



*C. Webb, Jr.
H. Webb
M. R. Webb*

32N03. GW37

UCAR CARBON COMPANY INC. P.O. BOX 513, COLUMBIA, TENNESSEE 38402-0513

April 22, 1993

Mr. Robert J. Mitrey
Associate Sanitary Engineer
New York State Department of Environmental Conservation
600 Delaware Street
Buffalo, N. Y. 14202-1073

RE: Quarterly Report of Groundwater Analysis
Republic Solid Waste Management Facility
Post-Closure Monitoring Program

Dear Mr. Mitrey:

I am enclosing a copy of the twentieth quarter's groundwater sampling analysis from the closed Republic Solid Waste Management Facility. Bedrock well, BW-4-86, continues to demonstrate some slight volatile organic contamination in the less than one part per million range.

The following will summarize the positive organic parameters:

<u>CONTAMINATE</u>	<u>20th Qtr.</u> <u>ppb</u>	<u>Mean Conc.</u> <u>ppb</u>	<u>Range</u> <u>ppb</u>
Vinyl Chloride	150	113	29-300
Trans -1,2-Dichloroethene	560	508	56-1000
Trichloroethene	170	316	30-740
Tetrachloroethene	140	288	72-400
Hexachlorobutadiene	32	52	10-150

UCAR Carbon Co., Inc. continues to maintain the position that this contamination at well, BW-4-86 is not related to the closed Republic Solid Waste Management Facility given the fact that downgradient bedrock well, B-6, continues to show no contamination.

If you have any questions, please contact me at 615-380-4215.

Very truly yours,

R. A. Bolton

R. A. Bolton, Manager
HS & EP

RAB:cjm

Enclosure

MEMO to Robert J. Mitrey
April 22, 1993

cc: Mr. Jim Devold, Sr. Public Health Engineer
Niagara County Health Department
P. O. Box 428
Niagara Falls, N. Y. 14302-0428

Mr. Dave O'Tool
New York Department of Environmental Conservation
50 Wolf Road
Albany, N. Y. 12233

Mr. A. C. Ogg

UCAR CARBON COMPANY, INCORPORATED

REPUBLIC WASTE MANAGEMENT FACILITY

POST CLOSURE MONITORING PROGRAM

QUARTERLY REPORT

1st Qtr.
1993

Prepared By:



"A Company Dedicated to Honesty, Quality and Service"

QA/QC VERIFICATION FOR PROJECT ID 322J

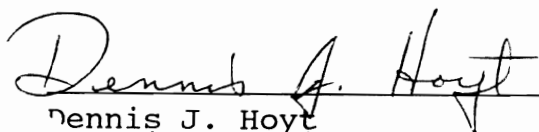
The following report, as well as the supporting data, have been carefully reviewed for accuracy, adherence to the cited methods, and completeness. All data contained in this report was generated in accordance with the AES Laboratory Quality Assurance/Quality Control Program.



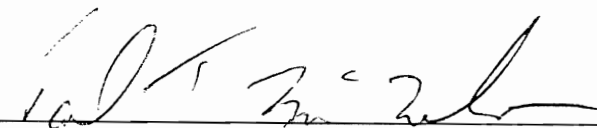
Linda A. Ratka
Inorganic Senior Technician



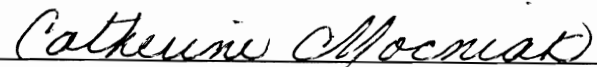
Denise R. Tuhovak
Laboratory Manager



Dennis J. Hoyt
ES Field Engineer



Paul T. McMahon
Quality Control Officer



Catherine Mocniak
Manager, Industrial Hygiene

All 'Total' results on soil matrices are calculated on a dry weight basis, unless otherwise noted.

The following are standard abbreviations:

BQL - Below Quantifiable Limits
ND - None Detected
NG - No Growth of Colonies
NR - Not Requested

REPORT COMMENT

CLIENT: UCAR CARBON COMPANY, INC.
PROJECT: POST CLOSURE MONITORING PROGRAM
AES PROJECT CODE: CTC322J
AES REPORT DATE: APRIL 8, 1993

Due to a laboratory error, not enough sample was collected to perform the required semivolatiles duplicate and matrix spike of site BW-6. Only one extra liter of sample was available for QC purposes for the method 8270 analysis. Per instructions from Mary McIntosh of the NYSDEC in a telephone conversation on March 31, 1993, the extra liter of sample was used to perform the duplicate analysis. Therefore, no matrix spike data for the semivolatiles analysis of site BW-6 is available this quarter.

ADVANCED ENVIRONMENTAL SERVICES, INC.

QUARTERLY MONITORING WELL INFORMATION

UCAR Carbon Company, Inc.

Niagara Falls, New York

AES Code: CTC

Monitoring Well I.D.	Evacuation Date	Top of Inner Casing Elevation (ft.)	Monitoring Well Diameter	Water Level (ft.)	Water Elevation (ft.)	Bottom of Well (ft.)	Volume of Standing Water (gallons)	Volume of Evacuated Water (gallons)	Recharge Rate
BW-1	3/24/93	610.72	4	13.57	597.15	34.50	13.66	42.0	C
BW-2	3/25/93	608.43	4	12.51	595.92	35.00	14.68	63.0	C
BW-3	3/25/93	604.72	4	4.73	599.99	22.40	11.53	42.3	C
BW-4	3/25/93	607.08	4	6.36	600.72	25.00	12.17	39.0	C
BW-5	3/25/93	603.33	4	3.61	599.72	24.90	13.90	90.0	C
BW-6	3/24/93	607.04	4	13.18	593.86	32.90	12.87	39.0	R
MW-1	3/24/93	609.43	2	10.71	598.72	21.10	1.70	2.0 (Dry)	S
MW-2	3/24/93	607.54	2	23.65	583.89	24.10	0.07	900 mls (Dry)	VS
MW-3	3/26/93	601.61	2	3.08	598.53	15.00	1.95	6.0	R
OW-1 SOUTH	3/26/93	608.81	2	4.42	608.81	36.05	5.16	NR	N/A
OW-2 NORTH	3/26/93	607.06	2	4.42	607.06	35.90	5.14	NR	N/A

Abbreviations:

VS = Very Slow ----- Recharge Rate longer than 24 hr period.

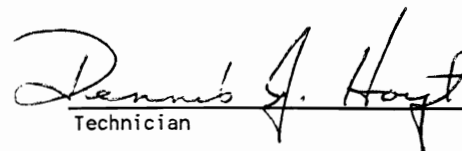
S = Slow ----- Recharge Rate within 24 hr period.

R = Rapid ----- Recharge Rate within 1 hr period.

C = Continuous ---- Recharge Rate immediate.

NR = Not Required

N/A = Not Applicable


 Technician 3/30/93.
Date

ADVANCED ENVIRONMENTAL SERVICES, INC.

QUARTERLY MONITORING FIELD INFORMATION

UCAR Corporation, Inc.

