



MITCHELL (MTH)
M. McINTOSH

gpr

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

August 3, 1993

AUG 09 1993

Mr. Peter J. Buechi, P. E.
Regional Engineer
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, N. Y. 14203-2999

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

Dear Mr. Buechi:

I am addressing this report to your attention since I was so informed Mr. Robert J. Mitrey has transferred out of the Region 9 office. If this is in error please let me know to whom I should send it.

I am enclosing a copy of the twenty-first 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>21st Qtr.</u> <u>ppb</u>	<u>Mean</u> <u>Conc. ppb</u>	<u>Range</u> <u>ppb</u>
Vinyl chloride	96	104	29-300
1,2 - Dichloroethene (total)	500	254	7-500
Trichloroethene	300	307	30-740
Tetrachloroethene	280	288	72-400
Hexachloroethane	10	11	10-12
Hexachlorobutadiene	49	51	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, BW-6-86, continues to show no contamination.

August 3, 1993

Page 2

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

Very truly yours,

A handwritten signature in cursive script that reads "R. A. Bolton".

R. A. Bolton, Manager

RAB:cjm

Enclosure

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, NY 12233

A. C. Ogg

AUG 09 1993

UCAR CARBON COMPANY, INCORPORATED

**REPUBLIC WASTE MANAGEMENT FACILITY
POST CLOSURE MONITORING PROGRAM
QUARTERLY REPORT**

Prepared By:

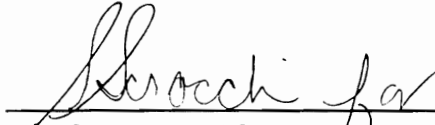


"A Company Dedicated to Honesty, Quality and Service"

July 9, 1993
REF: CTC32V7

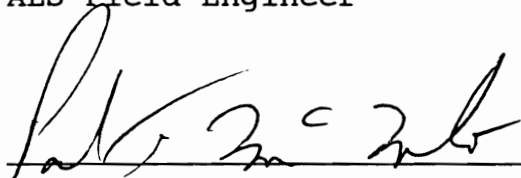
QA/QC VERIFICATION FOR PROJECT ID 32V7

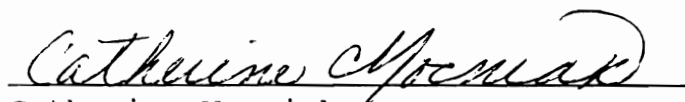
The following report, as well as the supporting data, have been carefully reviewed for accuracy, adherence to the cited methods, and completeness. All data contained in this report was generated in accordance with the AES Laboratory Quality Assurance/Quality Control Program.


Linda A. Ratka
Inorganic Senior Technician


Joseph P. Masaracchia
Laboratory Manager


Dennis J. Hoyt
AES 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

Advanced Environmental Services, Inc.

2186 Liberty Drive
Niagara Falls, New York 14304
(716) 283-3120

QUARTERLY GROUNDWATER MONITORING - FIELD PARAMETER INFORMATION

June 21, 1993 thru June 23, 1993

UCAR CARBON COMPANY, INC.

Hyde Park Boulevard
Niagara Falls, New York

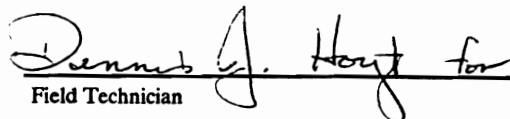
AES Code: CTC

Project I.D. #32V7

Monitoring Well I.D.	Sampling Date	Sampling Time	Water Level (ft.)	Turbidity (NTU)	Filter Time	Field Comments/Observations
BW-1	6/21/93	12:07 PM	15.60	1.75	12:07 PM	Clear with strong sulfur odor.
BW-2	6/21/93	3:05 PM	12.97	22.00	3:05 PM	Clear with a sweet odor.
BW-3	6/22/93	3:25 PM	10.21	1.55	3:25 PM	Clear with a slight odor.
BW-4	6/23/93	11:35 AM	10.90	1.50	11:35 AM	Clear with an odor.
BW-5	6/23/93	1:45 PM	8.80	1.65	1:45 PM	Clear with a sulfur odor.
BW-6	6/22/93	2:30 PM	15.45	425.00	2:30 PM	Cloudy orange.
MW-1	6/22/93	11:00 AM	11.56	18.50	11:10 AM	Clear with no odor.
MW-2**	6/22/93	11:55 AM	24.25	320.00	NA	Black with stringy solids and strong "leachate-smelling" odor.
MW-3	6/22/93	11:30 AM	7.85	22.50	11:35 AM	Clear with a few solids.
OW-1 South	6/22/93	12:20 PM	6.30	NA	NA	Required to take water elevation only.
OW-2 North	6/22/93	12:25 PM	6.64	NA	NA	Required to take water elevation only.
Blind Dup	6/22/93	2:30 PM	15.45	448.00	2:30 PM	Cloudy orange.
Trip Blank	6/22/93	9:00 AM	NA	1.85	NA	Deionized Water

