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GROUNDWATER SAMPLE ANALYTICAL DATA FROM MONITORING WELL GM-4 SANITARY LANDFILL (SITE 1) NAVAL AIR STATION PENSACOLA, FLORIDA

July 1989

Prepared for:

DEPARTMENT OF THE NAVY
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive, P.O. Box 10068
Charleston, South Carolina 29411-0068

Contract Number N62467-88-C-0200

ecology and environment, inc.
1203 GOVERNOR'S SQUARE BOULEVARD, TALLAHASSEE, FLORIDA 32301, TEL. 904/877-1978
International Specialists in the Environment

recycled paper

M E M O R A N D U M

TO: John Barksdale

FROM: Gary Hahn

DATE: July it, 1989

SUBJECT: U.S. Navy--Southern Division Report

RE: 851.003

CC: Lab File

Attached is the laboratory report of the analysis conducted on two samples received at the Analytical Services Center on June 8, 1989. Analysis was performed according to the procedures set forth in "Methods for the Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983; and "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.

Due to a computer scheduling error, the holding time for sulfate analysis was exceeded by 7 days. The comparability between the anion results and the field duplicates indicates the data is usable.

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of $1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH:tms
enclosure

METALS SECTION JOB NUMBER : 851.003

Ecology and Environment, Inc.
Analytical Services Center

CLIENT: U.S.NAVY-SOUTHERN DIVISION
SAMPLE ID LAB: EE-89-41247 MATRIX: WATER
SAMPLE ID CLIENT: Pol-WOO4

PARAMETER		RESULTS	Q	DET. LIMIT	UNITS
Antimony	(ICP)	ND		60	UG/L
Arsenic	(FU)	ND		5.0	UG/L
Barium	(ICP)	27.9		10	UG/L
Cadmium	(ICP)	ND		5.0	UG/L
Chromium	(ICP)	ND		10	UG/L
Copper	(ICP)	ND		10	UG/L
Iron	(ICP)	8470		25	UG/L
Lead	(FU)	ND		5.0	UG/L
Manganese	(ICP)	119		5.0	UG/L
Mercury	(VAP)	ND		0.20	UG/L
Nickel	(ICP)	ND		15	UG/L
Selenium	(FU)	ND		5.0	UG/L
Silver	(ICP)	ND		10	UG/L
Sodium	(ICP)	4760		200	UG/L
Thallium	(FU)	ND		5.0	UG/L
Zinc	(ICP)	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

METALS SECTION JOB NUMBER : 851.003

Ecology and Environment, Inc.
Analytical Services Center

CLIENT: U.S. NAVY-SOUTHERN DIVISION
SAMPLE ID LAB: EE-89-41248 MATRIX: WATER
SAMPLE ID CLIENT: P01-W004D

PARAMETER		RESULTS	Q	DET. LIMIT	UNITS
Antimony	(ICP)	ND		60	UG/L
Arsenic	(FU)	ND		5.0	UG/L
Barium	(ICP)	26.9		10	UG/L
Cadmium	(ICP)	ND		5.0	UG/L
Chromium	(ICP)	ND		10	UG/L
Copper	(ICP)	ND		10	UG/L
Iron	(ICP)	10300		25	UG/L
Lead	(FU)	ND		5.0	UG/L
Manganese	(ICP)	116		5.0	UG/L
Mercury	(Vap)	ND		0.20	UG/L
Nickel	(ICP)	ND		15	UG/L
Selenium	(FU)	ND		5.0	UG/L
Silver	(ICP)	ND		10	UG/L
Sodium	(ICP)	4610		200	UG/L
Thallium	(FU)	ND		5.0	UG/L
Zinc	(ICP)	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

GENERAL ANALYTICAL SECTION JOB NUMBER : 851.003

Ecology and Environment, Inc.
Analytical Services Center

CLIENT: U.S. NAVY-SOUTHERN DIVISION
SAMPLE ID LAB: EE-89-41248 MATRIX: WATER
SAMPLE ID CLIENT: P01-W004D

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Chloride	6.2		1.0	MG/L
Sulfate	6.7		2.0	MG/L
Cyanide, complex	ND		0.01	MG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

GENERAL ANALYTICAL SECTION JOB NUMBER : 851.003

Ecology and Environment, Inc.
Analytical Services Center

CLIENT: U.S.NAVY-SOUTHERN DIVISION
SAMPLE ID LAB: EE-89-41247 MATRIX: WATER
SAMPLE ID CLIENT: P01-W004

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Chloride	7.9		1.0	MG/L
Sulfate	7.7		2.0	MG/L
Cyanide, complex	ND		0.01	MG/L