Niagara Falls, New York

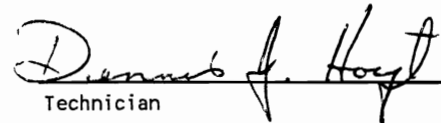
Site Code: CTC

Monitoring Well I.D.	Date	Sampling Time	Water Level (ft.)	Turbidity (NTU)	Filter Time	Comments
BW-1	3/24/93	3:00 PM	13.58	16.8	3:05 PM	Slightly turbid tan, no odor.
BW-2	3/25/93	4:20 PM	10.70	30.0	5:34 PM	Clear, no solids.
BW-3	3/25/93	1:10 PM	4.70	8.3	5:28 PM	Clear, no solids or odor.
BW-4	3/25/93	1:00 PM	6.84	16.7	5:10 PM	Clear w/sheen and orange solids.
BW-5	3/25/93	4:00 PM	3.55	48.3	5:22 PM	Clear, no solids or odor.
BW-6	3/24/93	3:15 PM	15.41	30.2	3:30 PM	Slightly turbid to clear, no odor.
MW-1	3/25/93	11:30 AM	10.26	11.2	11:35 AM	Clear with orange solids.
MW-2**	3/25/93	4:20 PM	23.89	91.1	5:15 PM	Very strong odor, pitch black color, many solids.
MW-3	3/26/93	2:30 PM	12.85	370.00	4:10 PM	Turbid tan.
OW-1 South	N/A	N/A	N/A	N/A	N/A	N/A
OW-2 North	N/A	N/A	N/A	N/A	N/A	N/A
Blind Duplicate	3/25/93	1:00 PM	NR	15.5	5:10 PM	Clear w/sheen and orange solids.
Trip Blank	3/24/93	9:45 AM	N/A	0.08	N/A	Very Clear Deionized Water.

The blind duplicate site was BW-4 and the quality control site was BW-6.

N/A = Not Applicable

**Well MW-2 had insufficient recharge to complete sample.

 3/30/93
 Technician Date

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-1
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 03/25/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 322J-1

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	11.2 *	NTU	0.1	EPA 180.1
Ammonia	6.50	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	7.2	mg/L	0.1	EPA 351.2
Total Iron	1.0	mg/L	0.05	EPA 200.7
Soluble Iron	0.06	mg/L	0.05	EPA 200.7
Total Potassium	40	mg/L	1.0	EPA 200.7
Soluble Potassium	36	mg/L	1.0	EPA 200.7
Total Zinc	0.13	mg/L	0.02	EPA 200.7
Soluble Zinc	0.07	mg/L	0.02	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-3
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 03/26/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 322J-2

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	370 *	NTU	0.1	EPA 180.1
Ammonia	BQL	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	0.8	mg/L	0.1	EPA 351.2
Total Iron	18	mg/L	0.05	EPA 200.7
Soluble Iron	BQL	mg/L	0.05	EPA 200.7
Total Potassium	7.0	mg/L	1.0	EPA 200.7
Soluble Potassium	BQL	mg/L	1.0	EPA 200.7
Total Zinc	0.10	mg/L	0.02	EPA 200.7
Soluble Zinc	BQL	mg/L	0.02	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-1
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 03/24/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 322J-3

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	16.8 *	NTU	0.1	EPA 180.1
Ammonia	0.47	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	1.5	mg/L	0.1	EPA 351.2
Total Iron	1.4	mg/L	0.05	EPA 200.7
Soluble Iron	1.0	mg/L	0.05	EPA 200.7
Total Potassium	3.7	mg/L	1.0	EPA 200.7
Soluble Potassium	3.6	mg/L	1.0	EPA 200.7
Total Zinc	1.9	mg/L	0.02	EPA 200.7
Soluble Zinc	1.9	mg/L	0.02	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-2
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 03/25/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 322J-4

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	30.0 *	NTU	0.1	EPA 180.1
Ammonia	0.97	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	2.1	mg/L	0.1	EPA 351.2
Total Iron	7.7	mg/L	0.05	EPA 200.7
Soluble Iron	3.8	mg/L	0.05	EPA 200.7
Total Potassium	6.3	mg/L	1.0	EPA 200.7
Soluble Potassium	6.3	mg/L	1.0	EPA 200.7
Total Zinc	1.7	mg/L	0.02	EPA 200.7
Soluble Zinc	0.06	mg/L	0.02	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-3
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 03/25/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 322J-5

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	8.3 *	NTU	0.1	EPA 180.1
Ammonia	0.07	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	0.5	mg/L	0.1	EPA 351.2
Total Iron	0.53	mg/L	0.05	EPA 200.7
Soluble Iron	0.07	mg/L	0.05	EPA 200.7
Total Potassium	1.4	mg/L	1.0	EPA 200.7
Soluble Potassium	1.3	mg/L	1.0	EPA 200.7
Total Zinc	0.79	mg/L	0.02	EPA 200.7
Soluble Zinc	0.69	mg/L	0.02	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/25/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-6

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	16.7 *	NTU	0.1	EPA 180.1
Ammonia	3.50	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	3.8	mg/L	0.1	EPA 351.2
Total Iron	4.2	mg/L	0.05	EPA 200.7
Soluble Iron	1.7	mg/L	0.05	EPA 200.7
Total Potassium	15	mg/L	1.0	EPA 200.7
Soluble Potassium	15	mg/L	1.0	EPA 200.7
Total Zinc	0.70	mg/L	0.02	EPA 200.7
Soluble Zinc	0.39	mg/L	0.02	EPA 200.7
Chloromethane	BQL	µg/L	10	SW 846 8240
Bromomethane	BQL	µg/L	10	SW 846 8240
Vinyl chloride	150	µg/L	10	SW 846 8240
Chloroethane	BQL	µg/L	10	SW 846 8240
Methylene chloride	BQL	µg/L	10	SW 846 8240
Acetone	BQL	µg/L	10	SW 846 8240
Carbon disulfide	BQL	µg/L	10	SW 846 8240
1,1-Dichloroethene	BQL	µg/L	10	SW 846 8240
1,1-Dichloroethane	BQL	µg/L	10	SW 846 8240
trans-1,2-Dichloroethene	560	µg/L	10	SW 846 8240
Chloroform	BQL	µg/L	10	SW 846 8240
1,2-Dichloroethane	BQL	µg/L	10	SW 846 8240
2-Butanone	BQL	µg/L	10	SW 846 8240
1,1,1-Trichloroethane	BQL	µg/L	10	SW 846 8240
Carbon tetrachloride	BQL	µg/L	10	SW 846 8240
Vinyl acetate	BQL	µg/L	10	SW 846 8240
Bromodichloromethane	BQL	µg/L	10	SW 846 8240
1,2-Dichloropropane	BQL	µg/L	10	SW 846 8240

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/25/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-6

