302617

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401

301-224-2740
FTS-922-3752

ORIGINAL (Red)

DATE : May 26, 1987

SUBJECT: Analytical Reports for Tidewater Community College

FROM : Rick Dreisch (3ES21)
Acting Chief, Annapolis Laboratory

TO : Nick Dinardo (3HW14)

Enclosed please find all the analytical reports for Tidewater Community College except the report for pesticides and herbicides. This report will be sent to you just as soon as the analyst has finished running the samples. If you should have any questions, please give me a call.

RD:jr

Enclosures
a/s

cc: Bob Caron (3HW22)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401

301-224-2740
FTS-922-3762

ORIGINAL (Red)

DATE : May 22, 1987

SUBJECT: GC/MS Analysis of Superfund-Removal Samples from Tidewater Community College, 870515-01-03 (5/14/87-5/19/87)

FROM : Joseph L. Slayton JS
Chemist

TO : Rick Dreisch
Acting Chief, Annapolis Laboratory

THRU : John Austin JA
Team Leader, Organic Analysis Section

The samples were examined for the presence of organic compounds listed as extractable Priority Pollutant and Hazardous Substance List Compounds, using fused silica capillary column/gas chromatography/mass spectrometry. Concentrations of these compounds were determined using the relative response of authentic standards to the closest internal standard. These values have been reported in the Extractable Organics Analysis Target Compound Data Sheet. Only those for which results are reported were detected. Sample target compound values less than the quantitation limit were labeled with a J. This indicates that the mass spectra obtained for the sample met the identification criteria, yet the quantity present was below the level for which the instrument accurately quantitates. These results (J) should be considered estimated quantities. The NQL (nominal quantitation limit) listed in the Target Compound Data Sheet is the quantitation limit that has been determined for this method. The actual quantitation limit for a sample reflects the NQL as well as any dilution/concentration factor specific for each sample.

The samples were also examined for the presence of compounds in addition to those on the Target Compound list. Authentic standards were not available to verify these results. Tentative identification of these compounds was made on the comparison of sample spectra to the EPA/NIH Mass Spectral Library. Concentrations for these compounds were estimated based on the response of the closest internal standard and the assumption that the instrument response for a given tentative compound was the same as the instrument response for the internal standards. These identifications have been reported as tentative identifications with the associated quantitation values reported as estimated concentrations.

All sample extracts have been corrected for any blank contamination.

JA/JS:eep

cc: Peggy Zawodny PZ
OCO

AR100121

GC/MS Analysis of Superfund-Removal Samples from Tidewater Community College, 870515-01-03

ORIGINAL (Red)

Sample Description:

Lab No.	Description
870515-01	Tidewater Community College, Fredrick Branch, Pump House 5, Sta TCC-DW 001
02	Tidewater Community College, Fredrick Branch, Pump House 5, Sta TCC-DW 002
03	Tidewater Community College, Fredrick Branch, DI Water Blank Sta TCC-DW 000

Region III
Central Regional Laboratory

Extractable Organics Analysis Target Compound Data Sheet

Sample No. 870515-01

ORIGINAL (Red)