QUALIFIERS: C = COMMENT ND - .NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

P01W004

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No. :

Matrix: (soil/water) WATER Lib Sample ID: 41247

Sampla ut/vo1: 5.0 (g/mL) ML Lab File I@: 09661

Level: (low/med) LOW Date Received: 06/07/39

% Moisture: not dsc. Date Analyzed: 06/09/89

Column: (pack/cap) CAP Dilution factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		a
74-87-3	Chloromethane	10	IU	
74-83-9	Bromomethane	10	IU	
75-01-4	Vinyl Chloride	10	IU	
75-00-3	Chloroethane	10	IU	
75-09-2	Methylene Chloride	5	IU	
67-64-1	Acetone	10	IU	
75-15-0	Carbon Disulfide	5	IU	
75-35-4	1,1-Dichloroethene	5	IU	
75-35-3	1,1-Dichloroethane	5	IU	
540-59-0	1,2-Dichloroethene (total)	5	IU	
67-66-3	Chloroform	5	IU	
107-06-2	1,2-Dichloroethana	5	IU	
78-93-3	2-Butsnone	10	IU	
71-55-6	1,1,1-Trichloroethane	5	IU	
56-23-5	Carbon Tetrachloride	5	IU	
108-05-4	Vinyl Acetate	10	IU	
75-27-4	Bromodichloromethane	5	IU	
78-87-5	1,2-Dichloropropane	5	IU	
10061-01-5	cis-1,3-Dichloropropene	5	IU	
79-01-6	Trichloroethene	5	IU	
124-48-1	Dibromochloromethane	5	IU	
79-00-5	1,1,2-Trichloroethane	5	IU	
71-43-2	Benzene	5	IU	
10061-02-6	Trans-1,3-Dichloropropene	5	IU	
75-25-2	Bromoform	5	IU	
108-10-1	4-Methyl-2-Pentanone	10	IU	
591-78-6	2-Hexanone	10	IU	
127-18-4	Tetrachloroethene	5	IU	
79-34-5	1,1,2,2-Tetrachloroethane	5	IU	
108-88-3	Toluene	5	IU	
108-90-7	Chlorobenzene	37		
100-41-4	Ethylbenzene	5	IU	
100-42-5	Styrene	5	IU	
1330-20-7	Total Xylenes	5	IU	

EPA SAMPLE NU.

P01W004

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41247

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 09661

Level: (low/med) LOW Date Received: 06/07/89

% Moisture: not dec. Date Analyzed: 06/09/89

Column (pack/cap) CAP Dilution factor: 1.0

Number TICs found: 0

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

COMPOUND NAME	RT	EST. CONC.	Q
1. Acrolein		ND	
2. Acrylonitrile		ND	
3. Bis(chloromethyl) ether		ND	
4. 2-Chluroethyluinyl Ether (1)		ND	
5. Dichlorodifluoromethane		ND	
6. 1,2-Dichloropropylene		ND	
7. Trichlorofluoromethane (1)		ND	
8. Tetramethylbenzene		ND	
9. "alkylated" benzene		ND	
10. Trimethyl Benzene		ND	

(1) - These compoundr are included in the daily calibration standard. Quantitation is based on the standard RF rather thin an RF of 1.

ND - None detected, compound searched for, detection limit not determined.

* - Total, more than one isomer present.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

P01W004D

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41248

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D9662

Level: (low/med) LOW Date Received: 06/07/89

% Moisture: not dec. Date Analyzed: 06/09/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L 4

CAS NO.	COMPOUND		
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	14	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	35	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

EPA SAMPLE NO.

P01W004D

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: E & E Contract: UH2000

Lab Code: EAHDE Case No.: 891_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41248

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D9662

Level: (low/med) LOW Date Received: 06/07/89

% Moisture: not dec. Date Analyzed: 06/09/89

Column (pack/cap) CAP Dilution Factor: 1.0

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

COMPOUND NAME	RT	EST. CONC.	Q
1. Acrolein		ND	
2. Acrylonitrile		ND	
3. Bis(chloromethyl) ether		ND	
4. 2-Chloroethylvinyl Ether (1)		ND	
5. Dichlorodifluoromethane		ND	
6. 1,2-Dichloropropylene		ND	
7. Trichlorofluoromethane (1)		ND	
9. Tetramethylbenzene		ND	
9. "alkylated" benzene		ND	
10. Trimethyl Benzene		ND	

(1) - These compounds are included in the daily calibration standard. Quantitation is based on the standard RF rather than an PF of 1.