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
cis-1,3-Dichloropropene	BQL	µg/L	10	SW 846 8240
Trichloroethene	170	µg/L	10	SW 846 8240
Benzene	BQL	µg/L	10	SW 846 8240
trans-1,3-Dichloropropene	BQL	µg/L	10	SW 846 8240
Chlorodibromomethane	BQL	µg/L	10	SW 846 8240
1,1,2-Trichloroethane	BQL	µg/L	10	SW 846 8240
Bromoform	BQL	µg/L	10	SW 846 8240
4-Methyl-2-pentanone	BQL	µg/L	10	SW 846 8240
2-Hexanone	BQL	µg/L	10	SW 846 8240
Tetrachloroethene	140	µg/L	10	SW 846 8240
1,1,2,2-Tetrachloroethane	BQL	µg/L	10	SW 846 8240
Toluene	BQL	µg/L	10	SW 846 8240
Chlorobenzene	BQL	µg/L	10	SW 846 8240
Ethylbenzene	BQL	µg/L	10	SW 846 8240
Styrene	BQL	µg/L	10	SW 846 8240
m-Xylene	BQL	µg/L	10	SW 846 8240
o/p-Xylene	BQL	µg/L	10	SW 846 8240
bis(2-chloroethyl)ether	BQL	µg/L	10	SW 846 8270
1,3-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
1,4-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
Benzyl alcohol	BQL	µg/L	10	SW 846 8270
1,2-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
bis(2-chloroisopropyl)ether	BQL	µg/L	10	SW 846 8270
N-Nitrosodipropylamine	BQL	µg/L	10	SW 846 8270
Hexachloroethane	BQL	µg/L	10	SW 846 8270
Nitrobenzene	BQL	µg/L	10	SW 846 8270
Isophorone	BQL	µg/L	10	SW 846 8270
bis(2-chloroethoxy)methane	BQL	µg/L	10	SW 846 8270
1,2,4-Trichlorobenzene	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/25/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-6

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Naphthalene	BQL	µg/L	10	SW 846 8270
4-Chloroaniline	BQL	µg/L	10	SW 846 8270
Hexachlorobutadiene	32	µg/L	10	SW 846 8270
2-Methylnaphthalene	BQL	µg/L	10	SW 846 8270
Hexachlorocyclopentadiene	BQL	µg/L	10	SW 846 8270
2-Chloronaphthalene	BQL	µg/L	10	SW 846 8270
2-Nitroaniline	BQL	µg/L	10	SW 846 8270
Dimethylphthalate	BQL	µg/L	10	SW 846 8270
2,6-Dinitrotoluene	BQL	µg/L	10	SW 846 8270
Acenaphthylene	BQL	µg/L	10	SW 846 8270
3-Nitroaniline	BQL	µg/L	10	SW 846 8270
Acenaphthene	BQL	µg/L	10	SW 846 8270
2,4-Dinitrotoluene	BQL	µg/L	10	SW 846 8270
Dibenzofuran	BQL	µg/L	10	SW 846 8270
Diethylphthalate	BQL	µg/L	10	SW 846 8270
4-Chlorophenylphenyl ether	BQL	µg/L	10	SW 846 8270
Fluorene	BQL	µg/L	10	SW 846 8270
4-Nitroaniline	BQL	µg/L	10	SW 846 8270
N-Nitrosodiphenylamine	BQL	µg/L	10	SW 846 8270
4-Bromophenylphenyl ether	BQL	µg/L	10	SW 846 8270
Hexachlorobenzene	BQL	µg/L	10	SW 846 8270
Phenanthrene	BQL	µg/L	10	SW 846 8270
Anthracene	BQL	µg/L	10	SW 846 8270
di-n-Butylphthalate	BQL	µg/L	10	SW 846 8270
Fluoranthene	BQL	µg/L	10	SW 846 8270
Pyrene	BQL	µg/L	10	SW 846 8270
Butylbenzylphthalate	BQL	µg/L	10	SW 846 8270
3,3-Dichlorobenzidine	BQL	µg/L	10	SW 846 8270
bis(2ethylhexyl)phthalate	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/25/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-6

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Benzo(a)anthracene	BQL	µg/L	10	SW 846 8270
Chrysene	BQL	µg/L	10	SW 846 8270
di-n-Octylphthalate	BQL	µg/L	10	SW 846 8270
Benzo(b)fluoranthene	BQL	µg/L	10	SW 846 8270
Benzo(k)fluoranthene	BQL	µg/L	10	SW 846 8270
Benzo(a)pyrene	BQL	µg/L	10	SW 846 8270
Indeno(1,2,3-cd)pyrene	BQL	µg/L	10	SW 846 8270
Dibenzo(a,h)anthracene	BQL	µg/L	10	SW 846 8270
Benzo(g,h,i)perylene	BQL	µg/L	10	SW 846 8270
Phenol	BQL	µg/L	10	SW 846 8270
2-Chlorophenol	BQL	µg/L	10	SW 846 8270
2-Methylphenol	BQL	µg/L	10	SW 846 8270
4-Methylphenol	BQL	µg/L	10	SW 846 8270
2-Nitrophenol	BQL	µg/L	10	SW 846 8270
2,4-Dimethylphenol	BQL	µg/L	10	SW 846 8270
Benzoic acid	BQL	µg/L	10	SW 846 8270
2,4-Dichlorophenol	BQL	µg/L	10	SW 846 8270
4-Chloro-3-methylphenol	BQL	µg/L	10	SW 846 8270
2,4,6-Trichlorophenol	BQL	µg/L	10	SW 846 8270
2,4,5-Trichlorophenol	BQL	µg/L	10	SW 846 8270
2,4-Dinitrophenol	BQL	µg/L	20	SW 846 8270
4-Nitrophenol	BQL	µg/L	10	SW 846 8270
4,6-Dinitro-2-methylphenol	BQL	µg/L	10	SW 846 8270
Pentachlorophenol	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-5
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 03/25/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 322J-7

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	48.3 *	NTU	0.1	EPA 180.1
Ammonia	0.08	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	0.5	mg/L	0.1	EPA 351.2
Total Iron	14	mg/L	0.05	EPA 200.7
Soluble Iron	3.0	mg/L	0.05	EPA 200.7
Total Potassium	3.2	mg/L	1.0	EPA 200.7
Soluble Potassium	2.5	mg/L	1.0	EPA 200.7
Total Zinc	0.28	mg/L	0.02	EPA 200.7
Soluble Zinc	0.24	mg/L	0.02	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/24/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-8

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	30.2 *	NTU	0.1	EPA 180.1
Ammonia	0.16	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	0.3	mg/L	0.1	EPA 351.2
Total Iron	9.0	mg/L	0.05	EPA 200.7
Soluble Iron	5.6	mg/L	0.05	EPA 200.7
Total Potassium	2.0	mg/L	1.0	EPA 200.7
Soluble Potassium	1.9	mg/L	1.0	EPA 200.7
Total Zinc	BQL	mg/L	0.02	EPA 200.7
Soluble Zinc	0.03	mg/L	0.02	EPA 200.7
Chloromethane	BQL	µg/L	10	SW 846 8240
Bromomethane	BQL	µg/L	10	SW 846 8240
Vinyl chloride	BQL	µg/L	10	SW 846 8240
Chloroethane	BQL	µg/L	10	SW 846 8240
Methylene chloride	BQL	µg/L	10	SW 846 8240
Acetone	BQL	µg/L	10	SW 846 8240
Carbon disulfide	BQL	µg/L	10	SW 846 8240
1,1-Dichloroethene	BQL	µg/L	10	SW 846 8240
1,1-Dichloroethane	BQL	µg/L	10	SW 846 8240
trans-1,2-Dichloroethene	BQL	µg/L	10	SW 846 8240
Chloroform	BQL	µg/L	10	SW 846 8240
1,2-Dichloroethane	BQL	µg/L	10	SW 846 8240
2-Butanone	BQL	µg/L	10	SW 846 8240
1,1,1-Trichloroethane	BQL	µg/L	10	SW 846 8240
Carbon tetrachloride	BQL	µg/L	10	SW 846 8240
Vinyl acetate	BQL	µg/L	10	SW 846 8240
Bromodichloromethane	BQL	µg/L	10	SW 846 8240
1,2-Dichloropropane	BQL	µg/L	10	SW 846 8240

