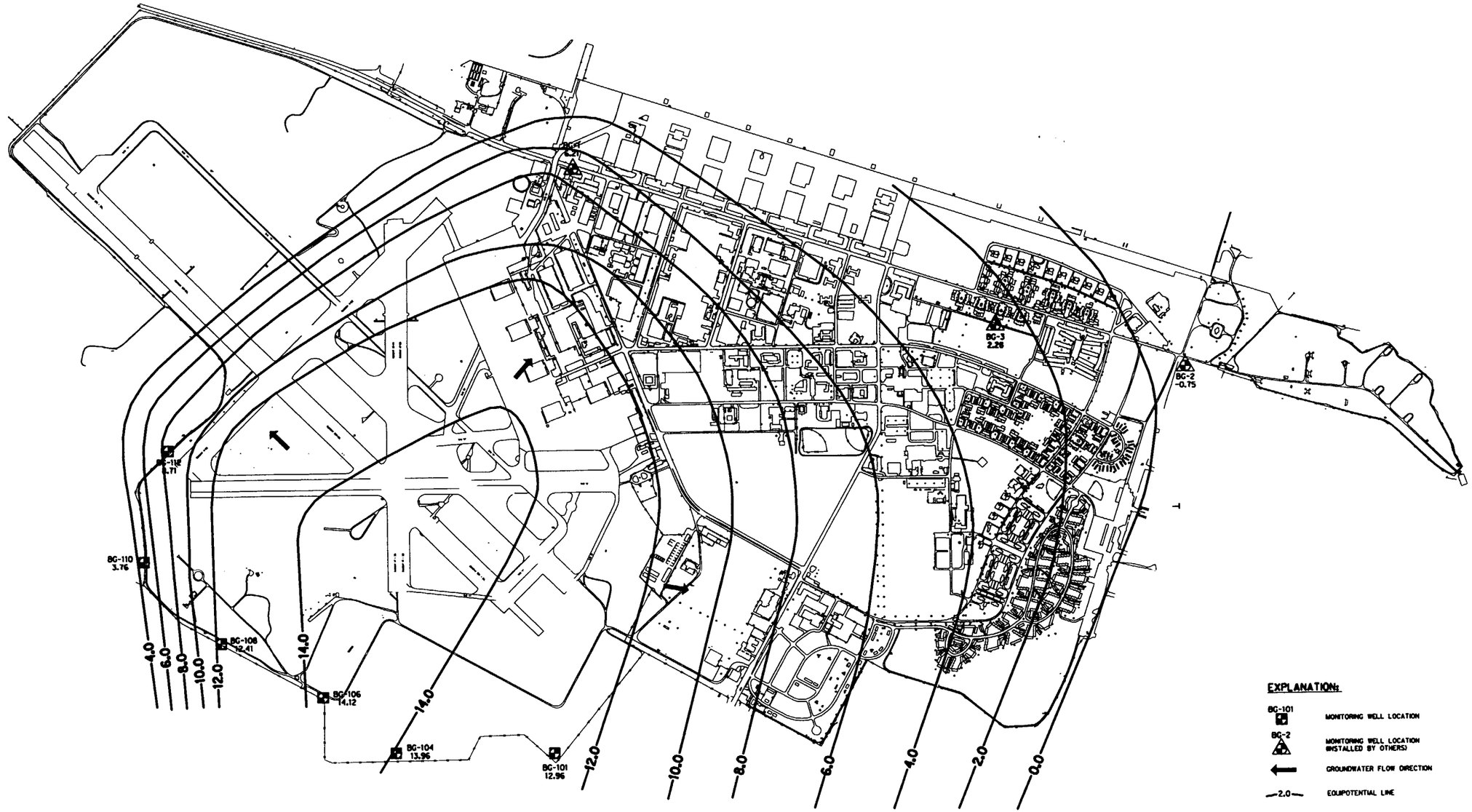
Well Number	Meaurement Date	Top of Casing Elevation	Depth to Groundwater	Groundwater Elevation
BG-104	4-4-96	17.25	3.29	13.96
	6-3-96	17.25	4.10	13.15
BG-106	4-4-96	17.60	3.48	14.12
	6-3-96	17.60	3.93	13.67
BG-108	4-4-96	17.41	5.00	12.41
	6-3-96	17.41	5.52	11.89
BG-110	4-5-96	17.36	13.60	3.76
	6-3-96	17.36	14.43	2.93
BG-112	4-4-96	16.33	7.62	8.71
	6-3-96	16.33	5.71	10.62

Note: All measurements are presented in feet.

5.3 Laboratory Analytical Results--Soil

Thirty-two soil samples, including two quality control duplicate soil samples, were submitted to Core Labs and analyzed for VOCs using EPA Method 8260, SVOCs by EPA Method 8270, TPH by EPA Method 418.1, total RCRA metals and copper, iron, nickel, and zinc using EPA Method 6010/7471, total cyanide using EPA Method 9065, and total phenolics using EPA Method 9010. Copies of the completed chain of custody forms and laboratory reports are included as Appendix F. Tables 2 through 5 present a summary of the analytical results of soil samples collected during the background investigation at the NASCORPC facility.

Laboratory analytical results for VOCs indicated the presence of acetone in several of the soil samples, collected from both the shallow borings and the deeper borings, at concentrations ranging from 1,300 parts per billion (ppb) in sample BG-112 (24.0 - 26.0 feet) to 17,000 ppb in sample BG-108 (2.0 - 4.0 feet). After consulting with Core Labs quality control personnel, it was discovered that significant concentrations of acetone are commonly contained in n-propanol. As described in previous sections, n-propanol (provided by Core Labs) was used in the decontamination of field sampling equipment. Thus two separate analyses for VOCs, at different dilutions, were performed on samples collected from the container of n-propanol used for



EXPLANATION:

BG-101 — MONITORING WELL LOCATION

BG-2 — MONITORING WELL LOCATION (INSTALLED BY OTHERS)

GROUNDWATER FLOW DIRECTION

—2.0— EQUIPOTENTIAL LINE

PLAN - NAVAL AIR STATION CORPUS CHRISTI

N

SCALE: 1"=1500'

0 375 750 1125 1500 2250 3000 4500

GROUNDWATER GRADIENT MAP APRIL 1996

DEPARTMENT OF THE NAVY

NAVAL AIR STATION CORPUS CHRISTI

ALBERT H. HALFF ASSOCIATES, INC.
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DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
J.C.	CADD	AUGUST 1996	NOTED	15365 36508-A1		9

15365 • EA02 • 36508-A1.DGN

PLAN - NAVAL AIR STATION CORPUS CHRISTI

EXPLANATION:

BG-101 — MONITORING WELL LOCATION

BG-2 — MONITORING WELL LOCATION (INSTALLED BY OTHERS)

GROUNDWATER FLOW DIRECTION

—2.0— EQUIPOTENTIAL LINE

N

SCALE: 1"=1500'

0 375 750 1125 1500 2250 3000 4500

GROUNDWATER GRADIENT MAP JUNE 1996						
DEPARTMENT OF THE NAVY						
NAVAL AIR STATION CORPUS CHRISTI						
ALBERT H. HALFF ASSOCIATES, INC. ENGINEERS • SCIENTISTS • SURVEYORS						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
J.C.	CADD	AUGUST 1996	NOTED	15365 365GW-JI		10

15365 • EA02 • 365GW-JI.DGN

decontamination of equipment during this investigation. Laboratory analysis indicated that the n-propanol contained a minimum concentration of 8,600 parts per million (ppm) acetone. Therefore, the presence of acetone in the soil samples was attributed to the isopropyl alcohol used in decontamination rather than from waste management activities in the project area. A copy of the laboratory analytical results for the n-propanol and a case narrative provided by Core Labs is presented in Appendix F. No other VOCs were identified above the laboratory detection limits in any of the soil samples submitted for laboratory analysis.

TABLE 2
Summary of Analytical Results -- Soil
Total Volatile Organics - EPA Method 8260
Naval Air Station
Corpus Christi, Texas

Sample Location	Sample Depth	Acetone (ppb)
SB-101	0 - 3.0	3,900
SB-102	0 - 3.0	2,200
SB-103	0 - 3.5	< 200
SB-105	0 - 3.5	7,900
SB-105A	0 - 3.5	5,300
SB-107	0 - 5.0	8,300
SB-109	0 - 5.0	< 100
SB-111	0 - 5.0	1,900
SB-111A	0 - 5.0	2,600
BG-101	4.0 - 6.0	< 150
BG-101	10.0 - 12.0	< 150
BG-101	14.0 - 16.0	< 150
BG-104	0 - 2.0	< 200
BG-104	6.0 - 8.0	< 200
BG-104	14.0 - 15.0	8,000
BG-104	15.0 - 17.0	< 200
BG-106	4.0 - 6.0	6,700
BG-106	8.0 - 10.0	2,900
BG-106	10.0 - 12.0	3,900
BG-106	16.0 - 18.0	< 150
BG-108	2.0 - 4.0	17,000
BG-108	8.0 - 10.0	3,600
BG-108	12.0 - 14.0	< 200
BG-110	2.0 - 4.0	3,600
BG-110	6.0 - 8.0	< 150
BG-110	10.0 - 12.0	< 150
BG-110	14.0 - 16.0	< 150
BG-112	0 - 2.0	3,800
BG-112	6.0 - 8.0	< 100
BG-112	12.0 - 14.0	< 100
BG-112	18.0 - 20.0	< 100
BG-112	24.0 - 26.0	1,300

Notes: Only constituents identified above laboratory detection limits shown.
Sample depths shown in feet below ground surface.
Acetone found in alcohol used in decontamination of sampling equipment.

TABLE 3

Summary of Analytical Results -- Soil
Total Semivolatile Organics - EPA Method 8270
Naval Air Station
Corpus Christi, Texas

Sample Location	Sample Depth	Butyl benzyl phthalate (ppb)	Bis(2-ethylexyl) phthalate (ppb)
SB-101	0 - 3.0	< 330	< 330
SB-102	0 - 3.0	< 330	< 330
SB-103	0 - 3.5	< 330	< 330
SB-105	0 - 3.5	560	< 330
SB-105A	0 - 3.5	< 330	< 330
SB-107	0 - 5.0	< 330	< 330
SB-109	0 - 5.0	< 330	< 330
SB-111	0 - 5.0	< 330	< 330
SB-111A	0 - 5.0	< 670	< 670
BG-101	4.0 - 6.0	< 330	390
BG-101	10.0 - 12.0	< 330	370
BG-101	14.0 - 16.0	< 330	400
BG-104	0 - 2.0	< 330	< 330
BG-104	6.0 - 8.0	< 330	< 330
BG-104	14.0 - 15.0	< 330	< 330
BG-104	15.0 - 17.0	< 330	< 330
BG-106	4.0 - 6.0	< 330	< 330
BG-106	8.0 - 10.0	< 330	< 330
BG-106	10.0 - 12.0	< 330	< 330
BG-106	16.0 - 18.0	< 330	< 330
BG-108	2.0 - 4.0	< 330	< 330
BG-108	8.0 - 10.0	< 330	< 330
BG-108	12.0 - 14.0	< 330	< 330
BG-110	2.0 - 4.0	< 330	< 330
BG-110	6.0 - 8.0	< 330	< 330
BG-110	10.0 - 12.0	< 330	< 330
BG-110	14.0 - 16.0	< 330	< 330
BG-112	0 - 2.0	< 670	< 670
BG-112	6.0 - 8.0	< 330	< 330
BG-112	12.0 - 14.0	< 330	< 330
BG-112	18.0 - 20.0	< 330	< 330
BG-112	24.0 - 26.0	< 330	< 330

Notes: Only constituents identified above laboratory detection limits shown.
Sample depths shown in feet below ground surface.

TABLE 4

SUMMARY OF ANALYTICAL RESULTS -- SOIL
Total Petroleum Hydrocarbons and Total Phenolics
EPA Methods 418.1 and 9010
Naval Air Station
Corpus Christi, Texas

Sample Location	Sample Depth	TPH (ppm)	Phenolics (ppm)
SB-101	0 - 3.0	< 20	< 5
SB-102	0 - 3.0	< 20	< 5
SB-103	0 - 3.5	< 20	< 5
SB-105	0 - 3.5	< 20	< 5
SB-105A	0 - 3.5	< 20	< 5
SB-107	0 - 5.0	< 20	< 5
SB-109	0 - 5.0	60	< 5
SB-111	0 - 5.0	128	< 5
SB-111A	0 - 5.0	82	< 5
BG-101	4.0 - 6.0	< 20	< 5
BG-101	10.0 - 12.0	< 20	< 5
BG-101	14.0 - 16.0	< 20	8
BG-104	0 - 2.0	< 20	< 5
BG-104	6.0 - 8.0	< 20	< 5
BG-104	14.0 - 15.0	< 20	< 5
BG-104	15.0 - 17.0	< 20	< 25
BG-106	4.0 - 6.0	< 20	< 5
BG-106	8.0 - 10.0	< 20	< 25
BG-106	10.0 - 12.0	< 20	< 25
BG-106	16.0 - 18.0	< 20	< 5
BG-108	2.0 - 4.0	34	< 5
BG-108	8.0 - 10.0	< 20	< 25
BG-108	12.0 - 14.0	< 20	< 25
BG-110	2.0 - 4.0	< 20	< 5
BG-110	6.0 - 8.0	< 20	< 5
BG-110	10.0 - 12.0	< 20	< 25
BG-110	14.0 - 16.0	< 20	< 5
BG-112	0 - 2.0	74	< 5
BG-112	6.0 - 8.0	< 20	< 5
BG-112	12.0 - 14.0	< 20	< 5
BG-112	18.0 - 20.0	< 20	< 5
BG-112	24.0 - 26.0	< 20	< 5

Notes: Only constituents identified above laboratory detection limits shown.
Sample depths shown in feet below ground surface.

TABLE 5

Summary of Analytical Results -- Soil
Total RCRA Metals with Copper, Cyanide, Iron, and Zinc
Naval Air Station
Corpus Christi, Texas

Sample Location	Sample Depth	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead
SB-101	0 - 3.0	<5	7	<5	<5	<5	300	<5
SB-102	0 - 3.0	<5	8	<5	<5	<5	505	<5
SB-103	0 - 3.5	<5	6	<5	<5	<5	257	<5
SB-105	0 - 3.5	<5	8	<5	<5	<5	334	<5
SB-105A	0 - 3.5	<5	8	<5	6	<5	336	<5
SB-107	0 - 5.0	<5	10	<5	11	<5	289	<5
SB-109	0 - 5.0	<5	192	103	12	<5	4,400	8
SB-111	0 - 5.0	<5	22	<5	<5	10	1,120	8
SB-111A	0 - 5.0	<5	19	<5	7	<5	1,520	7
BG-101	4.0 - 6.0	<5	6	<5	<5	<5	176	<5
BG-101	10.0 - 12.0	<5	<5	<5	<5	<5	87	<5
BG-101	14.0 - 16.0	<5	6	<5	<5	<5	257	<5
BG-104	0 - 2.0	<5	<5	<5	<5	<5	168	<5
BG-104	6.0 - 8.0	<5	31	<5	24	<5	25,900	6
BG-104	14.0 - 15.0	<5	60	<5	17	7	9,460	10
BG-104	15.0 - 17.0	<5	51	<5	7	10	9,790	7
BG-106	4.0 - 6.0	<5	9	<5	<5	<5	481	<5
BG-106	8.0 - 10.0	<5	18	<5	<5	<5	3,160	<5
BG-106	10.0 - 12.0	<5	748	<5	6	<5	3,800	5
BG-106	16.0 - 18.0	<5	113	<5	12	7	13,600	7
BG-108	2.0 - 4.0	<5	6	<5	<5	<5	541	<5
BG-108	8.0 - 10.0	<5	13	<5	<5	<5	2,600	<5
BG-108	12.0 - 14.0	<5	19	<5	9	5	7,740	<5
BG-110	2.0 - 4.0	<5	16	<5	<5	<5	3,350	<5
BG-110	6.0 - 8.0	<5	20	<5	<5	<5	2,030	<5
BG-110	10.0 - 12.0	<5	20	<5	5	<5	5,720	8
BG-110	14.0 - 16.0	<5	93	<5	6	6	5,370	<5
BG-112	0 - 2.0	<5	21	<	<5	<5	714	9
BG-112	6.0 - 8.0	<5	8	<58	<5	<5	1,550	<5
BG-112	12.0 - 14.0	<5	45	<5	12	6	11,300	<5
BG-112	18.0 - 20.0	<5	105	<5	10	8	8,800	5
BG-112	24.0 - 26.0	<5	55	<5	10	6	10,100	6

Notes: Sample depth shown in feet below ground surface.
Concentrations shown in parts per million.

TABLE 5 (continued)

Summary of Analytical Results -- Soil
Total RCRA Metals with Copper, Cyanide, Iron, and Zinc
Naval Air Station
Corpus Christi, Texas

Sample Location	Sample Depth	Mercury	Nickel	Selenim	Silver	Zinc	Cyanide
SB-102	0 - 3.0	<0.09	<5	<5	<5	6	<1
SB-103	0 - 3.5	<0.09	<5	<5	<5	10	<1
SB-105	0 - 3.5	<0.09	<5	<5	<5	6	<1
SB-105A	0 - 3.5	<0.09	<5	<5	<5	<5	<1
SB-107	0 - 5.0	<0.09	5	<5	<5	10	<1
SB-109	0 - 5.0	<0.09	5	<5	<5	120	<1
SB-111	0 - 5.0	<0.09	<5	<5	<5	10	<1
SB-111A	0 - 5.0	<0.09	<5	<5	<5	9	<1
BG-101	4.0 - 6.0	<0.09	<5	<5	<5	15	<1
BG-101	10.0 - 12.0	<0.09	<5	<5	<5	10	<1
BG-101	14.0 - 16.0	<0.09	<5	<5	<5	9	<1
BG-104	0 - 2.0	<0.09	<5	<5	<5	7	<1
BG-104	6.0 - 8.0	<0.09	45	<5	<5	12	<1
BG-104	14.0 - 15.0	<0.09	26	<5	6	35	<1
BG-104	15.0 - 17.0	<0.09	9	<5	<5	27	<1
BG-106	4.0 - 6.0	<0.09	<5	<5	<5	8	<1
BG-106	8.0 - 10.0	<0.09	<5	<5	<5	15	<1
BG-106	10.0 - 12.0	<0.09	<5	<5	<5	17	<1
BG-106	16.0 - 18.0	<0.09	10	<5	<5	41	<1
BG-108	2.0 - 4.0	<0.09	<5	<5	<5	7	<1
BG-108	8.0 - 10.0	<0.09	<5	<5	<5	9	<1
BG-108	12.0 - 14.0	<0.09	7	<5	<5	26	<1
BG-110	2.0 - 4.0	<0.09	<5	<5	<5	16	<1
BG-110	6.0 - 8.0	<0.09	<5	<5	6	8	<1
BG-110	10.0 - 12.0	<0.09	<5	<5	<5	15	<1
BG-110	14.0 - 16.0	<0.09	6	<5	<5	18	<1
BG-112	0 - 2.0	<0.09	<5	<5	<5	8	<1
BG-112	6.0 - 8.0	<0.09	<5	<5	<5	7	<1
BG-112	12.0 - 14.0	<0.90	7	<5	<5	30	<1
BG-112	18.0 - 20.0	<0.09	8	<5	<5	28	<1
BG-112	24.0 - 26.0	<0.09	7	<5	<5	26	<1

Notes: Sample depth shown in feet below ground surface.
Concentrations shown in parts per million.

Laboratory analysis for SVOCs indicated the presence of butyl benzyl phthalate at a concentration of 560 ppb in sample SB-105 (0 - 3.5). In addition, bis(2-ethylhexyl) phthalate was identified in each of the three soil samples collected from boring BG-101. Concentrations ranged from 370 ppb (4.0 - 6.0 feet) to 400 ppb (14.0 - 16.0 feet). No SVOCs above laboratory detection limits were identified in any of the remaining soil samples submitted for laboratory analysis.

Laboratory analysis identified concentrations of TPH above laboratory detection limits in five of the thirty-two soil samples submitted for laboratory analysis. TPH concentrations ranged from 34 ppm in sample BG-108 (2.0 - 4.0 feet) to 128 ppm in sample SB-111 (0 - 5 feet). Sample SB-111A, duplicate of sample SB-111 (0 - 5.0 feet) contained 82 ppm TPH. No TPH above laboratory detection limits were identified in any of the remaining soil samples submitted for laboratory analysis.

Laboratory analysis indicated the presence of phenolics in one of the thirty-two soil samples submitted for laboratory analysis. The concentration of phenolics was reported to be 8 ppm in sample BG-101 (14.0 - 16.0 feet). No phenolics above laboratory detection limits were identified in any of the remaining soil samples submitted for laboratory analysis.

Laboratory analysis indicated the presence of barium above laboratory detection limits in thirty of the soil samples submitted for laboratory analysis. Concentrations ranged from 6 ppm in samples SB-103 (0 - 3.5 feet) and BG-108 (2.0 - 4.0 feet) to 748 ppm in sample BG-106 (10.0 - 12.0 feet). Concentrations of cadmium above laboratory detection limits was identified in one sample only. Cadmium was identified at a concentration of 103 ppm in sample SB-109 (0 - 5.0) feet. Concentrations of chromium above laboratory detection limits were identified in fifteen of the soil samples submitted for laboratory analysis. Concentrations ranged from 5 ppm in sample BG-110 (10.0 - 12.0 feet) to 24 ppm in sample BG-104 (6.0 - 8.0 feet). Concentrations of copper above detections limits was identified in nine of the soil samples. Concentrations ranged from 5 ppm in sample BG-108 (12.0 - 14.0 feet) to 10 ppm in samples SB-111 (0 - 5.0 feet) and BG-104 (15.0 - 17.0 feet). However, no detectable concentrations of copper were identified in duplicate sample SB-111A (0 - 5.0 feet). Concentrations of iron above laboratory detection limits were identified in each of the soil samples submitted for laboratory

analysis. Concentrations ranged from 87 ppm in sample BG-101 (10.0 - 12.0 feet) to 13,600 ppm in sample BG-106 (16.0 - 18.0 feet). Concentrations of lead above laboratory detection limits were identified in twelve of the soil samples. Concentrations ranged from 5 ppm in samples BG-106 (10.0 - 12.0 feet) and BG-112 (18.0 - 20.0 feet) to 10 ppm in sample BG-104 (14.0 - 15.0 feet). Concentrations of nickel above laboratory detection limits were identified in eleven soil samples. Concentrations ranged from 5 ppm in samples SB-107 (0 - 5.0 feet) and SB-109 (0 - 5.0 feet) to 45 ppm in sample BG-104 (6.0 - 8.0 feet). Silver above laboratory detection limits was identified in two soil samples. A concentration of 6 ppm was reported for both samples BG-104 (14.0 - 15.0 feet) and BG-110 (6.0 - 8.0 feet). Concentrations of zinc above laboratory detection limits were identified in thirty-one of the thirty-two soil samples submitted for laboratory analysis. Concentrations ranged from 6 ppm in sample SB-105 (0 - 3.5 feet) to 120 ppm in sample SB-109 (0 - 5.0 feet). However, no detectable concentration of zinc was reported for duplicate sample SB-105A (0 - 3.5 feet). No concentrations of arsenic, mercury, selenium, or cyanide above laboratory detection limits were identified in any of the soil samples submitted for laboratory analysis.

5.4 Laboratory Analytical Results--Groundwater (Initial Sampling Event)

On April 4 and 5, 1996, nine groundwater samples from newly installed monitoring wells BG-101, BG-104, BG-106, BG-108, and BG-112, as well as the previously installed wells BG-1, BG-2, and BG-3, and one quality control duplicate sample (BG-104A) were collected and submitted to Core Labs for laboratory analysis. Analysis of the samples included VOCs using EPA Method 8260, SVOCs using EPA Method 8270, TPH using EPA Method 418.1, total RCRA metals and copper, iron, nickel, and zinc using EPA Method 6010/200.7/7470, total cyanide using EPA Method 335.2, total phenolics using EPA Method 420.1, sulfates and chlorides by EPA Method 300.0, Total Dissolved Solids (TDS) by SM 18th Method 2450, Total Organic Halogen (TOX) by EPA Method 9020, and Total Organic Carbon (TOC) by SM 18th Method 5310. Copies of the completed chain of custody forms and laboratory reports are included as Appendix G. Tables 6 through 8 present a summary of the analytical results of groundwater samples collected during the initial sampling event conducted at the NASCORPC facility.

TABLE 6

Summary of Analytical Results--Groundwater
Total Volatile and Semivolatile Organics - EPA Methods 8260 and 8270
Naval Air Station
Corpus Christi, Texas

Well Number	Sample Date	VOCs		SVOCs
		trichloroethene	cis-1,2-	di-n-butyl phthalate
BG-1	4-5-96	< 5	< 5	< 5
	6-3-96	< 5	< 5	< 10
BG-2	4-5-96	< 5	< 5	< 10
	6-3-96	< 5	< 5	< 10
BG-3	4-5-96	< 5	< 5	< 10
	6-3-96	< 5	< 5	< 10
BG-101	4-5-96	< 5	< 5	24
	6-3-96	< 5	< 5	< 10
BG-104	4-5-96	< 5	< 5	< 10
	6-3-96	< 5	< 5	< 10
BG-108	4-5-96	12	180	< 10
	6-3-96	12	110	< 10
BG-108A	6-3-96	14	110	< 10
BG-112	4-5-96	< 5	< 5	< 10
	6-3-96	< 5	< 5	<10

Notes: Only constituents identified above laboratory detection limits shown.
Concentration shown in parts per billion (ppb).

TABLE 7

Summary of Analytical Results -- Groundwater
RCRA METALS incl. Copper, Iron, Manganese, Zinc, and Cyanide
Naval Air Station
Corpus Christi, Texas

Sample Location	Sample Date	arsenic	barium	cadmium	chromium	copper	iron	lead	manganese	mercury	nickel	selenium	silver	zinc	cyanide
BG-1	4-5-96	< 0.05	0.07	< 0.05	< 0.05	< 0.05	2.62	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	0.05	< 0.02
	6-3-96	< 0.05	0.24	<0.05	<0.05	<0.05	3.93	<0.05	<0.05	< 0.002	<0.05	<0.05	<0.05	0.09	<0.02
BG-2	4-5-96	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.02	< 0.05	0.05	< 0.002	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02
	6-3-96	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.28	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02
BG-3	4-4-96	< 0.05	0.15	< 0.05	< 0.05	< 0.05	4.67	< 0.05	0.63	< 0.002	< 0.05	< 0.05	< 0.05	0.08	< 0.02
	6-3-96	< 0.05	0.18	< 0.05	< 0.05	< 0.05	3.5	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	0.05	< 0.02
BG-101	4-5-96	< 0.05	0.52	< 0.05	< 0.05	< 0.05	7.06	< 0.05	0.35	< 0.002	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02
	6-3-96	0.58	< 0.05	< 0.05	< 0.05	< 0.05	12.5	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	< 0.05	<0.02
BG-104	4-4-96	< 0.05	0.07	< 0.05	< 0.05	< 0.05	0.85	< 0.05	< 0.05	0.003	< 0.05	< 0.05	< 0.05	0.22	< 0.02
	6-3-96	< 0.05	0.6	< 0.05	< 0.05	< 0.05	5.28	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	0.06	< 0.02
BG-104A	4-4-96	< 0.05	0.10	< 0.05	< 0.05	< 0.05	1.67	< 0.05	0.05	< 0.002	< 0.05	< 0.05	< 0.05	0.22	< 0.02
BG-106	4-4-96	< 0.05	0.10	< 0.05	< 0.05	< 0.05	2.61	< 0.05	0.10	< 0.002	< 0.05	< 0.05	< 0.05	0.25	< 0.02
	6-3-96	< 0.05	0.22	< 0.05	< 0.05	< 0.05	8.16	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02
BG-108	4-4-96	< 0.05	0.06	< 0.05	< 0.05	< 0.05	0.28	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	0.08	< 0.02
	6-3-96	< 0.05	0.08	< 0.05	< 0.05	< 0.05	0.84	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02
BG-108A	6-3-96	< 0.05	0.08	<0.05	< 0.05	< 0.05	1.51	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02
BG-112	4-4-96	< 0.05	0.05	< 0.05	< 0.05	< 0.05	0.90	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	0.12	< 0.02
	6-3-96	< 0.05	0.08	< 0.05	< 0.05	< 0.05	0.81	< 0.05	< 0.05	< 0.002	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02

NOTES: Concentrations shown in parts per million (ppm)

TABLE 8

Summary of Laboratory Analytical Results -- Groundwater
Other Parameters
Naval Air Station
Corpus Christi, Texas

Monitoring Well Number	Sampling Date	Total Petroleum Hydrocarbons	Total Phenolics	Total Dissolved Solids	Total Organic Halogen	Total Organic Carbon	Total Sulfate	Total Chloride
BG-1	4 - 5 - 96	< 1	< 0.005	600	0.55	23	75	130
	6 - 3 - 96	< 1	< 0.005	790	0.16	9	117	109
BG-2	4 - 5 - 96	< 1	< 0.005	2,820	0.49	13	470	1,060
	6 - 3 - 96	< 1	< 0.005	2.760	0.17	5	387	857
BG-3	4 - 4 - 96	< 1	< 0.005	680	0.66	5	140	140
	6 - 3 - 96	< 1	< 0.005	1.010	0.16	8	72	210
BG-101	4 - 5 - 96	< 1	< 0.005	2,310	0.49	39	130	1,080
	6 - 3 - 96	< 1	< 0.005	4,850	0.55	68	164	1,620
BG-104	4 - 4 - 96	< 1	< 0.005	280	0.52	9	20	110
	6 - 3 - 96	< 1	< 0.005	5.380	0.22	10	21	1,770
BG-104A	4 - 4 - 96	< 1	< 0.005	700	1.59	10	19	330
BG-106	4 - 4 - 96	< 1	< 0.005	1,070	0.58	32	140	140
	6 - 3 - 96	< 1	< 0.005	1,850	0.25	20	154	503
BG-108	4 - 4 - 96	< 1	< 0.005	620	0.87	9	57	170
	6 - 3 - 96	< 1	< 0.005	900	0.20	9	57	172
BG-108A	6 - 3 - 96	< 1	< 0.005	850	0.23	8	53	133
BG-112	4 - 4 - 96	< 1	< 0.005	1,080	0.31	4	160	340
	6 - 3 - 96	< 1	< 0.005	1,370	0.25	6	146	264

Notes: Concentrations are shown in parts per million (ppm).

Laboratory analysis for VOCs indicated the presence of trichloroethane and cis-1,2-dichloroethylene above laboratory detection limits in the sample from monitoring well BG-108. The concentration of trichloroethene was reported to be 12 ppb and the concentration of cis-1,2-dichloroethylene was reported to be 180 ppb. No other detectable concentrations of VOC constituents were reported for any of the remaining groundwater samples submitted for laboratory analysis.

Laboratory analysis for SVOCs identified a concentration of di-n-butyl phthalate above laboratory detection limits in one of the nine groundwater samples submitted for laboratory analysis. A concentration 24 ppb was reported in the sample collected from monitoring well BG-101. No detectable concentrations of SVOC constituents were reported in any of the remaining groundwater samples submitted for laboratory analysis.

Laboratory analysis for metals identified concentrations of barium, iron, manganese, mercury, and zinc above laboratory detection limits. Barium was identified in eight of the nine groundwater samples. Concentrations ranged from 0.05 ppm in sample BG-112 to 0.52 in sample BG-101. Iron was identified in each of the nine groundwater samples. Concentrations ranged from 0.28 ppm in sample BG-108 to 7.06 ppm in BG-101. Manganese was identified in five of the nine groundwater samples. Concentrations ranged from 0.05 ppm in samples BG-2 and BG-104A (duplicate sample of well BG-104) to 0.63 ppm in sample BG-3. Mercury was identified in one of the nine groundwater samples. A concentration of 0.003 ppm was reported in sample BG-104. However, no detectable concentration of mercury was identified in the duplicated sample BG-104A. Zinc was identified in seven of the nine groundwater samples at concentrations ranging from 0.05 ppm in sample BG-1 to 0.25 ppm in sample BG-106. No detectable concentrations of arsenic, cadmium, chromium, copper, lead, nickel, selenium, silver or cyanide were identified in any of the nine groundwater samples submitted for laboratory.

No concentrations of TPH were identified in any of the nine groundwater samples submitted for laboratory analysis. A detectable concentration of total phenolics was identified in one of the nine groundwater samples. A concentration of 0.007 ppm was reported in sample BG-112. No detectable concentrations of phenolics were identified in any of the remaining samples submitted for laboratory analysis.

Concentrations of TOC and TOX above laboratory detection limits were identified in each of the nine groundwater samples submitted for laboratory analysis. Concentrations of TOC ranged from 4 ppm in sample BG-112 to 39 ppm in sample BG-101. Concentrations of TOX ranged from 0.31 ppm in sample BG-112 to 1.59 ppm in sample BG-104A. Sample BG-104 contained 0.52 ppm TOX.

Concentrations of sulfate, chloride, and TDS above detection limits were identified in each of the nine groundwater samples submitted for laboratory analysis. Concentrations of sulfate ranged from 19 ppm in sample BG-104A (BG-104 contained 21 ppm) to 470 ppm in sample BG-2. Concentrations of chloride

ranged from 130 ppm in sample BG-1 to 1,080 ppm in sample BG-101. TDS ranged from 280 ppm in sample BG-104 to 2,310 ppm in BG-101.

5.5 Laboratory Analytical Results--Groundwater (Second Sampling Event)

On June 3, 1996, nine groundwater samples from monitoring wells BG-101, BG-104, BG-106, BG-108, BG-112, BG-1, BG-2, BG-3, and one quality control duplicate sample (BG-108A) were collected and submitted to Core Labs for laboratory analysis. Groundwater samples collected during the second sampling event were analyzed for the same parameters as in the initial sampling event. Copies of the completed chain of custody forms and laboratory reports are included as Appendix H. Tables 6 through 8 present a summary of the analytical results of groundwater samples collected during the initial and second sampling events conducted at the NASCORPC facility.

It should be noted that due to a laboratory log-in error, the groundwater samples collected during the second sampling event were not analyzed for TOC, TOX, sulfate, chloride, or TDS. Therefore, an additional sampling event, conducted on July 8, 1996, was conducted to collect groundwater samples for the analysis of TOC, TOX, sulfate, chloride, and TDS. For simplicity, the laboratory analytical results for these parameters are discussed in this section as part of the second sampling event.

Laboratory analysis for VOCs indicated the presence of trichloroethene and cis-1,2-dichloroethene above laboratory detection limits in the sample from monitoring well BG-108 and the duplicate sample BG-108A. The concentration of trichloroethane was reported to be 12 ppb and the concentration of cis-1,2-dichloroethylene was reported to be 110 ppb in sample BG-108. The concentration of trichloroethene was reported to be 14 ppb and the concentration of cis-1,2-dichloroethylene was reported to be 110 ppb in sample BG-108A. No other detectable concentrations of VOC constituents were reported for any of the remaining groundwater samples submitted for laboratory analysis.

No detectable concentrations of SVOC constituents were reported in any of the groundwater samples submitted for laboratory analysis.

Laboratory analysis for metals identified concentrations of barium, iron, and zinc above laboratory detection limits. Barium was identified in seven of the nine groundwater samples. Concentrations ranged

from 0.08 ppm in samples BG-108, BG-108A, and BG-112 to 0.60 in sample BG-104. Iron was identified in each of the nine groundwater samples. Concentrations ranged from 0.28 ppm in sample BG-2 to 12.5 ppm in BG-101. Zinc was identified in three of the nine groundwater samples at concentrations ranging from 0.05 ppm in sample BG-3 to 0.09 in sample BG-1. No detectable concentrations of arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, or cyanide was identified in any of the groundwater samples submitted for laboratory analysis.

No detectable concentrations of TPH or total phenolics were identified in any of the nine groundwater samples submitted for laboratory analysis.

Concentrations of TOC and TOX above laboratory detection limits were identified in each of the nine groundwater samples submitted for laboratory analysis. Concentrations of TOC ranged from 5 ppm in sample BG-2 to 68 ppm in sample BG-101. Concentrations of TOX ranged from 0.16 ppm in samples BG-1 and BG-3 to 0.55 ppm in sample BG-101.

Concentrations of sulfate, chloride, and TDS above detection limits were identified in each of the nine groundwater samples submitted for laboratory analysis. Concentrations of sulfate ranged from 21 ppm in sample BG-104 to 387 ppm in sample BG-2. Concentrations of chloride ranged from 109 ppm in sample BG-1 to 1,770 ppm in sample BG-104. TDS ranged from 790 ppm in sample BG-1 to 5,380 ppm in BG-104.

6.0 EVALUATION OF LABORATORY ANALYTICAL RESULTS AND DETERMINATION OF BACKGROUND CONCENTRATIONS

6.1 Evaluation of Laboratory Analytical Results and Determination of Background Concentrations -- Groundwater

The following section presents an evaluation of laboratory analytical results for the groundwater samples collected during the initial and second sampling events. Statistical methodology, which is documented in Appendix J (excerpt from U.S.E.P.A., 1989), and results for the determination of background concentrations are also presented below.

6.1.1 Volatile Organic Compounds (VOCs) and Semivolatile Organic Compounds (SVOCs)

According to the Workplan, Poisson statistics was specified as the most appropriate method of analyzing VOC and SVOC groundwater laboratory data. As detailed in the Workplan, Poison statistics was specified based on the hypothesis that "Low levels, about 0 to 40 ppb, of volatile organic compounds are expected to occur in approximately five to ten percent of upgradient groundwater samples." VOCs (trichloroethene and cis-1,2-dichloroethene) were detected in approximately seventeen percent of the total number of groundwater samples submitted for laboratory analysis and the total combined concentrations ranged from 122 ppb and 192 ppb. The presence of the documented VOC concentrations, combined with the fact that VOCs were detected in only one monitoring well, would indicate that this data may not be a part of the background population for the site (none of the other groundwater samples contained detectable concentrations of VOCs). Therefore, statistical analysis of the laboratory analytical data using Poisson statistics was judged not to be appropriate for the evaluation of the site and thus was not performed and background concentrations for VOC constituents are assumed to be the method detection limit (MDL) for constituents analyzed by EPA Method 8260. The MDLs for EPA Method 8260 constituents vary; however, the MDL (using no sample dilution) for most VOCs analyzed by Core Labs was reported to be 5 ppb with the following exceptions: 1) acetone = 100 pb, 2) acrolein, acrylonitrile, methyl ethyl ketone, methylene chloride, and 1,1,2 trichloro-1,2,2 trifluoroethane = 50 ppb, 3) bromethane, chloroethane, 2-chloroethylvinyl ether, chloromethane, dichlorodifluoromethane, methyl isobutyl ketone, vinyl acetate, and total xylenes = 10 ppb, and 4) 1,4-dioxane and 1-methylpyrrolidine = 500 ppb.

The Workplan did not specify a specific statistical methodology by which analytical results for SVOCs should be evaluated. Due to the fact that di-n-butyl phthalate was detected in only one sample (BG-101; during the initial monitoring event), it was determined that this data was not from the background population. Therefore, background concentrations for SVOC constituents are assumed to be the MDL. The MDLs for EPA Method 8270 constituents vary; however, the MDL (using no sample dilution) for most SVOCs analyzed by Core Labs was reported to be 10 ppb with the following exceptions: 1) benzyl alcohol, 4-chloro-3-methylphenol, 3,3-dichlorobenzidine2,4-dimethylphenol, and 4-nitroaniline = 20 ppb, and 2) bis(2-ehtylhexyl)phthalate, 4-chloroaniline, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-nitroaniline, 3-nitroaniline, 4-nitrophenol, and pentachlorophenol = 50 ppb.

6.1.2 Metals

Several individual metal constituents were found to be BDL for each groundwater sample submitted for laboratory analysis, thus statistical analysis was not performed for these constituents. Therefore, background concentrations for arsenic, cadmium, chromium, copper, cyanide, lead, mercury, nickel, selenium, and silver are assumed to be the MDL. The MDL (using no sample dilution) for each of these metals was reported to be 0.05 ppm.

As the first step in the statistical analysis of the analytical data for metals, the data set for each metal was tested for normality. The Workplan specified that the test for normality would be conducted using the "W-test" as defined by Shapiro and Wilk (*Biometrika*, 1965). However, as a preliminary test for normality, the coefficient of variation test for normality (U.S.E.P.A., 1989) was applied. A description of this method is as follows:

1) Calculate the sample mean (x);
2) Calculate the standard deviation (s);
3) Calculate the coefficient of variation (CV) by dividing the standard deviation by the sample mean (CV = s/x);
4) If the CV is </= 1.00 then the data adequately fits the normal distribution.
5) It was noted in the referenced U.S.E.P.A. guidance document that even though the actual CV may be larger than 1.00, that parametric methods may still be used with discretion.

The results of the CV test indicated that the analytical data for barium, iron, manganese, and zinc are normally distributed (*t* distribution). Therefore, the "W test" was not performed. The results of the CV test are presented on the summary statistic table included in Appendix K.

Since the analytical data for barium, iron, manganese, and zinc were found to be normally distributed by the coefficient of variance test, the data sets for these metals were used to determine the background concentrations through statistical analysis. The methodology is recommended and described in "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities; Interim Final Guidance Document"

(U.S.E.P.A., 1989). The methodology used to determine the background concentrations is briefly summarized as follows:

1) Calculate the mean for the background analytical data set (x);
2) Calculate the standard deviation of the background analytical data set (s); and,
3) Construct the one-sided tolerance limit by TL = x + ks; where k is the one-sided normal tolerance factor with confidence factor of 95% and coverage of 95% (from Table 5, Appendix J).

The summary statistics are presented in the summary statistics table included in Appendix K. The one-sided tolerance limits (reference background concentrations) for each metal are presented in Table 9.

6.1.3 Other Parameters

TPH was found to be BDL in each of groundwater samples submitted for laboratory analysis. Therefore, statistical analysis was not performed and the background concentration for TPH is assumed to be the MDL (non-diluted sample) for EPA Method 418.1 or 1 ppm.

Due to the fact that phenolics were only detected in the sample from monitoring well BG-112 at a concentration of 0.007 ppm in the initial sampling event, it was determined that this data was not from the background population. Therefore, the background concentration for phenolics is assumed to be the MDL.

Statistical analysis of the laboratory data for TOC, TOX, sulfate, chloride, and TDS was performed. The statistical analysis for these parameters was conducted in the same manner as that used for determining the tolerance limits for background concentrations of metals.

The summary statistics for the statistically analyzed parameters are presented in the summary statistics table included in Appendix K. The tolerance limits for background concentrations of TOC, TOX, sulfate, chloride, and TDS are presented in Table 9.

TABLE 9

Summary of the One-Sided Tolerance Limits for Background Concentrations in Groundwater Naval Air Station Corpus Christ, Texas

Parameter	Interval Estimates for Background Concentrations[1]
Total Volatile Organics	5 ppb[1]
Total Semivolatile Organics	10 ppb[1]
Metals	
arsenic	0.05 ppm
barium	0.69 ppm
cadmium	0.05 ppm
chromium	0.05 ppm
copper	0.05 ppm
cyanide	0.05 ppm
Iron	12.07 ppm
lead	0.05 ppm
manganese	1.00 ppm
mercury	0.05 ppm
nickel	0.05 ppm
selenium	0.05 ppm
silver	0.05 ppm
zinc	0.24 ppm
Other Parameters	
Total Petroleum Hydrocarbons	1 ppm
Phenolics	0.005 ppm
Total Organic Carbon	59.70 ppm
Total Organic Halogens	1.11 ppm
Sulfate	451.92 ppm
Chloride	1,949.65 ppm
Total Dissolved Solids	5,576.39 ppm

Notes: [1] With the exception of the constituents and associated MDLs as listed in Section 6.1.1.

6.2 Evaluation of Laboratory Analytical Results and Determination of Background Concentrations -- Soil

6.2.1 VOCs and SVOCs

With the exception of acetone, which was subsequently discounted due to the presence of acetone in the n-propanol used for decontamination, no detectable concentrations of VOCs were reported in any of the soil samples submitted for laboratory analysis. Therefore, statistical analysis was not performed and the background concentrations for VOC constituents are assumed to be the MDL. The MDLs for VOCs analyzed by EPA Method 8260 vary; however, the MDL (with no sample dilution) for most VOCs is 5 ppb with the following exceptions: 1) acetone = 150 pb, 2) acrolein, acrylonitrile, methyl ethyl ketone, methylene chloride, and 1,1,2 trichloro-1,2,2 trifluoroethane = 50 ppb, and 3) 1,4-dioxane and 1-methylpyrrolidine = 500 ppb.

As discussed in 6.1.1, the Workplan did not specify a specific statistical methodology by which analytical results for SVOCs should be evaluated. Due to the fact that butyl benzyl phthalate was detected in only one sample (SB-105; 0 - 3 feet) and bis(2-ethylhexyl)phthalate was detected in one soil boring (BG-101), it was determined that this data was not from the background population. Therefore, statistical analysis was not performed and background concentrations for SVOC constituents are assumed to be the MDL. The MDLs for SVOCs analyzed by EPA Method 8270 vary; however, the MDL (with no sample dilution) for most SVOCs is 330 ppb with the following exceptions: 1) benzyl alcohol, 4-chloroaniline, 4-chloro-3-methylphenol, 3,3-dichlorobenzidine, and 4-nitroaniline = 660 ppb, and 2) 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-nitroaniline, 3-nitroaniline, 4-nitrophenol, and pentachlorophenol = 1,650 ppb.

6.2.2 Metals

Four individual constituents (arsenic, cyanide, mercury, and selenium) were found to be BDL for each soil sample submitted for laboratory analysis and statistical analysis was not performed for these constituents. Therefore, background concentrations are the MDL (with no sample dilution) or 5 ppm for arsenic and selenium, 1 ppm for cyanide, and 0.09 ppm for mercury. A detectable concentration of cadmium was reported in SB-109 at 103 ppm. However, cadmium was reported to be BDL in each of the remaining thirty soil samples. Therefore, it was determined that this data was not from the background population and the background concentration for cadmium is assumed to be the MDL (with no sample dilution) of 5 ppm.

Similarly, detectable concentrations (1 ppm above the detection limit) of silver were reported in two of the thirty-two soil samples submitted for laboratory analysis. Thus, statistical analysis was not performed and the background concentration for silver is assumed to be the MDL (with no sample dilution) or 5 ppm.

Statistical analysis of the remaining metals (barium, chromium, copper, iron, lead, nickel, and zinc) was performed using the same methodology described in 6.1.2. The summary statistics for tolerance limits for background concentrations in soils are presented in Appendix L. Table 10 presents a summary of the one-sided tolerance limits for background concentrations in soil.

