SITE ASSESSMENT FOR TANKS 24, 25, 28, 29, 30, 31, 32, AND 39

AT PLUM BROOK STATION

FOR

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

PLUM BROOK STATION
SANDUSKY, OHIO

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TABLE OF CONTENTS

SECTION		PAGE
1.0	INTRODUCTION	1
2.0	TANK REMOVAL	1
2.1	Tank No.s 29, 30, 31	1
2.2	Tank No. 28	2
2.3	Tank No. 32	4
2.4	Tank No. 39	6
2.5	Tank No.s 24 and 25	6
3.0	DISCUSSION AND RECOMMENDATIONS	9

APPENDICES

Appendix A Laboratory Results of the Soil Sampling.

LIST OF TABLES

TABLE		PAGE
Table 1	Tank No.s 29, 30, 31; Sample IDs, Locations, and Analyses	1
Table 2	Tank No. 28 Sample IDs, Locations, and Analyses	2
Table 3	Maximum Concentrations of Volatile Organics at Tank No. 28 Pit Area	2
Table 4	Tank No. 32 Sample IDs, Locations, and Analyses	4
Table 5	Concentrations of TPH and Selected Volatile Organics at Tank No. 32	4
Table 6	Tank No. 39 Sample IDs, Locations, and Analyses	6
Table 7	Concentrations of TPH and BTEX at Tank No. 39	6
Table 8	Tank No.s 24, 25 Sample IDs, Locations, and Analyses	7
Table 9	TPH Concentrations for Samples Collected at Tank No.s 24 and 25	7
Table 10	Maximum Concentrations of Volatile Organics at Tank No.s 24 and 25 Pit Area	9

LIST OF FIGURES

FIGURE		PAGE
Figure 1	Tank No.s 28, 29, 30, and 31	3
Figure 2	Tank No. 32	5
Figure 3	Tank No.s 24 and 25	8

1.0 Introduction

On September 18th through 19th, 1989, the permanent closure-by-removal of eight (8) steel underground storage tanks (USTs) was performed at the NASA Plum Brook Station near Sandusky, Ohio. The tanks removed were No.s 24, 25, 28, 29, 30, 31, 32, and 39. Tank No.s 24 and 25 were located near Building No. 1411. Tank No.s 24 and 25 were 1,000 gallon steel tanks, Tank No. 24 was in use prior to its removal, while Tank No. 25 was not in use at the time of removal. Tank No. 24 had contained waste oil and solvents, while Tank No. 25 had contained fuel oil. Tank No. 28 was a 3,000 gallon tank and Tank No.s 29, 30, and 31 were 770 gallon tanks. These tanks were located east of Building No. 7121. Tank No. 28 had contained waste oil and solvents and was in use until the time of removal. Tank No.s 29, 30, and 31 had stored toluene and these tanks were not in use prior to removal. Tank No. 32 was a 1,500 gallon waste oil and solvents tank located north of Building No. 7131. Tank No. 32 was in use prior to its removal. Tank No. 39, located west of building 8133, was a 250 gallon tank which was not currently in use, but which had previously contained gasoline.

Mr. Jack Graves of the State Fire Marshal's Office was on site to oversee the removal of the tanks. EMPACO Incorporated and Independence Excavating were retained as subcontractors to Turner Construction to remove the tanks.

2.0 Tank Removal

Samples of the soils underlying the tank, the sidewalls of the excavation pit and excavated soils were collected from each of the tank locations at the time of removal in order to determine if a release of tank contents had occurred during the active life of the tank. The performance of the closure assessments indicated that varying degrees of contamination are present. The following sections detail the significant findings of the closure assessments. A complete set of laboratory results is located in Appendix A.

2.1 Tank No.s 29, 30, 31

Tank No.s 29, 30, and 31 were removed on September 18th. Two (2) soil samples were taken from the pit bottom and two (2) samples were taken from the excavated soil. The following table lists the sample numbers and describes the sampling location and the types of analyses performed on each sample.

TABLE 1
Tank No.s 29, 30, 31; Sample IDs, Locations, and Analyses

Sample ID	Location	Analyses
PBS-7121-SS-1	North wall of the tank pit	Volatile Organic Compounds (VOCs), Total Petroleum Hydrocarbons (TPH), EP Toxicity for Lead, Ignitability
PBS-7121-SS-2	South wall of the tank pit	(VOCs), (TPH), EP Toxicity for Lead, Ignitability
PBS-7121-SS-3	Excavated soil	(VOCs), (TPH)
PBS-7121-SS-4	Excavated soil	(VOCs), (TPH), EP Toxicity for Lead, Ignitability

Total petroleum hydrocarbons (TPH) concentrations in the samples ranged from undetected to 287

mg/kg. The VOC analyses showed low levels of volatile organics. Trichloroethene (TCE) had a maximum concentration 200 ug/kg and 1,1,1-trichloroethane (TCA) had a maximum concentration of 610 ug/kg. Figure 1 shows the sampling locations and the concentrations of TPH, TCE, TCA, and carbon tetrachloride for Tank No.s 29, 30 and 31. Lead concentrations were below detection limits for the samples and flashpoints >200°F were determined using the ignitability analysis.

2.2 Tank No. 28

Tank No. 28 was removed on September 18th. Three (3) samples were taken of the pit bottom and two (2) samples were collected from the excavated material. The table below describes the sampling location and the types of analyses done on each sample:

TABLE 2
Tank No. 28 Sample IDs, Locations, and Analyses

Sample ID	Location	Analyses
PBS-7121-SS-5	North wall of tank pit	Volatile Organic Compounds (VOCs), Total Petroleum Hydrocarbons (TPH)
PBS-7121-SS-6	East wall of tank pit	VOCs, TPH
PBS-7121-SS-7	South wall of tank pit	VOCs, TPH
PBS-7121-SS-8	Excavated soil	VOCs, TPH, EP Toxicity for Lead, Ignitability
PBS-7121-SS-9	Excavated soil	VOCs, TPH, EP Toxicity for Lead, Ignitability

Lead concentrations were below detection limits for the samples and flashpoints >200°F were determined using the ignitability analysis. The sample concentrations for total petroleum hydrocarbons ranged from undetected concentrations to 284 mg/kg for the five samples. The samples from tank area No. 28 had very high concentrations of volatile organics. Table 3 shows the compounds which were present in the highest concentrations.

TABLE 3
Maximum Concentrations of Volatile Organics at Tank No. 28 Pit Area

Compounds	Concentration ug/kg
trichloroethene	21142
tetrachloroethene	10048
1,1,1 trichloroethane	7770
1,1 dichloroethane	1214
toluene	628
total Xylenes	532
1,2,4 trimethylbenzene	479
1,3,5 trimethylbenzene	442
carbon tetrachloride	431
methylene chloride	231

Table 3 is not a complete list, but only designates the compounds with the highest concentrations.

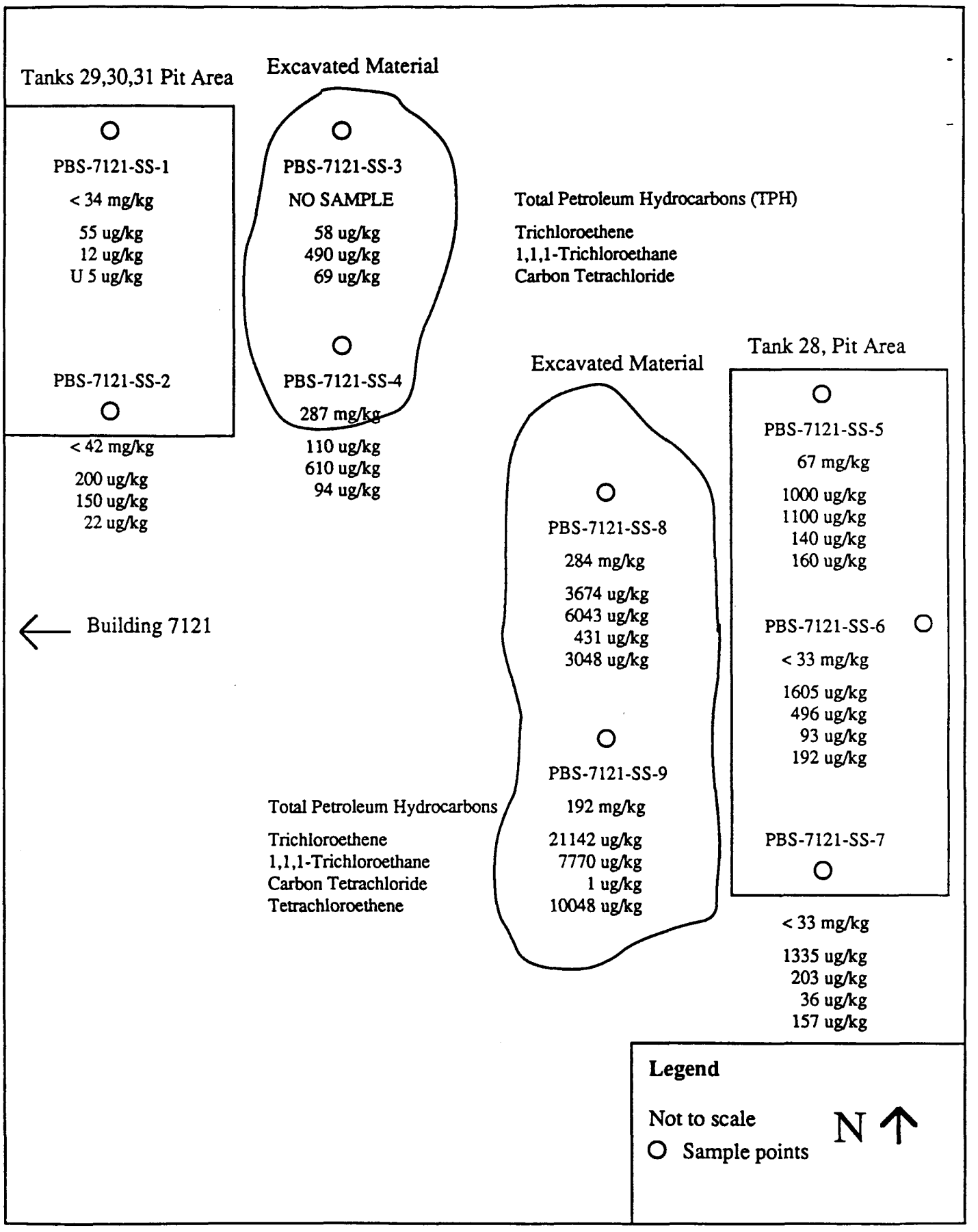

Figure 1; Tanks 28, 29, 30 and 31, east of building 7121
location of soil sampling points and sample concentrations

Figure 1 shows the sample point locations and the associated concentrations for TPH, trichloroethene, 1,1,1-trichloroethane, carbon tetrachloride and tetrachloroethene.

2.3 Tank No. 32

Tank No. 32, located north of Building No. 7131, was excavated on September 18th. Prior to the tank's removal, it was used to store waste oil and solvents. Five (5) samples were taken from this pit area and their location and analyses are listed below.

TABLE 4
Tank No. 32 Sample IDs, Locations, and Analyses

Sample ID	Location	Analyses
PBS-7131-SS-1	West end of pit	Volatile Organic Compounds (VOC), Total Petroleum Hydrocarbons (TPH)
PBS-7131-SS-2	Center of pit	VOC, TPH
PBS-7131-SS-3	East end of pit	VOC, TPH
PBS-7131-SS-4	Excavated soil	VOC, TPH, EP Toxicity for lead, ignitability
PBS-7131-SS-5	Excavated soil	VOC, TPH, EP Toxicity for lead, ignitability

There were no visible signs of contamination during excavation. Analysis of the samples indicated low levels of contamination. The concentrations for TPH and four (4) organic compounds found in the highest concentrations are shown below for each sample.

TABLE 5
Concentrations of TPH and Selected Volatile Organics at Tank No. 32

Sample ID	TPH mg/kg	TCE* ug/kg	1,3,5 trimethylbenzene ug/kg	1,2,4 trimethylbenzene ug/kg	naphthalene ug/kg
PBS-7131-SS-1	120	372	U 1	U 1	4
PBS-7131-SS-2	244	359	U 1	U 1	3
PBS-7131-SS-3	191	606	U 1	U 1	1
PBS-7131-SS-4	<38	464	U 1	1	1
PBS-7131-SS-5	193	728	366	349	159

* TCE - trichloroethene
U - Undetected at the given concentration

Elevated concentrations of trichloroethene were found in each of the five samples. Elevated levels of total petroleum hydrocarbons were found in each sample except PBS-7131-SS-4. Figure 2 shows the sampling locations with their respective concentrations of TPH, TCE, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene and naphthalene.

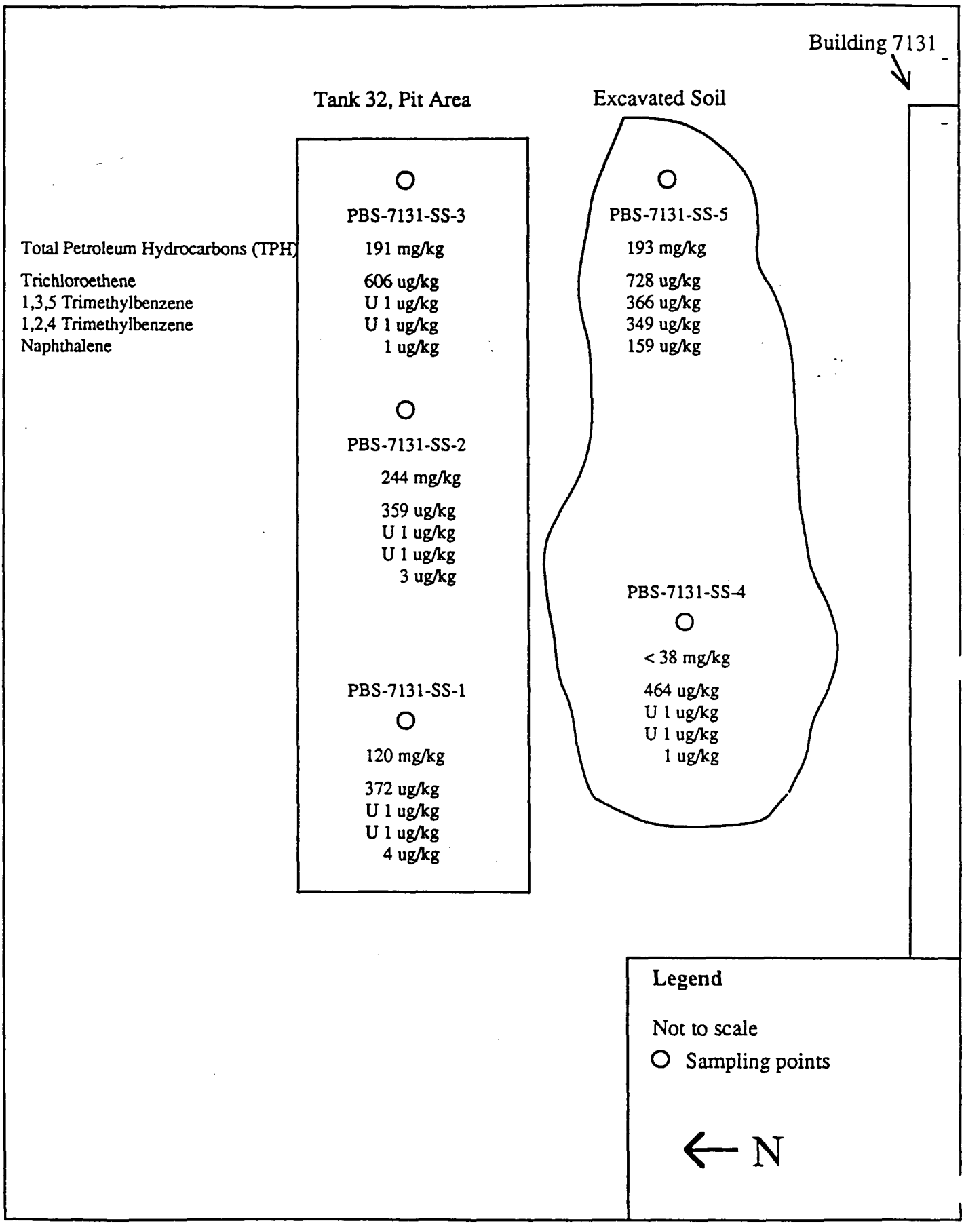

Figure 2; Tank 32, north of building 7131
location of soil sampling points and sample concentrations

2.4 Tank No 39

Tank No. 39 was removed September 18th. This 250 gallon tank was not in use before its removal. In the past, this tank had been used for gasoline storage. When this tank was removed, holes were found in it. The soil in the tank pit was visibly contaminated. After the tank was removed, water slowly began to seep into the pit. Water which was draining from beneath Building No. 8133 continued to fill the pit until the water level was approximately 2 feet below the ground surface. A tank truck was used to pump the water out of the excavated area in order to sample the soil. Additional contaminated soil was then removed and a water main was discovered approximately 7 feet below the ground surface. Three (3) soil samples were collected at this tank site. Table 6 indicates where each sample was collected and the lab analyses performed.

TABLE 6
Tank No. 32 Sample IDs, Locations, and Analyses

Sample ID	Location	Lab Analyses
PBS-8133-SS-1	Excavated soil	TPH, Ignitability, EP Toxicity for lead; Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)
PBS-8133-SS-2	Excavated soil	TPH, Ignitability, EP Toxicity for lead, BTEX
PBS-8133-SS-3	Center of tank	TPH, Ignitability, EP Toxicity for lead, BTEX

The following table shows the concentrations for total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX).

TABLE 7
Concentrations of TPH and BTEX at Tank No. 39

Sample ID	TPH mg/kg	Benzene ug/kg	Toluene ug/kg	Ethylbenzene ug/kg	Total Xylenes ug/kg
PBS-8133-SS-1	655	1400.	7200.	4400.	16000.
PBS-8133-SS-2	< 44	62.	103.	15.	65.
PBS-8133-SS-3	< 42	0.19	0.77	U 0.27	0.94

Measured concentrations for sample SS-1 indicated high levels of TPH and BTEX. Sample SS-2 had much lower concentrations than SS-1, but still had elevated levels of BTEX. Sample SS-3 had very low levels of BTEX, while total petroleum hydrocarbons were undetected in the sample. Samples SS-1 and SS-2 were taken from the excavated soils, while sample SS-3 was taken from the pit bottom. Since the contaminant concentrations in SS-3 are negligible, this may indicate that there is limited contamination. Specifically, this may indicate that contamination is limited to soils in the immediate vicinity of the tank.

2.5 Tank No.s 24 and 25

Tank No. 24 was removed September 18th, and Tank No. 25 was removed September 19th. Sampling was performed at both locations on September 19th. Tank No.s 24 and 25 were located south of Building No. 1411. Tank No. 24 contained waste oil and solvents, while Tank No. 25 contained fuel oil. Nine (9) soil samples were collected at this area. The location and analyses for

each sample is listed in Table 8.

TABLE 8
Tank No.s 24, 25 Sample IDs, Locations, and Analyses

Sample ID	Location	Analyses
PBS-1411-SS-1	South wall, Tank Area 24	VOCs, TPH, EP Toxicity for Lead Ignitability
PBS-1411-SS-2	East wall, Tank Area 24	VOCs, TPH
PBS-1411-SS-3	North wall, Tank Area 24	VOCs, TPH
PBS-1411-SS-4	Excavated Soil	VOCs, TPH, EP Toxicity for Lead, Ignitability
PBS-1411-SS-5	Excavated Soil	VOCs, TPH, EP Toxicity for Lead, Ignitability
PBS-1411-SS-6	East end, Tank Area 25	VOCs, TPH
PBS-1411-SS-7	West wall, Tank Area 25	VOCs, TPH
PBS-1411-SS-8	Excavated Soil	VOCs, TPH, EP Toxicity for lead, Ignitability
PBS-1411-SS-9	Excavated Soil	VOCs, TPH, EP Toxicity for lead, Ignitability

Samples SS-6 and SS-7 were taken using the backhoe bucket because the walls of the excavation pit were unstable. During excavation, shale bedrock was encountered approximately 12 feet below the ground surface. Lead concentrations were below the detection limits in all of the samples and a flashpoint >200°F was measured in each of the samples indicating the soils are not considered hazardous by virtue of their toxicity or ignitability. The TPH concentrations for each sample are listed below.

TABLE 9
TPH Concentrations for Samples Collected at Tank No.s 24 and 25

Tank No. 24		Tank No. 25	
Sample ID	TPH mg/kg	Sample ID	TPH mg/kg
PBS-1411-SS-1	244	PBS-1411-SS-6	317
PBS-1411-SS-2	411	PBS-1411-SS-7	1120
PBS-1411-SS-3	2030	PBS-1411-SS-8	93
PBS-1411-SS-4	686	PBS-1411-SS-9	1050
PBS-1411-SS-5	243		

There are elevated concentrations of total petroleum hydrocarbons in the area of both Tank No.s 24 and 25. Samples SS-3, SS-7, and SS-9 have the highest concentrations of TPH of the eight (8) tanks removed September 18th and 19th.

The following table shows the highest concentrations for selected volatile organic aromatics. Figure 3 shows the area of Tank Pit 24 and 25. Sampling locations are shown with their respective soil concentrations for TPH and four (4) volatile organic compounds.

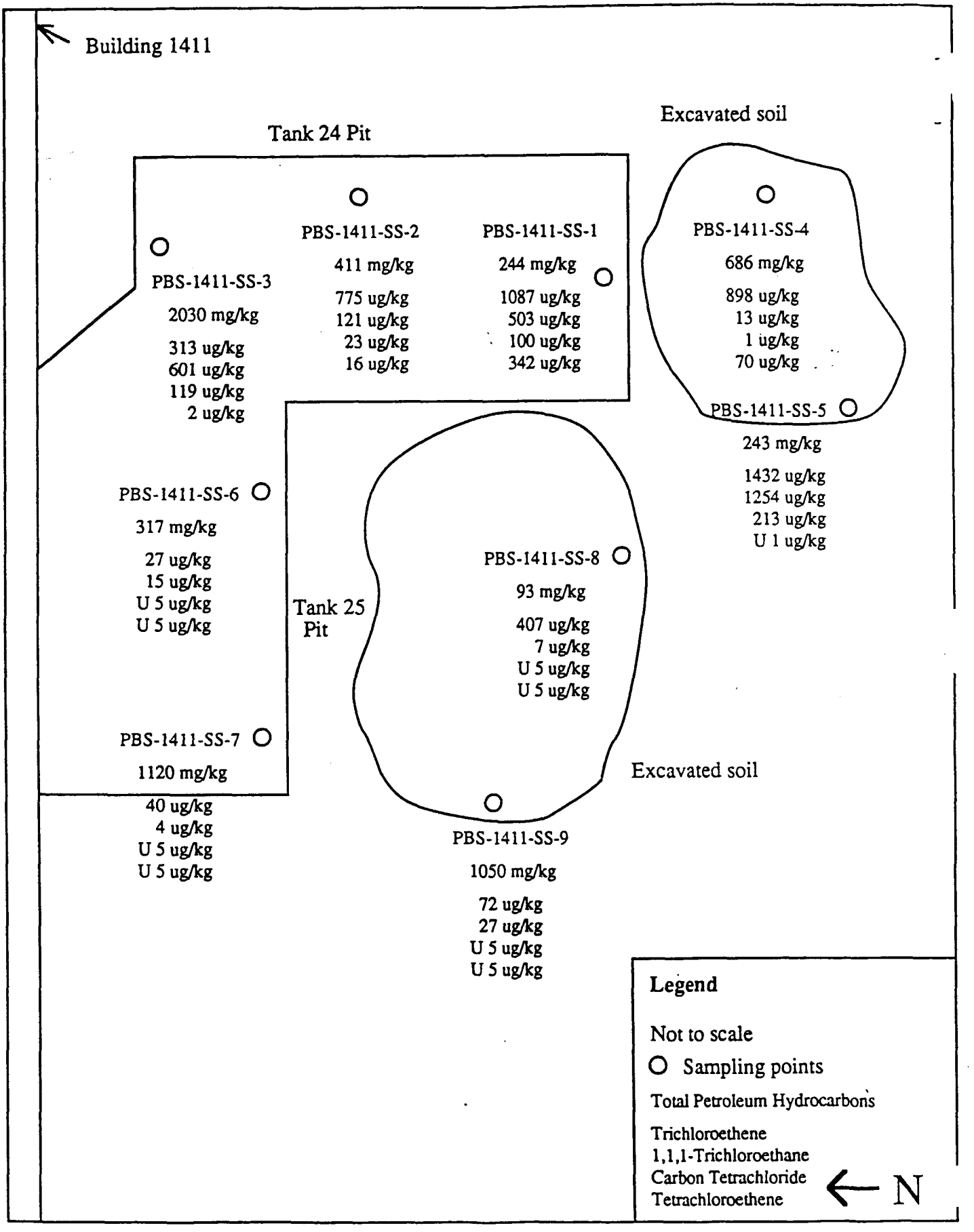

Figure 3; Tanks 24 and 25, south of building 1411
location of soil sampling points and sample concentrations

TABLE 10

Maximum Concentrations of Volatile Organics at Tank No.s 24 and 25 Pit Area

Compound	Concentration
trichlorofluoromethane	93
methylene chloride	164
1,1-dichloroethane	17
cis-1,2-dichloroethene	362
1,1,1-trichloroethane	1254
carbon tetrachloride	213
trichloroethene	1432
toluene	16
tetrachlorethene	342
ethylbenzene	45
m + p-xylenes	43
o-xylene	23
n-propylbenzene	76
1,3,5-trimethylbenzene	496
tert-butylbenzene	70
1,2,4-trimethylbenzene	541
p-isopropyltoluene	74
naphthalene	1094

3.0 Discussion and Recommendations

It is apparent from the visual inspection and also the laboratory analyses results that contamination has occurred at each of the sites of the eight (8) excavated underground storage tanks. The extent of contamination varies at each tank pit area, from visible contamination at Tank Pit 28, Tank Pit 24 and 25, and Tank Pit 39 to very limited contamination at Tank Pit 32. Levels of contamination at the sites can be compared to the clean up goals of the Ohio State Fire Marshal's Office; Bureau of Underground Storage Tank Regulation (BUSTR). According to Tom Forbes of BUSTR acceptable levels of total petroleum hydrocarbons are approximately 100 mg/kg in soil and 5 ug/kg for volatile organics in soil.