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/24/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-8

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
cis-1,3-Dichloropropene	BQL	µg/L	10	SW 846 8240
Trichloroethene	BQL	µg/L	10	SW 846 8240
Benzene	BQL	µg/L	10	SW 846 8240
trans-1,3-Dichloropropene	BQL	µg/L	10	SW 846 8240
Chlorodibromomethane	BQL	µg/L	10	SW 846 8240
1,1,2-Trichloroethane	BQL	µg/L	10	SW 846 8240
Bromoform	BQL	µg/L	10	SW 846 8240
4-Methyl-2-pentanone	BQL	µg/L	10	SW 846 8240
2-Hexanone	BQL	µg/L	10	SW 846 8240
Tetrachloroethene	BQL	µg/L	10	SW 846 8240
1,1,2,2-Tetrachloroethane	BQL	µg/L	10	SW 846 8240
Toluene	BQL	µg/L	10	SW 846 8240
Chlorobenzene	BQL	µg/L	10	SW 846 8240
Ethylbenzene	BQL	µg/L	10	SW 846 8240
Styrene	BQL	µg/L	10	SW 846 8240
m-Xylene	BQL	µg/L	10	SW 846 8240
o/p-Xylene	BQL	µg/L	10	SW 846 8240
bis(2-chloroethyl)ether	BQL	µg/L	10	SW 846 8270
1,3-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
1,4-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
Benzyl alcohol	BQL	µg/L	10	SW 846 8270
1,2-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
bis(2-chloroisopropyl)ether	BQL	µg/L	10	SW 846 8270
N-Nitrosodipropylamine	BQL	µg/L	10	SW 846 8270
Hexachloroethane	BQL	µg/L	10	SW 846 8270
Nitrobenzene	BQL	µg/L	10	SW 846 8270
Isophorone	BQL	µg/L	10	SW 846 8270
bis(2-chloroethoxy)methane	BQL	µg/L	10	SW 846 8270
1,2,4-Trichlorobenzene	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/24/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-8

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Naphthalene	BQL	µg/L	10	SW 846 8270
4-Chloroaniline	BQL	µg/L	10	SW 846 8270
Hexachlorobutadiene	BQL	µg/L	10	SW 846 8270
2-Methylnaphthalene	BQL	µg/L	10	SW 846 8270
Hexachlorocyclopentadiene	BQL	µg/L	10	SW 846 8270
2-Chloronaphthalene	BQL	µg/L	10	SW 846 8270
2-Nitroaniline	BQL	µg/L	10	SW 846 8270
Dimethylphthalate	BQL	µg/L	10	SW 846 8270
2,6-Dinitrotoluene	BQL	µg/L	10	SW 846 8270
Acenaphthylene	BQL	µg/L	10	SW 846 8270
3-Nitroaniline	BQL	µg/L	10	SW 846 8270
Acenaphthene	BQL	µg/L	10	SW 846 8270
2,4-Dinitrotoluene	BQL	µg/L	10	SW 846 8270
Dibenzofuran	BQL	µg/L	10	SW 846 8270
Diethylphthalate	BQL	µg/L	10	SW 846 8270
4-Chlorophenylphenyl ether	BQL	µg/L	10	SW 846 8270
Fluorene	BQL	µg/L	10	SW 846 8270
4-Nitroaniline	BQL	µg/L	10	SW 846 8270
N-Nitrosodiphenylamine	BQL	µg/L	10	SW 846 8270
4-Bromophenylphenyl ether	BQL	µg/L	10	SW 846 8270
Hexachlorobenzene	BQL	µg/L	10	SW 846 8270
Phenanthrene	BQL	µg/L	10	SW 846 8270
Anthracene	BQL	µg/L	10	SW 846 8270
di-n-Butylphthalate	BQL	µg/L	10	SW 846 8270
Fluoranthene	BQL	µg/L	10	SW 846 8270
Pyrene	BQL	µg/L	10	SW 846 8270
Butylbenzylphthalate	BQL	µg/L	10	SW 846 8270
3,3-Dichlorobenzidine	BQL	µg/L	10	SW 846 8270
Diis(2ethylhexyl)phthalate	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/24/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-8

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Benzo(a)anthracene	BQL	µg/L	10	SW 846 8270
Chrysene	BQL	µg/L	10	SW 846 8270
di-n-Octylphthalate	BQL	µg/L	10	SW 846 8270
Benzo(b)fluoranthene	BQL	µg/L	10	SW 846 8270
Benzo(k)fluoranthene	BQL	µg/L	10	SW 846 8270
Benzo(a)pyrene	BQL	µg/L	10	SW 846 8270
Indeno(1,2,3-cd)pyrene	BQL	µg/L	10	SW 846 8270
Dibenzo(a,h)anthracene	BQL	µg/L	10	SW 846 8270
Benzo(g,h,i)perylene	BQL	µg/L	10	SW 846 8270
Phenol	BQL	µg/L	10	SW 846 8270
2-Chlorophenol	BQL	µg/L	10	SW 846 8270
2-Methylphenol	BQL	µg/L	10	SW 846 8270
4-Methylphenol	BQL	µg/L	10	SW 846 8270
2-Nitrophenol	BQL	µg/L	10	SW 846 8270
2,4-Dimethylphenol	BQL	µg/L	10	SW 846 8270
Benzoic acid	BQL	µg/L	10	SW 846 8270
2,4-Dichlorophenol	BQL	µg/L	10	SW 846 8270
4-Chloro-3-methylphenol	BQL	µg/L	10	SW 846 8270
2,4,6-Trichlorophenol	BQL	µg/L	10	SW 846 8270
2,4,5-Trichlorophenol	BQL	µg/L	10	SW 846 8270
2,4-Dinitrophenol	BQL	µg/L	20	SW 846 8270
4-Nitrophenol	BQL	µg/L	10	SW 846 8270
4,6-Dinitro-2-methylphenol	BQL	µg/L	10	SW 846 8270
Pentachlorophenol	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/25/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-9

