



UCAR CARBON COMPANY INC.

32 NO3. 6W52

MSH
MM/

P.O. Box 887, Niagara Falls, NY 14302-0887

April 25, 1999

RECEIVED

Mr. Mark Hans, PE
Regional Solid Materials Engineer
NYS Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

JUN 28 1999 3EN¹⁰³

NYSDEC - REG. 9
FOIL
☒REL ☐UNREL

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

Dear Mr. Hans,

Please find enclosed a copy of the forty-fifth (45) quarter's groundwater analysis from the closed Republic Waste Management Facility. Bedrock Well, BW-4, continues to demonstrate some slight semi-volatile organic contamination in less than one part per million range.

The downgradient Bedrock Well, BW-6, shows no contamination.

If you have any questions, please contact me at 278-3275.

Very truly yours,

A.C. Ogg
Site Manager

A.C. Ogg
nm
Attachments

**QUARTERLY REPORT OF GROUNDWATER ANALYSIS
REPUBLIC SOLID WASTE MANAGEMENT FACILITY POST-CLOSURE MONITORING PROGRAM**

45th QUARTER

POSITIVE ORGANIC PARAMETERS FROM BW-4

CONTAMINATE	45th Quarter ppb	Mean Conc. ppb	Range ppb
Trichloroethene	123	284	30 - 740
Tetrachloroethene	129	225	72 – 601
Hexachlobutadiene	21	49	10 – 160
Vinyl Chloride	124	100	29 – 300
cis-1,2 Dichloroethene	197	167	137 - 197

CC: Mr. Jim Devald, Dir. of Environmental Health
Niagara County Health Department
Environmental Division
5467 Upper Mountain Road
Lockport, New York 14094-1899

RECEIVED

JUN 28 1999

NYSDEC - REG. 9
FOIL
REL UNREL

UCAR CARBON COMPANY, INCORPORATED

REPUBLIC WASTE MANAGEMENT FACILITY

POST CLOSURE MONITORING PROGRAM

QUARTERLY REPORT

MAY 1999

Prepared By:

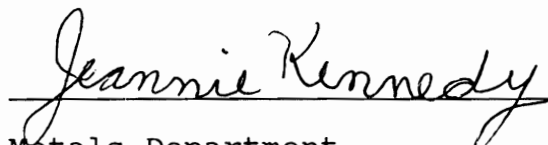


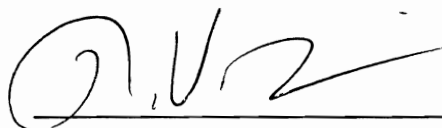
"A Company Dedicated to Honesty, Quality and Service"

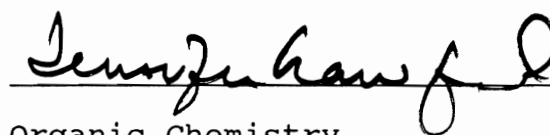
June 17, 1999
REF: CTC91VN/100B
Lab ID No. 10233

QA/QC VERIFICATION FOR PROJECT ID 91VN

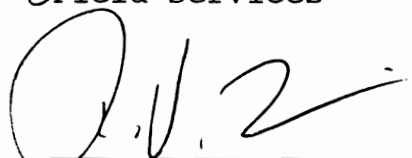
The following report, as well as the supporting data, have been carefully reviewed for accuracy, adherence to the cited methods, and completeness. All data contained in this report was generated in accordance with the AES Laboratory Quality Assurance/Quality Control Program.

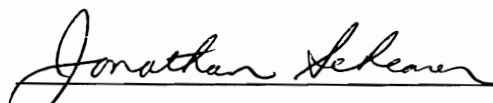

Metals Department


Inorganic Chemistry


Organic Chemistry


Field Services


Quality Control


Project Manager

All 'Total' results on soil matrices are calculated on a dry weight basis, unless otherwise noted. Analyses noted as 'Performed in the laboratory' require immediate testing and should be performed in the field.

The following are standard abbreviations:

BQL - Below Quantifiable Limits
ND - None Detected
NG - No Growth of Colonies
NR - Not Requested
D - Indicates a dilution was required

Advanced Environmental Services, Inc.

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

QUARTERLY GROUNDWATER MONITORING - FIELD PARAMETER INFORMATION
May 27/28 1999

UCAR CARBON COMPANY, INC.

Hyde Park Boulevard
Niagara Falls, New York

AES Code: CTC

Project I.D. # 91VN

Monitoring Well I.D.	Sampling Date	Sampling Time	Water Level (ft.)	Turbidity (NTU)	Filter Time	Field Comments/Observations
BW-1	05/28/99	2:00 PM	17.86	16.9	4:10 PM	Clear
BW-2	05/28/99	11:35 AM	14.15	32.6	3:40 PM	Black Tint
BW-3	05/28/99	11:40 AM	11.83	11.3	3:50 PM	Clear.
BW-4	05/28/99	12:30 PM	11.62	4.9	4:05 PM	Clear-Oily Sheen
BW-5	05/28/99	11:50 AM	9.80	7.5	2:50 PM	Clear,SO2
BW-6	05/28/99	10:55 AM	14.13	48.2	3:35 PM	Brown Tint
MW-1	05/28/99	2:20 PM	13.80	16.6	4:15 PM	Clear
MW-2	05/28/99	11:20 AM	24.07	398.0	3:40 PM	Brown
MW-3	05/28/99	12:00 PM	10.10	15.9	3:50 PM	Clear
OW-1 South	05/27/99	2:50 PM	7.65	NA	NA	Required to take water elevation only.
OW-2 North	05/27/99	2:55 PM	6.92	NA	NA	Required to take water elevation only.
Blind Dup	05/28/99	10:55 AM	11.82	51.5	3:30 PM	Brown Tint
Trip Blank	05/28/99	3:20 PM	NA	NA	NA	Deionized Water

The Blind Duplicate site was BW-6.


Field Technician

6/1/99
Date

Advanced Environmental Services, Inc.

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

QUARTERLY GROUNDWATER MONITORING - WELL INFORMATION

May 27/28 1999

UCAR CARBON COMPANY, INC.