At the pit area of Tanks 29, 30 and 31 contamination is basically limited to elevated levels of trichloroethene (TCE), 1,1,1-trichloroethane and to a lesser extent, carbon tetrachloride. Levels of these three chlorinated organics ranged from undetectable levels to 610 ug/kg in the four soil samples taken from this area. Levels of total petroleum hydrocarbons in the four samples ranged from undetectable levels in two of the samples to 287 mg/kg.

At the Tank 28 pit area there was visible contamination when the tank was removed and the lab analyses showed relatively high levels of contamination of chlorinated organics. Levels of TCE were as high as 21142 ug/kg (21 ppm), while levels of 1,1,1-trichloroethane, carbon tetrachloride, and tetrachlorethene were as high as 10 ppm, levels of total petroleum hydrocarbons ranged from undetectable levels to 284 mg/kg.

At the Tank 32 pit area there was no visible contamination at the time of excavation. The volatile organics analyses showed levels of TCE that ranged from undetectable levels to 606 ug/kg. Concentrations of Total Petroleum Hydrocarbons were as high as 244 mg/kg.

Visible contamination was found at the Tank 39 pit area. Three samples were taken from the pit and excavated soils. The one sample taken from the pit bottom (8133-SS-3) could be considered clean according to the standards set by the Bureau of Underground Storage Tank Regulation. Sample 8133-SS-1 was very contaminated, and was taken from the excavated soil surrounding the tank. The tank was found to have holes in it when it was excavated. This would seem to indicate that contamination is limited to the immediate area where the tank had been buried.

At the pit area of Tanks 24 and 25 elevated levels of total petroleum hydrocarbons and volatile organics were reported in the laboratory analysis results. Total petroleum hydrocarbon levels were as high as 2030 mg/kg. Levels of chlorinated organics (TCE, 1,1,1-trichloroethane, carbon tetrachloride, tetrachloroethene) ranged from undetectable concentrations to 1432 ug/kg.

From the initial soil sampling, it appears that the areas around tank 28 and tanks 24, 25 are the most contaminated. The area of tank 39 has unacceptable levels of TPH and volatile organics, but does not appear to be as contaminated as the areas of tank 28 and tanks 24, 25. The area of tank 32 seems to have very limited contamination. The lab analyses indicated that soil contamination was present around tanks 29, 30 and 31, further investigation will consider the area of tanks 29, 30, and 31 and the area of tank 28 as a single contaminant area due to their proximity.

Because there is soil contamination and possibly groundwater contamination at each of the tank pit areas, it was determined that further investigation and possible remediation will be necessary to accomplish clean closure of each area. A soil gas survey of each of the areas was performed in an effort to determine the lateral extent of the contamination. Preliminary results indicate the need for a complete site characterization to support the screening of the currently available remedial alternatives. Because the majority of the tank areas involve contamination due to solvents and waste oils, OEPA and the Bureau of Underground Storage Tank Regulation (BUSTR) have determined that OEPA will be responsible for future regulatory activity. The Ohio EPA's clean up standards are background or undetectable levels or health based remediation levels supported by risk assessment. According to Hallie Serazin, of the Division of Emergency and Remedial Response, OEPA is developing a statewide background standard for total petroleum hydrocarbons (TPH) and also health based standards for volatile organics. These standards are being developed presently therefore BUSTR's approximate values for undetectable levels of TPH and volatiles in soils are used for reference purposes, when discussing soil contaminant levels at the tank pit areas.

A comprehensive remedial investigation, to include an extensive field sampling program, will be conducted at each of the areas to further quantify the lateral and vertical extent, and the degree of contamination in the soil and groundwater. The Ohio Environmental Protection Agency (OEPA), is the regulatory agency responsible for approving the upcoming site investigation and possible remedial activity.

Total Petroleum Hydrocarbons, EP Toxicity for Lead, and Flashpoint Analyses for all Soil Samples

HITTMAN EBASCO ASSOCIATES, INC.
ANALYTICAL REPORT
SAMPLE RESULTS

CLIENT: NASA CLEVELAND

REPORT PREPARED BY

CONTRACT #: ESI-7019-002

DATA RELEASED BY _____

REPORTING DATE: 22-Sep-89

UNITS: mg/Kg

CLIENT ID	HEAI ID		TPH	%SOLIDS
PBS-8133-SS-1	5447		655	77.5
PBS-8133-SS-2	5448		<44	71.9
PBS-8133-SS-3	5449		<42	75.4
PBS-8133-SS-3	5449	DUP	<42	75.4
PBS-1411-SS-8	5450		93	80.1
PBS-1411-SS-9	5451		1050	84.5
PBS-1411-SS-6	5452		317	83.3
PBS-1411-SS-7	5453		1120	77.5

HITTMAN EBASCO ASSOCIATES, INC.
ANALYTICAL REPORT
SAMPLE RESULTS

CLIENT: NASA

CONTRACT #: ESI-7019-002

REPORTING DATE: 27-Sep-89

REPORT PREPARED BY

DATA RELEASED BY

UNITS: mg/Kg

CLIENT ID	HEAI ID	TPH	% SOLIDS
PBS-7121-SS-1	5475	<34	93.7
PBS-7121-SS-2	5476	<42	76.8
PBS-7121-SS-4	5477	287	96.9
PBS-7121-SS-8	5478	284	77.5
PBS-7121-SS-9	5479	192	76.7
PBS-7131-SS-4	5480	<38	83.5
PBS-7131-SS-5	5481	193	86.6
PBS-1411-SS-1	5482	244	76.3
PBS-1411-SS-4	5483	686	91.5
PBS-1411-SS-5	5484	243	82.5
PBS-7121-SS-5	5485	67	96.7
PBS-7121-SS-6	5486	<33	77.5
PBS-7121-SS-7	5487	<33	78.6
PBS-7131-SS-1	5488	120	83.3
PBS-7131-SS-2	5489	244	82.3
PBS-7131-SS-3	5490	191	84.3
PBS-1411-SS-2	5491	411	77.9
PBS-1411-SS-3	5492	2030	78.5

HITTMAN EBASCO ASSOCIATES, INC.
ANALYTICAL REPORT
SAMPLE RESULTS

CLIENT: NASA

REPORT PREPARED BY

CONTRACT #: ESI-7019-002

DATA RELEASED BY

REPORTING DATE: 27-Sep-89

UNITS: ug/l in leachates

CLIENT ID	HEAI ID	LEAD
PBS-8133-SS-1	5447	<500
PBS-8133-SS-2	5448	<500
PBS-8133-SS-3	5449	<500
PBS-1411-SS-8	5450	<500
PBS-1411-SS-9	5451	<500
PBS-7121-SS-1	5475	<500
PBS-7121-SS-2	5476	<500
PBS-7121-SS-4	5477	<500
PBS-7121-SS-8	5478	<500
PBS-7121-SS-9	5479	<500
PBS-7131-SS-4	5480	<500
PBS-7131-SS-5	5481	<500
PBS-1411-SS-1	5482	<500
PBS-1411-SS-4	5483	<500
PBS-1411-SS-5	5484	<500

HITTMAN EBASCO ASSOCIATES, INC.
ANALYTICAL REPORT
SAMPLE RESULTS

CLIENT: NASA

REPORT PREPARED BY

CONTRACT #: ESI-7019-002

REPORTING DATE: 27-Sep-89

DATA RELEASED BY

CLIENT ID	HEAI ID	FLASHPOINT (degrees F)
PBS-8133-SS-1	5447	NO FLASH <200
PBS-8133-SS-2	5448	NO FLASH <200
PBS-8133-SS-3	5449	NO FLASH <200
PBS-1411-SS-8	5450	NO FLASH <200
PBS-1411-SS-9	5451	NO FLASH <200
PBS-7121-SS-1	5475	NO FLASH <200
PBS-7121-SS-2	5476	NO FLASH <200
PBS-7121-SS-4	5477	NO FLASH <200
PBS-7121-SS-8	5478	NO FLASH <200
PBS-7121-SS-9	5479	NO FLASH <200
PBS-7131-SS-4	5480	NO FLASH <200
PBS-7131-SS-5	5481	NO FLASH <200
PBS-1411-SS-1	5482	NO FLASH <200
PBS-1411-SS-4	5483	NO FLASH <200
PBS-1411-SS-5	5484	NO FLASH <200

Building 7121, Tank Nos. 28, 29, 30, 31; Volatile Organics Analysis

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI092	Method Number:	8240
Lab Sample Name:	PBS7121SS1,H#5454	Date Analyzed:	890922
Matrix:	Water	Date Collected:	890918
Dilution Factor:	1.1	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/l	Detection Limit	
Chloromethane		11	U
Bromomethane		11	U
Vinyl Chloride	3		J
Chloroethane	34		
Methylene Chloride	4		J
Acetone	380		
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane	4		J
Carbon Disulfide	1		J
1,1-Dichloroethene	2		J
1,1-Dichloroethane	70		
1,2-Dichloroethene (Total)	3		J
Chloroform		5	U
1,2-Dichloroethane	3		J
2-Butanone	86		
1,1,1-Trichloroethane	12		
Carbon Tetrachloride		5	U
Vinyl Acetate		11	U
Bromodichloromethane		5	U
1,2-Dichloropropane		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene	36		
Dibromochloromethane		5	U
1,1,2-Trichloroethane		5	U
Benzene		5	U
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone		11	U
2-Hexanone		11	U
Tetrachloroethene	2		J
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI092	Method Number:	8240
Lab Sample Name:	PBS7121SS1,H#5454	Date Analyzed:	890922
Matrix:	Water	Date Collected:	890918
Dilution Factor:	1.1	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/l	Detection Limit
Toluene	2	J
Chlorobenzene	1	J
Ethylbenzene	1	J
Styrene		5 U
Xylenes (Total)	3	J
m-Xylene	2	J
o + p-Xylene	1	J
1,3 Dichlorobenzene	2	J
1,2 Dichlorobenzene	1	J
1,4 Dichlorobenzene	2	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7121551

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5454

Sample wt/vol: 5 G Lab File ID: >C1092

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: PACK Dilution Factor: 1.0676

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI102	Method Number:	8240
Lab Sample Name:	PBS7121SS1 1:5,5454	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		10	U
Bromomethane		10	U
Vinyl Chloride		10	U
Chloroethane	5		J
Methylene Chloride	1		J
Acetone	75		
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane		5	U
Carbon Disulfide		5	U
1,1-Dichloroethene		5	U
1,1-Dichloroethane	11		
1,2-Dichloroethene (Total)		5	U
Chloroform		5	U
1,2-Dichloroethane		5	U
2-Butanone		5	U
1,1,1-Trichloroethane	3		J
Carbon Tetrachloride		5	U
Vinyl Acetate		10	U
Bromodichloromethane		5	U
1,2-Dichloropropane		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene	55		
Dibromochloromethane		5	U
1,1,2-Trichloroethane		5	U
Benzene		5	U
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone		10	U
2-Hexanone		10	U
Tetrachloroethene		5	U
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI102	Method Number:	8240
Lab Sample Name:	PBS7121SS1 1:5,5454	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene		5	U
Chlorobenzene		5	U
Ethylbenzene		5	U
Styrene		5	U
Xylenes (Total)		5	U
m-Xylene		5	U
o + p-Xylene		5	U
1,3 Dichlorobenzene		5	U
1,2 Dichlorobenzene		5	U
1,4 Dichlorobenzene		5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7121SS1

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5454 1:5

Sample wt/vol: 1 G Lab File ID: >C1102

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: PACK Dilution Factor: 5.3380

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI095	Method Number:	8240
Lab Sample Name:	PBS7121SS2,#HE5455	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		13	U
Bromomethane		13	U
Vinyl Chloride		13	U
Chloroethane		13	U
Methylene Chloride	4		J
Acetone		13	U
Acrylonitrile		7	U
Acrolein		7	U
Trichlorofluoromethane	3		J
Carbon Disulfide		7	U
1,1-Dichloroethene		7	U
1,1-Dichloroethane	3		J
1,2-Dichloroethene (Total)		7	U
Chloroform		7	U
1,2-Dichloroethane		7	U
2-Butanone		7	U
1,1,1-Trichloroethane	150		
Carbon Tetrachloride	22		
Vinyl Acetate		13	U
Bromodichloromethane		7	U
1,2-Dichloropropane		7	U
trans-1,3-Dichloropropene		7	U
Trichloroethene	200		
Dibromochloromethane		7	U
1,1,2-Trichloroethane		7	U
Benzene		7	U
cis-1,3-Dichloropropene		7	U
2-Chloroethylvinylether		7	U
Bromoform		7	U
4-Methyl-2-Pentanone		13	U
2-Hexanone		13	U
Tetrachloroethene	6		J
1,1,2,2-Tetrachloroethane		7	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File: >CI095
Lab Sample Name: PBS7121SS2,#HE5455
Matrix: Soil
Dilution Factor: 1.3
Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

Method Number: 8240
Date Analyzed: 890922
Date Collected: 890918
Date Received: 890920

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene	2		J
Chlorobenzene		7	U
Ethylbenzene		7	U
Styrene		7	U
Xylenes (Total)		7	U
m-Xylene		7	U
o + p-Xylene		7	U
1,3 Dichlorobenzene		7	U
1,2 Dichlorobenzene		7	U
1,4 Dichlorobenzene		7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS/121552

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5455

Sample wt/vol: 5 G Lab File ID: >C1095

Level: LOW Date Received: 09/20/89

% Moisture: not dec._____ Date Analyzed: 9/22/89

Column: PACK Dilution Factor: 1.3016

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI096	Method Number:	8240
Lab Sample Name:	PBS7121SS3,HE#5456	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		10	U
Bromomethane		10	U
Vinyl Chloride		10	U
Chloroethane		10	U
Methylene Chloride		5	U
Acetone		10	U
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane		5	U
Carbon Disulfide		5	U
1,1-Dichloroethene	1		J
1,1-Dichloroethane	2		J
1,2-Dichloroethene (Total)		5	U
Chloroform		5	U
1,2-Dichloroethane		5	U
2-Butanone		5	U
1,1,1-Trichloroethane	97		
Carbon Tetrachloride	14		
Vinyl Acetate		10	U
Bromodichloromethane		5	U
1,2-Dichloropropane		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene	11		
Dibromochloromethane		5	U
1,1,2-Trichloroethane		5	U
Benzene		5	U
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone		10	U
2-Hexanone		10	U
Tetrachloroethene	1		J
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI103	Method Number:	8240
Lab Sample Name:	PBS7121SS3 1:5,5456	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit
Toluene		5 U
Chlorobenzene		5 U
Ethylbenzene		5 U
Styrene		5 U
Xylenes (Total)		5 U
m-Xylene		5 U
o + p-Xylene		5 U
1,3 Dichlorobenzene		5 U
1,2 Dichlorobenzene		5 U
1,4 Dichlorobenzene		5 U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7121553

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5456

Sample wt/vol: 5 G Lab File ID: >C1096

Level: LOW Date Received: 09/20/89

% Moisture: not dec._____ Date Analyzed: 9/22/89

Column: PACK Dilution Factor: 1.0000

Number TICs found:

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI103	Method Number:	8240
Lab Sample Name:	PBS7121SS3 1:5,5456	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.2	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		52	U
Bromomethane		52	U
Vinyl Chloride		52	U
Chloroethane		52	U
Methylene Chloride		26	U
Acetone		52	U
Acrylonitrile		26	U
Acrolein		26	U
Trichlorofluoromethane		26	U
Carbon Disulfide		26	U
1,1-Dichloroethene	6		J
1,1-Dichloroethane	8		J
1,2-Dichloroethene (Total)		26	U
Chloroform		26	U
1,2-Dichloroethane		26	U
2-Butanone		26	U
1,1,1-Trichloroethane	490		
Carbon Tetrachloride	69		
Vinyl Acetate		52	U
Bromodichloromethane		26	U
1,2-Dichloropropane		26	U
trans-1,3-Dichloropropene		26	U
Trichloroethene	58		
Dibromochloromethane		26	U
1,1,2-Trichloroethane		26	U
Benzene		26	U
cis-1,3-Dichloropropene		26	U
2-Chloroethylvinylether		26	U
Bromoform		26	U
4-Methyl-2-Pentanone		52	U
2-Hexanone		52	U
Tetrachloroethene	5		J
1,1,2,2-Tetrachloroethane		26	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI103	Method Number:	8240
Lab Sample Name:	PBS7121SS3 1:5,5456	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.2	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene		26	U
Chlorobenzene		26	U
Ethylbenzene		26	U
Styrene		26	U
Xylenes (Total)		26	U
m-Xylene		26	U
o + p-Xylene		26	U
1,3 Dichlorobenzene		26	U
1,2 Dichlorobenzene		26	U
1,4 Dichlorobenzene		26	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7121SS3

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5456 1:5

Sample wt/vol: 1 G Lab File ID: >C1103

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: PACK Dilution Factor: 5.2148

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI097	Method Number:	8240
Lab Sample Name:	PBS7121SS4,#HE5457	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		10	U
Bromomethane		10	U
Vinyl Chloride		10	U
Chloroethane		10	U
Methylene Chloride	2		J
Acetone		10	U
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane	3		J
Carbon Disulfide	2		J
1,1-Dichloroethene	13		
1,1-Dichloroethane	9		
1,2-Dichloroethene (Total)		5	U
Chloroform		5	U
1,2-Dichloroethane		5	U
2-Butanone		5	U
1,1,1-Trichloroethane	610		
Carbon Tetrachloride	94		
Vinyl Acetate		10	U
Bromodichloromethane		5	U
1,2-Dichloropropane		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene	77		
Dibromochloromethane		5	U
1,1,2-Trichloroethane	1		J
Benzene		5	U
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone		10	U
2-Hexanone	7		J
Tetrachloroethene	7		
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI097	Method Number:	8240
Lab Sample Name:	PBS7121SS4,#HE5457	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene	1		J
Chlorobenzene	1		J
Ethylbenzene		5	U
Styrene		5	U
Xylenes (Total)		5	U
m-Xylene		5	U
o + p-Xylene		5	U
1,3 Dichlorobenzene		5	U
1,2 Dichlorobenzene		5	U
1,4 Dichlorobenzene		5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7121S54

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5457

Sample wt/vol: 5 G Lab File ID: >C1097

Level: LOW Date Received: 09/20/89

% Moisture: not dec._____ Date Analyzed: 9/22/89

Column: PACK Dilution Factor: 1.0321

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI104	Method Number:	8240
Lab Sample Name:	PBS7121SS4 1:5,5457	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.2	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		52	U
Bromomethane		52	U
Vinyl Chloride		52	U
Chloroethane		52	U
Methylene Chloride		26	U
Acetone		52	U
Acrylonitrile		26	U
Acrolein		26	U
Trichlorofluoromethane		26	U
Carbon Disulfide		26	U
1,1-Dichloroethene	6		J
1,1-Dichloroethane	6		J
1,2-Dichloroethene (Total)		26	U
Chloroform		26	U
1,2-Dichloroethane		26	U
2-Butanone		26	U
1,1,1-Trichloroethane	410		
Carbon Tetrachloride	56		
Vinyl Acetate		52	U
Bromodichloromethane		26	U
1,2-Dichloropropane		26	U
trans-1,3-Dichloropropene		26	U
Trichloroethene	110		
Dibromochloromethane		26	U
1,1,2-Trichloroethane		26	U
Benzene		26	U
cis-1,3-Dichloropropene		26	U
2-Chloroethylvinylether		26	U
Bromoform		26	U
4-Methyl-2-Pentanone		52	U
2-Hexanone		52	U
Tetrachloroethene	8		J
1,1,2,2-Tetrachloroethane		26	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI104	Method Number:	8240
Lab Sample Name:	PBS7121SS4 1:5,5457	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.2	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene		26	U
Chlorobenzene		26	U
Ethylbenzene		26	U
Styrene		26	U
Xylenes (Total)		26	U
m-Xylene		26	U
o + p-Xylene		26	U
1,3 Dichlorobenzene		26	U
1,2 Dichlorobenzene		26	U
1,4 Dichlorobenzene		26	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7121554

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5457 1:5

Sample wt/vol: 1 G Lab File ID: >C1104

Level: LOW Date Received: 09/20/89

% Moisture: not dec._____ Date Analyzed: 9/23/89

Column: PACK Dilution Factor: 5.1705

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI098	Method Number:	8240
Lab Sample Name:	PBS7121SS5,#HE5458	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		13	U
Bromomethane		13	U
Vinyl Chloride		13	U
Chloroethane		13	U
Methylene Chloride	6		J
Acetone	6		J
Acrylonitrile		6	U
Acrolein		6	U
Trichlorofluoromethane	7		
Carbon Disulfide		6	U
1,1-Dichloroethene	6		J
1,1-Dichloroethane	35		
1,2-Dichloroethene (Total)	19		
Chloroform		6	U
1,2-Dichloroethane		6	U
2-Butanone		6	U
1,1,1-Trichloroethane	760		
Carbon Tetrachloride	100		
Vinyl Acetate		13	U
Bromodichloromethane		6	U
1,2-Dichloropropane		6	U
trans-1,3-Dichloropropene		6	U
Trichloroethene	850		
Dibromochloromethane		6	U
1,1,2-Trichloroethane	3		J
Benzene		6	U
cis-1,3-Dichloropropene		6	U
2-Chloroethylvinylether		6	U
Bromoform		6	U
4-Methyl-2-Pentanone		13	U
2-Hexanone		13	U
Tetrachloroethene	110		
1,1,2,2-Tetrachloroethane	1		J

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI098	Method Number:	8240
Lab Sample Name:	PBS7121SS5,#HE5458	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene	19		
Chlorobenzene		6	U
Ethylbenzene		6	U
Styrene		6	U
Xylenes (Total)	5		J
m-Xylene	3		J
o + p-Xylene	2		J
1,3 Dichlorobenzene		6	U
1,2 Dichlorobenzene		6	U
1,4 Dichlorobenzene		6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

P85/121555

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5458

Sample wt/vol: 5 G Lab File ID: >C1098

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: PACK Dilution Factor: 1.2877

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI105	Method Number:	8240
Lab Sample Name:	PBS7121SS5 1:5,5458	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.4	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		54	U
Bromomethane		54	U
Vinyl Chloride		54	U
Chloroethane		54	U
Methylene Chloride		27	U
Acetone		54	U
Acrylonitrile		27	U
Acrolein		27	U
Trichlorofluoromethane		27	U
Carbon Disulfide		27	U
1,1-Dichloroethene	8		J
1,1-Dichloroethane	47		
1,2-Dichloroethene (Total)	19		J
Chloroform		27	U
1,2-Dichloroethane		27	U
2-Butanone		27	U
1,1,1-Trichloroethane	1100		
Carbon Tetrachloride	140		
Vinyl Acetate		54	U
Bromodichloromethane		27	U
1,2-Dichloropropane		27	U
trans-1,3-Dichloropropene		27	U
Trichloroethene	1000		
Dibromochloromethane		27	U
1,1,2-Trichloroethane	6		J
Benzene		27	U
cis-1,3-Dichloropropene		27	U
2-Chloroethylvinylether		27	U
Bromoform		27	U
4-Methyl-2-Pentanone		54	U
2-Hexanone		54	U
Tetrachloroethene	160		
1,1,2,2-Tetrachloroethane		27	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI105	Method Number:	8240
Lab Sample Name:	PBS7121SS5 1:5,5458	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.4	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene	25		J
Chlorobenzene		27	U
Ethylbenzene		27	U
Styrene		27	U
Xylenes (Total)		27	U
m-Xylene		27	U
o + p-Xylene		27	U
1,3 Dichlorobenzene		27	U
1,2 Dichlorobenzene		27	U
1,4 Dichlorobenzene		27	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PB57121555

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5458 1:5

Sample wt/vol: 1 G Lab File ID: >C1105

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: PACK Dilution Factor: 5.4385

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI110	Method Number:	8240
Lab Sample Name:	PBS7121SSS 1:5,5458	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.4	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		54	U
Bromomethane		54	U
Vinyl Chloride		54	U
Chloroethane		54	U
Methylene Chloride	45		
Acetone	28		J
Acrylonitrile		27	U
Acrolein		27	U
Trichlorofluoromethane		27	U
Carbon Disulfide		27	U
1,1-Dichloroethene		27	U
1,1-Dichloroethane	27		J
1,2-Dichloroethene (Total)	11		J
Chloroform		27	U
1,2-Dichloroethane		27	U
2-Butanone		27	U
1,1,1-Trichloroethane	530		
Carbon Tetrachloride	73		
Vinyl Acetate		54	U
Bromodichloromethane		27	U
1,2-Dichloropropane		27	U
trans-1,3-Dichloropropene		27	U
Trichloroethene	880		
Dibromochloromethane		27	U
1,1,2-Trichloroethane		27	U
Benzene		27	U
cis-1,3-Dichloropropene		27	U
2-Chloroethylvinylether		27	U
Bromoform		27	U
4-Methyl-2-Pentanone		54	U
2-Hexanone		54	U
Tetrachloroethene	94		
1,1,2,2-Tetrachloroethane		27	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI110	Method Number:	8240
Lab Sample Name:	PBS7121SS5 1:5,5458	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.4	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/1gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene	15		J
Chlorobenzene		27	U
Ethylbenzene		27	U
Styrene		27	U
Xylenes (Total)		27	U
m-Xylene		27	U
o + p-Xylene		27	U
1,3 Dichlorobenzene		27	U
1,2 Dichlorobenzene		27	U
1,4 Dichlorobenzene		27	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

P85712T555

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5458 1:5

Sample wt/vol: 1 G Lab File ID: >C1110

Level: LOW Date Received: 09/20/89

% Moisture: not dec._____ Date Analyzed: 9/25/89

Column: PACK Dilution Factor: 5.4385

Number TICs Found: CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI077	Method Number:	8240
Lab Sample Name:	PBS7121SS6 #5459	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane	3.		
1,1-Dichloroethene		1.	U
Methylene Chloride	5.		
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane	12.		
cis-1,2-Dichloroethene	60.		
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane	442.		
1,1-Dichloropropene		1.	U
Carbon Tetrachloride	93.		
1,2-Dichloroethane	3.		
Benzene	0.		J
Trichloroethene	890.		
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene	22.		
1,1,2-Trichloroethane	4.		
1,3-Dichloropropane		1.	U
Tetrachloroethene	119.		
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene	3.		
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes	4.		