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	15.5 *	NTU	0.1	EPA 180.1
Ammonia	3.50	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	3.8	mg/L	0.1	EPA 351.2
Total Iron	3.8	mg/L	0.05	EPA 200.7
Soluble Iron	1.8	mg/L	0.05	EPA 200.7
Total Potassium	15	mg/L	1.0	EPA 200.7
Soluble Potassium	16	mg/L	1.0	EPA 200.7
Total Zinc	0.55	mg/L	0.02	EPA 200.7
Soluble Zinc	0.44	mg/L	0.02	EPA 200.7
Chloromethane	BQL	µg/L	10	SW 846 8240
Bromomethane	BQL	µg/L	10	SW 846 8240
Vinyl chloride	180	µg/L	10	SW 846 8240
Chloroethane	BQL	µg/L	10	SW 846 8240
Methylene chloride	BQL	µg/L	10	SW 846 8240
Acetone	BQL	µg/L	10	SW 846 8240
Carbon disulfide	BQL	µg/L	10	SW 846 8240
1,1-Dichloroethene	BQL	µg/L	10	SW 846 8240
1,1-Dichloroethane	BQL	µg/L	10	SW 846 8240
trans-1,2-Dichloroethene	610	µg/L	10	SW 846 8240
Chloroform	BQL	µg/L	10	SW 846 8240
1,2-Dichloroethane	BQL	µg/L	10	SW 846 8240
2-Butanone	BQL	µg/L	10	SW 846 8240
1,1,1-Trichloroethane	BQL	µg/L	10	SW 846 8240
Carbon tetrachloride	BQL	µg/L	10	SW 846 8240
Vinyl acetate	BQL	µg/L	10	SW 846 8240
Bromodichloromethane	BQL	µg/L	10	SW 846 8240
1,2-Dichloropropane	BQL	µg/L	10	SW 846 8240

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/25/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-9

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
cis-1,3-Dichloropropene	BQL	µg/L	10	SW 846 8240
Trichloroethene	190	µg/L	10	SW 846 8240
Benzene	BQL	µg/L	10	SW 846 8240
trans-1,3-Dichloropropene	BQL	µg/L	10	SW 846 8240
Chlorodibromomethane	BQL	µg/L	10	SW 846 8240
1,1,2-Trichloroethane	BQL	µg/L	10	SW 846 8240
Bromoform	BQL	µg/L	10	SW 846 8240
4-Methyl-2-pentanone	BQL	µg/L	10	SW 846 8240
2-Hexanone	BQL	µg/L	10	SW 846 8240
Tetrachloroethene	160	µg/L	10	SW 846 8240
1,1,2,2-Tetrachloroethane	BQL	µg/L	10	SW 846 8240
Toluene	BQL	µg/L	10	SW 846 8240
Chlorobenzene	BQL	µg/L	10	SW 846 8240
Ethylbenzene	BQL	µg/L	10	SW 846 8240
Styrene	BQL	µg/L	10	SW 846 8240
m-Xylene	BQL	µg/L	10	SW 846 8240
o/p-Xylene	BQL	µg/L	10	SW 846 8240
bis(2-chloroethyl)ether	BQL	µg/L	10	SW 846 8270
1,3-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
1,4-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
Benzyl alcohol	BQL	µg/L	10	SW 846 8270
1,2-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
bis(2-chloroisopropyl)ether	BQL	µg/L	10	SW 846 8270
N-Nitrosodipropylamine	BQL	µg/L	10	SW 846 8270
Hexachloroethane	BQL	µg/L	10	SW 846 8270
Nitrobenzene	BQL	µg/L	10	SW 846 8270
Isophorone	BQL	µg/L	10	SW 846 8270
bis(2-chloroethoxy)methane	BQL	µg/L	10	SW 846 8270
1,2,4-Trichlorobenzene	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/25/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-9

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Naphthalene	BQL	µg/L	10	SW 846 8270
4-Chloroaniline	BQL	µg/L	10	SW 846 8270
Hexachlorobutadiene	43	µg/L	10	SW 846 8270
2-Methylnaphthalene	BQL	µg/L	10	SW 846 8270
Hexachlorocyclopentadiene	BQL	µg/L	10	SW 846 8270
2-Chloronaphthalene	BQL	µg/L	10	SW 846 8270
2-Nitroaniline	BQL	µg/L	10	SW 846 8270
Dimethylphthalate	BQL	µg/L	10	SW 846 8270
2,6-Dinitrotoluene	BQL	µg/L	10	SW 846 8270
Acenaphthylene	BQL	µg/L	10	SW 846 8270
3-Nitroaniline	BQL	µg/L	10	SW 846 8270
Acenaphthene	BQL	µg/L	10	SW 846 8270
2,4-Dinitrotoluene	BQL	µg/L	10	SW 846 8270
Dibenzofuran	BQL	µg/L	10	SW 846 8270
Diethylphthalate	BQL	µg/L	10	SW 846 8270
4-Chlorophenylphenyl ether	BQL	µg/L	10	SW 846 8270
Fluorene	BQL	µg/L	10	SW 846 8270
4-Nitroaniline	BQL	µg/L	10	SW 846 8270
N-Nitrosodiphenylamine	BQL	µg/L	10	SW 846 8270
4-Bromophenylphenyl ether	BQL	µg/L	10	SW 846 8270
Hexachlorobenzene	BQL	µg/L	10	SW 846 8270
Phenanthrene	BQL	µg/L	10	SW 846 8270
Anthracene	BQL	µg/L	10	SW 846 8270
di-n-Butylphthalate	BQL	µg/L	10	SW 846 8270
Fluoranthene	BQL	µg/L	10	SW 846 8270
Pyrene	BQL	µg/L	10	SW 846 8270
Butylbenzylphthalate	BQL	µg/L	10	SW 846 8270
3,3-Dichlorobenzidine	BQL	µg/L	10	SW 846 8270
bis(2ethylhexyl)phthalate	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/25/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-9

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Benzo(a)anthracene	BQL	µg/L	10	SW 846 8270
Chrysene	BQL	µg/L	10	SW 846 8270
di-n-Octylphthalate	BQL	µg/L	10	SW 846 8270
Benzo(b)fluoranthene	BQL	µg/L	10	SW 846 8270
Benzo(k)fluoranthene	BQL	µg/L	10	SW 846 8270
Benzo(a)pyrene	BQL	µg/L	10	SW 846 8270
Indeno(1,2,3-cd)pyrene	BQL	µg/L	10	SW 846 8270
Dibenzo(a,h)anthracene	BQL	µg/L	10	SW 846 8270
Benzo(g,h,i)perylene	BQL	µg/L	10	SW 846 8270
Phenol	BQL	µg/L	10	SW 846 8270
2-Chlorophenol	BQL	µg/L	10	SW 846 8270
2-Methylphenol	BQL	µg/L	10	SW 846 8270
4-Methylphenol	BQL	µg/L	10	SW 846 8270
2-Nitrophenol	BQL	µg/L	10	SW 846 8270
2,4-Dimethylphenol	BQL	µg/L	10	SW 846 8270
Benzoic acid	BQL	µg/L	10	SW 846 8270
2,4-Dichlorophenol	BQL	µg/L	10	SW 846 8270
4-Chloro-3-methylphenol	BQL	µg/L	10	SW 846 8270
2,4,6-Trichlorophenol	BQL	µg/L	10	SW 846 8270
2,4,5-Trichlorophenol	BQL	µg/L	10	SW 846 8270
2,4-Dinitrophenol	BQL	µg/L	20	SW 846 8270
4-Nitrophenol	BQL	µg/L	10	SW 846 8270
4,6-Dinitro-2-methylphenol	BQL	µg/L	10	SW 846 8270
Pentachlorophenol	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/24/93
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-10