6.2.3 Other Parameters

Detectable concentrations of TPH were reported in five of the thirty-one soil samples at concentrations ranging from 34 ppm to 128 ppm. These values may allow for statistical analysis using nonparametric methods to determine a tolerance interval for background concentrations of TPH. However, TPH is rarely used by the TNRCC as criteria for closure. Commonly, VOCs, SVOCs, and polynuclear aromatic hydrocarbons (PAHs) are used to determine the presence of contamination that may require corrective action. Therefore, statistical analysis of TPH was not performed and the background concentration is assumed to be the MDL (with no sample dilution) of 20 ppm.

Due to the fact that a detectable concentration of phenolics was reported for one of the soil samples submitted for laboratory analysis, it was determined that this data was not part of the background population. Therefore, statistical analysis of the analytical data was not performed and the background concentration is assumed to be the MDL (with no sample dilution) of 5 ppm.

The summary statistics for tolerance limits for background concentrations in soils are presented in Appendix L. Table 10 presents a summary of the one-sided tolerance limits for background concentrations in soil.

TABLE 10

Summary of Interval Estimates of Background Concentrations in Soil Naval Air Station Corpus Christ, Texas

Parameter	Interval Estimates for Background Concentrations[1]
All Volatile Organic Constituents	5 ppb[1]
All Semivolatile Organic Constituents	330 ppb[1]
Total Petroleum Hydrocarbons	20 ppm
Total Phenolics	5 ppm
Metals	
arsenic	5 ppm
barium	93.96 ppm
cadmium	5 ppm
chromium	17.35 ppm
copper	8.25 ppm
cyanide	1 ppm
iron	12,612.96 ppm
lead	18.66 ppm
mercury	0.09 ppm
nickel	24.76 ppm
selenium	5 ppm
silver	5 ppm
zinc	49.46 ppm

Notes: [1] With the exception of the constituents and associated MDLs listed in Section 6.2.1.

7.0 REFERENCES

A listing of references used in the preparation of this report is presented in Appendix M.

The laboratory data presented in this report are indicative of the conditions that existed at the precise location sampled, and at the time the sample was collected. Additionally, the data should be interpreted as being meaningful with respect to the parameters indicated in the laboratory report, and no additional

information can logically be inferred from these data. Additionally, Halff Associates, Inc. does not represent the analytical data as being true and correct; that is the sole responsibility of the laboratory.

Conclusions and observations contained in this report are intended for the sole use of the client, and will not be released to other parties without the written consent of the client.

APPENDIX A

WORKPLAN APPROVAL LETTER

John Hall, *Chairman*
Pam Reed, *Commissioner*
R. B. "Ralph" Marquez, *Commissioner*
Dan Pearson, *Executive Director*

RECEIVED
JUN - 5 1995

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

May 26, 1995

Commanding Officer
Attn. Mr. Terry Boone
Code 189
NAS Corpus Christi
11001 D Street, Suite 143
Corpus Christi, Texas 78419-5021

Re: U.S. Department of the Navy
Naval Air Station, Corpus Christi, Texas
EPA I.D. No. TX7170022787
Permit No. HW-50038; SWR No. 30479
Review of RCRA Facility Investigation Workplan, dated September 29, 1994

APPROVAL with MODIFICATIONS

Dear Sir:

On October 3, 1994, the Texas Natural Resource Conservation Commission (TNRCC) Federal Facilities Team received a revised version of the RCRA Facility Investigation (RFI) Workplan, Naval Air Station, Corpus Christi (NAS-CC), Texas, dated September 29, 1994. The TNRCC Federal Facilities Team and Region 14 staff have completed a review of the revised RFI Workplan. Based on the information provided in the workplan and discussions during a meeting held on September 8, 1994, the RFI Workplan is approved contingent upon incorporation of the following modifications:

1. Please provide a plan view drawing with a scale of 1"=200' which includes all required information as described in **Permit Provision VII.A.1.(a)-(d).**

2. Lines of proposed geologic cross-sections should be indicated on diagrams where appropriate as required by **Permit Provision VIII.A.2.b.(5)(a).**

RFI Workplan: Section II.A - Selection of Solid Waste Management Units (SWMU)

3. Investigations have been conducted at SWMUs 1, 2, 4, and 244-264 (Bldg. 8) under the US Navy's Installation Restoration Program (IRP). The investigation at each of these SWMUs has progressed beyond the initial phase of the RFI described in **Permit Provision VIII**. Therefore, TNRCC Federal Facilities and Region 14 staff agree with NAS-CC's proposal to omit these SWMUs from the subject RFI Workplan. Documentation concerning the investigation activities at SWMUs 1, 2, 4 and those associated with Bldg.8 will be reviewed by TNRCC Federal Facilities and Region 14 staff and addressed by separate correspondence.

   NAS-CC has provided documentation which describes the unsuccessful efforts to locate SWMU 10. Based on the information available, TNRCC Federal Facilities and Region 14 staff agree that further investigation under the RFI is not warranted at this time. Should the actual location of SWMU 10 be confirmed, NAS-CC shall provide written notification to the Executive Director of the TNRCC and to the TNRCC Region 14 Office in Corpus Christi.

   NAS-CC has completed closure of SWMU 196. The Navy Radiation Safety Committee completed a review of the radiation and contamination survey and Radioactive Material Permit No. 42-00285-11NP was terminated May 18, 1993. Because this unit has been closed by the Navy Radiation Safety Committee, the TNRCC Federal Facilities staff agrees that further investigation is not warranted.

   NAS-CC has recommended no further action at SWMUs 277-298. Based on descriptions provided in the RFI Workplan and information provided in the RCRA Facility Assessment (RFA) dated December 12, 1992, TNRCC Federal Facilities and Region 14 staff agree that further investigation is not warranted at this time. However, should future activities indicate a release, or the potential for a release, of hazardous waste or hazardous constituents to environmental media, NAS-CC shall notify the TNRCC as per **Permit Provision V.J. - Releases** and conduct any required investigation and/or corrective action.

   NAS-CC has recommended no further action at SWMU 355. Based on the available information, descriptions of waste stored in this unit and the low potential for a release to environmental media as described in the RFA, TNRCC Federal Facilities staff agrees that further investigation is not

warranted at this time. However, should future activities indicate a release, or the potential for a release, of hazardous waste or hazardous constituents to environmental media, NAS-CC shall notify the TNRCC as per **Permit Provision V.J. - Releases** and conduct any required investigation and/or corrective action.

NAS-CC has requested, in the RFI Workplan, to incorporate SWMU 357 into the ongoing adjacent Leaking Petroleum Storage Tank (LPST) investigation. In discussions with TNRCC Region 14 staff, an LPST Identification Number will be assigned to this site. At this time, TNRCC Federal Facilities staff concurs with the recommendation to incorporate this site into the LPST investigation. However, should NAS-CC or the TNRCC determine that investigation or corrective action under the PST Program is inappropriate, NAS-CC shall comply with **Permit Provision VIII.**

4. Chemical analysis for Semi-Volatile Organic Compounds (SVOC) discussed in the footnote on page II.6 of the RFI Workplan should be corrected. SVOC analysis shall be conducted on 20% of samples which indicate Total Petroleum Hydrocarbons (TPH) concentrations below the established background values.

Background Conditions

5. Please provide a map which indicates the location of all proposed background sample locations.

6. Please indicate the number of soil and groundwater samples which will be collected for background purposes.

7. A separate background study report shall be submitted for TNRCC review prior to submittal of the RFI Report.

8. The background data collected during the IRP investigations should be reevaluated. If appropriate, the IRP background data may be combined with the RFI background data to increase the sample population for statistical analysis. This may also help to shorten the time required to conduct the background study as outlined in the RFI Schedule.

9. Analysis of background samples should include cyanide and phenol. The list of constituents on page II.7 should be updated.

RFI Workplan: Section III

10. According to the RFI Workplan samples collected from SWMUs 183, 265, 274, 310-315, 334-348, and 9 will be analyzed for Copper, Zinc, and Nickel when analytical results indicate the presence of RCRA Metals at concentrations greater than the established background. Copper, Zinc, and Nickel should be added to the list of constituents for each of these units. Decisions to conduct Copper, Zinc, and Nickel analysis should be based upon site information/records and should not be dependent upon the concentrations of the RCRA Metals.

    Chemical analysis of samples collected from SWMUs 310-315 should include all parameters as described in Section II.D of the RFI Workplan.

    Chemical analysis of samples collected at SWMUs 334-348 should also include total cyanide and phenols.

11. The RFI Workplan indicates SWMUs 337 and 338 will be closed in accordance with TNRCC Regulations. If the RFI activities are not conducted, NAS-CC is required to submit a closure plan and comply with all provisions in **30 Texas Administrative Code (TAC) 335.8 - Closure and Remediation.**

12. Figure III.8 is referenced on page III.5, but is not included in the RFI Workplan. Please correct this discrepancy.

RFI Workplan: Section IV - RFI Schedule

13. Five months for contractor selection is not an RFI activity and should not be part of this schedule. Ten months for the background study seems excessive and should be shortened. Please submit a revised schedule for TNRCC review and approval prior to initiating any RFI activities. NAS-CC shall submit a permit modification requesting an extension if the RFI can not be completed in 12 months as required by **Permit Provision VIII.A.4.** Please submit a revised schedule of RFI activities.

RFI Workplan: Section V

14. Regulations contained in 31 TAC 287 are now under 30 TAC 338. Please make this revision to the RFI Workplan.

Prior to initiating the RFI activities, NAS-CC shall submit a final RFI Workplan which incorporates the above referenced

modifications. NAS-CC shall also be responsible for maintaining an adequate Health and Safety Plan during all RFI activities. The TNRCC Region 14 Office in Corpus Christi shall be notified in writing at least 10 days prior to conducting any RFI activities. Copies of all documents and correspondence shall also be submitted to Region 14 Office in Corpus Christi.

Should you have any questions or wish to arrange a meeting to discuss the issues in this letter please contact Roger Dockery, Federal Facilities Team at 512/239-2568, Mail Code MC-127.

Sincerely,

Paul S. Lewis

Paul S. Lewis, Manager
Corrective Action Section
Industrial and Hazardous Waste (I&HW) Division

PSL:rd

cc: David Harvey, TNRCC Region 14 Office, Corpus Christi
Mark Craig, SOUTHNAVFACENGCOM, North Charleston, SC
David Neleigh, EPA Region VI, Chief, Federal Facilities and New Mexico Section
Tennie Larson, I&HW Division, Corrective Action Section (CA150)

APPENDIX B

COPY OF FIELD NOTES

4-1-96

915 JLC on site; get vehicle pass
930 Meet w/ Jim Boatman & pick up OVM; he will meet us at security gate @ 1030
945 Drill crew on site; Core Labs on site. Meet w/ drill crew and core labs
1030 Jim Boatman & Jimmy Alvarez to take drill crew to unload well material. JLC to store for ice
1045 JLC met JB, JA & drill crew to unload materials; mob to SB-101

4-1-96

SS-101

CORE LABORATORIES

10001

CORE LABORATORIES

10002

SB-101

CORE LABORATORIES

10003

CORE LABORATORIES

10004

1150

1230

4-1-96

SS-102 1300

CORE LABORATORIES

10005

CORE LABORATORIES

10006

SB-102 1350

CORE LABORATORIES

10007

CORE LABORATORIES

10008

SS-103

CORE LABORATORIES

10009

CORE LABORATORIES

10010

4/1/96

SB-103 1410

CORE LABORATORIES

10011

CORE LABORATORIES

10012

SS-105 1515

CORE LABORATORIES

10013

CORE LABORATORIES

10014

4/1/96

SB-105 1520

CORE LABORATORIES

10015

CORE LABORATORIES

10016

SB-105A

CORE LABORATORIES

10017

CORE LABORATORIES

10018

4-1-96

SS-107 1350

CORE LABORATORIES

10019

CORE LABORATORIES

10020

SB-107 1605

CORE LABORATORIES

10021

CORE LABORATORIES

10022

SS-109 1625

CORE LABORATORIES

10023

CORE LABORATORIES

10024

SS-110 1650

CORE LABORATORIES

10025

CORE LABORATORIES

10026

~~SS-111~~ ~~1750~~

SS-111 1750

CORE LABORATORIES

10027

CORE LABORATORIES

10028

SS-111 1790

CORE LABORATORIES

10029

CORE LABORATORIES

10030

SB-111A 1790

CORE LABORATORIES

10031

CORE LABORATORIES

10032

4-1-96

1245 JLC & drill crew off site; drill crew plugged each boring with grout except SB-10 which caved in

4-2-96

800 JLC & drill crew on site; mob to BG-112 & set up (decon & mob)

900 JLC to security gate to pick up extra boxes of soil jars

930 JLC back at BG-112; begin drilling

1100 At 22' in boring BG-112, still no water evident, Jim Boatman would like to drill to 26' just to make certain. Lithology not as described by previous boring logs

1145 Clear of at BG-112 & mob to decon

1205 Steam cleaner malfunctioned

1215 Steam cleaner back up & running, finish decon. JLC to security bldg. to get soil jars delivered by Core Labs

1240 JLC back at decon area. Manager of VOR has informed drill crew that they can't have large vehicles or equipment near VOR b/c it throws off bearing readings for air craft.

4-2-96

1245 JLC met with VOR mgr. explained the FAA will be doing random bearing checks and that it would cause problems to have heavy equipment near VOR. Call J. Boatman. He will come out and see.

1300 J. Boatman at VOR; will have to move decon area away from VOR

1330 Break for lunch

1400 Mob to BG-108; J. Boatman wanted to drill 108 first to see if water present

1510 Wd a 3.5 /act; will set well at 12' & see if water accumulates (10' screen)

1600 Mob to decon & set up on BG104

1645 Begin BG-104

1730 Finish drilling BG-104; will set well at 17' (15' of screen)

1815 JLC & drill crew off site

Note: BG-112 had caved-in to 20' with approx. 2' of water in hole
BG-108 has ~ 4' water in hole

4-3-96

830 JLC & Adriel Garcia on site; drillers not here

845 Check water level in BG-112; up to 4' below ground surface but caved in to 8.5'; will redrill hole to 13' and set well (10' screen)

900 Drillers on site; they deconed earlier & had to go get vehicle pass. Also said Jim Boatman did want to set well at BG-112

930 Begin drilling BG-112 ~ 5' to the north of original BG-112 will set well at 13' (10' screen)

945 Adriel Garcia to Core Labs with soil samples

1015 BG-112 well set; mob to decon

1030 Mob to BG-110

1140 Finish BG-110; set well at 15.5' (10' screen)

1230 LUNCH - photo - setting BG-110

1315 Decon pump & mob to BG-104

1330 Adriel Garcia to develop BG-104

1345 Mob to BG-104

4-3-96

1400 Begin BG-106

1500 Finish drilling BG-106; set well at 18.6' (15' of screen)

Adriel Garcia finished developing BG-108

Moving to BG-112

1600 Drill crew to grout initial BG-112 boring and cut well pipes down

Adriel said there was only 0.3' of water in BG-110

KEVIN BELAIRE -- said see if water comes in overnight

1700 Well BG-106 developing

1800 Turn purge water from wells to WWTP

1820 ELC & AG off site

4-4-96

4-4-96

940 Prep to purge BG-112

WL = 7.62 from T.O.C.

Well Length = 13.05 from T.O.C.

1 vol. = 0.9 ≈ 1 gal

Vol	Temp	pH	Cond
1.0	70.4	7.40	100
1.5	70.2	7.78	1,600
2.0	70.4	7.86	1,600
2.5	70.4	7.91	1,600
3.0	70.4	7.92	1,600

Total 3 gal removed ~ 3 well volumes

1015 BG-108

WL = 5.0' from T.O.C

Well Length = 11.83' from T.O.C

1 vol. = 1.11 gal

Vol	Temp	pH	Cond
1.0	70.8	7.10	1,100
1.5	70.6	7.20	1,000
2.0	71.0	7.30	1,100
2.5	71.0	7.29	1,200
3.0	71.0	7.30	1,100

Total 3.5 gal removed ~ 3 well volumes

4-4-96

1030 Prep to purge BG-104

WL = 3.29 from T.O.C.

Well Length = 16.55 from T.O.C.

1 vol = 2.16 gal

Vol	Temp	pH	Cond
1.0	70.8	6.40	1,900
1.5	69.8	6.76	2,400
2.0	69.4	6.78	2,600
2.5	69.4	6.64	2,800
3.0	69.4	6.70	2,800

Total 7.5 gal removed

Prep to purge BG-106

WL = 3.48 from TOC

Well Length = 17.65 from TOC

1 Vol = 2.3 gal

VOL	Temp	pH	Cond
1.0	70.8	6.78	2,300
1.5	70.6	6.77	2,400
2.0	71.0	6.80	2,500
2.5	71.6	6.90	2,800
3.0	71.8	6.92	2,400

Total 7.5 gal removed

4-4-96

1700 Prep to purge and sample BG-3

WL = 11.75 below TOC
Well length = 19.6 below TOC
1 vol = 1.3 gal

Vol	Temp	pH	Cond
1.0	72.4	7.00	1,300
1.5	72.4	7.00	1,200
2.0	72.4	7.04	1,200
2.5	72.4	7.07	1,200
3.0	72.4	7.07	1,200

Approx 5 gal removed

1720 SAMPLE BG-3
2-liters (6), 1-liter (1-SO4), 2 vials (VOA)
1250 pH C

1740 Prep to develop BG-101
WL = 7.05 below TOC (well 14.9 soft silt in bottom)
Length 17.13
Approx 30 gal removed; ~20. well [illegible]

4.5-96

BG-2

wl 12.05

length 15.92

0.6g = 1 well vol

Vol	Temp	pH	Cond
1	71.0	7.39	3,900
1.5	71.6	7.43	3,900
2.0	71.4	7.44	3,800
2.5	71.4	7.45	3,900
3.0	71.6	7.46	3,800

Approx 3 gal removed

745 Sample BG-2

BG-1 (BG-1 pump)

WL = 8.58 below TOC

length = 15.05 below TOC

1 vol = 1 gal

Vol	Temp	pH	Cond
1	71.0	6.67	1,000
1.5	71.2	6.60	[illegible]
2.0	71.2	6.56	1,000
2.5	71.1	6.56	1,000
3.0	71.4	6.53	1,000

815 Sample BG-1 (BG-1 pump)

940 BG-101

wl = 5.16

Length = 14.68

1 vol = 1.5 gal

Vol	Temp	pH	Cond
1	69.0	6.35	4,000
1.5	69.4	6.38	4,000
2	69.2	6.39	4,000
2.5	69.2	6.38	4,100
3	69.0	6.38	4,100

1000 Sample BG-101

BG-110 13.69 wl

[illegible]

6-3-96

730 JLC & AG on site meet w/ Dilip Shah
Bailers & sample containers not here

800 Call Core Labs, said containers should be there, will check and call back

830 Meet surveyors, find bailers
Show surveyors locations

900 Pick up sample containers at south gate

930 At BG-112

945 WL = 5.71
TD = 13.05
Vol = 1.2 gal

Vol	Temp	pH	Cond
1	73.4	7.61	1,800
1.5	73.0	7.62	1,760
2	72.8	7.62	1,710
2.5	72.8	7.66	1,730
3	72.8	7.65	1,740

Total volume removed ~ 4 gallons

955 Sample BG112
[illegible] 1L, 2VOAs, 1-1Kp, 2-250mLp, 1-250mL, 1-1L [illegible]

6-3-96

1015 At BG-110

WL = 14.43

TD = 15.50

1 vol = 0.2

Vol	Temp	pH	Cond
1.0		6.61	2,770
1.5	Pulled Dry at 1.0 vol		

1040 At BG-108

WL = 5.52

TD = 11.83

1 vol = 1 gal

Vol	Temp	pH	Cond
1	74.1	7.17	974
1.5	73.3	7.22	1,250
2	73.3	7.22	1,390
2.5	73.2	7.17	1,390
3	73.1	7.21	1,390

Total Removed ≈ 3.5 gal

1050 Sample BG-108 & BG-108A

For each

3-1L, 2VOAs, 1-1Lp, 2-250mLp, 1-250mL

6-3-96

1245 At Marked well ~~[illegible]~~ BG-2

WL = 12.62

TD = 15.92

1 vol = 0.5 gal

Vol	Temp	pH	Cond
1	73.7	7.45	3,940
1.5	73.6	7.41	4,000
2	73.2	7.49	4,000
2.5	73.0	7.52	3,960
3	73.0	7.58	3,970

Total Removed ≈ 2 gal

Sample BG-3; 3-1L, 2VOAs, 1-1Lp, 2-250mLp, 1-250mL, 1-1L amber

1355 At BG-1 (BG-3 on map)

WL = 9.12

TD = 15.05

1 vol = 1 gal

Vol	Temp	pH	Cond
1	72.9	6.52	1,080
1.5	72.8	6.42	910
2	72.5	6.42	920
2.5	72.5	6.38	920
3	72.5	6.39	930

1355 Sample BG-1; same # containers

6-3-96

1430 At BG-3

WL = 11.98

TD = 19.60

1 vol = 1.2

Vol	Temp	pH	Cond
1	73.4	6.98	1,100
1.5	73.0	6.89	1,120
2	72.9	6.86	1,150
2.5	72.9	6.87	1,150
3	72.3	6.88	1,150

Total Removed = 4 gal

1550 Sample BG-3, same cont.

1510 At BG-101

WL = 5.89

TD = 17.13

1 vol = 2 gal

Vol	Temp	pH	Cond
1	74.2	6.01	5,210
1.5	73.9	5.92	5,070
2	73.5	5.91	5,160
2.5	73.4	5.92	5,090
3	73.4	5.91	5,100

Total Removed = 6 gal

1530 Sample BG-101, same cont

6-3-96

1540 At BG-104

WL = 4.10

TD = 16.55

1 vol = 2 gal

Vol	Temp	pH	Cond
1	72.9	6.41	2,440
1.5	72.5	6.28	3,570
2	72.3	6.29	4,180
2.5	72.4	6.29	4,200
3	72.2	6.30	4,170

Total Removed = 6 gal

1550 Sample BG-104, 10 cal

1600 At BG-106

WL = 3.53

TD = 17.65

1 vol = 2.2

VOL	Temp	pH	Cond
1	73.3	6.32	1,650
1.5	73.0	6.69	1,600
2	72.8	6.79	2,640
2.5	72.7	6.78	2,650
3	72.7	6.80	2,670

Vol Removed = 6 gal

1620 Sample BG-106, sample contains (10)

7-10-96

800 JLC & AG on site; check in w/ John Young & Dilip Shah

825 At BG-112
WL = 6.42
1 vol = 1 g

Vol	Temp	pH	Cond
1	79.6	7.63	1710
1.5	79.2	7.68	1670
2	78.4	7.71	1730
2.5	78.4	7.72	1720
3	78.3	7.73	1740

Total 3 gal purged

830 Sample BG-112, 1 Lpl & 1 250ml Alk

840 BG-108
WL = 6.50
1 vol = 1 gal

Vol	Temp	pH	Cond
1	80.2	7.14	1010
1.5	80.0	7.22	1,110
2	79.2	7.20	1,340
2.5	78.7	7.29	1440
3	78.4	[illegible]	[illegible]

850 Sample [illegible] 1 Lpl & [illegible]

7-10-96

900 BG-106

WL = 4.49

1 vol = 2 gal

Vol	Temp	pH	Cond
1	77.4	6.77	1,560
1.5	77.2	6.71	1,520
2	76.4	6.73	2,080
2.5	75.6	6.85	3.390
3	76.0	6.75	2,250

Total removed = 3 vol

910 Sample BG-106, 1-1Lpl & 1-250mL vial

BG-104

WL = 5.00

1 vol = 2 gal

Vol	Temp	pH	Cond
1	77.2	6.55	2,470
1.5	75.8	6.43	4,190
2	75.0	6.48	5,350
2.5	75.0	6.45	5,260
3	74.8	6.45	5,300

Total removed; 3 vol

935 Sample BG-104, 1-1Lpl & 1-250mL vial

7-10-96

945 BG-101

WL = 6.60

1 vol = 2 gal

Vol	Temp	pH	Cond
1	77.6	6.17	5,610
1.5	77.8	6.01	5,510
2	78.0	5.96	5,300
2.5	77.6	6.00	5,400
3	77.4	5.99	5,[illegible]

Total removed; 3 vol

1000 Sample BG-101; 1-1Lpl & 1-250mL vial

1045 BG-2

WL = 13.16

1 vol = 0.5 gal

Vol	Temp	pH	Cond
1	76.8	7.45	4,280
1.5	76.6	7.48	4,090
[illegible]	76.8	7.49	4,080
[illegible]	76.6	7.50	4,090
[illegible]	76.4	7.50	4,100

Total removed; 3 vol

1055 Sample BG-2, 1-1Lpl & 1-250mL vial

7-10-96

1105 BG-3

WL = 9.45

1 vol = 1 gal

Vol	Temp	pH	Cond
1	79.0	6.56	1,170
1.5	78.0	6.43	950
2	78.0	6.36	940
2.5	77.6	6.34	940
3	77.4	6.34	940

Total removed ; 3 vol

1115 Sample BG-3; 1-1Lpl & 1-250mL amber

1125 BG-1

WL = 12.40

1 vol = 1 gal

Vol	Temp	pH	Cond
1	78.2	6.88	1060
1.5	78.0	6.87	1000
2	78.0	6.89	1000
2.5	77.6	6.88	1070
3	77.6	6.87	1060

Vol removed ; 3 vols.

1135 Sample BG-3; 1-1Lpl & 1-250mL amber

APPENDIX C

EXCEPRTS FROM THE WORKPLAN

RCRA FACILITY INVESTIGATION WORKPLAN

NAVAL AIR STATION
CORPUS CHRISTI, TEXAS

SEPTEMBER 1994

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psi

The second and third samples will be retained for *no more than their proper holding times* in a temperature-controlled facility at the site should additional, more detailed or duplicate laboratory analysis be needed. Chain-of-custody procedures will be maintained during this time.

D. Selection of Sample Analyses

Soil and groundwater samples will be analyzed for *specific chemical parameters ascertained from results of recent sampling events, a review of the CCAD MSDS list, 40 CFR 265.92, and 30 TAC 335. In addition, the indicator parameters specified in 40 CFR 265.92 will be used to determine groundwater quality.* The three (3) broad chemical families used at NASCORPC are chlorinated hydrocarbons, non-chlorinated hydrocarbons, and metal solutions and solids. *Recent groundwater monitoring studies have detected the presence of several volatile chlorinated hydrocarbons, acetone, 2-butanone, benzene, cadmium, chromium, arsenic, barium, lead, and total petroleum hydrocarbons. Therefore, soil samples will be analyzed for:*

- Total Petroleum Hydrocarbons (TPH) *(Method 418.1)*[1]
- Total RCRA Metals *(Method 6010)*
- *Volatile Organics (Method 8260 or 8240)*
- *Semivolatile Organics (Method 8270)*[1]

Additional constituents may be added for a particular sample location if warranted. These additions are included in the individual SWMU workplans.

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[1]TPH is an indicator parameter for organics. If TPH is observed above the background level, SVOC analysis will be performed for that sample. It should be noted that SVOC analyses will be performed for 20% of the samples to confirm TPH results.

Groundwater samples will be analyzed for all the above constituents and the following required water quality parameters:

- *Total Organic Carbon (TOC) (Method 415.1)*
- *Total Organic Halogens (TOX) (Method 9020)*
- *pH (Field Measurement)*
- *Conductivity (Field Measurement)*
- *Temperature (Field Measurement)*
- *Total Dissolved Solids (TDS) (Method 160.1)*
- *Chlorides (Method 325.2)*
- *Sulfates (Method 375.4)*
- *Iron (Method 200.7)*
- *Manganese (Method 200.7)*

Additional constituents may be added for a particular sample location if warranted. These additions are included in the individual SWMU workplans.

E. Background Conditions

The background sampling program will determine the normally occurring concentrations of various constituents in the soil and the uppermost aquifer within the boundaries of the NASCORPC. Background samples of soil and groundwater will be analyzed for:

- *Total Petroleum Hydrocarbons (TPH) (Method 418.1)*
- *Total RCRA Metals (Method 6010)*
- *Volatile Organics (Method 8260 or 8240)*
- *Semivolatile Organics (Method 8270)*
- *Copper (Method 200.7)*
- *Zinc (Method 200.7)*
- *Nickel (Method 200.7)*

Additional analyses for background groundwater samples will be for:

- *Total Organic Carbon (TOC) (Method 415.1)*
- *Total Organic Halogens (TOX) (Method 9020)*
- *pH (Field Measurement)*
- *Conductivity (Field Measurement)*
- *Temperature (Field Measurement)*
- *Total Dissolved Solids (TDS) (Method 160.1)*
- *Chlorides (Method 325.2)*
- *Sulfates (Method 375.4)*
- *Iron (Method 200.7)*
- *Manganese (Method 200.7)*

Fifteen soil borings will be drilled about 800 feet apart along the southern fenceline starting about 100 feet west of Runway 35 and ending near the eastern facility boundary. No borings will be placed within 1000 feet of the DRMO, SWMU 1, SWMU 2, or SWMU 4. No borings will be placed in a known contaminated area. Ten of the soil borings will be approximately 6 feet deep or terminating just above the uppermost aquifer. Five soil borings will be developed as monitoring wells which will be approximately 15 feet deep or two feet into the impermeable layer beneath the uppermost aquifer.

F. Statistical Methods

A review of site specific conditions (EnSafe/Allen & Hoshall, 1994a,b) and EPA methodologies (EPA 1989 and EPA 1992) suggests the following approach to statistical analysis of background levels in soil and groundwater for the Corpus Christi Naval Air Station.

Volatile organic compounds

Low levels, about 0 to 40 ppb, of volatile organic compounds are expected to occur in approximately five to ten percent of upgradient groundwater samples. These low level "hits" are most appropriately analyzed using Poisson statistics (Gibbons, 1987). Poisson tolerance limits using 95% coverage and 95% confidence will be developed for this contaminant class. In the event the data indicate Poisson statistics are inappropriate, nonparametric prediction limits will be developed instead.

Metals

Arsenic, barium, cadmium, chromium, and lead have been found in soils and groundwater at NASCORPC. Background levels for metals will be determined on a constituent by constituent basis. Data for each metal will be tested for normality (Shapiro-Wilk) and, if necessary, log-normality. If the data are approximately normal or log-normal in distribution, tolerance limits with 95% coverage and 95% confidence will be constructed. Otherwise, nonparametric tolerance limits will be developed.

Other Parameters

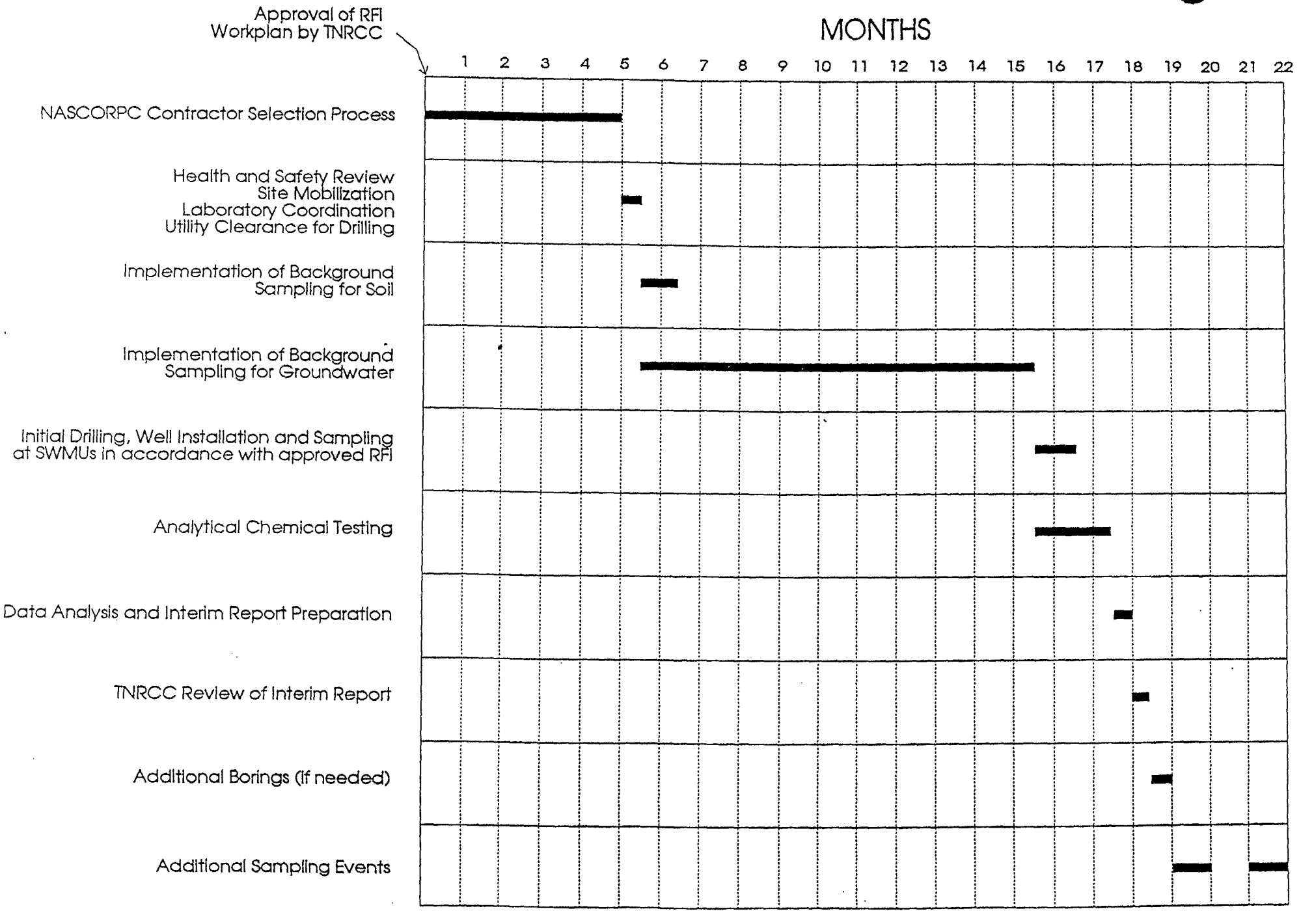
The statistical method to utilize for each of these parameters depends on the analytical results for the background samples. If more than 50% of the data are less than the detection limit, either non-parametric or Poisson based tolerance intervals will be developed. If less than 50% of the data are below the detection limit, normal or log-normal statistics may be utilized with

appropriate data adjustments for values below the detection limit (EPA 1992). If less than 50% of the data are below the detection limit and neither the normal nor the log-normal distribution is appropriate (by the Shapiro-Wilk test of normality), nonparametric tolerance limits will be generated.

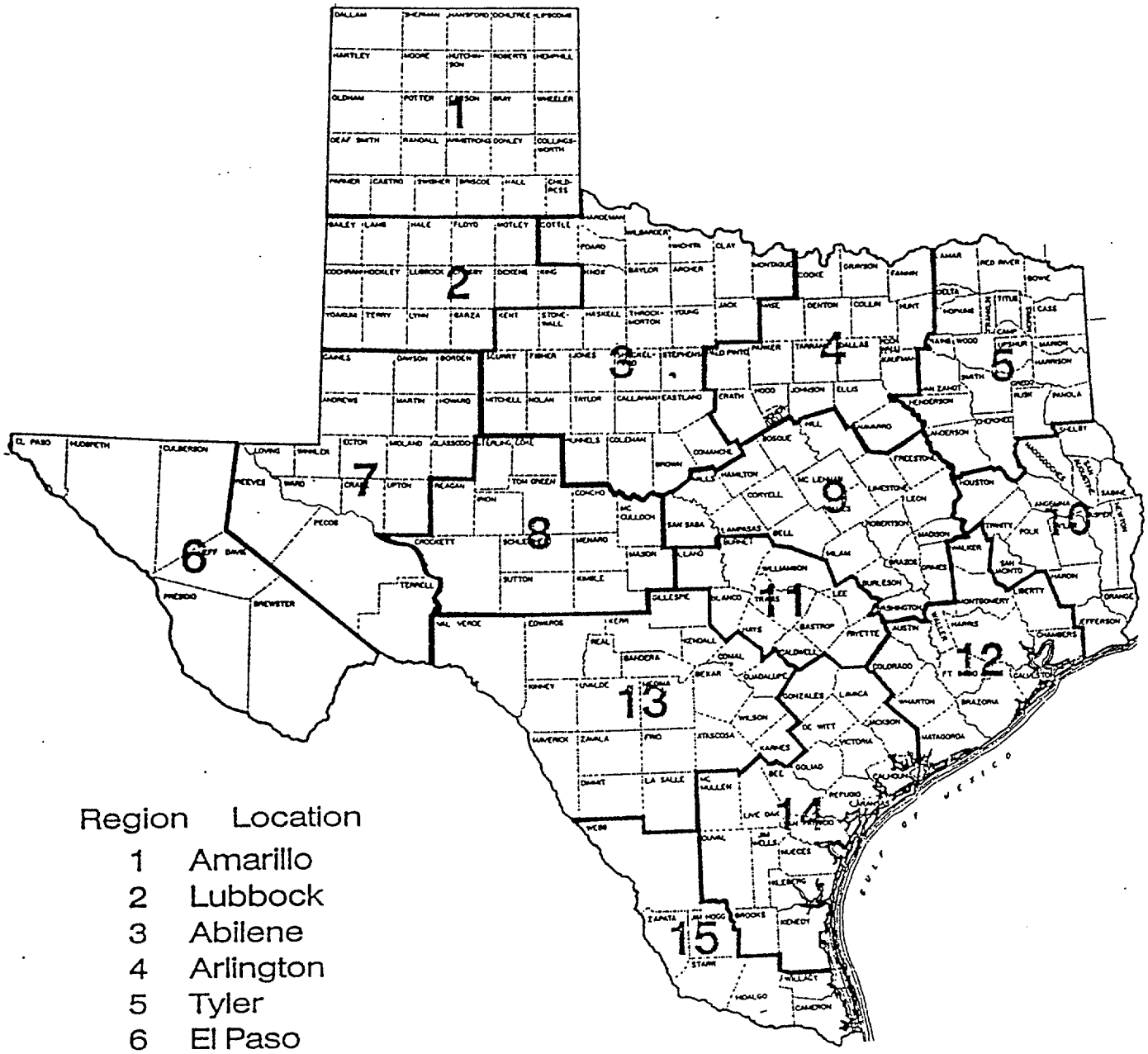
IV. RFI SCHEDULE

The total time required for completion of the RFI is at least 22 months from the time the commission approves the RFI Workplan. A graphical breakdown of the scheduled activities is provided in figure IV.1. Please note that in the case of SWMU workplans which do not require groundwater sampling, soil sampling may commence at any time after the establishment of background. In the event a statistically significant change (SSC) from the site background soil and/or groundwater characteristics (as determined during background sampling) is observed, the NASCORPC will notify the executive director and apply for a permit amendment to initiate further investigation and/or corrective action.

TIMELINE


Approval of RFI Workplan by TNRCC
MONTHS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
NASCORPC Contractor Selection Process
Health and Safety Review
Site Mobilization
Laboratory Coordination
Utility Clearance for Drilling
Implementation of Background Sampling for Soil
Implementation of Background Sampling for Groundwater
Initial Drilling, Well Installation and Sampling at SWMUs in accordance with approved RFI
Analytical Chemical Testing
Data Analysis and Interim Report Preparation
TNRCC Review of Interim Report
Additional Borings (if needed)
Additional Sampling Events

TNRCC REGIONAL STRUCTURE



Region	Location
1	Amarillo
2	Lubbock
3	Abilene
4	Arlington
5	Tyler
6	El Paso
7	Odessa
8	San Angelo
9	Waco
10	Beaumont
11	Austin
12	Houston
13	San Antonio
14	Corpus Christi
15	Harlingen

V. WORKPLAN PROCEDURES

This section of the RFIW details the methods to be employed during the RCRA Facility Investigation at Corpus Christi Naval Air Station. Prior to drilling, the contractor will obtain a drilling permit from Corpus Christi Naval Air Station. Drilling and well installation operations will be supervised by a qualified geologist or geotechnical engineer.

A. Soil Assessment

Surface/Shallow Soil Sampling

Individual surface soil samples (0-6 inches in depth) will be collected with a clean stainless steel hand trowel. Shallow soil samples (0-5 feet in depth) will be collected using a clean stainless steel hand auger. Composite soil samples will be placed in a clean container and mixed thoroughly. Representative samples will then be obtained from the center of the container using a thin-wall tube sampler. Sampling tools will be decontaminated by washing in a tap water/liquinox wash followed by nanograde isopropyl alcohol, 0.1N nitric acid, and deionized water rinses.

Soil Borings

Soil borings will be drilled using a hollow-stem auger. Soil samples will generally be obtained continuously from the ground surface to *the bottom of the boring (i.e., 20 feet or less). Soil borings will be terminated at depths of about twenty (20) feet or less if groundwater is encountered.*

Sample Collection

Soil samples will be obtained on a continuous basis using a spilt spoon or shelby tube for the first twenty feet. One discrete sample will be collected about every five feet at the highest detectable PID or OVA reading. If no detectable reading occurs, the soil sample will be collected from the middle of the five foot interval or where there is visible indication of contamination. The order of sample collection will be VOC,TOX, TPH, Metals, and other parameters. Soil samples will be placed in labeled jars, sealed, and placed in a cooler maintained at 4 °C. The chain-of-custody and analytical request form will then be completed and taped to the inside cover of the cooler. The filled cooler will be sealed shut and shipped to the laboratory by overnight courier.

Quality Control/Quality Assurance

One field duplicate soil sample will be collected and tested from every fourth boring for each sampling event for laboratory QA/QC. One field blank, one trip blank, and one equipment blank will be tested for each sampling event.

Drilling tools will be decontaminated by steam cleaning *before* and between each soil boring. Sampling tools will be decontaminated between each sample by washing in a tap water/liquinox wash followed by nanograde isopropyl alcohol, 0.1N nitric acid, and deionized water rinses.

Drill cuttings will be containerized in DOT approved 55-gallon drums, labelled, and stored at locations designated by the NASCORPC. Upon completion, soil boreholes will be plugged in accordance with TNRCC regulations.

Laboratory Testing/Quality Assurance

Analytical chemical testing will be performed in accordance with United States Environmental Protection Agency publication SW-846, Test Methods for Evaluating Solid Waste (U.S. EPA SW-846), and U.S. EPA "Methods for Analysis of Water and Wastes", EPA 600/4-79-020. Laboratory testing parameters, EPA testing methodologies, and detection limits are summarized in Appendix *D*. Analytical chemical testing will be performed by a qualified laboratory acceptable to the TNRCC and the NASCORPC.

B. Groundwater Assessment

Based on conditions encountered at the site, selected soil borings may be converted to 2-inch or 4-inch diameter monitoring wells. The installation of monitoring wells will be supervised by a qualified geologist or geotechnical engineer. Screen lengths will not exceed twenty (20) feet. Well casing and screen will be steam cleaned prior to use unless it is pre-packaged and certified clean by the manufacturer. Casing and screen will be threaded flush-joint schedule 40 PVC, unless analytical test results warrant more corrosive resistant material such as 316 stainless steel. Screen slot size will be 0.01 inch in width.

Monitoring wells will be installed by a Texas licensed monitoring well driller in accordance with 31 TAC 287. The annular space surrounding the screen will be filled with a uniform 20-40 washed sand pack. Sand will be added with the aid of a tremie pipe as the augers are removed from each borehole. The sand pack will be installed to approximately two feet above the top of the screen. A two-foot bentonite seal will then be installed on top of the sand pack. After the bentonite and sand is hydrated, the remaining annular space will be grouted to

the ground surface. Each monitoring well will be finished as a surface or upright completion, as appropriate (see Appendix *E*). Each monitoring well will be surveyed by a Texas registered surveyor for top of casing elevation and horizontal position relative to established NASCORPC benchmarks. Labels identifying the well's location and elevation will be posted on each monitoring well casing.

Well Development Methods

Each monitoring well will be developed to provide water samples representative of the aquifer. Monitoring wells *will* be developed using a *clean* bailer or submersible pump. A minimum of five well volumes will be removed during development. Well development will continue until a) the development water is clear and free of sand and silt, and b) three consecutive Ph, temperature and conductivity readings stabilize within ten percent. Well development water will be containerized in DOT approved 55-gallon drums and stored at locations designated by the NASCORPC.

Groundwater Gradient Determination

Depth to water measurements will be obtained at least 24 hours after well development and prior to purging and sampling operations. In each well, an interface probe will be used to record the distance between the top of well casing, the top of a light (floating) immiscible layer (if present), the surface of the water, and the top of a dense (sinking) immiscible layer (if present) in each monitoring well. Distances will be measured from *the top of casing datum* on the north side of each monitoring well casing. Measurements will be made to the nearest

hundredth (0.01) of a foot. Relative groundwater elevations will be calculated by subtracting the measured depth to water from the surveyed top of casing datum. A groundwater gradient map will be drawn from these calculated groundwater elevations.

C. Groundwater Sampling

Monitoring wells may be sampled no sooner than 24 hours after well development. Prior to sampling, monitoring wells will be purged of three to five well volumes using a dedicated bailer. If a monitoring well is bailed or pumped dry during purging, it will be sampled as soon as it recovers to yield an adequate sample volume. Purge water will be labelled, containerized in DOT approved containers, and stored at locations designated by the NASCORPC. After purging, samples will be collected and containerized in order of decreasing volatility as outlined below:

- Volatile Organics (VOC)
- *Semivolatile Organics (SVOC)*
- Total Organic Halogens (TOX)
- Total Petroleum Hydrocarbons (TPH)
- Total Metals
- Cyanide
- Sulfate and Chloride
- Turbidity
- Nitrate

Sample Collection and Preservation

Groundwater samples will be collected using a clean, dedicated bailer for each well. Groundwater samples will be collected in *appropriate* containers, labelled, and preserved in accordance with EPA and TNRCC guidelines (see Appendix *C*). *First, VOC samples will be collected using three 40 ml glass vials per well. Next, TPH samples will be collected in 1 liter amber bottles. Inorganic samples will be collected in 1 liter plastic jars. Each sample will be placed in a cooler maintained at 4 C. The chain-of-custody form will be completed, placed in a sealable plastic bag, and taped to the inside cover of the cooler. Samples will be handled and transported under proper chain-of-custody procedures in the field and laboratory, as outlined in EPA's* RCRA Groundwater Monitoring Technical Enforcement Guidance Document, September 1986.

One (1) equipment blank sample per day and one (1) trip blank and one (1) field blank per sampling event will be collected for laboratory testing. Also, one split sample for every 8 groundwater samples will be analyzed by an independent laboratory.