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI077	Method Number:	8240
Lab Sample Name:	PBS7121SS6 #5459	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene	2.	
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene		1. U
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene		1. U
Bromobenzene		1. U
1,3,5-Trimethylbenzene	5.	
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene		1. U
1,2,4-Trimethylbenzene	6.	
sec-Butylbenzene		1. U
p-Isopropyltoluene		1. U
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene		1. U
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene		1. U
Hexachlorobutadiene		1. U
Naphthalene	4.	
1,2,3-Trichlorobenzene		1. U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7121SS6

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5459

Sample wt/vol: 5 G Lab File ID: >A1077

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: W.B. Dilution Factor: 1.2902

Number TICs found: 6

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	28.03	15.	
2.	91576	Naphthalene, 2-methyl- (8C19	29.02	12.	
3.		Unknown	29.42	13.	
4.	544763	Hexadecane (8C19C1)	30.52	15.	
5.	581420	Naphthalene, 2,6-dimethyl- (	32.02	12.	
6.		Unknown	32.75	11.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI109	Method Number:	8240
Lab Sample Name:	PBS7121SS6 #5459 1/10	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	12.9	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,.5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		13. U
Chloromethane		13. U
Vinyl Chloride		13. U
Bromomethane		13. U
Chloroethane		13. U
Trichlorofluoromethane		13. U
1,1-Dichloroethene		13. U
Methylene Chloride	231.	
trans-1,2-Dichloroethene		13. U
1,1-Dichloroethane		13. U
cis-1,2-Dichloroethene	37.	
2,2-Dichloropropane		13. U
Chloroform		13. U
Bromochloromethane		13. U
1,1,1-Trichloroethane	496.	
1,1-Dichloropropene		13. U
Carbon Tetrachloride		13. U
1,2-Dichloroethane		13. U
Benzene		13. U
Trichloroethene	1605.	
1,2-Dichloropropane		13. U
Bromodichloromethane		13. U
Dibromomethane		13. U
Toluene	23.	
1,1,2-Trichloroethane		13. U
1,3-Dichloropropane		13. U
Tetrachloroethene	192.	
Dibromochloromethane		13. U
1,2-Dibromoethane - EDB		13. U
Chlorobenzene		13. U
Ethylbenzene		13. U
1,1,1,2-Tetrachloroethane		13. U
m + p-Xylenes		13. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI109	Method Number:	8240
Lab Sample Name:	PBS7121SS6 #5459 1;10	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	12.9	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,.5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene		13. U
Styrene		13. U
1,1,2,2-Tetrachloroethane		13. U
Isopropylbenzene		13. U
Bromoform		13. U
1,2,3-Trichloropropane		13. U
n-Propylbenzene		13. U
Bromobenzene		13. U
1,3,5-Trimethylbenzene		13. U
4-Chlorotoluene		13. U
2-Chlorotoluene		13. U
tert-Butylbenzene		13. U
1,2,4-Trimethylbenzene		13. U
sec-Butylbenzene		13. U
p-Isopropyltoluene		13. U
1,3-Dichlorobenzene		13. U
1,4-Dichlorobenzene		13. U
n-Butylbenzene		13. U
1,2-Dichlorobenzene		13. U
1,2-Dibromo-3-Chloropropane		13. U
1,2,4-Trichlorobenzene		13. U
Hexachlorobutadiene		13. U
Naphthalene	20.	
1,2,3-Trichlorobenzene		13. U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FB5712155611C1

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5459 1:10

Sample wt/vol: .5 G Lab File ID: >A1109

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/25/89

Column: W.B. Dilution Factor: 166.45

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI078	Method Number:	8240
Lab Sample Name:	PBS7121SS7 #5460	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane	13.		
1,1-Dichloroethene		1.	U
Methylene Chloride	19.		
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane	20.		
cis-1,2-Dichloroethene	28.		
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane	177.		
1,1-Dichloropropene		1.	U
Carbon Tetrachloride	36.		
1,2-Dichloroethane		1.	U
Benzene	0.		J
Trichloroethene	851.		
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene	2.		
1,1,2-Trichloroethane	4.		
1,3-Dichloropropane		1.	U
Tetrachloroethene	88.		
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene	1.		J
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes	0.		J

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI078	Method Number:	8240
Lab Sample Name:	PBS7121SS7 #5460	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		1.	U
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene		1.	U
4-Chlorotoluene		1.	U
2-Chlorotoluene		1.	U
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene	0.		J
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene		1.	U
1,4-Dichlorobenzene		1.	U
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene		1.	U
Hexachlorobutadiene		1.	U
Naphthalene	1.		
1,2,3-Trichlorobenzene		1.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FBS7121SS7

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5460

Sample wt/vol: 5 G Lab File ID: >A10/8

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: W.B. Dilution Factor: 1.2/24

Number TICs found: 3

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	8.85	6.	
2.		Unknown	13.89	13.	
3.	581408	Naphthalene, 2,3-dimethyl- (	32.83	12.	
4.					
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12.					
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24.					
25.					
26.					
27.					
28.					
29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI110	Method Number:	8240
Lab Sample Name:	PBS7121SS7 #5460 1110	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	12.7	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,.5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		13. U
Chloromethane		13. U
Vinyl Chloride		13. U
Bromomethane		13. U
Chloroethane		13. U
Trichlorofluoromethane		13. U
1,1-Dichloroethene		13. U
Methylene Chloride	249.	
trans-1,2-Dichloroethene		13. U
1,1-Dichloroethane		13. U
cis-1,2-Dichloroethene		13. U
2,2-Dichloropropane		13. U
Chloroform		13. U
Bromochloromethane		13. U
1,1,1-Trichloroethane	203.	
1,1-Dichloropropene		13. U
Carbon Tetrachloride		13. U
1,2-Dichloroethane		13. U
Benzene		13. U
Trichloroethene	1335.	
1,2-Dichloropropane		13. U
Bromodichloromethane		13. U
Dibromomethane		13. U
Toluene		13. U
1,1,2-Trichloroethane		13. U
1,3-Dichloropropane		13. U
Tetrachloroethene	157.	
Dibromochloromethane		13. U
1,2-Dibromoethane - EDB		13. U
Chlorobenzene		13. U
Ethylbenzene		13. U
1,1,1,2-Tetrachloroethane		13. U
m + p-Xylenes		13. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI110	Method Number:	8240
Lab Sample Name:	PBS7121SS7 #5460 1110	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	12.7	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,.5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		13.	U
Styrene		13.	U
1,1,2,2-Tetrachloroethane		13.	U
Isopropylbenzene		13.	U
Bromoform		13.	U
1,2,3-Trichloropropane		13.	U
n-Propylbenzene		13.	U
Bromobenzene		13.	U
1,3,5-Trimethylbenzene		13.	U
4-Chlorotoluene		13.	U
2-Chlorotoluene		13.	U
tert-Butylbenzene		13.	U
1,2,4-Trimethylbenzene		13.	U
sec-Butylbenzene		13.	U
p-Isopropyltoluene		13.	U
1,3-Dichlorobenzene		13.	U
1,4-Dichlorobenzene		13.	U
n-Butylbenzene		13.	U
1,2-Dichlorobenzene		13.	U
1,2-Dibromo-3-Chloropropane		13.	U
1,2,4-Trichlorobenzene		13.	U
Hexachlorobutadiene		13.	U
Naphthalene		13.	U
1,2,3-Trichlorobenzene		13.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PBS7121SS7 110

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5460 110

Sample wt/vol: .5 G Lab File ID: >A1110

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/25/89

Column: W.B. Dilution Factor: 161.91

Number TICs Found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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9.					
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29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI079	Method Number:	8240
Lab Sample Name:	PBS7121SS8 #5461	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane	10.		
Trichlorofluoromethane	28.		
1,1-Dichloroethene	19.		
Methylene Chloride	28.		
trans-1,2-Dichloroethene	2.		
1,1-Dichloroethane	197.		
cis-1,2-Dichloroethene	32.		
2,2-Dichloropropane		1.	U
Chloroform	1.		J
Bromochloromethane		1.	U
1,1,1-Trichloroethane	2246.		
1,1-Dichloropropene		1.	U
Carbon Tetrachloride	431.		
1,2-Dichloroethane	4.		
Benzene	1.		J
Trichloroethene	1658.		
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene	82.		
1,1,2-Trichloroethane	15.		
1,3-Dichloropropane		1.	U
Tetrachloroethene	517.		
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene	6.		
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes	10.		

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI079	Method Number:	8240
Lab Sample Name:	PBS7121SS8 #5461	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene	6.	
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene	2.	
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene	3.	
Bromobenzene		1. U
1,3,5-Trimethylbenzene	22.	
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene	2.	
1,2,4-Trimethylbenzene	15.	
sec-Butylbenzene		1. U
p-Isopropyltoluene		1. U
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene		1. U
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene		1. U
Hexachlorobutadiene		1. U
Naphthalene	5.	
1,2,3-Trichlorobenzene		1. U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FBS7121SS8

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5461

Sample wt/vol: 5 G Lab File ID: >A1079

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: W.B. Dilution Factor: 1.2905

Number TICs found: 19

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	13.81	10.	
2.		Unknown	17.28	11.	
3.		Unknown	21.38	15.	
4.	1758889	Benzene, 2-ethyl-1,4-dimethyl	23.13	10.	
5.	95932	Benzene, 1,2,4,5-tetramethyl	23.87	8.	
6.	874419	Benzene, 1-ethyl-2,4-dimethyl	24.05	30.	
7.	527537	Benzene, 1,2,3,5-tetramethyl	24.93	10.	
8.		Unknown	25.99	11.	
9.		Unknown	26.86	13.	
10.		Unknown	27.45	12.	
11.		Unknown	27.71	11.	
12.		Unknown	28.03	20.	
13.	90120	Naphthalene, 1-methyl- (8C19	28.99	16.	
14.		Unknown	29.39	28.	
15.		Unknown	29.72	10.	
16.		Unknown	30.52	14.	
17.		Unknown	31.18	23.	
18.	581420	Naphthalene, 2,6-dimethyl- (	31.98	30.	
19.	571619	Naphthalene, 1,5-dimethyl- (	32.75	20.	
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI104	Method Number:	8240
Lab Sample Name:	PBS7121SS8 #5461 1:25	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	32.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,ML,500ul,5uL IS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		32. U
Chloromethane		32. U
Vinyl Chloride		32. U
Bromomethane		32. U
Chloroethane		32. U
Trichlorofluoromethane		32. U
1,1-Dichloroethene		32. U
Methylene Chloride	38.	
trans-1,2-Dichloroethene		32. U
1,1-Dichloroethane	97.	
cis-1,2-Dichloroethene		32. U
2,2-Dichloropropane		32. U
Chloroform		32. U
Bromochloromethane		32. U
1,1,1-Trichloroethane	2536.	
1,1-Dichloropropene		32. U
Carbon Tetrachloride		32. U
1,2-Dichloroethane		32. U
Benzene		32. U
Trichloroethene	3674.	
1,2-Dichloropropane		32. U
Bromodichloromethane		32. U
Dibromomethane		32. U
Toluene	79.	
1,1,2-Trichloroethane		32. U
1,3-Dichloropropane		32. U
Tetrachloroethene	961.	
Dibromochloromethane		32. U
1,2-Dibromoethane - EDB		32. U
Chlorobenzene		32. U
Ethylbenzene		32. U
1,1,1,2-Tetrachloroethane		32. U
m + p-Xylenes		32. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI104	Method Number:	8240
Lab Sample Name:	PBS7121SS8 #5461 1:25	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	32.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,ML,500ul,5uL IS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		32.	U
Styrene		32.	U
1,1,2,2-Tetrachloroethane		32.	U
Isopropylbenzene		32.	U
Bromoform		32.	U
1,2,3-Trichloropropane		32.	U
n-Propylbenzene		32.	U
Bromobenzene		32.	U
1,3,5-Trimethylbenzene		32.	U
4-Chlorotoluene		32.	U
2-Chlorotoluene		32.	U
tert-Butylbenzene		32.	U
1,2,4-Trimethylbenzene		32.	U
sec-Butylbenzene		32.	U
p-Isopropyltoluene		32.	U
1,3-Dichlorobenzene		32.	U
1,4-Dichlorobenzene		32.	U
n-Butylbenzene		32.	U
1,2-Dichlorobenzene		32.	U
1,2-Dibromo-3-Chloropropane		32.	U
1,2,4-Trichlorobenzene		32.	U
Hexachlorobutadiene		32.	U
Naphthalene	88.		
1,2,3-Trichlorobenzene	55.		

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PRS/121SS8

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5461 1:25

Sample wt/vol: .2 G Lab File ID: >A1104

Level: MED Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/25/89

Column: W.B. Dilution Factor: 1.0000

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
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27.					
28.					
29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI105	Method Number:	8240
Lab Sample Name:	PBS7121SS8 #5461MS 1:25	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	32.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,ML,500ul,5uL IS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		32. U
Chloromethane		32. U
Vinyl Chloride		32. U
Bromomethane		32. U
Chloroethane		32. U
Trichlorofluoromethane		32. U
1,1-Dichloroethene		
Methylene Chloride	141.	
trans-1,2-Dichloroethene		32. U
1,1-Dichloroethane	254.	
cis-1,2-Dichloroethene		32. U
2,2-Dichloropropane		32. U
Chloroform		32. U
Bromochloromethane		32. U
1,1,1-Trichloroethane	6043.	
1,1-Dichloropropene		32. U
Carbon Tetrachloride		32. U
1,2-Dichloroethane		32. U
Benzene		
Trichloroethene		
1,2-Dichloropropane		32. U
Bromodichloromethane		32. U
Dibromomethane		32. U
Toluene		
1,1,2-Trichloroethane		32. U
1,3-Dichloropropane		32. U
Tetrachloroethene	3048.	
Dibromochloromethane		32. U
1,2-Dibromoethane - EDB		32. U
Chlorobenzene		
Ethylbenzene	86.	
1,1,1,2-Tetrachloroethane		32. U
m + p-Xylenes	55.	

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI105	Method Number:	8240
Lab Sample Name:	PBS7121SS8 #5461MS 1:25	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	32.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,ML,500ul,5uL IS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		32.	U
Styrene		32.	U
1,1,2,2-Tetrachloroethane		32.	U
Isopropylbenzene		32.	U
Bromoform		32.	U
1,2,3-Trichloropropane		32.	U
n-Propylbenzene		32.	U
Bromobenzene		32.	U
1,3,5-Trimethylbenzene		32.	U
4-Chlorotoluene		32.	U
2-Chlorotoluene		32.	U
tert-Butylbenzene		32.	U
1,2,4-Trimethylbenzene		32.	U
sec-Butylbenzene		32.	U
p-Isopropyltoluene		32.	U
1,3-Dichlorobenzene		32.	U
1,4-Dichlorobenzene		32.	U
n-Butylbenzene		32.	U
1,2-Dichlorobenzene		32.	U
1,2-Dibromo-3-Chloropropane		32.	U
1,2,4-Trichlorobenzene		32.	U
Hexachlorobutadiene		32.	U
Naphthalene		32.	U
1,2,3-Trichlorobenzene		32.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI106	Method Number:	8240
Lab Sample Name:	PBS7121SS8 #5461MSD 1/25	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	32.3	Date Received:	890920
Sample Info.:	GC/MS A,TN,ESI7019,ML,500ul,5uL IS/5mls P&T		

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		32. U
Chloromethane		32. U
Vinyl Chloride		32. U
Bromomethane		32. U
Chloroethane		32. U
Trichlorofluoromethane		32. U
1,1-Dichloroethene		
Methylene Chloride	116.	
trans-1,2-Dichloroethene		32. U
1,1-Dichloroethane	135.	
cis-1,2-Dichloroethene		32. U
2,2-Dichloropropane		32. U
Chloroform		32. U
Bromochloromethane		32. U
1,1,1-Trichloroethane	3192.	
1,1-Dichloropropene		32. U
Carbon Tetrachloride		32. U
1,2-Dichloroethane		32. U
Benzene		
Trichloroethene		
1,2-Dichloropropane		32. U
Bromodichloromethane		32. U
Dibromomethane		32. U
Toluene		
1,1,2-Trichloroethane		32. U
1,3-Dichloropropane		32. U
Tetrachloroethene	1504.	
Dibromochloromethane		32. U
1,2-Dibromoethane - EDB		32. U
Chlorobenzene		
Ethylbenzene		32. U
1,1,1,2-Tetrachloroethane		32. U
m + p-Xylenes		32. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI10C	Method Number:	8240
Lab Sample Name:	PBS7121SS8 #5461MSD 1.25	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	32.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,ML,500ul,5uL IS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		32.	U
Styrene		32.	U
1,1,2,2-Tetrachloroethane		32.	U
Isopropylbenzene		32.	U
Bromoform		32.	U
1,2,3-Trichloropropane		32.	U
n-Propylbenzene		32.	U
Bromobenzene		32.	U
1,3,5-Trimethylbenzene		32.	U
4-Chlorotoluene		32.	U
2-Chlorotoluene		32.	U
tert-Butylbenzene		32.	U
1,2,4-Trimethylbenzene		32.	U
sec-Butylbenzene		32.	U
p-Isopropyltoluene		32.	U
1,3-Dichlorobenzene		32.	U
1,4-Dichlorobenzene		32.	U
n-Butylbenzene		32.	U
1,2-Dichlorobenzene		32.	U
1,2-Dibromo-3-Chloropropane		32.	U
1,2,4-Trichlorobenzene		32.	U
Hexachlorobutadiene		32.	U
Naphthalene		32.	U
1,2,3-Trichlorobenzene		32.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI080	Method Number:	8240
Lab Sample Name:	PBS7121SS9 #5452	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane	13.		
1,1-Dichloroethene	44.		
Methylene Chloride	3.		
trans-1,2-Dichloroethene	1.		J
1,1-Dichloroethane	754.		
cis-1,2-Dichloroethene	188.		
2,2-Dichloropropane		1.	U
Chloroform	1.		J
Bromochloromethane		1.	U
1,1,1-Trichloroethane	3442.		
1,1-Dichloropropene		1.	U
Carbon Tetrachloride	1.		J
1,2-Dichloroethane	96.		
Benzene	2.		
Trichloroethene	723.		
1,2-Dichloropropane		1.	U
Bromodichloromethane	1.		J
Dibromomethane		1.	U
Toluene	628.		
1,1,2-Trichloroethane	212.		
1,3-Dichloropropane		1.	U
Tetrachloroethene	1107.		
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene	216.		
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes	258.		

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI080	Method Number:	8240
Lab Sample Name:	PBS7121SS9 #5462	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene	101.	
Styrene		1. U
1,1,2,2-Tetrachloroethane	4.	
Isopropylbenzene	10.	
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene	31.	
Bromobenzene		1. U
1,3,5-Trimethylbenzene	297.	
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene	40.	
1,2,4-Trimethylbenzene	319.	
sec-Butylbenzene	8.	
p-Isopropyltoluene	22.	
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene	1.	J
n-Butylbenzene		1. U
1,2-Dichlorobenzene	0.	J
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene	1.	
Hexachlorobutadiene		1. U
Naphthalene	201.	
1,2,3-Trichlorobenzene	2.	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PRS7121SS9

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5462

Sample wt/vol: 5 G Lab File ID: >A1080

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: W.B. Dilution Factor: 1.2994

Number TICs Found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	5.30	110.	
2.		Unknown	7.27	85.	
3.		Unknown	10.09	340.	
4.		Unknown	13.01	1300.	
5.		Unknown	14.07	150.	
6.	565617	2-Pentanone, 3-methyl- (8C19	14.55	210.	
7.	535773	Benzene, 1-methyl-3-(1-methy	23.15	23.	
8.		Unknown	23.44	46.	
9.	527537	Benzene, 1,2,3,5-tetramethyl	23.88	29.	
10.	874419	Benzene, 1-ethyl-2,4-dimethy	24.07	100.	
11.		Unknown	24.29	38.	
12.	95932	Benzene, 1,2,4,5-tetramethyl	24.91	31.	
13.		Unknown	25.13	20.	
14.		Unknown	25.61	27.	
15.		Unknown	28.03	48.	
16.	90120	Naphthalene, 1-methyl- (8C19	28.98	68.	
17.	91576	Naphthalene, 2-methyl- (8C19	29.67	37.	
18.		Unknown	30.52	46.	
19.	571619	Naphthalene, 1,5-dimethyl- (	32.02	31.	
20.	569415	Naphthalene, 1,8-dimethyl- (	32.75	24.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI107	Method Number:	8240
Lab Sample Name:	PBS7121SS9 #5462 1162	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	81.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,ML,200ul,5uL IS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		81. U
Chloromethane		81. U
Vinyl Chloride		81. U
Bromomethane		81. U
Chloroethane		81. U
Trichlorofluoromethane		81. U
1,1-Dichloroethene		81. U
Methylene Chloride	141.	
trans-1,2-Dichloroethene		81. U
1,1-Dichloroethane	1214.	
cis-1,2-Dichloroethene	152.	
2,2-Dichloropropane		81. U
Chloroform		81. U
Bromochloromethane		81. U
1,1,1-Trichloroethane	7770.	
1,1-Dichloropropene		81. U
Carbon Tetrachloride		81. U
1,2-Dichloroethane		81. U
Benzene		81. U
Trichloroethene	21142.	
1,2-Dichloropropane		81. U
Bromodichloromethane		81. U
Dibromomethane		81. U
Toluene	1101.	
1,1,2-Trichloroethane		81. U
1,3-Dichloropropane		81. U
Tetrachloroethene	10048.	
Dibromochloromethane		81. U
1,2-Dibromoethane - EDB		81. U
Chlorobenzene		81. U
Ethylbenzene	411.	
1,1,1,2-Tetrachloroethane		81. U
m + p-Xylenes	395.	

