G-000-1012.12

1970

GROUNDWATER TESTING SAMPLES

06/20/91

DOE-1258-91
DOE-FSO/CITIZEN
20
LETTER

Department of E
Fernald Site Office
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6319

1970

JUN 20 1991
DOE-1258-91

Ms. Doris Turner
[redacted]

Dear Ms. Turner:

This letter, along with the enclosed information packet, provides results of testing performed on groundwater samples collected from Department of Energy (DOE) wells located on your property. These wells were installed by the DOE in support of the Remedial Investigation and Feasibility Study (RI/FS), currently underway at the Feed Materials Production Center (FMPC). This study is being conducted according to guidance and procedures of the U. S. Environmental Protection Agency and under the oversight of the USEPA and the Ohio EPA.

SUMMARY

There are two DOE wells on your property. These wells were sampled by Westinghouse Materials Company of Ohio on April 25, 1990, for radiological compounds and on October 15, 1990, for both chemical and radiological compounds. The chemical analysis results show no detections of concern, based upon comparison with current standard or guideline values as illustrated in Enclosure A.

The radiological results for the April 25 sampling of well 2098 show a value of 8.11 microgram per liter (μg/L) total uranium. This well was resampled on February 15, 1991 and the sample was submitted to the off-site laboratory for radiological analysis. A total uranium analysis of this February 15, 1991 sample was completed at the FMPC laboratory and yielded a result of 6.5 μg/L. The radiological results for well 3098 on the April 25 sampling date were within typical background values. The FMPC is still awaiting radiological results on both wells from the off-site laboratory for the October 15, 1990, sample date. All laboratories across the U. S. are backlogged with samples to analyze. Currently, we are finding that it can take up to seven months to get analytical results. We will provide you with the radiological results on the October 1990 sampling as soon as we get them.

The total uranium values for well 2098 of 6.5 and 8.11 μg/L are above typical background values for this area. Naturally-occurring background values of 0.1 to 2.7 μg/L for uranium for this area have been established in a study conducted by an independent consultant. Also, a U.S. Geological Survey study (J. D. Hem, 1970, Geological Survey Water-Supply Paper 1473) reported a range of uranium concentration of less than 0.1 to 10.0 μg/L in most natural water within the United States.

The attachments to this letter provide detailed information on the groundwater test results. Enclosure A provides a listing of the laboratory analysis results reported on the groundwater samples collected from your property. To assist you in understanding the relative significance of the amount of any substance found in the water sample, these reported concentrations are grouped according to regulatory agency standards, guidelines, or health advisories. In each case, the standard, guideline, or health advisory is provided for comparison to the reported concentration in the water sample. Enclosure B provides you with background information on these standards, guidelines, and health advisories, along with other information which may help you in understanding the test results. Enclosure C contains copies of the reports received by the DOE from the laboratory which analyzed the groundwater sample(s) collected from your property. Many compounds were tested for but not detected. These undetectable substances can be identified by the "less-than " sign (<) to the left of the numeric column.

PERSONS TO CONTACT

If you have any questions, please contact DOE representative Wally Quaider at (513) 738-6160. Also, Mr. Rich Bendula of the Ohio Environmental Protection Agency (OEPA) has offered to respond to any questions you may have concerning the sampling or the amount of any substance found in the water samples. Mr. Bendula can be reached at (513) 449-6357.

Sincerely,

Gerald W. Westerbeck
Manager

cc:
FSO:Quaider
OEPA:Bendula

Enclosures: As stated

bcc:

1970

D. J. Carr
S. W. Coyle
C. A. McCord, USEPA/V
G. E. Mitchell, OEPA/Dayton
J. E. Harmon
S. M. Wolinsky, ASI

Central Files
EM Files

ENCLOSURE A

SUMMARY OF SAMPLE RESULTS

This enclosure provides a listing of only those substances which were detected by laboratory analysis. Where available, a drinking water standard, guideline, or health advisory associated with that substance is also provided. *Please refer to the cover letter and Enclosures B and C for additional information.*

FMPC Groundwater Sample Summary
Substances Detected by Laboratory Analysis

Ms. Doris Turner
[redacted]

Well Id Number *2098*
Date Collected *04-25-90*

Radium Summary - Subject to Primary Standards. (Please see Enclosure B)

Substance		Reported Concentration In Water	Standard
Radium-226		1.22 pCi/L	
Radium-228		0.64 pCi/L	
	Total	1.86 pCi/L	5 pCi/L*

Substances for which guidance is provided by USDOE Order 5400.5. (Please see Enclosure B).