Date Sampled: 5-14-87
Date Extracted: 5-15-87
Date Analyzed: 5-18-87

Units: Water = ug/L
~~Soil~~ = ~~mg/kg (wet)~~

Semivolatile Compounds

Actual Quantitation Limit = (1.0) x NQL

NQL	CAS Number		
10	62-75-8	N-Nitrosodimethylamine	
10	108-95-2	Phenol	
10	62-53-34	Aniline HSL	
10	111-44-4	bis(2-Chloroethyl)Ether	
10	95-57-8	2-Chlorophenol	
10	541-73-1	1,3-Dichlorobenzene	
10	106-46-7	1,4-Dichlorobenzene	
10	100-51-6	Benzyl Alcohol HSL	
10	95-50-1	1,2-Dichlorobenzene	
10	95-48-7	2-Methylphenol HSL	
10	39638-32-9	bis(2-chloroisopropyl)Ether	
10	106-44-5	4-Methylphenol HSL	
10	621-64-7	N-Nitroso-di-n-Propylamine	
10	67-72-1	Hexachloroethane	
10	98-95-3	Nitrobenzene	
10	78-59-1	Isophorone	
10	88-75-5	2-Nitrophenol	
10	105-67-9	2,4-Dimethylphenol	
50	65-85-0	Benzoic Acid HSL	
10	111-91-1	bis(2-Chloroethoxy)Methane	
10	120-83-2	2,4-Dichlorophenol	
10	120-82-1	1,2,4-Trichlorobenzene	
10	91-20-3	Naphthalene	
10	106-47-8	4-Chloroaniline HSL	
10	87-68-3	Hexachlorobutadiene	
10	59-50-7	4-Chloro-3-Methylphenol	
10	91-57-6	2-Methylnaphthalene HSL	
10	77-47-4	Hexachlorocyclopentadiene	
10	88-06-2	2,4,6-Trichlorophenol	
50	95-95-4	2,4,5-Trichlorophenol HSL	
10	91-58-7	2-Chloronaphthalene	
50	88-74-4	2-Nitroaniline HSL	
10	131-11-3	Dimethylphthalate	
10	208-96-8	Acenaphthylene	

NQL	CAS Number		
50	99-09-2	3-Nitroaniline HSL	
10	83-32-9	Acenaphthene	
50	51-28-5	2,4-Dinitrophenol	
50	100-02-7	4-Nitrophenol	
10	132-64-9	Dibenzofuran HSL	
10	606-20-2	2,6-Dinitrotoluene	
10	121-14-2	2,4-Dinitrotoluene	
10	84-66-2	Diethylphthalate	
10	7005-72-3	4-Chlorophenylphenylether	
10	86-73-7	Fluorene	
50	100-01-6	4-Nitroaniline HSL	
50	543-52-1	4,6-Dinitro-2-Methylphenol	
10	101-55-3	4-Bromophenyl-phenylether	
10	118-74-1	Hexachlorobenzene	
50	87-86-5	Pentachlorophenol	
10	85-01-8	Phenanthrene	
10	120-12-7	Anthracene	
10	84-74-2	Di-n-Butylphthalate	*
10	206-44-0	Fluoranthene	
50	92-87-5	Benzidine	
10	129-00-0	Pyrene	
10	85-68-7	Butylbenzylphthalate	
20	91-94-1	3,3'-Dichlorobenzidine	
10	56-55-3	Benzo(a)Anthracene	
10	117-81-7	bis(2-Ethylhexy)Phthalate	*
10	218-01-9	Chrysene	
10	117-84-0	Di-n-Octylphthalate	
10	205-99-2	Benzo(b)Fluoranthene	
10	207-08-9	Benzo(k)Fluoranthene	
10	50-32-8	Benzo(a)Pyrene	
10	193-39-5	Indeno(1,2,3-cd)Pyrene	
10	53-70-3	Dibenzo(a,h)Anthracene	
10	191-24-2	Benzo(g,h,i)Perylene	

NQL = Nominal Quantitation Limit
J = Estimated quantity, concentration below the level for accurate quantitation.

*Not detected after correction for laboratory blank.
HSL = CLP Hazardous Substance List Compc

ARI00123

SAMPLE ID. 87051501

WATER: COMBINED ACID & BASE NEUTRAL EXTRACT

ORIGINAL (Red)

RGINAL SAMPLE VOLUME (ML) 1000.0
FINAL EXT. VOLUME (ML) 1.0
EXT. DILUTION FACTOR 1.000
DETECTION LIMIT 1.000 PPB, ASSUMING 1NG/UL D.L. IN EXTRACT
CONC. OF INT. STDS. (NG/UL) 40.