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI107	Method Number:	8240
Lab Sample Name:	PBS7121SS9 #5462 1.62	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	81.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,ML,200ul,5uL IS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene	137.	
Styrene		81. U
1,1,2,2-Tetrachloroethane		81. U
Isopropylbenzene		81. U
Bromoform		81. U
1,2,3-Trichloropropane		81. U
n-Propylbenzene		81. U
Bromobenzene		81. U
1,3,5-Trimethylbenzene	442.	
4-Chlorotoluene		81. U
2-Chlorotoluene		81. U
tert-Butylbenzene		81. U
1,2,4-Trimethylbenzene	479.	
sec-Butylbenzene		81. U
p-Isopropyltoluene		81. U
1,3-Dichlorobenzene		81. U
1,4-Dichlorobenzene		81. U
n-Butylbenzene		81. U
1,2-Dichlorobenzene		81. U
1,2-Dibromo-3-Chloropropane		81. U
1,2,4-Trichlorobenzene		81. U
Hexachlorobutadiene		81. U
Naphthalene	268.	
1,2,3-Trichlorobenzene		81. U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PBS7121559

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5462 1:62

Sample wt/vol: .08 G Lab File ID: >A1107

Level: MED Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/25/89

Column: W.B. Dilution Factor: 81.2124

Number TICs Found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	23.14	22000.	
2.		Unknown	23.47	31000.	
3.	112403	Dodecane (8C19C1)	24.05	110000.	
4.		Unknown	24.27	37000.	
5.		Unknown	25.99	50000.	
6.	90120	Naphthalene, 1-methyl- (8C19	28.99	28000.	
7.		Unknown	30.52	33000.	
8.					
9.					
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11.					
12.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI117	Method Number:	8240
Lab Sample Name:	PBS7121SS9 #5462	Date Analyzed:	890926
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	162.4	Date Received:	890920

Sample Info.: GC/MS A,DC, ,ML,100ul,5uL IS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		162.	U
Chloromethane		162.	U
Vinyl Chloride		162.	U
Bromomethane		162.	U
Chloroethane		162.	U
Trichlorofluoromethane		162.	U
1,1-Dichloroethene		162.	U
Methylene Chloride	49.		J
trans-1,2-Dichloroethene		162.	U
1,1-Dichloroethane	1164.		
cis-1,2-Dichloroethene	181.		
2,2-Dichloropropane		162.	U
Chloroform		162.	U
Bromochloromethane		162.	U
1,1,1-Trichloroethane	5325.		
1,1-Dichloropropene		162.	U
Carbon Tetrachloride		162.	U
1,2-Dichloroethane		162.	U
Benzene	14.		J
Trichloroethene	16401.		
1,2-Dichloropropane		162.	U
Bromodichloromethane		162.	U
Dibromomethane		162.	U
Toluene	605.		
1,1,2-Trichloroethane		162.	U
1,3-Dichloropropane		162.	U
Tetrachloroethene	5376.		
Dibromochloromethane		162.	U
1,2-Dibromoethane - EDB		162.	U
Chlorobenzene		162.	U
Ethylbenzene		162.	U
1,1,1,2-Tetrachloroethane		162.	U
m + p-Xylenes	53.		J

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI117	Method Number:	8240
Lab Sample Name:	PBS7121SS9 #5462	Date Analyzed:	890926
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	162.4	Date Received:	890920

Sample Info.: GC/MS A,DC, ,ML,100ul,5uL IS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		162.	U
Styrene		162.	U
1,1,2,2-Tetrachloroethane		162.	U
Isopropylbenzene		162.	U
Bromoform		162.	U
1,2,3-Trichloropropane		162.	U
n-Propylbenzene		162.	U
Bromobenzene		162.	U
1,3,5-Trimethylbenzene	167.		
4-Chlorotoluene		162.	U
2-Chlorotoluene		162.	U
tert-Butylbenzene		162.	U
1,2,4-Trimethylbenzene	186.		
sec-Butylbenzene		162.	U
p-Isopropyltoluene		162.	U
1,3-Dichlorobenzene		162.	U
1,4-Dichlorobenzene		162.	U
n-Butylbenzene		162.	U
1,2-Dichlorobenzene		162.	U
1,2-Dibromo-3-Chloropropane		162.	U
1,2,4-Trichlorobenzene		162.	U
Hexachlorobutadiene		162.	U
Naphthalene	149.		J
1,2,3-Trichlorobenzene		162.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PR57121SS9

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5462

Sample wt/vol: .01 G Lab File ID: >A1117

Level: MED Date Received: 09/20/89

% Moisture: not dec._____ Date Analyzed: 9/26/89

Column: W.B. Dilution Factor: 105468

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Building 713E, Tank No. 32: Volatile Organics Analysis

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI065	Method Number:	8240
Lab Sample Name:	PBS7131SS1 #5463	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane		1.	U
1,1-Dichloroethene		1.	U
Methylene Chloride	7.		
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane		1.	U
cis-1,2-Dichloroethene		1.	U
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane	3.		
1,1-Dichloropropene		1.	U
Carbon Tetrachloride		1.	U
1,2-Dichloroethane		1.	U
Benzene		1.	U
Trichloroethene	372.		
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene	0.		J
1,1,2-Trichloroethane		1.	U
1,3-Dichloropropane		1.	U
Tetrachloroethene		1.	U
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene		1.	U
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes		1.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI065	Method Number:	8240
Lab Sample Name:	PBS7131SS1 #5463	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		1.	U
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene		1.	U
4-Chlorotoluene		1.	U
2-Chlorotoluene		1.	U
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene		1.	U
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene		1.	U
1,4-Dichlorobenzene		1.	U
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene		1.	U
Hexachlorobutadiene		1.	U
Naphthalene	1.		J
1,2,3-Trichlorobenzene		1.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7131SS1

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5463

Sample wt/vol: 5 G Lab File ID: >A1065

Level: LOW Date Received: 09/20/89

% Moisture: not dec._____ Date Analyzed: 9/22/89

Column: W.B. Dilution Factor: 1.2012

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	13.70	8.	
2.	Unknown	28.03	8.	
3.	Unknown	29.38	9.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI093	Method Number:	8240
Lab Sample Name:	PBS7131SS1 #5463 115	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.0	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		6. U
Chloromethane		6. U
Vinyl Chloride		6. U
Bromomethane		6. U
Chloroethane		6. U
Trichlorofluoromethane		6. U
1,1-Dichloroethene		6. U
Methylene Chloride		6. U
trans-1,2-Dichloroethene		6. U
1,1-Dichloroethane		6. U
cis-1,2-Dichloroethene		6. U
2,2-Dichloropropane		6. U
Chloroform		6. U
Bromochloromethane		6. U
1,1,1-Trichloroethane		6. U
1,1-Dichloropropene		6. U
Carbon Tetrachloride		6. U
1,2-Dichloroethane		6. U
Benzene		6. U
Trichloroethene	301.	
1,2-Dichloropropane		6. U
Bromodichloromethane		6. U
Dibromomethane		6. U
Toluene		6. U
1,1,2-Trichloroethane		6. U
1,3-Dichloropropane		6. U
Tetrachloroethene		6. U
Dibromochloromethane		6. U
1,2-Dibromoethane - EDB		6. U
Chlorobenzene		6. U
Ethylbenzene		6. U
1,1,1,2-Tetrachloroethane		6. U
m + p-Xylenes		6. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI093	Method Number:	8240
Lab Sample Name:	PBS7131SS1 #5463 1:5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.0	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		6.	U
Styrene		6.	U
1,1,2,2-Tetrachloroethane		6.	U
Isopropylbenzene		6.	U
Bromoform		6.	U
1,2,3-Trichloropropane		6.	U
n-Propylbenzene		6.	U
Bromobenzene		6.	U
1,3,5-Trimethylbenzene		6.	U
4-Chlorotoluene		6.	U
2-Chlorotoluene		6.	U
tert-Butylbenzene		6.	U
1,2,4-Trimethylbenzene		6.	U
sec-Butylbenzene		6.	U
p-Isopropyltoluene		6.	U
1,3-Dichlorobenzene		6.	U
1,4-Dichlorobenzene		6.	U
n-Butylbenzene		6.	U
1,2-Dichlorobenzene		6.	U
1,2-Dibromo-3-Chloropropane		6.	U
1,2,4-Trichlorobenzene		6.	U
Hexachlorobutadiene	14.		
Naphthalene	4.		J
1,2,3-Trichlorobenzene	18.		

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PBS7131551 115

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5463 115

Sample wt/vol: 1 G Lab File ID: >A1093

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/24/89

Column: PACK Dilution Factor: 7.2100

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI066	Method Number:	8240
Lab Sample Name:	PBS7131SS2 #5464	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane		1.	U
1,1-Dichloroethene		1.	U
Methylene Chloride		1.	U
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane		1.	U
cis-1,2-Dichloroethene		1.	U
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane	3.		
1,1-Dichloropropene		1.	U
Carbon Tetrachloride		1.	U
1,2-Dichloroethane		1.	U
Benzene		1.	U
Trichloroethene	359.		
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene		1.	U
1,1,2-Trichloroethane		1.	U
1,3-Dichloropropane		1.	U
Tetrachloroethene		1.	U
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene		1.	U
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes		1.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI066	Method Number:	8240
Lab Sample Name:	PBS7131SS2 #5464	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		1.	U
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene		1.	U
4-Chlorotoluene		1.	U
2-Chlorotoluene		1.	U
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene		1.	U
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene		1.	U
1,4-Dichlorobenzene		1.	U
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene		1.	U
Hexachlorobutadiene		1.	U
Naphthalene	1.		J
1,2,3-Trichlorobenzene		1.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7131552

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5464

Sample wt/vol: 5 G Lab File ID: >A1066

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: W.B. Dilution Factor: 1.2158

Number TICs Found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	8.88	6.	
2.		Unknown	29.13	9.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI094	Method Number:	8240
Lab Sample Name:	PBS7131SS2 #5464 1.5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.1	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		6.	U
Chloromethane		6.	U
Vinyl Chloride		6.	U
Bromomethane		6.	U
Chloroethane		6.	U
Trichlorofluoromethane		6.	U
1,1-Dichloroethene		6.	U
Methylene Chloride		6.	U
trans-1,2-Dichloroethene		6.	U
1,1-Dichloroethane		6.	U
cis-1,2-Dichloroethene		6.	U
2,2-Dichloropropane		6.	U
Chloroform		6.	U
Bromochloromethane		6.	U
1,1,1-Trichloroethane		6.	U
1,1-Dichloropropene		6.	U
Carbon Tetrachloride		6.	U
1,2-Dichloroethane		6.	U
Benzene		6.	U
Trichloroethene	301.		
1,2-Dichloropropane		6.	U
Bromodichloromethane		6.	U
Dibromomethane		6.	U
Toluene	0.		J
1,1,2-Trichloroethane		6.	U
1,3-Dichloropropane		6.	U
Tetrachloroethene		6.	U
Dibromochloromethane		6.	U
1,2-Dibromoethane - EDB		6.	U
Chlorobenzene		6.	U
Ethylbenzene		6.	U
1,1,1,2-Tetrachloroethane		6.	U
m + p-Xylenes		6.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI094	Method Number:	8240
Lab Sample Name:	PBS7131SS2 #5464 115	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.1	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		6.	U
Styrene		6.	U
1,1,2,2-Tetrachloroethane		6.	U
Isopropylbenzene		6.	U
Bromoform		6.	U
1,2,3-Trichloropropane		6.	U
n-Propylbenzene		6.	U
Bromobenzene		6.	U
1,3,5-Trimethylbenzene		6.	U
4-Chlorotoluene		6.	U
2-Chlorotoluene		6.	U
tert-Butylbenzene		6.	U
1,2,4-Trimethylbenzene		6.	U
sec-Butylbenzene		6.	U
p-Isopropyltoluene		6.	U
1,3-Dichlorobenzene		6.	U
1,4-Dichlorobenzene		6.	U
n-Butylbenzene		6.	U
1,2-Dichlorobenzene		6.	U
1,2-Dibromo-3-Chloropropane		6.	U
1,2,4-Trichlorobenzene		6.	U
Hexachlorobutadiene		6.	U
Naphthalene	3.		J
1,2,3-Trichlorobenzene		6.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PRS7131552 1/5

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5464 1/5

Sample wt/vol: 1 G Lab File ID: >A1094

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/24/89

Column: PACK Dilution Factor: 7.3900

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI067	Method Number:	8240
Lab Sample Name:	PBS7131SS3 #5465	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane		1.	U
1,1-Dichloroethene		1.	U
Methylene Chloride	7.		
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane		1.	U
cis-1,2-Dichloroethene		1.	U
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane	6.		
1,1-Dichloropropene		1.	U
Carbon Tetrachloride		1.	U
1,2-Dichloroethane		1.	U
Benzene		1.	U
Trichloroethene	417.		
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene	1.		J
1,1,2-Trichloroethane		1.	U
1,3-Dichloropropane		1.	U
Tetrachloroethene		1.	U
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene		1.	U
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes		1.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI067	Method Number:	8240
Lab Sample Name:	PBS7131SS3 #5465	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		1.	U
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene		1.	U
4-Chlorotoluene		1.	U
2-Chlorotoluene		1.	U
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene		1.	U
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene		1.	U
1,4-Dichlorobenzene		1.	U
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene		1.	U
Hexachlorobutadiene		1.	U
Naphthalene	1.		J
1,2,3-Trichlorobenzene		1.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PBS7131SS3

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5465

Sample wt/vol: 5 G Lab File ID: >A1067

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: W.B. Dilution Factor: 1.1858

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	13.70	11.	
2.	Unknown	28.03	9.	
3.	Unknown	28.98	7.	
4.	Unknown	29.42	7.	
5.	Unknown	30.51	10.	
6.	Unknown	32.78	8.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI095	Method Number:	8240
Lab Sample Name:	PBS7131SS3 #5465 115	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.9	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		6. U
Chloromethane		6. U
Vinyl Chloride		6. U
Bromomethane		6. U
Chloroethane		6. U
Trichlorofluoromethane		6. U
1,1-Dichloroethene		6. U
Methylene Chloride		6. U
trans-1,2-Dichloroethene		6. U
1,1-Dichloroethane		6. U
cis-1,2-Dichloroethene		6. U
2,2-Dichloropropane		6. U
Chloroform		6. U
Bromochloromethane		6. U
1,1,1-Trichloroethane		6. U
1,1-Dichloropropene		6. U
Carbon Tetrachloride		6. U
1,2-Dichloroethane		6. U
Benzene		6. U
Trichloroethene	606.	
1,2-Dichloropropane		6. U
Bromodichloromethane		6. U
Dibromomethane		6. U
Toluene		6. U
1,1,2-Trichloroethane		6. U
1,3-Dichloropropane		6. U
Tetrachloroethene		6. U
Dibromochloromethane		6. U
1,2-Dibromoethane - EDB		6. U
Chlorobenzene		6. U
Ethylbenzene		6. U
1,1,1,2-Tetrachloroethane		6. U
m + p-Xylenes		6. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI095	Method Number:	8240
Lab Sample Name:	PB57131SS3 #5465 1:5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.9	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene		6. U
Styrene		6. U
1,1,2,2-Tetrachloroethane		6. U
Isopropylbenzene		6. U
Bromoform		6. U
1,2,3-Trichloropropane		6. U
n-Propylbenzene		6. U
Bromobenzene		6. U
1,3,5-Trimethylbenzene		6. U
4-Chlorotoluene		6. U
2-Chlorotoluene		6. U
tert-Butylbenzene		6. U
1,2,4-Trimethylbenzene		6. U
sec-Butylbenzene		6. U
p-Isopropyltoluene		6. U
1,3-Dichlorobenzene		6. U
1,4-Dichlorobenzene		6. U
n-Butylbenzene		6. U
1,2-Dichlorobenzene		6. U
1,2-Dibromo-3-Chloropropane		6. U
1,2,4-Trichlorobenzene		6. U
Hexachlorobutadiene		6. U
Naphthalene		6. U
1,2,3-Trichlorobenzene		6. U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7131553 MS

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5465 MS

Sample wt/vol: 1 G Lab File ID: >A1095

Level: LOW Date Received: 09/20/89

% Moisture: not dec._____ Date Analyzed: 9/24/89

Column: PACK Dilution Factor: 7.0300

Number TICs Found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI068	Method Number:	8240
Lab Sample Name:	PBS7131SS4 #5466	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		1. U
Chloromethane		1. U
Vinyl Chloride		1. U
Bromomethane		1. U
Chloroethane		1. U
Trichlorofluoromethane		1. U
1,1-Dichloroethene		1. U
Methylene Chloride	6.	
trans-1,2-Dichloroethene		1. U
1,1-Dichloroethane		1. U
cis-1,2-Dichloroethene		1. U
2,2-Dichloropropane		1. U
Chloroform		1. U
Bromochloromethane		1. U
1,1,1-Trichloroethane	6.	
1,1-Dichloropropene		1. U
Carbon Tetrachloride		1. U
1,2-Dichloroethane		1. U
Benzene		1. U
Trichloroethene	464.	
1,2-Dichloropropane		1. U
Bromodichloromethane		1. U
Dibromomethane		1. U
Toluene	1.	
1,1,2-Trichloroethane		1. U
1,3-Dichloropropane		1. U
Tetrachloroethene	9.	
Dibromochloromethane		1. U
1,2-Dibromoethane - EDB		1. U
Chlorobenzene		1. U
Ethylbenzene		1. U
1,1,1,2-Tetrachloroethane		1. U
m + p-Xylenes		1. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI068	Method Number:	8240
Lab Sample Name:	PBS7131SS4 #5466	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		1.	U
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene		1.	U
4-Chlorotoluene		1.	U
2-Chlorotoluene		1.	U
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene	1.		J
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene		1.	U
1,4-Dichlorobenzene		1.	U
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene		1.	U
Hexachlorobutadiene		1.	U
Naphthalene	1.		J
1,2,3-Trichlorobenzene		1.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7131554

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5466

Sample wt/vol: 5 G Lab File ID: >A1068

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: W.B. Dilution Factor: 1.1972

Number TICs found: 5

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	13.73	7.	
2.		Unknown	24.04	8.	
3.		Unknown	25.98	11.	
4.		Unknown	28.02	13.	
5.		Unknown	29.38	9.	
6.					
7.					
8.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI096	Method Number:	8240
Lab Sample Name:	PBS7131SS4 #5466 115	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.0	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		6. U
Chloromethane		6. U
Vinyl Chloride		6. U
Bromomethane		6. U
Chloroethane		6. U
Trichlorofluoromethane		6. U
1,1-Dichloroethene		6. U
Methylene Chloride		6. U
trans-1,2-Dichloroethene		6. U
1,1-Dichloroethane		6. U
cis-1,2-Dichloroethene		6. U
2,2-Dichloropropane		6. U
Chloroform		6. U
Bromochloromethane		6. U
1,1,1-Trichloroethane	23.	
1,1-Dichloropropene		6. U
Carbon Tetrachloride	2.	J
1,2-Dichloroethane		6. U
Benzene		6. U
Trichloroethene	419.	
1,2-Dichloropropane		6. U
Bromodichloromethane		6. U
Dibromomethane		6. U
Toluene		6. U
1,1,2-Trichloroethane		6. U
1,3-Dichloropropane		6. U
Tetrachloroethene	17.	
Dibromochloromethane		6. U
1,2-Dibromoethane - EDB		6. U
Chlorobenzene		6. U
Ethylbenzene		6. U
1,1,1,2-Tetrachloroethane		6. U
m + p-Xylenes		6. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI096	Method Number:	8240
Lab Sample Name:	PBS7131SS4 #5466 1.5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.0	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		6.	U
Styrene		6.	U
1,1,2,2-Tetrachloroethane		6.	U
Isopropylbenzene		6.	U
Bromoform		6.	U
1,2,3-Trichloropropane		6.	U
n-Propylbenzene		6.	U
Bromobenzene		6.	U
1,3,5-Trimethylbenzene		6.	U
4-Chlorotoluene		6.	U
2-Chlorotoluene		6.	U
tert-Butylbenzene		6.	U
1,2,4-Trimethylbenzene		6.	U
sec-Butylbenzene		6.	U
p-Isopropyltoluene		6.	U
1,3-Dichlorobenzene		6.	U
1,4-Dichlorobenzene		6.	U
n-Butylbenzene		6.	U
1,2-Dichlorobenzene		6.	U
1,2-Dibromo-3-Chloropropane		6.	U
1,2,4-Trichlorobenzene		6.	U
Hexachlorobutadiene		6.	U
Naphthalene		6.	U
1,2,3-Trichlorobenzene		6.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS7131554 115T

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5466 1:5

Sample wt/vol: 1 G Lab File ID: >A1096

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/24/89

Column: W.B Dilution Factor: 7.1400

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
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18.					
19.					
20.					
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23.					
24.					
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26.					
27.					
28.					
29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI076	Method Number:	8240
Lab Sample Name:	PBS7131SS5 #5467	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane	17.		
1,1-Dichloroethene		1.	U
Methylene Chloride	16.		
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane	40.		
cis-1,2-Dichloroethene		1.	U
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane		1.	U
1,1-Dichloropropene		1.	U
Carbon Tetrachloride		1.	U
1,2-Dichloroethane	370.		
Benzene	0.		J
Trichloroethene		1.	U
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene		1.	U
1,1,2-Trichloroethane		1.	U
1,3-Dichloropropane		1.	U
Tetrachloroethene		1.	U
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene	2.		
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes	2.		

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI076	Method Number:	8240
Lab Sample Name:	PBS7131SS5 #5467	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene		1. U
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene		1. U
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene		1. U
Bromobenzene		1. U
1,3,5-Trimethylbenzene	366.	
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene		1. U
1,2,4-Trimethylbenzene	349.	
sec-Butylbenzene		1. U
p-Isopropyltoluene		1. U
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene		1. U
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene		1. U
Hexachlorobutadiene		1. U
Naphthalene	159.	
1,2,3-Trichlorobenzene		1. U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PRS7131555

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5467

Sample wt/vol: 5 G Lab File ID: >A1076

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: W.B. Dilution Factor: 1.1550

Number TICs Found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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4.					
5.					
6.					
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11.					
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22.					
23.					
24.					
25.					
26.					
[illegible]					
.					
.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI069	Method Number:	8240
Lab Sample Name:	PBS7131SS5 #5467	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane		1.	U
1,1-Dichloroethene		1.	U
Methylene Chloride	2.		
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane		1.	U
cis-1,2-Dichloroethene		1.	U
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane	10.		
1,1-Dichloropropene		1.	U
Carbon Tetrachloride	1.		J
1,2-Dichloroethane		1.	U
Benzene	0.		J
Trichloroethene	172.		
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene		1.	U
1,1,2-Trichloroethane		1.	U
1,3-Dichloropropane		1.	U
Tetrachloroethene		1.	U
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene		1.	U
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes		1.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI069	Method Number:	8240
Lab Sample Name:	PBS7131SS5 #5467	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		1.	U
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene		1.	U
4-Chlorotoluene		1.	U
2-Chlorotoluene		1.	U
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene		1.	U
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene		1.	U
1,4-Dichlorobenzene		1.	U
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene		1.	U
Hexachlorobutadiene		1.	U
Naphthalene	0.		J
1,2,3-Trichlorobenzene		1.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS/131555

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5467

Sample wt/vol: 5 G Lab File ID: >A1069

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: W.B. Dilution Factor: 1.1550

Number TICs found: 8

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	8.87	7.	
2.		Unknown	13.51	8.	
3.		Unknown	27.47	9.	
4.		Unknown	29.12	22.	
5.		Unknown	29.37	48.	
6.		Unknown	31.97	45.	
7.		Unknown	32.41	12.	
8.		Unknown	33.50	9.	
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
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24.					
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26.					
27.					
28.					
29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI111	Method Number:	8240
Lab Sample Name:	PBS7131SS5 #5467 1.5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.8	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,1g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		6. U
Chloromethane		6. U
Vinyl Chloride		6. U
Bromomethane		6. U
Chloroethane		6. U
Trichlorofluoromethane		6. U
1,1-Dichloroethene		6. U
Methylene Chloride	70.	
trans-1,2-Dichloroethene		6. U
1,1-Dichloroethane		6. U
cis-1,2-Dichloroethene		6. U
2,2-Dichloropropane		6. U
Chloroform		6. U
Bromochloromethane		6. U
1,1,1-Trichloroethane		6. U
1,1-Dichloropropene		6. U
Carbon Tetrachloride		6. U
1,2-Dichloroethane		6. U
Benzene		6. U
Trichloroethene	728.	
1,2-Dichloropropane		6. U
Bromodichloromethane		6. U
Dibromomethane		6. U
Toluene		6. U
1,1,2-Trichloroethane		6. U
1,3-Dichloropropane		6. U
Tetrachloroethene		6. U
Dibromochloromethane		6. U
1,2-Dibromoethane - EDB		6. U
Chlorobenzene		6. U
Ethylbenzene		6. U
1,1,1,2-Tetrachloroethane		6. U
m + p-Xylenes		6. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI111	Method Number:	8240
Lab Sample Name:	PBS7131SS5 #5467 115	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.8	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,1g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		6.	U
Styrene		6.	U
1,1,2,2-Tetrachloroethane		6.	U
Isopropylbenzene		6.	U
Bromoform		6.	U
1,2,3-Trichloropropane		6.	U
n-Propylbenzene		6.	U
Bromobenzene		6.	U
1,3,5-Trimethylbenzene		6.	U
4-Chlorotoluene		6.	U
2-Chlorotoluene		6.	U
tert-Butylbenzene		6.	U
1,2,4-Trimethylbenzene		6.	U
sec-Butylbenzene		6.	U
p-Isopropyltoluene		6.	U
1,3-Dichlorobenzene		6.	U
1,4-Dichlorobenzene		6.	U
n-Butylbenzene		6.	U
1,2-Dichlorobenzene		6.	U
1,2-Dibromo-3-Chloropropane		6.	U
1,2,4-Trichlorobenzene		6.	U
Hexachlorobutadiene		6.	U
Naphthalene		6.	U
1,2,3-Trichlorobenzene		6.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PBS7131555 /15T

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5467 /15

Sample wt/vol: 1 G Lab File ID: >A1111

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/25/89

Column: W.B. Dilution Factor: 33.35

Number TICs Found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
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27.				
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30.				

Building 8133, Tank No. 39, BTEX Analysis

SAMPLE NUMBER
PBS-8133-SS-1

Organics Analysis Data Sheet

Lab Name: HITTMAN EBASCO ASSOC., INC.
Lab Sample ID #: 5440
Sample Matrix: SOIL
Data Release Authorized by: _____

Case #: _____
QC Report #: N/A
Contract #: ESI 7019-001
Date Sample Received: 9/20/89

Volatiles Compounds

Concentration: Low (Medium) (Circle One)

Date Extracted/Prepared: 9/21/89

Date Analyzed: 9/21/89

Conc/Dil Factor: 667

Percent Moisture (Not Decanted): 22.48%

ug/l or (ug/Kg) (Circle One)

ızene	1400
Ethyl benzene	4400
Toluene	7200
Total Xylenes	16000

SAMPLE NUMBER
PBS-8133-SS-2

Organics Analysis Data Sheet

Lab Name: HITTMAN EBASCO ASSOC., INC.
Lab Sample ID #: 5441
Sample Matrix: SOIL
Data Release Authorized by: _____

Case #: _____
QC Report #: N/A
Contract #: ESI 7019-001
Date Sample Received: 9/20/89

Volatiles Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 9/21/89

Date Analyzed: 9/21/89

Conc/Dil Factor: 10

Percent Moisture (Not Decanted): 28.48%

	ug/l or ug/Kg (Circle One)
Benzene	62 x
Ethyl benzene	15
Toluene	103
Total Xylenes	65

x= Dilution Factor of 200

SAMPLE NUMBER
PBS-8133-SS-3

Organics Analysis Data Sheet

ab Name: HITTMAN EBASCO ASSOC., INC.
ab Sample ID #: 5442
ample Matrix: SOIL
ata Release Authorized by: _____

Case #: _____
QC Report #: N/A
Contract #: ESI 7019-001
Date Sample Received: 9/20/89

Volatiles Compounds

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared: 9/21/89

Date Analyzed: 9/21/89

Conc/Dil Factor: 1

Percent Moisture (Not Decanted): 24.61%

ug/l or (ug/Kg) (Circle One)

B zene	.19	J
hyl benzene	.27	U
Toluene	.77	
Total Xylenes	.94	

Building 1411, Tank No. 124, 25, Volatile Organics Analysis

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI070	Method Number:	8240
Lab Sample Name:	PBS141155I #5468	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,55/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane	19.		
1,1-Dichloroethene	22.		
Methylene Chloride	12.		
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane	228.		
cis-1,2-Dichloroethene	8.		
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethene	503.		
1,1-Dichloropropene		1.	U
Carbon Tetrachloride	100.		
1,2-Dichloroethane		1.	U
Benzene	2.		
Trichloroethene	509.		
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene	1.		J
1,1,2-Trichloroethane		1.	U
1,3-Dichloropropane		1.	U
Tetrachloroethene		1.	U
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene	27.		
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes	34.		