ND - None detected, compound searched for, detection limit not determined.

- Total, more than one isomer present.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

P01W004

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41247

Sample wt/vol: 1000 (g/mL) ML Lob File I@: E7103

Level: (low/med) LOW Date Received: 06/07/89

% Moisture: not dec. dec. Oste Extracted: 06/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	a
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	5	J
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	2	J
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	30	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

P01W004

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case NO.: 861_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41237

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E7103

Level: (low/med) LOW Date Received: 06/07/89

% Moisture: not dec. drc. Date Extracted: 06/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

P01W004

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: E & E Contract: UH2000

Lab Code: EANDE No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41247

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E7105

Level: (low/med) LOW Date Received: 06/07/89

% Moisture: not dec. dec. Date Extracted: 06/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs found: 0

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

COMPOUND NAME	RT	EST. CONC.	Q
1. Benzidine		ND	
2. 1,2-Diphenylhydrazine (2)		ND	
3. N-Nitrosodimethylamine		ND	
4. N-Nitrosodiphenylamide		ND	
5. Methyl Dihydro Indene		ND	
6. Hydroxymethyl Pentanone		ND	
7. Methyl naphthalene		ND	
8. Methyl ethyl phenol		ND	
9. Dimethyl ethyl phenol		ND	
10. Tetramethylbutyl phenol		ND	

ND - None detected, compound searched for, detection limit not determined.

(2) - Decomposes to azobenzene during gas chromatography, reported as such.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

P01W004D

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41248

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0708

Level: (low/med) LOW Date Received: 06/07/89

% Moisture: not dec. dec. Date Extracted: 07/10/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/11/89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	7	J
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	3	J
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalens	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Haxachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

P01W004D

Lab Name: E & E Cantract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41248

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0708

Lavel: (low/med) LOW Date Received: 06/07/89

% Moisture: nut dec. dac. Date Extracted: 07/10/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/11/89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	tu
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	3	J
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

P01W0040

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41248

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0708

Level: (low/med) LOW Date Received: 06/07/89

% moisture: not dec. dec. Date Extracted: 07/10/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/11/89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs found: 0

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

COMPOUND NAME	RT	EST. CONC.	Q
1. Benzidine		ND	
2. 1,2-Diphenylhydrazine (2)		ND	
3. N-Nitrosodimethylamine		ND	
4. N-Nitrosodiphenylamide		ND	
5. Methyl Dihydro Indene		ND	
6. Hydroxymethyl Pentanone		ND	
7. Methyl naphthalene		ND	
8. Methyl ethyl phenol		ND	
9. Dimethyl ethyl phenol		ND	
10. Tetramethylbutyl phenol	20.29	2.0013	

ND - None detected, compound searched for, detection limit not determined.

(2) - Decomposes to azobenzene during gar chromatography, reported as such.

METALS SECTION JOB NUMBER : 851.003

Ecology and Environment, Inc.
Analytical Services Center

CLIENT: U.S.NAVY-SOUTHERN DIVISION
SAMPLE ID LAB: METHOD BLANK MATRIX: WATER
SAMPLE ID CLIENT:

PARAMETER		RESULTS	Q	DET. LIMIT	UNITS
Antimony	(ICP)	ND		60	UG/L
Arsenic	(FU)	ND		5.0	UG/L
Barium	(ICP)	ND		10	UG/L
Cadmium	(ICP)	ND		5.0	UG/L
Chromium	(ICP)	ND		10	UG/L
Copper	(ICP)	ND		10	UG/L
Iron	(ICP)	ND		25	UG/L
Lead	(FU)	ND		5.0	UG/L
Manganese	(ICP)	ND		5.0	UG/L
Mercury	(Vap)	ND		0.20	UG/L
Nickel	(ICP)	ND		15	UG/L
Selenium	(FU)	ND		5.0	UG/L
Silver	(ICP)	ND		10	UG/L
Sodium	(ICP)	ND		200	UG/L
Thallium	(FU)	ND		5.0	UG/L
Zinc	(ICP)	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

GENERAL ANALYTICAL SECTION JOB NUMBER : 851.003

Ecology and Environment, Inc.
Analytical Services Center

CLIENT: U.S.NAVY-SOUTHERN DIVISION
SAMPLE ID LAB: METHOD BLANK MATRIX: WATER
SAMPLE ID CLIENT:

PARAMETER	RESULTS	Q	DET. LIMIT	UNITS
Chloride	ND		1.0	MG/L
Sulfate	ND		2.0	MG/L
Cyanide, complex	ND		0.01	MG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKW1

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: VBLKW1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D9656