Laboratory Testing/Quality Assurance

Analytical chemical testing will be performed in accordance with U.S. EPA SW-846 and U.S. EPA 600/4-79-020. Laboratory testing parameters, EPA testing methodologies, and detection limits are summarized in Appendix *D*. Analytical chemical testing will be performed by a qualified laboratory acceptable to the TNRCC and NASCORPC.

APPENDIX D

SAMPLE TESTING PARAMETERS,

METHODOLOGIES & DETECTION LIMITS

APPENDIX D
SAMPLE TESTING PARAMETERS, METHODOLOGIES & DETECTION LIMITS

ANALYTE	LABORATORY METHOD W/S	DETECTION LIMITS W/S
Total Petroleum Hydrocarbons	EPA 418.1/SW 9073	1 ppm/10 ppm
Benzene, Toluene, Ethylbenzene, Xylenes	EPA 8020	0.001 ppm/0.33 ppm
Total Organic Halogens	SW 9020	1 ppm/1 ppm
Total Organic Carbon	EPA 415.1	1 ppm/1 ppm
Acetone	EPA 8240	0.010 ppm/0.33 ppm
Methylene Chloride	EPA 8240	0.010 ppm/0.33 ppm
1,1,1 Trichloroethane	EPA 8240	0.010 ppm/0.33 ppm
Chlorobenzene	EPA 8240	0.010 ppm/0.33 ppm
Vinyl Chloride	EPA 8240	0.010 ppm/0.33 ppm
1,1 Dichloroethene	EPA 8240	0.010 ppm/0.33 ppm
1,1 Dichloroethane	EPA 8240	0.010 ppm/0.33 ppm
Methyl Ethyl Ketone	EPA 8240	0.010 ppm/0.33 ppm
Ethylene Glycol	EPA 624/EPA 8240	1 ppm/10 ppm
pH	EPA 1501/SW 9045	N/A
Total Dissolved Solids	EPA 160.1	5 ppm/NA
Chlorides	EPA 325.2	1 ppm/3 ppm
Sulfates	EPA 375.4	5 ppm/15 ppm
Arsenic (Ar)	EPA 206.3/SW 7061	0.005 ppm/0.20 ppm
Barium (Ba)	EPA 208.1/SW 7080	0.200 ppm/4 ppm
Cadmium (Cd)	EPA 213.1/SW 7130	0.010 ppm/0.50 ppm
Chromium (Cr)	EPA 218.1/SW 7190	0.050 ppm/1 ppm
Mercury (Hg)	EPA 245.1/SW 7471	0.001 ppm/0.05 ppm
Lead (Pb)	EPA 239.1/SW 7420	0.050 ppm/1 ppm
Selenium (Se)	EPA 270.3/SW 7740	0.005 ppm/0.20 ppm
Silver (Ag)	EPA 272.1/SW 7760	0.010 ppm/0.50 ppm
Total Cyanide	SW 9010	10 ppm/10 ppm
Copper (Cu)	EPA 220.1/SW 7210	0.020 ppm/1 ppm
Zinc (Zn)	EPA 289.1/SW 7950	0.010 ppm/0.50 ppm
Nickel (Ni)	EPA 249.1/SW 7520	0.050 ppm/1 ppm
Iron (Fe)	EPA 236.1/SW 7380	0.050 ppm/1 ppm

APPENDIX D

BORING LOGS

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	SB-101	SHEET 1 OF 1	
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION

TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	3.0	SPT		50	0 - 2		SAND: tan, slightly silty, dry to slightly moist, loose		
	3.0	SPT		100	2 - 3		As above --wet at 3.0 feet.		
							Boring terminated at 3.0 feet.		
5									
10									
15									
20									

DRILLING CONTRACTOR PSI
DRILLING METHOD Hollow Stem Auger
DRILLING EQUIPMENT Mobile B-59
DRILLING STARTED 4/1/96 ENDED 4/1/96

REMARKS Soil boring only; no well set. Groundwater encountered at 3.0 feet.

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	SB-102	SHEET 1 OF 1	
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION

TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
				75			SAND: brown, very fine grained, shells and pebbles present, dry, loose		
	0	SPT			0 - 2		SAND: tan, slightly silty, dry to very moist, loose to soft		
				100					
	0	SPT			2 - 3		As above – wet at 3.0 feet		
							Boring terminated at 3.0 feet.		
5									
10									
15									
20									

DRILLING CONTRACTOR PSI
DRILLING METHOD Hollow Stem Auger
DRILLING EQUIPMENT Mobile B-59
DRILLING STARTED 4/1/96 ENDED 4/1/96

REMARKS Soil boring only; no well set. Groundwater encountered at 3.0 feet.

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	SB-103
PROJECT	RCRA Background Investigation
LOCATION	Corpus Christi, Texas
AVO NUMBER	15365 EA02
LOGGED BY	J. Cooper

RELATIVE SURFACE ELEVATION

TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	0	SPT		75	0 - 2		SAND: tan, slightly silty, dry to very moist, loose to soft		
	0	SPT		100	2 - 3.5		As above – wet at 3.5 feet		
							Boring terminated at 3.5 feet.		
5									
10									
15									
20									

DRILLING CONTRACTOR	PSI
DRILLING METHOD	Hollow Stem Auger
DRILLING EQUIPMENT	Mobile B-59
DRILLING STARTED 4/1/96	ENDED 4/1/96

REMARKS Soil boring only; no well set. Groundwater encountered at 3.5 feet.

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	SB-105
PROJECT	RCRA Background Investigation
LOCATION	Corpus Christi, Texas
AVO NUMBER	15365 EA02
LOGGED BY	J. Cooper

RELATIVE SURFACE ELEVATION

TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	0	SPT		50	0 - 2		SAND: tan, slightly silty, dry to very moist, loose to soft		
	0	SPT		75	2 - 3.5		As above – wet at 3.5 feet		
							Boring terminated at 3.5 feet.		
5									
10									
15									
20									

DRILLING CONTRACTOR	PSI
DRILLING METHOD	Hollow Stem Auger
DRILLING EQUIPMENT	Mobile B-59
DRILLING STARTED	4/1/96 ENDED 4/1/96

REMARKS Soil boring only; no well set. Groundwater encountered at 3.5 feet.

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	SB-107	SHEET 1 OF 1	
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION

TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	0	SPT		100	0 - 2		SAND: tan, slightly silty, dry to moist, loose to soft		
	0	SPT		100	2 - 4		As above		
	0	SPT		100	4 - 5		As above		
5							Boring terminated at 5.0 feet.		
10									
15									
20									

DRILLING CONTRACTOR PSI
DRILLING METHOD Hollow Stem Auger
DRILLING EQUIPMENT Mobile B-59
DRILLING STARTED 4/1/96 ENDED 4/1/96

REMARKS Soil boring only; no well set. Groundwater not encountered.

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	SB-109	SHEET 1 OF 1	
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION

TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	0	SPT		100	0 - 2		SAND: tan to brown, slightly clayey, dry, soft		
							SAND: brown, clayey, slightly moist, firm		
	0	SPT		100	2 - 4		As above		
		SPT		100	4 - 5		As above		
5	0						SAND: tan, silty, slightly clayey, dry, soft		
							Boring terminated at 5.0 feet.		
10									
15									
20									

DRILLING CONTRACTOR	PSI
DRILLING METHOD	Hollow Stem Auger
DRILLING EQUIPMENT	Mobile B-59
DRILLING STARTED 4/1/96	ENDED 4/1/96

REMARKS Soil boring only; no well set. Groundwater not encountered.

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	SB-111	SHEET	1 OF 1
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION

TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	0	SPT		100	0 - 2		SAND: tan, silty, slightly clayey, dry, loose to soft		
	0	SPT		100	2 - 4		As above		
5	0	SPT		100	4 - 5		SANDY CLAY: brown/red mottled, moist, stiff		
							Boring terminated at 5.0 feet.		
10									
15									
20									

DRILLING CONTRACTOR PSI
DRILLING METHOD Hollow Stem Auger
DRILLING EQUIPMENT Mobile B-59
DRILLING STARTED 4/1/96 ENDED 4/1/96

REMARKS Soil boring only; no well set. Groundwater not encountered.

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	BG-101	SHEET 1 OF 1	
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION 17.8 TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	0	SPT		0	0 - 2		SAND: tan, slightly silty, dry, loose	Surface completion; Bentonite seal	
	0.4	SPT		50	2 - 4		As above, becoming moist and soft	2" Sch. 40 PVC casing	15
5	7.1	SPT		50	4 - 6		As above, wet at approximately 4.0 feet	20-40 silica sand filter pack	
	1.0	SPT		25	6 - 8		As above		10
	0	SPT		38	8 - 10		As above	0.01" slotted 2" PVC screen	
10	2.1	SPT		75	10 - 12		As above		
	2.0	SPT		63	12 - 14		As above		5
15	2.1	SPT		100	14 - 16		As above, orange mottling present	Bottom cap	
							Boring terminated at 16.0 feet.		0
20									

DRILLING CONTRACTOR PSI
DRILLING METHOD Hollow Stem Auger
DRILLING EQUIPMENT Mobile B-59
DRILLING STARTED 4/4/96 ENDED 4/4/96

REMARKS

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	BG-104	SHEET 1 OF 1	
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION 17.2 TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	18.4	SPT		75	0 - 2		SAND: tan, slightly silty, dry, loose; blue/gray and green/gray sandy clay interbeds abundant with depth --becoming moist	Surface completion Bentonite seal	
	4.3	SPT		75	2 - 4		As above, wet at 3.0 feet	2" Sch. 40 PVC casing	15
5	1.7	SPT		100	4 - 6		As above	20-40 silica sand filter pack	
	11.4	SPT		100	6 - 8		As above		
							SANDY CLAY: blue/gray, wet, soft		10
	4.5	SPT		75	8 - 10		As above		
10	4.5	SPT		100	10 - 12		SANDY CLAY, CLAYEY SAND, SAND: tan to blue/gray to green/gray, moist, soft to stiff	0.01" slotted 2" PVC screen	
							-- sandy clay		
	3.0	SPT		100	12- 14		-- sand		5
							-- clayey sand		
15	5.6	SPT		75	14 - 16		-- sandy clay		
	2.2	SPT		75	16 - 17		CLAY: blue/green with brown mottling, slightly moist, very stiff	Bottom cap	0
							Boring terminated at 17.0 feet		
20									

DRILLING CONTRACTOR PSI
DRILLING METHOD Hollow Stem Auger
DRILLING EQUIPMENT Mobile B-59
DRILLING STARTED 4/2/96 ENDED 4/2/96

REMARKS

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	BG-106	SHEET 1 OF 1	
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION 17.4 TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	10.8	SPT		75	0 - 2		SANDY LOAM: brown, moist, soft	Surface completion	
							SAND: tan, slightly silty, very moist, loose to soft	Bentonite seal	
	14.3	SPT		100	2 - 4		As above	2" Sch. 40 PVC casing	15
5	44.1	SPT		100	4 - 6		– wet at 4.5 feet	20-40 silica sand pack	
	10.8	SPT		100	6 - 8		CLAYEY SAND: brown, very moist, soft		
							SANDY CLAY: tan/light gray, moist, soft to firm		10
	13.2	SPT		100	8 - 10		As above		
10	15.0	SPT		100	10 - 12		As above	0.01" slotted 2" PVC screen	
	14.0	SPT		100	12 - 14		As above		5
15	3.5	SPT		100	14 - 16		As above		
	3.5	SPT		100	16 - 18		CLAY: blue/green, brown mottling, moist, stiff to very stiff		0
							Boring terminated at 18.0 feet.	Bottom cap	
20									

DRILLING CONTRACTOR	PSI
DRILLING METHOD	Hollow Stem Auger
DRILLING EQUIPMENT	Mobile B-59
DRILLING STARTED 4/3/96	ENDED 4/3/96

REMARKS

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	BG-108	SHEET 1 OF 1	
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION 17.1 TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	0	SH		10	0 - 2		SAND: tan, slightly silty, dry to slightly moist, loose to soft	Surface completion; Bentonite seal	
	21.3	SH		50	2 - 4		As above – wet at 3.5 feet	2" Sch. 40 PVC casing	15
5	6.6	SPT		100	4 - 6		As above	20-40 silica sand pack	
	4.3	SPT		100	6 - 8		SANDY CLAY: tan/light gray, moist, soft to firm – becoming blue/green mottled, very moist		10
	17.7	SPT		75	8 - 10		As above – becoming less moist, stiff	0.01" slotted 2" PVC screen	
10	3.0	SPT		100	10 - 12		As above		
	3.0	SPT		100	12 - 14		As above	Bottom cap	5
							Boring terminated at 14.0 feet.		
15									0
20									

DRILLING CONTRACTOR PSI
DRILLING METHOD Hollow Stem Auger
DRILLING EQUIPMENT Mobile B-59
DRILLING STARTED 4/2/96 ENDED 4/2/96

REMARKS

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	BG-110	SHEET 1 OF 1	
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION 17.4 TIME

SAMPLE INFORMATION						STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval				
	25.0	SPT		100	0 - 2		SANDY LOAM: brown, shells and pebbles, dry to moist	Surface completion	
							SILTY CLAY: tan/light gray and ornage mottled, moist, stiff	Bentonite seal	
	30.8	SPT		75	2 - 4		SANDY LOAM: brown, shells and pebbles, moist, soft	2" Sch. 40 PVC casing	15
							SAND: tan, slightly silty, shells and pebbles, dry, soft		
							SANDY CLAY: tan to brown and yellow mottled, moist, soft to firm		
	25.5	SPT		50	4 - 6		SAND: tan, slightly silty, moist, soft		
5								20-40 silica sand	
	21.9	SPT		100	6 - 8		CLAYEY SAND: tan with red and orange mottling, very moist		10
	10.7	SPT		100	8 - 10				
							SANDY CLAY: gray/light tan, becoming blue/green with depth, slightly moist, stiff		
10	11.1	SPT		100	10 - 12		As above	0.01" slotted PVC screen	
	3.2	SPT		100	12 - 14		As above		5
	7.2	SPT		100	14 - 16		CLAY: gray/tan, orange and brown mottled, moist, stiff		
15								Bottom cap	
							Boring terminated at 16.0 feet.		
									0
20									

DRILLING CONTRACTOR	PSI
DRILLING METHOD	Hollow Stem Auger
DRILLING EQUIPMENT	Mobile B-59
DRILLING STARTED 4/3/96	ENDED 4/3/96

REMARKS

See key sheet for symbols and abbreviations used above.

HALFF ASSOCIATES, INC
ENVIRONMENTAL

BORING NUMBER	BG-112	SHEET 1 OF 1	
PROJECT	RCRA Background Investigation		
LOCATION	Corpus Christi, Texas		
AVO NUMBER	15365 EA02		
LOGGED BY	J. Cooper		

RELATIVE SURFACE ELEVATION 16.0 TIME

DEPTH FEET	OVM (ppm)	SAMPLE TYPE	LAB SAMPLE	REC. %	CORE Interval	STRATA	SOIL DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
	21.1	SPT		100	0 - 2		SANDY LOAM: brown, slightly moist, soft SAND: tan, very moist, loose	Surface completion Bentonite seal	15
	4.5	SPT		100	2 - 4		-- iron staining, clayey lenses, and red mottling present to 4.0 feet As above	2" Sch. 40 PVC casing	
5	4.2	SPT		75	4 - 6		As above	20-40 silica sand pack	10
	3.2	SPT		100	6 - 8		As above		
	3.2	SPT		75	8 - 10		SANDY CLAY: tan, blue/gray mottling, very moist, firm SANDY CLAY: tan/light gray, moist to dry, firm to stiff, white inclusions interspersed	0.01" slotted PVC screen	
10	3.0	SPT		100	10 - 12		As above, black inclusions present		5
	3.5	SPT		100	12 - 14		As above	Bottom cap	
15	3.5	SPT		75	14 -16		As above		0
	3.0	SPT		100	16 - 18		As above		
	3.5	SPT		100	18 - 20		As above		
20	3.2	SPT		75	20 - 22		CLAY: blue/green to blue/gray, slightly moist, stiff to very stiff		-5
	2.4	SPT		100	22 - 24		As above		
25	2.7	SPT		100	24 - 26		As above		-10
							Boring terminated at 26.0 feet.		

DRILLING CONTRACTOR	PSI
DRILLING METHOD	Hollwo Stem Auger
DRILLING EQUIPMENT	Mobile B-59
DRILLING STARTED 4/2/96	ENDED 4/2/96

REMARKS Monitoring well BG-112 was redrilled adjacent to the original BG-112 boring with T.D. at 13.0 feet.

See key sheet for symbols and abbreviations used above.

APPENDIX E

STATE OF TEXAS WELL REPORTS

Send original copy by certified mail to: **TNRCC, P.O. Box 13087, Austin, TX 78711-3087** *Please use black ink.*

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas WELL REPORT

Texas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

OWNER Naval Air Station Corpus Christi (Name) **ADDRESS** 11001 D. Street Suite 143 Corpus Christi Texas 78419-5021 (Street or RFD) (City) (State) (Zip)

2) ADDRESS OF WELL:
County Nueces — same as above (Street, RFD or other) (City) (State) (Zip) **GRID #** 83-22-6

3) TYPE OF WORK (Check):
☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☒ Monitor ☐ Environmental Soil Boring ☐ Domestic ☐ Industrial ☐ Irrigation ☐ Injection ☐ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☐ Yes ☐ No

5) MW-BG-101

N

6) WELL LOG:
Date Drilling:
Started 4-4 19 96
Completed 4-4 19 96

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
9.0	Surface	16.0

7) DRILLING METHOD (Check): ☐ Driven ☐ Air Rotary ☐ Mud Rotary ☒ Bored ☐ Air Hammer ☐ Cable Tool ☐ Jetted ☐ Other

From (ft.)	To (ft.)	Description and color of formation material
		see attached logs

(Use reverse side if necessary)

8) Borehole Completion (Check): ☐ Open Hole ☐ Straight Wall ☐ Underreamed ☐ Gravel Packed ☒ Other 16/30 silica sand
If Gravel Packed give interval ... from 15.5 ft. to 3.0 ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
2.0	n	PVC screen Mfg. National Well Supply	15.75	3.0	.010
2.0	N	Pvc riswer	3.0	+2.0	

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 2.0 ft. to 0.0 ft. No. of sacks used ½ sack
ft. to ft. No. of sacks used
Method used mixed by hand
Cemented by P.S.I.
Distance to septic system field lines or other concentrated contamination ____ ft.
Method of verification of above distance

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed [Rule 338.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Used [Rule 338.44(3)(b)]
☐ Approved Alternative Procedure Used [Rule 338.71]

11) WATER LEVEL:
Static level 7.05 ft. below land surface Date 4-5-96
Artesian flow ____ gpm. Date

12) PACKERS bentonite pellets Type ½" Depth 2.0-1.0

13) TYPE PUMP: N/A
☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other
Depth to pump bowls, cylinder, jet, etc., ____ ft.

14) WELL TESTS: N/A
Type test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? ____ Depth of strata ____
Was a chemical analysis made? ☐ Yes ☐ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME P.S.I. Inc. (Type or print) **WELL DRILLER'S LICENSE NO.** 4694-M

ADDRESS 810 South Padre Island Drive (Street or RFD) Corpus Christi (City) Texas (State) 78416 (Zip)

(Signed) ____ (Licensed Well Driller) (Signed) ____ (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

TNRCC-0199 (Rev. 11-01-94) WELL OWNER'S COPY

Send original copy by certified mail to: **TNRCC, P.O. Box 13087, Austin, TX 78711-3087**

Please use black ink.

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas WELL REPORT

Texas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

OWNER Naval Air Station Corpus Christi (Name) **ADDRESS** 11001 B.Street Suite 143 Corpus Christi Texas 78419-5021 (Street or RFD) (City) (State) (Zip)

2) ADDRESS OF WELL:
County Nueces (Street, RFD or other) same as above (City) (State) (Zip) **GRID #** 83-22-6

3) TYPE OF WORK (Check):
☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☒ Monitor ☐ Environmental Soil Boring ☐ Domestic ☐ Industrial ☐ Irrigation ☐ Injection ☐ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☐ Yes ☐ No

5) MW-BG- 104

N

6) WELL LOG:
Date Drilling:
Started 4-2 **19** 96
Completed 4-2 **19** 96

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
9.0	Surface	17.0

7) DRILLING METHOD (Check): ☐ Driven ☐ Air Rotary ☐ Mud Rotary ☒ Bored ☐ Air Hammer ☐ Cable Tool ☐ Jetted ☐ Other

From (ft.)	To (ft.)	Description and color of formation material
		see attached logs

(Use reverse side if necessary)

8) Borehole Completion (Check): ☐ Open Hole ☐ Straight Wall ☐ Underreamed ☐ Gravel Packed ☒ Other 16/30 silica sand
If Gravel Packed give interval ... from 17.0 ft. to 1.0 ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
2	N	Pvc screen Mfg. National Well Supply	17.0	2.0	.010
2	N	Pvc riser	2.0	+2.0-	

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 0.0 ft. to 0.0 ft. No. of sacks used ½ sack
ft. to ft. No. of sacks used
Method used mixed by hand
Cemented by P.S.I.
Distance to septic system field lines or other concentrated contamination ____ ft.
Method of verification of above distance

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed [Rule 338.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Used [Rule 338.44(3)(b)]
☐ Approved Alternative Procedure Used [Rule 338.71]

13) TYPE PUMP: N/A
☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other
Depth to pump bowls, cylinder, jet, etc., ____ ft.

14) WELL TESTS: N/A
Type test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

11) WATER LEVEL:
Static level 0.00 ft. below land surface Date 4-3-96
Artesian flow ____ gpm. Date

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? ____ Depth of strata ____
Was a chemical analysis made? ☐ Yes ☐ No

12) PACKERS: bentonite pellets Type ½" Depth 1.0-0.5

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME P.S.I. Inc. (Type or print) **WELL DRILLER'S LICENSE NO.** 4694-A

ADDRESS 810 South Padre Island Drive (Street or RFD) Corpus Chriasti (City) Texas (State) 78416 (Zip)

(Signed) [signature] (Licensed Well Driller) (Signed) ____ (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

TNRCC-0199 (Rev. 11-01-94)

WELL OWNER'S COPY

Send original copy by certified mail to: **TNRCC, P.O. Box 13087, Austin, TX 78711-3087** *Please use black ink.*

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas WELL REPORT

Texas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

OWNER Naval Air Station Corpus Christi (Name) **ADDRESS** 11001 D. Street Suite 143 (Street or RFD) Corpus Christi (City) Texas (State) 78419-5021 (Zip)

2) ADDRESS OF WELL:
County Nueces (Street, RFD or other) same as above (City) (State) (Zip) **GRID #** 83-22-6

3) TYPE OF WORK (Check):
☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☒ Monitor ☐ Environmental Soil Boring ☐ Domestic ☐ Industrial ☐ Irrigation ☐ Injection ☐ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☐ Yes ☐ No

5) MW-BC-106

N

6) WELL LOG:
Date Drilling:
Started 4-3 19 96
Completed 4-3 19 96

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
9.0	Surface	18.0

7) DRILLING METHOD (Check): ☐ Driven ☐ Air Rotary ☐ Mud Rotary ☒ Bored ☐ Air Hammer ☐ Cable Tool ☐ Jetted ☐ Other

From (ft.)	To (ft.)	Description and color of formation material
		see attached logs

(Use reverse side if necessary)

8) Borehole Completion (Check): ☐ Open Hole ☐ Straight Wall ☐ Underreamed ☐ Gravel Packed ☒ Other 16/30 silica sand
If Gravel Packed give interval ... from 18.0 ft. to 2.0 ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
2	N	Pvc screen Mfg. National well Supply	18.0	3.0	.010
2	N	Pvc riser	3.0	+2.0	

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 1.0 ft. to 0.0 ft. No. of sacks used ½ sack
ft. to ft. No. of sacks used
Method used mixed by hand
Cemented by P.S.I.
Distance to septic system field lines or other concentrated contamination ____ ft.
Method of verification of above distance

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed [Rule 338.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Used [Rule 338.44(3)(b)]
☐ Approved Alternative Procedure Used [Rule 338.71]

13) TYPE PUMP: N/A
☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other
Depth to pump bowls, cylinder, jet, etc., ____ ft.

14) WELL TESTS: N/a
Type test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

11) WATER LEVEL:
Static level 3.48 ft. below land surface Date 4-4-96
Artesian flow ____ gpm. Date

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? ____ Depth of strata
Was a chemical analysis made? ☐ Yes ☐ No

12) PACKERS: bentonite pellets Type ½" Depth 2.0-1.0

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME P.S.I. Inc. (Type or print) **WELL DRILLER'S LICENSE NO.** 4694-M

ADDRESS 810 South Padre Island Drive (Street or RFD) Corpus Christi (City) Texas (State) 78416 (Zip)

(Signed) Craig S. [illegible] (Licensed Well Driller) (Signed) ____ (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

Send original copy by certified mail to: **TNRCC, P.O. Box 13087, Austin, TX 78711-3087** *Please use black ink.*

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas WELL REPORT

Texas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

OWNER NavalAir Station Corpus Christi (Name) **ADDRESS** 11001 D. Street Suite 143 (Street or RFD) Corpus Christi (City) Texas (State) 78419-5021 (Zip)

2) ADDRESS OF WELL:
County Nueces (Street, RFD or other) same as above (City) (State) (Zip) **GRID #** [illegible]

3) TYPE OF WORK (Check): ☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☒ Monitor ☐ Environmental Soil Boring ☐ Domestic ☐ Industrial ☐ Irrigation ☐ Injection ☐ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☐ Yes ☐ No

5) MW-BC-108

N

6) WELL LOG:
Date Drilling:
Started 4-2 19 96
Completed 4-2 19 96

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
9.0	Surface	14.0

7) DRILLING METHOD (Check): ☐ Driven ☐ Air Rotary ☐ Mud Rotary ☒ Bored ☐ Air Hammer ☐ Cable Tool ☐ Jetted ☐ Other

From (ft.)	To (ft.)	Description and color of formation material
		see attached logs

(Use reverse side if necessary)

8) Borehole Completion (Check): ☐ Open Hole ☐ Straight Wall ☐ Underreamed ☐ Gravel Packed ☒ Other 16/30 silica sand
If Gravel Packed give interval ... from 12.0 ft. to 1.0 ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
2	N	Pvc screen Mfg. National	12.0	2.0	.010
		Well Supply			
2	N	Pvc riser	2.0	+2.0	

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 0.5 ft. to 0.0 ft. No. of sacks used ½ sack
ft. to ft. No. of sacks used
Method used mixed by hand
Cemented by P.S.I.
Distance to septic system field lines or other concentrated contamination ____ ft.
Method of verification of above distance

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed [Rule 338.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Used [Rule 338.44(3)(b)]
☐ Approved Alternative Procedure Used [Rule 338.71]

11) WATER LEVEL:
Static level 5.0 ft. below land surface Date 4-3-96
Artesian flow ____ gpm. Date

12) PACKERS: bentonite pelletsw Type ½" Depth 1.0-0.5

13) TYPE PUMP: N/A
☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other
Depth to pump bowls, cylinder, jet, etc., ____ ft.

14) WELL TESTS: N/A
Type test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? ____ Depth of strata ____
Was a chemical analysis made? ☐ Yes ☐ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME P.S.I. Inc. (Type or print) **WELL DRILLER'S LICENSE NO.** 4694-M

ADDRESS 810 South Padre Island Drive (Street or RFD) Corpus Christi (City) Texas (State) 78416 (Zip)

(Signed) [signature] (Licensed Well Driller) (Signed) (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

TNRCC-0199 (Rev. 11-01-94) WELL OWNER'S COPY

Send original copy by certified mail to: **TNRCC, P.O. Box 13087, Austin, TX 78711-3087**

Please use black ink.

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas WELL REPORT

Texas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

OWNER Naval Air Station Corpus Christi (Name) **ADDRESS** 11001 D. Street Suite 143 Corpus Christi Texas 78419-5021 (Street or RFD) (City) (State) (Zip)

2) ADDRESS OF WELL: County Nueces; same as above (Street, RFD or other) (City) (State) (Zip) **GRID #** 83-22-6

3) TYPE OF WORK (Check): [X] New Well [ ] Deepening [ ] Reconditioning [ ] Plugging

4) PROPOSED USE (Check): [X] Monitor [ ] Environmental Soil Boring [ ] Domestic [ ] Industrial [ ] Irrigation [ ] Injection [ ] Public Supply [ ] De-watering [ ] Testwell

If Public Supply well, were plans submitted to the TNRCC? [ ] Yes [ ] No

5) MW-BC-110

N

6) WELL LOG:

Date Drilling: Started 4-3 19 96; Completed 4-3 19 96

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
9.0	Surface	15.5

7) DRILLING METHOD (Check): [ ] Driven [ ] Air Rotary [ ] Mud Rotary [X] Bored [ ] Air Hammer [ ] Cable Tool [ ] Jetted [ ] Other

From (ft.)	To (ft.)	Description and color of formation material
		see attached logs

(Use reverse side if necessary)

8) Borehole Completion (Check): [ ] Open Hole [ ] Straight Wall [ ] Underreamed [ ] Gravel Packed [X] Other 16/30 silica sand

If Gravel Packed give interval ... from 15.5 ft. to 1.5 ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
2	N	Pvc screen Mfg. National Well Supply	15.5	3.0	.010
2	n	Pvc riser	3.0	+2.0	

9) CEMENTING DATA [Rule 338.44(1)]

Cemented from 1.0 ft. to 0.0 ft. No. of sacks used ½ sack

ft. to ft. No. of sacks used

Method used mixed by hand

Cemented by P.S.I.

Distance to septic system field lines or other concentrated contamination ____ ft.

Method of verification of above distance

10) SURFACE COMPLETION

[X] Specified Surface Slab Installed [Rule 338.44(2)(A)]

[ ] Specified Steel Sleeve Installed [Rule 338.44(3)(A)]

[ ] Pitless Adapter Used [Rule 338.44(3)(b)]

[ ] Approved Alternative Procedure Used [Rule 338.71]

11) WATER LEVEL:

Static level 13.60 ft. below land surface Date 4-4-96

Artesian flow ____ gpm. Date

12) PACKERS: bentonite pellets Type ½" Depth 1.5-1.0

13) TYPE PUMP: N/A

[ ] Turbine [ ] Jet [ ] Submersible [ ] Cylinder

[ ] Other

Depth to pump bowls, cylinder, jet, etc., ____ ft.

14) WELL TESTS: N/A

Type test: [ ] Pump [ ] Bailer [ ] Jetted [ ] Estimated

Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

15) WATER QUALITY:

Did you knowingly penetrate any strata which contained undesirable constituents?

[ ] Yes [X] No If yes, submit "REPORT OF UNDESIRABLE WATER"

Type of water? ____ Depth of strata ____

Was a chemical analysis made? [ ] Yes [ ] No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME P.S.I Inc. (Type or print) **WELL DRILLER'S LICENSE NO.** 4694-H

ADDRESS 810 South Padre Island Drive (Street or RFD) Corpsu Christi (City) Texas (State) 78416 (Zip)

(Signed) ____ (Licensed Well Driller) **(Signed)** ____ (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

TNRCC-0199 (Rev. 11-01-94)

WELL OWNER'S COPY

Send original copy by certified mail to: **TNRCC, P.O. Box 13087, Austin, TX 78711-3087**

Please use black ink.

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas WELL REPORT

Texas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

OWNER Naval Air Station Corpus Christi (Name) **ADDRESS** 11001 D. StreetySuite 143 Corpus Christi Texas 78349-5021 (Street or RFD) (City) (State) (Zip)

2) ADDRESS OF WELL: Nueces County same as above (Street, RFD or other) (City) (State) (Zip) **GRID #** 83-22-6

3) TYPE OF WORK (Check): ☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☒ Monitor ☐ Environmental Soil Boring ☐ Domestic ☐ Industrial ☐ Irrigation ☐ Injection ☐ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☐ Yes ☐ No

5) MW-BG-112 N

6) WELL LOG:
Date Drilling: Started 4-2 19 96 Completed 4-2 19 96

DIAMETER OF HOLE		
Dia. (in.)	From (ft.)	To (ft.)
9.0	Surface	26.0

7) DRILLING METHOD (Check): ☐ Driven ☐ Air Rotary ☐ Mud Rotary ☒ Bored ☐ Air Hammer ☐ Cable Tool ☐ Jetted ☐ Other

From (ft.)	To (ft.)	Description and color of formation material
		see attached logs

(Use reverse side if necessary)

8) Borehole Completion (Check): ☐ Open Hole ☐ Straight Wall ☐ Underreamed ☐ Gravel Packed ☒ Other 16/30 silica sand
If Gravel Packed give interval ... from 13.0 ft. to 2.0 ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
2	N	Pvc screen Mfg. National Well Supply	13.0	3.0	.010
2	N	Pvc riser	3.0	+2.0	

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 1.0 ft. to 0.0 ft. No. of sacks used ½ sack
ft. to ft. No. of sacks used
Method used mixed by hand
Cemented by P.S.I.
Distance to septic system field lines or other concentrated contamination ____ ft.
Method of verification of above distance

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed [Rule 338.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Used [Rule 338.44(3)(b)]
☐ Approved Alternative Procedure Used [Rule 338.71]

11) WATER LEVEL:
Static level 7.62 ft. below land surface Date 4-3-96
Artesian flow ____ gpm. Date

12) PACKERS:

Type	Depth
bentonite pellets ½"	2.0-1.0

13) TYPE PUMP: N/A
☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other
Depth to pump bowls, cylinder, jet, etc., ____ ft.

14) WELL TESTS: N/A
Type test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: ____ gpm with ____ ft. drawdown after ____ hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? ____ Depth of strata ____
Was a chemical analysis made? ☐ Yes ☐ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME P.S.I. Inc. (Type or print) **WELL DRILLER'S LICENSE NO.** 4094-X

ADDRESS 810 South Padre Island Drive (Street or RFD) Corpus Christi (City) Texas (State) 78416 (Zip)

(Signed) [signature] (Licensed Well Driller) **(Signed)** ____ (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

TNRCC-0199 (Rev. 11-01-94)

WELL OWNER'S COPY

APPENDIX F

LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY FORMS
SOIL AND N-PROPANOL

CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 960939
Prepared For:

HALFF ASSOCIATES, INC.
JACK COOPER
8616 NW PLAZA DR.
DALLAS, TX 75225

Date: 04/29/96

Signature

Date: 4/29/96

Name: Charles Sassine

CORE LABORATORIES
1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408

Title: Laboratory Supervisor

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CORE LABORATORIES

CASE NARRATIVE

Job Number 960939

April 29, 1996

Re: Core Laboratories Job Number 960939
Halff Associates, Inc. Project ID: 15365 EA02 FB-1 sampled 4/5/96

During the data review process, inconsistencies were noted between the total dissolved solids and the anions for sample ID 960939-39. As a result, the TDS which had initially been analyzed within the hold time was re-analyzed after the recommended hold time had expired. The re-analyzed TDS value for 960939-39 was consistent with the other parameters for that sample, therefore this result is reflected on the final report. We believe that an error was made when the tare weight was recorded for the beaker which was used in the TDS analysis.

Also, please note that detection limits for phenols are elevated on sample IDs 960939-16, 17, 21, 25, 28, and 29 due to matrix interferences.

Please call if you have any questions or if I can be of assistance.

Judy Orr
QA/QC Coordinator

The analytical results, opinions or interpretations contained in this report are based upon information and material supplied by the client for whose exclusive and confidential use this report has been made. The analytical results, opinions or interpretations expressed represent the best judgment of Core Laboratories. Core Laboratories, however, makes no warranty or representation, express or implied, of any type, and expressly disclaims same as to the productivity, proper operations or profitableness of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, in whole or in part, without the written approval of Core Laboratories.

CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 12:30
WORK DESCRIPTION...: SB-101 (0-3')

LABORATORY I.D...: 960939-0001
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	3900	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 12:30
WORK DESCRIPTION...: SB-101 (0-3')

LABORATORY I.D...: 960939-0001
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	112	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	102	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	86	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 12:30
WORK DESCRIPTION...: SB-101 (0-3')

LABORATORY I.D...: 960939-0001
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	63	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	71	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	68	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	78	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 12:30
WORK DESCRIPTION...: SB-101 (0-3')

LABORATORY I.D...: 960939-0001
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	72	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	74	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
[illegible]r (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	300	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/04/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: SB-102 (0-3')

LABORATORY I.D...: 960939-0002
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	2200	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: SB-102 (0-3')

LABORATORY I.D...: 960939-0002
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	112	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	95	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	91	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: SB-102 (0-3')

LABORATORY I.D...: 960939-0002
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	67	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	78	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	73	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	84	0	% Recovery	30-115% QC LIMITS		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: SB-102 (0-3')

LABORATORY I.D...: 960939-0002
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	76	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	81	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	505	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/04/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: SB-103 (0-3.5')

LABORATORY I.D...: 960939-0003
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/10/96	QP
Acetone	<200.0	200.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: SB-103 (0-3.5')

LABORATORY I.D...: 960939-0003
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	108	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	81-117% QC LIMITS		
-Bromofluorobenzene(Surrogate)	91	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: SB-103 (0-3.5')

LABORATORY I.D...: 960939-0003
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	67	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	79	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	73	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	86	0	% Recovery	30-115% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: SB-103 (0-3.5')

LABORATORY I.D...: 960939-0003
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	78	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	84	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
[illegible]er (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	257	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/04/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 15:20
WORK DESCRIPTION...: SB-105 (0-3.5')

LABORATORY I.D...: 960939-0004
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/10/96	QP
Acetone	7900	200.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
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WORK DESCRIPTION...: SB-105 (0-3.5')

LABORATORY I.D...: 960939-0004
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	110	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	81-117% QC LIMITS		
-Bromofluorobenzene(Surrogate)	93	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	560	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 15:20
WORK DESCRIPTION...: SB-105 (0-3.5')

LABORATORY I.D...: 960939-0004
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	68	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	74	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	70	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	82	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
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(512) 289-2673

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 15:20
WORK DESCRIPTION...: SB-105 (0-3.5')

LABORATORY I.D...: 960939-0004
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	74	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	81	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
[illegible]er (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	334	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/04/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 15:25
WORK DESCRIPTION...: SB-105A(0-3.5')

LABORATORY I.D...: 960939-0005
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/10/96	QP
Acetone	5300	200.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 15:25
WORK DESCRIPTION...: SB-105A(0-3.5')

LABORATORY I.D...: 960939-0005
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	106	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	101	0	% Recovery	81-117% QC LIMITS		
-Bromofluorobenzene(Surrogate)	90	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 15:25
WORK DESCRIPTION...: SB-105A(0-3.5')

LABORATORY I.D...: 960939-0005
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	67	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	73	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	70	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	82	0	% Recovery	30-115% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 15:25
WORK DESCRIPTION...: SB-105A(0-3.5')

LABORATORY I.D...: 960939-0005
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	75	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	82	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	8	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	6	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	336	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	<5	5	mg/kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/04/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 16:05
WORK DESCRIPTION...: SB-107 (0-5')

LABORATORY I.D...: 960939-0006
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/10/96	QP
Acetone	8300	200.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 16:05
WORK DESCRIPTION...: SB-107 (0-5')

LABORATORY I.D...: 960939-0006
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	105	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	90	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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CORPUS CHRISTI, TX 78408
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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 16:05
WORK DESCRIPTION...: SB-107 (0-5')

LABORATORY I.D...: 960939-0006
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	68	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	77	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	72	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	85	0	% Recovery	30-115% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 16:05
WORK DESCRIPTION...: SB-107 (0-5')

LABORATORY I.D...: 960939-0006
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	76	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	87	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	11	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	289	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/04/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 16:50
WORK DESCRIPTION...: SB-109 (0-5')

LABORATORY I.D...: 960939-0007
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	<100.0	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 16:50
WORK DESCRIPTION...: SB-109 (0-5')

LABORATORY I.D...: 960939-0007
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	109	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	97	0	% Recovery	81-117% QC LIMITS		
-Bromofluorobenzene(Surrogate)	87	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 16:50
WORK DESCRIPTION...: SB-109 (0-5')

LABORATORY I.D...: 960939-0007
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	71	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	79	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	70	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	82	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 16:50
WORK DESCRIPTION...: SB-109 (0-5')

LABORATORY I.D...: 960939-0007
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	69	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	82	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	192	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	103	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	12	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	4400	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	120	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	60	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/04/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 17:40
WORK DESCRIPTION...: SB-111 (0-5')

LABORATORY I.D...: 960939-0008
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	1900	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

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CLIENT I.D.....: 15365 EA02
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WORK DESCRIPTION...: SB-111 (0-5')

LABORATORY I.D...: 960939-0008
DATE RECEIVED....: 04/03/96
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REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	112	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	96	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	78	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

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CLIENT I.D.....: 15365 EA02
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TIME SAMPLED.....: 17:40
WORK DESCRIPTION...: SB-111 (0-5')

LABORATORY I.D...: 960939-0008
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	80	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	72	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	90	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 17:40
WORK DESCRIPTION...: SB-111 (0-5')

LABORATORY I.D...: 960939-0008
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	72	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	88	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	22	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	1120	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	128	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/04/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 17:40
WORK DESCRIPTION...: SB-111A(0-5')

LABORATORY I.D...: 960939-0009
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	2600	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 17:40
WORK DESCRIPTION...: SB-111A(0-5')

LABORATORY I.D...: 960939-0009
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	118	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	95	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	78	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*67		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<670	670	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<670	670	ug/kg	EPA SW-846 8270B		
Anthracene	<670	670	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<670	670	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<670	670	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<670	670	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<670	670	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<670	670	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<1340	1340	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<670	670	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<670	670	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<670	670	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<670	670	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<670	670	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<670	670	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<1340	1340	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<1340	1340	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<670	670	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<670	670	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<670	670	ug/kg	EPA SW-846 8270B		
Chrysene	<670	670	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<670	670	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<670	670	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<670	670	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<1340	1340	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<670	670	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<670	670	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 17:40
WORK DESCRIPTION...: SB-111A(0-5')

LABORATORY I.D...: 960939-0009
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<670	670	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<670	670	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<670	670	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<670	670	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<3350	3350	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<3350	3350	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<670	670	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<670	670	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<670	670	ug/kg	EPA SW-846 8270B		
Fluorene	<670	670	ug/kg	EPA SW-846 8270B		
Fluoranthene	<670	670	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<670	670	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<670	670	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<670	670	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<670	670	ug/kg	EPA SW-846 8270B		
Indeno(1,2,3-cd)pyrene	<670	670	ug/kg	EPA SW-846 8270B		
Isophorone	<670	670	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<670	670	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<3350	3350	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<3350	3350	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<1340	1340	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<670	670	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<3350	3350	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<670	670	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<670	670	ug/kg	EPA SW-846 8270B		
Naphthalene	<670	670	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<670	670	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<3350	3350	ug/kg	EPA SW-846 8270B		
Phenanthrene	<670	670	ug/kg	EPA SW-846 8270B		
Phenol	<670	670	ug/kg	EPA SW-846 8270B		
Pyrene	<670	670	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<670	670	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<670	670	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<670	670	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<670	670	ug/kg	EPA SW-846 8270B		
Aniline	<670	670	ug/kg	EPA SW-846 8270B		
o-Cresol	<670	670	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<670	670	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<670	670	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<670	670	ug/kg	EPA SW-846 8270B		
Pyridine	<670	670	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	81	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	65	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	88	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 17:40
WORK DESCRIPTION...: SB-111A(0-5')

LABORATORY I.D...: 960939-0009
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	63	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	82	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	19	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	1520	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	9	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	82	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/04/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 09:35
WORK DESCRIPTION...: BG-112 (0-2')

LABORATORY I.D...: 960939-0010
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	3800	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 09:35
WORK DESCRIPTION...: BG-112 (0-2')

LABORATORY I.D...: 960939-0010
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	113	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	96	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	80	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*67		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<670	670	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<670	670	ug/kg	EPA SW-846 8270B		
Anthracene	<670	670	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<670	670	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<670	670	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<670	670	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<670	670	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<670	670	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<1340	1340	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<670	670	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<670	670	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<670	670	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<670	670	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<670	670	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<670	670	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<1340	1340	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<1340	1340	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<670	670	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<670	670	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<670	670	ug/kg	EPA SW-846 8270B		
Chrysene	<670	670	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<670	670	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<670	670	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<670	670	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<1340	1340	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<670	670	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<670	670	ug/kg	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 09:35
WORK DESCRIPTION...: BG-112 (0-2')

LABORATORY I.D...: 960939-0010
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<670	670	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<670	670	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<670	670	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<670	670	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<3350	3350	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<3350	3350	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<670	670	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<670	670	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<670	670	ug/kg	EPA SW-846 8270B		
Fluorene	<670	670	ug/kg	EPA SW-846 8270B		
Fluoranthene	<670	670	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<670	670	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<670	670	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<670	670	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<670	670	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<670	670	ug/kg	EPA SW-846 8270B		
Isophorone	<670	670	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<670	670	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<3350	3350	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<3350	3350	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<1340	1340	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<670	670	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<3350	3350	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<670	670	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<670	670	ug/kg	EPA SW-846 8270B		
Naphthalene	<670	670	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<670	670	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<3350	3350	ug/kg	EPA SW-846 8270B		
Phenanthrene	<670	670	ug/kg	EPA SW-846 8270B		
Phenol	<670	670	ug/kg	EPA SW-846 8270B		
Pyrene	<670	670	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<670	670	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<670	670	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<670	670	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<670	670	ug/kg	EPA SW-846 8270B		
Aniline	<670	670	ug/kg	EPA SW-846 8270B		
o-Cresol	<670	670	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<670	670	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<670	670	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<670	670	ug/kg	EPA SW-846 8270B		
Pyridine	<670	670	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	76	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	87	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	79	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	107	0	% Recovery	30-115% QC LIMITS		

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CORPUS CHRISTI, TX 78408
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 09:35
WORK DESCRIPTION...: BG-112 (0-2')

LABORATORY I.D...: 960939-0010
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	75	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	105	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	21	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	714	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	9	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	74	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/08/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 09:55
WORK DESCRIPTION...: BG-112 (6-8')

LABORATORY I.D...: 960939-0011
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	<100.0	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 09:55
WORK DESCRIPTION...: BG-112 (6-8')

LABORATORY I.D...: 960939-0011
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	114	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	103	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	86	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

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CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
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WORK DESCRIPTION...: BG-112 (6-8')

LABORATORY I.D...: 960939-0011
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REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	65	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	72	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	69	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	82	0	% Recovery	30-115% QC LIMITS		

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04/29/96

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TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	73	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	81	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	1550	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/08/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS

04/29/96

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CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 10:20
WORK DESCRIPTION...: BG-112 (12-14')

