BETZ
Analytical Services

[redacted]
Exemption 6 - 2 words

US EPA RECORDS CENTER REGION 5
410888

Analytical Services
P.O. Box 4300
9669 Grogans Mill Road
The Woodlands, TX 77380
713 367 6201
713 367 3189 Fax

Ohio EPA
2110 E. Aurora Road
Twinsburg, OH 44087

March 22, 1993

Attention: [redacted] Exemption 6 - 1 line

Dear Ms. Stanley & Ms. Jones,

Attached are the analytical results for your sample identified as D0226503 through D0226504, which were sampled on February 25, 1993, as part of Project #KNE930225-1R.

We at Betz appreciate the opportunity to serve you with quality analytical testing. If you have any questions about the results, please do not hesitate to contact me.

I. Z. Williams

Idelis Z. Williams
Project Manager
Betz Laboratories
(713) 367-6201
FAX (713) 367-3189

IZW:jlh

RECEIVED
MAR 24 1993
OHIO EPA NEDO

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CASE NARRATIVE

SECTION I

Laboratory: Betz Analytical Services EPA Ohio Project No.: KNE930225-1

Lab No.: D0226503-D0226504 Contract No.: 880089-D

I. RECEIPT

A. Date: 2/26/93
B. No. of Samples: 2
C. Sample Type: water
D. Analysis Requested: VOC 524.4, SV 525 + 10 TIC's, metals, TDS, SO4, Cl, Ammonia, NO3, M&P Alkalinity
E. Shipping Problems: None
F. Documentation Problems:
G. QC Distribution:

LEVEL	MATRIX	VOA	SV	PEST	METALS
Low	Water				
	Soil				
Medium	Water				
	Soil				

II. PREPARATION

A. Analytical Levels: Low level waters

B. Extraction Problems: None

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Lab No. D0226503-504

III. ANALYSIS

A. Analysis Problems: None

B. Surrogate Recoveries: All surrogate recoveries within acceptable Q.C. limits for volatiles and semivolatiles.

IV. COMMENTS: EPA Method 625 was used instead of Method 525. Lower detection limits were achieved using an aliquot of 2,000 ml of the sample.

I. Z. Williams

Idelis Z. Williams, Project Manager

03-22-1993

Date

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Ohio EPA
2110 E. Aurora Road
Twinsburg, OH 44087

Date Submitted: 2/26/93
Date Reported: 3/22/93
Project #KNE930225-1R

Attention: [redacted] Exemption 6-11line

Sample Description: [redacted] Exemption 6-11line
Date Sampled: 2/25/93

Laboratory ID: D0226503

TEST	VALUE	UNITS	METHOD
M-Alkalinity, as CaCO3	249	mg/L	SM 403 16th
Chloride, as Cl	< 5.00	mg/L	EPA 325.2
Sulfate, as SO4	16.0	mg/L	EPA 375.4
Arsenic, total	< 0.005	mg/L	EPA 206.2
Barium, total	0.126	mg/L	EPA 200.7
Cadmium, total	< 0.005	mg/L	EPA 200.7
Calcium, total	23.8	mg/L	EPA 200.7
Magnesium, total	7.18	mg/L	EPA 200.7
Chromium, total	< 0.010	mg/L	EPA 200.7
Lead, total	0.007	mg/L	EPA 239.2
Mercury, total	< 0.200	ug/L	EPA 245.1
Potassium, total	5.36	mg/L	EPA 200.7
Selenium, total	< 0.005	mg/L	EPA 270.2
Silver, total	< 0.010	mg/L	EPA 200.7
Sodium, total	76.6	mg/L	EPA 200.7
Ammonia, as N	1.40	mg/L	EPA 350.2
Total Dissolved Solids	304	mg/L	EPA 160.1
Nitrate, as N	< 0.020	mg/L	EPA 353.3

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Sample Description: Exemption 6-line [redacted]
Date Sampled: 2/25/93
Analyst: CD

Laboratory ID: D0226503
Date Analyzed: 2/26/93 16:13

VOLATILE ORGANICS (EPA 524.2)
Drinking Water

Compound	ug/L
Benzene	ND
Bromobenzene	ND
Bromochloromethane	ND
Bromoform	ND
Bromomethane	ND
Bromodichloromethane	ND
n-Butylbenzene	ND
sec-Butylbenzene	ND
tert-Butylbenzene	ND
Carbon tetrachloride	ND
Chlorobenzene	ND
Chloroethane	ND
Chloroform	ND
Chloromethane	ND
2-Chlorotoluene	ND
4-Chlorotoluene	ND
Dibromochloromethane	ND
1,2-Dibromo-3-chloropropane	ND [3]
1,2-Dibromoethane	ND
Dibromomethane	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Dichlorodifluoromethane	ND
1,1-Dichloroethane	ND
1,2-Dichloroethane	ND
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
trans-1,2-Dichloroethene	ND
1,2-Dichloropropane	ND
1,3-Dichloropropane	ND
2,2-Dichloropropane	ND
1,1-Dichloropropene	ND