Substance	Reported Concentration In Water	Guideline
Thorium-228	1.22 pCi/L	16 pCi/L
Thorium-230	2.44 pCi/L	12 pCi/L
Uranium-234	3.31 pCi/L	20 pCi/L
Uranium-238	3.77 pCi/L	24 pCi/L
Uranium-Total	8.11 μg/L	30 μg/L

»»» *This symbol identifies any substance found in quantities equal to or exceeding published guidance.*

pCi/L	Picocurie per liter: a metric unit used for measuring radioactivity in a liter of water
μg/L	Microgram per liter: a metric unit used for describing the concentration of a substance dissolved or suspended in a liter of water; equivalent to one part per billion
mg/L	Milligram per liter: a unit of measurement; 1 milligram per liter is equal to 1,000 micrograms per liter; equivalent to one part per million
*	Please see explanation contained in Enclosure B under Primary Standards section.
μmhos/cm	Micro reciprocal ohms per centimeter; unit of measurement indicating the electrical conductivity of water and preliminary indicator of possible need for further testing

FMPC Groundwater Sample Summary
Substances Detected by Laboratory Analysis

Ms. Doris Turner
[redacted]

Well Id Number *2098*
Date Collected *10-15-90*

Substances regulated under USEPA Safe Drinking Water Act. (Please see Enclosure B regarding Primary Standards).

Substance	Reported Concentration In Water	Standard
Fluoride	0.41 mg/L	4 mg/L
Nitrogen, Nitrate+Nitrite	4.18 mg/L	10 mg/L

Substances for which guidelines are promulgated by USEPA Safe Drinking Water Act. (Please see Enclosure B regarding Secondary Standards).

Substance	Reported Concentration In Water	Guideline
Chloride	19.00 mg/L	250 mg/L
Sulfate	48.00 mg/L	250 mg/L
Total dissolved solids	473.00 mg/L	500 mg/L

Substances which are not specifically regulated, but for which some Health Advisory information is available. (Please see Enclosure B).

Substance	Reported Concentration In Water	Health Advisory (Child/Adult)
Alkalinity at CaCO3 (Total)	308.00 mg/L	None
Conductivity	691.00 µmhos/cm	None
Phosphorus	0.28 mg/L	None
Total Organic Carbons	3.00 mg/L	None
pH	6.96	None

»» *This symbol identifies any substance found in quantities equal to or exceeding published guidance.*

pCi/L Picocurie per liter: a metric unit used for measuring radioactivity in a liter of water
µg/L Microgram per liter: a metric unit used for describing the concentration of a substance dissolved or suspended in a liter of water; equivalent to one part per billion
mg/L Milligram per liter: a unit of measurement; 1 milligram per liter is equal to 1,000 micrograms per liter; equivalent to one part per million
* Please see explanation contained in Enclosure B under Primary Standards section.
µmhos/cm Micro reciprocal ohms per centimeter; unit of measurement indicating the electrical conductivity of water and preliminary indicator of possible need for further testing

FMPC Groundwater Sample Summary
Substances Detected by Laboratory Analysis

Ms. Doris Turner
[redacted]

Well Id Number *3098*
Date Collected *04-25-90*

Substances for which guidance is provided by USDOE Order 5400.5. (Please see Enclosure B).

Substance	Reported Concentration In Water	Guideline
Thorium-230	0.34 pCi/L	12 pCi/L

»» *This symbol identifies any substance found in quantities equal to or exceeding published guidance.*

pCi/L	Picocurie per liter: a metric unit used for measuring radioactivity in a liter of water
µg/L	Microgram per liter: a metric unit used for describing the concentration of a substance dissolved or suspended in a liter of water; equivalent to one part per billion
mg/L	Milligram per liter: a unit of measurement; 1 milligram per liter is equal to 1,000 micrograms per liter; equivalent to one part per million
*	Please see explanation contained in Enclosure B under Primary Standards section.
µmhos/cm	Micro reciprocal ohms per centimeter; unit of measurement indicating the electrical conductivity of water and preliminary indicator of possible need for further testing

FMPC Groundwater Sample Summary
Substances Detected by Laboratory Analysis

Ms. Doris Turner
[redacted]

Well Id Number ***3098***
Date Collected ***10-15-90***

Substances regulated under USEPA Safe Drinking Water Act. (Please see Enclosure B regarding Primary Standards).