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI070	Method Number:	8240
Lab Sample Name:	PBS141ISS1 #5468	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890910
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene	15.	
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene	31.	
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene	76.	
Bromobenzene		1. U
1,3,5-Trimethylbenzene	496.	
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene	70.	
1,2,4-Trimethylbenzene	541.	
sec-Butylbenzene	37.	
p-Isopropyltoluene	74.	
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene		1. U
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene		1. U
Hexachlorobutadiene		1. U
Naphthalene	563.	
1,2,3-Trichlorobenzene		1. U

QUANT REPORT

Operator ID: THDY Quant Rev: 6 Quant Time: 890922 21:06
Output File: DA10/00::001 Injected at: 890922 20:30
Data File: DA10/00::A1 Dilution Factor: 1.000000
Name: PMS7411500 #9468
Misc: GC/MS A,IN,EST/00V,50,50U 15,55/5min P&T

ID File: IDVAH2::ID
Title: HSL VOLATILES
Last Calibration: 890922 16:21

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Fluorobenzene	12.28	203	94784	50.00	ng/ml	5[illegible]
2)	Trichlorofluoromethane	6.54	46	6638	19.10	ng/mL	91
8)	1,1-Dichloroethene	7.53	73	8354	27.45	ng/mL	9[illegible]
9)	Methylene Chloride	8.26	93	5745	12.13	ng/mL	98
11)	1,1-Dichloroethane	9.39	124	187474	229.70	ng/mL	9[illegible]
12)	cis-1,2-Dichloroethene	10.38	151	3826	8.12	ng/mL	92
16)	1,1,1-Trichloroethane	11.29	176	233372	507.35	ng/mL	98
18)	Carbon Tetrachloride	11.29	176	35875	111.23	ng/mL	92
20)	Benzene	11.90	195	2848	2.00	ng/ml	100
21)	Trichloroethene	12.93	221	234888	513.53	ng/mL	93
25)	Toluene	15.86	279	1063	1.75	ng/mL	86
26)	BROMOFLUOROBENZENE (SURRO)	19.74	407	24451	39.57	ng/mL	87
33)	Ethylbenzene	17.83	355	39130	27.30	ng/ml	98
35)	m + p-Xylenes	17.83	355	19152	33.84	ng/mL	88
36)	o-Xylene	18.64	377	8514	14.94	ng/ml	92
39)	*1,4-Dichlorobenzene-d4	21.97	468	118513M	50.00	ng/mL	
40)	Isopropylbenzene	19.76	394	14262	30.91	ng/ml	64
43)	n-Propylbenzene	19.99	414	46316	76.62	ng/mL	95
45)	1,3,5-Trimethylbenzene	20.17	419	167337	500.55	ng/ml	78
48)	tert-Butylbenzene	21.02	442	24467	71.13	ng/mL	92
49)	1,2,4-Trimethylbenzene	21.02	442	189360	545.17	ng/mL	98
50)	sec-Butylbenzene	21.34	451	20271	57.35	ng/mL	92
51)	p-Isopropyltoluene	21.49	455	28636	75.02	ng/mL	95
59)	Naphthalene	26.47	591	192548	567.69	ng/mL	100
61)	BROMOFLUOROBENZENE (SURRO)	19.74	407	24451	129.24	ng/ml	98

* Compound is ISTD

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PRS1411SS1

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5468

Sample wt/vol: 5 G Lab File ID: >A1070

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: W.B. Dilution Factor: 1.3110

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	3726474	Cyclopentane, 1-ethyl-3-meth	16.33	100.	
2.	611143	Benzene, 1-ethyl-2-methyl- (	20.80	120.	
3.	95636	Benzene, 1,2,4-trimethyl- (8	21.97	950.	
4.	1074551	Benzene, 1-methyl-4-propyl-	22.22	310.	
5.	1758889	Benzene, 2-ethyl-1,4-dimethy	22.37	180.	
6.		Unknown	22.59	330.	
7.	874419	Benzene, 1-ethyl-2,4-dimethy	22.95	220.	
8.	535773	Benzene, 1-methyl-3-(1-methy	23.14	310.	
9.	1587048	Benzene, 1-methyl-2-(2-prope	23.39	200.	
10.		Unknown	23.58	310.	
11.	95932	Benzene, 1,2,4,5-tetramethyl	23.87	350.	
12.	527537	Benzene, 1,2,3,5-tetramethyl	24.02	600.	
13.		Unknown	24.79	300.	
14.	488233	Benzene, 1,2,3,4-tetramethyl	24.90	350.	
15.		Unknown	25.11	600.	
16.		Unknown	25.59	320.	
17.		Unknown	25.96	350.	
18.	112403	Dodecane (8C19C1)	28.04	120.	
19.	91576	Naphthalene, 2-methyl- (8C19	29.00	700.	
20.	90120	Naphthalene, 1-methyl- (8C19	29.69	400.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI097	Method Number:	8240
Lab Sample Name:	PBS1411SS1 #5468 1.5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.6	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		7.	U
Chloromethane		7.	U
Vinyl Chloride		7.	U
Bromomethane		7.	U
Chloroethane		7.	U
Trichlorofluoromethane		7.	U
1,1-Dichloroethene		7.	U
Methylene Chloride	4.		J
trans-1,2-Dichloroethene		7.	U
1,1-Dichloroethane	181.		
cis-1,2-Dichloroethene		7.	U
2,2-Dichloropropane		7.	U
Chloroform		7.	U
Bromochloromethane		7.	U
1,1,1-Trichloroethane	479.		
1,1-Dichloropropene		7.	U
Carbon Tetrachloride	93.		
1,2-Dichloroethane		7.	U
Benzene	1.		J
Trichloroethene	1087.		
1,2-Dichloropropane		7.	U
Bromodichloromethane		7.	U
Dibromomethane		7.	U
Toluene	16.		
1,1,2-Trichloroethane		7.	U
1,3-Dichloropropane		7.	U
Tetrachloroethene	342.		
Dibromochloromethane		7.	U
1,2-Dibromoethane - EDB		7.	U
Chlorobenzene		7.	U
Ethylbenzene	45.		
1,1,1,2-Tetrachloroethane		7.	U
m + p-Xylenes	43.		

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI097	Method Number:	8240
Lab Sample Name:	PBS1411SS1 #5468 1:5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.6	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene	23.	
Styrene		7. U
1,1,2,2-Tetrachloroethane		7. U
Isopropylbenzene	21.	
Bromoform		7. U
1,2,3-Trichloropropane		7. U
n-Propylbenzene	61.	
Bromobenzene		7. U
1,3,5-Trimethylbenzene	400.	
4-Chlorotoluene		7. U
2-Chlorotoluene		7. U
tert-Butylbenzene	60.	
1,2,4-Trimethylbenzene	497.	
sec-Butylbenzene	33.	
p-Isopropyltoluene	64.	
1,3-Dichlorobenzene		7. U
1,4-Dichlorobenzene		7. U
n-Butylbenzene		7. U
1,2-Dichlorobenzene		7. U
1,2-Dibromo-3-Chloropropane		7. U
1,2,4-Trichlorobenzene		7. U
Hexachlorobutadiene		7. U
Naphthalene	1094.	
1,2,3-Trichlorobenzene		7. U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PRS1411SS1 /15

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5468 1:5

Sample (wt/vol): 5 G Lab File ID: >A1097

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____

Column: W.B. Date Analyzed: 9/25/89

Dilution Factor: 6.5555

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	611143	Benzene, 1-ethyl-2-methyl- (	20.79	77.	
2.		Unknown	22.40	62.	
3.		Unknown	22.58	170.	
4.	1758889	Benzene, 2-ethyl-1,4-dimethyl	22.99	140.	
5.	874419	Benzene, 1-ethyl-2,4-dimethyl	23.13	140.	
6.		Unknown	23.43	86.	
7.		Unknown	23.61	120.	
8.	527537	Benzene, 1,2,3,5-tetramethyl	23.87	140.	
9.	95932	Benzene, 1,2,4,5-tetramethyl	24.05	220.	
10.		Unknown	24.78	130.	
11.	488233	Benzene, 1,2,3,4-tetramethyl	24.93	160.	
12.		Unknown	25.15	200.	
13.		Unknown	25.62	230.	
14.		Unknown	25.95	90.	
15.		Unknown	27.12	54.	
16.	17057828	1H-Indene, 2,3-dihydro-1,2-d	27.52	66.	
17.		Unknown	27.71	61.	
18.		Unknown	28.11	64.	
19.	90120	Naphthalene, 1-methyl- (8C19	28.99	370.	
20.	91576	Naphthalene, 2-methyl- (8C19	29.68	230.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI071	Method Number:	8240
Lab Sample Name:	PBS1411SS2 #5469	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		1. U
Chloromethane		1. U
Vinyl Chloride		1. U
Bromomethane		1. U
Chloroethane		1. U
Trichlorofluoromethane	93.	
1,1-Dichloroethene	18.	
Methylene Chloride	4.	
trans-1,2-Dichloroethene	17.	
1,1-Dichloroethane	179.	
cis-1,2-Dichloroethene	362.	
2,2-Dichloropropane		1. U
Chloroform		1. U
Bromochloromethane		1. U
1,1,1-Trichloroethane	121.	
1,1-Dichloropropene		1. U
Carbon Tetrachloride	23.	
1,2-Dichloroethane	3.	
Benzene	1.	J
Trichloroethene	545.	
1,2-Dichloropropane		1. U
Bromodichloromethane		1. U
Dibromomethane		1. U
Toluene	9.	
1,1,2-Trichloroethane		1. U
1,3-Dichloropropane		1. U
Tetrachloroethene	16.	
Dibromochloromethane		1. U
1,2-Dibromoethane - EDB		1. U
Chlorobenzene		1. U
Ethylbenzene	23.	
1,1,1,2-Tetrachloroethane		1. U
m + p-Xylenes	25.	

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI071	Method Number:	8240
Lab Sample Name:	PBS1411SS2 #5469	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene	29.	
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene	8.	
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene	23.	
Bromobenzene		1. U
1,3,5-Trimethylbenzene	328.	
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene	29.	
1,2,4-Trimethylbenzene	225.	
sec-Butylbenzene	17.	
p-Isopropyltoluene	55.	
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene	8.	
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene	1.	J
Hexachlorobutadiene		1. U
Naphthalene	467.	
1,2,3-Trichlorobenzene	3.	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PR51411552

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5469

Sample wt/vol: 5 G Lab File ID: >A1071

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: W.B. Dilution Factor: 1.2844

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	76131	Ethane, 1,1,2-trichloro-1,2,	7.23	210.	
2.	111842	Nonane (8C19C1)	17.29	29.	
3.		Unknown	18.82	25.	
4.	1074437	Benzene, 1-methyl-3-propyl-	22.23	36.	
5.	1758889	Benzene, 2-ethyl-1,4-dimethyl	22.33	19.	
6.	535773	Benzene, 1-methyl-3-(1-methyl	23.14	23.	
7.		Unknown	23.47	21.	
8.	95932	Benzene, 1,2,4,5-tetramethyl	23.87	26.	
9.	527537	Benzene, 1,2,3,5-tetramethyl	24.02	62.	
10.		Unknown	24.28	19.	
11.		Unknown	24.79	20.	
12.	1758889	Benzene, 2-ethyl-1,4-dimethyl	24.90	29.	
13.		Unknown	25.12	31.	
14.		Unknown	25.59	46.	
15.		Unknown	25.96	34.	
16.	62238124	Decane, 2,3,6-trimethyl- (9C	28.05	37.	
17.	90120	Naphthalene, 1-methyl- (8C19	29.00	99.	
18.	91576	Naphthalene, 2-methyl- (8C19	29.70	64.	
19.	575439	Naphthalene, 1,6-dimethyl- (	32.00	34.	
20.	571619	Naphthalene, 1,5-dimethyl- (	32.74	33.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI098	Method Number:	8240
Lab Sample Name:	PBS1411SS2 #5469 1.5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.4	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		6. U
Chloromethane		6. U
Vinyl Chloride		6. U
Bromomethane		6. U
Chloroethane		6. U
Trichlorofluoromethane		6. U
1,1-Dichloroethene		6. U
Methylene Chloride		6. U
trans-1,2-Dichloroethene		6. U
1,1-Dichloroethane	68.	
cis-1,2-Dichloroethene	162.	
2,2-Dichloropropane		6. U
Chloroform		6. U
Bromochloromethane		6. U
1,1,1-Trichloroethane	52.	
1,1-Dichloropropene		6. U
Carbon Tetrachloride	7.	
1,2-Dichloroethane		6. U
Benzene		6. U
Trichloroethene	775.	
1,2-Dichloropropane		6. U
Bromodichloromethane		6. U
Dibromomethane		6. U
Toluene	7.	
1,1,2-Trichloroethane		6. U
1,3-Dichloropropane		6. U
Tetrachloroethene	15.	
Dibromochloromethane		6. U
1,2-Dibromoethane - EDB		6. U
Chlorobenzene		6. U
Ethylbenzene	25.	
1,1,1,2-Tetrachloroethane		6. U
m + p-Xylenes	18.	

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>A1098	Method Number:	8240
Lab Sample Name:	PBS1411SS2 #5469 1.5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.4	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene	33.	
Styrene		6. U
1,1,2,2-Tetrachloroethane		6. U
Isopropylbenzene		6. U
Bromoform		6. U
1,2,3-Trichloropropane		6. U
n-Propylbenzene	15.	
Bromobenzene		6. U
1,3,5-Trimethylbenzene	236.	
4-Chlorotoluene		6. U
2-Chlorotoluene		6. U
tert-Butylbenzene	23.	
1,2,4-Trimethylbenzene	178.	
sec-Butylbenzene	15.	
p-Isopropyltoluene	48.	
1,3-Dichlorobenzene		6. U
1,4-Dichlorobenzene		6. U
n-Butylbenzene		6. U
1,2-Dichlorobenzene	8.	
1,2-Dibromo-3-Chloropropane		6. U
1,2,4-Trichlorobenzene		6. U
Hexachlorobutadiene		6. U
Naphthalene	992.	
1,2,3-Trichlorobenzene		6. U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS141552 15

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5469 1:5

Sample wt/vol: 5 G Lab File ID: >A1098

Level: LOW Date Received: 09/20/89

% Moisture: not dec._____ Date Analyzed: 9/25/89

Column: W.B. Dilution Factor: 6.4220

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	22.25	67.	
2.		Unknown	22.36	110.	
3.	874419	Benzene, 1-ethyl-2,4-dimethyl	23.13	89.	
4.		Unknown	23.60	76.	
5.	527537	Benzene, 1,2,3,5-tetramethyl	23.86	110.	
6.	95932	Benzene, 1,2,4,5-tetramethyl	24.04	270.	
7.		Unknown	24.78	110.	
8.	488233	Benzene, 1,2,3,4-tetramethyl	24.92	150.	
9.	824226	1H-Indene, 2,3-dihydro-4-met	25.14	160.	
10.	4175535	1H-Indene, 2,3-dihydro-1,3-d	25.62	250.	
11.		Unknown	25.98	140.	
12.	6682719	1H-Indene, 2,3-dihydro-4,7-d	27.12	96.	
13.		Unknown	27.52	140.	
14.		Unknown	27.70	93.	
15.		Unknown	28.03	180.	
16.	90120	Naphthalene, 1-methyl- (8C19	28.98	670.	
17.		Unknown	29.39	140.	
18.	91576	Naphthalene, 2-methyl- (8C19	29.68	460.	
19.	575439	Naphthalene, 1,6-dimethyl- (	32.02	180.	
20.	569415	Naphthalene, 1,8-dimethyl- (	32.79	160.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI072	Method Number:	8240
Lab Sample Name:	PBS1411SS3 #5470	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		1. U
Chloromethane		1. U
Vinyl Chloride		1. U
Bromomethane		1. U
Chloroethane		1. U
Trichlorofluoromethane		1. U
1,1-Dichloroethene		1. U
Methylene Chloride	3.	
trans-1,2-Dichloroethene		1. U
1,1-Dichloroethane	36.	
cis-1,2-Dichloroethene		1. U
2,2-Dichloropropane		1. U
Chloroform		1. U
Bromochloromethane		1. U
1,1,1-Trichloroethane	601.	
1,1-Dichloropropene		1. U
Carbon Tetrachloride	119.	
1,2-Dichloroethane		1. U
Benzene		1. U
Trichloroethene	116.	
1,2-Dichloropropane		1. U
Bromodichloromethane		1. U
Dibromomethane		1. U
Toluene		1. U
1,1,2-Trichloroethane	11.	
1,3-Dichloropropane		1. U
Tetrachloroethene	2.	
Dibromochloromethane		1. U
1,2-Dibromoethane - EDB		1. U
Chlorobenzene		1. U
Ethylbenzene		1. U
1,1,1,2-Tetrachloroethane		1. U
m + p-Xylenes		1. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI072	Method Number:	8240
Lab Sample Name:	PBS1411SS3 #5470	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene		1. U
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene		1. U
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene		1. U
Bromobenzene		1. U
1,3,5-Trimethylbenzene	2.	
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene		1. U
1,2,4-Trimethylbenzene	2.	
sec-Butylbenzene		1. U
p-Isopropyltoluene		1. U
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene		1. U
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene		1. U
Hexachlorobutadiene		1. U
Naphthalene	14.	
1,2,3-Trichlorobenzene		1. U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS141155S3

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5470

Sample wt/vol: 5 G Lab File ID: >A1072

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: W.B. Dilution Factor: 1.2740

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	17.65	6.	
2.		Unknown	18.12	6.	
3.	14676290	Heptane, 3-ethyl-2-methyl- (	18.45	9.	
4.		Unknown	18.82	19.	
5.	15869940	Octane, 3,6-dimethyl- (8C19C	19.04	6.	
6.		Unknown	19.44	6.	
7.		Unknown	19.95	17.	
8.		Unknown	20.65	7.	
9.		Unknown	21.23	13.	
10.		Unknown	21.34	6.	
11.		Unknown	21.78	18.	
12.		Unknown	22.26	80.	
13.		Unknown	22.55	76.	
14.		Unknown	23.25	20.	
15.		Unknown	23.50	24.	
16.		Unknown	23.61	20.	
17.		Unknown	23.87	7.	
18.	2958761	Naphthalene, decahydro-2-met	24.09	23.	
19.		Unknown	24.24	17.	
20.	4453901	1,4-Methanonaphthalene, 1,4-	28.99	9.	
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI099	Method Number:	8240
Lab Sample Name:	PBS1411SS3 #5470 115	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.4	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		6. U
Chloromethane		6. U
Vinyl Chloride		6. U
Bromomethane		6. U
Chloroethane		6. U
Trichlorofluoromethane		6. U
1,1-Dichloroethene		6. U
Methylene Chloride		6. U
trans-1,2-Dichloroethene		6. U
1,1-Dichloroethane	7.	
cis-1,2-Dichloroethene		6. U
2,2-Dichloropropane		6. U
Chloroform		6. U
Bromochloromethane		6. U
1,1,1-Trichloroethane	210.	
1,1-Dichloropropene		6. U
Carbon Tetrachloride		6. U
1,2-Dichloroethane		6. U
Benzene		6. U
Trichloroethene	313.	
1,2-Dichloropropane		6. U
Bromodichloromethane		6. U
Dibromomethane		6. U
Toluene		6. U
1,1,2-Trichloroethane		6. U
1,3-Dichloropropane		6. U
Tetrachloroethene		6. U
Dibromochloromethane		6. U
1,2-Dibromoethane - EDB		6. U
Chlorobenzene		6. U
Ethylbenzene		6. U
1,1,1,2-Tetrachloroethane		6. U
m + p-Xylenes		6. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI099	Method Number:	8240
Lab Sample Name:	PBS1411SS3 #5470 115	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	6.4	Date Received:	890920

Sample Info.: GC/MS A,RC,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene		6. U
Styrene		6. U
1,1,2,2-Tetrachloroethane		6. U
Isopropylbenzene		6. U
Bromoform		6. U
1,2,3-Trichloropropane		6. U
n-Propylbenzene		6. U
Bromobenzene		6. U
1,3,5-Trimethylbenzene		6. U
4-Chlorotoluene		6. U
2-Chlorotoluene		6. U
tert-Butylbenzene		6. U
1,2,4-Trimethylbenzene		6. U
sec-Butylbenzene		6. U
p-Isopropyltoluene		6. U
1,3-Dichlorobenzene		6. U
1,4-Dichlorobenzene		6. U
n-Butylbenzene		6. U
1,2-Dichlorobenzene		6. U
1,2-Dibromo-3-Chloropropane		6. U
1,2,4-Trichlorobenzene		6. U
Hexachlorobutadiene		6. U
Naphthalene	100.	
1,2,3-Trichlorobenzene		6. U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PRS141155372S

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5470 1:5

Sample wt/vol: 5 G Lab File ID: >A1099

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/25/89

Column: W.B. Dilution Factor: 6.3700

Number TICs Found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1467629D	Heptane, 3-ethyl-2-methyl- (	18.45	26.	
2.		Unknown	18.81	49.	
3.		Unknown	20.05	37.	
4.	17302282	Nonane, 2,6-dimethyl- (8C19C	20.20	93.	
5.		Unknown	20.38	28.	
6.		Unknown	21.15	130.	
7.		Unknown	21.37	88.	
8.		Unknown	21.77	51.	
9.		Unknown	22.25	310.	
10.		Unknown	22.54	240.	
11.		Unknown	23.09	30.	
12.		Unknown	23.24	86.	
13.		Unknown	23.50	97.	
14.		Unknown	23.61	42.	
15.	2958761	Naphthalene, decahydro-2-met	24.08	100.	
16.		Unknown	24.23	64.	
17.	90120	Naphthalene, 1-methyl- (8C19	28.98	47.	
18.	91576	Naphthalene, 2-methyl- (8C19	29.68	31.	
19.	575371	Naphthalene, 1,7-dimethyl- (	32.02	23.	
20.	581408	Naphthalene, 2,3-dimethyl- (	32.71	23.	
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI081	Method Number:	8240
Lab Sample Name:	PBS1411SS4 #5471	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.1	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		1. U
Chloromethane		1. U
Vinyl Chloride		1. U
Bromomethane		1. U
Chloroethane		1. U
Trichlorofluoromethane	13.	
1,1-Dichloroethene		1. U
Methylene Chloride	1.	J
trans-1,2-Dichloroethene		1. U
1,1-Dichloroethane	2.	
cis-1,2-Dichloroethene		1. U
2,2-Dichloropropane		1. U
Chloroform		1. U
Bromochloromethane		1. U
1,1,1-Trichloroethane	13.	
1,1-Dichloropropene		1. U
Carbon Tetrachloride	1.	J
1,2-Dichloroethane	2.	
Benzene	0.	J
Trichloroethene	688.	
1,2-Dichloropropane		1. U
Bromodichloromethane		1. U
Dibromomethane		1. U
Toluene	2.	
1,1,2-Trichloroethane		1. U
1,3-Dichloropropane		1. U
Tetrachloroethene	23.	
Dibromochloromethane		1. U
1,2-Dibromoethane - EDB		1. U
Chlorobenzene		1. U
Ethylbenzene	1.	
1,1,1,2-Tetrachloroethane		1. U
m + p-Xylenes	1.	J

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI081	Method Number:	8240
Lab Sample Name:	PBS1411SS4 #5471	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.1	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene	0.		J
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene	8.		
4-Chlorotoluene	0.		J
2-Chlorotoluene	0.		J
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene	7.		
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene		1.	U
1,4-Dichlorobenzene		1.	U
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene	10.		
Hexachlorobutadiene		1.	U
Naphthalene	26.		
1,2,3-Trichlorobenzene		1.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PBS141154

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5471

Sample wt/vol: 5 G Lab File ID: >C1081

Level: LOW Date Received: N.A.