OTHER COMPOUNDS

SCAN NO.	TENTATIVE IDENTIFICATION	STD.	AREA	EST. CONC. PPB

NONE DETECTED

Region III
Central Regional Laboratory

Extractable Organics Analysis Target Compound Data Sheet

ORIGINAL (Red)

Sample No. 870515-02

Date Sampled: 5-14-87
Date Extracted: 5-15-87
Date Analyzed: 5-18-87

Units: Water = ug/L
~~Soil~~ = ~~mg/kg (wet)~~

Semivolatile Compounds

Actual Quantitation Limit = (1.0) x NQL

OL	CAS Number		
0	62-75-8	N-Nitrosodimethylamine	
0	108-95-2	Phenol	
0	62-53-34	Aniline HSL	
0	111-44-4	bis(2-Chloroethyl)Ether	
0	95-57-8	2-Chlorophenol	
0	541-73-1	1,3-Dichlorobenzene	
0	106-46-7	1,4-Dichlorobenzene	
0	100-51-6	Benzyl Alcohol HSL	
0	95-50-1	1,2-Dichlorobenzene	
0	95-48-7	2-Methylphenol HSL	
0	39638-32-9	bis(2-chloroisopropyl)Ether	
0	106-44-5	4-Methylphenol HSL	
0	621-64-7	N-Nitroso-di-n-Propylamine	
0	67-72-1	Hexachloroethane	
0	98-95-3	Nitrobenzene	
0	78-59-1	Isophorone	
0	88-75-5	2-Nitrophenol	
0	105-67-9	2,4-Dimethylphenol	
0	65-85-0	Benzoic Acid HSL	
0	111-91-1	bis(2-Chloroethoxy)Methane	
0	120-83-2	2,4-Dichlorophenol	
0	120-82-1	1,2,4-Trichlorobenzene	
0	91-20-3	Naphthalene	
0	106-47-8	4-Chloroaniline HSL	
0	87-68-3	Hexachlorobutadiene	
0	59-50-7	4-Chloro-3-Methylphenol	
0	91-57-6	2-Methylnaphthalene HSL	
0	77-47-4	Hexachlorocyclopentadiene	
0	88-06-2	2,4,6-Trichlorophenol	
0	95-95-4	2,4,5-Trichlorophenol HSL	
0	91-58-7	2-Chloronaphthalene	
0	88-74-4	2-Nitroaniline HSL	
0	131-11-3	Dimethylphthalate	
0	208-96-8	Acenaphthylene	

NOL	CAS Number		
50	99-09-2	3-Nitroaniline HSL	
10	83-32-9	Acenaphthene	
50	51-28-5	2,4-Dinitrophenol	
50	100-02-7	4-Nitrophenol	
10	132-64-9	Dibenzofuran HSL	
10	606-20-2	2,6-Dinitrotoluene	
10	121-14-2	2,4-Dinitrotoluene	
10	84-66-2	Diethylphthalate	
10	7005-72-3	4-Chlorophenylphenylether	
10	86-73-7	Fluorene	
50	100-01-6	4-Nitroaniline HSL	
50	543-52-1	4,6-Dinitro-2-Methylphenol	
10	101-55-3	4-Bromophenyl-phenylether	
10	118-74-1	Hexachlorobenzene	
50	87-86-5	Pentachlorophenol	
10	85-01-8	Phenanthrene	
10	120-12-7	Anthracene	
10	84-74-2	Di-n-Butylphthalate	*
10	206-44-0	Fluoranthene	
50	92-87-5	Benzidine	
10	129-00-0	Pyrene	
10	85-68-7	Butylbenzylphthalate	
20	91-94-1	3,3'-Dichlorobenzidine	
10	56-55-3	Benzo(a)Anthracene	
10	117-81-7	bis(2-Ethylhexy)Phthalate	*
10	218-01-9	Chrysene	
10	117-84-0	Di-n-Octylphthalate	
10	205-99-2	Benzo(b)Fluoranthene	
10	207-08-9	Benzo(k)Fluoranthene	
10	50-32-8	Benzo(a)Pyrene	
10	193-39-5	Indeno(1,2,3-cd)Pyrene	
10	53-70-3	Dibenzo(a,h)Anthracene	
10	191-24-2	Benzo(g,h,i)Perylene	

NQL = Nominal Quantitation Limit
J = Estimated quantity, concentration below the level for accurate quantitation.