LABORATORY I.D...: 960939-0012
DATE RECEIVED....: 04/03/96
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REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	<100.0	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	116	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	101	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	86	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
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Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	63	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	73	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	67	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	83	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 10:20
WORK DESCRIPTION...: BG-112 (12-14')

LABORATORY I.D...: 960939-0012
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	81	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	87	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	45	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	12	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	11300	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	30	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/08/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 10:45
WORK DESCRIPTION...: BG-112 (18-20')

LABORATORY I.D...: 960939-0013
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	<100.0	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 10:45
WORK DESCRIPTION...: BG-112 (18-20')

LABORATORY I.D...: 960939-0013
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	112	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	102	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	86	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 10:45
WORK DESCRIPTION...: BG-112 (18-20')

LABORATORY I.D...: 960939-0013
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	66	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	75	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	73	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	86	0	% Recovery	30-115% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 10:45
WORK DESCRIPTION...: BG-112 (18-20')

LABORATORY I.D...: 960939-0013
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	77	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	83	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	105	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	8800	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	28	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/08/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 11:15
WORK DESCRIPTION...: BG-112 (24-26')

LABORATORY I.D...: 960939-0014
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	1300	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
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JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
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LABORATORY I.D...: 960939-0014
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REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	117	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	101	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	88	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

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DATE SAMPLED.....: 04/02/96
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WORK DESCRIPTION...: BG-112 (24-26')

LABORATORY I.D...: 960939-0014
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	70	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	79	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	76	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	89	0	% Recovery	30-115% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 11:15
WORK DESCRIPTION...: BG-112 (24-26')

LABORATORY I.D...: 960939-0014
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	79	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	87	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	55	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	10100	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	26	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/08/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 14:35
WORK DESCRIPTION...: BG-108 (2-4')

LABORATORY I.D...: 960939-0015
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/05/96	QP
Acetone	17000	100.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	107	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	82	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 14:35
WORK DESCRIPTION...: BG-108 (2-4')

LABORATORY I.D...: 960939-0015
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	62	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	78	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	66	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	81	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 14:35
WORK DESCRIPTION...: BG-108 (2-4')

LABORATORY I.D...: 960939-0015
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	73	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	81	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	541	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	34	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/08/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/09/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 15:00
WORK DESCRIPTION...: BG-108 (8-10')

LABORATORY I.D...: 960939-0016
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/10/96	QP
Acetone	3600	200.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 15:00
WORK DESCRIPTION...: BG-108 (8-10')

LABORATORY I.D...: 960939-0016
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	109	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	98	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	91	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 15:00
WORK DESCRIPTION...: BG-108 (8-10')

LABORATORY I.D...: 960939-0016
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	83	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	77	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	89	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 15:00
WORK DESCRIPTION...: BG-108 (8-10')

LABORATORY I.D...: 960939-0016
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	81	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	89	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	13	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	2600	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	9	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<25	25	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/08/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 15:10
WORK DESCRIPTION...: BG-108 (12-14')

LABORATORY I.D...: 960939-0017
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/10/96	QP
Acetone	<200.0	200.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 15:10
WORK DESCRIPTION...: BG-108 (12-14')

LABORATORY I.D...: 960939-0017
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	97	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	95	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	81	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 15:10
WORK DESCRIPTION...: BG-108 (12-14')

LABORATORY I.D...: 960939-0017
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	80	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	75	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	90	0	% Recovery	30-115% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 15:10
WORK DESCRIPTION...: BG-108 (12-14')

LABORATORY I.D...: 960939-0017
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	81	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	89	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	19	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	9	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	7740	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	26	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<25	25	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/08/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 16:45
WORK DESCRIPTION...: BG-104 (0-2')

LABORATORY I.D...: 960939-0018
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/10/96	QP
Acetone	<200.0	200.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 16:45
WORK DESCRIPTION...: BG-104 (0-2')

LABORATORY I.D...: 960939-0018
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	112	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	91	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 16:45
WORK DESCRIPTION...: BG-104 (0-2')

LABORATORY I.D...: 960939-0018
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	65	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	76	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	70	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	82	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 16:45
WORK DESCRIPTION...: BG-104 (0-2')

LABORATORY I.D...: 960939-0018
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	75	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	87	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	168	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/08/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:00
WORK DESCRIPTION...: BG-104 (6-8')

LABORATORY I.D...: 960939-0019
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/10/96	QP
Acetone	<200.0	200.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:00
WORK DESCRIPTION...: BG-104 (6-8')

LABORATORY I.D...: 960939-0019
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	118	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	95	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	86	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:00
WORK DESCRIPTION...: BG-104 (6-8')

LABORATORY I.D...: 960939-0019
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	71	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	86	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	75	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	89	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:00
WORK DESCRIPTION...: BG-104 (6-8')

LABORATORY I.D...: 960939-0019
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	78	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	89	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	31	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	24	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
[illegible]er (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	2590	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	45	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	12	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/08/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:20
WORK DESCRIPTION...: BG-104 (14-15')

LABORATORY I.D...: 960939-0020
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/10/96	QP
Acetone	8000	200.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:20
WORK DESCRIPTION...: BG-104 (14-15')

LABORATORY I.D...: 960939-0020
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	116	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	97	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	84	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:20
WORK DESCRIPTION...: BG-104 (14-15')

LABORATORY I.D...: 960939-0020
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	78	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	77	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	88	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:20
WORK DESCRIPTION...: BG-104 (14-15')

LABORATORY I.D...: 960939-0020
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	79	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	87	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	60	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	17	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	9460	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	26	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	35	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/11/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:30
WORK DESCRIPTION...: BG-104 (15-17')

LABORATORY I.D...: 960939-0021
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/10/96	QP
Acetone	<200.0	200.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:30
WORK DESCRIPTION...: BG-104 (15-17')

LABORATORY I.D...: 960939-0021
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	110	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	102	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	89	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:30
WORK DESCRIPTION...: BG-104 (15-17')

LABORATORY I.D...: 960939-0021
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	80	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	83	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	88	0	% Recovery	30-115% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/02/96
TIME SAMPLED.....: 17:30
WORK DESCRIPTION...: BG-104 (15-17')

LABORATORY I.D...: 960939-0021
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	81	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	88	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	51	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	9790	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	9	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	27	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<25	25	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/04/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/11/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/04/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 12:00
WORK DESCRIPTION...: TB-1 TRIP BLANK

LABORATORY I.D...: 960939-0022
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/04/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 12:00
WORK DESCRIPTION...: TB-1 TRIP BLANK

LABORATORY I.D...: 960939-0022
DATE RECEIVED....: 04/03/96
TIME RECEIVED....: 10:30
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	104	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	101	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	89	0	% Revovery	86-115% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:00
WORK DESCRIPTION...: BG-110 2-4'

LABORATORY I.D...: 960939-0023
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	3600	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:00
WORK DESCRIPTION...: BG-110 2-4'

LABORATORY I.D...: 960939-0023
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	109	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	81-117% QC LIMITS		
-Bromofluorobenzene(Surrogate)	84	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:00
WORK DESCRIPTION...: BG-110 2-4'

LABORATORY I.D...: 960939-0023
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	74	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	84	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	76	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	91	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:00
WORK DESCRIPTION...: BG-110 2-4'

LABORATORY I.D...: 960939-0023
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	84	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	92	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	16	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	3550	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	16	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/08/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/11/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/08/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:10
WORK DESCRIPTION...: BG-110 6-8'

LABORATORY I.D...: 960939-0024
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	<150.0	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:10
WORK DESCRIPTION...: BG-110 6-8'

LABORATORY I.D...: 960939-0024
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	110	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	98	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	86	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:10
WORK DESCRIPTION...: BG-110 6-8'

LABORATORY I.D...: 960939-0024
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	67	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	81	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	72	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	89	0	% Recovery	30-115% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:10
WORK DESCRIPTION...: BG-110 6-8'

LABORATORY I.D...: 960939-0024
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	81	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	83	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	20	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	2030	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/08/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/11/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/08/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:30
WORK DESCRIPTION...: BG-110 10-12'

LABORATORY I.D...: 960939-0025
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	<150.0	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:30
WORK DESCRIPTION...: BG-110 10-12'

LABORATORY I.D...: 960939-0025
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	104	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	91	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

[illegible] approval of Core Laboratories

CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:30
WORK DESCRIPTION...: BG-110 10-12'

LABORATORY I.D...: 960939-0025
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	65	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	76	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	68	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	84	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:30
WORK DESCRIPTION...: BG-110 10-12'

LABORATORY I.D...: 960939-0025
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	76	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	86	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	20	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	5720	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	15	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<25	25	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/08/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/11/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/08/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:40
WORK DESCRIPTION...: BG-110 14-16'

LABORATORY I.D...: 960939-0026
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	<150.0	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:40
WORK DESCRIPTION...: BG-110 14-16'

LABORATORY I.D...: 960939-0026
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	115	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	90	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:40
WORK DESCRIPTION...: BG-110 14-16'

LABORATORY I.D...: 960939-0026
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	70	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	83	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	76	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	90	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 11:40
WORK DESCRIPTION...: BG-110 14-16'

LABORATORY I.D...: 960939-0026
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	81	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	91	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	93	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	5370	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	18	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/08/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/09/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/08/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: BG-106 4-6'

LABORATORY I.D...: 960939-0027
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	6700	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: BG-106 4-6'

LABORATORY I.D...: 960939-0027
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	109	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	97	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	80	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: BG-106 4-6'

LABORATORY I.D...: 960939-0027
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	85	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	78	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	89	0	% Recovery	30-115% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: BG-106 4-6'

LABORATORY I.D...: 960939-0027
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	83	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	98	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	9	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	481	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	8	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/08/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/09/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/08/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:20
WORK DESCRIPTION...: BG-106 8-10'

LABORATORY I.D...: 960939-0028
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	2900	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
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WORK DESCRIPTION...: BG-106 8-10'

LABORATORY I.D...: 960939-0028
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	111	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	102	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	90	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:20
WORK DESCRIPTION...: BG-106 8-10'

LABORATORY I.D...: 960939-0028
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	80	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	77	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	88	0	% Recovery	30-115% QC LIMITS		

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(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:20
WORK DESCRIPTION...: BG-106 8-10'

LABORATORY I.D...: 960939-0028
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	82	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	91	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	18	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	3160	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	15	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<25	25	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/08/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/09/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/08/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:30
WORK DESCRIPTION...: BG-106 10-12'

LABORATORY I.D...: 960939-0029
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	3900	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:30
WORK DESCRIPTION...: BG-106 10-12'

LABORATORY I.D...: 960939-0029
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	108	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	102	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	91	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:30
WORK DESCRIPTION...: BG-106 10-12'

LABORATORY I.D...: 960939-0029
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	67	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	75	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	70	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	82	0	% Recovery	30-115% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:30
WORK DESCRIPTION...: BG-106 10-12'

LABORATORY I.D...: 960939-0029
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	68	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	86	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	748	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
[illegible]er (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	3800	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	17	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<25	25	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/08/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/09/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/08/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:55
WORK DESCRIPTION...: BG-106 16-18'

LABORATORY I.D...: 960939-0030
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	<150.0	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:55
WORK DESCRIPTION...: BG-106 16-18'

LABORATORY I.D...: 960939-0030
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	119	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	102	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	89	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:55
WORK DESCRIPTION...: BG-106 16-18'

LABORATORY I.D...: 960939-0030
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	67	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	80	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	72	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	87	0	% Recovery	30-115% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/03/96
TIME SAMPLED.....: 14:55
WORK DESCRIPTION...: BG-106 16-18'

LABORATORY I.D...: 960939-0030
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	76	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	96	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/08/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	113	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	12	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	13600	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	7	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	41	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/08/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/09/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/12/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/08/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/08/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 10:00
WORK DESCRIPTION...: TRIP BLANK

LABORATORY I.D...: 960939-0031
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....: SAMPLED BY: D.W.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/11/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 04/01/96
TIME SAMPLED.....: 10:00
WORK DESCRIPTION...: TRIP BLANK

LABORATORY I.D...: 960939-0031
DATE RECEIVED....: 04/04/96
TIME RECEIVED....: 12:25
REMARKS.....: SAMPLED BY: D.W.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	93	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	96	0	% Revovery	86-115% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 TB-3
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:00
WORK DESCRIPTION...: TB-3 TRIP BLANK

LABORATORY I.D...: 960939-0032
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/11/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 TB-3
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:00
WORK DESCRIPTION...: TB-3 TRIP BLANK

LABORATORY I.D...: 960939-0032
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	97	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	96	0	% Revovery	86-115% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (4-6)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:30
WORK DESCRIPTION...: BG-101 (4-6)

LABORATORY I.D...: 960939-0045
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	<150.0	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (4-6)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:30
WORK DESCRIPTION...: BG-101 (4-6)

LABORATORY I.D...: 960939-0045
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	107	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	102	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	90	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	390	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (4-6)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:30
WORK DESCRIPTION...: BG-101 (4-6)

LABORATORY I.D...: 960939-0045
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	72	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	92	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	74	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	88	0	% Recovery	30-115% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (4-6)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:30
WORK DESCRIPTION...: BG-101 (4-6)

LABORATORY I.D...: 960939-0045
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	77	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	86	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/11/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	176	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	15	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/10/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/09/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/16/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/10/96	SEB
Metals Digest	Completed			EPA SW-846 3050	04/09/96	SLW

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[illegible]

CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (10-12)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:50
WORK DESCRIPTION...: BG-101 (10-12)

LABORATORY I.D...: 960939-0046
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	<150.0	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (10-12)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:50
WORK DESCRIPTION...: BG-101 (10-12)

LABORATORY I.D...: 960939-0046
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	108	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	101	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	88	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	370	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (10-12)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:50
WORK DESCRIPTION...: BG-101 (10-12)

LABORATORY I.D...: 960939-0046
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	67	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	83	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	71	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	83	0	% Recovery	30-115% QC LIMITS		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (10-12)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:50
WORK DESCRIPTION...: BG-101 (10-12)

LABORATORY I.D...: 960939-0046
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	70	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	83	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/11/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	87	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	10	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	<5	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/10/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/09/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/16/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/10/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/09/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (14-16)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101 (14-16)

LABORATORY I.D...: 960939-0047
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*0.1		EPA SW-846 8260	04/11/96	QP
Acetone	<150.0	150.0	ug/kg	EPA SW-846 8260		
Acrolein	<50.0	50.0	ug/kg	EPA SW-846 8260		
Acrylonitrile	<50.0	50.0	ug/kg	EPA SW-846 8260		
Benzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromodichloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromoform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Bromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl ethyl ketone	<50.0	50.0	ug/kg	EPA SW-846 8260		
Carbon disulfide	<5.0	5.0	ug/kg	EPA SW-846 8260		
Carbon tetrachloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chlorodibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
2-Chloroethylvinyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloroform	<5.0	5.0	ug/kg	EPA SW-846 8260		
Chloromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dibromomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Dichlorodifluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2-Dichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl butyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Iodomethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methylene chloride	<50.0	50.0	ug/kg	EPA SW-846 8260		
Methyl isobutyl ketone	<5.0	5.0	ug/kg	EPA SW-846 8260		
Styrene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Tetrachloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Toluene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,1-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2-Trichloroethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichloroethene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Trichlorofluoromethane	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichloropropane	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Vinyl chloride	<5.0	5.0	ug/kg	EPA SW-846 8260		
Total Xylenes	<5.0	5.0	ug/kg	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (14-16)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101 (14-16)

LABORATORY I.D...: 960939-0047
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl t-Butyl Ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Acetonitrile	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,4-Dioxane	<500.0	500.0	ug/kg	EPA SW-846 8260		
Ethyl acetate	<5.0	5.0	ug/kg	EPA SW-846 8260		
Ethyl ether	<5.0	5.0	ug/kg	EPA SW-846 8260		
Methyl methacrylate	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50.0	50.0	ug/kg	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5.0	5.0	ug/kg	EPA SW-846 8260		
1-Methylpyrrolidine	<500.0	500.0	ug/kg	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	109	0	% Recovery	80-120% QC LIMITS		
Toluene d-8 (Surrogate)	101	0	% Recovery	81-117% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	87	0	% Revovery	74-121% QC LIMITS		
GC/MS Semivolatile Organics		*33		EPA SW-846 8270B	04/11/96	GEF
Acenaphthene	<330	330	ug/kg	EPA SW-846 8270B		
Acenaphthylene	<330	330	ug/kg	EPA SW-846 8270B		
Anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)anthracene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(b)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(k)fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(ghi)perylene	<330	330	ug/kg	EPA SW-846 8270B		
Benzo(a)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Benzyl Alcohol	<660	660	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<330	330	ug/kg	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	400	330	ug/kg	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Butyl benzyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4-Chloroaniline	<660	660	ug/kg	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<660	660	ug/kg	EPA SW-846 8270B		
2-Chloronaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Chlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<330	330	ug/kg	EPA SW-846 8270B		
Chrysene	<330	330	ug/kg	EPA SW-846 8270B		
1,2-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,3-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
1,4-Dichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<660	660	ug/kg	EPA SW-846 8270B		
2,4-Dichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<330	330	ug/kg	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (14-16)
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101 (14-16)

LABORATORY I.D...: 960939-0047
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<330	330	ug/kg	EPA SW-846 8270B		
Diethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
2,4-Dimethylphenol	<330	330	ug/kg	EPA SW-846 8270B		
Dimethyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
2,4-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
2,6-Dinitrotoluene	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-octyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Fluorene	<330	330	ug/kg	EPA SW-846 8270B		
Fluoranthene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorobutadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<330	330	ug/kg	EPA SW-846 8270B		
Hexachloroethane	<330	330	ug/kg	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<330	330	ug/kg	EPA SW-846 8270B		
Isophorone	<330	330	ug/kg	EPA SW-846 8270B		
2-Methylnaphthalene	<330	330	ug/kg	EPA SW-846 8270B		
2-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
3-Nitroaniline	<1650	1650	ug/kg	EPA SW-846 8270B		
4-Nitroaniline	<660	660	ug/kg	EPA SW-846 8270B		
2-Nitrophenol	<330	330	ug/kg	EPA SW-846 8270B		
4-Nitrophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<330	330	ug/kg	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<330	330	ug/kg	EPA SW-846 8270B		
Naphthalene	<330	330	ug/kg	EPA SW-846 8270B		
Nitrobenzene	<330	330	ug/kg	EPA SW-846 8270B		
Pentachlorophenol	<1650	1650	ug/kg	EPA SW-846 8270B		
Phenanthrene	<330	330	ug/kg	EPA SW-846 8270B		
Phenol	<330	330	ug/kg	EPA SW-846 8270B		
Pyrene	<330	330	ug/kg	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<330	330	ug/kg	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<330	330	ug/kg	EPA SW-846 8270B		
Di-n-butyl phthalate	<330	330	ug/kg	EPA SW-846 8270B		
Aniline	<330	330	ug/kg	EPA SW-846 8270B		
o-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
p,m-Cresol	<330	330	ug/kg	EPA SW-846 8270B		
2-Naphthylamine	<330	330	ug/kg	EPA SW-846 8270B		
Phthalic anhydride	<330	330	ug/kg	EPA SW-846 8270B		
Pyridine	<330	330	ug/kg	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	66	0	% Recovery	25-121% QC LIMITS		
Phenol-d6 (Surrogate)	85	0	% Recovery	24-113% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	70	0	% Recovery	23-120% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	85	0	% Recovery	30-115% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101 (14-16)
DATE SAMPLED.....: 04/04/96
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WORK DESCRIPTION...: BG-101 (14-16)

LABORATORY I.D...: 960939-0047
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	75	0	% Recovery	19-122% QC LIMITS		
Terphenyl-d14 (Surrogate)	86	0	% Recovery	18-137% QC LIMITS		
Extraction - Semivolatiles (Soil)	Completed			EPA SW-846 3550	04/11/96	DGP
Arsenic (As), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Barium (Ba), total	6	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Cadmium (Cd), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Chromium (Cr), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Copper (Cu), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Iron (Fe), total	257	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Lead (Pb), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Nickel (Ni), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Selenium (Se), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Silver (Ag), total	<5	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Zinc (Zn), total	9	5	mg/Kg	EPA SW-846 6010A	04/10/96	GCC
Phenolics, solids/wastes	8	5	mg/kg	EPA SW-846 9065	04/09/96	DEH
Total Petroleum Hydrocarbons	<20	20	mg/kg	EPA 418.1	04/10/96	SEB
Cyanide, Total	<1	1	mg/kg	EPA SW-846 9010A	04/09/96	GB
Mercury (Hg), total	<0.09	0.09	mg/kg	EPA SW-846 7471	04/16/96	EBS
Sonication Extraction	Completed			EPA SW-846 3550	04/10/96	SEB
Metals Digest	Completed			EPA SW-846 3050A	04/09/96	SLW

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CORE LABORATORIES, INC.

NO. [illegible]

CHAIN OF CUSTODY RECORD

Page 1 of 3

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: [illegible]	PROJECT NAME/NUMBER: 15365 CA 2
SEND REPORT TO: [illegible]	**BILLING INFORMATION**
ADDRESS: [illegible]	BILL TO: SAME
[illegible]	ADDRESS:
PHONE: [illegible]	PHONE:
FAX: [illegible]	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH - [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			REMARKS / PRECAUTIONS
[illegible]	[illegible]	4-1-96	1230	S	[illegible]	—	2	X	X	X	X	X	X			*Nickel should be run
[illegible]	[illegible]		1370	S	[illegible]	—	2	X	X	X	X	X	X			on all soil samples.
[illegible]	[illegible]		1410	S	[illegible]	—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1520	S	[illegible]	—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1525	S	[illegible]	—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1655	S	[illegible]	—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1600	S	[illegible]	—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1740	S	[illegible]		2	X	X	X	X	X	X			
[illegible]	[illegible]	↓	1740	S	[illegible]	—	2	X	X	X	X	X	X			

SAMPLER: [illegible] SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* [ ] SAME DAY [ ] 24 HOURS [ ] 48 HOURS [ ] 72 HOURS [ ] 5 DAYS [ ] 10 DAYS [X] ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [illegible]	4-2-96	SIGNATURE: [illegible]	4-3-96	SIGNATURE:	
PRINTED NAME/COMPANY: [illegible]	TIME 7:30	PRINTED NAME/COMPANY: AMERR ASSOC., INC.	TIME 10:25	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: [illegible]	4-3-96	SIGNATURE: [illegible]	4-3-96	SIGNATURE:	
PRINTED NAME/COMPANY: [illegible]	TIME 7:30	PRINTED NAME/COMPANY: [illegible]	TIME 10:30	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

[ ] **Anaheim, California**
1250 E. Gene Autry Way
Anaheim, California 92805
(714) 937-1094
(800) 404-2673

[ ] **Aurora (Denver), Colorado**
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Aurora, Colorado 80014
(303) 751-1780
(800) 972-2673

[ ] **Casper, Wyoming**
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Casper, Wyoming 82601
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[X] **Corpus Christi, Texas**
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Corpus Christi, Texas 78408
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Houston, Texas 77075
(713) 943-9776
(800) 734-2673

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3645 Beglis Parkway
Sulphur, Louisiana 70663
(318) 583-4926
(800) 259-4926

[ ] **Long Beach, California**
3700 Cherry Avenue
Long Beach, California 90807
(310) 595-8401
(800) 814-3433

CORE LABORATORIES, INC.

NO. 06079

CHAIN OF CUSTODY RECORD

Page 2 of 3

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: [illegible] Associates, Inc	PROJECT NAME/NUMBER: 15365 CHO2
SEND REPORT TO: [illegible]	**BILLING INFORMATION**
ADDRESS: [illegible]	BILL TO: [illegible]
[illegible] TX [illegible]	ADDRESS:
PHONE: [illegible]	PHONE:
FAX: [illegible]	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH 418.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			REMARKS / PRECAUTIONS
[illegible]	[illegible]	4-2-96	935	S	8 oz	—	2	X	X	X	X	X	X			
[illegible]	[illegible]		955			—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1025			—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1045			—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1115			—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1415			—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1500			—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1510			—	2	X	X	X	X	X	X			
[illegible]	[illegible]		1645		4 oz	—	4	X	X	X	X	X	X			
[illegible]	[illegible]		1700		4 oz	—	4	X	X	X	X	X	X			

SAMPLER: [illegible] SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* | | SAME DAY | | 24 HOURS | | 48 HOURS | | 72 HOURS | | 5 DAYS | | 10 DAYS | X ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [illegible]	4-3-96	SIGNATURE: [illegible]	4-3-96	SIGNATURE:	
PRINTED NAME/COMPANY: [illegible]	TIME 730	PRINTED NAME/COMPANY: [illegible] Assoc., Inc.	TIME 10:25	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	**2. RECEIVED BY:**	DATE	**3. RECEIVED BY:**	DATE
SIGNATURE: [illegible]	4-3-96	SIGNATURE: [illegible]	4-3-96	SIGNATURE:	
PRINTED NAME/COMPANY: [illegible] Assoc., Inc.	TIME 7:30	PRINTED NAME/COMPANY: CLL	TIME [illegible]	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ **Anaheim, California**
1250 E. Gene Autry Way
Anaheim, California 92805
(714) 937-1094
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(318) 583-4926
(800) 259-4926

☐ **Long Beach, California**
3700 Cherry Avenue
Long Beach, California 90807
(310) 595-8401
(800) 814-3433

CORE LABORATORIES, INC.

NO. [illegible]

CHAIN OF CUSTODY RECORD

Page 3 of 3

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: [illegible]	PROJECT NAME/NUMBER: 15265 [illegible]
SEND REPORT TO: [illegible]	**BILLING INFORMATION**
ADDRESS: [illegible]	BILL TO: SAME
[illegible]	ADDRESS:
PHONE: [illegible]	PHONE:
FAX: [illegible]	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TDH Approved	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			REMARKS / PRECAUTIONS
[illegible]	[illegible] 14-15'	4-2-96	1720	S	4oz.	-	4	X	X	X	X	X	X			
[illegible]	[illegible] 15-17'	4-2-96	1730	S	4oz.	-	4	X	X	X	X	X	X			
[illegible]	TRIP BLANK	4-1-96	1200	W	VOA(40)	HCL	3		X							

SAMPLER: SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* [ ] SAME DAY [ ] 24 HOURS [ ] 48 HOURS [ ] 72 HOURS [ ] 5 DAYS [ ] 10 DAYS [X] ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [illegible]	[illegible]	SIGNATURE: [illegible]	4-3-96	SIGNATURE:	
PRINTED NAME/COMPANY: [illegible]	TIME 730	PRINTED NAME/COMPANY: HALLIB ASSOC., INC.	TIME 10:25	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: [illegible]	4-3-96	SIGNATURE: [illegible]	4-3-96	SIGNATURE:	
PRINTED NAME/COMPANY: [illegible] ASSOC., INC.	TIME 7:30	PRINTED NAME/COMPANY: [illegible]	TIME 10:0	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

- [ ] **Anaheim, California** 1250 E. Gene Autry Way, Anaheim, California 92805, (714) 937-1094, (800) 404-2673
- [ ] **Aurora (Denver), Colorado** 10703 E. Bethany Drive, Aurora, Colorado 80014, (303) 751-1780, (800) 972-2673
- [ ] **Casper, Wyoming** 420 West 1st Street, Casper, Wyoming 82601, (307) 235-5741, (800) 666-0306
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- [ ] **Lake Charles, Louisiana** 3645 Beglis Parkway, Sulphur, Louisiana 70663, (318) 583-4926, (800) 259-4926
- [ ] **Long Beach, California** 3700 Cherry Avenue, Long Beach, California 90807, (310) 595-8401, (800) 814-3433

CORE LAB

CORE LABORATORIES, INC.

NO. 06554

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: [illegible] Inc. Tex.	PROJECT NAME/NUMBER: 15365 EA/6
SEND REPORT TO: [illegible]	**BILLING INFORMATION**
ADDRESS: [illegible] Dr.	BILL TO: SAME
[illegible]	ADDRESS:
PHONE: [illegible]094	PHONE:
FAX: [illegible]	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH 418.1	VOLATILES 624/8240	SEMI-VOLATILES 8270	Cd, Cr, Pb + 2 ac. Copper, Iron, Nickel	PESTICIDES	PCBs/PCBs			REMARKS / PRECAUTIONS
[illegible]	[illegible]	4-3-96	1130	[illegible]		—		X	X	X	X	X	X			
[illegible]	[illegible]		1110			—		X	X	X	X	X	X			
[illegible]	[illegible]		1130			—		X	X	X		X	X			
[illegible]	[illegible]		1140			—		X	X	X	X	X	X			
[illegible]	[illegible]		1410			—		X	X	X	X	X	X			
[illegible]	[illegible]		1420			—		X	X	X	X	X	X			
[illegible]	[illegible]		1430			—		X	X	X	X	X	X			
[illegible]	[illegible]		1455			—		X	X	X	X	X	X			

SAMPLER: SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [illegible]	4-4-96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: [illegible] Tex.	TIME 12:25	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: [illegible]	4-11-96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: [illegible]	TIME [illegible]	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ **Anaheim, California**
1250 E. Gene Autry Way
Anaheim, California 92805
(714) 937-1094
(800) 404-2673

☐ **Aurora (Denver), Colorado**
10703 E. Bethany Drive
Aurora, Colorado 80014
(303) 751-1780
(800) 972-2673

☐ **Casper, Wyoming**
420 West 1st Street
Casper, Wyoming 82601
(307) 235-5741
(800) 666-0306

☐ **Corpus Christi, Texas**
1733 North Padre Island Drive
Corpus Christi, Texas 78408
(512) 289-2673
(800) 548-8228

☐ **Houston, Texas**
8210 Mosley Road
Houston, Texas 77075
(713) 943-9776
(800) 734-2673

☐ **Lake Charles, Louisiana**
3645 Beglis Parkway
Sulphur, Louisiana 70663
(318) 583-4926
(800) 259-4926

☐ **Long Beach, California**
3700 Cherry Avenue
Long Beach, California 90807
(310) 595-8401
(800) 814-3433

CORE LAB

CORE LABORATORIES, INC.

NO. 06990

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: HALLF ASSOCIATES	PROJECT NAME/NUMBER: 15365 EA02
SEND REPORT TO: [illegible] COPELYO	BILLING INFORMATION
ADDRESS: 4616 NW PLAZA DR.	BILL TO: SAME
[illegible], TX 75225	ADDRESS:
PHONE: [illegible] 34	PHONE:
FAX: [illegible] 4814	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH	RCRA Metals + Zinc, Copper, Nickel	Semi-volatiles	Volatiles	Cyanide	Phenolics	TCL TDX	Chloride, Sulfate, TDS	REMARKS / PRECAUTIONS
[illegible]	[illegible]	4-4	1400	W	[illegible]	HCL	2				X	X				
[illegible]	[illegible]	4-4	1430	S	[illegible]	—	2	X	X	X	X	X	X			
[illegible]	[illegible]	4-4	1450	S		—	2	X	X	X	X	X	X			
[illegible]	[illegible]	4-4	1530	S		—	2	X	X	X	X	X	X			
[illegible]		4-4	1720	W	VOA	VOA	10	X	X	X	X	X	X	X	X	

SAMPLER: [illegible]

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [illegible]	4/5/96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: HALLF	TIME 300	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: [illegible]	4/5/96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: [illegible]	TIME 300	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ **Anaheim, California**
1250 E. Gene Autry Way
Anaheim, California 92805
(714) 937-1094
(800) 404-2673

☐ **Aurora (Denver), Colorado**
10703 E. Bethany Drive
Aurora, Colorado 80014
(303) 751-1780
(800) 972-2673

☐ **Casper, Wyoming**
420 West 1st Street
Casper, Wyoming 82601
(307) 235-5741
(800) 666-0306

☐ **Corpus Christi, Texas**
1733 North Padre Island Drive
Corpus Christi, Texas 78408
(512) 289-2673
(800) 548-8228

☐ **Houston, Texas**
8210 Mosley Road
Houston, Texas 77075
(713) 943-9776
(800) 734-2673

☐ **Lake Charles, Louisiana**
3645 Beglis Parkway
Sulphur, Louisiana 70663
(318) 583-4926
(800) 259-4926

☐ **Long Beach, California**
3700 Cherry Avenue
Long Beach, California 90807
(310) 595-8401
(800) 814-3433

CORELAB

ENVIRONMENTAL TESTING SERVICES

RECEIVED

MAY 1.6 1996

Halff Associates, Inc.

May 10, 1996

Mr. Jack Cooper
Halff Associates, Inc.
8616 NW Plaza Dr.
Dallas, TX 75225

Re: Core Laboratories' Job Number 960939

Dear Mr. Cooper:

In an attempt to address your concerns regarding acetone hits in numerous soil samples associated with your NAS Corpus Christi project, we have analyzed the 2-propanol which was provided for your use in field decontamination procedures. Both a 500,000X and a 250,000X dilution were analyzed. Acetone was present in the 2-propanol at levels of 8.6 and 14 ppm. These levels are technically less than our reporting limit based on the sample dilutions, however due to the sample matrix, we do not want to risk instrument failure by running a less dilute sample.

It appears that the acetone hits may be related to the decon procedures which utilized the 2-propanol. If you have any other questions regarding this data, please feel free to call me or Charlie Sassine at 800/548-8228.

Sincerely,

Judy Orr

Judy Orr
QA/QC Coordinator

Core Laboratories, Inc.
1733 North Padre Island Drive, Corpus Christi, Texas 78408, (512) 289-2673, Fax (512) 289-2471

CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 960939
Prepared For:

HALFF ASSOCIATES, INC.
JACK COOPER
8616 NW PLAZA DR.
DALLAS, TX 75225

Date: 05/10/96

Signature

Date: 5/16/96

Name: Charles Sassine

CORE LABORATORIES
1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408

Title: Laboratory Supervisor

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CORE LABORATORIES

LABORATORY TESTS RESULTS

05/10/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: / /
TIME SAMPLED.....: :
WORK DESCRIPTION...: 2-PROPANOL LOT NO. 963149-36 EXP. 2/99

LABORATORY I.D...: 960939-0049
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: 500,000X DILUTION

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*500		EPA SW-846 8260	05/07/96	QP
Acetone	14000	50000	mg/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	90	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	97	0	% Revovery	86-115% QC LIMITS		

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CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS

05/10/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: / /
TIME SAMPLED.....: :
WORK DESCRIPTION...: 2-PROPANOL LOT NO. 963149-36 EXP. 2/99

LABORATORY I.D...: 960939-0050
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: 250,000X DILUTION

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*250		EPA SW-846 8260	05/07/96	QP
Acetone	8600	25000	mg/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	89	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	91	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	93	0	% Revovery	86-115% QC LIMITS		

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CORE LABORATORIES

QUALITY ASSURANCE REPORT
05/10/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 05/07/96 TIME ANALYZED: 11:21 METHOD: EPA SW-846 8260 QC NUMBER:107534

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8260, All Target Compounds	MB	050796	1	0	0	ug/L

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CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

QUALITY ASSURANCE REPORT
05/10/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 05/07/96 TIME ANALYZED: 11:21 METHOD: EPA SW-846 8260 QC NUMBER:107534

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Chloromethane	CC	531.22.1	1	113	100	113	10	ug/L
Vinyl chloride	CC	531.22.1	1	91	100	91	5	ug/L
1,1-Dichloroethene	CC	531.22.1	1	89	100	89	5	ug/L
1,1-Dichloroethane	CC	531.22.1	1	93	100	93	5	ug/L
Chloroform	CC	531.22.1	1	95	100	95	5	ug/L
Benzene	CC	531.22.1	1	101	100	101	5	ug/L
Trichloroethene	CC	531.22.1	1	95	100	95	5	ug/L
1,2-Dichloropropane	CC	531.22.1	1	106	100	106	5	ug/L
Toluene	CC	531.22.1	1	99	100	99	5	ug/L
Chlorobenzene	CC	531.22.1	1	100	100	100	5	ug/L
Ethylbenzene	CC	531.22.1	1	101	100	101	5	ug/L
Bromoform	CC	531.22.1	1	102	100	102	5	ug/L
1,1,2,2-Tetrachloroethane	CC	531.22.1	1	106	100	106	5	ug/L
Dibromofluoromethane(Surrogate)	CC	531.22.1	1	47	50	94	5	ug/L
ene d-8 (Surrogate)	CC	531.22.1	1	51	50	102	5	ug/L
omofluorobenzene(Surrogate)	CC	531.22.1	1	50	50	100	5	ug/L

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(512) 289-2673

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CORE LABORATORIES

QUALITY ASSURANCE REPORT
05/10/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 05/07/96 TIME ANALYZED: 11:21 METHOD: EPA SW-846 8260 QC NUMBER:107534

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
1,1-Dichloroethene	MS	961185-1	1	49	0	50	98	5	ug/L
	MSD	961185-1	1	59	0	50	118	5	ug/L
Benzene	MS	961185-1	1	49	0	50	98	5	ug/L
	MSD	961185-1	1	45	0	50	90	5	ug/L
Trichloroethene	MS	961185-1	1	45	0	50	90	5	ug/L
	MSD	961185-1	1	47	0	50	94	5	ug/L
Toluene	MS	961185-1	1	47	0	50	94	5	ug/L
	MSD	961185-1	1	48	0	50	96	5	ug/L
Chlorobenzene	MS	961185-1	1	43	0	50	86	5	ug/L
	MSD	961185-1	1	49	0	50	98	5	ug/L
Dibromofluoromethane(Surrogate	MB	050796-00	1	45	0	50	90	5	ug/L
Toluene d-8 (Surrogate)	MB	050796-00	1	49	0	50	98	5	ug/L
4-Bromofluorobenzene(Surrogate	MB	050796-00	1	50	0	50	100	5	ug/L

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CORE LABORATORIES

QUALITY ASSURANCE FOOTER

Cited Methods are obtained from the following documents :

EPA 600/2-79-020, Methods for the Analysis of Water and Wastes, March 1983.
USEPA SW-846 3rd. Edition, November 1990 and July 1992 Update, Test Methods for Evaluating Solid Waste.
EPA 600/2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.
Federal Register, July 1, 1992 (40 CFR Part 136).
Standard Methods for the Examination of Water and Wastewater, 18th Ed. APHA, AWWA, WPCF.
Methods of Soil Analysis, Agronomy No. 9, C.A. Black, 1965.

Quality control acceptance criteria are method dependent.
All data reported on sample "as received" unless noted.
Sample IDs with a "-00" at the end indicate a blank spike or blank spike duplicate associated with the numbered sample.
NC = Not Calculated due to value at or below detection limit.
NOTE: Data in QA report may differ from final results due to digestion and/or dilution of sample into analytical range.
The "TIME ANALYZED" in the QA report refers to the start time of the analytical batch which may not reflect the actual time of each analysis. The "DATE ANALYZED" is the actual date of analysis.
The data in this report are within the limits of uncertainty specified in the referenced method unless otherwise indicated.

SUBCONTRACTED LABORATORY LOCATIONS

For analyses performed by a subcontract laboratory, an "*" and the designated laboratory code is indicated in the "TECHN" column of the laboratory test results report.

Core Laboratories :

Anaheim	*AN	Lake Charles	*LC
Aurora	*AU	Long Beach	*LB
Casper	*CA	Other Laboratories	*XX
Houston	*HP		

QUALITY ASSURANCE REPORT CODES

BLANKS*

MB = Method Blank
RB = Reagent Blank
SB = Storage Blank
ICB = Initial Calib. Blank
CCB = Continuing Calib. Blank

REFERENCE STANDARDS

RS = Reference Standard
CC = Continuing Calib.
LCS = Laboratory Control Std.
ICV = Initial Calib. Verification
CCV = Cont. Calib. Verification

SPIKES AND DUPLICATES

MS = Matrix Spike, BS = Blank Spike
SS = Surrogate Spike, MD = Matrix Dup.
PDS= Post Digested Spike
MSD= Matrix Spike Duplicate
PDD= Post Digested Duplicate

*In the event that several different method blanks are analyzed, the blank type will be designated by the preparation method, i.e., ZHE, TCLP, 3010, 3050, etc.