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	BQL*	NTU	0.1	EPA 180.1
Ammonia	BQL	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	BQL	mg/L	0.1	EPA 351.2
Total Iron	BQL	mg/L	0.05	EPA 200.7
Total Potassium	BQL	mg/L	1.0	EPA 200.7
Total Zinc	BQL	mg/L	0.02	EPA 200.7
Chloromethane	BQL	µg/L	10	SW 846 8240
Bromomethane	BQL	µg/L	10	SW 846 8240
Vinyl chloride	BQL	µg/L	10	SW 846 8240
Chloroethane	BQL	µg/L	10	SW 846 8240
Methylene chloride	BQL	µg/L	10	SW 846 8240
Acetone	BQL	µg/L	10	SW 846 8240
Carbon disulfide	BQL	µg/L	10	SW 846 8240
1,1-Dichloroethene	BQL	µg/L	10	SW 846 8240
1,1-Dichloroethane	BQL	µg/L	10	SW 846 8240
trans-1,2-Dichloroethene	BQL	µg/L	10	SW 846 8240
Chloroform	BQL	µg/L	10	SW 846 8240
1,2-Dichloroethane	BQL	µg/L	10	SW 846 8240
2-Butanone	BQL	µg/L	10	SW 846 8240
1,1,1-Trichloroethane	BQL	µg/L	10	SW 846 8240
Carbon tetrachloride	BQL	µg/L	10	SW 846 8240
Vinyl acetate	BQL	µg/L	10	SW 846 8240
Bromodichloromethane	BQL	µg/L	10	SW 846 8240
1,2-Dichloropropane	BQL	µg/L	10	SW 846 8240
cis-1,3-Dichloropropene	BQL	µg/L	10	SW 846 8240
Trichloroethene	BQL	µg/L	10	SW 846 8240
Benzene	BQL	µg/L	10	SW 846 8240

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/24/93
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-10

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
trans-1,3-Dichloropropene	BQL	µg/L	10	SW 846 8240
Chlorodibromomethane	BQL	µg/L	10	SW 846 8240
1,1,2-Trichloroethane	BQL	µg/L	10	SW 846 8240
Bromoform	BQL	µg/L	10	SW 846 8240
4-Methyl-2-pentanone	BQL	µg/L	10	SW 846 8240
2-Hexanone	BQL	µg/L	10	SW 846 8240
Tetrachloroethene	BQL	µg/L	10	SW 846 8240
1,1,2,2-Tetrachloroethane	BQL	µg/L	10	SW 846 8240
Toluene	BQL	µg/L	10	SW 846 8240
Chlorobenzene	BQL	µg/L	10	SW 846 8240
Ethylbenzene	BQL	µg/L	10	SW 846 8240
Styrene	BQL	µg/L	10	SW 846 8240
m-Xylene	BQL	µg/L	10	SW 846 8240
o/p-Xylene	BQL	µg/L	10	SW 846 8240
bis(2-chloroethyl)ether	BQL	µg/L	10	SW 846 8270
1,3-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
1,4-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
Benzyl alcohol	BQL	µg/L	10	SW 846 8270
1,2-Dichlorobenzene	BQL	µg/L	10	SW 846 8270
bis(2-chloroisopropyl)ether	BQL	µg/L	10	SW 846 8270
N-Nitrosodipropylamine	BQL	µg/L	10	SW 846 8270
Hexachloroethane	BQL	µg/L	10	SW 846 8270
Nitrobenzene	BQL	µg/L	10	SW 846 8270
Isophorone	BQL	µg/L	10	SW 846 8270
bis(2-chloroethoxy)methane	BQL	µg/L	10	SW 846 8270
1,2,4-Trichlorobenzene	BQL	µg/L	10	SW 846 8270
Naphthalene	BQL	µg/L	10	SW 846 8270
4-Chloroaniline	BQL	µg/L	10	SW 846 8270
Hexachlorobutadiene	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/24/93
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-10

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
2-Methylnaphthalene	BQL	µg/L	10	SW 846 8270
Hexachlorocyclopentadiene	BQL	µg/L	10	SW 846 8270
2-Chloronaphthalene	BQL	µg/L	10	SW 846 8270
2-Nitroaniline	BQL	µg/L	10	SW 846 8270
Dimethylphthalate	BQL	µg/L	10	SW 846 8270
2,6-Dinitrotoluene	BQL	µg/L	10	SW 846 8270
Acenaphthylene	BQL	µg/L	10	SW 846 8270
3-Nitroaniline	BQL	µg/L	10	SW 846 8270
Acenaphthene	BQL	µg/L	10	SW 846 8270
2,4-Dinitrotoluene	BQL	µg/L	10	SW 846 8270
Dibenzofuran	BQL	µg/L	10	SW 846 8270
Diethylphthalate	BQL	µg/L	10	SW 846 8270
4-Chlorophenylphenyl ether	BQL	µg/L	10	SW 846 8270
Fluorene	BQL	µg/L	10	SW 846 8270
4-Nitroaniline	BQL	µg/L	10	SW 846 8270
N-Nitrosodiphenylamine	BQL	µg/L	10	SW 846 8270
4-Bromophenylphenyl ether	BQL	µg/L	10	SW 846 8270
Hexachlorobenzene	BQL	µg/L	10	SW 846 8270
Phenanthrene	BQL	µg/L	10	SW 846 8270
Anthracene	BQL	µg/L	10	SW 846 8270
di-n-Butylphthalate	BQL	µg/L	10	SW 846 8270
Fluoranthene	BQL	µg/L	10	SW 846 8270
Pyrene	BQL	µg/L	10	SW 846 8270
Butylbenzylphthalate	BQL	µg/L	10	SW 846 8270
3,3-Dichlorobenzidine	BQL	µg/L	10	SW 846 8270
bis(2ethylhexyl)phthalate	BQL	µg/L	10	SW 846 8270
Benzo(a)anthracene	BQL	µg/L	10	SW 846 8270
Chrysene	BQL	µg/L	10	SW 846 8270
di-n-Octylphthalate	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 03/24/93
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 322J-10