*Not detected after correction for laboratory blank.
HSL = CLP Hazardous Substance List Compo

AR100125

SAMPLE ID. 87051502

WATER: COMBINED ACID & BASE NEUTRAL EXTRACT

ORIGINAL (Red)

ORGINAL SAMPLE VOLUME (ML) 1000.0
FINAL EXT. VOLUME (ML) 1.0
EXT. DILUTION FACTOR 1.000
DETECTION LIMIT 1.000 PPB, ASSUMING 1NG/UL D.L. IN EXTRACT
CONC. OF INT. STDS. (NG/UL) 40.

OTHER COMPOUNDS

SCAN NO.	TENTATIVE IDENTIFICATION	STD.	AREA	EST. CONC. PPB

NONE DETECTED

AR100126

Region III
Central Regional Laboratory

ORIGINAL (Re

Extractable Organics Analysis Target Compound Data Sheet

Sample No. 870515-03

Date Sampled: 5-14-87
Date Extracted: 5-15-87
Date Analyzed: 5-18-87

Units: Water = ug/L
~~Soil~~ = ~~mg/kg (wet)~~

Semivolatile Compounds

Actual Quantitation Limit = (1.0) x NQL

NQL	CAS Number		
0	62-75-8	N-Nitrosodimethylamine	
0	108-95-2	Phenol	
0	62-53-34	Aniline HSL	
0	111-44-4	bis(2-Chloroethyl)Ether	
.0	95-57-8	2-Chlorophenol	
.0	541-73-1	1,3-Dichlorobenzene	
.0	106-46-7	1,4-Dichlorobenzene	
.0	100-51-6	Benzyl Alcohol HSL	
.0	95-50-1	1,2-Dichlorobenzene	
.0	95-48-7	2-Methylphenol HSL	
.0	39638-32-9	bis(2-chloroisopropyl)Ether	
.0	106-44-5	4-Methylphenol HSL	
.0	621-64-7	N-Nitroso-di-n-Propylamine	
.0	67-72-1	Hexachloroethane	
.0	98-95-3	Nitrobenzene	
.0	78-59-1	Isophorone	
.0	88-75-5	2-Nitrophenol	
.0	105-67-9	2,4-Dimethylphenol	
50	65-85-0	Benzoic Acid HSL	
.0	111-91-1	bis(2-Chloroethoxy)Methane	
.0	120-83-2	2,4-Dichlorophenol	
.0	120-82-1	1,2,4-Trichlorobenzene	
.0	91-20-3	Naphthalene	
.0	106-47-8	4-Chloroaniline HSL	
.0	87-68-3	Hexachlorobutadiene	
10	59-50-7	4-Chloro-3-Methylphenol	
10	91-57-6	2-Methylnaphthalene HSL	
10	77-47-4	Hexachlorocyclopentadiene	
10	88-06-2	2,4,6-Trichlorophenol	
50	95-95-4	2,4,5-Trichlorophenol HSL	
10	91-58-7	2-Chloronaphthalene	
50	88-74-4	2-Nitroaniline HSL	
10	131-11-3	Dimethylphthalate	
10	208-96-8	Acenaphthylene	