Hyde Park Boulevard
Niagara Falls, New York

AES Code: CTC

Project I.D. # 91VN

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	5/27/99	610.72	4	16.90	593.82	28.82	7.78	24.0	C
BW-2	5/27/99	608.43	4	15.00	593.43	25.62	6.53	20.0	C
BW-3	5/27/99	604.72	4	11.65	593.07	24.82	8.60	26.0	C
BW-4	5/27/99	607.08	4	11.62	595.46	22.70	7.23	22.0	C
BW-5	5/27/99	603.33	4	9.72	593.61	28.71	12.40	37.5	C
BW-6	5/27/99	607.04	4	14.09	592.95	25.09	7.18	22.0	C
MW-1	5/27/99	609.43	2	11.90	597.53	23.35	1.87	2.25 (Dry)	S
MW-2	5/27/99	607.54	3	20.60	586.94	24.60	1.47	2.5 (Dry)	S
MW-3	5/27/99	601.61	2	8.77	592.84	15.91	1.17	2.75(Dry)	S
OW-1 SOUTH	5/27/99	608.81	2	7.65	601.16	NR	NR	NR	N/A
OW-2 NORTH	5/27/99	607.06	2	6.45	600.61	NR	NR	NR	N/A

Abbreviations:

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

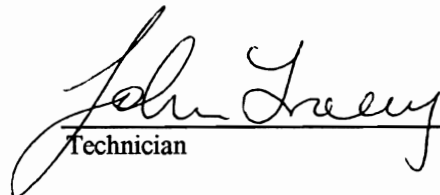
S = Slow ----- Recharge Rate within 24 hr period.

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

C = Continuous ---- Recharge Rate immediate.

NR = Not Required

N/A = Not Applicable


Technician

6/1/99
Date

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-1
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 05/28/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 91VN-1

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	16.6	NTU	0.1	EPA 180.1
Ammonia	4.7	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	5.6	mg/L	0.8	EPA 351.3
Total Iron	1.44	mg/L	0.060	EPA 200.7
Soluble Iron	ND	mg/L	0.060	EPA 200.7
Total Potassium	34 *	mg/L	1.8	EPA 200.7
Soluble Potassium	39	mg/L	1.8	EPA 200.7
Total Zinc	0.038	mg/L	0.016	EPA 200.7
Soluble Zinc	0.024	mg/L	0.016	EPA 200.7

* The soluble value is slightly higher than the total value for this element. The difference is statistically insignifi

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-3
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 05/28/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 91VN-2

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	15.9	NTU	0.1	EPA 180.1
Ammonia	ND	mg/L	0.4	EPA 350.3
Nitrite	0.04	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.0	mg/L	0.8	EPA 351.3
Total Iron	1.42	mg/L	0.060	EPA 200.7
Soluble Iron	ND	mg/L	0.060	EPA 200.7
Total Potassium	1.8 *	mg/L	1.8	EPA 200.7
Soluble Potassium	1.9	mg/L	1.8	EPA 200.7
Total Zinc	0.023	mg/L	0.016	EPA 200.7
Soluble Zinc	ND	mg/L	0.016	EPA 200.7

* The soluble value is slightly higher than the total value for this element. The difference is statistically insignificant.

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-1
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 05/28/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 91VN-3

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	16.9	NTU	0.1	EPA 180.1
Ammonia	0.4	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.5	mg/L	0.8	EPA 351.3
Total Iron	1.74	mg/L	0.060	EPA 200.7
Soluble Iron	0.522	mg/L	0.060	EPA 200.7
Total Potassium	2.6	mg/L	1.8	EPA 200.7
Soluble Potassium	2.0	mg/L	1.8	EPA 200.7
Total Zinc	1.95	mg/L	0.016	EPA 200.7
Soluble Zinc	0.286	mg/L	0.016	EPA 200.7

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-2
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 05/28/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 91VN-4

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	32.6	NTU	0.1	EPA 180.1
Ammonia	0.4	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.2 *	HACH 8507
Total Kjeldahl Nitrogen	1.4	mg/L	0.8	EPA 351.3
Total Iron	13.5	mg/L	0.060	EPA 200.7
Soluble Iron	3.97	mg/L	0.060	EPA 200.7
Total Potassium	3.5	mg/L	1.8	EPA 200.7
Soluble Potassium	2.8	mg/L	1.8	EPA 200.7
Total Zinc	1.69	mg/L	0.016	EPA 200.7
Soluble Zinc	0.022	mg/L	0.016	EPA 200.7

* High limit due to sample matrix; dilution was required.

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-3
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 05/28/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 91VN-5

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	11.3	NTU	0.1	EPA 180.1
Ammonia	0.7	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.40	HACH 8507
Total Kjeldahl Nitrogen	2.0	mg/L	0.8	EPA 351.3
Total Iron	1.62	mg/L	0.060	EPA 200.7
Soluble Iron	ND	mg/L	0.060	EPA 200.7
Total Potassium	3.2	mg/L	1.8	EPA 200.7
Soluble Potassium	3.5 *	mg/L	1.8	EPA 200.7
Total Zinc	0.124 *	mg/L	0.016	EPA 200.7
Soluble Zinc	0.138	mg/L	0.016	EPA 200.7

* The soluble value is slightly higher than the total value for this element. The difference is statistically insignifi

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-6

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	4.9	NTU	0.1	EPA 180.1
Ammonia	2.7	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	3.9	mg/L	0.8	EPA 351.3
Total Iron	7.17	mg/L	0.060	EPA 200.7
Soluble Iron	2.56	mg/L	0.060	EPA 200.7
Total Potassium	14 *	mg/L	1.8	EPA 200.7
Soluble Potassium	16	mg/L	1.8	EPA 200.7
Total Zinc	4.63	mg/L	0.016	EPA 200.7
Soluble Zinc	0.022	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	124 ✓	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
Carbon disulfide	ND	µg/L	20	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
cis-1,2-Dichloroethene	197 ✓	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
Trichloroethene	123 ✓	µg/L	10	SW 846 8260

* The soluble value is slightly higher than the total value for this element. The difference is statistically insignifi