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Benzo(b)fluoranthene	BQL	µg/L	10	SW 846 8270
Benzo(k)fluoranthene	BQL	µg/L	10	SW 846 8270
Benzo(a)pyrene	BQL	µg/L	10	SW 846 8270
Indeno(1,2,3-cd)pyrene	BQL	µg/L	10	SW 846 8270
Dibenzo(a,h)anthracene	BQL	µg/L	10	SW 846 8270
Benzo(g,h,i)perylene	BQL	µg/L	10	SW 846 8270
Phenol	BQL	µg/L	10	SW 846 8270
2-Chlorophenol	BQL	µg/L	10	SW 846 8270
2-Methylphenol	BQL	µg/L	10	SW 846 8270
4-Methylphenol	BQL	µg/L	10	SW 846 8270
2-Nitrophenol	BQL	µg/L	10	SW 846 8270
2,4-Dimethylphenol	BQL	µg/L	10	SW 846 8270
Benzoic acid	BQL	µg/L	10	SW 846 8270
2,4-Dichlorophenol	BQL	µg/L	10	SW 846 8270
4-Chloro-3-methylphenol	BQL	µg/L	10	SW 846 8270
2,4,6-Trichlorophenol	BQL	µg/L	10	SW 846 8270
2,4,5-Trichlorophenol	BQL	µg/L	10	SW 846 8270
2,4-Dinitrophenol	BQL	µg/L	20	SW 846 8270
4-Nitrophenol	BQL	µg/L	10	SW 846 8270
4,6-Dinitro-2-methylphenol	BQL	µg/L	10	SW 846 8270
Pentachlorophenol	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-2
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 03/25/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 322J-11

PROJECT ID: 322J

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	91.1 *	NTU	0.1	EPA 180.1
Total Iron	880	mg/L	0.05	EPA 200.7
Soluble Iron	5.2	mg/L	0.05	EPA 200.7
Total Potassium	34	mg/L	1.0	EPA 200.7
Soluble Potassium	36	mg/L	1.0	EPA 200.7
Total Zinc	6.3	mg/L	0.02	EPA 200.7
Soluble Zinc	0.04	mg/L	0.02	EPA 200.7

* Analysis performed in the field.

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 24

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 322J

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
Ammonia	EPA 350.1	322J-8	Matrix Spike	100
Nitrite	EPA 353.2	322J-8	Matrix Spike	96
Total Kjeldahl Nitrogen	EPA 351.2	322J-8	Matrix Spike	90
Total Iron	EPA 200.7	322J-8	Matrix Spike	100
Soluble Iron	EPA 200.7	322J-8	Matrix Spike	92
Total Potassium	EPA 200.7	322J-8	Matrix Spike	98
Soluble Potassium	EPA 200.7	322J-8	Matrix Spike	100
Total Zinc	EPA 200.7	322J-8	Matrix Spike	102
Soluble Zinc	EPA 200.7	322J-8	Matrix Spike	114
1,1-Dichloroethene	SW 846 8240	322J-8	Matrix Spike	88
Trichloroethene	SW 846 8240	322J-8	Matrix Spike	90
Benzene	SW 846 8240	322J-8	Matrix Spike	94
Toluene	SW 846 8240	322J-8	Matrix Spike	95
Chlorobenzene	SW 846 8240	322J-8	Matrix Spike	98

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 322J

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Ammonia	EPA 350.1	322J-8	Duplicate	0
Nitrite	EPA 353.2	322J-8	Duplicate	NA
Total Kjeldahl Nitrogen	EPA 351.2	322J-8	Duplicate	0
Total Iron	EPA 200.7	322J-8	Duplicate	11
Soluble Iron	EPA 200.7	322J-8	Duplicate	3.6
Total Potassium	EPA 200.7	322J-8	Duplicate	15
Soluble Potassium	EPA 200.7	322J-8	Duplicate	5.6
Total Zinc	EPA 200.7	322J-8	Duplicate	NA
Soluble Zinc	EPA 200.7	322J-8	Duplicate	0
Chloromethane	SW 846 8240	322J-8	Duplicate	NA
Bromomethane	SW 846 8240	322J-8	Duplicate	NA
Vinyl chloride	SW 846 8240	322J-8	Duplicate	NA
Chloroethane	SW 846 8240	322J-8	Duplicate	NA
Methylene chloride	SW 846 8240	322J-8	Duplicate	NA
Acetone	SW 846 8240	322J-8	Duplicate	NA
Carbon disulfide	SW 846 8240	322J-8	Duplicate	NA
1,1-Dichloroethene	SW 846 8240	322J-8	Duplicate	NA
1,1-Dichloroethane	SW 846 8240	322J-8	Duplicate	NA
trans-1,2-Dichloroethene	SW 846 8240	322J-8	Duplicate	NA
Chloroform	SW 846 8240	322J-8	Duplicate	NA
1,2-Dichloroethane	SW 846 8240	322J-8	Duplicate	NA
2-Butanone	SW 846 8240	322J-8	Duplicate	NA
1,1,1-Trichloroethane	SW 846 8240	322J-8	Duplicate	NA
Carbon tetrachloride	SW 846 8240	322J-8	Duplicate	NA
Vinyl acetate	SW 846 8240	322J-8	Duplicate	NA
Bromodichloromethane	SW 846 8240	322J-8	Duplicate	NA
1,2-Dichloropropane	SW 846 8240	322J-8	Duplicate	NA
cis-1,3-Dichloropropene	SW 846 8240	322J-8	Duplicate	NA

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 322J

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Trichloroethene	SW 846 8240	322J-8	Duplicate	NA
Benzene	SW 846 8240	322J-8	Duplicate	NA
trans-1,3-Dichloropropene	SW 846 8240	322J-8	Duplicate	NA
Chlorodibromomethane	SW 846 8240	322J-8	Duplicate	NA
1,1,2-Trichloroethane	SW 846 8240	322J-8	Duplicate	NA
Bromoform	SW 846 8240	322J-8	Duplicate	NA
4-Methyl-2-pentanone	SW 846 8240	322J-8	Duplicate	NA
2-Hexanone	SW 846 8240	322J-8	Duplicate	NA
Tetrachloroethene	SW 846 8240	322J-8	Duplicate	NA
1,1,2,2-Tetrachloroethane	SW 846 8240	322J-8	Duplicate	NA
Toluene	SW 846 8240	322J-8	Duplicate	NA
Chlorobenzene	SW 846 8240	322J-8	Duplicate	NA
Ethylbenzene	SW 846 8240	322J-8	Duplicate	NA
Styrene	SW 846 8240	322J-8	Duplicate	NA
m-Xylene	SW 846 8240	322J-8	Duplicate	NA
o/p-Xylene	SW 846 8240	322J-8	Duplicate	NA
bis(2-chloroethyl)ether	SW 846 8270	322J-8	Duplicate	NA
1,3-Dichlorobenzene	SW 846 8270	322J-8	Duplicate	NA
1,4-Dichlorobenzene	SW 846 8270	322J-8	Duplicate	NA
Benzyl alcohol	SW 846 8270	322J-8	Duplicate	NA
1,2-Dichlorobenzene	SW 846 8270	322J-8	Duplicate	NA
bis(2-chloroisopropyl)ether	SW 846 8270	322J-8	Duplicate	NA
N-Nitrosodipropylamine	SW 846 8270	322J-8	Duplicate	NA
Hexachloroethane	SW 846 8270	322J-8	Duplicate	NA
Nitrobenzene	SW 846 8270	322J-8	Duplicate	NA
Isophorone	SW 846 8270	322J-8	Duplicate	NA
bis(2-chloroethoxy)methane	SW 846 8270	322J-8	Duplicate	NA
1,2,4-Trichlorobenzene	SW 846 8270	322J-8	Duplicate	NA