NQL	CAS Number		
50	99-09-2	3-Nitroaniline HSL	
10	83-32-9	Acenaphthene	
50	51-28-5	2,4-Dinitrophenol	
50	100-02-7	4-Nitrophenol	
10	132-64-9	Dibenzofuran HSL	
10	606-20-2	2,6-Dinitrotoluene	
10	121-14-2	2,4-Dinitrotoluene	
10	84-66-2	Diethylphthalate	
10	7005-72-3	4-Chlorophenylphenylether	
10	86-73-7	Fluorene	
50	100-01-6	4-Nitroaniline HSL	
50	543-52-1	4,6-Dinitro-2-Methylphenol	
10	101-55-3	4-Bromophenyl-phenylether	
10	118-74-1	Hexachlorobenzene	
50	87-86-5	Pentachlorophenol	
10	85-01-8	Phenanthrene	
10	120-12-7	Anthracene	
10	84-74-2	Di-n-Butylphthalate	
10	206-44-0	Fluoranthene	
50	92-87-5	Benzidine	
10	129-00-0	Pyrene	
10	85-68-7	Butylbenzylphthalate	
20	91-94-1	3,3'-Dichlorobenzidine	
10	56-55-3	Benzo(a)Anthracene	
10	117-81-7	bis(2-Ethylhexy)Phthalate	30
10	218-01-9	Chrysene	
10	117-84-0	Di-n-Octylphthalate	
10	205-99-2	Benzo(b)Fluoranthene	
10	207-08-9	Benzo(k)Fluoranthene	
10	50-32-8	Benzo(a)Pyrene	
10	193-39-5	Indeno(1,2,3-cd)Pyrene	
10	53-70-3	Dibenzo(a,h)Anthracene	
10	191-24-2	Benzo(g,h,i)Perylene	

NQL = Nominal Quantitation Limit
J = Estimated quantity, concentration below the level for accurate quantitation.

*Not detected after correction for laboratory blank.
HSL = CLP Hazardous Substance List Compo

AR100127

SAMPLE ID. 87051503

WATER: COMBINED ACID & BASE NEUTRAL EXTRACT

ORIGINAL (Red)

(GINAL SAMPLE VOLUME (ML) 1000.0
FINAL EXT. VOLUME (ML) 1.0
EXT. DILUTION FACTOR 1.000
DETECTION LIMIT 1.000 PPB, ASSUMING 1NG/UL D.L. IN EXTRACT
CONC. OF INT. STDS. (NG/UL) 40.

OTHER COMPOUNDS

SCAN NO.	TENTATIVE IDENTIFICATION	STD.	AREA	EST. CONC. PPB

NONE DETECTED

ORIGINAL (Red)

SURROGATE AQC (WATER)

% RECOVERY

SAMPLE	2-FLUORO-PHENOL	D5-PHENOL	D5-NITRO-BENZENE	2-FLUORO-1,1'-BI-PHENYL	2,4,6-TRI-BROMO-PHENOL	D14-TER-PHENYL
CLP TARGET LIMITS	(21-100)	(10-94)	(35-114)	(43-116)	(10-123)	(33-141)
87051501	53.1	34.6	73.2	72.9	69.3	89.0
87051502	46.6	28.2	69.6	62.9	65.1	81.6
87051503	56.9	35.9	81.3	74.7	78.3	97.5

GC/MS Analysis of Superfund-Removal Samples from Tidewater Community College, 870515-01-03

ORIGINAL (Red)

Matrix Spike Recovery

	% Recovery	
	Sample No. 870515-01	CLP Target Limits Water
Phenol	37.5	12-89
2-Chlorophenol	87.1	27-123
1,4-Dichlorobenzene	67.9	36-97
N-nitroso-n-propyl-1-propanamine	99.5	41-116
1,2,4-Trichlorobenzene	61.3	39-98
4-Chloro-3-methylphenol	86.6	23-97
Acenaphthene (1,2-Dihydroacenaphthylene)	61.5	46-118
4-Nitrophenol	24.1	10-80
2,4-Dinitrotoluene	98.5	24-96
Pentachlorophenol	45.2	9-103
Dibutylphthalate	108	11-117
Pyrene	94.9	26-127

AR100130

ORIGIN (Red)

Quality Control

1. Before acquisition of any samples the mass spectrometer was calibrated using FC43.

2. The calibration was verified by obtaining the spectra of a known compound (DFTPP). All mass assignments and relative abundances were found to be in acceptable ranges or the instrument was adjusted until suitable spectra of the known was obtained.

3. Immediately before analysis each sample was spiked with an internal standard mixture, including D10-phenanthrene. All quantitation or estimates of concentration were made in comparison to the internal standard.

4. Mixed standards of extractable Priority Pollutant and Hazardous Compound List Substances were analyzed before each group of samples. The relative response of each compound versus the internal standard was determined for use in quantitation.