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/09/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLKW1

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No. :

Matrix: (soil/water) WATER Lab Sample ID: VBLKW1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D9656

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/09/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

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

COMPOUND NAME	RT	EST. CONC.	Q
1. Acrolein		ND	
2. Acrylonitrile		ND	
3. Bis(chloromethyl) ether		ND	
4. 2-Chloroethylvinyl Ether (1)		ND	
5. Dichlorodifluoromethane		ND	
6. 1,2-Dichloropropylene		ND	
7. Trichlorofluoromethane (1)		ND	
8. Tetramethylbenzene		ND	
9. "alkylated" benzene		ND	
10. Trimethyl Benzene		ND	

(1) - These compounds are included in the daily calibration standard. Quantitation is basad on the standard RF rather than an RF of 1.

ND - None detected, compound searched far, detection limit not determined.

* - Total, more than one isomer present.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW1

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS Nt.: SDG No. :

Matrix: (soil/water) WATER Lab Sample ID: SBLK_6-13

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E7109

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 06/13/89

Extraction: (SepF/Cont/Sonc) Date Analyzed: 07/06/99

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CHS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW1

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851-003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: SBLK_6-13

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E7109

Level: (low/med) LOW Date Received:

% Moisture: not dec. dac. Date Extracted: 06/13/89

Extraction: (SepF/Cont/Sonc) Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pn: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	a
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	IJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

SBLKW1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: SBLK_6-13

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E7109

Level: (low/med) LOW Date Received:

% Moisture: not dsc. dec. Date Extracted: 06/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/06/89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs found: 0

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

COMPOUND NAME	RT	EST. CONC.	Q
1. Benzidine		NO	
2. 1,2-Diphenylhydrazine (2)		ND	
3. N-Nitrosodimethylamine		ND	
4. N-Nitrosodiphenylamide		ND	
5. Methyl Dihydro Indene		NO	
6. Hydroxymethyl Pentanone		ND	
7. Methyl naphthalene		ND	
8. Methyl ethyl phenol		ND	
9. Dimethyl ethyl phenol		ND	
10. Tetramethylbutyl phenol		ND	

ND - None detected, compound searched for, detection limit not determined.

(2) - Decomposes to azobenzene during gas chromatography, reported as such.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW2

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 861_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: BLK(7-10)BNA

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0714

Level: (low/med) LOW Date Received:

% Moisture: not dac. dcc. Date Extracted: 07/10/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/12/89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW2

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: ELK(?-111)BNA

Sample ut/vol: 1000 (g/mL) ML Lab File ID: 80714

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 07/10/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/12/89

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

SBLKW21

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: SBLK(7-10)BNA

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B0714

Level: (low/med) LOW Date Received:

% Moisture: not dac. dcc. Date Extracted: 07/10/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 07/12/89

GPC Cleanup: (Y/N) PI pH: Dilution Factor: 1.0

Number TICs found: 0

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

COMPOUND NAME	RT	EST. CONC.	Q
1. Benzidine		ND	
2. 1,2-Diphenylhydrazine (2)		ND	
3. N-Nitrosodimethylamine		NO	
4. N-Nitrosodiphenylamide		ND	
5. Methyl Dihydro Indene		ND	
6. Hydroxymethyl Pentanone		ND	
7. Rethyl naphthalene		ND	
8. Methyl ethyl phenol		ND	
9. Dimethyl ethyl phenol		ND	
110. Tetramethylbutyl phenol		ND	

ND - None detected, compound searched for, detection limit not determined.

(2) - Decomposes to azobenzene during gas chromatography, reported 4s such.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

P01W004MS

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41247MS

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D9663

Level: (low/med) LOW Date Received: 06/07/89

% Moisture: not dec. Date Analyzed: 06/09/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	16	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

P01W004MSD

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 41247MSD

Sample wt/vol: 5.U (g/mL) ML Lab File ID: 09665

Level: (low/med) LOW Date Received: 06/07/89

% Moisture: not dec. Date Analyzed: 06/09/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	16	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	tu
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No. :

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	P01W004	93	88	86		0
02	P01W004D	92	86	95		0
03	P01W004MS	91	89	94		0
04	P01W004MSD	102	101	96		0
05	VBLKW1	94	92	96		0

	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

• Values outside of contract required QC limits

D Surrogates diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	P01W004	108	94	76	61	72	143 *		1
02	P01W004D	130 *	109	116	42	60	142 *		2
03	SBLKW1	81	73	89	44	54	111		0
04	SBLKW2	85	76	91	38	49	119		0

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl	(33-141)
S4 (PHL)	= Phenol-d5	(10-94)
S5 (2FP)	= 2-Fluorophenol	(21-100)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

FORM II SV-1 1/87 REV.