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-6

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Tetrachloroethene	129 ✓	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Chlorodibromomethane	ND	µg/L	10	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
m/p-Xylene	ND	µg/L	10	SW 846 8260
o-Xylene	ND	µg/L	10	SW 846 8260
Styrene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
Aniline	ND	µg/L	10	SW 846 8270
Benzoic acid	ND	µg/L	10	SW 846 8270
Benzyl alcohol	ND	µg/L	5.0	SW 846 8270
Phenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroethyl)ether	ND	µg/L	5.0	SW 846 8270
2-Chlorophenol	ND	µg/L	5.0	SW 846 8270
1,3-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
1,4-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
1,2-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
2-Methylphenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroisopropyl)ether	ND	µg/L	5.0	SW 846 8270
4-Methylphenol	ND	µg/L	5.0	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-6

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
n-Nitrosodi-n-propylamine	ND	µg/L	5.0	SW 846 8270
Hexachloroethane	ND	µg/L	5.0	SW 846 8270
Nitrobenzene	ND	µg/L	5.0	SW 846 8270
Isophorone	ND	µg/L	5.0	SW 846 8270
2-Nitrophenol	ND	µg/L	5.0	SW 846 8270
2,4-Dimethylphenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroethoxy)methane	ND	µg/L	5.0	SW 846 8270
2,4-Dichlorophenol	ND	µg/L	5.0	SW 846 8270
1,2,4-Trichlorobenzene	ND	µg/L	5.0	SW 846 8270
Naphthalene	ND	µg/L	5.0	SW 846 8270
4-Chloroaniline	ND	µg/L	10	SW 846 8270
Hexachlorobutadiene	21	µg/L	5.0	SW 846 8270
4-Chloro-3-methylphenol	ND	µg/L	5.0	SW 846 8270
2-Methylnaphthalene	ND	µg/L	5.0	SW 846 8270
Hexachlorocyclopentadiene	ND	µg/L	10	SW 846 8270
2,4,6-Trichlorophenol	ND	µg/L	5.0	SW 846 8270
2,4,5-Trichlorophenol	ND	µg/L	5.0	SW 846 8270
2-Chloronaphthalene	ND	µg/L	5.0	SW 846 8270
2-Nitroaniline	ND	µg/L	5.0	SW 846 8270
Dimethyl phthalate	ND	µg/L	10	SW 846 8270
Acenaphthylene	ND	µg/L	5.0	SW 846 8270
2,6-Dinitrotoluene	ND	µg/L	5.0	SW 846 8270
3-Nitroaniline	ND	µg/L	10	SW 846 8270
Acenaphthene	ND	µg/L	5.0	SW 846 8270
2,4-Dinitrophenol	ND	µg/L	10	SW 846 8270
4-Nitrophenol	ND	µg/L	10	SW 846 8270
Dibenzofuran	ND	µg/L	5.0	SW 846 8270
2,4-Dinitrotoluene	ND	µg/L	5.0	SW 846 8270
Diethyl phthalate	ND	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-6

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
4-Chlorophenyl phenyl ether	ND	µg/L	5.0	SW 846 8270
Fluorene	ND	µg/L	5.0	SW 846 8270
4-Nitroaniline	ND	µg/L	5.0	SW 846 8270
4,6-Dinitro-2-methylphenol	ND	µg/L	20	SW 846 8270
n-Nitrosodiphenylamine	ND	µg/L	5.0	SW 846 8270
4-Bromophenyl phenyl ether	ND	µg/L	5.0	SW 846 8270
Hexachlorobenzene	ND	µg/L	5.0	SW 846 8270
Pentachlorophenol	ND	µg/L	10	SW 846 8270
Phenanthrene	ND	µg/L	5.0	SW 846 8270
Anthracene	ND	µg/L	5.0	SW 846 8270
Carbazole	ND	µg/L	50	SW 846 8270
di-n-Butylphthalate	ND	µg/L	10	SW 846 8270
Fluoranthene	ND	µg/L	5.0	SW 846 8270
Pyrene	ND	µg/L	5.0	SW 846 8270
Butyl benzyl phthalate	ND	µg/L	10	SW 846 8270
3,3'-Dichlorobenzidine	ND	µg/L	10	SW 846 8270
Benzo(a)anthracene	ND	µg/L	5.0	SW 846 8270
Chrysene	ND	µg/L	5.0	SW 846 8270
bis(2ethylhexyl)phthalate	ND	µg/L	10	SW 846 8270
di-n-Octylphthalate	ND	µg/L	5.0	SW 846 8270
Benzo(b)fluoranthene	ND	µg/L	5.0	SW 846 8270
Benzo(k)fluoranthene	ND	µg/L	10	SW 846 8270
Benzo(a)pyrene	ND	µg/L	5.0	SW 846 8270
Indeno(1,2,3-cd)pyrene	ND	µg/L	10	SW 846 8270
Dibenzo(a,h)anthracene	ND	µg/L	10	SW 846 8270
Benzo(g,h,i)perylene	ND	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-5
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 05/28/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 91VN-7

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	7.5	NTU	0.1	EPA 180.1
Ammonia	ND	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.3	mg/L	0.8	EPA 351.3
Total Iron	2.15	mg/L	0.060	EPA 200.7
Soluble Iron	0.864	mg/L	0.060	EPA 200.7
Total Potassium	1.9	mg/L	1.8	EPA 200.7
Soluble Potassium	ND	mg/L	1.8	EPA 200.7
Total Zinc	0.421	mg/L	0.016	EPA 200.7
Soluble Zinc	0.061	mg/L	0.016	EPA 200.7

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-8

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	48.2	NTU	0.1	EPA 180.1
Ammonia	ND	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.6	mg/L	0.8	EPA 351.3
Total Iron	13.1	mg/L	0.060	EPA 200.7
Soluble Iron	ND	mg/L	0.060	EPA 200.7
Total Potassium	ND	mg/L	1.8	EPA 200.7
Soluble Potassium	ND	mg/L	1.8	EPA 200.7
Total Zinc	0.025	mg/L	0.016	EPA 200.7
Soluble Zinc	0.021	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
Carbon disulfide	ND	µg/L	20	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
cis-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
Trichloroethene	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-8