NA = NOT AVAILABLE - ORIGINAL AND/OR DUPLICATE RESULTS ARE BELOW REPORTED LIMITS

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 322J

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Naphthalene	SW 846 8270	322J-8	Duplicate	NA
4-Chloroaniline	SW 846 8270	322J-8	Duplicate	NA
Hexachlorobutadiene	SW 846 8270	322J-8	Duplicate	NA
2-Methylnaphthalene	SW 846 8270	322J-8	Duplicate	NA
Hexachlorocyclopentadiene	SW 846 8270	322J-8	Duplicate	NA
2-Chloronaphthalene	SW 846 8270	322J-8	Duplicate	NA
2-Nitroaniline	SW 846 8270	322J-8	Duplicate	NA
Dimethylphthalate	SW 846 8270	322J-8	Duplicate	NA
2,6-Dinitrotoluene	SW 846 8270	322J-8	Duplicate	NA
Acenaphthylene	SW 846 8270	322J-8	Duplicate	NA
3-Nitroaniline	SW 846 8270	322J-8	Duplicate	NA
Acenaphthene	SW 846 8270	322J-8	Duplicate	NA
2,4-Dinitrotoluene	SW 846 8270	322J-8	Duplicate	NA
Dibenzofuran	SW 846 8270	322J-8	Duplicate	NA
Diethylphthalate	SW 846 8270	322J-8	Duplicate	NA
4-Chlorophenylphenyl ether	SW 846 8270	322J-8	Duplicate	NA
Fluorene	SW 846 8270	322J-8	Duplicate	NA
4-Nitroaniline	SW 846 8270	322J-8	Duplicate	NA
N-Nitrosodiphenylamine	SW 846 8270	322J-8	Duplicate	NA
4-Bromophenylphenyl ether	SW 846 8270	322J-8	Duplicate	NA
Hexachlorobenzene	SW 846 8270	322J-8	Duplicate	NA
Phenanthrene	SW 846 8270	322J-8	Duplicate	NA
Anthracene	SW 846 8270	322J-8	Duplicate	NA
di-n-Butylphthalate	SW 846 8270	322J-8	Duplicate	NA
Fluoranthene	SW 846 8270	322J-8	Duplicate	NA
Pyrene	SW 846 8270	322J-8	Duplicate	NA
Butylbenzylphthalate	SW 846 8270	322J-8	Duplicate	NA
3,3-Dichlorobenzidine	SW 846 8270	322J-8	Duplicate	NA

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 322J

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
bis(2ethylhexyl)phthalate	SW 846 8270	322J-8	Duplicate	NA
Benzo(a)anthracene	SW 846 8270	322J-8	Duplicate	NA
Chrysene	SW 846 8270	322J-8	Duplicate	NA
di-n-Octylphthalate	SW 846 8270	322J-8	Duplicate	NA
Benzo(b)fluoranthene	SW 846 8270	322J-8	Duplicate	NA
Benzo(k)fluoranthene	SW 846 8270	322J-8	Duplicate	NA
Benzo(a)pyrene	SW 846 8270	322J-8	Duplicate	NA
Indeno(1,2,3-cd)pyrene	SW 846 8270	322J-8	Duplicate	NA
Dibenzo(a,h)anthracene	SW 846 8270	322J-8	Duplicate	NA
Benzo(g,h,i)perylene	SW 846 8270	322J-8	Duplicate	NA
Phenol	SW 846 8270	322J-8	Duplicate	NA
2-Chlorophenol	SW 846 8270	322J-8	Duplicate	NA
2-Methylphenol	SW 846 8270	322J-8	Duplicate	NA
4-Methylphenol	SW 846 8270	322J-8	Duplicate	NA
2-Nitrophenol	SW 846 8270	322J-8	Duplicate	NA
2,4-Dimethylphenol	SW 846 8270	322J-8	Duplicate	NA
Benzoic acid	SW 846 8270	322J-8	Duplicate	NA
2,4-Dichlorophenol	SW 846 8270	322J-8	Duplicate	NA
4-Chloro-3-methylphenol	SW 846 8270	322J-8	Duplicate	NA
2,4,6-Trichlorophenol	SW 846 8270	322J-8	Duplicate	NA
2,4,5-Trichlorophenol	SW 846 8270	322J-8	Duplicate	NA
2,4-Dinitrophenol	SW 846 8270	322J-8	Duplicate	NA
4-Nitrophenol	SW 846 8270	322J-8	Duplicate	NA
4,6-Dinitro-2-methylphenol	SW 846 8270	322J-8	Duplicate	NA
Pentachlorophenol	SW 846 8270	322J-8	Duplicate	NA

AES Job Code CTC:

AES Job No. 322J

[illegible]

Advanced Environmental Services

AES Job Code CTC

Sample Traceability Report

AES Job No. 322J

Inorganics Analysis

AES Sample No.	Sample Date	Sample Prep			Analysis		
		Method Number	Date	Analyst	Method Number	Date	Analyst
1,47,	3-25-93	351.2	3-31-93	CW/TS	351.2	4-1-93	J.A.
3 2	3-26-93	351.2	3-31-93	CW/TS	351.2	4-1-93	J.A.
12		351.2	3-31-93	CW/TS	351.2	4-1-93	J.A.
3, 8, 10	3-24-93	351.2	3-31-93	CW/TS	351.2	4-1-93	J.A.
322J (1-10)	3/24-24/93	NR	NR	NR	353.2	4-1-93	J.A.
322J (1-10)	3/24-26/93	NR	NR	NR	350.1	4-2-93	J.A.
8	3-24-93	351.2	4-5-93	CW			
322J-8	3-24-93	NR	NR	NR Tvc	351.2	4-6-93	J.A.

Advanced Environmental Services

AES Job Code C/C

Sample Traceability Report

AES Job No. 322J

Organics Analysis

AES Sample No.	Sample Date	Sample Prep			Analysis		
		Method Number	Date	Analyst	Method Number	Date	Analyst
322J-6	3/25/93				8240	3/29-3/30/93	KR
322J-8	3/24/93				8240	3/29/93	KR
322J-9	3/25/93				8240	3/30/93	KR
322J-10	3/24/93				8240	3/30/93	KR
322J-6	3/25/93	³⁵¹⁰ 8270	3/31/93	MM	8270	4/5/93	JF
322J-8	3/24/93						
322J-9	3/25/93						
322J-10	3/24/93						
322J-12	3/24/93						



PROJECT NAME: UCAR CARBON

SAMPLER'S SIGNATURE: *Scott Elmer*

JOB CODE: CTC

IDENTIFICATION OF
BLIND FIELD DUPLICATE SITE: _____

NOTE: Please indicate required analysis, and whom we may contact with questions, if you have not yet done so through your customer service representative.

1. RELINQUISHED BY: 	DATE 3/26/93	TIME 4:29 p.m.	RECEIVED BY: 
2. RELINQUISHED BY: _____	DATE _____	TIME _____	RECEIVED BY: _____
3. RELINQUISHED BY: _____	DATE _____	TIME _____	RECEIVED BY: _____