5. For each group of samples extracted a method blank was prepared and examined for laboratory introduced contamination.

6. The samples were spiked with a mixture of surrogate compounds prior to extraction and analysis. Recovery for each was determined to check for matrix effect.

7. An aliquot of sample 870515-01 was spiked with a mixture of target compounds at 50 ng/uL (in the extract) and carried through the extraction and GC/MS analysis. The recovery for each compound was determined to check for matrix effect.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401

301-224-2740
FTS-922-3752

ORIGINAL (Red)

DATE : May 22, 1987

SUBJECT: Metals Determinations of Tidewater Community College Samples
Superfund-Removal, (5/15/87 - 5/19/87), 870515-01 - 03

FROM : Stephen E. Buchanan SEB
Environmental Scientist

Patricia F. Sosinski PFS
Chemist

TO : Rick Dreisch
Acting Chief, Annapolis Laboratory

Samples 870515-01 - 03 were analyzed by furnace atomic absorption spectroscopy and inductively coupled plasma optical emission spectrometry. The results are presented in the attached table.

Additional quality control data are available upon request.

Sample Description:

Lab No.	Description
870515-01	Tidewater Community College - Fredrick Branch, Pump House 5, Sta. TCC-DW 001
-02	Tidewater Community College - Fredrick Branch, Pump House 5, Sta. TCC-DW-002
-03	Tidewater Community College - Fredrick Branch, DI Water Blank Sta. TCC-DW-000

SEB/PFS:ad

cc: Peggy Zawodny
QCO

AR100132

ORIGINAL (Red)

U.S. Environmental Protection Agency, Region III, Central Regional Lab

Project Name: Tidewater Community College - Superfund-Removal

Sample Number:	870515-01 ug/L	870515-02 ug/L	870515-03 ug/L
Parameter			
Antimony	<10*(107%)	<10(114%)	<10
Arsenic	<5*(95%)	<5(92%)	<5
Beryllium	<5*	<5(96%)	<5
Cadmium	<5*	<5(98%)	<5
Chromium	<10*	<10(96%)	<10
Copper	<25*	<25(107%)	<25
Lead	<5*(97%)	<5(93%)	<5
Nickel	<40*	<40(88%)	<40
Selenium	<5*(103%)	<5(108%)	<5
Silver	<10*	<10(97%)	<10
Thallium	<5*(MSA)	<5(MSA)	<5
Zinc	<20*	<20(104%)	<20

MSA = Method of Standard Additions
*Analyzed in duplicate, both values below specified detection limit.
Numbers in parentheses are spike recoveries.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401

301-224-2740
FTS-922-3752

ORIGINAL (Red)

DATE : May 22, 1987

SUBJECT: Mercury Analysis of Tidewater Community College
Superfund-Removal TFA03N8X8, (5/15/87-5/17/87), 870515-01-03

FROM : Ronald H. Altman RA
Chemist

TO : Rick Dreisch
Acting Chief, Annapolis Laboratory

THRU : Patricia Sosinski PS
Team Leader, Metals Analysis Section

Samples 870515-01-03 were analyzed for mercury by cold vapor atomic absorption spectroscopy. The results are presented in the table below:

Additional quality control data are available upon request.

Sample Description:

Sample No.	Description
870515-01	Tidewater Community College, Fredrick Branch, Pump House 5, Sta TCC-DW 001
-02	Tidewater Community College, Fredrick Branch, Pump House 5, Sta TCC-DW 002
-03	Tidewater Community College, Fredrick Branch, DI Water Blank Sta TCC-DW-000

Sample Results:

Sample No.	Mercury ug/L
870515-01	0.2+0(88%)
-02	0.3
-03	< 0.2

RA:eep

cc:Peggy Zawodny PZ
QCO

AR100134

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401

301-224-2740
FTS-922-3782

ORIGINAL (Red)

DATE : May 20, 1987

SUBJECT: Cyanide Determination of Tidewater Community College Superfund Removal, (5/18/87-5/18/87), 870515-01-02

FROM : Norman Fritsche NF
Environmental Scientist

TO : Rick Dreisch
Acting Chief, Annapolis Laboratory

Received two samples for cyanide determination from Tidewater Community College, 870515-01-02.