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Bromodichloromethane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Tetrachloroethene	ND	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Chlorodibromomethane	ND	µg/L	10	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
m/p-Xylene	ND	µg/L	10	SW 846 8260
o-Xylene	ND	µg/L	10	SW 846 8260
Styrene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
Aniline	ND	µg/L	10	SW 846 8270
Benzoic acid	ND	µg/L	10	SW 846 8270
Benzyl alcohol	ND	µg/L	5.0	SW 846 8270
Phenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroethyl)ether	ND	µg/L	5.0	SW 846 8270
2-Chlorophenol	ND	µg/L	5.0	SW 846 8270
1,3-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
1,4-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
1,2-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
2-Methylphenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroisopropyl)ether	ND	µg/L	5.0	SW 846 8270
4-Methylphenol	ND	µg/L	5.0	SW 846 8270
n-Nitrosodi-n-propylamine	ND	µg/L	5.0	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-8

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Hexachloroethane	ND	µg/L	5.0	SW 846 8270
Nitrobenzene	ND	µg/L	5.0	SW 846 8270
Isophorone	ND	µg/L	5.0	SW 846 8270
2-Nitrophenol	ND	µg/L	5.0	SW 846 8270
2,4-Dimethylphenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroethoxy)methane	ND	µg/L	5.0	SW 846 8270
2,4-Dichlorophenol	ND	µg/L	5.0	SW 846 8270
1,2,4-Trichlorobenzene	ND	µg/L	5.0	SW 846 8270
Naphthalene	ND	µg/L	5.0	SW 846 8270
4-Chloroaniline	ND	µg/L	10	SW 846 8270
Hexachlorobutadiene	ND	µg/L	5.0	SW 846 8270
4-Chloro-3-methylphenol	ND	µg/L	5.0	SW 846 8270
2-Methylnaphthalene	ND	µg/L	5.0	SW 846 8270
Hexachlorocyclopentadiene	ND	µg/L	10	SW 846 8270
2,4,6-Trichlorophenol	ND	µg/L	5.0	SW 846 8270
2,4,5-Trichlorophenol	ND	µg/L	5.0	SW 846 8270
2-Chloronaphthalene	ND	µg/L	5.0	SW 846 8270
2-Nitroaniline	ND	µg/L	5.0	SW 846 8270
Dimethyl phthalate	ND	µg/L	10	SW 846 8270
Acenaphthylene	ND	µg/L	5.0	SW 846 8270
2,6-Dinitrotoluene	ND	µg/L	5.0	SW 846 8270
3-Nitroaniline	ND	µg/L	10	SW 846 8270
Acenaphthene	ND	µg/L	5.0	SW 846 8270
2,4-Dinitrophenol	ND	µg/L	10	SW 846 8270
4-Nitrophenol	ND	µg/L	10	SW 846 8270
Dibenzofuran	ND	µg/L	5.0	SW 846 8270
2,4-Dinitrotoluene	ND	µg/L	5.0	SW 846 8270
Diethyl phthalate	ND	µg/L	10	SW 846 8270
4-Chlorophenyl phenyl ether	ND	µg/L	5.0	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-8

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Fluorene	ND	µg/L	5.0	SW 846 8270
4-Nitroaniline	ND	µg/L	5.0	SW 846 8270
4,6-Dinitro-2-methylphenol	ND	µg/L	20	SW 846 8270
n-Nitrosodiphenylamine	ND	µg/L	5.0	SW 846 8270
4-Bromophenyl phenyl ether	ND	µg/L	5.0	SW 846 8270
Hexachlorobenzene	ND	µg/L	5.0	SW 846 8270
Pentachlorophenol	ND	µg/L	10	SW 846 8270
Phenanthrene	ND	µg/L	5.0	SW 846 8270
Anthracene	ND	µg/L	5.0	SW 846 8270
Carbazole	ND	µg/L	50	SW 846 8270
di-n-Butylphthalate	ND	µg/L	10	SW 846 8270
Fluoranthene	ND	µg/L	5.0	SW 846 8270
Pyrene	ND	µg/L	5.0	SW 846 8270
Butyl benzyl phthalate	ND	µg/L	10	SW 846 8270
3,3'-Dichlorobenzidine	ND	µg/L	10	SW 846 8270
Benzo(a)anthracene	ND	µg/L	5.0	SW 846 8270
Chrysene	ND	µg/L	5.0	SW 846 8270
bis(2ethylhexyl)phthalate	ND	µg/L	10	SW 846 8270
di-n-Octylphthalate	ND	µg/L	5.0	SW 846 8270
Benzo(b)fluoranthene	ND	µg/L	5.0	SW 846 8270
Benzo(k)fluoranthene	ND	µg/L	10	SW 846 8270
Benzo(a)pyrene	ND	µg/L	5.0	SW 846 8270
Indeno(1,2,3-cd)pyrene	ND	µg/L	10	SW 846 8270
Dibenzo(a,h)anthracene	ND	µg/L	10	SW 846 8270
Benzo(g,h,i)perylene	ND	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-9

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	51.5	NTU	0.1	EPA 180.1
Ammonia	ND	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.3	mg/L	0.8	EPA 351.3
Total Iron	14.2	mg/L	0.060	EPA 200.7
Soluble Iron	ND	mg/L	0.060	EPA 200.7
Total Potassium	ND	mg/L	1.8	EPA 200.7
Soluble Potassium	ND	mg/L	1.8	EPA 200.7
Total Zinc	0.018	mg/L	0.016	EPA 200.7
Soluble Zinc	0.016	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
Carbon disulfide	ND	µg/L	20	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
cis-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
Trichloroethene	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-9