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APPENDIX G

LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY FORMS GROUNDWATER (INITIAL SAMPLING EVENT)

CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 960939
Prepared For:

HALFF ASSOCIATES, INC.
JACK COOPER
8616 NW PLAZA DR.
DALLAS, TX 75225

Date: 04/29/96

Signature

Date: 4/29/96

Name: Charles Sassine

CORE LABORATORIES
1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408

Title: Laboratory Supervisor

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG112
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: BG-112

LABORATORY I.D...: 960939-0033
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/11/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG112
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: BG-112

LABORATORY I.D...: 960939-0033
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	98	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	104	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	95	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*3		EPA SW-846 8270B	04/14/96	GEF
Acenaphthene	<30	30	ug/L	EPA SW-846 8270B		
Acenaphthylene	<30	30	ug/L	EPA SW-846 8270B		
Anthracene	<30	30	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<30	30	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<30	30	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<30	30	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<30	30	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<30	30	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<60	60	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<30	30	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<30	30	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<30	30	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<150	150	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<30	30	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<30	30	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<150	150	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<60	60	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<30	30	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<30	30	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<30	30	ug/L	EPA SW-846 8270B		
Chrysene	<30	30	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<30	30	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<30	30	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<30	30	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<60	60	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<30	30	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<30	30	ug/L	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG112
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: BG-112

LABORATORY I.D...: 960939-0033
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<30	30	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<30	30	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<60	60	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<30	30	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<150	150	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<150	150	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<30	30	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<30	30	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<30	30	ug/L	EPA SW-846 8270B		
Fluorene	<30	30	ug/L	EPA SW-846 8270B		
Fluoranthene	<30	30	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<30	30	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<30	30	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<30	30	ug/L	EPA SW-846 8270B		
Hexachloroethane	<30	30	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<30	30	ug/L	EPA SW-846 8270B		
Isophorone	<30	30	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<30	30	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<150	150	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<150	150	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<60	60	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<30	30	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<150	150	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<30	30	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<30	30	ug/L	EPA SW-846 8270B		
Naphthalene	<30	30	ug/L	EPA SW-846 8270B		
Nitrobenzene	<30	30	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<150	150	ug/L	EPA SW-846 8270B		
Phenanthrene	<30	30	ug/L	EPA SW-846 8270B		
Phenol	<30	30	ug/L	EPA SW-846 8270B		
Pyrene	<30	30	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<30	30	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<30	30	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<30	30	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<30	30	ug/L	EPA SW-846 8270B		
Aniline	<30	30	ug/L	EPA SW-846 8270B		
o-Cresol	<30	30	ug/L	EPA SW-846 8270B		
p,m-Cresol	<30	30	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<30	30	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<30	30	ug/L	EPA SW-846 8270B		
Pyridine	<30	30	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	62	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	77	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	71	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	65	0	% Recovery	43-116% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG112
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:10
WORK DESCRIPTION...: BG-112

LABORATORY I.D...: 960939-0033
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	75	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	78	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	04/09/96	DGP
Arsenic (As), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Barium (Ba), total	0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Iron (Fe), total	0.90	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Manganese (Mn), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Zinc (Zn), total	0.12	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	04/11/96	GB
Phenolics	0.007	0.005	mg/L	EPA 420.1	04/15/96	DEH
Total Dissolved Solids (TDS)	1080	40	mg/L	SM 18TH 2540 C	04/08/96	CLB
Total Organic Halogen (TOX)	0.31	0.15	mg/L	EPA SW-846 9020B	04/17/96	EBS
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	04/09/96	SEB
Sulfate (SO4), total	160	20	mg/L	EPA 300.0	04/10/96	SEB
Chloride (Cl), total	340	50	mg/L	EPA 300.0	04/10/96	SEB
Total Organic Carbon	4	1	mg/L	SM 18TH 5310 C	04/11/96	SEB

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

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TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Mercury (Hg), total	<0.002	0.002	mg/L	EPA SW-846 7470	04/16/96	EBS
Metals Digest	Completed			EPA SW-846 3010A	04/10/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG108
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:35
WORK DESCRIPTION...: BG-108

LABORATORY I.D...: 960939-0034
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/11/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	12	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG108
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:35
WORK DESCRIPTION...: BG-108

LABORATORY I.D...: 960939-0034
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	180	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	98	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	103	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	99	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	04/14/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG108
DATE SAMPLED.....: 04/04/96
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WORK DESCRIPTION...: BG-108

LABORATORY I.D...: 960939-0034
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	56	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	78	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	72	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	77	0	% Recovery	43-116% QC LIMITS		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG108
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:35
WORK DESCRIPTION...: BG-108

LABORATORY I.D...: 960939-0034
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	77	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	81	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	04/09/96	DGP
Arsenic (As), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Barium (Ba), total	0.06	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Iron (Fe), total	0.28	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Manganese (Mn), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Zinc (Zn), total	0.08	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	04/11/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	04/15/96	DEH
Total Dissolved Solids (TDS)	620	40	mg/L	SM 18TH 2540 C	04/08/96	CLB
Total Organic Halogen (TOX)	0.87	0.15	mg/L	EPA SW-846 9020B	04/17/96	EBS
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	04/09/96	SEB
Sulfate (SO4), total	57	4	mg/L	EPA 300.0	04/10/96	SEB
Chloride (Cl), total	170	20	mg/L	EPA 300.0	04/10/96	SEB
Total Organic Carbon	9	1	mg/L	SM 18TH 5310 C	04/11/96	SEB

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG108
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:35
WORK DESCRIPTION...: BG-108

LABORATORY I.D...: 960939-0034
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Mercury (Hg), total	<0.002	0.002	mg/L	EPA SW-846 7470	04/16/96	EBS
Metals Digest	Completed			EPA SW-846 3010A	04/10/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 TB-4
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:00
WORK DESCRIPTION...: TB-4

LABORATORY I.D...: 960939-0035
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/11/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 TB-4
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:00
WORK DESCRIPTION...: TB-4

LABORATORY I.D...: 960939-0035
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	90	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	98	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	92	0	% Revovery	86-115% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-106
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:05
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 960939-0036
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/11/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-106
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:05
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 960939-0036
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	95	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	101	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	94	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	04/14/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-106
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:05
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 960939-0036
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	77	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	69	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	69	0	% Recovery	43-116% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-106
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:05
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 960939-0036
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	68	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	74	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	04/09/96	DGP
Arsenic (As), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Barium (Ba), total	0.10	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Iron (Fe), total	2.61	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Manganese (Mn), total	0.10	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Zinc (Zn), total	0.25	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	04/11/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	04/15/96	DEH
Total Dissolved Solids (TDS)	1070	40	mg/L	SM 18TH 2540 C	04/08/96	CLB
Total Organic Halogen (TOX)	0.58	0.15	mg/L	EPA SW-846 9020B	04/17/96	EBS
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	04/09/96	SEB
Sulfate (SO4), total	140	20	mg/L	EPA 300.0	04/10/96	SEB
Chloride (Cl), total	140	20	mg/L	EPA 300.0	04/10/96	SEB
Total Organic Carbon	32	1	mg/L	SM 18TH 5310 C	04/11/96	SEB

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-106
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WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 960939-0036
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Mercury (Hg), total	<0.002	0.002	mg/L	EPA SW-846 7470	04/16/96	EBS
Metals Digest	Completed			EPA SW-846 3010A	04/10/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:40
WORK DESCRIPTION...: BG-104

LABORATORY I.D...: 960939-0037
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/11/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:40
WORK DESCRIPTION...: BG-104

LABORATORY I.D...: 960939-0037
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	93	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
-Bromofluorobenzene(Surrogate)	93	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	04/14/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:40
WORK DESCRIPTION...: BG-104

LABORATORY I.D...: 960939-0037
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	68	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	83	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	78	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	78	0	% Recovery	43-116% QC LIMITS		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:40
WORK DESCRIPTION...: BG-104

LABORATORY I.D...: 960939-0037
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	75	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	80	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	04/09/96	DGP
Arsenic (As), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Barium (Ba), total	0.07	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
[illegible]er (Cu), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Iron (Fe), total	0.85	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Manganese (Mn), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Zinc (Zn), total	0.22	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	04/11/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	04/15/96	DEH
Total Dissolved Solids (TDS)	280	40	mg/L	SM 18TH 2540 C	04/08/96	CLB
Total Organic Halogen (TOX)	0.52	0.15	mg/L	EPA SW-846 9020B	04/17/96	EBS
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	04/09/96	SEB
Sulfate (SO4), total	20	2	mg/L	EPA 300.0	04/10/96	SEB
Chloride (Cl), total	110	20	mg/L	EPA 300.0	04/10/96	SEB
Total Organic Carbon	9	1	mg/L	SM 18TH 5310 C	04/11/96	SEB

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:40
WORK DESCRIPTION...: BG-104

LABORATORY I.D...: 960939-0037
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Mercury (Hg), total	0.003	0.002	mg/L	EPA SW-846 7470	04/16/96	EBS
Metals Digest	Completed			EPA SW-846 3010A	04/10/96	SLW

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104A
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:40
WORK DESCRIPTION...: BG-104A

LABORATORY I.D...: 960939-0038
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/11/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104A
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:40
WORK DESCRIPTION...: BG-104A

LABORATORY I.D...: 960939-0038
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	93	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	91	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	04/14/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104A
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:40
WORK DESCRIPTION...: BG-104A

LABORATORY I.D...: 960939-0038
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	83	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	77	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	79	0	% Recovery	43-116% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104A
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:40
WORK DESCRIPTION...: BG-104A

LABORATORY I.D...: 960939-0038
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	73	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	81	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	04/09/96	DGP
Arsenic (As), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Barium (Ba), total	0.10	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Iron (Fe), total	1.67	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Manganese (Mn), total	0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Zinc (Zn), total	0.22	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	04/11/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	04/15/96	DEH
Total Dissolved Solids (TDS)	700	40	mg/L	SM 18TH 2540 C	04/08/96	CLB
Total Organic Halogen (TOX)	1.59	0.15	mg/L	EPA SW-846 9020B	04/17/96	EBS
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	04/09/96	SEB
Sulfate (SO4), total	19	2	mg/L	EPA 300.0	04/10/96	SEB
Chloride (Cl), total	330	40	mg/L	EPA 300.0	04/10/96	SEB
Total Organic Carbon	10	1	mg/L	SM 18TH 5310 C	04/11/96	SEB

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104A
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 15:40
WORK DESCRIPTION...: BG-104A

LABORATORY I.D...: 960939-0038
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Mercury (Hg), total	<0.002	0.002	mg/L	EPA SW-846 7470	04/16/96	EBS
Metals Digest	Completed			EPA SW-846 3010A	04/10/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 FB-1
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 10:30
WORK DESCRIPTION...: FB-1 FIELD BLANK

LABORATORY I.D...: 960939-0039
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/11/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 FB-1
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 10:30
WORK DESCRIPTION...: FB-1 FIELD BLANK

LABORATORY I.D...: 960939-0039
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	95	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	94	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	04/14/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 FB-1
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 10:30
WORK DESCRIPTION...: FB-1 FIELD BLANK

LABORATORY I.D...: 960939-0039
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	65	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	77	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	74	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	76	0	% Recovery	43-116% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 FB-1
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 10:30
WORK DESCRIPTION...: FB-1 FIELD BLANK

LABORATORY I.D...: 960939-0039
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	73	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	79	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	04/09/96	DGP
Arsenic (As), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Barium (Ba), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Iron (Fe), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Manganese (Mn), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Zinc (Zn), total	0.05	0.05	mg/L	EPA SW-846 6010A	04/18/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	04/11/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	04/15/96	DEH
Total Dissolved Solids (TDS)	<40	40	mg/L	SM 18TH 2540 C	04/26/96	CLB
Total Organic Halogen (TOX)	0.78	0.15	mg/L	EPA SW-846 9020B	04/17/96	EBS
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	04/09/96	SEB
Sulfate (SO4), total	<2	2	mg/L	EPA 300.0	04/10/96	SEB
Chloride (Cl), total	<1	1	mg/L	EPA 300.0	04/10/96	SEB
Total Organic Carbon	<1	1	mg/L	SM 18TH 5310 C	04/11/96	SEB

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 FB-1
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WORK DESCRIPTION...: FB-1 FIELD BLANK

LABORATORY I.D...: 960939-0039
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Mercury (Hg), total	<0.002	0.002	mg/L	EPA SW-846 7470	04/16/96	EBS
Metals Digest	Completed			EPA SW-846 3010A	04/10/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 TB-5
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: :
WORK DESCRIPTION...: TB-5 TRIP BLANK

LABORATORY I.D...: 960939-0040
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/11/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 TB-5
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: :
WORK DESCRIPTION...: TB-5 TRIP BLANK

LABORATORY I.D...: 960939-0040
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	95	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	98	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	97	0	% Revovery	86-115% QC LIMITS		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-2
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 07:45
WORK DESCRIPTION...: BG-2

LABORATORY I.D...: 960939-0041
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/12/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-2
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 07:45
WORK DESCRIPTION...: BG-2

LABORATORY I.D...: 960939-0041
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<100	100	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	94	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	102	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	98	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	04/14/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-2
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 07:45
WORK DESCRIPTION...: BG-2

LABORATORY I.D...: 960939-0041
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	60	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	87	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	78	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	76	0	% Recovery	43-116% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-2
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 07:45
WORK DESCRIPTION...: BG-2

LABORATORY I.D...: 960939-0041
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	75	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	82	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	04/09/96	DGP
Arsenic (As), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Barium (Ba), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Iron (Fe), total	1.02	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Manganese (Mn), total	0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Zinc (Zn), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	04/11/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	04/15/96	DEH
Total Dissolved Solids (TDS)	2820	40	mg/L	SM 18TH 2540 C	04/08/96	CLB
Total Organic Halogen (TOX)	0.49	0.15	mg/L	EPA SW-846 9020B	04/17/96	EBS
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	04/09/96	SEB
Sulfate (SO4), total	470	50	mg/L	EPA 300.0	04/11/96	SEB
Chloride (Cl), total	1060	200	mg/L	EPA 300.0	04/11/96	SEB
Total Organic Carbon	13	1	mg/L	SM 18TH 5310 C	04/11/96	SEB

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-2
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 07:45
WORK DESCRIPTION...: BG-2

LABORATORY I.D...: 960939-0041
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Mercury (Hg), total	<0.002	0.002	mg/L	EPA SW-846 7470	04/16/96	EBS
Metals Digest	Completed			EPA SW-846 3010A	04/10/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-1
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 08:15
WORK DESCRIPTION...: BG-1

LABORATORY I.D...: 960939-0042
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/12/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-1
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 08:15
WORK DESCRIPTION...: BG-1

LABORATORY I.D...: 960939-0042
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<100	100	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	95	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	101	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	99	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	04/14/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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CORPUS CHRISTI, TX 78408
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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-1
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 08:15
WORK DESCRIPTION...: BG-1

LABORATORY I.D...: 960939-0042
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	67	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	87	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	80	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	78	0	% Recovery	43-116% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-1
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 08:15
WORK DESCRIPTION...: BG-1

LABORATORY I.D...: 960939-0042
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	74	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	83	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	04/09/96	DGP
Arsenic (As), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Barium (Ba), total	0.07	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Iron (Fe), total	2.62	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Manganese (Mn), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Zinc (Zn), total	0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	04/11/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	04/15/96	DEH
Total Dissolved Solids (TDS)	600	40	mg/L	SM 18TH 2540 C	04/08/96	CLB
Total Organic Halogen (TOX)	0.55	0.15	mg/L	EPA SW-846 9020B	04/17/96	EBS
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	04/09/96	SEB
Sulfate (SO4), total	75	8	mg/L	EPA 300.0	04/11/96	SEB
Chloride (Cl), total	130	20	mg/L	EPA 300.0	04/11/96	SEB
Total Organic Carbon	23	1	mg/L	SM 18TH 5310 C	04/11/96	SEB

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-1
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 08:15
WORK DESCRIPTION...: BG-1

LABORATORY I.D...: 960939-0042
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Mercury (Hg), total	<0.002	0.002	mg/L	EPA SW-846 7470	04/16/96	EBS
Metals Digest	Completed			EPA SW-846 3010A	04/10/96	SLW

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 10:00
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 960939-0043
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/12/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 10:00
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 960939-0043
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<100	100	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	102	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	104	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	95	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	04/14/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 10:00
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 960939-0043
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	24	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	69	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	89	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	80	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	72	0	% Recovery	43-116% QC LIMITS		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 10:00
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 960939-0043
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	77	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	84	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	04/09/96	DGP
Arsenic (As), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Barium (Ba), total	0.52	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Iron (Fe), total	7.06	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Manganese (Mn), total	0.35	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Zinc (Zn), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	04/11/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	04/15/96	DEH
Total Dissolved Solids (TDS)	2310	40	mg/L	SM 18TH 2540 C	04/08/96	CLB
Total Organic Halogen (TOX)	0.49	0.15	mg/L	EPA SW-846 9020B	04/17/96	EBS
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	04/09/96	SEB
Sulfate (SO4), total	130	8	mg/L	EPA 300.0	04/11/96	SEB
Chloride (Cl), total	1080	200	mg/L	EPA 300.0	04/11/96	SEB
Total Organic Carbon	39	1	mg/L	SM 18TH 5310 C	04/11/96	SEB

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101
DATE SAMPLED.....: 04/05/96
TIME SAMPLED.....: 10:00
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 960939-0043
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Mercury (Hg), total	<0.002	0.002	mg/L	EPA SW-846 7470	04/16/96	EBS
Metals Digest	Completed			EPA SW-846 3010A	04/10/96	SLW

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 TB-2
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:00
WORK DESCRIPTION...: TB-2 TRIP BLANK

LABORATORY I.D...: 960939-0044
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/12/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 TB-2
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 14:00
WORK DESCRIPTION...: TB-2 TRIP BLANK

LABORATORY I.D...: 960939-0044
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<100	100	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	97	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	101	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	96	0	% Revovery	86-115% QC LIMITS		

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LABORATORY TESTS RESULTS

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-3
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 17:20
WORK DESCRIPTION...: BG-3

LABORATORY I.D...: 960939-0048
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	04/12/96	QP
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-3
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 17:20
WORK DESCRIPTION...: BG-3

LABORATORY I.D...: 960939-0048
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<100	100	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	96	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	95	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	04/14/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-3
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 17:20
WORK DESCRIPTION...: BG-3

LABORATORY I.D...: 960939-0048
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	61	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	78	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	75	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	70	0	% Recovery	43-116% QC LIMITS		

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LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-3
DATE SAMPLED.....: 04/04/96
TIME SAMPLED.....: 17:20
WORK DESCRIPTION...: BG-3

LABORATORY I.D...: 960939-0048
DATE RECEIVED....: 04/05/96
TIME RECEIVED....: 15:00
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	69	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	80	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	04/09/96	DGP
Arsenic (As), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Barium (Ba), total	0.15	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Iron (Fe), total	4.67	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Manganese (Mn), total	0.63	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Zinc (Zn), total	0.08	0.05	mg/L	EPA SW-846 6010A	04/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	04/11/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	04/15/96	DEH
Total Dissolved Solids (TDS)	680	40	mg/L	SM 18TH 2540 C	04/08/96	CLB
Total Organic Halogen (TOX)	0.66	0.15	mg/L	EPA SW-846 9020B	04/17/96	EBS
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	04/09/96	SEB
Sulfate (SO4), total	140	10	mg/L	EPA 300.0	04/11/96	SEB
Chloride (Cl), total	140	25	mg/L	EPA 300.0	04/11/96	SEB
Total Organic Carbon	5	1	mg/L	SM 18TH 5310 C	04/11/96	SEB

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CORE LABORATORIES

LABORATORY TESTS RESULTS
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-3
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REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Mercury (Hg), total	<0.002	0.002	mg/L	EPA SW-846 7470	04/16/96	EBS
Metals Digest	Completed			EPA SW-846 3010A	04/10/96	SLW

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CORE LABORATORIES

QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Total Petroleum Hydrocarbons DATE/TIME ANALYZED:04/04/96 08:00 QC BATCH NUMBER:104907 REPORTING LIMIT/DF: 20 UNITS:mg/kg METHOD REFERENCE :EPA 418.1 TECHNICIAN:SEB										
BLANK	MB1 040496	386.26.9	<20							
BLANK	MB2 040496	386.26.9	<20							
BLANK	MB3 040496	386.26.9	<20							
STANDARD	LCS1	508.108.13	686			709	97			
STANDARD	LCS2	508.108.13	686			709	97			
STANDARD	LCS3	508.108.13	696			709	98			
SPIKE	MS	960939-1	1290					<20	1420	91
SPIKE	MS	960939-2	1400					<20	1420	99
SPIKE	MS	960939-3	1250					<20	1420	88
DUPLICATE	MD	960939-1	<20	<20	NC					
DUPLICATE	MD	960939-2	<20	<20	NC					
DUPLICATE	MD	960939-3	<20	<20	NC					
PARAMETER:Total Petroleum Hydrocarbons DATE/TIME ANALYZED:04/08/96 08:00 QC BATCH NUMBER:105021 REPORTING LIMIT/DF: 20 UNITS:mg/kg METHOD REFERENCE :EPA 418.1 TECHNICIAN:SEB										
BLANK	MB1 040896	386.26.9	<20							
BLANK	MB2 040896	386.26.9	<20							
BLANK	MB3 040896	386.26.9	<20							
BLANK	MB4 040896	386.26.9	<20							
STANDARD	LCS 1	508.108.13	707			709	100			
STANDARD	LCS 2	508.108.13	718			709	101			
STANDARD	LCS 3	508.108.13	718			709	101			
STANDARD	LCS 4	508.108.13	723			709	102			
SPIKE	MS	960939-23	1280					<20	1420	90
SPIKE	MS	960939-24	1260					<20	1420	89
SPIKE	MS	960939-25	1260					<20	1420	89
SPIKE	MS	960958-1	1310					116	1420	84
DUPLICATE	MD	960939-23	<20	<20	NC					
DUPLICATE	MD	960939-24	<20	<20	NC					
DUPLICATE	MD	960939-25	<20	<20	NC					
DUPLICATE	MD	960958-1	116	111	4					
PARAMETER:Total Petroleum Hydrocarbons DATE/TIME ANALYZED:04/09/96 07:00 QC BATCH NUMBER:105023 REPORTING LIMIT/DF: 1 UNITS:mg/L METHOD REFERENCE :EPA 418.1 TECHNICIAN:SEB										
BLANK	MB1 040996	386.29.4	<1							
BLANK	MB2 040996	386.29.4	<1							
BLANK	MB3 040996	386.29.4	<1							
STANDARD	LCS 1	508.108.13	4.3			4.3	100			
STANDARD	LCS 2	508.108.13	4.4			4.3	102			
STANDARD	LCS 3	508.108.13	4.4			4.3	102			
SPIKE	BS	960939-0	8.7					<1	8.6	101
SPIKE	BS	960947-0	8.4					<1	8.6	98
SPIKE	BS	960974-0	9.2					<1	8.6	107
DUPLICATE	BD	960939-0	<1	<1	NC					

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CORE LABORATORIES

QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Total Petroleum Hydrocarbons REPORTING LIMIT/DF: 1 UNITS:mg/L				DATE/TIME ANALYZED:04/09/96 07:00 METHOD REFERENCE :EPA 418.1						QC BATCH NUMBER:105023 TECHNICIAN:SEB
DUPLICATE	BD	960947-0	<1	<1	NC					
DUPLICATE	BD	960974-0	<1	<1	NC					
PARAMETER:Cyanide, Total REPORTING LIMIT/DF: 1 UNITS:mg/kg				DATE/TIME ANALYZED:04/04/96 08:00 METHOD REFERENCE :EPA SW-846 9010A						QC BATCH NUMBER:105148 TECHNICIAN:GB
BLANK	MB 040496	Di H2O	<1							
STANDARD	LCD 1	508.112.22	9.4			9.76	96			
SPIKE	MS	960939-1	1.9					<1	2.5	76
DUPLICATE	MD	960939-1	<1	<1	NC					
PARAMETER:Phenolics, solids/Wastes REPORTING LIMIT/DF: 5 UNITS:mg/kg				DATE/TIME ANALYZED:04/09/96 06:00 METHOD REFERENCE :EPA SW-846 9065						QC BATCH NUMBER:105150 TECHNICIAN:DEH
BLANK	MB1 040996	Di H2O	<5							
BLANK	MB2 040996	Di H2O	<5							
BLANK	MB3 040996	Di H2O	<5							
BLANK	MB4 040996	Di H2O	<5							
STANDARD	LCS 1	508.113.1	<5			<5	NC			
STANDARD	LCS 2	508.113.1	<5			<5	NC			
STANDARD	LCS 3	508.113.1	<5			<5	NC			
STANDARD	LCS 4	508.113.1	<5			<5	NC			
SPIKE	MS	960939-10	23					<5	25	92
SPIKE	MS	960939-20	24					<5	25	96
SPIKE	MS	960939-45	26					<5	25	104
SPIKE	MS	960939-47	31					8	25	92
DUPLICATE	MD	960939-10	<5	<5	NC					
DUPLICATE	MD	960939-20	<5	<5	NC					
DUPLICATE	MD	960939-45	<5	<5	NC					
DUPLICATE	MD	960939-47	8	8	0					
PARAMETER:Cyanide, Total REPORTING LIMIT/DF: 1 UNITS:mg/kg				DATE/TIME ANALYZED:04/08/96 08:00 METHOD REFERENCE :EPA SW-846 9010A						QC BATCH NUMBER:105189 TECHNICIAN:GB
BLANK	MB1040896	Di H2O	<1							
BLANK	MB2040896	Di H2O	<1							
STANDARD	LCS 1	508.113.22	9.6			9.76	98			
STANDARD	LCS 2	508.113.22	9.1			9.76	93			
SPIKE	MS	960939-10	2.2					<1	2.5	88
DUPLICATE	MD	960939-10	<1	<1	NC					
PARAMETER:Cyanide, Total REPORTING LIMIT/DF: 1 UNITS:mg/kg				DATE/TIME ANALYZED:04/09/96 06:00 METHOD REFERENCE :EPA SW-846 9010A						QC BATCH NUMBER:105191 TECHNICIAN:GB
BLANK	MB 040996	Di H2O	<1							
STANDARD	LCS 1	508.113.22	9.1			9.76	93			

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Cyanide, Total REPORTING LIMIT/DF: 1 UNITS:mg/kg				DATE/TIME ANALYZED:04/09/96 06:00 METHOD REFERENCE :EPA SW-846 9010A					QC BATCH NUMBER:105191 TECHNICIAN:GB	
SPIKE	MS	960939-26	2.1					<1	2.5	84
DUPLICATE	MD	960939-26	<1	<1	NC					
PARAMETER:Mercury (Hg), total REPORTING LIMIT/DF: UNITS:mg/kg				DATE/TIME ANALYZED:04/09/96 09:00 METHOD REFERENCE :EPA SW-846 7471					QC BATCH NUMBER:105203 TECHNICIAN:EBS	
BLANK	MB	DI H2O	<0.09							
STANDARD	RS	507.6.8	0.018			0.020	90			
SPIKE	MS	960747-12	1.99					0.35	1.60	102
SPIKE	MS	960747-20	1.30					<0.09	1.48	88
SPIKE	MS	960909-1	0.46					<0.09	0.48	96
SPIKE	MS	960939-1	0.87					<0.09	0.83	105
DUPLICATE	MD	960747-12	0.35	0.38	0.03					
DUPLICATE	MD	960747-20	0.086	0.101	0.02					
DUPLICATE	MD	960909-1	<0.09	<0.09	0.00					
[illegible]ICATE	MD	960939-1	<0.09	<0.09	0.00					
PARAMETER:Total Petroleum Hydrocarbons REPORTING LIMIT/DF: 20 UNITS:mg/kg				DATE/TIME ANALYZED:04/10/96 08:00 METHOD REFERENCE :EPA 418.1					QC BATCH NUMBER:105214 TECHNICIAN:SEB	
BLANK	MB1 041096	386.26.9	<20							
BLANK	MB2 041096	386.26.9	<20							
BLANK	MB3 041096	386.29.9	<20							
STANDARD	LCS1	508.108.13	722			709	102			
STANDARD	LCS2	508.108.13	717			709	101			
STANDARD	LCS3	508.108.13	722			709	102			
SPIKE	MS	960939-45	1330					<20	1420	94
SPIKE	MS	960939-46	1260					<20	1420	89
SPIKE	MS	960939-47	1330					<20	1420	94
DUPLICATE	MD	960939-45	<20	<20	NC					
DUPLICATE	MD	960939-46	<20	<20	NC					
DUPLICATE	MD	960939-47	<20	<20	NC					
PARAMETER:Chloride (Cl), total REPORTING LIMIT/DF: 1 UNITS:mg/L				DATE/TIME ANALYZED:04/10/96 10:00 METHOD REFERENCE :EPA 300.0					QC BATCH NUMBER:105233 TECHNICIAN:SEB	
BLANK	MB2 041096	Di H2O	<1							
BLANK	MB3 041096	Di H2O	<1							
STANDARD	LCS1	508.113.26	5.1			5.0	102			
STANDARD	LCS2	508.113.26	5.3			5.0	106			
SPIKE	MS	960941-1	1100					610	500	98
SPIKE	MS	960939-38	540					330	200	105
DUPLICATE	MD	960941-1	610	540	12					
DUPLICATE	MD	960939-38	330	340	3					

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Sulfate (SO4), total				DATE/TIME ANALYZED:04/10/96 10:00						QC BATCH NUMBER:105234
REPORTING LIMIT/DF: 2 UNITS:mg/L				METHOD REFERENCE :EPA 300.0						TECHNICIAN:SEB
BLANK	MB3 041096	Di H2O	<2							
STANDARD	LCS2	508.113.26	20.1			20.0	101			
SPIKE	MS	960939-33	360					160	200	100
DUPLICATE	MD	960939-33	160	160	0					
PARAMETER:Arsenic (As), total				DATE/TIME ANALYZED:04/10/96 09:44						QC BATCH NUMBER:105250
REPORTING LIMIT/DF: 0.05 UNITS:mg/L				METHOD REFERENCE : SW-846 6010A						TECHNICIAN:GCC
BLANK	MB	3051	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	4.96			5.00	99			
STANDARD	ICV	Q1095	0.99			1.00	99			
SPIKE	MS	960939-011	0.89					<0.05	1.00	89
SPIKE	MS	960976-001	0.89					<0.05	1.00	89
DUPLICATE	MD	960939-011	<0.05	<0.05	NC					
DUPLICATE	MD	960976-001	<0.05	<0.05	NC					
PARAMETER:Barium (Ba), total				DATE/TIME ANALYZED:04/10/96 09:44						QC BATCH NUMBER:105251
REPORTING LIMIT/DF: 0.05 UNITS:mg/L				METHOD REFERENCE : SW-846 6010A						TECHNICIAN:GCC
BLANK	MB	3050	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	4.98			5.00	100			
STANDARD	ICV	1023C	1.00			1.00	100			
SPIKE	MS	960939-001	0.89					0.07	1.00	82
SPIKE	MS	960939-011	0.97					0.08	1.00	89
SPIKE	MS	960976-001	1.60					0.55	1.00	105
DUPLICATE	MD	960939-001	0.07	0.06	0.01					
DUPLICATE	MD	960272-002	0.88	0.99	12					
PARAMETER:Cadmium (Cd), total				DATE/TIME ANALYZED:04/10/96 09:44						QC BATCH NUMBER:105252
REPORTING LIMIT/DF: 0.05 UNITS:mg/L				METHOD REFERENCE : SW-846 6010A						TECHNICIAN:GCC
BLANK	MB	3051	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	4.88			5.00	98			
STANDARD	ICV	Q1095	1.00			1.00	100			
SPIKE	MS	960939-011	0.86					<0.05	1.00	86
SPIKE	MS	960976-001	0.90					<0.05	1.00	90
DUPLICATE	MD	960939-001	<0.05	<0.05	NC					
DUPLICATE	MD	960939-011	<0.05	<0.05	NC					
PARAMETER:Chromium (Cr), total				DATE/TIME ANALYZED:04/10/96 09:44						QC BATCH NUMBER:105253
REPORTING LIMIT/DF: 0.05 UNITS:mg/L				METHOD REFERENCE : SW-846 6010A						TECHNICIAN:GCC
BLANK	MB	3051	<0.05							

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Chromium (Cr), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/10/96 09:44 METHOD REFERENCE : SW-846 6010A					QC BATCH NUMBER:105253 TECHNICIAN:GCC	
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	5.02			5.00	100			
STANDARD	ICV	Q1095	1.02			1.00	102			
SPIKE	MS	960939-011	0.94					<0.05	1.00	94
SPIKE	MS	960976-001	1.10					0.25	1.00	85
DUPLICATE	MD	960939-011	<0.05	<0.05	NC					
DUPLICATE	MD	960939-001	<0.05	<0.05	NC					
PARAMETER:Lead (Pb), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/10/96 09:44 METHOD REFERENCE : SW-846 6010A					QC BATCH NUMBER:105254 TECHNICIAN:GCC	
BLANK	MB	3051	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	5.01			5.00	100			
STANDARD	ICV	Q1095	1.02			1.00	102			
[illegible]	MS	960939-011	0.87					<0.05	1.00	87
[illegible]	MS	960939-021	0.80					<0.05	1.00	80
DUPLICATE	MD	960939-011	<0.05	<0.05	NC					
DUPLICATE	MD	960272-002	52.7	51.2	3					
PARAMETER:Selenium (Se), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/10/96 09:44 METHOD REFERENCE : SW-846 6010A					QC BATCH NUMBER:105255 TECHNICIAN:GCC	
BLANK	MB	3051	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	4.89			5.00	98			
STANDARD	ICV	Q1095	1.00			1.00	100			
SPIKE	MS	960939-007	1.01					<0.05	1.00	101
SPIKE	MS	960976-011	0.77					<0.05	1.00	77
DUPLICATE	MD	960939-001	<0.05	<0.05	NC					
DUPLICATE	MD	960939-011	<0.05	<0.05	NC					
DUPLICATE	MD	960976-001	<0.05	<0.05	NC					
PARAMETER:Silver (Ag), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/10/96 09:44 METHOD REFERENCE : SW-846 6010A					QC BATCH NUMBER:105256 TECHNICIAN:GCC	
BLANK	MB	3051	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	4.73			5.00	95			
STANDARD	ICV	1023C	0.99			1.00	99			
SPIKE	MS	960939-001	0.77					<0.05	1.00	77
SPIKE	MS	960976-001	0.83					<0.05	1.00	83
DUPLICATE	MD	960939-001	<0.05	<0.05	NC					
DUPLICATE	MD	960976-001	<0.05	<0.05	NC					

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Copper (Cu), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/10/96 09:44 METHOD REFERENCE : SW-846 6010A					QC BATCH NUMBER:105258 TECHNICIAN:GCC	
BLANK	MB	3051	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	4.99			5.00	100			
STANDARD	ICV	Q1095	1.00			1.00	100			
SPIKE	MS	960939-001	0.82					<0.05	1.00	82
SPIKE	MS	960976-001	1.04					0.09	1.00	95
DUPLICATE	MD	960939-001	<0.05	<0.05	NC					
DUPLICATE	MD	960939-011	<0.05	<0.05	NC					
PARAMETER:Iron (Fe), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/10/96 09:44 METHOD REFERENCE : SW-846 6010A					QC BATCH NUMBER:105259 TECHNICIAN:GCC	
BLANK	MB	3051	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	4.99			5.00	100			
[illegible]DARD	ICV	Q1095	1.01			1.00	101			
[illegible]	BS	960939-000	1.08					0	1.00	108
DU[illegible]ICATE	MD	960939-007	44.9	44.9	0					
DUPLICATE	MD	960939-010	7.38	7.36	0					
PARAMETER:Nickel (Ni), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/10/96 09:44 METHOD REFERENCE : SW-846 6010A					QC BATCH NUMBER:105260 TECHNICIAN:GCC	
BLANK	MB	3051	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	5.05			5.00	101			
STANDARD	ICV	Q1095	1.00			1.00	100			
SPIKE	MS	960939-001	0.82					<0.05	1.00	82
SPIKE	MS	960976-001	0.97					0.10	1.00	87
DUPLICATE	MD	960939-001	<0.05	<0.05	NC					
DUPLICATE	MD	960976-001	0.10	0.06	0.04					
PARAMETER:Zinc (Zn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/10/96 09:44 METHOD REFERENCE : SW-846 6010A					QC BATCH NUMBER:105262 TECHNICIAN:GCC	
BLANK	MB	3051	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	1013C	4.97			5.00	99			
STANDARD	ICV	Q1095	1.01			1.00	101			
SPIKE	MS	960939-001	0.88					0.08	1.00	80
SPIKE	MS	960976-001	1.55					0.57	1.00	98
DUPLICATE	MD	960939-001	0.08	0.08	0.00					
DUPLICATE	MD	960272-002	386	439	13					

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CORE LABORATORIES

QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Total Dissolved Solids (TDS)				DATE/TIME ANALYZED:04/08/96 16:00						QC BATCH NUMBER:105295
REPORTING LIMIT/DF: 40 UNITS:mg/L				METHOD REFERENCE :SM 18TH 2540 C						TECHNICIAN:CLB
BLANK	MB1040896	Di H2O	<40							
BLANK	MB2040896	Di H2O	<40							
STANDARD	RS	508.109.16	2280			2250	101			
STANDARD	LCS	508.109.15	2220			2250	99			
STANDARD	LCS 2	508.109.15	2270			2250	101			
SPIKE	MS	960939-33	3480					1080	2250	107
SPIKE	MS	960966-1	2270					260	2250	89
DUPLICATE	MD	960939-33	1080	1220	12					
DUPLICATE	MD	960966-1	260	280	7					
PARAMETER:Total Organic Carbon				DATE/TIME ANALYZED:04/11/96 11:00						QC BATCH NUMBER:105326
REPORTING LIMIT/DF: 1 UNITS:mg/L				METHOD REFERENCE :SM 18TH 5310 C						TECHNICIAN:SEB
BLANK	MB1 041196	Dist. H2O	<1							
STANDARD	LCS	508.113.29	1850			2000	92			
STANDARD	LCS	508.113.32	103			100	103			
STANDARD	LCS	508.114.1	10			10	100			
SPIKE	MS	960939-33	14					4	10	100
DUPLICATE	MD	960939-33	4	4	0					
PARAMETER:Chloride (Cl), total				DATE/TIME ANALYZED:04/11/96 09:00						QC BATCH NUMBER:105327
REPORTING LIMIT/DF: 1 UNITS:mg/L				METHOD REFERENCE :EPA 300.0						TECHNICIAN:SEB
BLANK	MB2 041196	Di H2O	<1							
BLANK	MB3 041196	Di H2O	<1							
STANDARD	LCS1	508.113.26	4.9			5.0	98			
STANDARD	LCS2	508.113.26	5.1			5.0	102			
SPIKE	MS	960939-33	2070					1060	1000	101
SPIKE	MS	960973-1	104000					55000	50000	98
DUPLICATE	MD	960939-33	1060	1050	1					
DUPLICATE	MD	960973-1	55000	51200	7					
PARAMETER:Sulfate (SO4), total				DATE/TIME ANALYZED:04/11/96 09:00						QC BATCH NUMBER:105328
REPORTING LIMIT/DF: 2 UNITS:mg/L				METHOD REFERENCE :EPA 300.0						TECHNICIAN:SEB
BLANK	MB2 041196	Di H2O	<2							
BLANK	MB3 041196	Di H2O	<2							
STANDARD	LCS1	508.113.26	19.4			20.0	97			
STANDARD	LCS2	508.113.26	20.3			20.0	102			
SPIKE	MS	960939-33	980					470	500	102
SPIKE	MS	960973-1	190					<20	200	95
DUPLICATE	MD	960973-1	<2	<2	NC					
PARAMETER:Arsenic (As), total				DATE/TIME ANALYZED:04/11/96 12:51						QC BATCH NUMBER:105330
REPORTING LIMIT/DF: 0.05 UNITS:mg/L				METHOD REFERENCE : 200.7						TECHNICIAN:GCC
BLANK	MB	3010	<0.05							

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04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Arsenic (As), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105330 TECHNICIAN:GCC	
BLANK	MB	3005	<0.05							
STANDARD	ICV	Q1095	0.96			1.00	96			
STANDARD	CCV	1013C	4.99			5.00	100			
SPIKE	MS	960939-033	0.83					<0.05	1.00	83
DUPLICATE	MD	960939-033	<0.05	<0.05	NC					
PARAMETER:Barium (Ba), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105331 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	3005	<0.05							
STANDARD	CCV	1013C	4.98			5.00	100			
STANDARD	ICV	1023C	0.99			1.00	99			
SPIKE	MS	960939-033	0.92					0.05	1.00	87
DUPLICATE	MD	960939-033	0.05	0.06	0.01					
PARAMETER:Cadmium (Cd), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105332 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	3005	<0.05							
STANDARD	CCV	1013C	4.97			5.00	99			
STANDARD	ICV	Q1095	0.97			1.00	97			
SPIKE	MS	960939-033	0.84					<0.05	1.00	84
DUPLICATE	MD	960939-033	<0.05	<0.05	NC					
PARAMETER:Chromium (Cr), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105333 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	3005	<0.05							
STANDARD	CCV	1013C	5.00			5.00	100			
STANDARD	ICV	Q1095	1.00			1.00	100			
SPIKE	MS	960939-033	0.84					<0.05	1.00	84
DUPLICATE	MD	960939-033	<0.05	<0.05	NC					
PARAMETER:Lead (Pb), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105334 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	3005	<0.05							
STANDARD	CCV	1013C	5.06			5.00	101			
STANDARD	ICV	Q1095	0.99			1.00	99			
SPIKE	MS	960939-033	0.82					<0.05	1.00	82
DUPLICATE	MD	960939-033	<0.05	<0.05	NC					

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Selenium (Se), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105335 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	3005	<0.05							
STANDARD	CCV	1013C	5.00			5.00	100			
STANDARD	ICV	Q1095	0.98			1.00	98			
SPIKE	MS	960939-033	0.83					<0.05	1.00	83
DUPLICATE	MD	960939-033	<0.05	<0.05	NC					
PARAMETER:Silver (Ag), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105336 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	3005	<0.05							
STANDARD	CCV	1013C	5.06			5.00	101			
STANDARD	ICV	1023C	0.97			1.00	97			
SPIKE	MS	960939-033	0.81					<0.05	1.00	81
[illegible]ICATE	MD	960939-033	<0.05	<0.05	NC					
PARAMETER:Copper (Cu), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105337 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	3005	<0.05							
STANDARD	ICV	Q1095	1.00			1.00	100			
STANDARD	CCV	1013C	5.06			5.00	101			
SPIKE	MS	960939-033	0.89					<0.05	1.00	89
DUPLICATE	MD	960939-033	<0.05	<0.05	NC					
PARAMETER:Iron (Fe), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105338 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	3005	<0.05							
STANDARD	ICV	Q1095	0.97			1.00	97			
STANDARD	CCV	1013C	5.06			5.00	101			
SPIKE	MS	960933-001	1.01					0.05	1.00	96
DUPLICATE	MD	960933-001	0.05	0.06	0.01					
PARAMETER:Manganese (Mn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105339 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	3005	<0.05							
STANDARD	CCV	1013C	5.00			5.00	100			
STANDARD	ICV	Q1095	0.98			1.00	98			
SPIKE	MS	960939-033	0.87					<0.05	1.00	87
DUPLICATE	MD	960939-033	<0.05	<0.05	NC					

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JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Manganese (Mn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105339 TECHNICIAN:GCC	
PARAMETER:Nickel (Ni), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105340 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	3005	<0.05							
STANDARD	CCV	1013C	5.05			5.00	101			
STANDARD	ICV	Q1095	0.98			1.00	98			
SPIKE	MS	960939-033	0.85					<0.05	1.00	85
DUPLICATE	MD	960939-033	<0.05	<0.05	NC					
PARAMETER:Zinc (Zn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 12:51 METHOD REFERENCE : 200.7					QC BATCH NUMBER:105341 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
[illegible]	MB	3005	<0.05							
[illegible]DARD	CCV	1013C	5.02			5.00	100			
STANDARD	ICV	Q1095	0.98			1.00	98			
SPIKE	MS	960939-033	0.98					0.12	1.00	86
DUPLICATE	MD	960939-033	0.12	0.15	0.03					
PARAMETER:Cyanide, Total REPORTING LIMIT/DF: 1 UNITS:mg/kg				DATE/TIME ANALYZED:04/11/96 08:00 METHOD REFERENCE :EPA SW-846 9010A					QC BATCH NUMBER:105416 TECHNICIAN:GB	
BLANK	MB 041196	Di H2O	<1							
STANDARD	LCS 1	508.115.14	10.5			9.7	108			
SPIKE	MS	960939-24	2.1					<1	2.5	84
DUPLICATE	MD	960939-24	<1	<1	NC					
PARAMETER:Cyanide, Total (CN) REPORTING LIMIT/DF: 0.02 UNITS:mg/L				DATE/TIME ANALYZED:04/11/96 08:00 METHOD REFERENCE :EPA 335.2					QC BATCH NUMBER:105417 TECHNICIAN:GB	
BLANK	MB1041196	Di H2O	<0.02							
BLANK	MB2041296	Di H2O	<0.02							
STANDARD	LCS 1	508.115.14	0.21			0.20	105			
STANDARD	LCS 2	508.115.14	0.20			0.20	100			
SPIKE	MS	960939-33	0.09					<0.02	0.10	90
SPIKE	MS	960988-4	0.04					<0.02	0.05	80
DUPLICATE	MD	960939-33	<0.02	<0.02	NC					
DUPLICATE	MD	960988-4	<0.02	<0.02	NC					
PARAMETER:Mercury (Hg), total REPORTING LIMIT/DF: UNITS:mg/kg				DATE/TIME ANALYZED:04/12/96 06:00 METHOD REFERENCE :EPA SW-846 7471					QC BATCH NUMBER:105442 TECHNICIAN:EBS	
BLANK	MB	DI H2O	<0.09							
STANDARD	RS	507.6.8	0.018			0.020	90			

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ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Mercury (Hg), total				DATE/TIME ANALYZED:04/12/96 06:00						QC BATCH NUMBER:105442
REPORTING LIMIT/DF: UNITS:mg/kg				METHOD REFERENCE :EPA SW-846 7471						TECHNICIAN:EBS
SPIKE	MS	960939-17	1.78					<0.09	1.85	96
SPIKE	MS	960962-2	0.40					<0.09	0.43	93
DUPLICATE	MD	960939-17	<0.09	<0.09	0.00					
DUPLICATE	MD	960962-2	<0.09	<0.09	0.00					
PARAMETER:Phenolics				DATE/TIME ANALYZED:04/15/96 06:00						QC BATCH NUMBER:105641
REPORTING LIMIT/DF: 0.005 UNITS:mg/L				METHOD REFERENCE :EPA 420.1						TECHNICIAN:DEH
BLANK	MB1041596	Di H2O	<0.005							
BLANK	MB2041596	Di H2O	<0.005							
STANDARD	LCS1	508.115.29	0.051			0.050	102			
STANDARD	LCS2	508.115.29	0.052			0.050	104			
SPIKE	MS	960928-4	0.094					0.020	0.075	99
SPIKE	MS	960954-1	0.064					0.007	0.060	95
DUPLICATE	MD	960928-4	0.020	0.025	0.005					
DUPLICATE	MD	960954-1	0.007	0.007	0.000					
PARAMETER:Mercury (Hg), total				DATE/TIME ANALYZED:04/16/96 10:00						QC BATCH NUMBER:105753
REPORTING LIMIT/DF: 0.002 UNITS:mg/L				METHOD REFERENCE :EPA 245.1/7470						TECHNICIAN:EBS
BLANK	MB	DI H2O	<0.002							
STANDARD	RS	507.6.8	0.011			0.010	110			
SPIKE	MS	960939-33	0.051					<0.002	0.050	102
SPIKE	MS	960939-34	0.051					<0.002	0.050	102
SPIKE	MS	960986-1	0.050					<0.002	0.050	100
DUPLICATE	MD	960939-33	<0.002	<0.002	NC					
DUPLICATE	MD	960939-34	<0.002	<0.002	NC					
DUPLICATE	MD	960986-1	<0.002	<0.002	NC					
PARAMETER:Mercury (Hg), total				DATE/TIME ANALYZED:04/16/96 10:00						QC BATCH NUMBER:105754
REPORTING LIMIT/DF: 0.09 UNITS:mg/kg				METHOD REFERENCE :EPA SW-846 7471						TECHNICIAN:EBS
BLANK	MB	DI H2O	<0.09							
STANDARD	RS	507.6.8	<0.09			<0.09	NC			
SPIKE	MS	960939-45	0.99					<0.09	1.04	95
PARAMETER:Arsenic (As), total				DATE/TIME ANALYZED:04/18/96 12:12						QC BATCH NUMBER:105873
REPORTING LIMIT/DF: 0.05 UNITS:mg/L				METHOD REFERENCE : 200.7/6010A						TECHNICIAN:GCC
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	1013C	5.13			5.00	103			
STANDARD	ICV	Q1095	1.05			1.00	105			
SPIKE	MS	960912-011	1.01					<0.05	1.00	101
DUPLICATE	MD	960912-011	<0.05	<0.05	NC					

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ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Barium (Ba), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105874 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	ICV	1023C	0.99			1.00	99			
STANDARD	CCV	1013C	5.11			5.00	102			
SPIKE	MS	960912-011	1.16					0.24	1.00	92
SPIKE	MS	960928-009	0.83					<0.05	1.00	83
DUPLICATE	MD	960912-011	0.24	0.23	0.01					
DUPLICATE	MD	960928-009	<0.05	<0.05	NC					
PARAMETER:Cadmium (Cd), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105875 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	1013C	5.03			5.00	101			
[illegible]DARD	ICV	Q1095	1.00			1.00	100			
[illegible]E	MS	960912-011	0.98					<0.05	1.00	98
SPIKE	MS	960928-009	0.80					<0.05	1.00	80
DUPLICATE	MD	960912-011	<0.05	<0.05	NC					
DUPLICATE	MD	960928-009	<0.05	<0.05	NC					
PARAMETER:Chromium (Cr), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105876 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	1013C	5.10			5.00	102			
STANDARD	ICV	Q1095	1.03			1.00	103			
SPIKE	MS	960912-011	0.95					<0.05	1.00	95
SPIKE	MS	960928-009	0.81					<0.05	1.00	81
DUPLICATE	MD	960912-011	<0.05	<0.05	NC					
DUPLICATE	MD	960928-009	<0.05	<0.05	NC					
PARAMETER:Lead (Pb), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105877 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	1013C	5.11			5.00	102			
STANDARD	ICV	Q1095	1.04			1.00	104			
SPIKE	MS	960912-011	0.94					0.05	1.00	89
DUPLICATE	MD	960912-011	0.05	0	0.05					
DUPLICATE	MD	960928-009	0.05	0	0.05					

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ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Selenium (Se), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105878 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	1013C	5.17			5.00	103			
STANDARD	ICV	Q1095	1.05			1.00	105			
SPIKE	MS	960912-011	1.11					0.09	1.00	102
SPIKE	MS	960928-009	0.94					0.11	1.00	83
DUPLICATE	MD	960912-011	0.09	0.10	0.01					
PARAMETER:Silver (Ag), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105879 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
BLANK	MB	3051	<0.05							
STANDARD	ICV	1023C	0.98			1.00	98			
[illegible]DARD	CCV	1013C	5.12			5.00	102			
[illegible]E	MS	960912-011	0.94					<0.05	1.00	94
DUPLICATE	MD	960912-011	<0.05	<0.05	NC					
DUPLICATE	MD	960928-009	<0.05	<0.05	NC					
PARAMETER:Copper (Cu), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105882 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	1013C	5.19			5.00	104			
STANDARD	ICV	Q1095	1.04			1.00	104			
SPIKE	MS	960912-011	1.01					<0.05	1.00	101
SPIKE	MS	960928-009	0.84					<0.05	1.00	84
DUPLICATE	MD	960912-011	<0.05	<0.05	NC					
DUPLICATE	MD	960928-009	<0.05	<0.05	NC					
PARAMETER:Iron (Fe), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105883 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	1013C	5.24			5.00	105			
STANDARD	ICV	Q1095	1.02			1.00	102			
SPIKE	MS	960912-011	1.04					0.10	1.00	94
DUPLICATE	MD	960912-011	0.10	0.10	0.00					
PARAMETER:Manganese (Mn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105884 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Manganese (Mn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105884 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	CCV	1013C	5.10			5.00	102			
STANDARD	ICV	Q1095	1.01			1.00	101			
SPIKE	MS	960912-011	0.96					<0.05	1.00	96
SPIKE	MS	960928-009	0.82					<0.05	1.00	82
DUPLICATE	MD	960912-011	<0.05	<0.05	NC					
DUPLICATE	MD	960928-009	<0.05	<0.05	NC					
PARAMETER:Nickel (Ni), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105885 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	1013C	5.19			5.00	104			
STANDARD	ICV	Q1095	1.02			1.00	102			
[illegible]	MS	960912-011	0.95					<0.05	1.00	95
[illegible]	MS	960928-009	0.82					<0.05	1.00	82
DUPLICATE	MD	960912-011	<0.05	<0.05	NC					
DUPLICATE	MD	960928-009	<0.05	<0.05	NC					
PARAMETER:Zinc (Zn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:04/18/96 12:12 METHOD REFERENCE : 200.7/6010A					QC BATCH NUMBER:105886 TECHNICIAN:GCC	
BLANK	MB	3010	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	1013C	5.12			5.00	102			
STANDARD	ICV	Q1095	1.02			1.00	102			
SPIKE	MS	960912-011	1.10					0.17	1.00	93
SPIKE	MS	960928-009	0.99					0.17	1.00	82
DUPLICATE	MD	960912-011	0.17	0.16	0.01					
DUPLICATE	MD	960928-009	0.17	0.17	0.00					
PARAMETER:Total Organic Halogen (TOX) REPORTING LIMIT/DF: 0.15 UNITS:mg/L				DATE/TIME ANALYZED:04/17/96 08:00 METHOD REFERENCE :EPA SW-846 9020B					QC BATCH NUMBER:106116 TECHNICIAN:EBS	
BLANK	MB	Dist H2O	<0.15							
STANDARD	RS	507.4.11	1005			1000	100			
SPIKE	MS	960939-37	1.55					0.52	1.00	103
SPIKE	MS	960918-8	48.4					40.2	8.64	95
DUPLICATE	MD	960939-37	0.52	0.55	0.03					
DUPLICATE	MD	960918-8	40.2	37.7	6					
PARAMETER:Total Dissolved Solids (TDS) REPORTING LIMIT/DF: 40 UNITS:mg/L				DATE/TIME ANALYZED:04/26/96 08:00 METHOD REFERENCE :SM 18TH 2540 C					QC BATCH NUMBER:106681 TECHNICIAN:CLB	
BLANK	MB	Di H2O	<40							