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: E & E Contract : UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: P01W004

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	39.4	79	161-1451
Trichloroethanc	50.0	0	50.1	100	171-1201
Benzene	50.0	0	46.5	93	176-1271
Toluene	50.0	0	46.2	92	176-1251
Chlorobenzene	50.0	37.0	91.0	108	175-1301

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.0	45.8	92	-15 *	14	161-145
Trichloroathana	50.0	63.9	128 *	-25 *	14	171-120
Benzene	50.0	52.9	106	-13 *	11	176-127
Toluene	50.0	54.9	110	-18 *	13	176-1151
Chlorobenzene	50.0	93.9	114	-5	13	175-1301

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: 1 out of 10 outside limits

COMMENTS: 851.003 41247.01
7001D 06/09/89MEI 5

UOLATILE METHOD BLANK SUMMARY

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Lab File ID: D9656 Lab Sample ID: VBLKW1

Date Analyzed: 06/09/89 Time Analyzed: 1343

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: 7001D

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	P01W004	41247	D9661	1742
02	P01W004D	41248	D9662	1827
03	P01W004MS	41247MS	D9663	1917
04	P01W004MSD	41247MSD	D9665	2100

COMMENTS: VBLK .
7001D 06/09/89JB 5ML

FORM IV UOA 1/87 Rev.

SEMIVOLATILE METHOD BLANK SUMMARY

Lob Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Lab File ID: E7109 Lab Sample ID: SBLK_6-13

Date Extracted: 06/13/89 Extraction:(SepF/Cont/Sonc)

Date Analyzed: 07/06/89 Time Analyzed: 1738

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: 7002E

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	P01W004	41247	E7103	07/06/89

COMMENTS:

FORM IV SU 1/87 Rev.

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: E & E Contract: UH2000

Lab Code: EANDE Case No.: 851_003 SAS No.: SDG No.:

Lsb File ID: 80714 Lab Sample ID: BLK(7-10)BNA

Date Extracted: 07/10/89 Extraction:(SepF/Cont/Sonc) SEPF

Date Analyzed: 07/12/89 Time Analyzed: 1050

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: 7002B

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	P01W004D	41243	80708	07/11/89

COMMENTS: 851.003 BLK(7/10)BNA
7002B 07/12/89PBM

FORM IV SV 1/87 Rev.

EPA - CLP DEFINED QUALIFIERS

Note: All qualifiers appear in the "Q" column.

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

PARAMETER	METHOD
Chloride	Method 325.3 - "Methods for the Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983.
Sulfate	Method 375.4 - "Methods for the Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983.
C Cyanide	Method 355.1 and 335.2 - "Methods for the Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983.
Antimony Barium Cadmium Chromium Copper Iron Lead Manganese Nickel Silver Sodium Zinc	Method 6010 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods', SW-846, Third Edition, U.S.EPA 1986.
Arsenic Selenium Thallium	Method 7000 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, U.S. EPA 1986.
Mercury	Method 7470 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA 1986.
Volatile Organics	Method 8240 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA 1986.
Base Neutral/Acid Extractables	Method 8270 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.

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International Specialists in the Environment

Perform analyses according to site-specific QAPP for this project - see Marcia Meredith

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project No.: UH2000
Project Name: NASP RCRA Sampling May 1989
Project Manager: John Birksdale
Samplers: (Signatures) Mary L. Miller, Hal Davis
Field Team Leader:

STATION NUMBER	DATE 1989	TIME	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE TYPE AIR	SAMPLE INFORMATION / EXPECTED COMPOUNDS (Concentration)*		STATION LOCATION	NUMBER OF CONTAINERS	EPA 8240 + TICs	EPA 8270 + TICs	Cyanide	Metals*	Sulfate + Chlorides		REMARKS
01 W004				X		Low Levels	41247	GM-4	6	2	1	1	1	1		
1 W004D				X		" "	41248	GM-4	6	2	1	1	1	1		Duplicate

*Metals: As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Cu, Zn, Fe, Mn, Antimony, Th, Ni, and Na.

Metals preserved w/ HNO_3
Cyanide preserved w/ NaOH

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
Relinquished By: (Signature) Mary L. Miller	Date/Time: 6-7-89 15:00	Received For Laboratory By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received For Laboratory By: (Signature)

Ship Via: Federal Express
BL/Airbill Number: 3616309701
Date: 6-7-89

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files
*See CONCENTRATION RANGE on back of form.

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