Substance	Reported Concentration In Water	Standard
Fluoride	0.52 mg/L	4 mg/L
Nitrogen, Nitrate+Nitrite	2.33 mg/L	10 mg/L

Substances for which guidelines are promulgated by USEPA Safe Drinking Water Act. (Please see Enclosure B regarding Secondary Standards).

Substance	Reported Concentration In Water	Guideline
Chloride	23.00 mg/L	250 mg/L
Sulfate	63.00 mg/L	250 mg/L
Total dissolved solids	485.00 mg/L	500 mg/L

Substances which are not specifically regulated, but for which some Health Advisory information is available. (Please see Enclosure B).

Substance	Reported Concentration In Water	Health Advisory (Child/Adult)
Alkalinity at CaCO3 (Total)	314.00 mg/L	None
Conductivity	735.00 µmhos/cm	None
Total Organic Carbons	2.00 mg/L	None
pH	7.04	None

»» *This symbol identifies any substance found in quantities equal to or exceeding published guidance.*

pCi/L Picocurie per liter: a metric unit used for measuring radioactivity in a liter of water
µg/L Microgram per liter: a metric unit used for describing the concentration of a substance dissolved or suspended in a liter of water; equivalent to one part per billion
mg/L Milligram per liter: a unit of measurement; 1 milligram per liter is equal to 1,000 micrograms per liter; equivalent to one part per million
* Please see explanation contained in Enclosure B under Primary Standards section.
µmhos/cm Micro reciprocal ohms per centimeter; unit of measurement indicating the electrical conductivity of water and preliminary indicator of possible need for further testing

ENCLOSURE B

FACT SHEET

This enclosure provides explanations to assist in understanding some of the terms used and references quoted in this information packet. *Please refer to the cover letter and Enclosures A and C for additional information.*

The following definitions are presented here to facilitate the understanding of the preceeding data pages and copies of the laboratory reports following in Enclosure C.

I. United States Environmental Protection Agency Safe Drinking Water Act
Source: 40 CFR (Code of Federal Regulations), Part 141-National Primary Drinking Water Regulations

A. Primary Drinking Water Standards

The Primary Drinking Water Standard values are referred to as maximum contaminant levels (MCLs). The term MCLs means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of a public water system.

1. Radium-226 and Radium-228

The maximum contaminant level for radium-226 and radium-228 is designed for the sum of the two isotopic values added together. Hence, these two lab results are added together, then compared to the MCL of 5 pCi/L.

2. Gross Alpha Activity

The gross alpha MCL value includes alpha contribution from radium-226 but excludes contributions from radon and uranium. Listings for laboratory results for gross alpha contained in this package include alpha contributions from all alpha sources. Hence, it is a conservative comparision to compare these gross alpha results to the gross alpha MCL.

3. Gross Beta Activity

The gross beta MCL is designed to account for man-made beta contributions to drinking water. The four millirem per year standard cannot be readily compared to gross beta laboratory results because the standard is designed for an accumulated dose to particular internal organs or to the whole body. To calculate this dose, each individual beta radionuclide would have to be identified and its contribution measured. The gross beta laboratory results that are contained in this package are only a gross count of the total beta activity and do not identify the specific beta isotopes contributing to that total count.

4. *Total Trihalomethanes*

The total trihalomethanes MCL value of 0.1 mg/L (100 µg/L) is designed to be compared to the sum of the concentrations of bromodichloromethane, bromoform, chloroform, and dibromochloromethane. This is why the results from these four compounds on the data pages are summed before they are compared to the standard.

B. *Secondary Drinking Water Standards*

Source: Criteria and Standards Division, Office of Drinking Water, U.S. Environmental Protection Agency, Fact Sheet, Drinking Water Regulations Under the Safe Drinking Water Act, May 1990

The Secondary Drinking Water Standards values are referred to as secondary maximum contaminant levels (SMCLs). SMCLs are Federally non-enforceable and establish limits for contaminants in drinking water which may affect the aesthetic qualities and the public's acceptance of drinking water (e.g. taste and odor). SMCLs represent reasonable goals for drinking water quality. The states may establish higher or lower levels, which may be appropriate depending upon local conditions such as unavailability of alternate source waters or other compelling factors, and public health and welfare not being adversely affected.