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JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Total Dissolved Solids (TDS) DATE/TIME ANALYZED:04/26/96 08:00 QC BATCH NUMBER:106681										
REPORTING LIMIT/DF: 40 UNITS:mg/L METHOD REFERENCE :SM 18TH 2540 C TECHNICIAN:CLB										
STANDARD	RS	508.109.16	2120			2250	94			
STANDARD	LCS	508.109.15	2090			2250	93			
SPIKE	MS	960939-33	3220					1070	2250	96
DUPLICATE	MD	960939-33	1070	1070	0					

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04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/04/96 TIME ANALYZED: 11:27 METHOD: EPA SW-846 8260 QC NUMBER:105130

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8260, All Target Compounds	MB	040496	1	0	0	ug/L

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Volatiles Matrix Spike Compounds DATE ANALYZED: 04/04/96 TIME ANALYZED: 11:27 METHOD: EPA SW-846 8260 QC NUMBER:105130

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Chloromethane	CC	531.16.1	1	106	100	106	10	ug/L
Vinyl chloride	CC	531.16.1	1	117	100	117	5	ug/L
1,1-Dichloroethene	CC	531.16.1	1	111	100	111	5	ug/L
1,1-Dichloroethane	CC	531.16.1	1	106	100	106	5	ug/L
Chloroform	CC	531.16.1	1	109	100	109	5	ug/L
Benzene	CC	531.16.1	1	110	100	110	5	ug/L
Trichloroethene	CC	531.16.1	1	102	100	102	5	ug/L
1,2-Dichloropropane	CC	531.16.1	1	104	100	104	5	ug/L
Toluene	CC	531.16.1	1	106	100	106	5	ug/L
Chlorobenzene	CC	531.16.1	1	105	100	105	5	ug/L
Ethylbenzene	CC	531.16.1	1	107	100	107	5	ug/L
Bromoform	CC	531.16.1	1	100	100	100	5	ug/L
1,1,2,2-Tetrachloroethane	CC	531.16.1	1	99	100	99	5	ug/L
Dibromofluoromethane(Surrogate)	CC	531.16.1	1	55	50	110	5	ug/L
Toluene d-8 (Surrogate)	CC	531.16.1	1	50	50	100	5	ug/L
Bromofluorobenzene(Surrogate)	CC	531.16.1	1	47	50	94	5	ug/L

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Volatiles Matrix Spike Compounds DATE ANALYZED: 04/04/96 TIME ANALYZED: 11:27 METHOD: EPA SW-846 8260 QC NUMBER:105130

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
1,1-Dichloroethene	MS	960889-1	1	22	0	20	110	5	ug/L
	MSD	960889-1	1	18	0	20	90	5	ug/L
Benzene	MS	960889-1	1	20	0	20	100	5	ug/L
	MSD	960889-1	1	19	0	20	95	5	ug/L
Trichloroethene	MS	960889-1	1	19	0	20	95	5	ug/L
	MSD	960889-1	1	19	0	20	95	5	ug/L
Toluene	MS	960889-1	1	20	0	20	100	5	ug/L
	MSD	960889-1	1	19	0	20	95	5	ug/L
Chlorobenzene	MS	960889-1	1	20	0	20	100	5	ug/L
	MSD	960889-1	1	20	0	20	100	5	ug/L
Dibromofluoromethane(Surrogate	MB	040496-00	1	56	0	50	112	5	ug/L
Toluene d-8 (Surrogate)	MB	040496-00	1	51	0	50	102	5	ug/L
4-Bromofluorobenzene(Surrogate	MB	040496-00	1	45	0	50	90	5	ug/L

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JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/11/96 TIME ANALYZED: 14:36 METHOD: EPA SW-846 8260 QC NUMBER:105435

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8260, All Target Compounds	MB	041196	1	0	0	ug/kg

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Volatiles Matrix Spike Compounds DATE ANALYZED: 04/11/96 TIME ANALYZED: 14:36 METHOD: EPA SW-846 8260 QC NUMBER:105435

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Chloromethane	CC	531.18.6	1	118	100	118	50	ug/kg
Vinyl chloride	CC	531.18.6	1	86	100	86	50	ug/kg
1,1-Dichloroethene	CC	531.18.6	1	108	100	108	10	ug/kg
1,1-Dichloroethane	CC	531.18.6	1	111	100	111	50	ug/kg
Chloroform	CC	531.18.6	1	97	100	97	50	ug/kg
Benzene	CC	531.18.6	1	97	100	97	10	ug/kg
Trichloroethene	CC	531.18.6	1	95	100	95	10	ug/kg
1,2-Dichloropropane	CC	531.18.6	1	96	100	96	50	ug/kg
Toluene	CC	531.18.6	1	99	100	99	10	ug/kg
Chlorobenzene	CC	531.18.6	1	91	100	91	10	ug/kg
Ethylbenzene	CC	531.18.6	1	92	100	92	50	ug/kg
Bromoform	CC	531.18.6	1	81	100	81	50	ug/kg
1,1,2,2-Tetrachloroethane	CC	531.18.6	1	108	100	108	50	ug/kg
Dibromofluoromethane(Surrogate)	CC	531.18.6	1	52	50	104	5	ug/kg
[illegible]ene d-8 (Surrogate)	CC	531.18.6	1	50	50	100	5	ug/kg
[illegible]omofluorobenzene(Surrogate)	CC	531.18.6	1	43	50	86	5	ug/kg

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Volatiles Matrix Spike Compounds DATE ANALYZED: 04/11/96 TIME ANALYZED: 14:36 METHOD: EPA SW-846 8260 QC NUMBER:105435

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
1,1-Dichloroethene	MS	960939-25	1	55	0	50	110	10	ug/kg
	MSD	960939-25	1	46	0	50	92	10	ug/kg
Benzene	MS	960939-25	1	45	0	50	90	10	ug/kg
	MSD	960939-25	1	45	0	50	90	10	ug/kg
Trichloroethene	MS	960939-25	1	44	0	50	88	10	ug/kg
	MSD	960939-25	1	41	0	50	82	10	ug/kg
Toluene	MS	960939-25	1	46	0	50	92	10	ug/kg
	MSD	960939-25	1	47	0	50	94	10	ug/kg
Chlorobenzene	MS	960939-25	1	45	0	50	90	10	ug/kg
	MSD	960939-25	1	41	0	50	82	10	ug/kg
Dibromofluoromethane(Surrogate	MB	041196-00	1	54	0	50	108	5	ug/kg
Toluene d-8 (Surrogate)	MB	041196-00	1	52	0	50	104	5	ug/kg
4-Bromofluorobenzene(Surrogate	MB	041196-00	1	45	0	50	90	5	ug/kg

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JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/05/96 TIME ANALYZED: 16:26 METHOD: EPA SW-846 8260 QC NUMBER:105520

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8260, All Target Compounds	MB	040596	1	0	0	ug/kg

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Volatiles Matrix Spike Compounds DATE ANALYZED: 04/05/96 TIME ANALYZED: 16:26 METHOD: EPA SW-846 8260 QC NUMBER:105520

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Chloromethane	CC	531.16.1	1	92	100	92	50	ug/kg
Vinyl chloride	CC	531.16.1	1	106	100	106	50	ug/kg
1,1-Dichloroethene	CC	531.16.1	1	106	100	106	10	ug/kg
1,1-Dichloroethane	CC	531.16.1	1	103	100	103	50	ug/kg
Chloroform	CC	531.16.1	1	100	100	100	50	ug/kg
Benzene	CC	531.16.1	1	95	100	95	10	ug/kg
Trichloroethene	CC	531.16.1	1	92	100	92	10	ug/kg
1,2-Dichloropropane	CC	531.16.1	1	92	100	92	50	ug/kg
Toluene	CC	531.16.1	1	95	100	95	10	ug/kg
Chlorobenzene	CC	531.16.1	1	95	100	95	10	ug/kg
Ethylbenzene	CC	531.16.1	1	97	100	97	50	ug/kg
Bromoform	CC	531.16.1	1	84	100	84	50	ug/kg
1,1,2,2-Tetrachloroethane	CC	531.16.1	1	105	100	105	50	ug/kg
Dibromofluoromethane(Surrogate)	CC	531.16.1	1	54	50	108	5	ug/kg
[illegible]ene d-8 (Surrogate)	CC	531.16.1	1	49	50	98	5	ug/kg
[illegible]mofluorobenzene(Surrogate)	CC	531.16.1	1	45	50	90	5	ug/kg

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Volatiles Matrix Spike Compounds DATE ANALYZED: 04/05/96 TIME ANALYZED: 16:26 METHOD: EPA SW-846 8260 QC NUMBER:105520

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
1,1-Dichloroethene	MS	960939-1	1	54	0	50	108	10	ug/kg
	MSD	960939-1	1	58	0	50	116	10	ug/kg
Benzene	MS	960939-1	1	46	0	50	92	10	ug/kg
	MSD	960939-1	1	46	0	50	92	10	ug/kg
Trichloroethene	MS	960939-1	1	44	0	50	88	10	ug/kg
	MSD	960939-1	1	45	0	50	90	10	ug/kg
Toluene	MS	960939-1	1	46	0	50	92	10	ug/kg
	MSD	960939-1	1	48	0	50	96	10	ug/kg
Chlorobenzene	MS	960939-1	1	44	0	50	88	10	ug/kg
	MSD	960939-1	1	46	0	50	92	10	ug/kg
Dibromofluoromethane(Surrogate	MB	040596-00	1	53	0	50	106	5	ug/kg
Toluene d-8 (Surrogate)	MB	040596-00	1	51	0	50	102	5	ug/kg
4-Bromofluorobenzene(Surrogate	MB	040596-00	1	44	0	50	88	5	ug/kg

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/10/96 TIME ANALYZED: 12:06 METHOD: EPA SW-846 8260 QC NUMBER:105536

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8260, All Target Compounds	MB	041096	1	0	0	ug/kg

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/10/96 TIME ANALYZED: 12:06 METHOD: EPA SW-846 8260 QC NUMBER:105536

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Chloromethane	CC	531.18.6	1	103	100	103	50	ug/kg
Vinyl chloride	CC	531.18.6	1	107	100	107	50	ug/kg
1,1-Dichloroethene	CC	531.18.6	1	111	100	111	10	ug/kg
1,1-Dichloroethane	CC	531.18.6	1	100	100	100	50	ug/kg
Chloroform	CC	531.18.6	1	102	100	102	50	ug/kg
Benzene	CC	531.18.6	1	93	100	93	10	ug/kg
Trichloroethene	CC	531.18.6	1	87	100	87	10	ug/kg
1,2-Dichloropropane	CC	531.18.6	1	95	100	95	50	ug/kg
Toluene	CC	531.18.6	1	92	100	92	10	ug/kg
Chlorobenzene	CC	531.18.6	1	85	100	85	10	ug/kg
Ethylbenzene	CC	531.18.6	1	89	100	89	50	ug/kg
Bromoform	CC	531.18.6	1	83	100	83	50	ug/kg
1,1,2,2-Tetrachloroethane	CC	531.18.6	1	114	100	114	50	ug/kg
Dibromofluoromethane(Surrogate)	CC	531.18.6	1	52	50	104	5	ug/kg
[illegible]ene d-8 (Surrogate)	CC	531.18.6	1	49	50	98	5	ug/kg
[illegible]mofluorobenzene(Surrogate)	CC	531.18.6	1	47	50	94	5	ug/kg

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QUALITY ASSURANCE REPORT
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JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/10/96 TIME ANALYZED: 12:06 METHOD: EPA SW-846 8260 QC NUMBER:105536

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
1,1-Dichloroethene	MS	960933-1	1	580	0	500	116	10	ug/kg
	MSD	960933-1	1	610	0	500	122	10	ug/kg
Benzene	MS	960933-1	1	500	0	500	100	10	ug/kg
	MSD	960933-1	1	520	0	500	104	10	ug/kg
Trichloroethene	MS	960933-1	1	460	0	500	92	10	ug/kg
	MSD	960933-1	1	460	0	500	92	10	ug/kg
Toluene	MS	960933-1	1	510	0	500	102	10	ug/kg
	MSD	960933-1	1	510	0	500	102	10	ug/kg
Chlorobenzene	MS	960933-1	1	450	0	500	90	10	ug/kg
	MSD	960933-1	1	480	0	500	96	10	ug/kg
Dibromofluoromethane(Surrogate	MB	041096-00	1	52	0	50	104	5	ug/kg
Toluene d-8 (Surrogate)	MB	041096-00	1	51	0	50	102	5	ug/kg
4-Bromofluorobenzene(Surrogate	MB	041096-00	1	46	0	50	92	5	ug/kg

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[illegible]

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

BNA Matrix Spike Compounds (Soil) DATE ANALYZED: 04/11/96 TIME ANALYZED: 10:04 METHOD: EPA SW-846 8270B QC NUMBER:105617

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8270B, All Target Compounds	MB	040896	1	0	0	ug/kg
	MB	041196	1	0	0	ug/kg

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JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

BNA Matrix Spike Compounds (Soil) DATE ANALYZED: 04/11/96 TIME ANALYZED: 10:04 METHOD: EPA SW-846 8270B QC NUMBER:105617

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Acenaphthene	BS	040896-00	1	3500	0	3300	106	330	ug/kg
	MS	960934-1	1	8000	0	10000	80	330	ug/kg
	MSD	960934-1	1	7700	0	10000	77	330	ug/kg
	MS	960939-1	1	3200	0	3300	97	330	ug/kg
	MSD	960939-1	1	3200	0	3300	97	330	ug/kg
	BS	041196-00	1	2800	0	3300	85	330	ug/kg
4-Chloro-3-methylphenol	BS	040896-00	1	5800	0	6600	88	330	ug/kg
	MS	960934-1	1	11000	0	20000	55	330	ug/kg
	MSD	960934-1	1	10000	0	20000	50	330	ug/kg
	MS	960939-1	1	5500	0	6600	83	330	ug/kg
	MSD	960939-1	1	5600	0	6600	85	330	ug/kg
	BS	041196-00	1	6100	0	6600	92	330	ug/kg
2-Chlorophenol	BS	040896-00	1	4700	0	6600	71	330	ug/kg
	MS	960934-1	1	10000	0	20000	50	330	ug/kg
	MSD	960934-1	1	9700	0	20000	48	330	ug/kg
	MS	960939-1	1	4300	0	6600	65	330	ug/kg
	MSD	960939-1	1	4400	0	6600	67	330	ug/kg
	BS	041196-00	1	4600	0	6600	70	330	ug/kg
1,4-Dichlorobenzene	BS	040896-00	1	3500	0	3300	106	330	ug/kg
	MS	960934-1	1	8000	0	10000	80	330	ug/kg
	MSD	960934-1	1	7500	0	10000	75	330	ug/kg
	MS	960939-1	1	3200	0	3300	97	330	ug/kg
	MSD	960939-1	1	3300	0	3300	100	330	ug/kg
	BS	041196-00	1	2700	0	3300	82	330	ug/kg
2,4-Dinitrotoluene	BS	040896-00	1	3300	0	3300	100	330	ug/kg
	MS	960934-1	1	5400	0	10000	54	330	ug/kg
	MSD	960934-1	1	4900	0	10000	49	330	ug/kg
	MS	960939-1	1	2900	0	3300	88	330	ug/kg
	MSD	960939-1	1	3000	0	3300	91	330	ug/kg
	BS	041196-00	1	2600	0	3300	79	330	ug/kg
4-Nitrophenol	BS	040896-00	1	4500	0	6600	68	1650	ug/kg
	MS	960934-1	1	7300	0	20000	36	1650	ug/kg
	MSD	960934-1	1	6600	0	20000	33	1650	ug/kg
	MS	960939-1	1	4200	0	6600	64	1650	ug/kg
	MSD	960939-1	1	4700	0	6600	71	1650	ug/kg
	BS	041196-00	1	5000	0	6600	76	1650	ug/kg
N-Nitrosodi-n-propylamine	BS	040896-00	1	3700	0	3300	112	330	ug/kg
	MS	960934-1	1	7100	0	10000	71	330	ug/kg
	MSD	960934-1	1	7100	0	10000	71	330	ug/kg
	MS	960939-1	1	3300	0	3300	100	330	ug/kg
	MSD	960939-1	1	3400	0	3300	103	330	ug/kg
	BS	041196-00	1	3000	0	3300	91	330	ug/kg
Pentachlorophenol	BS	040896-00	1	4800	0	6600	73	1650	ug/kg
	MS	960934-1	1	8400	0	20000	42	1650	ug/kg
	MSD	960934-1	1	6200	0	20000	31	1650	ug/kg

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

BNA Matrix Spike Compounds (Soil) DATE ANALYZED: 04/11/96 TIME ANALYZED: 10:04 METHOD: EPA SW-846 8270B QC NUMBER:105617

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
	MS	960939-1	1	5300	0	6600	80	1650	ug/kg
	MSD	960939-1	1	5700	0	6600	86	1650	ug/kg
	BS	041196-00	1	5700	0	6600	86	1650	ug/kg
Phenol	BS	040896-00	1	4900	0	6600	74	330	ug/kg
	MS	960934-1	1	11000	0	20000	55	330	ug/kg
	MSD	960934-1	1	10000	0	20000	50	330	ug/kg
	MS	960939-1	1	4500	0	6600	68	330	ug/kg
	MSD	960939-1	1	4600	0	6600	70	330	ug/kg
	BS	041196-00	1	4900	0	6600	74	330	ug/kg
Pyrene	BS	040896-00	1	3600	0	3300	109	330	ug/kg
	MS	960934-1	1	8000	0	10000	80	330	ug/kg
	MSD	960934-1	1	7600	0	10000	76	330	ug/kg
	MS	960939-1	1	3300	0	3300	100	330	ug/kg
	MSD	960939-1	1	3300	0	3300	100	330	ug/kg
	BS	041196-00	1	3100	0	3300	94	330	ug/kg
-Trichlorobenzene	BS	040896-00	1	3600	0	3300	109	330	ug/kg
	MS	960934-1	1	8100	0	10000	81	330	ug/kg
	MSD	960934-1	1	7800	0	10000	78	330	ug/kg
	MS	960939-1	1	3300	0	3300	100	330	ug/kg
	MSD	960939-1	1	3300	0	3300	100	330	ug/kg
	BS	041196-00	1	2800	0	3300	85	330	ug/kg

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

BNA Matrix Spike Compounds DATE ANALYZED: 04/14/96 TIME ANALYZED: 12:47 METHOD: EPA SW-846 8270B QC NUMBER:105622

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8270B, All Target Compounds	MB	040996	1	0	0	ug/L

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BNA Matrix Spike Compounds DATE ANALYZED: 04/14/96 TIME ANALYZED: 12:47 METHOD: EPA SW-846 8270B QC NUMBER:105622

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Acenaphthene	BS	040996-00	1	110	0	100	110	10	ug/L
	MS	960939-33	1	380	0	600	63	10	ug/L
	MSD	960939-33	1	350	0	600	58	10	ug/L
4-Chloro-3-methylphenol	BS	040996-00	1	170	0	200	85	20	ug/L
	MS	960939-33	1	630	0	600	105	20	ug/L
	MSD	960939-33	1	590	0	600	98	20	ug/L
2-Chlorophenol	BS	040996-00	1	130	0	200	65	10	ug/L
	MS	960939-33	1	480	0	600	80	10	ug/L
	MSD	960939-33	1	460	0	600	77	10	ug/L
1,4-Dichlorobenzene	BS	040996-00	1	83	0	100	83	10	ug/L
	MS	960939-33	1	280	0	600	47	10	ug/L
	MSD	960939-33	1	240	0	600	40	10	ug/L
2,4-Dinitrotoluene	BS	040996-00	1	110	0	100	110	10	ug/L
	MS	960939-33	1	390	0	600	65	10	ug/L
	MSD	960939-33	1	360	0	600	60	10	ug/L
[illegible]trophenol	BS	040996-00	1	160	0	200	80	50	ug/L
	MS	960939-33	1	580	0	600	97	50	ug/L
	MSD	960939-33	1	550	0	600	92	50	ug/L
N-Nitrosodi-n-propylamine	BS	040996-00	1	120	0	100	120	10	ug/L
	MS	960939-33	1	400	0	600	67	10	ug/L
	MSD	960939-33	1	380	0	600	63	10	ug/L
Pentachlorophenol	BS	040996-00	1	180	0	200	90	50	ug/L
	MS	960933-33	1	680	0	600	113	50	ug/L
	MSD	960939-33	1	620	0	600	103	50	ug/L
Phenol	BS	040996-00	1	140	0	200	70	10	ug/L
	MS	960939-33	1	500	0	600	83	10	ug/L
	MSD	960939-33	1	480	0	600	80	10	ug/L
Pyrene	BS	040996-00	1	120	0	100	120	10	ug/L
	MS	960939-33	1	420	0	600	70	10	ug/L
	MSD	960939-33	1	400	0	600	67	10	ug/L
1,2,4-Trichlorobenzene	BS	040996-00	1	84	0	100	84	10	ug/L
	MS	960939-33	1	280	0	600	47	10	ug/L
	MSD	960939-33	1	250	0	600	42	10	ug/L

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/11/96 TIME ANALYZED: 08:25 METHOD: EPA SW-846 8260 QC NUMBER:105722

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8260, All Target Compounds	MB	041196	1	0	0	ug/L

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QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/11/96 TIME ANALYZED: 08:25 METHOD: EPA SW-846 8260 QC NUMBER:105722

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Chloromethane	CC	531.18.6	1	112	100	112	10	ug/L
Vinyl chloride	CC	531.18.6	1	101	100	101	5	ug/L
1,1-Dichloroethene	CC	531.18.6	1	104	100	104	5	ug/L
1,1-Dichloroethane	CC	531.18.6	1	101	100	101	5	ug/L
Chloroform	CC	531.18.6	1	104	100	104	5	ug/L
Benzene	CC	531.18.6	1	100	100	100	5	ug/L
Trichloroethene	CC	531.18.6	1	109	100	109	5	ug/L
1,2-Dichloropropane	CC	531.18.6	1	104	100	104	5	ug/L
Toluene	CC	531.18.6	1	105	100	105	5	ug/L
Chlorobenzene	CC	531.18.6	1	110	100	110	5	ug/L
Ethylbenzene	CC	531.18.6	1	109	100	109	5	ug/L
Bromoform	CC	531.18.6	1	114	100	114	5	ug/L
1,1,2,2-Tetrachloroethane	CC	531.18.6	1	100	100	100	5	ug/L
Dibromofluoromethane(Surrogate)	CC	531.18.6	1	49	50	98	5	ug/L
ene d-8 (Surrogate)	CC	531.18.6	1	50	50	100	5	ug/L
omofluorobenzene(Surrogate)	CC	531.18.6	1	52	50	104	5	ug/L

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Volatiles Matrix Spike Compounds DATE ANALYZED: 04/11/96 TIME ANALYZED: 08:25 METHOD: EPA SW-846 8260 QC NUMBER:105722

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
1,1-Dichloroethene	MS	960939-31	1	20	0	20	100	5	ug/L
	MSD	960939-31	1	20	0	20	100	5	ug/L
Benzene	MS	960939-31	1	20	0	20	100	5	ug/L
	MSD	960939-31	1	20	0	20	100	5	ug/L
Trichloroethene	MS	960939-31	1	20	0	20	100	5	ug/L
	MSD	960939-31	1	20	0	20	100	5	ug/L
Toluene	MS	960939-31	1	19	0	20	95	5	ug/L
	MSD	960939-31	1	20	0	20	100	5	ug/L
Chlorobenzene	MS	960939-31	1	20	0	20	100	5	ug/L
	MSD	960939-31	1	20	0	20	100	5	ug/L
Dibromofluoromethane(Surrogate	MB	041196-00	1	45	0	50	90	5	ug/L
Toluene d-8 (Surrogate)	MB	041196-00	1	49	0	50	98	5	ug/L
4-Bromofluorobenzene(Surrogate	MB	041196-00	1	50	0	50	100	5	ug/L

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CORE LABORATORIES

QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/12/96 TIME ANALYZED: 10:04 METHOD: EPA SW-846 8260 QC NUMBER:105771

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8260, All Target Compounds	MB	041296	1	0	0	ug/L

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CORE LABORATORIES

QUALITY ASSURANCE REPORT
04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/12/96 TIME ANALYZED: 10:04 METHOD: EPA SW-846 8260 QC NUMBER:105771

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Chloromethane	CC	531.18.6	1	112	100	112	10	ug/L
Vinyl chloride	CC	531.18.6	1	85	100	85	5	ug/L
1,1-Dichloroethene	CC	531.18.6	1	95	100	95	5	ug/L
1,1-Dichloroethane	CC	531.18.6	1	98	100	98	5	ug/L
Chloroform	CC	531.18.6	1	100	100	100	5	ug/L
Benzene	CC	531.18.6	1	107	100	107	5	ug/L
Trichloroethene	CC	531.18.6	1	112	100	112	5	ug/L
1,2-Dichloropropane	CC	531.18.6	1	105	100	105	5	ug/L
Toluene	CC	531.18.6	1	104	100	104	5	ug/L
Chlorobenzene	CC	531.18.6	1	109	100	109	5	ug/L
Ethylbenzene	CC	531.18.6	1	104	100	104	5	ug/L
Bromoform	CC	531.18.6	1	114	100	114	5	ug/L
1,1,2,2-Tetrachloroethane	CC	531.18.6	1	105	100	105	5	ug/L
Dibromofluoromethane(Surrogate)	CC	531.18.6	1	47	50	94	5	ug/L
ene d-8 (Surrogate)	CC	531.18.6	1	48	50	96	5	ug/L
omofluorobenzene(Surrogate)	CC	531.18.6	1	48	50	96	5	ug/L

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QUALITY ASSURANCE REPORT

04/29/96

JOB NUMBER: 960939 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 04/12/96 TIME ANALYZED: 10:04 METHOD: EPA SW-846 8260 QC NUMBER:105771

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
1,1-Dichloroethene	MS	960988-3	1	22	0	20	110	5	ug/L
	MSD	960988-3	1	21	0	20	105	5	ug/L
Benzene	MS	960988-3	1	20	0	20	100	5	ug/L
	MSD	960988-3	1	22	0	20	110	5	ug/L
Trichloroethene	MS	960988-3	1	19	0	20	95	5	ug/L
	MSD	960988-3	1	20	0	20	100	5	ug/L
Toluene	MS	960988-3	1	20	0	20	100	5	ug/L
	MSD	960988-3	1	20	0	20	100	5	ug/L
Chlorobenzene	MS	960988-3	1	20	0	20	100	5	ug/L
	MSD	960988-3	1	21	0	20	105	5	ug/L
Dibromofluoromethane(Surrogate	MB	041296-00	1	45	0	50	90	5	ug/L
Toluene d-8 (Surrogate)	MB	041296-00	1	50	0	50	100	5	ug/L
4-Bromofluorobenzene(Surrogate	MB	041296-00	1	48	0	50	96	5	ug/L

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QUALITY ASSURANCE FOOTER

Cited Methods are obtained from the following documents :

EPA 600/2-79-020, Methods for the Analysis of Water and Wastes, March 1983.
USEPA SW-846 3rd. Edition, November 1990 and July 1992 Update, Test Methods for Evaluating Solid Waste.
EPA 600/2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.
Federal Register, July 1, 1992 (40 CFR Part 136).
Standard Methods for the Examination of Water and Wastewater, 18th Ed. APHA, AWWA, WPCF.
Methods of Soil Analysis, Agronomy No. 9, C.A. Black, 1965.

Quality control acceptance criteria are method dependent.
All data reported on sample "as received" unless noted.
Sample IDs with a "-00" at the end indicate a blank spike or blank spike duplicate associated with the numbered sample.
NC = Not Calculated due to value at or below detection limit.
NOTE: Data in QA report may differ from final results due to digestion and/or dilution of sample into analytical range.
The "TIME ANALYZED" in the QA report refers to the start time of the analytical batch which may not reflect the actual time of each analysis. The "DATE ANALYZED" is the actual date of analysis.
The data in this report are within the limits of uncertainty specified in the referenced method unless otherwise indicated.

SUBCONTRACTED LABORATORY LOCATIONS

For analyses performed by a subcontract laboratory, an "*" and the designated laboratory code is indicated in the "TECHN" column of the laboratory test results report.

Core Laboratories :

Anaheim	*AN	Lake Charles	*LC
Aurora	*AU	Long Beach	*LB
Casper	*CA	Other Laboratories	*XX
Houston	*HP		

QUALITY ASSURANCE REPORT CODES

BLANKS*

MB = Method Blank
RB = Reagent Blank
SB = Storage Blank
ICB = Initial Calib. Blank
CCB = Continuing Calib. Blank

REFERENCE STANDARDS

RS = Reference Standard
CC = Continuing Calib.
LCS = Laboratory Control Std.
ICV = Initial Calib. Verification
CCV = Cont. Calib. Verification

SPIKES AND DUPLICATES

MS = Matrix Spike, BS = Blank Spike
SS = Surrogate Spike, MD = Matrix Dup.
PDS= Post Digested Spike
MSD= Matrix Spike Duplicate
PDD= Post Digested Duplicate

*In the event that several different method blanks are analyzed, the blank type will be designated by the preparation method, i.e., ZHE, TCLP, 3010, 3050, etc.

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(512) 289-2673

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... LABORATORIES, INC.

No. 5695

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: HALFF ASSOCIATES	PROJECT NAME/NUMBER: 15365 EA02
SEND REPORT TO: JACK COOPER	BILLING INFORMATION
ADDRESS: 6616 NW PLAZA DR.	BILL TO: SAME
DALLAS, TX 75225	ADDRESS:
PHONE: [illegible]	PHONE:
FAX: [illegible]	FAX: PO NO.:

LAB JOB NO

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH	BTEX	Metals - Zinc, Copper, Iron, Nickel	Volatiles	Semivolatiles	Pesticides	TCL, TDX	Chloride, Sulfate, TDS	REMARKS / PRECAUTION
[illegible]	Trip Blank	4-4	1400	W	VOA	HCL	2				X	X				
[illegible]	4-6	4-4	1430	S	8 oz	—	2	X	X	X	X	X	X			
[illegible]	4-12	4-4	1450	S		—	2	X	X	X	X	X	X			
[illegible]	4-16	4-4	1530	S		—	2	X	X	X	X	X	X			
[illegible]		4-4	1720	W	VOA	VOA	10		X	X	X	X	X	X	X	

SAMPLER: [illegible] SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* [ ] SAME DAY [ ] 24 HOURS [ ] 48 HOURS [ ] 72 HOURS [ ] 5 DAYS [ ] 10 DAYS [X] ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [illegible]	4/5/96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: HALFF	TIME 1300	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: [illegible]	4/5/96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: [illegible]	TIME 1300	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

[ ] **Anaheim, California**
1250 E. Gene Autry Way
Anaheim, California 92805
(714) 937-1094
(800) 404-2673

[ ] **Aurora (Denver), Colorado**
10703 E. Bethany Drive
Aurora, Colorado 80014
(303) 751-1780
(800) 972-2673

[ ] **Casper, Wyoming**
420 West 1st Street
Casper, Wyoming 82601
(307) 235-5741
(800) 666-0306

[ ] **Corpus Christi, Texas**
1733 North Padre Island Drive
Corpus Christi, Texas 78408
(512) 289-2673
(800) 548-8228

[ ] **Houston, Texas**
8210 Mosley Road
Houston, Texas 77075
(713) 943-9776
(800) 734-2673

[ ] **Lake Charles, Louisiana**
3645 Beglis Parkway
Sulphur, Louisiana 70663
(318) 583-4926
(800) 259-4926

[ ] **Long Beach, California**
3700 Cherry Avenue
Long Beach, California 90807
(310) 595-8401
(800) 814-3433

CLIENT COPY

CORE LABORATORIES, INC.

NO. 06390

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: HALFF ASSOCIATES, INC	PROJECT NAME/NUMBER: 15365 EAØ2
SEND REPORT TO: [illegible] Cochran	**BILLING INFORMATION**
ADDRESS: [illegible] NO PLAZA DR	BILL TO: SAME
[illegible], TX 75225	ADDRESS:
PHONE: [illegible]	PHONE:
FAX: [illegible]	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH	RCRA Metals + Zinc (Cadmium, Fecal, Dicks)	Semi-volatiles	Pesticides	Herbicides	TCLP TOX	Chloride, Sulfate, TDS	Volatiles	REMARKS / PRECAUTIONS
[illegible]	[illegible]	4-4-96	1400	W	10A	[illegible]	2								X	
[illegible]		4-4-96	1410	W	VAR	VAR	10	X	X	X	X	X	X	X	X	
[illegible]		4-4-96	1435	W	VAR	VAR	10	X	X	X	X	X	X	X	X	

SAMPLER: [illegible] SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* [ ] SAME DAY [ ] 24 HOURS [ ] 48 HOURS [ ] 72 HOURS [ ] 5 DAYS [ ] 10 DAYS [X] ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [illegible]	4/5/96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: HALFF	TIME 1500	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: [illegible]	4/5/96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: [illegible]	TIME 1500	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

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(800) 404-2673

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Aurora, Colorado 80014
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(307) 235-5741
(800) 666-0306

[ ] **Corpus Christi, Texas**
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Corpus Christi, Texas 78408
(512) 289-2673
(800) 548-8228

[ ] **Houston, Texas**
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Houston, Texas 77075
(713) 943-9776
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[ ] **Lake Charles, Louisiana**
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Sulphur, Louisiana 70663
(318) 583-4926
(800) 259-4926

[ ] **Long Beach, California**
3700 Cherry Avenue
Long Beach, California 90807
(310) 595-8401
(800) 814-3433

CORE LABORATORIES, INC.

NO. 06997

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Huff Associates, Inc	PROJECT NAME/NUMBER: 15365 (7862
SEND REPORT TO: Jack Cooper	**BILLING INFORMATION**
ADDRESS: 3660 NW Plaza Dr	BILL TO: SAME
Dallas, TX 75225	ADDRESS:
PHONE: 214-739-0094	PHONE:
FAX: 214-739-4814	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH	BCRA Metals + Zn, Cu, Cr, Fe, Ni	Semivolatiles	Volatiles	Cyanide	Pesticides	TOC, TOX	Chloride, Sulfates, TDS	REMARKS / PRECAUTIONS
TB-5	Trip Blank	4-5	[illegible]	W	VOA	HCL	2				X					
[illegible]		4-5	1345	W	VAR	VAR	10	X	X	X	X	X	X	X	X	
[illegible]		4-5	815	W	VAR	VAR	10	X	X	X	X	X	X	X	X	
[illegible]-101		4-5	1000	W	VAR	VAR	10	X	X	X	X	X	X	X	X	

SAMPLER: [illegible] SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* [ ] SAME DAY [ ] 24 HOURS [ ] 48 HOURS [ ] 72 HOURS [ ] 5 DAYS [ ] 10 DAYS [X] ROUTINE OTHER

1. RELINQUISHED BY: SIGNATURE: [illegible]	DATE 4-5-96	2. RELINQUISHED BY: SIGNATURE:	DATE	3. RELINQUISHED BY: SIGNATURE:	DATE
PRINTED NAME/COMPANY: HUFF	TIME 1300	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY: SIGNATURE: Judy [illegible]	DATE 4/5/96	2. RECEIVED BY: SIGNATURE:	DATE	3. RECEIVED BY: SIGNATURE:	DATE
PRINTED NAME/COMPANY: Core Lab	TIME 1300	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

[ ] **Anaheim, California** 1250 E. Gene Autry Way, Anaheim, California 92805, (714) 937-1094, (800) 404-2673

[ ] **Aurora (Denver), Colorado** 10703 E. Bethany Drive, Aurora, Colorado 80014, (303) 751-1780, (800) 972-2673

[ ] **Casper, Wyoming** 420 West 1st Street, Casper, Wyoming 82601, (307) 235-5741, (800) 666-0306

[ ] **Corpus Christi, Texas** 1733 North Padre Island Drive, Corpus Christi, Texas 78408, (512) 289-2673, (800) 548-8228

[ ] **Houston, Texas** 8210 Mosley Road, Houston, Texas 77075, (713) 943-9776, (800) 734-2673

[ ] **Lake Charles, Louisiana** 3645 Beglis Parkway, Sulphur, Louisiana 70663, (318) 583-4926, (800) 259-4926

[ ] **Long Beach, California** 3700 Cherry Avenue, Long Beach, California 90807, (310) 595-8401, (800) 814-3433

CORE LAB

CORE LABORATORIES, INC.

No. 56998

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Hunter Associates, Inc.	PROJECT NAME/NUMBER: 15365 Ent #2
SEND REPORT TO: Mr. Cooper	BILLING INFORMATION
ADDRESS: 7616 NW Plaza Dr.	BILL TO: SAME
Dallas, TX 75225	ADDRESS:
PHONE: 214-739-[illegible]	PHONE:
FAX: 214-739-9514	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH	RCRA Metals + Zinc, Copper, Iron & Nickel	Semivolatiles	Volatiles	Cyanide	Phenolics	TOC	TOX	Chloride, Sulfate, TDS	REMARKS / PRECAUTIONS
[illegible]	Equipment Blank	4-4	1500	W	VOA	HCl	2				X						
[illegible]		4-4	1505	W	VAR	VAR	10	X	X	X	X	X	X	X	X		
[illegible]		4-4	1540	W	VAR	VAR	10	X	X	X	X	X	X	X	X		
[illegible]-4A		4-4	1540	W	VAR	VAR	10	X	X	X	X	X	X	X	X		
TB-1	Field Blank	4-5-96	1030	W	VAR	VAR	10	X	X	X	X	X	X	X	X		

SAMPLER: [illegible] SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [illegible]	4/5/96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY:	TIME 1300	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	**DATE**	**2. RECEIVED BY:**	**DATE**	**3. RECEIVED BY:**	**DATE**
SIGNATURE: Judy [illegible]	4/5/96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: Core Lab	TIME 1300	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

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(800) 972-2673

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Casper, Wyoming 82601
(307) 235-5741
(800) 666-0306

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Corpus Christi, Texas 78408
(512) 289-2673
(800) 548-8228

☐ **Houston, Texas**
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Houston, Texas 77075
(713) 943-9776
(800) 734-2673

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APPENDIX H

LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY FORMS
GROUNDWATER (SECOND SAMPLING EVENT)

CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 961611
Prepared For:

HALFF ASSOCIATES, INC.
JACK COOPER
8616 NW PLAZA DR.
DALLAS, TX 75225

Date: 07/17/96

Signature

Date: 7/18/96

Name: Charles Sassine

CORE LABORATORIES
1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408

Title: Laboratory Supervisor

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961611 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-112
DATE SAMPLED.....: 07/10/96
TIME SAMPLED.....: 08:30
WORK DESCRIPTION...: 15365 EA02 BG-112

LABORATORY I.D...: 961611-0001
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 14:30
REMARKS.....: SAMPLED BY: J.C./A/G/

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Total Dissolved Solids (TDS)	1370	40	mg/L	SM 18TH 2540 C	07/11/96	CLB
Total Organic Halogen (TOX)	0.25	0.15	mg/L	EPA SW-846 9020B	07/12/96	EBS
Sulfate (SO4), total	146	20	mg/L	EPA 300.0	07/12/96	JRD
Chloride (Cl), total	264	50	mg/L	EPA 300.0	07/11/96	JRD
Total Organic Carbon	6	1	mg/L	SM 18TH 5310 C	07/11/96	JRD

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961611 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-108
DATE SAMPLED.....: 07/10/96
TIME SAMPLED.....: 08:50
WORK DESCRIPTION...: 15365 EA02 BG-108

LABORATORY I.D...: 961611-0002
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 14:30
REMARKS.....: SAMPLED BY: J.C./A/G/

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Total Dissolved Solids (TDS)	900	40	mg/L	SM 18TH 2540 C	07/11/96	CLB
Total Organic Halogen (TOX)	0.20	0.15	mg/L	EPA SW-846 9020B	07/12/96	EBS
Sulfate (SO4), total	57	4	mg/L	EPA 300.0	07/12/96	JRD
Chloride (Cl), total	172	25	mg/L	EPA 300.0	07/11/96	JRD
Total Organic Carbon	9	1	mg/L	SM 18TH 5310 C	07/11/96	JRD

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961611 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-108A
DATE SAMPLED.....: 07/10/96
TIME SAMPLED.....: 08:50
WORK DESCRIPTION...: 15365 EA02 BG-108A

LABORATORY I.D...: 961611-0003
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 14:30
REMARKS.....: SAMPLED BY: J.C./A/G/

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Total Dissolved Solids (TDS)	850	40	mg/L	SM 18TH 2540 C	07/11/96	CLB
Total Organic Halogen (TOX)	0.23	0.15	mg/L	EPA SW-846 9020B	07/12/96	EBS
Sulfate (SO4), total	53	4	mg/L	EPA 300.0	07/12/96	JRD
Chloride (Cl), total	133	25	mg/L	EPA 300.0	07/11/96	JRD
Total Organic Carbon	8	1	mg/L	SM 18TH 5310 C	07/11/96	JRD

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961611 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-106
DATE SAMPLED.....: 07/10/96
TIME SAMPLED.....: 09:10
WORK DESCRIPTION...: 15365 EA02 BG-106

LABORATORY I.D...: 961611-0004
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 14:30
REMARKS.....: SAMPLED BY: J.C./A/G/

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Total Dissolved Solids (TDS)	1850	40	mg/L	SM 18TH 2540 C	07/11/96	CLB
Total Organic Halogen (TOX)	0.25	0.15	mg/L	EPA SW-846 9020B	07/12/96	EBS
Sulfate (SO4), total	154	20	mg/L	EPA 300.0	07/12/96	JRD
Chloride (Cl), total	503	100	mg/L	EPA 300.0	07/11/96	JRD
Total Organic Carbon	20	1	mg/L	SM 18TH 5310 C	07/11/96	JRD

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961611 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-104
DATE SAMPLED.....: 07/10/96
TIME SAMPLED.....: 09:35
WORK DESCRIPTION...: 15365 EA02 BG-104

LABORATORY I.D...: 961611-0005
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 14:30
REMARKS.....: SAMPLED BY: J.C./A/G/

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Total Dissolved Solids (TDS)	5380	40	mg/L	SM 18TH 2540 C	07/11/96	CLB
Total Organic Halogen (TOX)	0.22	0.15	mg/L	EPA SW-846 9020B	07/12/96	EBS
Sulfate (SO4), total	21	2	mg/L	EPA 300.0	07/12/96	JRD
Chloride (Cl), total	1770	500	mg/L	EPA 300.0	07/11/96	JRD
Total Organic Carbon	10	1	mg/L	SM 18TH 5310 C	07/11/96	JRD

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961611 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-101
DATE SAMPLED.....: 07/10/96
TIME SAMPLED.....: 10:00
WORK DESCRIPTION...: 15365 EA02 BG-101

LABORATORY I.D...: 961611-0006
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 14:30
REMARKS.....: SAMPLED BY: J.C./A/G/

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Total Dissolved Solids (TDS)	4850	40	mg/L	SM 18TH 2540 C	07/11/96	CLB
Total Organic Halogen (TOX)	0.55	0.15	mg/L	EPA SW-846 9020B	07/12/96	EBS
Sulfate (SO4), total	164	20	mg/L	EPA 300.0	07/12/96	JRD
Chloride (Cl), total	1620	500	mg/L	EPA 300.0	07/11/96	JRD
Total Organic Carbon	68	1	mg/L	SM 18TH 5310 C	07/11/96	JRD

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961611 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-2
DATE SAMPLED.....: 07/10/96
TIME SAMPLED.....: 10:55
WORK DESCRIPTION...: 15365 EA02 BG-2

LABORATORY I.D...: 961611-0007
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 14:30
REMARKS.....: SAMPLED BY: J.C./A/G/

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Total Dissolved Solids (TDS)	2760	40	mg/L	SM 18TH 2540 C	07/11/96	CLB
Total Organic Halogen (TOX)	0.17	0.15	mg/L	EPA SW-846 9020B	07/12/96	EBS
Sulfate (SO4), total	387	40	mg/L	EPA 300.0	07/12/96	JRD
Chloride (Cl), total	857	100	mg/L	EPA 300.0	07/11/96	JRD
Total Organic Carbon	5	1	mg/L	SM 18TH 5310 C	07/11/96	JRD

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LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961611 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-3
DATE SAMPLED.....: 07/10/96
TIME SAMPLED.....: 11:15
WORK DESCRIPTION...: 15365 EA02 BG-3

LABORATORY I.D...: 961611-0008
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 14:30
REMARKS.....: SAMPLED BY: J.C./A/G/

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Total Dissolved Solids (TDS)	1010	40	mg/L	SM 18TH 2540 C	07/11/96	CLB
Total Organic Halogen (TOX)	0.16	0.15	mg/L	EPA SW-846 9020B	07/12/96	EBS
Sulfate (SO4), total	72	10	mg/L	EPA 300.0	07/12/96	JRD
Chloride (Cl), total	210	50	mg/L	EPA 300.0	07/11/96	JRD
Total Organic Carbon	8	1	mg/L	SM 18TH 5310 C	07/11/96	JRD

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LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961611 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02 BG-1
DATE SAMPLED.....: 07/10/96
TIME SAMPLED.....: 11:35
WORK DESCRIPTION...: 15365 EA02 BG-1

LABORATORY I.D...: 961611-0009
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 14:30
REMARKS.....: SAMPLED BY: J.C./A/G/

TEST DESCRIPTION	FINAL RESULT	DETECTION LIMIT	UNITS OF MEASURE	TEST METHOD	DATE	TECHNICIAN
Total Dissolved Solids (TDS)	790	40	mg/L	SM 18TH 2540 C	07/11/96	CLB
Total Organic Halogen (TOX)	0.16	0.15	mg/L	EPA SW-846 9020B	07/12/96	EBS
Sulfate (SO4), total	117	20	mg/L	EPA 300.0	07/12/96	JRD
Chloride (Cl), total	109	20	mg/L	EPA 300.0	07/11/96	JRD
Total Organic Carbon	9	1	mg/L	SM 18TH 5310 C	07/11/96	JRD

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CORE LABORATORIES

QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961611 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Total Organic Carbon REPORTING LIMIT/DF: 1 UNITS:mg/L				DATE/TIME ANALYZED:07/11/96 13:30 METHOD REFERENCE :SM 18TH 5310 C					QC BATCH NUMBER:111386 TECHNICIAN:JRD	
BLANK	MB1 071196	508.158.12	<1							
STANDARD	LCS	508.151.5	2011			2000	101			
STANDARD	LCS	508.163.20	107			100	107			
STANDARD	LCS	508.163.22	9			10	90			
SPIKE	MS	961611-3	16					8	10	80
DUPLICATE	MD	961611-3	8	7	13					
PARAMETER:Chloride (Cl), total REPORTING LIMIT/DF: 1 UNITS:mg/L				DATE/TIME ANALYZED:07/11/96 08:39 METHOD REFERENCE :EPA 300.0					QC BATCH NUMBER:111387 TECHNICIAN:JRD	
BLANK	MB1 071196	Di H2O	<1							
STANDARD	LCS	C60708H	4.7			5.0	94			
SPIKE	MS	961611-8	479					210	250	108
DUPLICATE	MD	961611-8	210	205	2					
PARAMETER:Sulfate (SO4), total REPORTING LIMIT/DF: 2 UNITS:mg/L				DATE/TIME ANALYZED:07/12/96 08:25 METHOD REFERENCE :EPA 300.0					QC BATCH NUMBER:111389 TECHNICIAN:JRD	
BLANK	MB1 071296	Di H2O	<2							
STANDARD	LCS1	C60708H	19.3			20.0	97			
SPIKE	MS	961611-1	358					146	200	106
DUPLICATE	MD	961611-3	53	53	0					
PARAMETER:Total Dissolved Solids (TDS) REPORTING LIMIT/DF: 40 UNITS:mg/L				DATE/TIME ANALYZED:07/11/96 16:30 METHOD REFERENCE :SM 18TH 2540 C					QC BATCH NUMBER:111397 TECHNICIAN:CLB	
BLANK	MB 071196	Di H2O	<40							
STANDARD	LCS	G60711D	2400			2250	107			
SPIKE	MS	961611-6	6800					4850	2250	87
DUPLICATE	MD	961611-6	4850	4890	1					
PARAMETER:Total Organic Halogen (TOX) REPORTING LIMIT/DF: 0.15 UNITS:mg/L				DATE/TIME ANALYZED:07/12/96 08:00 METHOD REFERENCE :EPA SW-846 9020B					QC BATCH NUMBER:111433 TECHNICIAN:EBS	
BLANK	MB	DIST H2O	<0.15							
STANDARD	ICV	507.4.23	501			490	102			
SPIKE	MS	961611-1	1.148					0.254	0.871	103
DUPLICATE	MD	961611-1	0.254	0.251	0.00					

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CORE LABORATORIES

QUALITY ASSURANCE FOOTER

Cited Methods are obtained from the following documents :

EPA 600/2-79-020, Methods for the Analysis of Water and Wastes, March 1983.
USEPA SW-846 3rd. Edition, November 1990 and July 1992 Update, Test Methods for Evaluating Solid Waste.
EPA 600/2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.
Federal Register, July 1, 1992 (40 CFR Part 136).
Standard Methods for the Examination of Water and Wastewater, 18th Ed. APHA, AWWA, WPCF.
Methods of Soil Analysis, Agronomy No. 9, C.A. Black, 1965.