VOLATILE ORGANICS (EPA 524.2)
Drinking Water
(cont'd) Laboratory ID: D0226503

Compound	ug/L
cis-1,3-Dichloropropene	ND
trans-1,3-Dichloropropene	ND
Ethylbenzene	ND
Hexachlorobutadiene	ND
Isopropylbenzene	ND
4-Isopropyltoluene	ND
Methylene chloride	0.4JB
Naphthalene	ND
n-Propylbenzene	ND
Styrene	ND
1,1,1,2-Tetrachloroethane	ND
1,1,2,2-Tetrachloroethane	ND
Tetrachloroethene	ND
Toluene	ND
1,2,3-Trichlorobenzene	ND [2]
1,2,4-Trichlorobenzene	ND
1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND
Trichloroethene	ND
Trichlorofluoromethane	ND
1,2,3-Trichloropropane	ND
1,2,4-Trimethylbenzene	ND
1,3,5-Trimethylbenzene	ND
Vinyl chloride	ND
o-Xylenes	ND
m,p-Xylenes	ND

Limit of Practical Quantitation is 1 ug/L, unless otherwise noted in brackets.
J = Less than limit of quantitation but greater than zero.
B = Analyte present in the method blank.

Surrogate Recovery:		Recovery Limits
1,2-Dichloroethane-d4	103 %	76-114 %
4-Bromofluorobenzene	102 %	86-115 %

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Exemption 6-1line

Sample Description: [redacted]
Date Sampled: 2/25/93
Date Extracted: 3/1/93
Dilution: 2000mls/1ml

Laboratory ID: D0226503
Date Analyzed: 3/1/93
Analyst: KC

ACID EXTRACTABLE ORGANICS (EPA 625)

Compound	ug/L
4-Chloro-3-methylphenol	ND
2-Chlorophenol	ND
2,4-Dichlorophenol	ND
2,4-Dimethylphenol	ND
2,4-Dinitrophenol	ND *
2-Methyl-4,6-dinitrophenol	ND *
2-Nitrophenol	ND
4-Nitrophenol	ND *
Pentachlorophenol	ND *
Phenol	ND
2,4,6-Trichlorophenol	ND

Limit of Practical Quantitation is 5 ug/L, unless otherwise noted in brackets.
* = 5 times limit of detection

Surrogate Recovery:		Recovery Limits:
2-Fluorophenol	26 %	10- 94 %
Phenol-d5	28 %	21-100 %
2,4,6-Tribromophenol	23 %	10-123 %

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Exemption6- line

Sample Description: [redacted]
Date Sampled: 2/25/93
Date Extracted: 3/1/93
Dilution: 2000mls/1ml

Laboratory ID: D0226503
Date Analyzed: 3/1/93
Analyst: KC

BASE NEUTRAL EXTRACTABLE ORGANICS (EPA 625)

Compound	ug/L
Acenaphthene	ND
Acenaphthylene	ND
Anthracene	ND
Benzo(a)anthracene	ND
Benzo(b)fluoranthene	ND
Benzo(k)fluoranthene	ND
Benzo(a)pyrene	ND
Benzo(ghi)perylene	ND
Benzyl butyl phthalate	ND
Bis(2-chloroethyl)ether	ND
Bis(2-chloroethoxy)methane	ND
Bis(2-ethylhexyl)phthalate	ND
Bis(2-chloroisopropyl)ether	ND
4-Bromophenyl phenyl ether	ND
2-Chloronaphthalene	ND
4-Chlorophenyl phenyl ether	ND
Chrysene	ND
Dibenzo(a,h)anthracene	ND
Di-n-butyl phthalate	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
3,3'-Dichlorobenzidine	ND *

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BASE/NEUTRAL EXTRACTABLE ORGANICS (EPA 625)
Laboratory ID: D0226503 (Continued)

Compound	ug/L
Diethyl phthalate	ND
Dimethyl phthalate	ND
2,4-Dinitrotoluene	ND
2,6-Dinitrotoluene	ND
Di-n-octyl phthalate	ND
Fluoranthene	ND
Fluorene	ND
Hexachlorobenzene	ND
Hexachlorobutadiene	ND
Hexachloroethane	ND
Indeno(1,2,3-cd)pyrene	ND
Isophorone	ND
Naphthalene	ND
Nitrobenzene	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

Limit of Practical Quantitation is 5 ug/L, unless otherwise noted in brackets.
* = 2 times limit of detection

				Recovery Limits
Surrogate Recovery:	Nitrobenzene-d5	82	%	35 - 114 %
	2-Fluorobiphenyl	74	%	43 - 116 %
	Terphenyl-d14	97	%	33 - 141 %

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Exemption 6-Line

Sample Description: [redacted]
Date Sampled: 2/25/93
Date Extracted: 3/1/93
Dilution: 2000mls/1ml

Laboratory ID: D0226503
Date Analyzed: 3/1/93
Analyst: KC

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Compound Name	Retention Time (min.)	Est. Concentration ug/L
Unknown	11.98	7

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Sample Description: Trip Blank
Date Sampled: N/A
Analyst: CD