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: PACK Dilution Factor: 1.0924

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	21.78	13.	
2.		Unknown	22.15	15.	
3.		Unknown	22.59	22.	
4.		Unknown	22.92	18.	
5.		Unknown	23.14	12.	
6.		Unknown	23.47	29.	
7.		Unknown	23.61	28.	
8.	62238135	Decane, 2,3,7-trimethyl- (9C	23.87	71.	
9.		Unknown	24.05	36.	
10.		Unknown	24.27	64.	
11.		Unknown	24.64	18.	
12.		Unknown	24.82	25.	
13.	1618220	Naphthalene, decahydro-2,6-d	25.04	88.	
14.		Unknown	25.23	34.	
15.	62016335	Octane, 2,3,6-trimethyl- (9C	25.37	92.	
16.	6117971	Dodecane, 4-methyl- (8C19CI)	26.00	60.	
17.		Unknown	26.33	53.	
18.	74645980	Dodecane, 2,7,10-trimethyl-	27.46	120.	
19.	62238113	Decane, 2,3,5-trimethyl- (9C	28.05	73.	
20.		Unknown	31.20	82.	
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI112	Method Number:	8240
Lab Sample Name:	PBS1411SS4 #5471 /:5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.5	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,1g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		5. U
Chloromethane		5. U
Vinyl Chloride		5. U
Bromomethane		5. U
Chloroethane		5. U
Trichlorofluoromethane		5. U
1,1-Dichloroethene		5. U
Methylene Chloride	113.	
trans-1,2-Dichloroethene		5. U
1,1-Dichloroethane		5. U
cis-1,2-Dichloroethene		5. U
2,2-Dichloropropane		5. U
Chloroform		5. U
Bromochloromethane		5. U
1,1,1-Trichloroethane		5. U
1,1-Dichloropropene		5. U
Carbon Tetrachloride		5. U
1,2-Dichloroethane		5. U
Benzene		5. U
Trichloroethene	898.	
1,2-Dichloropropane		5. U
Bromodichloromethane		5. U
Dibromomethane		5. U
Toluene		5. U
1,1,2-Trichloroethane		5. U
1,3-Dichloropropane		5. U
Tetrachloroethene	70.	
Dibromochloromethane		5. U
1,2-Dibromoethane - EDB		5. U
Chlorobenzene		5. U
Ethylbenzene		5. U
1,1,1,2-Tetrachloroethane		5. U
m + p-Xylenes		5. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI112	Method Number:	8240
Lab Sample Name:	PBS1411SS4 #5471 1:5	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	5.5	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,1g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene		5. U
Styrene		5. U
1,1,2,2-Tetrachloroethane		5. U
Isopropylbenzene		5. U
Bromoform		5. U
1,2,3-Trichloropropane		5. U
n-Propylbenzene		5. U
Bromobenzene		5. U
1,3,5-Trimethylbenzene		5. U
4-Chlorotoluene		5. U
2-Chlorotoluene		5. U
tert-Butylbenzene		5. U
1,2,4-Trimethylbenzene	11.	
sec-Butylbenzene		5. U
p-Isopropyltoluene		5. U
1,3-Dichlorobenzene		5. U
1,4-Dichlorobenzene		5. U
n-Butylbenzene		5. U
1,2-Dichlorobenzene		5. U
1,2-Dibromo-3-Chloropropane		5. U
1,2,4-Trichlorobenzene		5. U
Hexachlorobutadiene		5. U
Naphthalene	17.	
1,2,3-Trichlorobenzene		5. U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PBS1411SS4 /ST

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5471 1:5

Sample wt/vol: 1 G Lab File ID: >A1112

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/25/89

Column: W.B. Dilution Factor: 5.4620

Number TICs found: 19 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	22.62	570.	
2.		Unknown	22.95	180.	
3.		Unknown	23.50	200.	
4.		Unknown	23.65	290.	
5.		Unknown	23.94	670.	
6.		Unknown	24.09	460.	
7.		Unknown	24.27	550.	
8.		Unknown	24.64	160.	
9.		Unknown	24.82	170.	
10.		Unknown	25.07	770.	
11.		Unknown	25.26	300.	
12.	62016346	Octane, 2,3,7-trimethyl- (9C	25.37	1200.	
13.	27126223	Heptane, 4-azido- (8C19Cl)	25.99	570.	
14.		Unknown	26.32	660.	
15.		Unknown	26.76	370.	
16.		Unknown	27.46	1300.	
17.	62238124	Decane, 2,3,6-trimethyl- (9C	28.04	850.	
18.	62016335	Octane, 2,3,6-trimethyl- (9C	29.36	880.	
19.		Unknown	31.19	370.	
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI082	Method Number:	8240
Lab Sample Name:	PBS1411SS5 #5472	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		1. U
Chloromethane		1. U
Vinyl Chloride		1. U
Bromomethane		1. U
Chloroethane		1. U
Trichlorofluoromethane		1. U
1,1-Dichloroethene		1. U
Methylene Chloride		1. U
trans-1,2-Dichloroethene		1. U
1,1-Dichloroethane	93.	
cis-1,2-Dichloroethene		1. U
2,2-Dichloropropane		1. U
Chloroform		1. U
Bromochloromethane		1. U
1,1,1-Trichloroethane	1254.	
1,1-Dichloropropene		1. U
Carbon Tetrachloride	213.	
1,2-Dichloroethane		1. U
Benzene		1. U
Trichloroethene	1432.	
1,2-Dichloropropane		1. U
Bromodichloromethane		1. U
Dibromomethane		1. U
Toluene		1. U
1,1,2-Trichloroethane		1. U
1,3-Dichloropropane		1. U
Tetrachloroethene		1. U
Dibromochloromethane		1. U
1,2-Dibromoethane - EDB		1. U
Chlorobenzene		1. U
Ethylbenzene		1. U
1,1,1,2-Tetrachloroethane		1. U
m + p-Xylenes		1. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI082	Method Number:	8240
Lab Sample Name:	PBS1411SS5 #5472	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS A,LB,ESI7019,5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		1.	U
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene		1.	U
4-Chlorotoluene		1.	U
2-Chlorotoluene		1.	U
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene		1.	U
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene		1.	U
1,4-Dichlorobenzene		1.	U
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene		1.	U
Hexachlorobutadiene		1.	U
Naphthalene	22.		
1,2,3-Trichlorobenzene		1.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS1411555

Lab Name: Hittman Ehasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5472

Sample wt/vol: 5 G Lab File ID: >C1082

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: PACK Dilution Factor: 1.2127

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	8.15	21.	
2.		Unknown	8.77	29.	
3.		Unknown	16.84	21.	
4.		Unknown	17.32	17.	
5.		Unknown	17.50	34.	
6.		Unknown	18.49	27.	
7.		Unknown	19.29	19.	
8.		Unknown	20.17	25.	
9.		Unknown	23.14	20.	
10.		Unknown	24.05	54.	
11.		Unknown	24.27	86.	
12.	62016346	Octane, 2,3,7-trimethyl- (9C	25.37	170.	
13.		Unknown	25.99	170.	
14.		Unknown	26.28	80.	
15.		Unknown	27.01	170.	
16.	17302328	Nonane, 3,7-dimethyl- (8C19C	27.45	550.	
17.	62238113	Decane, 2,3,5-trimethyl- (9C	28.04	520.	
18.	17301303	Undecane, 3,8-dimethyl- (8C1	29.36	700.	
19.	629629	Pentadecane (8C19C1)	30.49	380.	
20.		Unknown	33.64	88.	
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI113	Method Number:	8240
Lab Sample Name:	PBS1411SS5 #5472 1/10	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	12.1	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,.5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		12. U
Chloromethane		12. U
Vinyl Chloride		12. U
Bromomethane		12. U
Chloroethane		12. U
Trichlorofluoromethane		12. U
1,1-Dichloroethene		12. U
Methylene Chloride	164.	
trans-1,2-Dichloroethene		12. U
1,1-Dichloroethane	48.	
cis-1,2-Dichloroethene		12. U
2,2-Dichloropropane		12. U
Chloroform		12. U
Bromochloromethane		12. U
1,1,1-Trichloroethane	620.	
1,1-Dichloropropene		12. U
Carbon Tetrachloride		12. U
1,2-Dichloroethane		12. U
Benzene		12. U
Trichloroethene	1416.	
1,2-Dichloropropane		12. U
Bromodichloromethane		12. U
Dibromomethane		12. U
Toluene		12. U
1,1,2-Trichloroethane		12. U
1,3-Dichloropropane		12. U
Tetrachloroethene		12. U
Dibromochloromethane		12. U
1,2-Dibromoethane - EDB		12. U
Chlorobenzene		12. U
Ethylbenzene		12. U
1,1,1,2-Tetrachloroethane		12. U
m + p-Xylenes		12. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI113	Method Number:	8240
Lab Sample Name:	PBS1411SS5 #5472 1:10	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	12.1	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,.5g,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		12.	U
Styrene		12.	U
1,1,2,2-Tetrachloroethane		12.	U
Isopropylbenzene		12.	U
Bromoform		12.	U
1,2,3-Trichloropropane		12.	U
n-Propylbenzene		12.	U
Bromobenzene		12.	U
1,3,5-Trimethylbenzene		12.	U
4-Chlorotoluene		12.	U
2-Chlorotoluene		12.	U
tert-Butylbenzene		12.	U
1,2,4-Trimethylbenzene		12.	U
sec-Butylbenzene		12.	U
p-Isopropyltoluene		12.	U
1,3-Dichlorobenzene		12.	U
1,4-Dichlorobenzene		12.	U
n-Butylbenzene		12.	U
1,2-Dichlorobenzene		12.	U
1,2-Dibromo-3-Chloropropane		12.	U
1,2,4-Trichlorobenzene		12.	U
Hexachlorobutadiene		12.	U
Naphthalene		12.	U
1,2,3-Trichlorobenzene		12.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PBS141155S MO1

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: #5472 1:10

Sample wt/vol: .5 G Lab File ID: >A1113

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/25/89

Column: W.B. Dilution Factor: 12.1270

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	25.99	960.	
2.	31081182	Nonane, 3-methyl-5-propyl- (	27.45	2100.	
3.		Unknown	28.04	2000.	
4.	17301303	Undecane, 3,8-dimethyl- (8CI	29.39	2700.	
5.		Unknown	30.52	1000.	
6.		Unknown	31.15	1000.	
7.					
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9.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI082	Method Number:	8240
Lab Sample Name:	PBS1411SS6,H#5443	Date Analyzed:	890920
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		12	U
Bromomethane		12	U
Vinyl Chloride		12	U
Chloroethane		12	U
Methylene Chloride	3		J
Acetone	22		
Acrylonitrile		6	U
Acrolein		6	U
Trichlorofluoromethane	3		J
Carbon Disulfide		6	U
1,1-Dichloroethene		6	U
1,1-Dichloroethane	26		
1,2-Dichloroethene (Total)	3		J
Chloroform		6	U
1,2-Dichloroethane		6	U
2-Butanone		6	U
1,1,1-Trichloroethane	15		
Carbon Tetrachloride		6	U
Vinyl Acetate		12	U
Bromodichloromethane		6	U
1,2-Dichloropropane		6	U
trans-1,3-Dichloropropene		6	U
Trichloroethene	27		
Dibromochloromethane		6	U
1,1,2-Trichloroethane		6	U
Benzene	1		J
cis-1,3-Dichloropropene		6	U
2-Chloroethylvinylether		6	U
Bromoform		6	U
4-Methyl-2-Pentanone		12	U
2-Hexanone	9		J
Tetrachloroethene		6	U
1,1,2,2-Tetrachloroethane		6	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI082	Method Number:	8240
Lab Sample Name:	PBS1411SS6,H#5443	Date Analyzed:	890920
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene		6	U
Chlorobenzene		6	U
Ethylbenzene		6	U
Styrene		6	U
Xylenes (Total)		6	U
m-Xylene		6	U
o + p-Xylene		6	U
1,3 Dichlorobenzene		6	U
1,2 Dichlorobenzene		6	U
1,4 Dichlorobenzene		6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS1411SS6

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5443

Sample wt/vol: 5 G Lab File ID: >CI082

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/20/89

Column: PACK Dilution Factor: 1.2000

Number TICs found: 10

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	1.19	76.	
2.		Unknown	1.33	78.	
3.	3073663	Cyclohexane, 1,1,3-trimethyl	27.34	31.	
4.		Unknown	27.61	19.	
5.		Unknown	28.11	14.	
6.	6236880	Cyclohexane, 1-ethyl-4-methy	28.89	29.	
7.		Unknown	29.80	34.	
8.		Unknown	31.90	61.	
9.	63830693	4-Nonene, 3-methyl-, (Z)- (9	34.14	68.	
10.		Unknown	36.15	39.	
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12.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI083	Method Number:	8240
Lab Sample Name:	PBS1411SS7,H#5444	Date Analyzed:	890920
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		10	U
Bromomethane		10	U
Vinyl Chloride		10	U
Chloroethane		10	U
Methylene Chloride	3		J
Acetone	13		
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane	5		J
Carbon Disulfide		5	U
1,1-Dichloroethene		5	U
1,1-Dichloroethane	1		J
1,2-Dichloroethene (Total)		5	U
Chloroform		5	U
1,2-Dichloroethane		5	U
2-Butanone		5	U
1,1,1-Trichloroethane	4		J
Carbon Tetrachloride		5	U
Vinyl Acetate		10	U
Bromodichloromethane		5	U
1,2-Dichloropropene		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene	40		
Dibromochloromethane		5	U
1,1,2-Trichloroethane		5	U
Benzene		5	U
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone	4		J
2-Hexanone	19		
Tetrachloroethene		5	U
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI083	Method Number:	8240
Lab Sample Name:	PBS1411SS7,H#5444	Date Analyzed:	890920
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene		5	U
Chlorobenzene		5	U
Ethylbenzene		5	U
Styrene		5	U
Xylenes (Total)	9		
m-Xylene	5		J
o + p-Xylene	5		J
1,3 Dichlorobenzene		5	U
1,2 Dichlorobenzene		5	U
1,4 Dichlorobenzene		5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS1411SS7

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5444

Sample wt/vol: 5 G Lab File ID: >CI083

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/20/89

Column: PACK Dilution Factor: 1.0296

Number TICs found: 9

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	1.05	8.	
2.		Unknown	1.19	150.	
3.	109660	Pentane (ACN)(DOT)(8CI9CI)	14.65	5.	
4.	96377	Cyclopentane, methyl- (8CI9C	16.16	9.	
5.	96140	Pentane, 3-methyl- (8CI9CI)	19.99	7.	
6.		Unknown	22.96	10.	
7.		Unknown	25.11	10.	
8.	281232	Tricyclo[3.3.1.13,7]decane (	26.39	19.	
9.	63830693	4-Nonene, 3-methyl-, (Z)- (9	34.12	38.	
10.					
11.					
12.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI093	Method Number:	8240
Lab Sample Name:	PBS1411SS7MS,#5444MS	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20,MS-16/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		10	U
Bromomethane		10	U
Vinyl Chloride		10	U
Chloroethane		10	U
Methylene Chloride	3		J
Acetone	35		
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane	1		J
Carbon Disulfide		5	U
1,1-Dichloroethene			
1,1-Dichloroethane	3		J
1,2-Dichloroethene (Total)		5	U
Chloroform		5	U
1,2-Dichloroethane		5	U
2-Butanone		5	U
1,1,1-Trichloroethane	6		
Carbon Tetrachloride		5	U
Vinyl Acetate		10	U
Bromodichloromethane		5	U
1,2-Dichloropropane		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene			
Dibromochloromethane		5	U
1,1,2-Trichloroethane		5	U
Benzene			
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone		10	U
2-Hexanone	5		J
Tetrachloroethene		5	U
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI093	Method Number:	8240
Lab Sample Name:	PBS1411SS7MS,#5444MS	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20,MS-16/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene			
Chlorobenzene			
Ethylbenzene		5	U
Styrene		5	U
Xylenes (Total)	2		J
m-Xylene	1		J
o + p-Xylene	1		J
1,3 Dichlorobenzene		5	U
1,2 Dichlorobenzene		5	U
1,4 Dichlorobenzene		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI094	Method Number:	8240
Lab Sample Name:	PBS1411SS7MSD,5444MSD	Date Analyzed:	890522
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20,MS-16/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		10	U
Bromomethane		10	U
Vinyl Chloride		10	U
Chloroethane		10	U
Methylene Chloride	2		J
Acetone	13		
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane	1		J
Carbon Disulfide		5	U
1,1-Dichloroethene			
1,1-Dichloroethane		5	U
1,2-Dichloroethene (Total)		5	U
Chloroform		5	U
1,2-Dichloroethane		5	U
2-Butanone		5	U
1,1,1-Trichloroethane	6		
Carbon Tetrachloride		5	U
Vinyl Acetate		10	U
Bromodichloromethane		5	U
1,2-Dichloropropane		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene			
Dibromochloromethane		5	U
1,1,2-Trichloroethane		5	U
Benzene			
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone		10	U
2-Hexanone	7		J
Tetrachloroethene		5	U
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI094	Method Number:	8240
Lab Sample Name:	PBS1411SS7MSD,5444MSD	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20,MS-16/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Toluene			
Chlorobenzene			
Ethylbenzene		5	U
Styrene		5	U
Xylenes (Total)	3		J
m-Xylene	1		J
o + p-Xylene	1		J
1,3 Dichlorobenzene		5	U
1,2 Dichlorobenzene		5	U
1,4 Dichlorobenzene		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI056	Method Number:	8240
Lab Sample Name:	PBS1411SS8 #5445 bottle 1	Date Analyzed:	890921
Matrix:	Soil 4/12/89	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		1. U
Chloromethane		1. U
Vinyl Chloride		1. U
Bromomethane		1. U
Chloroethane		1. U
Trichlorofluoromethane		1. U
1,1-Dichloroethene		1. U
Methylene Chloride	8.	
trans-1,2-Dichloroethene	7.	
1,1-Dichloroethane	151.	
cis-1,2-Dichloroethene	126.	
2,2-Dichloropropane		1. U
Chloroform		1. U
Bromochloromethane		1. U
1,1,1-Trichloroethane	3.	
1,1-Dichloropropene		1. U
Carbon Tetrachloride		1. U
1,2-Dichloroethane		1. U
Benzene	8.	
Trichloroethene	407.	
1,2-Dichloropropane		1. U
Bromodichloromethane		1. U
Dibromomethane		1. U
Toluene	0.	J
1,1,2-Trichloroethane		1. U
1,3-Dichloropropane		1. U
Tetrachloroethene		1. U
Dibromochloromethane		1. U
1,2-Dibromoethane - EDB		1. U
Chlorobenzene		1. U
Ethylbenzene		1. U
1,1,1,2-Tetrachloroethane		1. U
m + p-Xylenes		1. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI056	Method Number:	8240
Lab Sample Name:	PBS1411SS8 #5445	Date Analyzed:	890921
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.3	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5uL IS,SS/5mls P&T

bstRu 1 9/22/89

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		1.	U
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene		1.	U
4-Chlorotoluene		1.	U
2-Chlorotoluene		1.	U
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene		1.	U
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene		1.	U
1,4-Dichlorobenzene		1.	U
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene		1.	U
Hexachlorobutadiene		1.	U
Naphthalene	1.		J
1,2,3-Trichlorobenzene		1.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS1411SS8
bottle 1
9/22/89

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5445

Sample wt/vol: 5 6 Lab File ID: >AI056

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/21/89

Column: W.B. Dilution Factor: 1.25

Number TICs found: 14

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Air	4.04	590.	
2.		Unknown	6.27	4.	
3.		Unknown	23.60	8.	
4.	62108229	Decane, 2,5,9-trimethyl- (9C	23.78	25.	
5.	17312457	Decane, 3,4-dimethyl- (8C19C	24.59	8.	
6.	17312764	Undecane, 6,6-dimethyl- (8CI	24.88	62.	
7.		Unknown	25.50	9.	
8.		Unknown	25.79	7.	
9.		Unknown	26.45	14.	
10.		Unknown	26.63	16.	
11.	31295564	Dodecane, 2,6,11-trimethyl-	26.93	41.	
12.	62108218	Decane, 6-ethyl-2-methyl- (9	27.48	10.	
13.		Unknown	28.46	20.	
14.	62108252	Decane, 2,6,7-trimethyl- (9C	28.72	50.	
15.					
16.					
17.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI061	Method Number:	8240
Lab Sample Name:	PBS1411SS8 #5445 bottle 2	Date Analyzed:	890921
Matrix:	Soil TW 9/12/89	Date Collected:	890918
Dilution Factor:	3.1	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,2grams,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		3.	U
Chloromethane		3.	U
Vinyl Chloride		3.	U
Bromomethane		3.	U
Chloroethane		3.	U
Trichlorofluoromethane		3.	U
1,1-Dichloroethene		3.	U
Methylene Chloride		3.	U
trans-1,2-Dichloroethene	11.		
1,1-Dichloroethane	220.		
cis-1,2-Dichloroethene	195.		
2,2-Dichloropropane		3.	U
Chloroform		3.	U
Bromochloromethane		3.	U
1,1,1-Trichloroethane	7.		
1,1-Dichloropropene		3.	U
Carbon Tetrachloride		3.	U
1,2-Dichloroethane	5.		
Benzene	11.		
Trichloroethene	315.		
1,2-Dichloropropane		3.	U
Bromodichloromethane		3.	U
Dibromomethane		3.	U
Toluene	1.		J
1,1,2-Trichloroethane		3.	U
1,3-Dichloropropane		3.	U
Tetrachloroethene		3.	U
Dibromochloromethane		3.	U
1,2-Dibromoethane - EDB		3.	U
Chlorobenzene		3.	U
Ethylbenzene	16.		
1,1,1,2-Tetrachloroethane		3.	U
m + p-Xylenes		3.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI061	Method Number:	8240
Lab Sample Name:	PBS1411SS8 #5445	Date Analyzed:	890921
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	3.1	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,2grams,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene	2.	J
Styrene		3. U
1,1,2,2-Tetrachloroethane		3. U
Isopropylbenzene	11.	
Bromoform		3. U
1,2,3-Trichloropropane		3. U
n-Propylbenzene	21.	
Bromobenzene		3. U
1,3,5-Trimethylbenzene	43.	
4-Chlorotoluene	3.	
2-Chlorotoluene	3.	
tert-Butylbenzene	7.	
1,2,4-Trimethylbenzene	48.	
sec-Butylbenzene	17.	
p-Isopropyltoluene	34.	
1,3-Dichlorobenzene		3. U
1,4-Dichlorobenzene		3. U
n-Butylbenzene		3. U
1,2-Dichlorobenzene		3. U
1,2-Dibromo-3-Chloropropane		3. U
1,2,4-Trichlorobenzene		3. U
Hexachlorobutadiene		3. U
Naphthalene	111.	
1,2,3-Trichlorobenzene	40.	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PBS1411SS8
bottle 2
TW 9/22/89

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: ESI SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 5445

Sample wt/vol: 2 G Lab File ID: >AI061

Level: LOW Date Received: 9/20/89

% Moisture: not dec.____ Date Analyzed: 9/21/89

Column: WIDEBOR Dilution Factor: 3.12

TLN 9/22/89

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Air	4.17	450.	
2. 3726474	Cyclopentane, 1-ethyl-3-meth	16.38	85.	
3. 111842	Nonane (8CI9CI)	17.36	12.	
4. 15869939	Octane, 3,5-dimethyl- (8CI9C	18.86	21.	
5. 4926903	Cyclohexane, 1-ethyl-1-methy	22.30	68.	
6. 1632708	Undecane, 5-methyl- (8CI9CI)	22.63	52.	
7. 62108229	Decane, 2,5,9-trimethyl- (9C	22.96	11.	
8. 17302339	Undecane, 6-methyl- (8CI9CI)	23.18	32.	
9. 7045718	Undecane, 2-methyl- (8CI9CI)	23.33	36.	
10. 4292926	Cyclohexane, pentyl- (8CI9CI	23.55	53.	
11. 62238124	Decane, 2,3,6-trimethyl- (9C	23.92	29.	
12. 112403	Dodecane (8CI9CI)	24.14	59.	
13. 6044719	Dodecane, 6-methyl- (8CI9CI)	24.32	130.	
14.	Unknown (C13H28)	24.87	22.	
15. 17301289	Undecane, 3,6-dimethyl- (8CI	25.13	47.	
16. 6117971	Dodecane, 4-methyl- (8CI9CI)	25.31	24.	
17. 26730143	Tridecane, 7-methyl- (8CI9CI	25.46	63.	
18. 6117971	Dodecane, 4-methyl- (8CI9CI)	26.08	24.	
19. 61141728	Dodecane, 4,6-dimethyl- (9CI	26.37	25.	
20.	Unknown (C14H30)	29.05	32.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI085	Method Number:	8240
Lab Sample Name:	PBS1411SS9,H#5446	Date Analyzed:	890920
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		12	U
Bromomethane		12	U
Vinyl Chloride		12	U
Chloroethane		12	U
Methylene Chloride	4		J
Acetone	54		
Acrylonitrile		6	U
Acrolein		6	U
Trichlorofluoromethane	3		J
Carbon Disulfide	1		J
1,1-Dichloroethene		6	U
1,1-Dichloroethane	21		
1,2-Dichloroethene (Total)	3		J
Chloroform		6	U
1,2-Dichloroethane		6	U
2-Butanone		6	U
1,1,1-Trichloroethane	27		
Carbon Tetrachloride		6	U
Vinyl Acetate		12	U
Bromodichloromethane		6	U
1,2-Dichloropropane		6	U
trans-1,3-Dichloropropene		6	U
Trichloroethene	72		
Dibromochloromethane		6	U
1,1,2-Trichloroethane		6	U
Benzene	2		J
cis-1,3-Dichloropropene		6	U
2-Chloroethylvinylether		6	U
Bromoform		6	U
4-Methyl-2-Pentanone	10		J
2-Hexanone	39		
Tetrachloroethene		6	U
1,1,2,2-Tetrachloroethane		6	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI085	Method Number:	8240
Lab Sample Name:	PBS1411SS9,H#5446	Date Analyzed:	890920
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.2	Date Received:	890920

Sample Info.: GC/MS C,LB,ESI-7019,10ul IS-21,SS-20/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit
Toluene	8	
Chlorobenzene		6 U
Ethylbenzene	23	
Styrene		6 U
Xylenes (Total)	47	
m-Xylene	16	
o + p-Xylene	26	
1,3 Dichlorobenzene		6 U
1,2 Dichlorobenzene		6 U
1,4 Dichlorobenzene		6 U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
PBS1411SS9

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: HE#5446

Sample wt/vol: 5 6 Lab File ID: >CI085

Level: LOW Date Received: 09/20/89

% Moisture: not dec.____ Date Analyzed: 9/20/89

Column: PACK Dilution Factor: 1.1829

Number TICs found: 12

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	1.05	91.	
2.		Unknown	1.14	260.	
3.	78784	Butane, 2-methyl- (8CI9CI)	13.09	9.	
4.	109660	Pentane (ACN)(DOT)(8CI9CI)	14.65	21.	
5.	96377	Cyclopentane, methyl- (8CI9C	16.15	20.	
6.	96140	Pentane, 3-methyl- (8CI9CI)	19.99	14.	
7.	1759586	Cyclopentane, 1,3-dimethyl-,	20.63	6.	
8.		Unknown	22.96	20.	
9.		Unknown	25.29	11.	
10.	3073663	Cyclohexane, 1,1,3-trimethyl	27.35	38.	
11.	4926903	Cyclohexane, 1-ethyl-1-methy	28.90	33.	
12.		Unknown	34.12	140.	
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Quality Assurance / Quality Control

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI055	Method Number:	8240
Lab Sample Name:	TRIP BLANK #5473	Date Analyzed:	890921
Matrix:	Water	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/l	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane		1.	U
1,1-Dichloroethene		1.	U
Methylene Chloride		1.	U
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane		1.	U
cis-1,2-Dichloroethene		1.	U
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane		1.	U
1,1-Dichloropropene		1.	U
Carbon Tetrachloride		1.	U
1,2-Dichloroethane		1.	U
Benzene		1.	U
Trichloroethene		1.	U
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene		1.	U
1,1,2-Trichloroethane		1.	U
1,3-Dichloropropane		1.	U
Tetrachloroethene		1.	U
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene		1.	U
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes		1.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI055	Method Number:	8240
Lab Sample Name:	TRIP BLANK #5473	Date Analyzed:	890921
Matrix:	Water	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS A,TN,ESI7019,5uL IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/l	Detection Limit
o-Xylene		1. U
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene		1. U
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene		1. U
Bromobenzene		1. U
1,3,5-Trimethylbenzene		1. U
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene		1. U
1,2,4-Trimethylbenzene		1. U
sec-Butylbenzene		1. U
p-Isopropyltoluene		1. U
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene		1. U
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene		1. U
Hexachlorobutadiene		1. U
Naphthalene		1. U
1,2,3-Trichlorobenzene		1. U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRIP BLANK

Lab Name: Hittman Ebasco Contract: ES1 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: WATER Lab Sample ID: #5473

Sample wt/vol: 5 mL Lab File ID: >A1055

Level: LOW Date Received: N.A.