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Bromodichloromethane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Tetrachloroethene	ND	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Chlorodibromomethane	ND	µg/L	10	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
m/p-Xylene	ND	µg/L	10	SW 846 8260
o-Xylene	ND	µg/L	10	SW 846 8260
Styrene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
Aniline	ND	µg/L	10	SW 846 8270
Benzoic acid	ND	µg/L	10	SW 846 8270
Benzyl alcohol	ND	µg/L	5.0	SW 846 8270
Phenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroethyl)ether	ND	µg/L	5.0	SW 846 8270
2-Chlorophenol	ND	µg/L	5.0	SW 846 8270
1,3-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
1,4-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
1,2-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
2-Methylphenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroisopropyl)ether	ND	µg/L	5.0	SW 846 8270
4-Methylphenol	ND	µg/L	5.0	SW 846 8270
n-Nitrosodi-n-propylamine	ND	µg/L	5.0	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-9

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Hexachloroethane	ND	µg/L	5.0	SW 846 8270
Nitrobenzene	ND	µg/L	5.0	SW 846 8270
Isophorone	ND	µg/L	5.0	SW 846 8270
2-Nitrophenol	ND	µg/L	5.0	SW 846 8270
2,4-Dimethylphenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroethoxy)methane	ND	µg/L	5.0	SW 846 8270
2,4-Dichlorophenol	ND	µg/L	5.0	SW 846 8270
1,2,4-Trichlorobenzene	ND	µg/L	5.0	SW 846 8270
Naphthalene	ND	µg/L	5.0	SW 846 8270
4-Chloroaniline	ND	µg/L	10	SW 846 8270
Hexachlorobutadiene	ND	µg/L	5.0	SW 846 8270
4-Chloro-3-methylphenol	ND	µg/L	5.0	SW 846 8270
2-Methylnaphthalene	ND	µg/L	5.0	SW 846 8270
Hexachlorocyclopentadiene	ND	µg/L	10	SW 846 8270
2,4,6-Trichlorophenol	ND	µg/L	5.0	SW 846 8270
2,4,5-Trichlorophenol	ND	µg/L	5.0	SW 846 8270
2-Chloronaphthalene	ND	µg/L	5.0	SW 846 8270
2-Nitroaniline	ND	µg/L	5.0	SW 846 8270
Dimethyl phthalate	ND	µg/L	10	SW 846 8270
Acenaphthylene	ND	µg/L	5.0	SW 846 8270
2,6-Dinitrotoluene	ND	µg/L	5.0	SW 846 8270
3-Nitroaniline	ND	µg/L	10	SW 846 8270
Acenaphthene	ND	µg/L	5.0	SW 846 8270
2,4-Dinitrophenol	ND	µg/L	10	SW 846 8270
4-Nitrophenol	ND	µg/L	10	SW 846 8270
Dibenzofuran	ND	µg/L	5.0	SW 846 8270
2,4-Dinitrotoluene	ND	µg/L	5.0	SW 846 8270
Diethyl phthalate	14.0	µg/L	10	SW 846 8270
4-Chlorophenyl phenyl ether	ND	µg/L	5.0	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-9

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Fluorene	ND	µg/L	5.0	SW 846 8270
4-Nitroaniline	ND	µg/L	5.0	SW 846 8270
4,6-Dinitro-2-methylphenol	ND	µg/L	20	SW 846 8270
n-Nitrosodiphenylamine	ND	µg/L	5.0	SW 846 8270
4-Bromophenyl phenyl ether	ND	µg/L	5.0	SW 846 8270
Hexachlorobenzene	ND	µg/L	5.0	SW 846 8270
Pentachlorophenol	ND	µg/L	10	SW 846 8270
Phenanthrene	ND	µg/L	5.0	SW 846 8270
Anthracene	ND	µg/L	5.0	SW 846 8270
Carbazole	ND	µg/L	50	SW 846 8270
di-n-Butylphthalate	ND	µg/L	10	SW 846 8270
Fluoranthene	ND	µg/L	5.0	SW 846 8270
Pyrene	ND	µg/L	5.0	SW 846 8270
Butyl benzyl phthalate	ND	µg/L	10	SW 846 8270
3,3'-Dichlorobenzidine	ND	µg/L	10	SW 846 8270
Benzo(a)anthracene	ND	µg/L	5.0	SW 846 8270
Chrysene	ND	µg/L	5.0	SW 846 8270
bis(2ethylhexyl)phthalate	ND	µg/L	10	SW 846 8270
di-n-Octylphthalate	ND	µg/L	5.0	SW 846 8270
Benzo(b)fluoranthene	ND	µg/L	5.0	SW 846 8270
Benzo(k)fluoranthene	ND	µg/L	10	SW 846 8270
Benzo(a)pyrene	ND	µg/L	5.0	SW 846 8270
Indeno(1,2,3-cd)pyrene	ND	µg/L	10	SW 846 8270
Dibenzo(a,h)anthracene	ND	µg/L	10	SW 846 8270
Benzo(g,h,i)perylene	ND	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-10

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	0.1	NTU	0.1	EPA 180.1
Ammonia	ND	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	ND	mg/L	0.8	EPA 351.3
Total Iron	ND	mg/L	0.060	EPA 200.7
Total Potassium	ND	mg/L	1.8	EPA 200.7
Total Zinc	ND	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
Carbon disulfide	ND	µg/L	20	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
cis-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
Trichloroethene	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-10

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Tetrachloroethene	ND	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Chlorodibromomethane	ND	µg/L	10	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
m/p-Xylene	ND	µg/L	10	SW 846 8260
o-Xylene	ND	µg/L	10	SW 846 8260
Styrene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
Aniline	ND	µg/L	10	SW 846 8270
Benzoic acid	ND	µg/L	10	SW 846 8270
Benzyl alcohol	ND	µg/L	5.0	SW 846 8270
Phenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroethyl)ether	ND	µg/L	5.0	SW 846 8270
2-Chlorophenol	ND	µg/L	5.0	SW 846 8270
1,3-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
1,4-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
1,2-Dichlorobenzene	ND	µg/L	5.0	SW 846 8270
2-Methylphenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroisopropyl)ether	ND	µg/L	5.0	SW 846 8270
4-Methylphenol	ND	µg/L	5.0	SW 846 8270
n-Nitrosodi-n-propylamine	ND	µg/L	5.0	SW 846 8270
Hexachloroethane	ND	µg/L	5.0	SW 846 8270
Nitrobenzene	ND	µg/L	5.0	SW 846 8270
Isophorone	ND	µg/L	5.0	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-10