** Insufficient volume and recharge rate to collect for metals.

The Blind Duplicate site is BW-6.


Field Technician

7-9-93
Date

Advanced Environmental Services, Inc.

2186 Liberty Drive
Niagara Falls, New York 14304
(716) 283-3120

QUARTERLY GROUNDWATER MONITORING - WELL INFORMATION

June 21, 1993 thru June 23, 1993

UCAR CARBON COMPANY, INC.

Hyde Park Boulevard
Niagara Falls, New York

AES Code: CTC

Project I.D. # 32V7

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	6/21/93	610.72	4	15.27	595.45	34.50	12.55	38.0	C
BW-2	6/21/93	608.43	4	12.57	595.86	35.00	14.64	44.0	C
BW-3	6/22/93	604.72	4	10.20	594.52	22.40	7.96	24.0	C
BW-4	6/23/93	607.08	4	10.48	596.60	25.00	9.48	55.0	C
BW-5	6/23/93	603.33	4	8.75	594.58	24.90	10.54	60.0	C
BW-6	6/22/93	607.04	4	13.08	593.96	32.90	12.94	40.0	R
MW-1	6/21/93	609.43	2	11.21	598.22	21.10	1.61	2.0 (Dry)	S
MW-2	6/21/93	607.54	2	23.96	583.58	24.10	0.02	250 mls (Dry)	VS
MW-3	6/21/93	601.61	2	7.57	594.04	15.00	1.21	3.1	R
OW-1 SOUTH	6/23/93	608.81	2	6.30	602.51	36.05	4.86	NR	N/A
OW-2 NORTH	6/23/93	607.06	2	6.64	600.42	35.90	4.78	NR	N/A

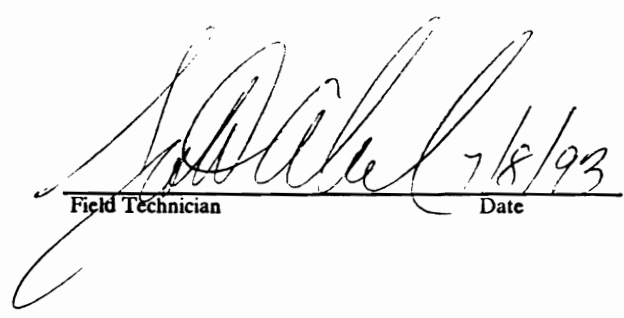
Abbreviations:

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.


Field Technician

7/8/93
Date

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-1
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 06/22/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 32V7-1

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	18.50*	NTU	0.1	EPA 180.1
Ammonia	6.00	mg/L	0.05	EPA 350.1
Nitrite	0.06	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	7.2	mg/L	0.1	EPA 351.2
Total Iron	0.87	mg/L	0.05	EPA 200.7
Soluble Iron	0.08	mg/L	0.05	EPA 200.7
Total Potassium	39	mg/L	1.0	EPA 200.7
Soluble Potassium	35	mg/L	1.0	EPA 200.7
Total Zinc	0.12	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: MW-3
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 06/22/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 32V7-2

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	22.50*	NTU	0.1	EPA 180.1
Ammonia	BQL	mg/L	0.05	EPA 350.1
Nitrite	0.09	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	BQL	mg/L	0.1	EPA 351.2
Total Iron	1.7	mg/L	0.05	EPA 200.7
Soluble Iron	0.08	mg/L	0.05	EPA 200.7
Total Potassium	2.6	mg/L	1.0	EPA 200.7
Soluble Potassium	1.5	mg/L	1.0	EPA 200.7
Total Zinc	0.18	mg/L	0.02	EPA 200.7
Soluble Zinc	0.08	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): 06/21/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 32V7-3