Sample Description

Lab. No.	Description
870515-01	Tidewater Community College-Fredrick Branch, Pump House 5, Sta TCC-DW 001
-02	Tidewater Community College-Fredrick Branch, Pump House 5, Sta TCC-DW 002

Results

Lab. No.	mg/L CN^-
870515-01	<.020
-02	<.020* (106%)

* Sample analyzed in duplicate, both values below detection limits

NF:eep

cc: Peggy Zawodny PZ
QCO

AR100135

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401

301-224-2740
FTS-922-3752

ORIGINAL (Red)

DATE : May 27, 1987

SUBJECT: VOA Analysis by GC/MS: Tidewater Community College Superfund-Removal (5/21/87-5/26/87), 870515-01-03

FROM : John Austin
Chemist

TO : Rick Dreisch
Acting Chief, Annapolis Laboratory

The above samples were analyzed for the presence of volatile organic chemicals by the purge and trap technique using the mass spectrometer as the detector.

The samples were specifically examined for the presence of the compounds targeted as volatile "Priority Pollutants" and "Hazardous Substance List Compounds". Concentration of these compounds was determined using the relative response of authentic standards to the closest internal standard. The results of these analyses are reported on the Volatile Organics Analysis Data Sheet.

Target compound values less than the quantitation limit are flagged with a "J". This indicates that the mass spectra obtained met the identification criteria, but the amount measured was below the level for which the instrument accurately quantitates. Results flagged with a "J" should be considered estimated quantities.

The samples were also examined for the presence of compounds in addition to those on the Target Compound List. Authentic standards were not available to verify these results. The tentative identifications were made by the comparison of sample spectra to the EPA/NIH Mass Spectral Library. Concentration of these compounds was estimated based on the average response of the internal standards. These results are contained in the "Nontarget Compound Report".

All data reports have been corrected to remove blank contaminants, detected at similar levels in the samples.

Sample Description:

Lab No.	Description
870515-01	Tidewater Community College-Fredrick Branch, Pump House 5, STA TCC-DW 001
-02	Tidewater Community College-Fredrick Branch, Pump House 5, STA TCC-DW 002
-03	Tidewater Community College-Fredrick Branch, DI Water Blank, STA TCC-DW 000

AR100136

ORIGINAL (Red)

The Field Blank accompanying these samples was found to be contaminated with acetone and 2-butanone, at levels unrelated to the samples. The field samplers should replace and test their source of organic free water.

JA:eep

cc: Peggy Zawodny
QCO

E.P.A. Region III Central Regional Laboratory

ORIGINAL (Red)

Volatile Organics Analysis Data Sheet

Tidewater Community College
Case : Superfund

Units: µg/L
Not Preserved

NQL	CAS #		Date Sampled: 5-14-87 / Date Analyzed: 5-21-87	5-14-87 / 5-21-87	5-14-87 / 5-21-87	5-21-87 / 5-21-87		
			B7051501	B7051502	B7051503	NB052101		
5	74-87-3	Chloromethane						
5	75-01-4	Vinyl Chloride						
5	74-83-9	Bromomethane						
5	75-00-3	Chloroethane						
5	67-64-1	Acetone			45	1.7 J		
1	75-35-4	1,1-Dichloroethylene						
1	75-09-2	Methylene Chloride			.24 J	0.71 J		
5	75-15-0	Carbon Disulfide						
1	156-60-5	trans-1,2-Dichloroethene						
1	75-34-3	1,1-Dichloroethane						
1	108-05-4	Vinyl Acetate						
1	78-93-3	2-Butanone			85			
1	65-66-3	Chloroform			1.2			
1	71-55-6	1,1,1-Trichloroethane						
1	107-06-2	1,2-Dichloroethane						
1	71-43-2	Benzene						
1	56-23-5	Carbon Tetrachloride						
	78-87-5	1,2-Dichloropropane						
	79-01-6	Trichloroethylene						
	75-27-4	Bromodichloromethane						
5	100-75-8	2-Chloroethylvinylether						
1	10061-01-5	cis-1,3-Dichloropropene						
1	108-10-1	4-Methyl-2-Pentanone						
1	10061-02-6	trans-1,3-Dichloropropene						
1	108-88-3	Toluene						
1	79-00-5	1,1,2-Trichloroethane						
1	591-78-6	2-Hexanone						
1	124-48-1	Dibromochloromethane						
1	127-18-4	Tetrachloroethylene						
1	108-90-7	Chlorobenzene						
1	100-41-4	Ethylbenzene						
1		(m & p)-Xylene isomers(1)						
5	75-25-2	Bromoform						
1	100-42-4	Styrene						
1	95-47-6	o-Xylene						
5	79-34-5	1,1,2,2-Tetrachloroethane						
1	541-73-1	1,3-Dichlorobenzene						
1	106-46-7	1,4-Dichlorobenzene						
1	95-50-1	1,2-Dichlorobenzene						