II. *United States Environmental Protection Agency Drinking Water Health Advisories*

Source: U.S. Environmental Protection Agency, December 1989. Risk Assessment Guidance for Superfund Volume 1, Human Health Evaluation Manual (Part A) Interim Final Office of Emergency and Remedial Response. Washington, D.C. EPA/540/1-89/002

Reference values that may be useful for evaluating potential adverse effects associated with oral exposures have been developed by the EPA's Office of Drinking Water. These values are known as the Drinking Water Health Advisories, which are issued as nonregulatory guidance. Health Advisory values are concentrations of contaminants in drinking water at which adverse health effects would not be expected to occur. The Health Advisory values are based on data describing noncarcinogenic effects only. The "Child" advisory assumes a 22 pound child that consumes one liter of water per day. The "Adult" advisory assumes a 154 pound adult that consumes 2 liters of water per day. The Health Advisory values also include a margin of safety to protect sensitive members of the population.

III. *United States Department of Energy Order 5400.5, "Radiation Protection of the Public and the Environment"*

Source: U.S. Department of Energy Order 5400.5, February 8, 1990. "Radiation Protection of the Public and the Environment." Office of Environment, Safety and Health, Washington, D.C.

This order established guidelines for operations of the DOE and DOE contractors with respect to protection of members of the public and the environment against undue risk from radiation. This order adopts and implements radiation protection dose standards consistent with the recommendations of the International Commission on Radiological

Protection (ICRP). In 1977, the ICRP recommended a system of dose limitations that has been adopted and implemented by essentially all countries with nuclear programs. The guidelines presented on the data pages in Enclosure A are taken from values presented in the order. The values presented in the order are based upon an acceptable ICRP dose value of 100 millirem per year. Taking a conservative approach and being consistent with the SDWA beta value of four millirem per year, the guidance values used on the preceeding data pages represent only four percent of the ICRP values. This provides a conservative basis for comparision with the laboratory results.

A. *The proposed limit for radionuclides in groundwater is 4 mrem/yr and is found in draft EPA regulation 40 CFR 193 (Environmental Radiation Protection Standards for the Management and Land Disposal of Low-Level Radioactive Wastes). This corresponds to approximately 30 micrograms per liter for uranium assuming uranium is the only radionuclide found in the groundwater.*

IV. *Laboratory Detection Limits*

Source: U.S. Environmental Protection Agency, December 1989. Risk Assessment Guidance for Superfund Volume 1, Human Health Evaluation Manual (Part A) Interim Final Office of Emergency and Remedial Response. Washington, D.C. EPA/540/1-89/002

Strictly interpreted, the detection limit is the lowest amount of a chemical that can be "seen" above the normal, random noise of an analytical instrument or method. A chemical present below that level cannot reliably be distinguished from the normal baseline or noise of an analytical instrument. Detection limits are chemical-specific and instrument-specific and are determined by statistical treatment of multiple analyses in which the ratio of the lowest amount observed to the electronic noise level of the instrument (i.e., the signal-to-noise ratio) is determined. Hence, the use of the "less-than" symbol (<) on the following copies of the laboratory reports in Enclosure C. Many laboratories report the detection limit in this manner. The EPA has standardized methods for most laboratory tests. These methods, barring any unusual technical difficulties, will arrive at a detection limit well below any regulatory standard or guidance value of concern. This can be observed by comparing the reported detection limits from the laboratory reports with a corresponding standard or guidance value. In all instances, barring an unusual problem with a particular test, the reported detection limit will be considerably lower than the standard or guidance value of concern.

ENCLOSURE C

COMPLETE LABORATORY DATA PACKAGE

This enclosure provides complete copies of the actual data received from the analytical laboratory. As only the data for your samples are included here and many more samples may have been included in any given group, the page numbering will not be sequential. *Please refer to the cover letter and Enclosures A and B for additional information.*

ITORL OAK RIDGE REPORT
Results by Sample

Work Order # SO-05-079

1970

SAMPLE ID 40294 - 2098 FRACTION 27A TEST CODE SPEC2 NAME SPECIAL FORM FOR REPORTING
Date & Time Collected 04/25/90 Category WATER