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	1.75 *	NTU	0.1	EPA 180.1
Ammonia	0.35	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	0.9	mg/L	0.1	EPA 351.2
Total Iron	1.2	mg/L	0.05	EPA 200.7
Soluble Iron	1.1	mg/L	0.05	EPA 200.7
Total Potassium	2.8	mg/L	1.0	EPA 200.7
Soluble Potassium	2.8	mg/L	1.0	EPA 200.7
Total Zinc	0.20	mg/L	0.02	EPA 200.7
Soluble Zinc	0.10	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): 06/21/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 32V7-4

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	22.00 *	NTU	0.1	EPA 180.1
Ammonia	0.90	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	1.6	mg/L	0.1	EPA 351.2
Total Iron	4.2	mg/L	0.05	EPA 200.7
Soluble Iron	4.8	mg/L	0.05	EPA 200.7
Total Potassium	6.3	mg/L	1.0	EPA 200.7
Soluble Potassium	5.7	mg/L	1.0	EPA 200.7
Total Zinc	3.5	mg/L	0.02	EPA 200.7
Soluble Zinc	0.10	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): 06/22/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 32V7-5

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	1.55 *	NTU	0.1	EPA 180.1
Ammonia	1.30	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	1.6	mg/L	0.1	EPA 351.2
Total Iron	1.8	mg/L	0.05	EPA 200.7
Soluble Iron	1.7	mg/L	0.05	EPA 200.7
Total Potassium	8.1	mg/L	1.0	EPA 200.7
Soluble Potassium	8.1	mg/L	1.0	EPA 200.7
Total Zinc	0.16	mg/L	0.02	EPA 200.7
Soluble Zinc	0.05	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): 06/23/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-6

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	1.50 *	NTU	0.1	EPA 180.1
Ammonia	4.15	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	6.1	mg/L	0.1	EPA 351.2
Total Iron	3.0	mg/L	0.05	EPA 200.7
Soluble Iron	2.7	mg/L	0.05	EPA 200.7
Total Potassium	22	mg/L	1.0	EPA 200.7
Soluble Potassium	21	mg/L	1.0	EPA 200.7
Total Zinc	0.17	mg/L	0.02	EPA 200.7
Soluble Zinc	0.04	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	96	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
1,2-Dichloroethene(total)	500	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): 06/23/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-6

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
cis-1,3-Dichloropropene	BQL	µg/L	10	SW 846 8240
Trichloroethene	300	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	280	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	10	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): 06/23/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-6

PROJECT ID: 32V7

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	49	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): 06/23/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-6

PROJECT ID: 32V7

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	10	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): 06/23/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 32V7-7

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	1.65 *	NTU	0.1	EPA 180.1
Ammonia	0.12	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	1.0	mg/L	0.05	EPA 200.7
Soluble Iron	1.0	mg/L	0.05	EPA 200.7
Total Potassium	3.0	mg/L	1.0	EPA 200.7
Soluble Potassium	3.0	mg/L	1.0	EPA 200.7
Total Zinc	0.25	mg/L	0.02	EPA 200.7
Soluble Zinc	0.22	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): 06/22/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-8

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	425.00*	NTU	0.1	EPA 180.1
Ammonia	0.90	mg/L	0.05	EPA 350.1
Nitrite	0.26	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	0.9	mg/L	0.1	EPA 351.2
Total Iron	12	mg/L	0.05	EPA 200.7
Soluble Iron	8.5	mg/L	0.05	EPA 200.7
Total Potassium	1.4	mg/L	1.0	EPA 200.7
Soluble Potassium	1.2	mg/L	1.0	EPA 200.7
Total Zinc	0.12	mg/L	0.02	EPA 200.7
Soluble Zinc	0.08	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
1,2-Dichloroethene(total)	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): 06/22/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-8

PROJECT ID: 32V7

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): 06/22/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-8

PROJECT ID: 32V7

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
bis(2ethylhexyl)phthalate	BQL	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/22/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-8

PROJECT ID: 32V7

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	10	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): 06/22/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-9

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	448.00*	NTU	0.1	EPA 180.1
Ammonia	0.27	mg/L	0.05	EPA 350.1
Nitrite	0.19	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	0.7	mg/L	0.1	EPA 351.2
Total Iron	13	mg/L	0.05	EPA 200.7
Soluble Iron	5.8	mg/L	0.05	EPA 200.7
Total Potassium	2.0	mg/L	1.0	EPA 200.7
Soluble Potassium	1.7	mg/L	1.0	EPA 200.7
Total Zinc	0.13	mg/L	0.02	EPA 200.7
Soluble Zinc	0.08	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
1,2-Dichloroethene(total)	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: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/22/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-9