Quality control acceptance criteria are method dependent.
All data reported on sample "as received" unless noted.
Sample IDs with a "-00" at the end indicate a blank spike or blank spike duplicate associated with the numbered sample.
NC = Not Calculated due to value at or below detection limit.
NOTE: Data in QA report may differ from final results due to digestion and/or dilution of sample into analytical range.
The "TIME ANALYZED" in the QA report refers to the start time of the analytical batch which may not reflect the actual time of each analysis. The "DATE ANALYZED" is the actual date of analysis.
The data in this report are within the limits of uncertainty specified in the referenced method unless otherwise indicated.

SUBCONTRACTED LABORATORY LOCATIONS

For analyses performed by a subcontract laboratory, an "*" and the designated laboratory code is indicated in the "TECHN" column of the laboratory test results report.

Core Laboratories :

Anaheim	*AN	Lake Charles	*LC
Aurora	*AU	Long Beach	*LB
Casper	*CA	Other Laboratories	*XX
Houston	*HP		

QUALITY ASSURANCE REPORT CODES

BLANKS*

MB = Method Blank
RB = Reagent Blank
SB = Storage Blank
ICB = Initial Calib. Blank
CCB = Continuing Calib. Blank

REFERENCE STANDARDS

RS = Reference Standard
CC = Continuing Calib.
LCS = Laboratory Control Std.
ICV = Initial Calib. Verification
CCV = Cont. Calib. Verification

SPIKES AND DUPLICATES

MS = Matrix Spike, BS = Blank Spike
SS = Surrogate Spike, MD = Matrix Dup.
PDS= Post Digested Spike
MSD= Matrix Spike Duplicate
PDD= Post Digested Duplicate

*In the event that several different method blanks are analyzed, the blank type will be designated by the preparation method, i.e., ZHE, TCLP, 3010, 3050, etc.

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CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LAB

CORE LABORATORIES, INC.

NO. 55565

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: HALFF ASSOCIATES, INC.	PROJECT NAME/NUMBER: 15365 EA02
SEND REPORT TO: JACK COOPER	BILLING INFORMATION
ADDRESS: 8616 NW PLAZA DR.	BILL TO: SAME
DALLAS, TX 76039	ADDRESS:
PHONE: 214.739.0094	PHONE:
FAX: 214.739.4814	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TOC	TOX	TDS	CHLORIDES	SULFATES				REMARKS / PRECAUTIONS
BG-112		7.10.96	830	W	VAR	VAR	2	X	X	X	X	X				
BG-108			850	W	VAR	VAR	2	X	X	X	X	X				
BG-108A			850	W	VAR	VAR	2	X	X	X	X	X				
BG-106			910	W	VAR	VAR	2	X	X	X	X	X				
BG-104			935	W	VAR	VAR	2	X	X	X	X	X				
BG-101			1000	W	VAR	VAR	2	X	X	X	X	X				
BG-2			1055	W	VAR	VAR	2	X	X	X	X	X				
BG-3			1115	W	VAR	VAR	2	X	X	X	X	X				
BG-1			1135	W	VAR	VAR	2	X	X	X	X	X				

SAMPLER: JACK COOPER / ADRIEL GARCIA

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND:* [ ] SAME DAY [ ] 24 HOURS [ ] 48 HOURS [ ] 72 HOURS [ ] 5 DAYS [ ] 10 DAYS [X] ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: J. Cooper	7.10.96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: HALFF ASSOCIATES, INC.	TIME 1430	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: Susan Benavez	7/10/96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: CORE	TIME 1430	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

[ ] **Anaheim, California**
1250 E. Gene Autry Way
Anaheim, California 92805
(714) 937-1094
(800) 404-2673

[ ] **Aurora (Denver), Colorado**
10703 E. Bethany Drive
Aurora, Colorado 80014
(303) 751-1780
(800) 972-2673

[ ] **Casper, Wyoming**
420 West 1st Street
Casper, Wyoming 82601
(307) 235-5741
(800) 666-0306

[X] **Corpus Christi, Texas**
1733 North Padre Island Drive
Corpus Christi, Texas 78408
(512) 289-2673
(800) 548-8228

[ ] **Houston, Texas**
8210 Mosley Road
Houston, Texas 77075
(713) 943-9776
(800) 734-2673

[ ] **Lake Charles, Louisiana**
3645 Beglis Parkway
Sulphur, Louisiana 70663
(318) 583-4926
(800) 259-4926

[ ] **Long Beach, California**
3700 Cherry Avenue
Long Beach, California 90807
(310) 595-8401
(800) 814-3433

CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 961390
Prepared For:

HALFF ASSOCIATES, INC.
JACK COOPER
8616 NW PLAZA DR.
DALLAS, TX 75225

Date: 07/17/96

REVISED REPORT

Signature

Date: 7/17/96

Name: Charles Sassine

CORE LABORATORIES
1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408

Title: Laboratory Supervisor

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CORELAB

ENVIRONMENTAL TESTING SERVICES

July 18, 1996

Mr. Jack Cooper
Halff Associates, Inc.
8616 NW Plaza Dr.
Dallas, Texas 75225

Dear Mr. Cooper:

Attached is the revised analytical report for Core Laboratories job number 961390. This report has been amended to report total manganese results for groundwater samples.Please replace the original anallytical report with this revised analytical report and feel free to contact me if you have any questions concerning this sample.

Sincerely,

Charles Sassine
Laboratory Supervisor

:cs

Core Laboratories, Inc.
1733 North Padre Island Drive, Corpus Christi, Texas 78408, (512) 289-2673, Fax (512) 289-2471

CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 09:30
WORK DESCRIPTION...: TB-1 TRIP BLANK #1

LABORATORY I.D...: 961390-0001
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*10		EPA SW-846 8260	06/05/96	KRM
Acetone	<1000	1000	ug/L	EPA SW-846 8260		
Acrolein	<500	500	ug/L	EPA SW-846 8260		
Acrylonitrile	<500	500	ug/L	EPA SW-846 8260		
Benzene	<50	50	ug/L	EPA SW-846 8260		
Bromodichloromethane	<50	50	ug/L	EPA SW-846 8260		
Bromoform	<50	50	ug/L	EPA SW-846 8260		
Bromomethane	<100	100	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<500	500	ug/L	EPA SW-846 8260		
Carbon disulfide	<50	50	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<50	50	ug/L	EPA SW-846 8260		
Chlorobenzene	<50	50	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<50	50	ug/L	EPA SW-846 8260		
Chloroethane	<100	100	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<100	100	ug/L	EPA SW-846 8260		
Chloroform	<50	50	ug/L	EPA SW-846 8260		
Chloromethane	<100	100	ug/L	EPA SW-846 8260		
Dibromomethane	<50	50	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<100	100	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<50	50	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<50	50	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<50	50	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<50	50	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<50	50	ug/L	EPA SW-846 8260		
Ethylbenzene	<50	50	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<50	50	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<50	50	ug/L	EPA SW-846 8260		
Iodomethane	<50	50	ug/L	EPA SW-846 8260		
Methylene chloride	<500	500	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<100	100	ug/L	EPA SW-846 8260		
Styrene	<50	50	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<50	50	ug/L	EPA SW-846 8260		
Tetrachloroethene	<50	50	ug/L	EPA SW-846 8260		
Toluene	1700	50	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<50	50	ug/L	EPA SW-846 8260		
Trichloroethene	<50	50	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<50	50	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<50	50	ug/L	EPA SW-846 8260		
Vinyl acetate	<100	100	ug/L	EPA SW-846 8260		
Vinyl chloride	<50	50	ug/L	EPA SW-846 8260		
Total Xylenes	<100	100	ug/L	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 09:30
WORK DESCRIPTION...: TB-1 TRIP BLANK #1

LABORATORY I.D...: 961390-0001
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<50	50	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<50	50	ug/L	EPA SW-846 8260		
Acetonitrile	<50	50	ug/L	EPA SW-846 8260		
1,4-Dioxane	<5000	5000	ug/L	EPA SW-846 8260		
Ethyl acetate	<50	50	ug/L	EPA SW-846 8260		
Ethyl ether	<50	50	ug/L	EPA SW-846 8260		
Methyl methacrylate	<50	50	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<500	500	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<50	50	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<50	50	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<50	50	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<5000	5000	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	103	0	% Recovery	86-118% QC LIMITS		
oluene d-8 (Surrogate)	97	0	% Recovery	88-110% QC LIMITS		
-Bromofluorobenzene(Surrogate)	98	0	% Revovery	86-115% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 09:55
WORK DESCRIPTION...: BG-112

LABORATORY I.D...: 961390-0002
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/04/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 09:55
WORK DESCRIPTION...: BG-112

LABORATORY I.D...: 961390-0002
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	95	0	% Recovery	86-118% QC LIMITS		
oluene d-8 (Surrogate)	97	0	% Recovery	88-110% QC LIMITS		
-Bromofluorobenzene(Surrogate)	100	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 09:55
WORK DESCRIPTION...: BG-112

LABORATORY I.D...: 961390-0002
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	65	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	74	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	68	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	63	0	% Recovery	43-116% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 09:55
WORK DESCRIPTION...: BG-112

LABORATORY I.D...: 961390-0002
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	80	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	82	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/10/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Barium (Ba), total	0.08	0.05	mg/L	EPA 200.7	06/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
[illegible]ium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Iron (Fe), total	0.81	0.05	mg/L	EPA 200.7	06/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Manganese (Mn), total	0.81	0.05	mg/L	EPA 200.7	06/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Zinc (Zn), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/06/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 10:50
WORK DESCRIPTION...: BG-108

LABORATORY I.D...: 961390-0003
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/04/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	12	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 10:50
WORK DESCRIPTION...: BG-108

LABORATORY I.D...: 961390-0003
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	110	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	96	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	94	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	102	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*10		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<100	100	ug/L	EPA SW-846 8270B		
Acenaphthylene	<100	100	ug/L	EPA SW-846 8270B		
Anthracene	<100	100	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<100	100	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<100	100	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<100	100	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<100	100	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<100	100	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<200	200	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<100	100	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<100	100	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<100	100	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<500	500	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<100	100	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<100	100	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<500	500	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<200	200	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<100	100	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<100	100	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<100	100	ug/L	EPA SW-846 8270B		
Chrysene	<100	100	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<100	100	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<100	100	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<100	100	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<200	200	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<100	100	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<100	100	ug/L	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 10:50
WORK DESCRIPTION...: BG-108

LABORATORY I.D...: 961390-0003
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<100	100	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<100	100	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<200	200	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<100	100	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<500	500	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<500	500	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<100	100	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<100	100	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<100	100	ug/L	EPA SW-846 8270B		
Fluorene	<100	100	ug/L	EPA SW-846 8270B		
Fluoranthene	<100	100	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<100	100	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<100	100	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<100	100	ug/L	EPA SW-846 8270B		
Hexachloroethane	<100	100	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<100	100	ug/L	EPA SW-846 8270B		
Isophorone	<100	100	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<100	100	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<500	500	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<500	500	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<200	200	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<100	100	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<500	500	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<100	100	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<100	100	ug/L	EPA SW-846 8270B		
Naphthalene	<100	100	ug/L	EPA SW-846 8270B		
Nitrobenzene	<100	100	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<500	500	ug/L	EPA SW-846 8270B		
Phenanthrene	<100	100	ug/L	EPA SW-846 8270B		
Phenol	<100	100	ug/L	EPA SW-846 8270B		
Pyrene	<100	100	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<100	100	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<100	100	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<100	100	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<100	100	ug/L	EPA SW-846 8270B		
Aniline	<100	100	ug/L	EPA SW-846 8270B		
o-Cresol	<100	100	ug/L	EPA SW-846 8270B		
p,m-Cresol	<100	100	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<100	100	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<100	100	ug/L	EPA SW-846 8270B		
Pyridine	<100	100	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	63	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	72	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	68	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	66	0	% Recovery	43-116% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 10:50
WORK DESCRIPTION...: BG-108

LABORATORY I.D...: 961390-0003
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	80	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	83	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/10/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Barium (Ba), total	0.08	0.05	mg/L	EPA 200.7	06/11/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
[illegible]ium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Iron (Fe), total	0.84	0.05	mg/L	EPA 200.7	06/11/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Manganese (Mn), total	0.83	0.05	mg/L	EPA 200.7	06/11/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Zinc (Zn), total	<0.05	0.05	mg/L	EPA 200.7	06/11/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/06/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 09:30
WORK DESCRIPTION...: TB-2 TRIP BLANK#2

LABORATORY I.D...: 961390-0004
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*10		EPA SW-846 8260	06/06/96	KRM
Acetone	<1000	1000	ug/L	EPA SW-846 8260		
Acrolein	<500	500	ug/L	EPA SW-846 8260		
Acrylonitrile	<500	500	ug/L	EPA SW-846 8260		
Benzene	<50	50	ug/L	EPA SW-846 8260		
Bromodichloromethane	<50	50	ug/L	EPA SW-846 8260		
Bromoform	<50	50	ug/L	EPA SW-846 8260		
Bromomethane	<100	100	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<500	500	ug/L	EPA SW-846 8260		
Carbon disulfide	<50	50	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<50	50	ug/L	EPA SW-846 8260		
Chlorobenzene	<50	50	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<50	50	ug/L	EPA SW-846 8260		
Chloroethane	<100	100	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<100	100	ug/L	EPA SW-846 8260		
Chloroform	<50	50	ug/L	EPA SW-846 8260		
Chloromethane	<100	100	ug/L	EPA SW-846 8260		
Dibromomethane	<50	50	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<100	100	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<50	50	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<50	50	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<50	50	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<50	50	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<50	50	ug/L	EPA SW-846 8260		
Ethylbenzene	<50	50	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<50	50	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<50	50	ug/L	EPA SW-846 8260		
Iodomethane	<50	50	ug/L	EPA SW-846 8260		
Methylene chloride	<500	500	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<100	100	ug/L	EPA SW-846 8260		
Styrene	<50	50	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<50	50	ug/L	EPA SW-846 8260		
Tetrachloroethene	<50	50	ug/L	EPA SW-846 8260		
Toluene	1400	50	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<50	50	ug/L	EPA SW-846 8260		
Trichloroethene	<50	50	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<50	50	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<50	50	ug/L	EPA SW-846 8260		
Vinyl acetate	<100	100	ug/L	EPA SW-846 8260		
Vinyl chloride	<50	50	ug/L	EPA SW-846 8260		
Total Xylenes	<100	100	ug/L	EPA SW-846 8260		

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CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 09:30
WORK DESCRIPTION...: TB-2 TRIP BLANK#2

LABORATORY I.D...: 961390-0004
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<50	50	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<50	50	ug/L	EPA SW-846 8260		
Acetonitrile	<50	50	ug/L	EPA SW-846 8260		
1,4-Dioxane	<5000	5000	ug/L	EPA SW-846 8260		
Ethyl acetate	<50	50	ug/L	EPA SW-846 8260		
Ethyl ether	<50	50	ug/L	EPA SW-846 8260		
Methyl methacrylate	<50	50	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<500	500	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<50	50	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<50	50	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<50	50	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<5000	5000	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	92	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	93	0	% Revovery	86-115% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 10:50
WORK DESCRIPTION...: BG-108A

LABORATORY I.D...: 961390-0005
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/04/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	14	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 10:50
WORK DESCRIPTION...: BG-108A

LABORATORY I.D...: 961390-0005
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	110	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	95	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	99	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	98	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 10:50
WORK DESCRIPTION...: BG-108A

LABORATORY I.D...: 961390-0005
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	68	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	75	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	71	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	65	0	% Recovery	43-116% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 10:50
WORK DESCRIPTION...: BG-108A

LABORATORY I.D...: 961390-0005
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	83	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	85	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/10/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Barium (Ba), total	0.08	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
[illegible]mium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Iron (Fe), total	1.51	0.05	mg/L	EPA 200.7	06/12/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Manganese (Mn), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Zinc (Zn), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/06/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: BG-3 SAMPLE I.D. = BG-2

LABORATORY I.D...: 961390-0006
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/05/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: BG-3 SAMPLE I.D. = BG-2

LABORATORY I.D...: 961390-0006
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	96	0	% Recovery	86-118% QC LIMITS		
oluene d-8 (Surrogate)	96	0	% Recovery	88-110% QC LIMITS		
-Bromofluorobenzene(Surrogate)	100	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS

07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: BG-3 SAMPLE I.D. = BG-2

LABORATORY I.D...: 961390-0006
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	65	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	70	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	68	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	61	0	% Recovery	43-116% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: BG-3 SAMPLE I.D. = BG-2

LABORATORY I.D...: 961390-0006
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	80	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	82	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/13/96	GCC
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Barium (Ba), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
[illegible]mium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Iron (Fe), total	0.28	0.05	mg/L	EPA 200.7	06/14/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Manganese (Mn), total	26	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Zinc (Zn), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/06/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:00
WORK DESCRIPTION...: TB-4 TRIP BLANK #4

LABORATORY I.D...: 961390-0007
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*10		EPA SW-846 8260	06/06/96	KRM
Acetone	<1000	1000	ug/L	EPA SW-846 8260		
Acrolein	<500	500	ug/L	EPA SW-846 8260		
Acrylonitrile	<500	500	ug/L	EPA SW-846 8260		
Benzene	<50	50	ug/L	EPA SW-846 8260		
Bromodichloromethane	<50	50	ug/L	EPA SW-846 8260		
Bromoform	<50	50	ug/L	EPA SW-846 8260		
Bromomethane	<100	100	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<500	500	ug/L	EPA SW-846 8260		
Carbon disulfide	<50	50	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<50	50	ug/L	EPA SW-846 8260		
Chlorobenzene	<50	50	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<50	50	ug/L	EPA SW-846 8260		
Chloroethane	<100	100	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<100	100	ug/L	EPA SW-846 8260		
Chloroform	<50	50	ug/L	EPA SW-846 8260		
Chloromethane	<100	100	ug/L	EPA SW-846 8260		
Dibromomethane	<50	50	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<100	100	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<50	50	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<50	50	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<50	50	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<50	50	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<50	50	ug/L	EPA SW-846 8260		
Ethylbenzene	<50	50	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<50	50	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<50	50	ug/L	EPA SW-846 8260		
Iodomethane	<50	50	ug/L	EPA SW-846 8260		
Methylene chloride	<500	500	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<100	100	ug/L	EPA SW-846 8260		
Styrene	<50	50	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<50	50	ug/L	EPA SW-846 8260		
Tetrachloroethene	<50	50	ug/L	EPA SW-846 8260		
Toluene	1600	50	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<50	50	ug/L	EPA SW-846 8260		
Trichloroethene	<50	50	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<50	50	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<50	50	ug/L	EPA SW-846 8260		
Vinyl acetate	<100	100	ug/L	EPA SW-846 8260		
Vinyl chloride	<50	50	ug/L	EPA SW-846 8260		
Total Xylenes	<100	100	ug/L	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS

07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:00
WORK DESCRIPTION...: TB-4 TRIP BLANK #4

LABORATORY I.D...: 961390-0007
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<50	50	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<50	50	ug/L	EPA SW-846 8260		
Acetonitrile	<50	50	ug/L	EPA SW-846 8260		
1,4-Dioxane	<5000	5000	ug/L	EPA SW-846 8260		
Ethyl acetate	<50	50	ug/L	EPA SW-846 8260		
Ethyl ether	<50	50	ug/L	EPA SW-846 8260		
Methyl methacrylate	<50	50	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<500	500	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<50	50	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<50	50	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<50	50	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<5000	5000	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	91	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
-Bromofluorobenzene(Surrogate)	96	0	% Revovery	86-115% QC LIMITS		

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CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 961390-0008
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/05/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 961390-0008
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	95	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	95	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	93	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 961390-0008
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	62	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	69	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	67	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	62	0	% Recovery	43-116% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 961390-0008
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	80	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	77	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/25/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Barium (Ba), total	0.58	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Iron (Fe), total	12.5	0.05	mg/L	EPA 200.7	06/12/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Manganese (Mn), total	26	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/27/96	GCC
Zinc (Zn), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/06/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:20
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 961390-0009
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/05/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:20
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 961390-0009
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	96	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	86	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:20
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 961390-0009
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	70	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	70	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	66	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	58	0	% Recovery	43-116% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:20
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 961390-0009
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	73	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	76	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/10/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Barium (Ba), total	0.22	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
[illegible]nium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Iron (Fe), total	8.16	0.05	mg/L	EPA 200.7	06/12/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Manganese (Mn), total	73	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Zinc (Zn), total	0.07	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/06/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:40
WORK DESCRIPTION...: FB-01 FIELD BLANK #1

LABORATORY I.D...: 961390-0010
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/05/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:40
WORK DESCRIPTION...: FB-01 FIELD BLANK #1

LABORATORY I.D...: 961390-0010
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	93	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	93	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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LABORATORY TESTS RESULTS
07/17/96

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CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:40
WORK DESCRIPTION...: FB-01 FIELD BLANK #1

LABORATORY I.D...: 961390-0010
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	60	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	67	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	63	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	57	0	% Recovery	43-116% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:40
WORK DESCRIPTION...: FB-01 FIELD BLANK #1

LABORATORY I.D...: 961390-0010
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	71	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	79	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/10/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Barium (Ba), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Iron (Fe), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Manganese (Mn), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Zinc (Zn), total	0.06	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/06/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:00
WORK DESCRIPTION...: TB-3 TRIP BLANK #3

LABORATORY I.D...: 961390-0011
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*10		EPA SW-846 8260	06/06/96	KRM
Acetone	<1000	1000	ug/L	EPA SW-846 8260		
Acrolein	<500	500	ug/L	EPA SW-846 8260		
Acrylonitrile	<500	500	ug/L	EPA SW-846 8260		
Benzene	<50	50	ug/L	EPA SW-846 8260		
Bromodichloromethane	<50	50	ug/L	EPA SW-846 8260		
Bromoform	<50	50	ug/L	EPA SW-846 8260		
Bromomethane	<100	100	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<500	500	ug/L	EPA SW-846 8260		
Carbon disulfide	<50	50	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<50	50	ug/L	EPA SW-846 8260		
Chlorobenzene	<50	50	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<50	50	ug/L	EPA SW-846 8260		
Chloroethane	<100	100	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<100	100	ug/L	EPA SW-846 8260		
Chloroform	<50	50	ug/L	EPA SW-846 8260		
Chloromethane	<100	100	ug/L	EPA SW-846 8260		
Dibromomethane	<50	50	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<100	100	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<50	50	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<50	50	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<50	50	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<50	50	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<50	50	ug/L	EPA SW-846 8260		
Ethylbenzene	<50	50	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<50	50	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<50	50	ug/L	EPA SW-846 8260		
Iodomethane	<50	50	ug/L	EPA SW-846 8260		
Methylene chloride	<500	500	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<100	100	ug/L	EPA SW-846 8260		
Styrene	<50	50	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<50	50	ug/L	EPA SW-846 8260		
Tetrachloroethene	<50	50	ug/L	EPA SW-846 8260		
Toluene	1700	50	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<50	50	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<50	50	ug/L	EPA SW-846 8260		
Trichloroethene	<50	50	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<50	50	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<50	50	ug/L	EPA SW-846 8260		
Vinyl acetate	<100	100	ug/L	EPA SW-846 8260		
Vinyl chloride	<50	50	ug/L	EPA SW-846 8260		
Total Xylenes	<100	100	ug/L	EPA SW-846 8260		

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07/17/96

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CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:00
WORK DESCRIPTION...: TB-3 TRIP BLANK #3

LABORATORY I.D...: 961390-0011
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<50	50	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<50	50	ug/L	EPA SW-846 8260		
Acetonitrile	<50	50	ug/L	EPA SW-846 8260		
1,4-Dioxane	<5000	5000	ug/L	EPA SW-846 8260		
Ethyl acetate	<50	50	ug/L	EPA SW-846 8260		
Ethyl ether	<50	50	ug/L	EPA SW-846 8260		
Methyl methacrylate	<50	50	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<500	500	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<50	50	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<50	50	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<50	50	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<5000	5000	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	95	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
-Bromofluorobenzene(Surrogate)	91	0	% Revovery	86-115% QC LIMITS		

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CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:55
WORK DESCRIPTION...: BG-1

LABORATORY I.D...: 961390-0012
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/06/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:55
WORK DESCRIPTION...: BG-1

LABORATORY I.D...: 961390-0012
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	89	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
-Bromofluorobenzene(Surrogate)	95	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:55
WORK DESCRIPTION...: BG-1

LABORATORY I.D...: 961390-0012
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	50	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	63	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	67	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	61	0	% Recovery	43-116% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:55
WORK DESCRIPTION...: BG-1

LABORATORY I.D...: 961390-0012
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	72	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	77	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/10/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Barium (Ba), total	0.24	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Iron (Fe), total	3.93	0.05	mg/L	EPA 200.7	06/12/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Manganese (Mn), total	0.07	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Zinc (Zn), total	0.09	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/07/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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CORE LABORATORIES

LABORATORY TESTS RESULTS

07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 14:52
WORK DESCRIPTION...: BG-3

LABORATORY I.D...: 961390-0013
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/06/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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LABORATORY TESTS RESULTS
07/17/96

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CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 14:52
WORK DESCRIPTION...: BG-3

LABORATORY I.D...: 961390-0013
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	90	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	95	0	% Recovery	88-110% QC LIMITS		
-Bromofluorobenzene(Surrogate)	87	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 14:52
WORK DESCRIPTION...: BG-3

LABORATORY I.D...: 961390-0013
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	61	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	66	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	66	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	66	0	% Recovery	43-116% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 14:52
WORK DESCRIPTION...: BG-3

LABORATORY I.D...: 961390-0013
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	72	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	84	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/10/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Barium (Ba), total	0.18	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
[illegible]ium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Iron (Fe), total	3.50	0.05	mg/L	EPA 200.7	06/12/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Manganese (Mn), total	0.67	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Zinc (Zn), total	0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/07/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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LABORATORY TESTS RESULTS

07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:50
WORK DESCRIPTION...: BG-104

LABORATORY I.D...: 961390-0014
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/06/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
hloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:50
WORK DESCRIPTION...: BG-104

LABORATORY I.D...: 961390-0014
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	89	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	97	0	% Recovery	88-110% QC LIMITS		
-Bromofluorobenzene(Surrogate)	87	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:50
WORK DESCRIPTION...: BG-104

LABORATORY I.D...: 961390-0014
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	64	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	70	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	67	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	61	0	% Recovery	43-116% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:50
WORK DESCRIPTION...: BG-104

LABORATORY I.D...: 961390-0014
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	73	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	79	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/10/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Barium (Ba), total	0.60	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Chromium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Iron (Fe), total	5.28	0.05	mg/L	EPA 200.7	06/12/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Manganese (Mn), total	0.22	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Zinc (Zn), total	0.06	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/07/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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CORE LABORATORIES

QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Total Petroleum Hydrocarbons REPORTING LIMIT/DF: 1 UNITS:mg/L				DATE/TIME ANALYZED:06/06/96 13:00 METHOD REFERENCE :EPA 418.1					QC BATCH NUMBER:108967 TECHNICIAN:RLJ	
BLANK	MB060696	Di H2O	<1							
STANDARD	LCS	C60529K	4.1			4.3	95			
SPIKE	BS	961390-0	8.6					0	8.5	101
DUPLICATE	BD	961390-0	<1	<1	NC					
PARAMETER:Phenolics REPORTING LIMIT/DF: 0.005 UNITS:mg/L				DATE/TIME ANALYZED:06/06/96 08:00 METHOD REFERENCE :EPA 420.1					QC BATCH NUMBER:108968 TECHNICIAN:DEH	
BLANK	MB1060696	Di H2O	<0.005							
BLANK	MB2060696	Di H2O	<0.005							
STANDARD	LCS1	508.145.2	0.048			0.050	96			
STANDARD	LCS2	508.145.2	0.049			0.050	98			
SPIKE	MS	964073-4	0.038					0.012	0.030	87
DUPLICATE	MD	964073-4	0.012	0.011	0.001					
PARAMETER:Phenolics REPORTING LIMIT/DF: 0.005 UNITS:mg/L				DATE/TIME ANALYZED:06/07/96 08:00 METHOD REFERENCE :EPA 420.1					QC BATCH NUMBER:109046 TECHNICIAN:DEH	
BLANK	MB1060796	Di H2O	<0.005							
BLANK	MB2060796	Di H2O	<0.005							
STANDARD	LCS1	508.146.13	0.052			0.050	104			
STANDARD	LCS2	508.146.13	0.050			0.050	100			
SPIKE	MS	964073-6	0.038					0.007	0.030	103
DUPLICATE	MD	964073-6	0.007	0.007	0.000					
PARAMETER:Cyanide, Total (CN) REPORTING LIMIT/DF: 0.02 UNITS:mg/L				DATE/TIME ANALYZED:06/05/96 08:00 METHOD REFERENCE :EPA 335.2					QC BATCH NUMBER:109047 TECHNICIAN:GB	
BLANK	MB060596	Di H2O	<0.02							
STANDARD	LCS	508.146.25	0.18			0.19	95			
SPIKE	MS	961390-2	0.05					<0.02	0.05	100
SPIKE	MS	961390-3	0.05					<0.02	0.05	100
DUPLICATE	MD	961390-2	<0.02	<0.02	NC					
DUPLICATE	MD	961390-3	<0.02	<0.02	NC					
PARAMETER:Arsenic (As), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109441 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.08			5.00	102			
STANDARD	ICV	M0012	1.04			1.00	104			
SPIKE	MS	961390-002	0.93					<0.05	1.00	93
DUPLICATE	MD	961390-002	<0.05	<0.05	NC					

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Barium (Ba), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109442 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.11			5.00	102			
STANDARD	ICV	M0008	1.01			1.00	101			
SPIKE	MS	961390-002	0.97					0.08	1.00	89
DUPLICATE	MD	961390-002	0.08	0.08	0.00					
PARAMETER:Cadmium (Cd), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109443 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.24			5.00	105			
STANDARD	ICV	M0012	1.03			1.00	103			
SPIKE	MS	961390-002	0.91					<0.05	1.00	91
DUPLICATE	MD	961390-002	<0.05	<0.05	NC					
PARAMETER:Chromium (Cr), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109444 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.21			5.00	104			
STANDARD	ICV	M0012	1.04			1.00	104			
SPIKE	MS	961390-002	0.90					<0.05	1.00	90
DUPLICATE	MD	961390-002	<0.05	<0.05	NC					
PARAMETER:Lead (Pb), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109445 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.18			5.00	104			
STANDARD	ICV	M0012	1.04			1.00	104			
SPIKE	MS	961390-002	0.88					<0.05	1.00	88
DUPLICATE	MD	961390-002	<0.05	<0.05	NC					
PARAMETER:Selenium (Se), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109446 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.09			5.00	102			
STANDARD	ICV	M0012	1.02			1.00	102			
SPIKE	MS	961390-002	0.85					<0.05	1.00	85
DUPLICATE	MD	961390-002	<0.05	<0.05	NC					

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Selenium (Se), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109446 TECHNICIAN:GCC	
PARAMETER:Silver (Ag), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109447 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.20			5.00	104			
STANDARD	ICV	M0008	1.02			1.00	102			
SPIKE	MS	961390-002	0.87					<0.05	1.00	87
DUPLICATE	MD	961390-002	<0.05	<0.05	NC					
PARAMETER:Copper (Cu), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109452 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
[illegible]ARD	CCV	M0010	5.19			5.00	104			
[illegible]ARD	ICV	M0012	1.01			1.00	101			
SPIKE	MS	961390-002	0.93					<0.05	1.00	93
DUPLICATE	MD	964071-001	<0.05	<0.05	NC					
PARAMETER:Iron (Fe), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109453 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	5.17			5.00	103			
STANDARD	ICV	M0012	1.01			1.00	101			
SPIKE	MS	961390-002	1.86					0.81	1.00	105
DUPLICATE	MD	961390-002	0.81	0.81	0					
PARAMETER:Manganese (Mn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109454 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.18			5.00	104			
STANDARD	ICV	M0012	1.03			1.00	103			
SPIKE	MS	961390-002	1.08					0.18	1.00	90
DUPLICATE	MD	961390-002	0.18	0.19	0.01					
PARAMETER:Nickel (Ni), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109455 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.25			5.00	105			

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Nickel (Ni), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109455 TECHNICIAN:GCC	
STANDARD	ICV	M0012	1.05			1.00	105			
SPIKE	MS	961390-002	0.89					<0.05	1.00	89
DUPLICATE	MD	961390-002	<0.05	<0.05	NC					
PARAMETER:Zinc (Zn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/11/96 16:24 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109457 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.19			5.00	104			
STANDARD	ICV	M0012	1.01			1.00	101			
SPIKE	MS	961390-002	0.94					<0.05	1.00	94
DUPLICATE	MD	961390-002	<0.05	<0.05	NC					
PARAMETER:Arsenic (As), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109499 TECHNICIAN:GCC	
[illegible]	MB	200.7	<0.05							
STANDARD	ICV	M0012	1.05			1.00	105			
STANDARD	CCV	M0010	5.02			5.00	100			
SPIKE	MS	961369-001	0.90					<0.05	1.00	90
SPIKE	PDS	961410-001	0.93					<0.05	1.00	93
DUPLICATE	PDD	961410-001	<0.05	<0.05	NC					
DUPLICATE	MD	961369-001	<0.05	<0.05	NC					
PARAMETER:Barium (Ba), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109500 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3050	<0.05							
STANDARD	CCV	M0010	4.98			5.00	100			
STANDARD	ICV	M0008	1.00			1.00	100			
SPIKE	MS	961369-001	0.97					<0.05	1.00	97
SPIKE	PDS	961410-001	0.92					<0.05	1.00	92
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
DUPLICATE	MD	961369-001	<0.05	<0.05	NC					
PARAMETER:Cadmium (Cd), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109501 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	ICV	M0012	1.01			1.00	101			
STANDARD	CCV	M0010	5.05			5.00	101			
SPIKE	MS	961369-001	0.89					0.06	1.00	83
SPIKE	PDS	961410-001	0.92					<0.05	1.00	92
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Cadmium (Cd), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109501 TECHNICIAN:GCC	
DUPLICATE	PDD	961410-001	<0.05	<0.05	NC					
PARAMETER:Chromium (Cr), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109502 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	ICV	M0012	1.05			1.00	105			
STANDARD	CCV	M0010	5.10			5.00	102			
SPIKE	MS	961369-001	0.83					<0.05	1.00	83
SPIKE	PDS	961410-001	0.89					<0.05	1.00	89
DUPLICATE	PDD	961410-001	<0.05	<0.05	NC					
DUPLICATE	MD	961369-001	<0.05	<0.05	NC					
PARAMETER:Lead (Pb), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109503 TECHNICIAN:GCC	
[illegible]	MB	200.7	<0.05							
[illegible]DARD	ICV	M0012	1.00			1.00	100			
STANDARD	CCV	M0010	5.11			5.00	102			
SPIKE	MS	961369-001	0.80					<0.05	1.00	80
SPIKE	PDS	961410-001	0.87					<0.05	1.00	87
DUPLICATE	PDD	961410-001	<0.05	<0.05	NC					
DUPLICATE	MD	961369-001	<0.05	<0.05	NC					
PARAMETER:Selenium (Se), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109504 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	4.92			5.00	98			
STANDARD	ICV	M0012	1.05			1.00	105			
SPIKE	MS	961369-001	0.98					0.09	1.00	89
SPIKE	PDS	961410-001	1.10					<0.05	1.00	110
DUPLICATE	PDD	961368-001	0.11	0.08	0.03					
DUPLICATE	MD	961369-001	0.09	0.07	0.02					
DUPLICATE	PDD	961310-001	<0.05	<0.05	NC					
PARAMETER:Silver (Ag), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109505 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	5.12			5.00	102			
STANDARD	ICV	M0008	1.01			1.00	101			
SPIKE	MS	961369-001	0.89					<0.05	1.00	89
SPIKE	PDS	961410-001	0.90					0	1.00	90
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
DUPLICATE	MD	961369-001	<0.05	<0.05	NC					

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Silver (Ag), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109505 TECHNICIAN:GCC	
DUPLICATE	PDD	961410-001	0.09	0	0.09					
PARAMETER:Copper (Cu), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109510 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	ICV	M0012	1.05			1.00	105			
STANDARD	CCV	M0010	5.04			5.00	101			
SPIKE	MS	961369-001	0.99					<0.05	1.00	99
SPIKE	PDS	961368-001	0.97					<0.05	1.00	97
SPIKE	PDS	961410-001	0.97					<0.05	1.0	97
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
DUPLICATE	MD	961369-001	<0.05	<0.05	NC					
DUPLICATE	PDD	961410-001	<0.05	<0.05	NC					
PARAMETER:Iron (Fe), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109511 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	ICV	M0012	1.04			1.00	104			
STANDARD	CCV	M0010	5.09			5.00	102			
SPIKE	MS	961369-001	0.88					<0.05	1.00	88
SPIKE	PDS	961368-001	1.02					0.16	1.00	86
DUPLICATE	PDD	961368-001	0.16	0.16	0.00					
DUPLICATE	MD	961369-001	<0.05	<0.05	NC					
PARAMETER:Manganese (Mn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109512 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	ICV	M0012	1.03			1.00	103			
STANDARD	CCV	M0010	5.05			5.00	101			
SPIKE	MS	961369-001	0.85					<0.05	1.00	85
SPIKE	PDS	961368-001	0.90					0.06	1.00	84
DUPLICATE	PDD	961368-001	0.06	0.06	0.00					
DUPLICATE	MD	961369-001	<0.05	<0.05	NC					
PARAMETER:Nickel (Ni), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109513 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	ICV	M0012	1.05			1.00	105			
STANDARD	CCV	M0010	5.11			5.00	102			
SPIKE	MS	961369-001	0.91					0.08	1.00	83
SPIKE	PDS	961368-001	0.84					<0.05	1.00	84
SPIKE	PDS	961410-001	0.90					0	1.00	90

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Nickel (Ni), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109513 TECHNICIAN:GCC	
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
DUPLICATE	MD	961369-001	0.08	0.07	0.01					
DUPLICATE	PDD	961410-001	<0.05	<0.05	NC					
PARAMETER:Zinc (Zn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/12/96 10:41 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109515 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
STANDARD	ICV	M0012	1.03			1.00	103			
STANDARD	CCV	M0010	5.08			5.00	102			
SPIKE	MS	961369-001	1.04					0.20	1.00	84
SPIKE	PDS	961368-001	0.90					<0.05	1.00	90
SPIKE	PDS	961410-001	1.02					0	1.00	102
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
DUPLICATE	PDD	961310-001	<0.05	<0.05	NC					
PARAMETER:Mercury (Hg), total REPORTING LIMIT/DF: 0.002 UNITS:mg/L				DATE/TIME ANALYZED:06/13/96 09:00 METHOD REFERENCE :EPA 245.1/7470					QC BATCH NUMBER:109579 TECHNICIAN:EBS	
BLANK	MB	DI H2O	<0.002							
STANDARD	ICV	507.6.19	0.018			0.020	90			
SPIKE	MS	961390-3	0.047					<0.002	0.050	94
SPIKE	MS	961390-2	0.043					<0.002	0.050	86
SPIKE	MS	961410-1	0.046					<0.002	0.050	92
DUPLICATE	MD	961390-3	<0.002	<0.002	NC					
DUPLICATE	MD	961390-2	<0.002	<0.002	NC					
DUPLICATE	MD	961410-1	<0.002	<0.002	NC					
PARAMETER:Arsenic (As), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109610 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	4.88			5.00	98			
STANDARD	ICV	M0012	1.04			1.00	104			
SPIKE	MS	961430-001	0.95					<0.05	1.00	95
SPIKE	PDS	961368-001	0.89					<0.05	1.00	89
DUPLICATE	MD	961430-001	<0.05	<0.05	NC					
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
PARAMETER:Barium (Ba), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109611 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	ICV	M0008	1.01			1.00	101			

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QUALITY ASSURANCE REPORT

07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Barium (Ba), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109611 TECHNICIAN:GCC	
STANDARD	CCV	M0010	5.05			5.00	101			
SPIKE	MS	961430-001	1.03					0.08	1.00	95
SPIKE	PDS	961368-001	0.99					<0.05	1.00	99
DUPLICATE	MD	961430-001	0.08	0.08	0.00					
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
PARAMETER:Cadmium (Cd), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109612 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	5.01			5.00	100			
STANDARD	ICV	M0012	1.03			1.00	103			
SPIKE	MS	961430-001	0.99					<0.05	1.00	99
SPIKE	PDS	961368-001	0.88					<0.05	1.00	88
DUPLICATE	MD	961430-001	<0.05	<0.05	NC					
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
PARAMETER:Chromium (Cr), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109613 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	5.00			5.00	100			
STANDARD	ICV	M0012	1.04			1.00	104			
SPIKE	MS	961430-001	0.98					<0.05	1.00	98
SPIKE	PDS	961368-001	0.89					<0.05	1.00	89
DUPLICATE	MD	961430-001	<0.05	<0.05	NC					
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
PARAMETER:Selenium (Se), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109614 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	4.91			5.00	98			
STANDARD	ICV	M0012	1.01			1.00	101			
SPIKE	MS	961430-001	0.92					0.05	1.00	87
SPIKE	PDS	961368-001	0.94					<0.05	1.00	94
DUPLICATE	MD	961430-001	0.05	0	0.05					
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
PARAMETER:Silver (Ag), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109615 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Silver (Ag), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7						QC BATCH NUMBER:109615 TECHNICIAN:GCC
BLANK	MB	200.7	<0.05							
STANDARD	ICV	M0008	1.01			1.00	101			
STANDARD	CCV	M0010	5.21			5.00	104			
SPIKE	MS	961430-001	0.98					<0.05	1.00	98
SPIKE	PDS	961368-001	0.87					<0.05	1.00	87
DUPLICATE	MD	961430-001	<0.05	<0.05	NC					
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
PARAMETER:Copper (Cu), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7						QC BATCH NUMBER:109617 TECHNICIAN:GCC
BLANK	MB	200.7	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	5.06			5.00	101			
STANDARD	ICV	M0012	1.01			1.00	101			
[illegible]	MS	961430-001	0.98					<0.05	1.00	98
[illegible]	PDS	961368-001	0.99					<0.05	1.00	99
DUPLICATE	MD	961430-001	<0.05	<0.05	NC					
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
PARAMETER:Nickel (Ni), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7						QC BATCH NUMBER:109619 TECHNICIAN:GCC
BLANK	MB	200.7	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	5.08			5.00	102			
STANDARD	ICV	M0012	0.99			1.00	99			
SPIKE	MS	961430-001	0.98					<0.05	1.00	98
SPIKE	PDS	961368-001	0.91					<0.05	1.00	91
DUPLICATE	MD	961430-001	<0.05	<0.05	NC					
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
PARAMETER:Zinc (Zn), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7						QC BATCH NUMBER:109620 TECHNICIAN:GCC
BLANK	MB	200.7	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	4.97			5.00	99			
STANDARD	ICV	M0012	1.03			1.00	103			
SPIKE	MS	961430-001	1.02					0.09	1.00	93
SPIKE	PDS	961368-001	0.95					<0.05	1.00	95
DUPLICATE	MD	961430-001	0.09	0.05	0.04					
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (|A-B|)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Lead (Pb), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109621 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	4.94			5.00	99			
STANDARD	ICV	M0012	1.02			1.00	102			
SPIKE	MS	961430-001	0.98					<0.05	1.00	98
SPIKE	PDS	961368-001	0.85					<0.05	1.00	85
DUPLICATE	MD	961430-001	<0.05	<0.05	NC					
DUPLICATE	PDD	961368-001	<0.05	<0.05	NC					
PARAMETER:Iron (Fe), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/14/96 16:35 METHOD REFERENCE : 200.7					QC BATCH NUMBER:109625 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	200.7	<0.05							
STANDARD	CCV	M0010	5.11			5.00	102			
[illegible]DARD	ICV	M0012	1.03			1.00	103			
[illegible]E	MS	961430-001	1.00					0.08	1.00	92
SPIKE	PDS	961368-001	1.08					0.17	1.00	91
DUPLICATE	PDD	961368-001	0.17	0.17	0.00					
PARAMETER:Silver (Ag), total REPORTING LIMIT/DF: 0.05 UNITS:mg/L				DATE/TIME ANALYZED:06/24/96 11:45 METHOD REFERENCE : 200.7					QC BATCH NUMBER:110220 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.05							
BLANK	MB	3010	<0.05							
STANDARD	CCV	M0010	5.20			5.00	104			
STANDARD	ICV	M0014	0.96			1.00	96			
SPIKE	PDS	961489-014	0.80					<0.05	1.00	80
DUPLICATE	PDD	961489-014	<0.05	<0.05	NC					
PARAMETER:Silver (Ag), total REPORTING LIMIT/DF: 0.01 UNITS:mg/L				DATE/TIME ANALYZED:06/27/96 15:18 METHOD REFERENCE : 200.7					QC BATCH NUMBER:110490 TECHNICIAN:GCC	
BLANK	MB	200.7	<0.01							
BLANK	MB	200.7	<0.01							
STANDARD	CCV	M0010	4.99			5.00	100			
STANDARD	ICV	M0014	1.00			1.00	100			
SPIKE	PDS	961489-037	0.88					<0.05	1.00	88
SPIKE	MS	961515-001	0.95					<0.05	1.00	95
DUPLICATE	PDD	961489-037	<0.01	<0.01	NC					
DUPLICATE	MD	961515-001	<0.01	<0.01	NC					