PARAMETER	RESULT	2-SIG (PROP)	2-SIG (COUNT)	UNITS
RA-226	1.22E+0	0.21E+0	0.12E+0	pCi/l
RA-228	6.42E-1	2.79E-1	2.64E-1	pCi/l
TH-228	1.22E+0	0.81E+0	0.81E+0	pCi/l
TH-230	2.44E+0	1.10E+0	1.07E+0	pCi/l
TH-232	<1.0E+0			pCi/l
TH-TOTAL	<9.2E+0			ug/l
U-234	3.31E+0	0.62E+0	0.52E+0	pCi/l
U-235/236	<2.3E-1			pCi/l
U-238	3.77E+0	0.68E+0	0.56E+0	pCi/l
U-TOTAL	8.11E+0	0.81E+0		ug/l

2098

SAMPLE ID 40295 - 3098 FRACTION 28A TEST CODE SPEC2 NAME SPECIAL FORM FOR REPORTING
Date & Time Collected 04/25/90 Category WATER

PARAMETER	RESULT	2-SIG (PROP)	2-SIG (COUNT)	UNITS
RA-226	<7.9E-2			pCi/l
RA-228	<4.2E-1			pCi/l
TH-228	<2.7E-1			pCi/l
TH-230	3.44E-1	2.15E-1	2.12E-1	pCi/l
TH-232	<2.7E-1			pCi/l
TH-TOTAL	<2.5E+0			ug/l
U-234	<2.6E-1			pCi/l
U-235/236	<2.6E-1			pCi/l
U-238	<2.6E-1			pCi/l
U-TOTAL	<1.0E+0			ug/l

NET NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

1970

ANALYTICAL REPORT

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

11-21-90

Sample No.: 53712

PAGE 10

Sample Description: #2098-D90-N1;3-7

Date Taken: 10-15-90 0841

Date Received: 10-16-90

Alkalinity, Total (CaC03)	308.	mg/L
Chloride	19.	mg/L
Conductivity	691.	umhos/cm
Cyanide, Total	<0.005	mg/L
Fluoride, Distilled	0.41	mg/L
Nitrogen, Ammonia Direct	<0.02	mg/L
Nitrogen, Nitrate+Nitrite	4.18	mg/L
pH	6.96	S.U.
Phenols	<0.005	mg/L
Phosphorus, Total	0.28	mg/L
Total Dissolved Solids	473.	mg/L
Sulfate	48.	mg/L
Total Organic Carbon (TOC)	3.	mg/L
Total Organic Halogens	<10.	ug/L Cl-

John Andrejcio
Project Manager

NET NATIONAL ENVIRONMENTAL TESTING, INC.

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P.O. Box 398704
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11-21-90

Sample No.: 53712

PAGE 11

Sample Description: #2098-D90-N1;3-7

Date Taken: 10-15-90 0841

Date Received: 10-16-90

VOLATILE COMPOUNDS

METHOD 8240-AQUEOUS

Acetone	<2.	ug/L
Benzene	<1.	ug/L
Bromodichloromethane	<1.	ug/L
Bromoform	<1.	ug/L
Bromomethane	<1.	ug/L
Carbon disulfide	<1.	ug/L
Carbon tetrachloride	<1.	ug/L
Chlorobenzene	<1.	ug/L
Chloroethane	<1.	ug/L
2-Chloroethyl vinyl ether	<10.	ug/L
Chloroform	<1.	ug/L
Chloromethane	<1.	ug/L
Dibromochloromethane	<1.	ug/L
1,1-Dichloroethane	<1.	ug/L
1,2-Dichloroethane	<1.	ug/L
1,1-Dichloroethene	<1.	ug/L
trans-1,2-Dichloroethene	<1.	ug/L
1,2-Dichloroethene(Total)	<1.	ug/L
1,2-Dichloropropane	<1.	ug/L
cis-1,3-Dichloropropene	<1.	ug/L
trans-1,3-Dichloropropene	<1.	ug/L
Ethyl benzene	<1.	ug/L
2-Hexanone	<2.	ug/L
Methylene chloride	<1.	ug/L
Methyl ethyl ketone	<2.	ug/L
4-Methyl-2-pentanone	<2.	ug/L
Styrene	<1.	ug/L
1,1,2,2-Tetrachloroethane	<1.	ug/L
Tetrachloroethene	<1.	ug/L
Toluene	<1.	ug/L
1,1,1-Trichloroethane	<1.	ug/L
1,1,2-Trichloroethane	<1.	ug/L
Trichloroethene	<1.	ug/L