PROJECT ID: 32V7

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	21	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: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/22/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-9

PROJECT ID: 32V7

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
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): 06/22/93
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-9

PROJECT ID: 32V7

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	10	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): 06/22/93
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-10

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	1.85 *	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
1,1-Dichloroethane	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
1,2-Dichloroethene(total)	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/22/93
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-10

PROJECT ID: 32V7

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): 06/22/93
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-10

PROJECT ID: 32V7

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): 06/22/93
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 32V7-10

PROJECT ID: 32V7

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	10	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): 06/22/93
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 32V7-11

PROJECT ID: 32V7

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	320.00*	NTU	0.1	EPA 180.1
Ammonia	28 **	mg/L	0.05	EPA 350.1
Nitrite	BQL	mg/L	0.05	EPA 353.2
Total Kjeldahl Nitrogen	4.4 **	mg/L	0.1	EPA 351.2

* Analysis performed in the field.

** Deviance in TKN and ammonia results due to sample matrix.

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 24

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 32V7

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
Ammonia	EPA 350.1	32V7-6	Matrix Spike	92
Nitrite	EPA 353.2	32V7-6	Matrix Spike	96
Total Kjeldahl Nitrogen	EPA 351.2	32V7-6	Matrix Spike	117
Total Iron	EPA 200.7	32V7-6	Matrix Spike	92
Soluble Iron	EPA 200.7	32V7-6	Matrix Spike	90
Total Potassium	EPA 200.7	32V7-6	Matrix Spike	90
Soluble Potassium	EPA 200.7	32V7-6	Matrix Spike	90
Total Zinc	EPA 200.7	32V7-6	Matrix Spike	102
Soluble Zinc	EPA 200.7	32V7-6	Matrix Spike	96
1,1-Dichloroethene	SW 846 8240	32V7-6	Matrix Spike	101
Trichloroethene	SW 846 8240	32V7-6	Matrix Spike	79
Benzene	SW 846 8240	32V7-6	Matrix Spike	99
Toluene	SW 846 8240	32V7-6	Matrix Spike	122
Chlorobenzene	SW 846 8240	32V7-6	Matrix Spike	95
1,4-Dichlorobenzene	SW 846 8270	32V7-6	Matrix Spike	83
N-Nitrosodipropylamine	SW 846 8270	32V7-6	Matrix Spike	94
1,2,4-Trichlorobenzene	SW 846 8270	32V7-6	Matrix Spike	87
Acenaphthene	SW 846 8270	32V7-6	Matrix Spike	83
2,4-Dinitrotoluene	SW 846 8270	32V7-6	Matrix Spike	91
Pyrene	SW 846 8270	32V7-6	Matrix Spike	76
Phenol	SW 846 8270	32V7-6	Matrix Spike	46
2-Chlorophenol	SW 846 8270	32V7-6	Matrix Spike	77
4-Chloro-3-methylphenol	SW 846 8270	32V7-6	Matrix Spike	77
4-Nitrophenol	SW 846 8270	32V7-6	Matrix Spike	88
Pentachlorophenol	SW 846 8270	32V7-6	Matrix Spike	43