% Moisture: not dec.____ Date Analyzed: 9/21/89

Column: WB Dilution Factor: 1.0000

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI081	Method Number:	8240
Lab Sample Name:	0920VBLKC	Date Analyzed:	890920
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS,C,LB,10ul IS-21,SS-20/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		10	U
Bromomethane		10	U
Vinyl Chloride		10	U
Chloroethane		10	U
Methylene Chloride		5	U
Acetone	7		J
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane		5	U
Carbon Disulfide		5	U
1,1-Dichloroethene		5	U
1,1-Dichloroethane		5	U
1,2-Dichloroethene (Total)		5	U
Chloroform		5	U
1,2-Dichloroethane		5	U
2-Butanone		5	U
1,1,1-Trichloroethane		5	U
Carbon Tetrachloride		5	U
Vinyl Acetate		10	U
Bromodichloromethane		5	U
1,2-Dichloropropane		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene		5	U
Dibromochloromethane		5	U
1,1,2-Trichloroethane		5	U
Benzene		5	U
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone		10	U
2-Hexanone		10	U
Tetrachloroethene		5	U
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI081	Method Number:	8240
Lab Sample Name:	0920VBLKC	Date Analyzed:	890920
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS,C,LB,10ul IS-21,SS-20/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit
Toluene		5 U
Chlorobenzene		5 U
Ethylbenzene		5 U
Styrene		5 U
Xylenes (Total)		5 U
m-Xylene		5 U
o + p-Xylene		5 U
1,3 Dichlorobenzene		5 U
1,2 Dichlorobenzene		5 U
1,4 Dichlorobenzene		5 U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0920VBLKC

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 0920VBLKC

Sample wt/vol: 5 G Lab File ID: >CI081

Level: LOW Date Received: N.A.

% Moisture: not dec.____ Date Analyzed: 9/20/89

Column: PACK Dilution Factor: 1.0000

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	1.19	9.	
2.	Unknown	1.32	19.	
3.	Unknown	37.28	7.	
4. 439	1,4-Dichlorobenzene d-4	37.82	22.	
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0920VBLKC

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 0920VBLKC

Sample wt/vol: 5 G Lab File ID: >CI081

Level: LOW Date Received: N.A.

% Moisture: not dec.____ Date Analyzed: 9/20/89

Column: PACK Dilution Factor: 1.0000

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	1.19	9.	
2.	Unknown	1.32	19.	
3.	Unknown	37.28	7.	
4. 439	1,4-Dichlorobenzene d-4	37.82	22.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI091	Method Number:	8240
Lab Sample Name:	0922VBLKC	Date Analyzed:	890922
Matrix:	Water	Date Collected:	N.A.
Dilution Factor:	1.0	Date Received:	N.A.

Sample Info.: GC/MS,C,LB,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/l	Detection Limit	
Chloromethane		10	U
Bromomethane		10	U
Vinyl Chloride		10	U
Chloroethane		10	U
Methylene Chloride		5	U
Acetone	12		
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane		5	U
Carbon Disulfide		5	U
1,1-Dichloroethene		5	U
1,1-Dichloroethane		5	U
1,2-Dichloroethene (Total)		5	U
Chloroform		5	U
1,2-Dichloroethane		5	U
2-Butanone		5	U
1,1,1-Trichloroethane		5	U
Carbon Tetrachloride		5	U
Vinyl Acetate		10	U
Bromodichloromethane		5	U
1,2-Dichloropropane		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene		5	U
Dibromochloromethane		5	U
1,1,2-Trichloroethane		5	U
Benzene		5	U
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone		10	U
2-Hexanone		10	U
Tetrachloroethene		5	U
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI091	Method Number:	8240
Lab Sample Name:	0922VBLKC	Date Analyzed:	890922
Matrix:	Water	Date Collected:	N.A.
Dilution Factor:	1.0	Date Received:	N.A.

Sample Info.: GC/MS,C,LB,10ul IS-21,SS-20/5gms P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/l	Detection Limit
Toluene		5 U
Chlorobenzene		5 U
Ethylbenzene		5 U
Styrene		5 U
Xylenes (Total)		5 U
m-Xylene		5 U
o + p-Xylene		5 U
1,3 Dichlorobenzene		5 U
1,2 Dichlorobenzene		5 U
1,4 Dichlorobenzene		5 U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0922VBLKC

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 0922VBLKC

Sample wt/vol: 5 G Lab File ID: >C1091

Level: LOW Date Received: N.A.

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: PACK Dilution Factor: 1.0000

Number TICs Found: ..... CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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2.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI064	Method Number:	8240
Lab Sample Name:	0922VABLK	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MSA,TN,5uL 50ng/ul IS,SS 524/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane		1.	U
1,1-Dichloroethene		1.	U
Methylene Chloride		1.	U
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane		1.	U
cis-1,2-Dichloroethene		1.	U
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane		1.	U
1,1-Dichloropropene		1.	U
Carbon Tetrachloride		1.	U
1,2-Dichloroethane		1.	U
Benzene		1.	U
Trichloroethene		1.	U
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene		1.	U
1,1,2-Trichloroethane		1.	U
1,3-Dichloropropane		1.	U
Tetrachloroethene		1.	U
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene		1.	U
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes		1.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI054	Method Number:	8240
Lab Sample Name:	0921VABLK	Date Analyzed:	890921
Matrix:	Water	Date Collected:	N.A.
Dilution Factor:	1.0	Date Received:	N.A.

Sample Info.: GC/MS A,TN,5ul 50ng/ul 524 IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/l	Detection Limit
o-Xylene		1. U
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene		1. U
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene		1. U
Bromobenzene		1. U
1,3,5-Trimethylbenzene		1. U
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene		1. U
1,2,4-Trimethylbenzene		1. U
sec-Butylbenzene		1. U
p-Isopropyltoluene		1. U
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene		1. U
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene		1. U
Hexachlorobutadiene		1. U
Naphthalene		1. U
1,2,3-Trichlorobenzene		1. U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0921VABLK

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 0921VABLK

Sample wt/vol: 5 G Lab File ID: >A1054

Level: LOW Date Received: 09/21/89

% Moisture: not dec.____ Date Analyzed: 9/21/89

Column: W.B. Dilution Factor: 1.00000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI054	Method Number:	8240
Lab Sample Name:	0921VABLK	Date Analyzed:	890921
Matrix:	Water	Date Collected:	N.A.
Dilution Factor:	1.0	Date Received:	N.A.

Sample Info.: GC/MS A,TN,5ul 50ng/ul 524 IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/l	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane		1.	U
1,1-Dichloroethene		1.	U
Methylene Chloride		1.	U
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane		1.	U
cis-1,2-Dichloroethene		1.	U
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane		1.	U
1,1-Dichloropropene		1.	U
Carbon Tetrachloride		1.	U
1,2-Dichloroethane		1.	U
Benzene		1.	U
Trichloroethene		1.	U
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene		1.	U
1,1,2-Trichloroethane		1.	U
1,3-Dichloropropane		1.	U
Tetrachloroethene		1.	U
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene		1.	U
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes		1.	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

0920VBLKC

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 0920VBLKC

Sample wt/vol: 5 G Lab File ID: >CI081

Level: LOW Date Received: N.A.

% Moisture: not dec.____ Date Analyzed: 9/20/89

Column: PACK Dilution Factor: 1.0000

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	1.19	9.	
2.	Unknown	1.32	19.	
3.	Unknown	37.28	7.	
4. 439	1,4-Dichlorobenzene d-4	37.82	22.	
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI064	Method Number:	8240
Lab Sample Name:	0922VABLK	Date Analyzed:	890922
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MSA,TN,5uL 50ng/ul IS,SS 524/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		1.	U
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene		1.	U
4-Chlorotoluene		1.	U
2-Chlorotoluene		1.	U
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene		1.	U
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene		1.	U
1,4-Dichlorobenzene		1.	U
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene		1.	U
Hexachlorobutadiene		1.	U
Naphthalene	1.		J
1,2,3-Trichlorobenzene		1.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

U922VABLK

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: U922VABLK

Sample wt/vol: 5 G Lab File ID: >A1U64

Level: LOW Date Received: N.A.

% Moisture: not dec.____ Date Analyzed: 9/22/89

Column: WB Dilution Factor: 1.0000

Number TICs Found: CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI101	Method Number:	8240
Lab Sample Name:	0923VBLKC	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS,C,LB,10ul IS-21,SS-20/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		10	U
Bromomethane		10	U
Vinyl Chloride		10	U
Chloroethane		10	U
Methylene Chloride		5	U
Acetone		10	U
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane		5	U
Carbon Disulfide		5	U
1,1-Dichloroethene		5	U
1,1-Dichloroethane		5	U
1,2-Dichloroethene (Total)		5	U
Chloroform		5	U
1,2-Dichloroethane		5	U
2-Butanone		5	U
1,1,1-Trichloroethane		5	U
Carbon Tetrachloride		5	U
Vinyl Acetate		10	U
Bromodichloromethane		5	U
1,2-Dichloropropane		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene		5	U
Dibromochloromethane		5	U
1,1,2-Trichloroethane		5	U
Benzene		5	U
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone		10	U
2-Hexanone		10	U
Tetrachloroethene		5	U
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI101	Method Number:	8240
Lab Sample Name:	0923VBLKC	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS,C,LB,10ul IS-21,SS-20/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit
Toluene		5 U
Chlorobenzene		5 U
Ethylbenzene		5 U
Styrene		5 U
Xylenes (Total)		5 U
m-Xylene		5 U
o + p-Xylene		5 U
1,3 Dichlorobenzene		5 U
1,2 Dichlorobenzene		5 U
1,4 Dichlorobenzene		5 U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0923VBLKC

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 0923VBLKC

Sample wt/vol: 5 G Lab File ID: >C1101

Level: LOW Date Received: N.A.

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: PACK Dilution Factor: 1.0000

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI075	Method Number:	8240
Lab Sample Name:	0923VABLK	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS A,TN,5ul 50ng/ul 524 IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
Dichlorodifluoromethane		1.	U
Chloromethane		1.	U
Vinyl Chloride		1.	U
Bromomethane		1.	U
Chloroethane		1.	U
Trichlorofluoromethane		1.	U
1,1-Dichloroethene		1.	U
Methylene Chloride		1.	U
trans-1,2-Dichloroethene		1.	U
1,1-Dichloroethane		1.	U
cis-1,2-Dichloroethene		1.	U
2,2-Dichloropropane		1.	U
Chloroform		1.	U
Bromochloromethane		1.	U
1,1,1-Trichloroethane		1.	U
1,1-Dichloropropene		1.	U
Carbon Tetrachloride		1.	U
1,2-Dichloroethane		1.	U
Benzene		1.	U
Trichloroethene		1.	U
1,2-Dichloropropane		1.	U
Bromodichloromethane		1.	U
Dibromomethane		1.	U
Toluene		1.	U
1,1,2-Trichloroethane		1.	U
1,3-Dichloropropane		1.	U
Tetrachloroethene		1.	U
Dibromochloromethane		1.	U
1,2-Dibromoethane - EDB		1.	U
Chlorobenzene		1.	U
Ethylbenzene		1.	U
1,1,1,2-Tetrachloroethane		1.	U
m + p-Xylenes		1.	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI075	Method Number:	8240
Lab Sample Name:	0923VABLK	Date Analyzed:	890923
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS A,TN,5ul 50ng/ul 524 IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene		1. U
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene		1. U
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene		1. U
Bromobenzene		1. U
1,3,5-Trimethylbenzene		1. U
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene		1. U
1,2,4-Trimethylbenzene		1. U
sec-Butylbenzene		1. U
p-Isopropyltoluene		1. U
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene		1. U
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene		1. U
Hexachlorobutadiene		1. U
Naphthalene		1. U
1,2,3-Trichlorobenzene		1. U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
09230ABLK

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 09230ABLK

Sample wt/vol: 5 G Lab File ID: >A10/5

Level: LOW Date Received: 09/23/89

% Moisture: not dec.____ Date Analyzed: 9/23/89

Column: W.B. Dilution Factor: 1.0000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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2.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI092	Method Number:	8240
Lab Sample Name:	0924VABLK	Date Analyzed:	890924
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS A,TN,5ul 50ng/ul 524 IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		1. U
Chloromethane		1. U
Vinyl Chloride		1. U
Bromomethane		1. U
Chloroethane		1. U
Trichlorofluoromethane		1. U
1,1-Dichloroethene		1. U
Methylene Chloride		1. U
trans-1,2-Dichloroethene		1. U
1,1-Dichloroethane		1. U
cis-1,2-Dichloroethene		1. U
2,2-Dichloropropane		1. U
Chloroform		1. U
Bromochloromethane		1. U
1,1,1-Trichloroethane		1. U
1,1-Dichloropropene		1. U
Carbon Tetrachloride		1. U
1,2-Dichloroethane	1.	
Benzene		1. U
Trichloroethene		1. U
1,2-Dichloropropane		1. U
Bromodichloromethane		1. U
Dibromomethane		1. U
Toluene		1. U
1,1,2-Trichloroethane		1. U
1,3-Dichloropropane		1. U
Tetrachloroethene		1. U
Dibromochloromethane		1. U
1,2-Dibromoethane - EDB		1. U
Chlorobenzene		1. U
Ethylbenzene		1. U
1,1,1,2-Tetrachloroethane		1. U
m + p-Xylenes		1. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI092	Method Number:	8240
Lab Sample Name:	0924VABLK	Date Analyzed:	890924
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS A,TN,5ul 50ng/ul 524 IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit	
o-Xylene		1.	U
Styrene		1.	U
1,1,2,2-Tetrachloroethane		1.	U
Isopropylbenzene		1.	U
Bromoform		1.	U
1,2,3-Trichloropropane		1.	U
n-Propylbenzene		1.	U
Bromobenzene		1.	U
1,3,5-Trimethylbenzene	2.		
4-Chlorotoluene		1.	U
2-Chlorotoluene		1.	U
tert-Butylbenzene		1.	U
1,2,4-Trimethylbenzene		1.	U
sec-Butylbenzene		1.	U
p-Isopropyltoluene		1.	U
1,3-Dichlorobenzene	0.		J
1,4-Dichlorobenzene	2.		
n-Butylbenzene		1.	U
1,2-Dichlorobenzene		1.	U
1,2-Dibromo-3-Chloropropane		1.	U
1,2,4-Trichlorobenzene	12.		
Hexachlorobutadiene	14.		
Naphthalene	14.		
1,2,3-Trichlorobenzene	16.		

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VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

092400BLK

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 092400BLK

Sample wt/vol: 5 G Lab File ID: >A1092

Level: LOW Date Received: 09/24/89

% Moisture: not dec.____ Date Analyzed: 9/24/89

Column: PACK Dilution Factor: 1.0000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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2.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI109	Method Number:	8240
Lab Sample Name:	0925VBLKC	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS,C,LB,10ul IS-21,SS-20/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit	
Chloromethane		10	U
Bromomethane		10	U
Vinyl Chloride		10	U
Chloroethane		10	U
Methylene Chloride	2		J
Acetone		10	U
Acrylonitrile		5	U
Acrolein		5	U
Trichlorofluoromethane		5	U
Carbon Disulfide		5	U
1,1-Dichloroethene		5	U
1,1-Dichloroethane		5	U
1,2-Dichloroethene (Total)		5	U
Chloroform		5	U
1,2-Dichloroethane		5	U
2-Butanone		5	U
1,1,1-Trichloroethane		5	U
Carbon Tetrachloride		5	U
Vinyl Acetate		10	U
Bromodichloromethane		5	U
1,2-Dichloropropane		5	U
trans-1,3-Dichloropropene		5	U
Trichloroethene		5	U
Dibromochloromethane		5	U
1,1,2-Trichloroethane		5	U
Benzene		5	U
cis-1,3-Dichloropropene		5	U
2-Chloroethylvinylether		5	U
Bromoform		5	U
4-Methyl-2-Pentanone		10	U
2-Hexanone		10	U
Tetrachloroethene		5	U
1,1,2,2-Tetrachloroethane		5	U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>CI109	Method Number:	8240
Lab Sample Name:	0925VBLKC	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS,C,LB,10ul IS-21,SS-20/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/kg	Detection Limit
Toluene		5 U
Chlorobenzene		5 U
Ethylbenzene		5 U
Styrene		5 U
Xylenes (Total)		5 U
m-Xylene		5 U
o + p-Xylene		5 U
1,3 Dichlorobenzene		5 U
1,2 Dichlorobenzene		5 U
1,4 Dichlorobenzene		5 U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0925VBLKC

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 0925VBLKC

Sample wt/vol: 5 G Lab File ID: >C1109

Level: LOW Date Received: N.A.

% Moisture: not dec._____ Date Analyzed: 9/25/89

Column: PACK Dilution Factor: 1.0000

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI103	Method Number:	8240
Lab Sample Name:	0925VABLK	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS A,TN,5ul 50ng/ul 524 IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		1. U
Chloromethane		1. U
Vinyl Chloride		1. U
Bromomethane		1. U
Chloroethane		1. U
Trichlorofluoromethane		1. U
1,1-Dichloroethene		1. U
Methylene Chloride		1. U
trans-1,2-Dichloroethene		1. U
1,1-Dichloroethane		1. U
cis-1,2-Dichloroethene		1. U
2,2-Dichloropropane		1. U
Chloroform		1. U
Bromochloromethane		1. U
1,1,1-Trichloroethane		1. U
1,1-Dichloropropene		1. U
Carbon Tetrachloride		1. U
1,2-Dichloroethane		1. U
Benzene		1. U
Trichloroethene		1. U
1,2-Dichloropropane		1. U
Bromodichloromethane		1. U
Dibromomethane		1. U
Toluene		1. U
1,1,2-Trichloroethane		1. U
1,3-Dichloropropane		1. U
Tetrachloroethene		1. U
Dibromochloromethane		1. U
1,2-Dibromoethane - EDB		1. U
Chlorobenzene		1. U
Ethylbenzene		1. U
1,1,1,2-Tetrachloroethane		1. U
m + p-Xylenes		1. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI103	Method Number:	8240
Lab Sample Name:	0925VABLK	Date Analyzed:	890925
Matrix:	Soil	Date Collected:	NA.
Dilution Factor:	1.0	Date Received:	NA.

Sample Info.: GC/MS A,TN,5ul 50ng/ul 524 IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene		1. U
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene		1. U
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene		1. U
Bromobenzene		1. U
1,3,5-Trimethylbenzene		1. U
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene		1. U
1,2,4-Trimethylbenzene		1. U
sec-Butylbenzene		1. U
p-Isopropyltoluene		1. U
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene		1. U
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene	2.	
Hexachlorobutadiene	3.	
Naphthalene	4.	
1,2,3-Trichlorobenzene	4.	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0925VABLK

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 0925VABLK

Sample wt/vol: 5 G Lab File ID: >A1103

Level: LOW Date Received: 09/25/89

% Moisture: not dec.____ Date Analyzed: 9/25/89

Column: PACK Dilution Factor: 1.0000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI116	Method Number:	8240
Lab Sample Name:	0926VABLK	Date Analyzed:	890926
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS A,TN,5ul 50ng/ul 524 IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
Dichlorodifluoromethane		1. U
Chloromethane		1. U
Vinyl Chloride		1. U
Bromomethane		1. U
Chloroethane		1. U
Trichlorofluoromethane		1. U
1,1-Dichloroethene		1. U
Methylene Chloride		1. U
trans-1,2-Dichloroethene		1. U
1,1-Dichloroethane		1. U
cis-1,2-Dichloroethene		1. U
2,2-Dichloropropane		1. U
Chloroform		1. U
Bromochloromethane		1. U
1,1,1-Trichloroethane		1. U
1,1-Dichloropropene		1. U
Carbon Tetrachloride		1. U
1,2-Dichloroethane		1. U
Benzene		1. U
Trichloroethene		1. U
1,2-Dichloropropane		1. U
Bromodichloromethane		1. U
Dibromomethane		1. U
Toluene		1. U
1,1,2-Trichloroethane		1. U
1,3-Dichloropropane		1. U
Tetrachloroethene		1. U
Dibromochloromethane		1. U
1,2-Dibromoethane - EDB		1. U
Chlorobenzene		1. U
Ethylbenzene		1. U
1,1,1,2-Tetrachloroethane		1. U
m + p-Xylenes		1. U

HITTMAN EBASCO ASSOCIATES, Inc.
VOLATILE ORGANIC ANALYSIS - TABULATED REPORT

Lab Data File:	>AI116	Method Number:	8240
Lab Sample Name:	0926VABLK	Date Analyzed:	890926
Matrix:	Soil	Date Collected:	890918
Dilution Factor:	1.0	Date Received:	890920

Sample Info.: GC/MS A,TN,5ul 50ng/ul 524 IS,SS/5mls P&T

U = not detected
J = estimated value, below detection limit

Compound	Concentration ug/Kg	Detection Limit
o-Xylene		1. U
Styrene		1. U
1,1,2,2-Tetrachloroethane		1. U
Isopropylbenzene		1. U
Bromoform		1. U
1,2,3-Trichloropropane		1. U
n-Propylbenzene		1. U
Bromobenzene		1. U
1,3,5-Trimethylbenzene		1. U
4-Chlorotoluene		1. U
2-Chlorotoluene		1. U
tert-Butylbenzene		1. U
1,2,4-Trimethylbenzene		1. U
sec-Butylbenzene		1. U
p-Isopropyltoluene		1. U
1,3-Dichlorobenzene		1. U
1,4-Dichlorobenzene		1. U
n-Butylbenzene		1. U
1,2-Dichlorobenzene		1. U
1,2-Dibromo-3-Chloropropane		1. U
1,2,4-Trichlorobenzene	9.	
Hexachlorobutadiene	9.	
Naphthalene	11.	
1,2,3-Trichlorobenzene	12.	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
09260ABLK

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 09260ABLK

Sample wt/vol: 5 G Lab File ID: >A1116

Level: MED Date Received: 09/26/89

% Moisture: not dec.____ Date Analyzed: 9/26/89

Column: W.B. Dilution Factor: 1.0000

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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QC SUMMARY

Surrogate Recovery
MS/MSD Recovery
Daily Blank Summary
GC/MS Tuning and Calibration

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Hillman Ebasco Contract: ESI 7018

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Level: LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	0920VBLKC	101	91	94		0
02	PBS1411SS6	103	100	89		0
03	PBS1411SS7	106	104	92		0
04	PBS1411SS8	114	106	89		0
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	QC LIMITS
S1 (TOL) - Toluene-d8	(81-117)
S2 (BFB) - Bromofluorobenzene	(74-121)
S3 (DCE) - 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

	EPA SAMPLE NO.	S1 (BFB)#	S2 (BFB)#	OTHER	
01	0921VABLK	92	96		0
02	TRIP BLANK	89	95		0
03	PBS1411SS8	54 *	108		1
04	PBS1411SS8	78 *	133 *		2
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	QC LIMITS
S1 (BFB) = Bromofluorobenzene/ Fluorobenzene	(80-120)
S2 (BFB) = Bromofluorobenzene/ 1,4-DCB-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Level: LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	0922VBLKC	103	93	93		0
02	PBS7121SS1	110	86	96		0
03	PBS1411SS7	108	97	95		0
04	PBS1411SS7	108	89	93		0
05	PBS7121SS2	109	83	95		0
06	PBS7121SS3	102	93	96		0
07	PBS7121SS4	100	79	93		0
08	PBS7121SS5	114	80	94		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2A