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
2-Nitrophenol	ND	µg/L	5.0	SW 846 8270
2,4-Dimethylphenol	ND	µg/L	5.0	SW 846 8270
bis(2-chloroethoxy)methane	ND	µg/L	5.0	SW 846 8270
2,4-Dichlorophenol	ND	µg/L	5.0	SW 846 8270
1,2,4-Trichlorobenzene	ND	µg/L	5.0	SW 846 8270
Naphthalene	ND	µg/L	5.0	SW 846 8270
4-Chloroaniline	ND	µg/L	10	SW 846 8270
Hexachlorobutadiene	ND	µg/L	5.0	SW 846 8270
4-Chloro-3-methylphenol	ND	µg/L	5.0	SW 846 8270
2-Methylnaphthalene	ND	µg/L	5.0	SW 846 8270
Hexachlorocyclopentadiene	ND	µg/L	10	SW 846 8270
2,4,6-Trichlorophenol	ND	µg/L	5.0	SW 846 8270
2,4,5-Trichlorophenol	ND	µg/L	5.0	SW 846 8270
2-Chloronaphthalene	ND	µg/L	5.0	SW 846 8270
2-Nitroaniline	ND	µg/L	5.0	SW 846 8270
Dimethyl phthalate	ND	µg/L	10	SW 846 8270
Acenaphthylene	ND	µg/L	5.0	SW 846 8270
2,6-Dinitrotoluene	ND	µg/L	5.0	SW 846 8270
3-Nitroaniline	ND	µg/L	10	SW 846 8270
Acenaphthene	ND	µg/L	5.0	SW 846 8270
2,4-Dinitrophenol	ND	µg/L	10	SW 846 8270
4-Nitrophenol	ND	µg/L	10	SW 846 8270
Dibenzofuran	ND	µg/L	5.0	SW 846 8270
2,4-Dinitrotoluene	ND	µg/L	5.0	SW 846 8270
Diethyl phthalate	ND	µg/L	10	SW 846 8270
4-Chlorophenyl phenyl ether	ND	µg/L	5.0	SW 846 8270
Fluorene	ND	µg/L	5.0	SW 846 8270
4-Nitroaniline	ND	µg/L	5.0	SW 846 8270
4,6-Dinitro-2-methylphenol	ND	µg/L	20	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 05/28/99
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 91VN-10

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
n-Nitrosodiphenylamine	ND	µg/L	5.0	SW 846 8270
4-Bromophenyl phenyl ether	ND	µg/L	5.0	SW 846 8270
Hexachlorobenzene	ND	µg/L	5.0	SW 846 8270
Pentachlorophenol	ND	µg/L	10	SW 846 8270
Phenanthrene	ND	µg/L	5.0	SW 846 8270
Anthracene	ND	µg/L	5.0	SW 846 8270
Carbazole	ND	µg/L	50	SW 846 8270
di-n-Butylphthalate	ND	µg/L	10	SW 846 8270
Fluoranthene	ND	µg/L	5.0	SW 846 8270
Pyrene	ND	µg/L	5.0	SW 846 8270
Butyl benzyl phthalate	ND	µg/L	10	SW 846 8270
3,3'-Dichlorobenzidine	ND	µg/L	10	SW 846 8270
Benzo(a)anthracene	ND	µg/L	5.0	SW 846 8270
Chrysene	ND	µg/L	5.0	SW 846 8270
bis(2ethylhexyl)phthalate	ND	µg/L	10	SW 846 8270
di-n-Octylphthalate	ND	µg/L	5.0	SW 846 8270
Benzo(b)fluoranthene	ND	µg/L	5.0	SW 846 8270
Benzo(k)fluoranthene	ND	µg/L	10	SW 846 8270
Benzo(a)pyrene	ND	µg/L	5.0	SW 846 8270
Indeno(1,2,3-cd)pyrene	ND	µg/L	10	SW 846 8270
Dibenzo(a,h)anthracene	ND	µg/L	10	SW 846 8270
Benzo(g,h,i)perylene	ND	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-2
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 05/28/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 91VN-11

PROJECT ID: 91VN

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity	398	NTU	0.1	EPA 180.1
Ammonia	ND	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.20 *	HACH 8507
Total Kjeldahl Nitrogen	2.1	mg/L	0.8	EPA 351.3
Total Iron	150 D	mg/L	0.060	EPA 200.7
Soluble Iron	1.19	mg/L	0.060	EPA 200.7
Total Potassium	ND	mg/L	1.8	EPA 200.7
Soluble Potassium	ND	mg/L	1.8	EPA 200.7
Total Zinc	8.29	mg/L	0.016	EPA 200.7
Soluble Zinc	0.238	mg/L	0.016	EPA 200.7

* High limit due to sample matrix; dilution was required.

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 1

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 91VN

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Ammonia	EPA 350.3	91VN-6	Duplicate	7.0E6E6
Nitrite	HACH 8507	91VN-6	Duplicate	NA
Total Kjeldahl Nitrogen	EPA 351.3	91VN-6	Duplicate	8.0
Total Iron	EPA 200.7	91VN-6	Duplicate	6.8
Soluble Iron	EPA 200.7	91VN-6	Duplicate	0
Total Potassium	EPA 200.7	91VN-6	Duplicate	12
Soluble Potassium	EPA 200.7	91VN-6	Duplicate	6.6
Total Zinc	EPA 200.7	91VN-6	Duplicate	33
Soluble Zinc	EPA 200.7	91VN-6	Duplicate	3.3
Chloromethane	SW 846 8260	91VN-6	Duplicate	NA
Vinyl chloride	SW 846 8260	91VN-6	Duplicate	2.4
Bromomethane	SW 846 8260	91VN-6	Duplicate	NA
Chloroethane	SW 846 8260	91VN-6	Duplicate	NA
1,1-Dichloroethene	SW 846 8260	91VN-6	Duplicate	NA
Carbon disulfide	SW 846 8260	91VN-6	Duplicate	NA
Acetone	SW 846 8260	91VN-6	Duplicate	NA
Methylene chloride	SW 846 8260	91VN-6	Duplicate	NA
trans-1,2-Dichloroethene	SW 846 8260	91VN-6	Duplicate	NA
1,1-Dichloroethane	SW 846 8260	91VN-6	Duplicate	NA
cis-1,2-Dichloroethene	SW 846 8260	91VN-6	Duplicate	4.6
2-Butanone	SW 846 8260	91VN-6	Duplicate	NA
Chloroform	SW 846 8260	91VN-6	Duplicate	NA
1,1,1-Trichloroethane	SW 846 8260	91VN-6	Duplicate	NA
Carbon tetrachloride	SW 846 8260	91VN-6	Duplicate	NA
Benzene	SW 846 8260	91VN-6	Duplicate	NA
1,2-Dichloroethane	SW 846 8260	91VN-6	Duplicate	NA
Trichloroethene	SW 846 8260	91VN-6	Duplicate	2.0
1,2-Dichloropropane	SW 846 8260	91VN-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: 91VN