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 32V7

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Ammonia	EPA 350.1	32V7-6	Duplicate	4.1
Nitrite	EPA 353.2	32V7-6	Duplicate	NA
Total Kjeldahl Nitrogen	EPA 351.2	32V7-6	Duplicate	13
Total Iron	EPA 200.7	32V7-6	Duplicate	3.3
Soluble Iron	EPA 200.7	32V7-6	Duplicate	0
Total Potassium	EPA 200.7	32V7-6	Duplicate	0
Soluble Potassium	EPA 200.7	32V7-6	Duplicate	0
Total Zinc	EPA 200.7	32V7-6	Duplicate	0
Soluble Zinc	EPA 200.7	32V7-6	Duplicate	0
Chloromethane	SW 846 8240	32V7-6	Duplicate	NA
Bromomethane	SW 846 8240	32V7-6	Duplicate	NA
Vinyl chloride	SW 846 8240	32V7-6	Duplicate	10
Chloroethane	SW 846 8240	32V7-6	Duplicate	NA
Methylene chloride	SW 846 8240	32V7-6	Duplicate	NA
Acetone	SW 846 8240	32V7-6	Duplicate	NA
Carbon disulfide	SW 846 8240	32V7-6	Duplicate	NA
1,1-Dichloroethene	SW 846 8240	32V7-6	Duplicate	NA
1,1-Dichloroethane	SW 846 8240	32V7-6	Duplicate	NA
1,2-Dichloroethene(total)	SW 846 8240	32V7-6	Duplicate	1.0
Chloroform	SW 846 8240	32V7-6	Duplicate	NA
1,2-Dichloroethane	SW 846 8240	32V7-6	Duplicate	NA
2-Butanone	SW 846 8240	32V7-6	Duplicate	NA
1,1,1-Trichloroethane	SW 846 8240	32V7-6	Duplicate	NA
Carbon tetrachloride	SW 846 8240	32V7-6	Duplicate	NA
Vinyl acetate	SW 846 8240	32V7-6	Duplicate	NA
Bromodichloromethane	SW 846 8240	32V7-6	Duplicate	NA
1,2-Dichloropropane	SW 846 8240	32V7-6	Duplicate	NA
cis-1,3-Dichloropropene	SW 846 8240	32V7-6	Duplicate	NA

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 26

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 32V7

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Trichloroethene	SW 846 8240	32V7-6	Duplicate	0.8
Benzene	SW 846 8240	32V7-6	Duplicate	NA
trans-1,3-Dichloropropene	SW 846 8240	32V7-6	Duplicate	NA
Chlorodibromomethane	SW 846 8240	32V7-6	Duplicate	NA
1,1,2-Trichloroethane	SW 846 8240	32V7-6	Duplicate	NA
Bromoform	SW 846 8240	32V7-6	Duplicate	NA
4-Methyl-2-pentanone	SW 846 8240	32V7-6	Duplicate	NA
2-Hexanone	SW 846 8240	32V7-6	Duplicate	NA
Tetrachloroethene	SW 846 8240	32V7-6	Duplicate	2.0
1,1,2,2-Tetrachloroethane	SW 846 8240	32V7-6	Duplicate	NA
Toluene	SW 846 8240	32V7-6	Duplicate	NA
Chlorobenzene	SW 846 8240	32V7-6	Duplicate	NA
Ethylbenzene	SW 846 8240	32V7-6	Duplicate	NA
Styrene	SW 846 8240	32V7-6	Duplicate	NA
m-Xylene	SW 846 8240	32V7-6	Duplicate	NA
o/p-Xylene	SW 846 8240	32V7-6	Duplicate	NA
bis(2-chloroethyl)ether	SW 846 8270	32V7-6	Duplicate	NA
1,3-Dichlorobenzene	SW 846 8270	32V7-6	Duplicate	NA
1,4-Dichlorobenzene	SW 846 8270	32V7-6	Duplicate	NA
Benzyl alcohol	SW 846 8270	32V7-6	Duplicate	NA
1,2-Dichlorobenzene	SW 846 8270	32V7-6	Duplicate	NA
bis(2-chloroisopropyl)ether	SW 846 8270	32V7-6	Duplicate	NA
N-Nitrosodipropylamine	SW 846 8270	32V7-6	Duplicate	NA
Hexachloroethane	SW 846 8270	32V7-6	Duplicate	NA
Nitrobenzene	SW 846 8270	32V7-6	Duplicate	NA
Isophorone	SW 846 8270	32V7-6	Duplicate	NA
bis(2-chloroethoxy)methane	SW 846 8270	32V7-6	Duplicate	NA
1,2,4-Trichlorobenzene	SW 846 8270	32V7-6	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: 32V7