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 06/06/96 TIME ANALYZED: 10:13 METHOD: EPA SW-846 8260 QC NUMBER:109032

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8260, All Target Compounds	MB	060696	1	0	0	ug/L

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JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 06/06/96 TIME ANALYZED: 10:13 METHOD: EPA SW-846 8260 QC NUMBER:109032

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Chloromethane	CC	531.28.06	1	106	100	106	10	ug/L
Vinyl chloride	CC	531.28.06	1	108	100	108	5	ug/L
1,1-Dichloroethene	CC	531.28.06	1	96	100	96	5	ug/L
1,1-Dichloroethane	CC	531.28.06	1	87	100	87	5	ug/L
Chloroform	CC	531.28.06	1	82	100	82	5	ug/L
1,2-Dichloropropane	CC	531.28.06	1	92	100	92	5	ug/L
Toluene	CC	531.28.06	1	87	100	87	5	ug/L
Chlorobenzene	CC	531.28.06	1	89	100	89	5	ug/L
Ethylbenzene	CC	531.28.06	1	92	100	92	5	ug/L
Bromoform	CC	531.28.06	1	98	100	98	5	ug/L
1,1,2,2-Tetrachloroethane	CC	531.28.06	1	97	100	97	5	ug/L
Dibromofluoromethane(Surrogate)	CC	531.28.06	1	44	50	88	5	ug/L
Toluene d-8 (Surrogate)	CC	531.28.06	1	47	50	94	5	ug/L
4-Bromofluorobenzene(Surrogate)	CC	531.28.06	1	51	50	102	5	ug/L

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 06/06/96 TIME ANALYZED: 10:13 METHOD: EPA SW-846 8260 QC NUMBER:109032

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
1,1-Dichloroethene	MS	961390-6	1	22	0	20	110	5	ug/L
	MSD	961390-6	1	21	0	20	105	5	ug/L
Benzene	MS	961390-6	1	21	0	20	105	5	ug/L
	MSD	961390-6	1	21	0	20	105	5	ug/L
Trichloroethene	MS	961390-6	1	19	0	20	95	5	ug/L
	MSD	961390-6	1	19	0	20	95	5	ug/L
Toluene	MS	961390-6	1	19	0	20	95	5	ug/L
	MSD	961390-6	1	18	0	20	90	5	ug/L
Chlorobenzene	MS	961390-6	1	18	0	20	90	5	ug/L
	MSD	961390-6	1	18	0	20	90	5	ug/L
Dibromofluoromethane(Surrogate	MB	060696-00	1	47	0	50	94	5	ug/L
Toluene d-8 (Surrogate)	MB	060696-00	1	48	0	50	96	5	ug/L
4-Bromofluorobenzene(Surrogate	MB	060696-00	1	49	0	50	98	5	ug/L

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 06/05/96 TIME ANALYZED: 11:43 METHOD: EPA SW-846 8260 QC NUMBER:109039

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8260, All Target Compounds	MB	060596	1	0	0	ug/L

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 06/05/96 TIME ANALYZED: 11:43 METHOD: EPA SW-846 8260 QC NUMBER:109039

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Chloromethane	CC	531.25.12	1	86	100	86	10	ug/L
Vinyl chloride	CC	531.25.12	1	91	100	91	5	ug/L
1,1-Dichloroethene	CC	531.25.12	1	97	100	97	5	ug/L
1,1-Dichloroethane	CC	531.25.12	1	91	100	91	5	ug/L
Chloroform	CC	531.25.12	1	83	100	83	5	ug/L
1,2-Dichloropropane	CC	531.25.12	1	90	100	90	5	ug/L
Toluene	CC	531.25.12	1	84	100	84	5	ug/L
Chlorobenzene	CC	531.25.12	1	88	100	88	5	ug/L
Ethylbenzene	CC	531.25.12	1	91	100	91	5	ug/L
Bromoform	CC	531.25.12	1	95	100	95	5	ug/L
1,1,2,2-Tetrachloroethane	CC	531.25.12	1	95	100	95	5	ug/L
Dibromofluoromethane(Surrogate)	CC	531.25.12	1	45	50	90	5	ug/L
Toluene d-8 (Surrogate)	CC	531.25.12	1	48	50	96	5	ug/L
4-Bromofluorobenzene(Surrogate)	CC	531.25.12	1	54	50	108	5	ug/L

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 06/05/96 TIME ANALYZED: 11:43 METHOD: EPA SW-846 8260 QC NUMBER:109039

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
1,1-Dichloroethene	MS	961390-2	1	20	0	20	100	5	ug/L
	MSD	961390-2	1	18	0	20	90	5	ug/L
Benzene	MS	961390-2	1	19	0	20	95	5	ug/L
	MSD	961390-2	1	20	0	20	100	5	ug/L
Trichloroethene	MS	961390-2	1	17	0	20	85	5	ug/L
	MSD	961390-2	1	17	0	20	85	5	ug/L
Toluene	MS	961390-2	1	18	0	20	90	5	ug/L
	MSD	961390-2	1	18	0	20	90	5	ug/L
Chlorobenzene	MS	961390-2	1	18	0	20	90	5	ug/L
	MSD	961390-2	1	18	0	20	90	5	ug/L
Dibromofluoromethane(Surrogate	MB	060596-00	1	47	0	50	94	5	ug/L
Toluene d-8 (Surrogate)	MB	060596-00	1	48	0	50	96	5	ug/L
4-Bromofluorobenzene(Surrogate	MB	060596-00	1	50	0	50	100	5	ug/L

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 06/04/96 TIME ANALYZED: 12:16 METHOD: EPA SW-846 8260 QC NUMBER:109040

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8260, All Target Compounds	MB	060496	1	0	0	ug/L

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 06/04/96 TIME ANALYZED: 12:16 METHOD: EPA SW-846 8260 QC NUMBER:109040

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Chloromethane	CC	531.25.12	1	96	100	96	10	ug/L
Vinyl chloride	CC	531.25.12	1	96	100	96	5	ug/L
1,1-Dichloroethene	CC	531.25.12	1	101	100	101	5	ug/L
1,1-Dichloroethane	CC	531.25.12	1	88	100	88	5	ug/L
Chloroform	CC	531.25.12	1	82	100	82	5	ug/L
1,2-Dichloropropane	CC	531.25.12	1	90	100	90	5	ug/L
Toluene	CC	531.25.12	1	84	100	84	5	ug/L
Chlorobenzene	CC	531.25.12	1	89	100	89	5	ug/L
Ethylbenzene	CC	531.25.12	1	91	100	91	5	ug/L
Bromoform	CC	531.25.12	1	93	100	93	5	ug/L
1,1,2,2-Tetrachloroethane	CC	531.25.12	1	97	100	97	5	ug/L
Dibromofluoromethane(Surrogate)	CC	531.25.12	1	47	50	94	5	ug/L
Toluene d-8 (Surrogate)	CC	531.25.12	1	48	50	96	5	ug/L
4-Bromofluorobenzene(Surrogate)	CC	531.25.12	1	52	50	104	5	ug/L

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

Volatiles Matrix Spike Compounds DATE ANALYZED: 06/04/96 TIME ANALYZED: 12:16 METHOD: EPA SW-846 8260 QC NUMBER:109040

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
1,1-Dichloroethene	MS	961364-1	1	5290	0	6250	85	5	ug/L
	MSD	961364-1	1	6670	0	6250	107	5	ug/L
Benzene	MS	961364-1	1	5920	0	6250	95	5	ug/L
	MSD	961364-1	1	5620	0	6250	90	5	ug/L
Trichloroethene	MS	961364-1	1	5160	0	6250	83	5	ug/L
	MSD	961364-1	1	5110	0	6250	82	5	ug/L
Toluene	MS	961364-1	1	5780	0	6250	92	5	ug/L
	MSD	961364-1	1	6510	0	6250	104	5	ug/L
Chlorobenzene	MS	961364-1	1	5250	0	6250	84	5	ug/L
	MSD	961364-1	1	5170	0	6250	83	5	ug/L
Dibromofluoromethane(Surrogate	MB	060496-00	1	49	0	50	98	5	ug/L
Toluene d-8 (Surrogate)	MB	060496-00	1	44	0	50	88	5	ug/L
4-Bromofluorobenzene(Surrogate	MB	060496-0	1	50	0	50	100	5	ug/L

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

BNA Matrix Spike Compounds DATE ANALYZED: 06/07/96 TIME ANALYZED: 12:55 METHOD: EPA SW-846 8270B QC NUMBER:109353

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
SW-846 8270B, All Target Compounds	MB	060596	1	0	0	ug/L

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QUALITY ASSURANCE REPORT
07/17/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

BNA Matrix Spike Compounds DATE ANALYZED: 06/07/96 TIME ANALYZED: 12:55 METHOD: EPA SW-846 8270B QC NUMBER:109353

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Acenaphthene	BS	060596-00	1	72	0	100	72	10	ug/L
	MS	961390-3	1	790	0	1000	79	10	ug/L
	MSD	961390-3	1	770	0	1000	77	10	ug/L
4-Chloro-3-methylphenol	BS	060596-00	1	150	0	200	75	20	ug/L
	MS	961390-3	1	1600	0	2000	80	20	ug/L
	MSD	961390-3	1	1600	0	2000	80	20	ug/L
2-Chlorophenol	BS	060596-00	1	140	0	200	70	10	ug/L
	MS	961390-3	1	1500	0	2000	75	10	ug/L
	MSD	961390-3	1	1400	0	2000	70	10	ug/L
1,4-Dichlorobenzene	BS	060596-00	1	56	0	100	56	10	ug/L
	MS	961390-3	1	620	0	1000	62	10	ug/L
	MSD	961390-3	1	580	0	1000	58	10	ug/L
2,4-Dinitrotoluene	BS	060596-00	1	66	0	100	66	10	ug/L
	MS	961390-3	1	710	0	1000	71	10	ug/L
	MSD	961390-3	1	700	0	1000	70	10	ug/L
[illegible]trophenol	BS	060596-00	1	100	0	200	50	50	ug/L
	MS	961390-3	1	1200	0	2000	60	50	ug/L
	MSD	961390-3	1	1100	0	2000	55	50	ug/L
N-Nitrosodi-n-propylamine	BS	060596-00	1	76	0	100	76	10	ug/L
	MS	961390-3	1	830	0	1000	83	10	ug/L
	MSD	961390-3	1	810	0	1000	81	10	ug/L
Pentachlorophenol	BS	060596-00	1	160	0	200	80	50	ug/L
	MS	961390-3	1	1800	0	2000	90	50	ug/L
	MSD	961390-3	1	1700	0	2000	85	50	ug/L
Phenol	BS	060596-00	1	130	0	200	65	10	ug/L
	MS	961390-3	1	1400	0	2000	70	10	ug/L
	MSD	961390-3	1	1300	0	2000	65	10	ug/L
Pyrene	BS	060596-00	1	90	0	100	90	10	ug/L
	MS	961390-3	1	960	0	1000	96	10	ug/L
	MSD	961390-3	1	940	0	1000	94	10	ug/L
1,2,4-Trichlorobenzene	BS	060596-00	1	60	0	100	60	10	ug/L
	MS	961390-3	1	670	0	1000	67	10	ug/L
	MSD	961390-3	1	620	0	1000	62	10	ug/L

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QUALITY ASSURANCE FOOTER

Cited Methods are obtained from the following documents :

EPA 600/2-79-020, Methods for the Analysis of Water and Wastes, March 1983.
USEPA SW-846 3rd. Edition, November 1990 and July 1992 Update, Test Methods for Evaluating Solid Waste.
EPA 600/2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.
Federal Register, July 1, 1992 (40 CFR Part 136).
Standard Methods for the Examination of Water and Wastewater, 18th Ed. APHA, AWWA, WPCF.
Methods of Soil Analysis, Agronomy No. 9, C.A. Black, 1965.

Quality control acceptance criteria are method dependent.
All data reported on sample "as received" unless noted.
Sample IDs with a "-00" at the end indicate a blank spike or blank spike duplicate associated with the numbered sample.
NC = Not Calculated due to value at or below detection limit.
NOTE: Data in QA report may differ from final results due to digestion and/or dilution of sample into analytical range.
The "TIME ANALYZED" in the QA report refers to the start time of the analytical batch which may not reflect the actual time of each analysis. The "DATE ANALYZED" is the actual date of analysis.
The data in this report are within the limits of uncertainty specified in the referenced method unless otherwise indicated.

SUBCONTRACTED LABORATORY LOCATIONS

For analyses performed by a subcontract laboratory, an "*" and the designated laboratory code is indicated in the "TECHN" column of the laboratory test results report.

Core Laboratories :

Anaheim	*AN	Lake Charles	*LC
Aurora	*AU	Long Beach	*LB
Casper	*CA	Other Laboratories	*XX
Houston	*HP		

QUALITY ASSURANCE REPORT CODES

BLANKS*

MB = Method Blank
RB = Reagent Blank
SB = Storage Blank
ICB = Initial Calib. Blank
CCB = Continuing Calib. Blank

REFERENCE STANDARDS

RS = Reference Standard
CC = Continuing Calib.
LCS = Laboratory Control Std.
ICV = Initial Calib. Verification
CCV = Cont. Calib. Verification

SPIKES AND DUPLICATES

MS = Matrix Spike, BS = Blank Spike
SS = Surrogate Spike, MD = Matrix Dup.
PDS= Post Digested Spike
MSD= Matrix Spike Duplicate
PDD= Post Digested Duplicate

*In the event that several different method blanks are analyzed, the blank type will be designated by the preparation method, i.e., ZHE, TCLP, 3010, 3050, etc.

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CORELAB

ENVIRONMENTAL TESTING SERVICES

August 29, 1996

Mr. Jack Cooper
Halff Associates, Inc.
8616 NW Plaza Dr.
Dallas, Texas 75225

Dear Mr. Cooper:

Attached are the revised laboratory test results pages for Core Laboratories job number 961390 samples 6, 8, and 9. Due to a data entry error these samples were erroneously reported as 26 mg/L, 26 mg/L, and 73 mg/L. Review of raw data reports indicate that these values were actually <0.05 mg/L, 0.26 mg/L, and 0.73 mg/L. These pages have been amended to reflect the actual results for these groundwater samples. Please replace the original analytical report pages with these revised analytical report pages and feel free to contact me if you have any questions concerning these samples.

Sincerely,

Charles Sassine
Laboratory Supervisor

:cs

Core Laboratories, Inc.
1733 North Padre Island Drive, Corpus Christi, Texas 78408, (512) 289-2673, Fax (512) 289-2471

CORE LAB

CORE LABORATORIES

LABORATORY TESTS RESULTS
08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: BG-3 SAMPLE I.D. = BG-2

LABORATORY I.D...: 961390-0006
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/05/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS

08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: BG-3 SAMPLE I.D. = BG-2

LABORATORY I.D...: 961390-0006
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	96	0	% Recovery	86-118% QC LIMITS		
oluene d-8 (Surrogate)	96	0	% Recovery	88-110% QC LIMITS		
-Bromofluorobenzene(Surrogate)	100	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: BG-3 SAMPLE I.D. = BG-2

LABORATORY I.D...: 961390-0006
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	65	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	70	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	68	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	61	0	% Recovery	43-116% QC LIMITS		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 13:20
WORK DESCRIPTION...: BG-3 SAMPLE I.D. = BG-2

LABORATORY I.D...: 961390-0006
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	80	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	82	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/13/96	GCC
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Barium (Ba), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
[illegible]ium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Iron (Fe), total	0.28	0.05	mg/L	EPA 200.7	06/14/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Manganese (Mn), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Zinc (Zn), total	<0.05	0.05	mg/L	EPA 200.7	06/14/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/06/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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CORE LABORATORIES

LABORATORY TESTS RESULTS

08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 961390-0008
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/05/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 961390-0008
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	95	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	95	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	93	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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CORPUS CHRISTI, TX 78408
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CORE LABORATORIES

LABORATORY TESTS RESULTS

08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 961390-0008
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	62	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	69	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	67	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	62	0	% Recovery	43-116% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS

08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: BG-101

LABORATORY I.D...: 961390-0008
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	80	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	77	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/25/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Barium (Ba), total	0.58	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
[illegible]ium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Iron (Fe), total	12.5	0.05	mg/L	EPA 200.7	06/12/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Manganese (Mn), total	0.26	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/27/96	GCC
Zinc (Zn), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/06/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

1733 NORTH PADRE ISLAND DRIVE
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LABORATORY TESTS RESULTS
08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:20
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 961390-0009
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
GC/MS Volatile Organics		*1		EPA SW-846 8260	06/05/96	KRM
Acetone	<100	100	ug/L	EPA SW-846 8260		
Acrolein	<50	50	ug/L	EPA SW-846 8260		
Acrylonitrile	<50	50	ug/L	EPA SW-846 8260		
Benzene	<5	5	ug/L	EPA SW-846 8260		
Bromodichloromethane	<5	5	ug/L	EPA SW-846 8260		
Bromoform	<5	5	ug/L	EPA SW-846 8260		
Bromomethane	<10	10	ug/L	EPA SW-846 8260		
Methyl ethyl ketone	<50	50	ug/L	EPA SW-846 8260		
Carbon disulfide	<5	5	ug/L	EPA SW-846 8260		
Carbon tetrachloride	<5	5	ug/L	EPA SW-846 8260		
Chlorobenzene	<5	5	ug/L	EPA SW-846 8260		
Chlorodibromomethane	<5	5	ug/L	EPA SW-846 8260		
Chloroethane	<10	10	ug/L	EPA SW-846 8260		
2-Chloroethylvinyl ether	<10	10	ug/L	EPA SW-846 8260		
Chloroform	<5	5	ug/L	EPA SW-846 8260		
Chloromethane	<10	10	ug/L	EPA SW-846 8260		
Dibromomethane	<5	5	ug/L	EPA SW-846 8260		
Dichlorodifluoromethane	<10	10	ug/L	EPA SW-846 8260		
1,1-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
trans-1,2-Dichloroethene	<5	5	ug/L	EPA SW-846 8260		
1,2-Dichloropropane	<5	5	ug/L	EPA SW-846 8260		
cis-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
trans-1,3-Dichloropropene	<5	5	ug/L	EPA SW-846 8260		
Ethylbenzene	<5	5	ug/L	EPA SW-846 8260		
Ethyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
Methyl butyl ketone	<5	5	ug/L	EPA SW-846 8260		
Iodomethane	<5	5	ug/L	EPA SW-846 8260		
Methylene chloride	<50	50	ug/L	EPA SW-846 8260		
Methyl isobutyl ketone	<10	10	ug/L	EPA SW-846 8260		
Styrene	<5	5	ug/L	EPA SW-846 8260		
1,1,2,2-Tetrachloroethane	<5	5	ug/L	EPA SW-846 8260		
Tetrachloroethene	<5	5	ug/L	EPA SW-846 8260		
Toluene	<5	5	ug/L	EPA SW-846 8260		
1,1,1-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
1,1,2-Trichloroethane	<5	5	ug/L	EPA SW-846 8260		
Trichloroethene	<5	5	ug/L	EPA SW-846 8260		
Trichlorofluoromethane	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichloropropane	<5	5	ug/L	EPA SW-846 8260		
Vinyl acetate	<10	10	ug/L	EPA SW-846 8260		
Vinyl chloride	<5	5	ug/L	EPA SW-846 8260		
Total Xylenes	<10	10	ug/L	EPA SW-846 8260		

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CORE LABORATORIES

LABORATORY TESTS RESULTS
08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:20
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 961390-0009
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
cis-1,2-Dichloroethylene	<5	5	ug/L	EPA SW-846 8260		
Methyl t-Butyl Ether	<5	5	ug/L	EPA SW-846 8260		
Acetonitrile	<5	5	ug/L	EPA SW-846 8260		
1,4-Dioxane	<500	500	ug/L	EPA SW-846 8260		
Ethyl acetate	<5	5	ug/L	EPA SW-846 8260		
Ethyl ether	<5	5	ug/L	EPA SW-846 8260		
Methyl methacrylate	<5	5	ug/L	EPA SW-846 8260		
1,1,2Trichloro-1,2,2Trifluoroethan	<50	50	ug/L	EPA SW-846 8260		
1,2,4-Tri-Methylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,3,5-Trimethylbenzene	<5	5	ug/L	EPA SW-846 8260		
1,2,3-Trichlorobenzene	<5	5	ug/L	EPA SW-846 8260		
1-Methylpyrrolidine	<500	500	ug/L	EPA SW-846 8260		
Dibromofluoromethane(Surrogate)	96	0	% Recovery	86-118% QC LIMITS		
Toluene d-8 (Surrogate)	100	0	% Recovery	88-110% QC LIMITS		
4-Bromofluorobenzene(Surrogate)	86	0	% Revovery	86-115% QC LIMITS		
GC/MS Semivolatile Organics		*1		EPA SW-846 8270B	06/07/96	GEF
Acenaphthene	<10	10	ug/L	EPA SW-846 8270B		
Acenaphthylene	<10	10	ug/L	EPA SW-846 8270B		
Anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)anthracene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(b)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(k)fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(ghi)perylene	<10	10	ug/L	EPA SW-846 8270B		
Benzo(a)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Benzyl Alcohol	<20	20	ug/L	EPA SW-846 8270B		
Bis(2-chloroethoxy)methane	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroethyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-chloroisopropyl)ether	<10	10	ug/L	EPA SW-846 8270B		
Bis(2-ethylhexyl) phthalate	<50	50	ug/L	EPA SW-846 8270B		
4-Bromophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Butyl benzyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4-Chloroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Chloro-3-methylphenol	<20	20	ug/L	EPA SW-846 8270B		
2-Chloronaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Chlorophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Chlorophenyl phenyl ether	<10	10	ug/L	EPA SW-846 8270B		
Chrysene	<10	10	ug/L	EPA SW-846 8270B		
1,2-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,3-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
1,4-Dichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
3,3'-Dichlorobenzidine	<20	20	ug/L	EPA SW-846 8270B		
2,4-Dichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Dibenzo(a,h)anthracene	<10	10	ug/L	EPA SW-846 8270B		

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CORE LABORATORIES

LABORATORY TESTS RESULTS

08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:20
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 961390-0009
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Dibenzofuran	<10	10	ug/L	EPA SW-846 8270B		
Diethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
2,4-Dimethylphenol	<20	20	ug/L	EPA SW-846 8270B		
Dimethyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
4,6-Dinitro-2-methylphenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrophenol	<50	50	ug/L	EPA SW-846 8270B		
2,4-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
2,6-Dinitrotoluene	<10	10	ug/L	EPA SW-846 8270B		
Di-n-octyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Fluorene	<10	10	ug/L	EPA SW-846 8270B		
Fluoranthene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorobutadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachlorocyclopentadiene	<10	10	ug/L	EPA SW-846 8270B		
Hexachloroethane	<10	10	ug/L	EPA SW-846 8270B		
Ideno(1,2,3-cd)pyrene	<10	10	ug/L	EPA SW-846 8270B		
Isophorone	<10	10	ug/L	EPA SW-846 8270B		
2-Methylnaphthalene	<10	10	ug/L	EPA SW-846 8270B		
2-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
3-Nitroaniline	<50	50	ug/L	EPA SW-846 8270B		
4-Nitroaniline	<20	20	ug/L	EPA SW-846 8270B		
2-Nitrophenol	<10	10	ug/L	EPA SW-846 8270B		
4-Nitrophenol	<50	50	ug/L	EPA SW-846 8270B		
N-Nitrosodi-n-propylamine	<10	10	ug/L	EPA SW-846 8270B		
N-Nitrosodiphenylamine	<10	10	ug/L	EPA SW-846 8270B		
Naphthalene	<10	10	ug/L	EPA SW-846 8270B		
Nitrobenzene	<10	10	ug/L	EPA SW-846 8270B		
Pentachlorophenol	<50	50	ug/L	EPA SW-846 8270B		
Phenanthrene	<10	10	ug/L	EPA SW-846 8270B		
Phenol	<10	10	ug/L	EPA SW-846 8270B		
Pyrene	<10	10	ug/L	EPA SW-846 8270B		
1,2,4-Trichlorobenzene	<10	10	ug/L	EPA SW-846 8270B		
2,4,5-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
2,4,6-Trichlorophenol	<10	10	ug/L	EPA SW-846 8270B		
Di-n-butyl phthalate	<10	10	ug/L	EPA SW-846 8270B		
Aniline	<10	10	ug/L	EPA SW-846 8270B		
o-Cresol	<10	10	ug/L	EPA SW-846 8270B		
p,m-Cresol	<10	10	ug/L	EPA SW-846 8270B		
2-Naphthylamine	<10	10	ug/L	EPA SW-846 8270B		
Phthalic anhydride	<10	10	ug/L	EPA SW-846 8270B		
Pyridine	<10	10	ug/L	EPA SW-846 8270B		
2-Fluorophenol (Surrogate)	70	0	% Recovery	21-100% QC LIMITS		
Phenol-d6 (Surrogate)	70	0	% Recovery	10-94% QC LIMITS		
Nitrobenzene-d5 (Surrogate)	66	0	% Recovery	35-114% QC LIMITS		
2-Fluorobiphenyl (Surrogate)	58	0	% Recovery	43-116% QC LIMITS		

1733 NORTH PADRE ISLAND DRIVE
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CORE LABORATORIES

LABORATORY TESTS RESULTS
08/29/96

JOB NUMBER: 961390 CUSTOMER: HALFF ASSOCIATES, INC. ATTN: JACK COOPER

CLIENT I.D.....: 15365 EA02
DATE SAMPLED.....: 06/03/96
TIME SAMPLED.....: 16:20
WORK DESCRIPTION...: BG-106

LABORATORY I.D...: 961390-0009
DATE RECEIVED....: 06/03/96
TIME RECEIVED....: 18:40
REMARKS.....: SAMPLED BY J.C.

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
2,4,6-Tribromophenol(Surrogate)	73	0	% Revovery	10-123% QC LIMITS		
Terphenyl-d14 (Surrogate)	76	0	% Recovery	33-141% QC LIMITS		
Extraction - Semivolatiles (BNA)	Completed			EPA SW-846 3520	06/05/96	DGP
ICP Metals Digest	Completed			EPA 200.7	06/10/96	RLJ
Arsenic (As), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Barium (Ba), total	0.22	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cadmium (Cd), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
[illegible]ium (Cr), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Copper (Cu), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Iron (Fe), total	8.16	0.05	mg/L	EPA 200.7	06/12/96	GCC
Lead (Pb), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Manganese (Mn), total	0.73	0.05	mg/L	EPA 200.7	06/12/96	GCC
Nickel (Ni), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Selenium (Se), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Silver (Ag), total	<0.05	0.05	mg/L	EPA 200.7	06/12/96	GCC
Zinc (Zn), total	0.07	0.05	mg/L	EPA 200.7	06/12/96	GCC
Cyanide, Total (CN)	<0.02	0.02	mg/L	EPA 335.2	06/05/96	GB
Phenolics	<0.005	0.005	mg/L	EPA 420.1	06/06/96	DEH
Total Petroleum Hydrocarbons	<1	1	mg/L	EPA 418.1	06/06/96	RLJ
Mercury (Hg), total	<0.002	0.002	mg/L	EPA 245.1	06/13/96	EBS

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[illegible] TX [illegible]	ADDRESS:
PHONE: [illegible]	PHONE:
FAX: [illegible]	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TDS	TSS	TDS	CHLORIDES	SULFATES				REMARKS / PRECAUTIONS
[illegible]-112		7-10-96	830	W	VAR	VAR	2	X	X	X	X	X				
[illegible]-102			850	W	VAR	VAR	2	X	X	X	X	X				
[illegible]-108A			850	W	VAR	VAR	2	X	X	X	X	X				
[illegible]			910	W	VAR	VAR	2	X	X	X	X	X				
[illegible]-104			935	W	VAR	VAR	2	X	X	X	X	X				
[illegible]-101			1000	W	VAR	VAR	2	X	X	X	X	X				
[illegible]-2			1055	W	VAR	VAR	2	X	X	X	X	X				
[illegible]-3			1115	W	VAR	VAR	2	X	X	X	X	X				
[illegible]-1			1135	W	VAR	VAR	2	X	X	X	X	X				

SAMPLER: Jack Lucas / Adam Garcia

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND:* [ ] SAME DAY [ ] 24 HOURS [ ] 48 HOURS [ ] 72 HOURS [ ] 5 DAYS [ ] 10 DAYS [X] ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [illegible]	7-10-96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: [illegible] ASSOCIATES, INC.	TIME 1430	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE 7/10/96	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: [illegible]		SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: CORE	TIME 1430	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

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ADDRESS: 4210 Mesa Dr.	BILL TO: SAME
Dallas, TX 75039	ADDRESS:
PHONE: 214-337-0094	PHONE:
FAX: 214-759-4314	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH 418.1	VOC 8260	SVOC 8270	RCRA Metals + Copper, Zinc, Iron, Nickel	Cyanide	Pesticides			REMARKS / PRECAUTIONS
[illegible]	Trip Blank #1	6-3-96	930	W	VOA	HCL	2		X							
[illegible]		6-3-96	955	W	VARIOUS	VARIOUS	10	X	X	X	X	X	X			
BG-108		6-3-96	1050	W	"	"	10	X	X	X	X	X	X			

SAMPLER: SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* [ ] SAME DAY [ ] 24 HOURS [ ] 48 HOURS [ ] 72 HOURS [ ] 5 DAYS [ ] 10 DAYS [✓] ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [signature]	6-3-96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: Huff Assoc., Inc	TIME 1640	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: [signature]	6-3-96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: [illegible]	TIME 1640	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

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COMPANY: HALFF ASSOC., INC.	PROJECT NAME/NUMBER:
SEND REPORT TO: JACK COOPER	BILLING INFORMATION
ADDRESS: 8616 NW PLAZA DR.	BILL TO: HALFF ASSOC., INC.
DALLAS, TX. 75225	ADDRESS: SAME
PHONE: 214-739-0694	PHONE:
FAX: 214 739-4814	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH	VOC	SVOC	Metals + Cyanide, Zinc, Iron, Nickel	Pesticides	Herbicides			REMARKS / PRECAUTIONS
[illegible]	[illegible] #2	6-3-96	930	W	VOA	HCl	2		X							
BG-10A		6.3.96	1050	W	VARIOUS	VARIOUS	10	X	X	X	X	X	X			
BG-3	SAMPLE ID. = BG-2	6.3.96	1320	W	"	"	10	X	X	X	X	X	X			

ANALYSIS / METHOD REQUEST

SAMPLER: JACK COOPER

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND:* [ ] SAME DAY [ ] 24 HOURS [ ] 48 HOURS [ ] 72 HOURS [ ] 5 DAYS [ ] 10 DAYS [X] ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [signature]	6.3.96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: HALFF ASSOC., INC	TIME 1840	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: [signature]	6-3-96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: [illegible]	TIME 1840	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

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ADDRESS: 8616 NW PLAZA DR, DALLAS, TX 75225	BILL TO: HALFF ASSOC., INC. ADDRESS: SAME
PHONE: 214 · 739 · 6094	PHONE:
FAX: 214 · 739 · 4814	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH 418.1	VOC 8260	SVOC 8270	RCRA METALS + CU, ZN, FE & AL	CYANIDE	PHENOLICS			REMARKS / PRECAUTIONS
TB-4	TRIP BLANK #4	6·3·96	1300	W	VOA	HCL	2		X							
BG-101		6·3·96	1530	W	VARIOUS	VARIOUS	10	X	X	X	X	X	X			
BG-106		6·3·96	1620	W	"	"	10	X	X	X	X	X	X			
B-01	FIELD BLANK #1	6·3·96	1640	W	"	"	10	X	X	X	X	X	X			

SAMPLER: JACK COOPER

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: J. Cooper	6·3·96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: Halff Assoc. Inc.	TIME 1540	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: Tonya Dunnigan	6-3-96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: CORE LAB	TIME 1840	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

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DALLAS, TX 75225	ADDRESS: SAME
PHONE: 214.739.0094	PHONE:
FAX: 214.739.4314	FAX: PO NO.:

LAB JOB NO.

SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	TPH 418.1	VOC 8260	SVOC 8270	RCRA METALS + CU, ZN, FE + NI	CYANIDE	PHENOLICS			REMARKS / PRECAUTIONS
3	TRIP BLANK #3	6.3.96	1300	W	VOA	HCL	2		X							
1		6.3.96	1355	W	VARIOUS	VARIOUS	10	X	X	X	X	X	X			
3		6.3.96	1452	W	"	"	10	X	X	X	X	X	X			
10		6.3.96	1550	W	"	"	10	X	X	X	X	X	X			

SAMPLER: JACK COOPER

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: [signature]	6.3.96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: Halff Assoc., Inc	TIME 1340	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE: [signature]	6.3.96	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: CLV	TIME 1340	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

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APPENDIX J

DOCUMENTATION OF STATISTICAL METHODOLOGY

Fax Transmittal Memo	# of Pages 5
To: Mark K Edwards	From: Ellie Wehner
Co.: Heath + Assoc.	Co.:
Dept.:	Phone # 512-239-2358
Fax # 214-739-4814	Fax #

RCFX14

STATISTICAL ANALYSIS OF GROUND-WATER MONITORING DATA AT RCRA FACILITIES

INTERIM FINAL GUIDANCE

OFFICE OF SOLID WASTE
WASTE MANAGEMENT DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY
401 M STREET, S.W.
WASHINGTON, D.C. 20460

APRIL 1989

Step 2. Calculate the sample standard deviation, S.

$$S = \left[\sum_{i=1}^{n} (X_i - \overline{X})^2/(n - 1) \right]^{1/2}$$

Step 3. Divide the sample standard deviation by the sample mean. This ratio is the CV.

$$CV = S/\overline{X}.$$

Step 4. Determine if the result of Step 3 exceeds 1.00. If so, this is evidence that the normal distribution does not fit the data adequately.

EXAMPLE

Table 4-1 is an example data set of chlordane concentrations in 24 water samples from a fictitious site. The data are presented in order from least to greatest.

TABLE 4-1. EXAMPLE DATA FOR COEFFICIENT-OF-VARIATION TEST

	Chlordane concentration (ppm)
	0.04
	0.18
	0.18
	0.25
	0.29
	0.38
	0.50
	0.50
	0.60
Dissolved phase	0.93
	0.97
	1.10
	1.16
	1.29
	1.37
	1.38
	1.45
	1.46
----------	2.58
	2.69
	2.80
Immiscible phase	3.33
	4.50
	6.60

especially similar hydrogeologic and potential contaminant characteristics. However, because many of the compounds may not be studied in the literature, extrapolations to compounds with similar chemical characteristics and to sites with similar hydrogeologic conditions are also acceptable. Basically, the owner or operator needs to provide some reason or justification for choosing a particular distribution.

4.2.2 Coefficient-of-Variation Test

Many statistical procedures assume that the data are normally distributed. The concentration of a hazardous constituent in ground water is inherently nonnegative, while the normal distribution allows for negative values. However, if the mean of the normal distribution is sufficiently above zero, the distribution places very little probability on negative observations and is still a valid approximation.

One simple check that can rule out use of the normal distribution is to calculate the coefficient of variation of the data. The use of this method was required by the former Part 264 Subpart F regulations pursuant to Section 264.97(h)(1). Because most owners and operators as well as Regional personnel are already familiar with this procedure, it will probably be used frequently. The coefficient of variation, CV, is the standard deviation of the observations, divided by their mean. If the normal distribution is to be a valid model, there should be very little probability of negative values. The number of standard deviations by which the mean exceeds zero determines the probability of negative values. For example, if the mean exceeds zero by one standard deviation, the normal distribution will have less than 0.159 probability of a negative observation.

Consequently, one can calculate the standard deviation of the observations, calculate the mean, and form the ratio of the standard deviation divided by the mean. If this ratio exceeds 1.00, there is evidence that the data are not normal and the normal distribution should not be used for those data. (There are other possibilities for nonnormality, but this is a simple check that can rule out obviously nonnormal data.)

PURPOSE

This test is a simple check for evidence of gross nonnormality in the ground-water monitoring data.

PROCEDURE

To apply the coefficient-of-variation check for normality proceed as follows.

Step 1. Calculate the sample mean, $\bar{X}$, of n observations X_i, i=1, ...,n.

$$\bar{X} = \left(\sum_{i=1}^{n} X_i\right)/n$$

Step 6. Compute the differences between the average rank of each compliance well and the average rank of the background well:

Differences	Critical values
$D_2 = 19.0 - 8.5 = 10.5$	$C_2 = -10.5$
$D_3 = 5.17 - 8.5 = -3.33$	$C_3 = 10.5$
$D_4 = 5.25 - 8.5 = -3.25$	$C_4 = 9.8$
$D_5 = 15.67 - 8.5 = 7.17$	$C_5 = -10.5$
$D_6 = 11.83 - 8.5 = 3.13$	$C_6 = -10.5$

Compare each difference with the corresponding critical difference. $D_2 = 10.5$ equals the critical value of $C_2 = 10.5$. We conclude that the concentration of benzene averaged over compliance Well 2 is significantly greater than that at the background well. None of the other compliance well concentration of benzene is significantly higher than the average background value. Based upon these results, only compliance Well 2 can be singled out as being contaminated.

For data sets with more than 30 observations, the parametric analysis of variance performed on the rank values is a good approximation to the Kruskal-Wallis test (Quade, 1966). If the user has access to SAS, the PROC RANK procedure is used to obtain the ranks of the data. The analysis of variance procedure detailed in Section 5.2.1 is then performed on the ranks. Contrasts are tested as in the parametric analysis of variance.

INTERPRETATION

The Kruskal-Wallis test statistic is compared to the tabulated critical value from the chi-squared distribution. If the test statistic does not exceed the tabulated value, there is no statistically significant evidence of contamination and the analysis would stop and report this finding. If the test statistic exceeds the tabulated value, there is significant evidence that the hypothesis of no differences in compliance concentrations from the background level is not true. Consequently, if the test statistic exceeds the critical value, one concludes that there is significant evidence of contamination. One then proceeds to investigate where the differences lie, that is, which wells are indicating contamination.

The multiple comparisons procedure described in steps 5 and 6 compares each compliance well to the background well. This determines which compliance wells show statistically significant evidence of contamination at an experimentwise error rate of 5 percent. In many cases, inspection of the mean or median concentrations will be sufficient to indicate where the problem lies.

5.3 TOLERANCE INTERVALS BASED ON THE NORMAL DISTRIBUTION

An alternate approach to analysis of variance to determine whether there is statistically significant evidence of contamination is to use tolerance intervals. A tolerance interval is constructed from the data on (uncontaminated) background wells. The concentrations from compliance wells are then

compared with the tolerance interval. With the exception of pH, if the compliance concentrations do not fall in the tolerance interval, this provides statistically significant evidence of contamination.

Tolerance intervals are most appropriate for use at facilities that do not exhibit high degrees of spatial variation between background wells and compliance wells. Facilities that overlie extensive, homogeneous geologic deposits (for example, thick, homogeneous lacustrine clays) that do not naturally display hydrogeochemical variations may be suitable for this statistical method of analysis.

A tolerance interval establishes a concentration range that is constructed to contain a specified proportion (P%) of the population with a specified confidence coefficient, Y. The proportion of the population included, P, is referred to as the coverage. The probability with which the tolerance interval includes the proportion P% of the population is referred to as the tolerance coefficient.

A coverage of 95% is recommended. If this is used, random observations from the same distribution as the background well data would exceed the upper tolerance limit less than 5% of the time. Similarly, a tolerance coefficient of 95% is recommended. This means that one has a confidence level of 95% that the upper 95% tolerance limit will contain at least 95% of the distribution of observations from background well data. These values were chosen to be consistent with the performance standards described in Section 2. The use of these values corresponds to the selection of α of 5% in the multiple well testing situation.

The procedure can be applied with as few as three observations from the background distribution. However, doing so would result in a large upper tolerance limit. A sample size of eight or more results is an adequate tolerance interval. The minimum sampling schedule called for in the regulations would result in at least four observations from each background well. Only if a single background well is sampled at a single point in time is the sample size so small as to make use of the procedure questionable.

Tolerance intervals can be constructed assuming that the data or the transformed data are normally distributed. Tolerance intervals can also be constructed assuming other distributions. It is also possible to construct nonparametric tolerance intervals using only the assumption that the data came from some continuous population. However, the nonparametric tolerance intervals require such a large number of observations to provide a reasonable coverage and tolerance coefficient that they are impractical in this application.

The range of the concentration data in the background well samples should be considered in determining whether the tolerance interval approach should be used, and if so, what distribution is appropriate. The background well concentration data should be inspected for outliers and tests of normality applied before selecting the tolerance interval approach. Tests of normality were presented in Section 4.2. Note that in this case, the test of normality would be applied to the background well data that are used to construct the

tolerance interval. These data should all be from the same normal distribution.

In this application, unless pH is being monitored, a one-sided tolerance interval or an upper tolerance limit is desired, since contamination is indicated by large concentrations of the hazardous constituents monitored. Thus, for concentrations, the appropriate tolerance interval is (0, TL), with the comparison of importance being the larger limit, TL.

PURPOSE

The purpose of the tolerance interval approach is to define a concentration range from background well data, within which a large proportion of the monitoring observations should fall with high probability. Once this is done, data from compliance wells can be checked for evidence of contamination by simply determining whether they fall in the tolerance interval. If they do not, this is evidence of contamination.

In this case the data are assumed to be approximately normally distributed. Section 4.2 provided methods to check for normality. If the data are not normal, take the natural logarithm of the data and see if the transformed data are approximately normal. If so, this method can be used on the logarithms of the data. Otherwise, seek the assistance of a professional statistician.

PROCEDURE

Step 1. Calculate the mean, $\bar{X}$, and the standard deviation, S, from the background well data.

Step 2. Construct the one-sided upper tolerance limit as

$$TL = \bar{X} + K\,S,$$

where K is the one-sided normal tolerance factor found in Table 5, Appendix B.

Step 3. Compare each observation from compliance wells to the tolerance limit found in Step 2. If any observation exceeds the tolerance limit, that is statistically significant evidence that the well is contaminated. Note that if the tolerance interval was constructed on the logarithms of the original background observations, the logarithms of the compliance well observations should be compared to the tolerance limit. Alternatively the tolerance limit may be transferred to the original data scale by taking the antilogarithm.

REFERENCE

Lieberman, Gerald J. 1958. "Tables for One-sided Statistical Tolerance Limits." *Industrial Quality Control*. Vol. XIV, No. 10.

APPENDIX K

STATISTICAL CALCULATIONS FOR GROUNDWATER

APPENDIX L

STATISTICAL CALCULATIONS FOR SOIL

APPENDIX M

REFERENCES

REFERENCES

ENSAFE/Allen & Hoshall. 1994. Facility Investigation Report-Installation Restoration Sites 1, 3, and 4.

Professional Service Industries, Inc. (PSI). 1994. RCRA Facility Investigation Workplan.

U.S. Environmental Protection Agency. 1986. Resource Conservation and Recovery Act (RCRA) Ground-Water Monitoring Technical Enforcement Guidance Document. PB87-107751.

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DEPARTMENT OF THE NAVY
NAVAL AIR STATION
11001 D STREET SUITE 143
CORPUS CHRISTI, TEXAS 78419-5021

IN REPLY REFER TO:

5090
Code 189
19 DEC 1996

Texas Natural Resource Conservation Commission
Attn: Mr. Paul S. Lewis
Corrective Action Section
Industrial and Hazardous Waste Division
P.O. Box 13087, Capitol Station
Austin, TX 78711-3087

Gentlemen:

In accordance with the terms and conditions of our Hazardous Waste Operating Permit (HW50038), and approved RCRA Facility Investigation Workplan, enclosed is our RCRA Background Investigation Report.

If you have any questions or comments concerning the report, please contact Mr. John Young or Mr. Dilip Shaw at (512) 939-3776.

Sincerely,

TERRY BOONE
Environmental Manager
by direction of
the Commanding Officer

Encl:
(1) RCRA Background Investigation Report, November 1996

Copy to:
TNRCC, Region 14 (Mr. Harvey)
SOUTHNAVFACENGCOM (Mr. Craig)