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Bromodichloromethane	SW 846 8260	91VN-6	Duplicate	NA
cis-1,3-Dichloropropene	SW 846 8260	91VN-6	Duplicate	NA
Toluene	SW 846 8260	91VN-6	Duplicate	NA
4-Methyl-2-pentanone	SW 846 8260	91VN-6	Duplicate	NA
trans-1,3-Dichloropropene	SW 846 8260	91VN-6	Duplicate	NA
Tetrachloroethene	SW 846 8260	91VN-6	Duplicate	3.0
1,1,2-Trichloroethane	SW 846 8260	91VN-6	Duplicate	NA
Chlorodibromomethane	SW 846 8260	91VN-6	Duplicate	NA
2-Hexanone	SW 846 8260	91VN-6	Duplicate	NA
Chlorobenzene	SW 846 8260	91VN-6	Duplicate	NA
Ethylbenzene	SW 846 8260	91VN-6	Duplicate	NA
m/p-Xylene	SW 846 8260	91VN-6	Duplicate	NA
o-Xylene	SW 846 8260	91VN-6	Duplicate	NA
Styrene	SW 846 8260	91VN-6	Duplicate	NA
Bromoform	SW 846 8260	91VN-6	Duplicate	NA
1,1,2,2-Tetrachloroethane	SW 846 8260	91VN-6	Duplicate	NA
Aniline	SW 846 8270	91VN-6	Duplicate	NA
Benzoic acid	SW 846 8270	91VN-6	Duplicate	NA
Benzyl alcohol	SW 846 8270	91VN-6	Duplicate	NA
Phenol	SW 846 8270	91VN-6	Duplicate	NA
bis(2-chloroethyl)ether	SW 846 8270	91VN-6	Duplicate	NA
2-Chlorophenol	SW 846 8270	91VN-6	Duplicate	NA
1,3-Dichlorobenzene	SW 846 8270	91VN-6	Duplicate	NA
1,4-Dichlorobenzene	SW 846 8270	91VN-6	Duplicate	NA
1,2-Dichlorobenzene	SW 846 8270	91VN-6	Duplicate	NA
2-Methylphenol	SW 846 8270	91VN-6	Duplicate	NA
bis(2-chloroisopropyl)ether	SW 846 8270	91VN-6	Duplicate	NA
4-Methylphenol	SW 846 8270	91VN-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: 91VN

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
n-Nitrosodi-n-propylamine	SW 846 8270	91VN-6	Duplicate	NA
Hexachloroethane	SW 846 8270	91VN-6	Duplicate	NA
Nitrobenzene	SW 846 8270	91VN-6	Duplicate	NA
Isophorone	SW 846 8270	91VN-6	Duplicate	NA
2-Nitrophenol	SW 846 8270	91VN-6	Duplicate	NA
2,4-Dimethylphenol	SW 846 8270	91VN-6	Duplicate	NA
bis(2-chloroethoxy)methane	SW 846 8270	91VN-6	Duplicate	NA
2,4-Dichlorophenol	SW 846 8270	91VN-6	Duplicate	NA
1,2,4-Trichlorobenzene	SW 846 8270	91VN-6	Duplicate	NA
Naphthalene	SW 846 8270	91VN-6	Duplicate	NA
4-Chloroaniline	SW 846 8270	91VN-6	Duplicate	NA
Hexachlorobutadiene	SW 846 8270	91VN-6	Duplicate	4.0
4-Chloro-3-methylphenol	SW 846 8270	91VN-6	Duplicate	NA
2-Methylnaphthalene	SW 846 8270	91VN-6	Duplicate	NA
Hexachlorocyclopentadiene	SW 846 8270	91VN-6	Duplicate	NA
2,4,6-Trichlorophenol	SW 846 8270	91VN-6	Duplicate	NA
2,4,5-Trichlorophenol	SW 846 8270	91VN-6	Duplicate	NA
2-Chloronaphthalene	SW 846 8270	91VN-6	Duplicate	NA
2-Nitroaniline	SW 846 8270	91VN-6	Duplicate	NA
Dimethyl phthalate	SW 846 8270	91VN-6	Duplicate	NA
Acenaphthylene	SW 846 8270	91VN-6	Duplicate	NA
2,6-Dinitrotoluene	SW 846 8270	91VN-6	Duplicate	NA
3-Nitroaniline	SW 846 8270	91VN-6	Duplicate	NA
Acenaphthene	SW 846 8270	91VN-6	Duplicate	NA
2,4-Dinitrophenol	SW 846 8270	91VN-6	Duplicate	NA
4-Nitrophenol	SW 846 8270	91VN-6	Duplicate	NA
Dibenzofuran	SW 846 8270	91VN-6	Duplicate	NA
2,4-Dinitrotoluene	SW 846 8270	91VN-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: 91VN