Laboratory ID: D0226504
Date Analyzed: 2/26/93 16:46

VOLATILE ORGANICS (EPA 524.2)
Drinking Water

Compound	ug/L
Benzene	ND
Bromobenzene	ND
Bromochloromethane	ND
Bromoform	ND
Bromomethane	ND
Bromodichloromethane	ND
n-Butylbenzene	ND
sec-Butylbenzene	ND
tert-Butylbenzene	ND
Carbon tetrachloride	ND
Chlorobenzene	ND
Chloroethane	ND
Chloroform	ND
Chloromethane	ND
2-Chlorotoluene	ND
4-Chlorotoluene	ND
Dibromochloromethane	ND
1,2-Dibromo-3-chloropropane	ND [3]
1,2-Dibromoethane	ND
Dibromomethane	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Dichlorodifluoromethane	ND
1,1-Dichloroethane	ND
1,2-Dichloroethane	ND
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
trans-1,2-Dichloroethene	ND
1,2-Dichloropropane	ND
1,3-Dichloropropane	ND
2,2-Dichloropropane	ND
1,1-Dichloropropene	ND

BETZ Analytical Services

VOLATILE ORGANICS (EPA 524.2)
Drinking Water
(cont'd) Laboratory ID: D0226504

Compound	ug/L
cis-1,3-Dichloropropene	ND
trans-1,3-Dichloropropene	ND
Ethylbenzene	ND
Hexachlorobutadiene	ND
Isopropylbenzene	ND
4-Isopropyltoluene	ND
Methylene chloride	0.6JB
Naphthalene	ND
n-Propylbenzene	ND
Styrene	ND
1,1,1,2-Tetrachloroethane	ND
1,1,2,2-Tetrachloroethane	ND
Tetrachloroethene	ND
Toluene	ND
1,2,3-Trichlorobenzene	ND [2]
1,2,4-Trichlorobenzene	ND
1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND
Trichloroethene	ND
Trichlorofluoromethane	ND
1,2,3-Trichloropropane	ND
1,2,4-Trimethylbenzene	ND
1,3,5-Trimethylbenzene	ND
Vinyl chloride	ND
o-Xylenes	ND
m,p-Xylenes	ND

Limit of Practical Quantitation is 1 ug/L, unless otherwise noted in brackets.
J = Less than limit of quantitation but greater than zero.
B = Analyte present in method blank.

Surrogate Recovery:		Recovery Limits
1,2-Dichloroethane-d4	100 %	76-114 %
4-Bromofluorobenzene	98 %	86-115 %

BETZ Analytical Services

Sample Description: Method Blank
Analyst: CD

Date Analyzed: 2/26/93 16:46

VOLATILE ORGANICS (EPA 524.2)
Drinking Water

Compound	ug/L
Benzene	ND
Bromobenzene	ND
Bromochloromethane	ND
Bromoform	ND
Bromomethane	ND
Bromodichloromethane	ND
n-Butylbenzene	ND
sec-Butylbenzene	ND
tert-Butylbenzene	ND
Carbon tetrachloride	ND
Chlorobenzene	ND
Chloroethane	ND
Chloroform	ND
Chloromethane	ND
2-Chlorotoluene	ND
4-Chlorotoluene	ND
Dibromochloromethane	ND
1,2-Dibromo-3-chloropropane	ND [3]
1,2-Dibromoethane	ND
Dibromomethane	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Dichlorodifluoromethane	ND
1,1-Dichloroethane	ND
1,2-Dichloroethane	ND
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
trans-1,2-Dichloroethene	ND
1,2-Dichloropropane	ND
1,3-Dichloropropane	ND
2,2-Dichloropropane	ND
1,1-Dichloropropene	ND

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VOLATILE ORGANICS (EPA 524.2)
Drinking Water
(cont'd) Laboratory ID: METHOD BLANK

Compound	ug/L
cis-1,3-Dichloropropene	ND
trans-1,3-Dichloropropene	ND
Ethylbenzene	ND
Hexachlorobutadiene	ND
Isopropylbenzene	ND
4-Isopropyltoluene	ND
Methylene chloride	0.6J
Naphthalene	ND
n-Propylbenzene	ND
Styrene	ND
1,1,1,2-Tetrachloroethane	ND
1,1,2,2-Tetrachloroethane	ND
Tetrachloroethene	ND
Toluene	ND
1,2,3-Trichlorobenzene	ND [2]
1,2,4-Trichlorobenzene	ND
1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND
Trichloroethene	ND
Trichlorofluoromethane	ND
1,2,3-Trichloropropane	ND
1,2,4-Trimethylbenzene	ND
1,3,5-Trimethylbenzene	ND
Vinyl chloride	ND
o-Xylenes	ND
m,p-Xylenes	ND

Limit of Practical Quantitation is 1 ug/L, unless otherwise noted in brackets.
J = Less than limit of quantitation but greater than zero.

Surrogate Recovery:		Recovery Limits
1,2-Dichloroethane-d4	104 %	76-114 %
4-Bromofluorobenzene	105 %	86-115 %