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Naphthalene	SW 846 8270	32V7-6	Duplicate	NA
4-Chloroaniline	SW 846 8270	32V7-6	Duplicate	NA
Hexachlorobutadiene	SW 846 8270	32V7-6	Duplicate	4
2-Methylnaphthalene	SW 846 8270	32V7-6	Duplicate	NA
Hexachlorocyclopentadiene	SW 846 8270	32V7-6	Duplicate	NA
2-Chloronaphthalene	SW 846 8270	32V7-6	Duplicate	NA
2-Nitroaniline	SW 846 8270	32V7-6	Duplicate	NA
Dimethylphthalate	SW 846 8270	32V7-6	Duplicate	NA
2,6-Dinitrotoluene	SW 846 8270	32V7-6	Duplicate	NA
Acenaphthylene	SW 846 8270	32V7-6	Duplicate	NA
3-Nitroaniline	SW 846 8270	32V7-6	Duplicate	NA
Acenaphthene	SW 846 8270	32V7-6	Duplicate	NA
2,4-Dinitrotoluene	SW 846 8270	32V7-6	Duplicate	NA
Dibenzofuran	SW 846 8270	32V7-6	Duplicate	NA
Diethylphthalate	SW 846 8270	32V7-6	Duplicate	NA
4-Chlorophenylphenyl ether	SW 846 8270	32V7-6	Duplicate	NA
Fluorene	SW 846 8270	32V7-6	Duplicate	NA
4-Nitroaniline	SW 846 8270	32V7-6	Duplicate	NA
N-Nitrosodiphenylamine	SW 846 8270	32V7-6	Duplicate	NA
4-Bromophenylphenyl ether	SW 846 8270	32V7-6	Duplicate	NA
Hexachlorobenzene	SW 846 8270	32V7-6	Duplicate	NA
Phenanthrene	SW 846 8270	32V7-6	Duplicate	NA
Anthracene	SW 846 8270	32V7-6	Duplicate	NA
di-n-Butylphthalate	SW 846 8270	32V7-6	Duplicate	NA
Fluoranthene	SW 846 8270	32V7-6	Duplicate	NA
Pyrene	SW 846 8270	32V7-6	Duplicate	NA
Butylbenzylphthalate	SW 846 8270	32V7-6	Duplicate	NA
3,3-Dichlorobenzidine	SW 846 8270	32V7-6	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: 32V7

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
bis(2ethylhexyl)phthalate	SW 846 8270	32V7-6	Duplicate	NA
Benzo(a)anthracene	SW 846 8270	32V7-6	Duplicate	NA
Chrysene	SW 846 8270	32V7-6	Duplicate	NA
di-n-Octylphthalate	SW 846 8270	32V7-6	Duplicate	NA
Benzo(b)fluoranthene	SW 846 8270	32V7-6	Duplicate	NA
Benzo(k)fluoranthene	SW 846 8270	32V7-6	Duplicate	NA
Benzo(a)pyrene	SW 846 8270	32V7-6	Duplicate	NA
Indeno(1,2,3-cd)pyrene	SW 846 8270	32V7-6	Duplicate	NA
Dibenzo(a,h)anthracene	SW 846 8270	32V7-6	Duplicate	NA
Benzo(g,h,i)perylene	SW 846 8270	32V7-6	Duplicate	NA
Phenol	SW 846 8270	32V7-6	Duplicate	NA
2-Chlorophenol	SW 846 8270	32V7-6	Duplicate	NA
2-Methylphenol	SW 846 8270	32V7-6	Duplicate	NA
4-Methylphenol	SW 846 8270	32V7-6	Duplicate	NA
2-Nitrophenol	SW 846 8270	32V7-6	Duplicate	NA
2,4-Dimethylphenol	SW 846 8270	32V7-6	Duplicate	NA
Benzoic acid	SW 846 8270	32V7-6	Duplicate	NA
2,4-Dichlorophenol	SW 846 8270	32V7-6	Duplicate	NA
4-Chloro-3-methylphenol	SW 846 8270	32V7-6	Duplicate	NA
2,4,6-Trichlorophenol	SW 846 8270	32V7-6	Duplicate	NA
2,4,5-Trichlorophenol	SW 846 8270	32V7-6	Duplicate	NA
2,4-Dinitrophenol	SW 846 8270	32V7-6	Duplicate	NA
4-Nitrophenol	SW 846 8270	32V7-6	Duplicate	NA
4,6-Dinitro-2-methylphenol	SW 846 8270	32V7-6	Duplicate	NA
Pentachlorophenol	SW 846 8270	32V7-6	Duplicate	NA

Add Job Code ()

AMM Job No. 5 x 1 1

Notes: Areas marked using a dash indicate that no sample preparation was required under the applied methodology.

Advanced Environmental Services

AES Job Code 0101

Sample Traceability Report

AES Job No. 3207

Inorganics Analysis

AES Sample No.	Sample Date	Sample Prep			Analysis		
		Method Number	Date	Analyst	Method Number	Date	Analyst
1-11	6/21-23/93	351.2	7-1-93	CLW	351.2	7/2/93	TS
1-11	6/21-23/93	—	—	—	353.2	7/6/93	TS
1-11	6/21-23/93	—	—	—	350.1	7/1/93	TS

Note: Areas marked using a dash indicate that no sample preparation was required under the applied methodology.