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Diethyl phthalate	SW 846 8270	91VN-6	Duplicate	NA
4-Chlorophenyl phenyl ether	SW 846 8270	91VN-6	Duplicate	NA
Fluorene	SW 846 8270	91VN-6	Duplicate	NA
4-Nitroaniline	SW 846 8270	91VN-6	Duplicate	NA
4,6-Dinitro-2-methylphenol	SW 846 8270	91VN-6	Duplicate	NA
n-Nitrosodiphenylamine	SW 846 8270	91VN-6	Duplicate	NA
4-Bromophenyl phenyl ether	SW 846 8270	91VN-6	Duplicate	NA
Hexachlorobenzene	SW 846 8270	91VN-6	Duplicate	NA
Pentachlorophenol	SW 846 8270	91VN-6	Duplicate	NA
Phenanthrene	SW 846 8270	91VN-6	Duplicate	NA
Anthracene	SW 846 8270	91VN-6	Duplicate	NA
Carbazole	SW 846 8270	91VN-6	Duplicate	NA
di-n-Butylphthalate	SW 846 8270	91VN-6	Duplicate	NA
Fluoranthene	SW 846 8270	91VN-6	Duplicate	NA
Pyrene	SW 846 8270	91VN-6	Duplicate	NA
Butyl benzyl phthalate	SW 846 8270	91VN-6	Duplicate	NA
3,3'-Dichlorobenzidine	SW 846 8270	91VN-6	Duplicate	NA
Benzo(a)anthracene	SW 846 8270	91VN-6	Duplicate	NA
Chrysene	SW 846 8270	91VN-6	Duplicate	NA
bis(2ethylhexyl)phthalate	SW 846 8270	91VN-6	Duplicate	NA
di-n-Octylphthalate	SW 846 8270	91VN-6	Duplicate	NA
Benzo(b)fluoranthene	SW 846 8270	91VN-6	Duplicate	NA
Benzo(k)fluoranthene	SW 846 8270	91VN-6	Duplicate	NA
Benzo(a)pyrene	SW 846 8270	91VN-6	Duplicate	NA
Indeno(1,2,3-cd)pyrene	SW 846 8270	91VN-6	Duplicate	NA
Dibenzo(a,h)anthracene	SW 846 8270	91VN-6	Duplicate	NA
Benzo(g,h,i)perylene	SW 846 8270	91VN-6	Duplicate	NA

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

Advanced Environmental Services, Inc.

" Sample Traceability Report

Project Identification

CTC - 91NN

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
91NN-6,8,9,10	5/28/99	—	—	—	—	—	8260	6/7/99	DJ

Please note: Areas marked by a dash indicate that no sample preparation is required under the applied methodology.

Advanced Environmental Services, Inc.
Sample Traceability Report

Project Identification CTC 91VN

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
91VN 1-11	5/28/99	—	—	9.3	6/7/99	RP	200.7	6/9/99	RP
91VN 1-11	5/28/99	—	—	—	—	—	200.7	6/9/99	RP

Please note. Areas marked by a dash indicate that no sample preparation is required under the applied methodology

Advanced Environmental Services, Inc.
Sample Traceability Report

Project Identification CTC 91VN

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
91VN1-5	5/28/99	2027	172	351.4	6/8/99	DB	351.4	6/9/99	DB
91VN1-11	5/28/99	2120	156	-	-	-	8507	5/28/99	UR
91VN 6-11	5/28/99	2027	173	351.4	6/10/99	DB	351.4	6/10/99	DB
91VN-7-11	5/28/99	2005	197	-	-	-	350.3	6/10/99	DB
91VN1-6	5/28/99	2005	195	-	-	-	350.3	6/6/99	DB

Please note: Areas marked by a dash indicate that no sample preparation is required under the applied methodology.

Advanced Environmental Services, Inc.
Sample Traceability Report

Project Identification

CTC 91VN

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
6	5/28/99	-	-	3510	06/03	JL	8270	06/07	JL
8	5/28/99	-	-	3510	06/03	JL	8270	06/07	JL
9	5/28/99	-	-	3510	06/03	JL	8270	06/07	JL
10	5/28/99	-	-	3510	06/03	JL	8270	06/07	JL

Please note: Areas marked by a dash indicate that no sample preparation is required under the applied methodology.

CHAIN OF CUSTODY RECORD



ENVIRONMENTAL SERVICES, INC.
2186 Liberty Drive
Niagara Falls, NY 14304

(716) 283-3120
(800) 791-3120
Fax (716) 283-4727

CUSTOMER NAME: UCAR CARBON

PROJECT NAME: QUARTERLY LANDFILL MONITORING

SAMPLER'S SIGNATURE: [Signature]

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

PROJECT I.D.#: 91VN

JOB CODE: CTC

DATE	TIME	SAMPLE IDENTIFICATION	GRAB	COMP	SAMPLE TYPE	UNPRESERVED	HNO ₃	H ₂ SO ₄	HCL	NaOH	VIAL (PRES.)	VIAL (UNPRES.)	OTHER	TOTAL	PARAMETERS / REMARKS
5/28/99	10:55AM	BW6	✓		Water	2	2	1		2				7	NO ₂ AMMONIA TKN
	12:30PM	BW4 + QC	✓			5	5	3		6				19	VOLATILES, SEMI VOLS
	10:55AM	BLIND DUPLICATE	✓			2	2	1		2				7	TOTAL RESOL METALS
	11:20AM	MW2	✓			1	2	1						4	} NO ₂ AMMONIA TKN TOTAL RESOLUBLE METALS
	11:35AM	BW2	✓			1	2	1						4	
	11:40AM	BW3	✓			1	2	1						4	
	11:50AM	BW5	✓			1	2	1						4	
	12:00PM	MW3	✓			1	2	1						4	
	2:00PM	BW1	✓			1	2	1						4	
	2:20PM	MW1	✓			1	2	1						4	
✓	3:15PM	TRIP BLANK	-	-	DI WATER	3	1	1		2				7	

TOTAL NUMBER OF CONTAINERS 68

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>5/28/99</u>	TIME: <u>4:00PM</u>	RECEIVED BY: <u>[Signature]</u>
2. RELINQUISHED BY: _____	DATE: _____	TIME: _____	RECEIVED BY: _____
3. RELINQUISHED BY: _____	DATE: _____	TIME: _____	RECEIVED BY: _____