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

	EPA SAMPLE NO.	S1 (BFB)#	S2 (BFB)#	OTHER	
01	0922VABLK	101	98		0
02	PBS7131SS1	89	128 *		1
03	PBS7131SS2	79 *	116		1
04	PBS7131SS3	82	112		0
05	PBS7131SS4	82	119		0
06	PBS7131SS5	66 *	126 *		2
07	PBS1411SS1	60 *	*** *		2
08	PBS1411SS2	56 *	157 *		2
09	PBS1411SS3	83	150 *		1
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	QC LIMITS
S1 (BFB) = Bromofluorobenzene/ Fluorobenzene	(80-120)
S2 (BFB) = Bromofluorobenzene/ 1,4-DCB-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2B

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Level: LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	0923VBLKC	100	94	95		0
02	PBS7121SS1	102	87	94		0
03	PBS7121SS3	102	93	96		0
04	PBS7121SS4	101	90	97		0
05	PBS7121SS5	101	84	96		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2A
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

	EPA SAMPLE NO.	S1 (BFB)#	S2 (BFB)#	OTHER	
01	0923VABLK	105	96		0
02	PBS7121SS6	70 *	129 *		2
03	PBS7121SS7	68 *	128 *		2
04	PBS7121SS8	60 *	142 *		2
05	PBS7121SS9	66 *	113		1
06	PBS1411SS4	68 *	142 *		2
07	PBS1411SS5	72 *	87		1
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	QC LIMITS
S1 (BFB) = Bromofluorobenzene/ Fluorobenzene	(80-120)
S2 (BFB) = Bromofluorobenzene/ 1,4-DCB-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2A
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

	EPA SAMPLE NO.	S1 (BFB)#	S2 (BFB)#	OTHER	
01	0924VABLK	88	96		0
02	PBS7131SS1	88	103		0
03	PBS7131SS2	94	96		0
04	PBS7131SS3	86	94		0
05	PBS7131SS4	88	96		0
06	PBS1411SS1	75 *	108		1
07	PBS1411SS2	83	109		0
08	PBS1411SS3	100	107		0
09					
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	QC LIMITS
S1 (BFB) = Bromofluorobenzene/ Fluorobenzene	(80-120)
S2 (BFB) = Bromofluorobenzene/ 1,4-DCB-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

FORM II VOA - 524

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Level: LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	0925VBLKC	100	93	90		0
02	PBS7121SS5	100	93	94		0
03						
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	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2A
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

	EPA SAMPLE NO.	S1 (BFB)#	S2 (BFB)#	OTHER	
01	0925VABLK	101	102		0
02	PBS7121SS8	54 *	87		1
03	PBS7121SS8MS	134 *	57 *		2
04	PBS7121SS8MS	65 *	70 *		2
05	PBS7121SS9	77 *	67 *		2
06	PBS7121SS6	86	100		0
07	PBS7121SS7	92	114		0
08	PBS7131SS5	95	114		0
09	PBS1411SS4	84	109		0
10	PBS1411SS5	79 *	116		1
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	QC LIMITS
S1 (BFB) = Bromofluorobenzene/ Fluorobenzene	(80-120)
S2 (BFB) = Bromofluorobenzene/ 1,4-DCB-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2A
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

	EPA SAMPLE NO.	S1 (BFB)#	S2 (BFB)#	OTHER	
01	0926VABLK	91	109		0
02	PBS7131SS1	78 *	90		1
03					
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	QC LIMITS
S1 (BFB) = Bromofluorobenzene/ Fluorobenzene	(80-120)
S2 (BFB) = Bromofluorobenzene/ 1,4-DCB-d4	(80-120)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix Spike - EPA Sample No: PBS1411SS7 Level: LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	51.00	0.00	47.00	92	59-172
Trichloroethene	51.00	40.00	81.00	82	62-137
Benzene	51.00	0.00	46.00	90	66-142
Toluene	51.00	0.00	51.00	100	59-139
Chlorobenzene	51.00	0.00	54.00	106	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	51.00	42.00	82	12	22	59-172
Trichloroethene	51.00	72.00	63	26 *	24	62-137
Benzene	51.00	45.00	88	2	21	66-142
Toluene	51.00	50.00	98	2	21	59-139
Chlorobenzene	51.00	53.00	104	2	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of qc limits

RPD: 1 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Matrix Spike - EPA Sample No: PBS7121SS8 Level: LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	#	QC LIMITS REC.
1,1-Dichloroethene	8070.00	0.00	8840.00	109		59-172
Trichloroethene	8070.00	3670.00	19800.00	200	*	62-137
Benzene	8070.00	0.00	7140.00	88		66-142
Toluene	8070.00	79.00	11600.00	142	*	59-139
Chlorobenzene	8070.00	0.00	12200.00	151	*	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	#	% RPD	#	QC LIMITS RPD	REC.
1,1-Dichloroethene	8070.00	5840.00	72		40	*	22	59-172
Trichloroethene	8070.00	10100.00	79		86	*	24	62-137
Benzene	8070.00	6300.00	78		12		21	66-142
Toluene	8070.00	5520.00	67		71	*	21	59-139
Chlorobenzene	8070.00	6980.00	86		54	*	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of qc limits

RPD: 4 out of 5 outside limits
Spike Recovery: 3 out of 10 outside limits

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >CI081 Lab Sample ID: 0920VBLKC

Date Analyzed: 9/20/89 Time Analyzed: 13:57

Matrix: SOIL Level: LOW

Instrument ID: HP5970-C

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	HE#5443	PBS1411SS6	>CI082	9/20/89
02	HE#5444	PBS1411SS7	>CI083	9/20/89
03	HE#5446	PBS1411SS9	>CI085	9/20/89
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COMMENTS: _____

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VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: ESI SAS No: N.A. SDG No: N.A.

Lab File ID: >AI054 Lab Sample ID: 0921VABLK

Date Analyzed: 9/21/89 Time Analyzed: 10:14

Matrix: SOIL Level: LOW

Instrument ID: HP5895-A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	#5473	TRIP BLANK	>AI055	9/21/89
02	HE#5445	PBS1411SS8	>AI056	9/21/89
03	#5340MS	PSS002MS	>CI061	9/14/89
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >CI091 Lab Sample ID: 0922VBLKC

Date Analyzed: 9/22/89 Time Analyzed: 11:16

Matrix: SOIL Level: LOW

Instrument ID: HP5970-C

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	HE#5454	PBS7121SS1	>CI092	9/22/89
02	HE#5444MS	PBS1411SS7MS	>CI093	9/22/89
03	HE#5444MSD	PBS1411SS7MSD	>CI094	9/22/89
04	HE#5455	PBS7121SS2	>CI095	9/22/89
05	HE#5456	PBS7121SS3	>CI096	9/22/89
06	HE#5457	PBS7121SS4	>CI097	9/22/89
07	HE#5458	PBS7121SS5	>CI098	9/22/89
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

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VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >AI064 Lab Sample ID: 0922VABLK

Date Analyzed: 9/22/89 Time Analyzed: 16:09

Matrix: SOIL Level: LOW

Instrument ID: HP5895-A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	HE#5463	PBS7131SS1	>AI065	9/22/89
02	HE#5464	PBS7131SS2	>AI066	9/22/89
03	HE#5465	PBS7131SS3	>AI067	9/22/89
04	HE#5466	PBS7131SS4	>AI068	9/22/89
05	HE#5467	PBS7131SS5	>AI069	9/22/89
06	HE#5468	PBS1411SS1	>AI070	9/22/89
07	HE#5469	PBS1411SS2	>AI071	9/22/89
08	HE#5470	PBS1411SS3	>AI072	9/22/89
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >CI101 Lab Sample ID: 0923VBLKC

Date Analyzed: 9/23/89 Time Analyzed: 13:06

Matrix: SOIL Level: LOW

Instrument ID: HP5970-C

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	#5454 1:5	PBS7121SS1 1:5	>CI102	9/23/89
02	#5456 1:5	PBS7121SS3 1:5	>CI103	9/23/89
03	#5457 1:5	PBS7121SS4 1:5	>CI104	9/23/89
04	#5458 1:5	PBS7121SS5 1:5	>CI105	9/23/89
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >AI075 Lab Sample ID: 0923VABLK

Date Analyzed: 9/23/89 Time Analyzed: 13:12

Matrix: SOIL Level: LOW

Instrument ID: HP5895-A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	HE#5467	PBS7131SS5	>AI076	9/23/89
02	HE#5459	PBS7121SS6	>AI077	9/23/89
03	HE#5460	PBS7121SS7	>AI078	9/23/89
04	HE#5461	PBS7121SS8	>AI079	9/23/89
05	HE#5462	PBS7121SS9	>AI080	9/23/89
06	HE#5471	PBS1411SS4	>CI081	9/23/89
07	HE#5472	PBS1411SS5	>CI082	9/23/89
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >AI092 Lab Sample ID: 0924VABLK

Date Analyzed: 9/24/89 Time Analyzed: 22:47

Matrix: SOIL Level: LOW

Instrument ID: HP5895-A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	#5463 1:5	PBS7131SS1 1:5	>AI093	9/25/89
02	#5464 1:5	PBS7131SS2 1:5	>AI094	9/25/89
03	#5465 1:5	PBS7131SS3 1:5	>AI095	9/25/89
04	#5466 1:5	PBS7131SS4 1:5	>AI096	9/25/89
05	#5468 1:5	PBS1411SS1 1:5	>AI097	9/25/89
06	#5469 1:5	PBS1411SS2 1:5	>AI098	9/25/89
07	#5470 1:5	PBS1411SS3 1:5	>AI099	9/25/89
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

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VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >CI109 Lab Sample ID: 0925VBLKC

Date Analyzed: 9/25/89 Time Analyzed: 12:45

Matrix: SOIL Level: LOW

Instrument ID: HP5970-C

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	#5458 1:5	PBS7121SS5 1:5	>CI110	9/25/89
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >AI103 Lab Sample ID: 0925VABLK

Date Analyzed: 9/25/89 Time Analyzed: 15:08

Matrix: SOIL Level: LOW

Instrument ID: HP5895-A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	#5461 1:25	PBS7121SS8 1:2	>AI104	9/25/89
02	HE#5461MS	PBS7121SS8MS	>AI105	9/25/89
03	HE#5461MSD	PBS7121SS8MSD	>AI106	9/25/89
04	#5462 1:62	PBS7121SS9 1:6	>AI107	9/25/89
05	#5459 1:10	PBS7121SS6 1:1	>AI109	9/25/89
06	#5460 1:10	PBS7121SS7 1:1	>AI110	9/25/89
07	#5467 1:5	PBS7131SS5 1:5	>AI111	9/25/89
08	#5471 1:5	PBS1411SS4 1:5	>AI112	9/25/89
09	#5472 1:10	PBS1411SS5 1:1	>AI113	9/25/89
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >AI116 Lab Sample ID: 0926VABLK

Date Analyzed: 9/26/89 Time Analyzed: 12:32

Matrix: SOIL Level: LOW

Instrument ID: HP5895-A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	#5462	PBS7121SS9	>AI117	9/26/89
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >CI091 Lab Sample ID: 0922VBLKC

Date Analyzed: 9/22/89 Time Analyzed: 11:16

Matrix: SOIL Level: LOW

Instrument ID: HP5970-C

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	HE#5454	PBS7121SS1	>CI092	9/22/89
02	HE#5444MS	PBS1411SS7MS	>CI093	9/22/89
03	HE#5444MSD	PBS1411SS7MSD	>CI094	9/22/89
04	HE#5455	PBS7121SS2	>CI095	9/22/89
05	HE#5456	PBS7121SS3	>CI096	9/22/89
06	HE#5457	PBS7121SS4	>CI097	9/22/89
07	HE#5458	PBS7121SS5	>CI098	9/22/89
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COMMENTS: _____.

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FORM IV VOA 1/87 Rev.

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: ESI SAS No: N.A. SDG No: N.A.

Lab File ID: >AI054 Lab Sample ID: 0921VABLK

Date Analyzed: 9/21/89 Time Analyzed: 10:14

Matrix: SOIL Level: LOW

Instrument ID: HP5895-A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	LAB SAMPLE ID.	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED
01	#5473	TRIP BLANK	>AI055	9/21/89
02	HE#5445	PBS1411SS8	>AI056	9/21/89
03	#5340MS	PSS002MS	>CI061	9/14/89
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COMMENTS: _____

FORM IV VOA 1/87 Rev.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ¦ the contra

Lab Code: HITMAN Case No: ¦ the Ca SAS No: N.A. SDG No: N.A.

Lab File ID: >CI019 BFB Injection Date: 9/08/89

Instrument ID:. HP5970-C BFB Injection Time: 10:04

Matrix: WATER Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	18.2
75	30.0 - 60.0% OF MASS 95	46.4
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.8
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	68.8
175	5.0 - 9.0% of mass 174	4.8(7.0)1
176	Greater than 95.0%, but less than 101.0% of mass 174	67.8(98.6)1
177	5.0 - 9.0% of mass 176	4.5(6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0908VSTD50	0908VSTD50	>CI020	9/08/89	10:53
02	0908VSTD100	0908VSTD100	>CI021	9/08/89	14:10
03	0908VSTD150	0908VSTD150	>CI022	9708/89	14:59
04	0908VSTD200	0908VSTD200	>CI023	9/08/89	15:48
05	0908VSTD20	0908VSTD20	>CI024	9/08/89	16:38
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FORM V VOA 1/87 Rev.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 2001

Lab Code: HITMAN Case No: BR05 SAS No: N.A. SDG No: N.A.

Lab File ID: >AI035 BFB Injection Date: 9/14/89

Instrument ID: HPS895-A BFB Injection Time: 10:00

Matrix: SOIL Level: LOW Column: WIDE BO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	16.6
75	30.0 - 60.0% OF MASS 95	39.4
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	1.1(1.4)1
174	Greater than 50.0% of mass 95	82.0
175	5.0 - 9.0% of mass 174	6.2(7.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	80.0(97.6)1
177	5.0 - 9.0% of mass 176	5.3(6.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0914VAS010	0914VAS010	>AI040	9/14/89	15:52
02	0914VAS020	0914VAS020	>AI041	9/14/89	16:29
03	0914VAS050	0914VAS050	>AI042	9/14/89	17:07
04	0914VAS075	0914VAS075	>AI043	9/14/89	17:44
05	0914VAS100	0914VAS100	>AI044	9/14/89	18:22
06	0914VAS150	0914VAS150	>AI045	9/14/89	18:59
07	0914VAS200	0914VAS200	>AI046	9/14/89	19:37
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FORM V VOA 1/87 Rev.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >CI078 BFB Injection Date: 9/20/89

Instrument ID: HPS970-C BFB Injection Time: 9:54

Matrix: N.A. Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	20.4
75	30.0 - 60.0% OF MASS 95	46.1
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.8
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	60.6
175	5.0 - 9.0% of mass 174	4.5(7.3)1
176	Greater than 95.0%, but less than 101.0% of mass 174	58.8(96.9)1
177	5.0 - 9.0% of mass 176	4.1(6.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0920VSTD50	0920VSTD50	>CI080	9/20/89	11:50
02	0920VBLKC	0920VBLKC	>CI081	9/20/89	13:57
03	HE#5443	PBS1411SS6	>CI082	9/20/89	15:04
04	HE#5444	PBS1411SS7	>CI083	9/20/89	17:00
05	HE#5446	PBS1411SS9	>CI085	9/20/89	20:53
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FORM V VOA 1/87 Rev.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: ESI SAS No: N.A. SDG No: N.A.

Lab File ID: >AI052 BFB Injection Date: 9/21/89

Instrument ID: HP5895-A BFB Injection Time: 8:19

Matrix: SOIL Level: LOW Column: WB

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	19.4
75	30.0 - 60.0% OF MASS 95	40.5
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	58.1
175	5.0 - 9.0% of mass 174	4.2(7.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	57.4(98.6)1
177	5.0 - 9.0% of mass 176	3.3(5.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0921VAS050	0921VAS050	>AI053	9/21/89	9:10
02	0921VABLK	0921VABLK	>AI054	9/21/89	10:14
03	#5473	TRIP BLANK	>AI055	9/21/89	11:17
04	HE#5445	PBS1411SS8	>AI056	9/21/89	12:06
05	#5445-2g	PBS1411SS8-2g	>AI061	9/21/89	17:19
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FORM V VOA 1/87 Rev.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >CI088 BFB Injection Date: 9/22/89

Instrument ID: HP5970-C BFB Injection Time: 8:18

Matrix: N.A. Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	18.6
75	30.0 - 60.0% OF MASS 95	44.9
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	8.6
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	63.6
175	5.0 - 9.0% of mass 174	4.9(7.7)1
176	Greater than 95.0%, but less than 101.0% of mass 174	63.9(100.4)1
177	5.0 - 9.0% of mass 176	4.1(6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0922VSTD50	0922VSTD50	>CI090	9/22/89	10:09
02	0922VBLKC	0922VBLKC	>CI091	9/22/89	11:16
03	HE#5454	PBS7121SS1	>CI092	9/22/89	12:20
04	HE#5444MS	PBS1411SS7MS	>CI093	9/22/89	14:11
05	HE#5444MSD	PBS1411SS7MSD	>CI094	9/22/89	15:18
06	HE#5455	PBS7121SS2	>CI095	9/22/89	16:24
07	HE#5456	PBS7121SS3	>CI096	9/22/89	17:14
08	HE#5457	PBS7121SS4	>CI097	9/22/89	18:03
09	HE#5458	PBS7121SS5	>CI098	9/22/89	18:53
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FORM V VOA 1/87 Rev.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >AI062 BFB Injection Date: 9/22/89

Instrument ID: HP5895-A BFB Injection Time: 14:26

Matrix: SOIL Level: LOW Column: WB

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	22.0
75	30.0 - 60.0% OF MASS 95	41.7
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	67.4
175	5.0 - 9.0% of mass 174	4.7(6.9)1
176	Greater than 95.0%, but less than 101.0% of mass 174	65.4(97.1)1
177	5.0 - 9.0% of mass 176	3.9(5.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0922VASTS0	0922VASTS0	>AI063	9/22/89	14:56
02	0922VABLK	0922VABLK	>AI064	9/22/89	16:09
03	HE#5463	PBS7131SS1	>AI065	9/22/89	16:57
04	HE#5464	PBS7131SS2	>AI066	9/22/89	17:40
05	HE#5465	PBS7131SS3	>AI067	9/22/89	18:22
06	HE#5466	PBS7131SS4	>AI068	9/22/89	19:05
07	HE#5467	PBS7131SS5	>AI069	9/22/89	19:47
08	HE#5468	PBS1411SS1	>AI070	9/22/89	20:30
09	HE#5469	PBS1411SS2	>AI071	9/22/89	21:12
10	HE#5470	PBS1411SS3	>AI072	9/22/89	21:55
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FORM V VOA 1/87 Rev.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >CI099 BFB Injection Date: 9/23/89

Instrument ID: HP5970-C BFB Injection Time: 11:01

Matrix: N.A. Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	19.2
75	30.0 - 60.0% OF MASS 95	43.3
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	5.1
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	75.8
175	5.0 - 9.0% of mass 174	5.8(7.6)1
176	Greater than 95.0%, but less than 101.0% of mass 174	73.2(96.6)1
177	5.0 - 9.0% of mass 176	4.3(5.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0923VSTD50	0923VSTD50	>CI100	9/23/89	11:54
02	0923VBLKC	0923VBLKC	>CI101	9/23/89	13:06
03	0923VBLKC	0923VBLKC	>CI101	9/23/89	13:06
04	#5456 1:5	PBS7121SS3 1:5	>CI103	9/23/89	15:32
05	#5457 1:5	PBS7121SS4 1:5	>CI104	9/23/89	16:21
06	#5458 1:5	PBS7121SS5 1:5	>CI105	9/23/89	17:11
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FORM V VOA 1/87 Rev.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >AI073 BFB Injection Date: 9/23/89

Instrument ID: HP5895-A BFB Injection Time: 10:59

Matrix: SOIL Level: LOW Column: WB

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	16.4
75	30.0 - 60.0% OF MASS 95	37.7
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	74.6
175	5.0 - 9.0% of mass 174	5.4(7.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	72.2(96.7)1
177	5.0 - 9.0% of mass 176	4.2(5.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0923VASTS0	0923VASTS0	>AI074	9/23/89	11:59
02	0923VABLK	0923VABLK	>AI075	9/23/89	13:12
03	HE#5467	PBS7131SS5	>AI076	9/23/89	14:45
04	HE#5459	PBS7121SS6	>AI077	9/23/89	15:28
05	HE#5460	PBS7121SS7	>AI078	9/23/89	16:10
06	HE#5461	PBS7121SS8	>AI079	9/23/89	16:53
07	HE#5462	PBS7121SS9	>AI080	9/23/89	17:35
08	0920VBLKC	0920VBLKC	>CI081	9/23/89	18:18
09	HE#5443	PBS1411SS6	>CI082	9/23/89	19:00
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FORM V VOA 1/87 Rev.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >AI090 BFB Injection Date: 9/24/89

Instrument ID: HP5895-A BFB Injection Time: 20:34

Matrix: SOIL Level: LOW Column: WB

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	17.0
75	30.0 - 60.0% OF MASS 95	39.1
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	73.4
175	5.0 - 9.0% of mass 174	5.2(7.1)1
176	Greater than 95.0%, but less than 101.0% of mass 174	71.9(97.9)1
177	5.0 - 9.0% of mass 176	4.2(5.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0924VAST50	0924VAST50	>AI091	9/24/89	21:19
02	0924VABLK	0924VABLK	>AI092	9/24/89	22:47
03	#5463 1:5	PBS7131SS1 1:5	>AI093	9/25/89	0:32
04	#5464 1:5	PBS7131SS2 1:5	>AI094	9/25/89	1:14
05	#5465 1:5	PBS7131SS3 1:5	>AI095	9/25/89	1:57
06	#5466 1:5	PBS7131SS4 1:5	>AI096	9/25/89	2:39
07	#5468 1:5	PBS1411SS1 1:5	>AI097	9/25/89	3:22
08	#5469 1:5	PBS1411SS2 1:5	>AI098	9/25/89	4:04
09	#5470 1:5	PBS1411SS3 1:5	>AI099	9/25/89	4:47
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FORM V VOA 1/87 Rev.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >CI106 BFB Injection Date: 9/25/89

Instrument ID: HP5970-C BFB Injection Time: 9:14

Matrix: N.A. Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	18.2
75	30.0 - 60.0% OF MASS 95	43.2
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	67.7
175	5.0 - 9.0% of mass 174	5.0(7.3)1
176	Greater than 95.0%, but less than 101.0% of mass 174	67.4(99.6)1
177	5.0 - 9.0% of mass 176	4.9(7.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0925VSTD50	0925VSTD50	>CI108	9/25/89	11:29
02	0925VBLKC	0925VBLKC	>CI109	9/25/89	12:45
03	#5458 1:5	PBS7121SS5 1:5	>CI110	9/25/89	14:25
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FORM V VOA 1/87 Rev.

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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >AI100 BFB Injection Date: 9/25/89

Instrument ID: HP5895-A BFB Injection Time: 11:05

Matrix: SOIL Level: LOW Column: WB

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	17.7
75	30.0 - 60.0% OF MASS 95	42.6
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	.8(1.0)1
174	Greater than 50.0% of mass 95	82.9
175	5.0 - 9.0% of mass 174	6.0(7.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.2(95.6)1
177	5.0 - 9.0% of mass 176	4.8(6.0)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0925VAST50	0925VAST50	>AI102	9/25/89	12:51
02	0925VABLK	0925VABLK	>AI103	9/25/89	15:08
03	#5461 1:25	PBS7121SS8 1:25	>AI104	9/25/89	16:34
04	HE#5461MS	PBS7121SS8MS	>AI105	9/25/89	17:16
05	HE#5461MSD	PBS7121SS8MSD	>AI106	9/25/89	17:59
06	#5462 1:62	PBS7121SS9 1:62	>AI107	9/25/89	18:42
07	#5459 1:10	PBS7121SS6 1:10	>AI109	9/25/89	19:24
08	#5460 1:10	PBS7121SS7 1:10	>AI110	9/25/89	20:07
09	#5467 1:5	PBS7131SS5 1:5	>AI111	9/25/89	20:49
10	#5471 1:5	PBS1411SS4 1:5	>AI112	9/25/89	21:32
11	#5472 1:10	PBS1411SS5 1:10	>AI113	9/25/89	22:14
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Hittman Ebasco Contract: ESI 7019

Lab Code: HITMAN Case No: NASA SAS No: N.A. SDG No: N.A.

Lab File ID: >AI114 BFB Injection Date: 9/26/89

Instrument ID: HP5895-A BFB Injection Time: 9:28

Matrix: SOIL Level: MED Column: WB

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	16.9
75	30.0 - 60.0% OF MASS 95	38.6
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	8.6
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	56.3
175	5.0 - 9.0% of mass 174	4.3(7.6)1
176	Greater than 95.0%, but less than 101.0% of mass 174	55.0(97.7)1
177	5.0 - 9.0% of mass 176	3.8(6.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	EPA SAMPLE NO.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0926VAST50	0926VAST50	>AI115	9/26/89	11:14
02	0926VABLK	0926VABLK	>AI116	9/26/89	12:32
03	#5462	PBS7121SS9	>AI117	9/26/89	15:00
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FORM V VOA 1/87 Rev.