John Andrejcio
Project Manager

NET NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

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11-21-90

Sample No.: 53712

PAGE 12

Sample Description: #2098-D90-N1;3-7

Date Taken: 10-15-90 0841

Date Received: 10-16-90

Vinyl acetate	<2.	ug/L
Vinyl chloride	<1.	ug/L
Xylenes, Total	<1.	ug/L
Surrogate: d4-1,2-DCE	97	Percent
Surrogate: d8-Toluene	95	Percent
Surrogate: BFB	95	Percent

John Andrejcio
Project Manager

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ANALYTICAL REPORT

1970

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

11-21-90

Sample No.: 53711

PAGE 7

Sample Description: #3098-D90-N1;3-7

Date Taken: 10-15-90 0934

Date Received: 10-16-90

Alkalinity, Total (CaC03)	314.	mg/L
Chloride	23.	mg/L
Conductivity	735.	umhos/cm
Cyanide, Total	<0.005	mg/L
Fluoride, Distilled	0.52	mg/L
Nitrogen, Ammonia Direct	<0.02	mg/L
Nitrogen, Nitrate+Nitrite	2.33	mg/L
pH	7.04	S.U.
Phenols	<0.005	mg/L
Phosphorus, Total	<0.02	mg/L
Total Dissolved Solids	485.	mg/L
Sulfate	63.	mg/L
Total Organic Carbon (TOC)	2.	mg/L
Total Organic Halogens	<10.	ug/L Cl-

John Andrejcio
Project Manager

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11-21-90

Sample No.: 53711

PAGE 8

Sample Description: #3098-D90-N1;3-7

Date Taken: 10-15-90 0934

Date Received: 10-16-90

VOLATILE COMPOUNDS

METHOD 8240-AQUEOUS

Acetone	<2.	ug/L
Benzene	<1.	ug/L
Bromodichloromethane	<1.	ug/L
Bromoform	<1.	ug/L
Bromomethane	<1.	ug/L
Carbon disulfide	<1.	ug/L
Carbon tetrachloride	<1.	ug/L
Chlorobenzene	<1.	ug/L
Chloroethane	<1.	ug/L
2-Chloroethyl vinyl ether	<10.	ug/L
Chloroform	<1.	ug/L
Chloromethane	<1.	ug/L
Dibromochloromethane	<1.	ug/L
1,1-Dichloroethane	<1.	ug/L
1,2-Dichloroethane	<1.	ug/L
1,1-Dichloroethene	<1.	ug/L
trans-1,2-Dichloroethene	<1.	ug/L
1,2-Dichloroethene(Total)	<1.	ug/L
1,2-Dichloropropane	<1.	ug/L
cis-1,3-Dichloropropene	<1.	ug/L
trans-1,3-Dichloropropene	<1.	ug/L
Ethyl benzene	<1.	ug/L
2-Hexanone	<2.	ug/L
Methylene chloride	<1.	ug/L
Methyl ethyl ketone	<2.	ug/L
4-Methyl-2-pentanone	<2.	ug/L
Styrene	<1.	ug/L
1,1,2,2-Tetrachloroethane	<1.	ug/L
Tetrachloroethene	<1.	ug/L
Toluene	<1.	ug/L
1,1,1-Trichloroethane	<1.	ug/L
1,1,2-Trichloroethane	<1.	ug/L
Trichloroethene	<1.	ug/L

John Andrejcio
Project Manager

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11-21-90

Sample No.: 53711

PAGE 9

Sample Description: #3098-D90-N1;3-7

Date Taken: 10-15-90 0934

Date Received: 10-16-90

Vinyl acetate	<2.	ug/L
Vinyl chloride	<1.	ug/L
Xylenes, Total	<1.	ug/L
Surrogate: d4-1,2-DCE	100	Percent
Surrogate: d8-Toluene	98	Percent
Surrogate: BFB	94	Percent

John Andrejcio
Project Manager

KEN BROBERG

ORIGINAL
1970

Westinghouse Materials Co of Ohio
Analytical Chemistry Department
Results of Analyses

AnalCS ID:	910219-079	Project:	0020 0001	Customer Sample ID:	2098-A91-W1
Customer:	WMCO			Requisition Number:	
Date Sampled:	15-FEB-1991			Date Sample Received:	19-FEB-1991
Sampled By:	DS/MC/CS			Date Sample Completed:	
Material Description:	TURNER WELL[illegible]			Charge Number:	RMCO2

Activity Number	Procedure No.	Analysis	Result	Units	Analyst	QA File Number	Date Complete
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]