Advanced Environmental Services

Sample Traceability Report

Inorganics Analysis

AES Job Code 070

AES Job No. 3217

AES Sample No.	Sample Date	Sample Prep			Analysis		
		Method Number	Date	Analyst	Method Number	Date	Analyst
3247-1-11 TOT	6/21-23/93	9.3	7/1/93	DD	200.7	7/8/93	CD

Note: Areas marked using a dash indicate that no sample preparation was required under the applied methodology.



CHAIN OF CUSTODY RECORD

PROJECT NAME: LICHEN CARBON

SAMPLER'S SIGNATURE:

CONTAINER CLASSIFICATION

JOB CODE: CTC 32V

IDENTIFICATION OF
BLIND FIELD DUPLICATE SITE: _____

DATE	TIME	SAMPLE IDENTIFICATION	GRAB	COMP	SAMPLE TYPE									TOTAL	PARAMETERS/REMARKS
						UNPRES.	HNO ₃	H ₂ SO ₄	HCL	NAOH	VIAL (P)	VIAL (U)			
6-21-93	12:07	BW-1	x		GAC IN DWATER	2	1						3	TOTAL & SOLUBLE METALS	
6-21-93	15:05	BW-2	x		C	2	1						3	TRN, HMMO, N/A TE	

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 6-21-93	TIME 16:40	RECEIVED BY: 
2. RELINQUISHED BY: _____	DATE	TIME	RECEIVED BY: _____
3. RELINQUISHED BY: _____	DATE	TIME	RECEIVED BY: _____

CHAIN OF CUSTODY RECORD

PROJECT NAME: LOCAL CARBON

SAMPLER'S SIGNATURE: [Signature]

CONTAINER CLASSIFICATION						
UNPRESERVED	HNO ₃	H ₂ SO ₄	HCL	NAOH	VIAL (PRES.)	VIAL (UNPRES.)

JOB CODE: CTC 32V7

IDENTIFICATION OF BLIND FIELD DUPLICATE SITE: 210-1

DATE	TIME	SAMPLE IDENTIFICATION	GRAB	COMP	SAMPLE TYPE	UNPRESERVED	HNO ₃	H ₂ SO ₄	HCL	NAOH	VIAL (PRES.)	VIAL (UNPRES.)	TOTAL	PARAMETERS/REMARKS
6-22-93	1:00	HW-1	x		GROUNDEWATER	2	1						3	TRN, P, M, N, TE, T, S, C, H, E, M, I, S, T, R, Y
	11:30	HW-3	x			2	1						3	" " " " " " " "
	11:55	HW-2	x				1						1	TRN, P, M, N, TE
	15:25	BW-3	x			2	1						3	TRN, P, M, N, TE, T, S, C, H, E, M, I, S, T, R, Y
	14:30	BW-6	x			1	2	1				2	6	TRN, P, M, N, TE, T, S, C, H, E, M, I, S, T, R, Y
	14:30	BLIND FIELD	x			1	2	1				2	6	TRN, P, M, N, TE, T, S, C, H, E, M, I, S, T, R, Y
	9:00	TRIP PARK	x		DI-WATER	1	1	1				2	5	TRN, P, M, N, TE, T, S, C, H, E, M, I, S, T, R, Y

TOTAL NUMBER OF CONTAINERS 27

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: <u>[Signature]</u>	DATE <u>6-22-93</u>	TIME <u>17:00</u>	RECEIVED BY: <u>[Signature]</u>
2. RELINQUISHED BY: _____	DATE _____	TIME _____	RECEIVED BY: _____
3. RELINQUISHED BY: _____	DATE _____	TIME _____	RECEIVED BY: _____

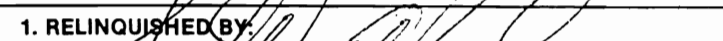
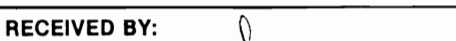


32V7

SAMPLER'S SIGNATURE: [Signature]

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 6-23-93	TIME 5 ¹⁰ pm	RECEIVED BY: 
2. RELINQUISHED BY: _____	DATE	TIME	RECEIVED BY: _____
3. RELINQUISHED BY: _____	DATE	TIME	RECEIVED BY: _____