NQL = Nominal Quantitation Limit
Estimated value; presence of compounds is indicated, but the response is less than the quantitation limit
Actual Quantitation Limit = Dilution Factor x NQL
(1) = Calculated from o-Xylene

AR100138

ORIGINAL (Red)

NONTARGET COMPOUND REPORT 87051501

Internal Standard Areas	
Bromochloromethane (1)	85322
2-Bromo-1-chloropropane (2)	90165
1,4-Dichlorobutane (3)	37682
average 2 & 3	63923.5

Scan	Tentative Identification	Area	Estimated ug/L
983	Ethanol	7539	0.5
1050	2-Propanol	36142	2.3

AR100139

ORIGINAL (Red)

NONTARGET COMPOUND REPORT 87051502

Internal Standard Areas	
Bromochloromethane (1)	79739
2-Bromo-1-chloropropane (2)	82778
1,4-Dichlorobutane (3)	23509
average 2 & 3	53143.5

Scan	Tentative Identification	Area	Estimated ug/L
914	Unknown 43	13272	1

AR100140

ORIGINAL (Red)

NONTARGET COMPOUND REPORT 87051503

Internal Standard Areas	
Bromochloromethane (1)	110333
2-Bromo-1-chloropropane (2)	96111
1,4-Dichlorobutane (3)	42288
average 2 & 3	69199.5

Scan	Tentative Identification	Area	Estimated ug/L
913	Methylsilane	32642	1.9
918	4,4-Dimethyl-2-oxetanone	48136	2.8
1035	Trichlorofluoromethane	33188	1.9
1055	4-Pentyn-2-ol	12290	0.7
1496	4-Methyl-2-butanone	3597	0.2
1517	Cyclohexane	19570	1.1
1985	Unknown 207	3655	0.2

AR180141

ORIGINAL (Red)

NONTARGET COMPOUND REPORT MB052106

Internal Standard Areas	
Bromochloromethane (1)	112145
2-Bromo-1-chloropropane (2)	106835
1,4-Dichlorobutane (3)	58188
average 2 & 3	82511.5

Scan	Tentative Identification	Area	Estimated ug/L
902	1,2-Dichloro-1,1,2,2-tetrafluorethane	22585	1.1
919	Unknown 44	9188	0.4
1050	Unknown 43	14411	0.7
1407	Tetrahydrofuran	17397	0.8
1987	Hexamethylcyclotrisiloxane	3584	0.2

AR100142

ORIGINAL (Red)

Internal Standard Recovery vs. 2-Bromo-1-chloropropane

		(A) %R	(B) %R	(C) %R
MB052106		100	100	100
87051503		105.4	83.2	95.2
87051501		94.2	75.1	87.2
87051502		101.1	77.9	87.4
	mean	100.2	84.1	92.5
	std.	4.6	11.2	6.3
	n	4	4	4

A = BROMOCHLOROMETHANE
B = 1,4-DICHLOROBUTANE
C = 1,4-BROMOFLUOROBENZENE

AR100143