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UCAR CARBON COMPANY, INCORPORATED

REPUBLIC WASTE MANAGEMENT FACILITY

POST CLOSURE MONITORING PROGRAM

QUARTERLY REPORT

DECEMBER 1998

Prepared By:

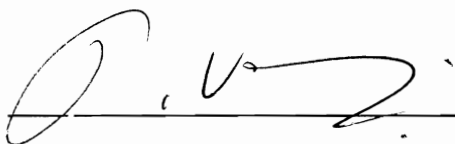
ADVANCED
ENVIRONMENTAL SERVICES INC.

"A Company Dedicated to Honesty, Quality and Service"

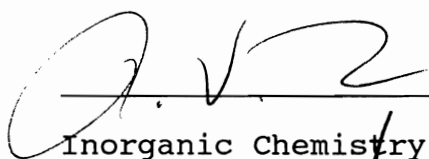
December 21, 1998
REF: CTC8310/100B
Lab ID No. 10233

QA/QC VERIFICATION FOR PROJECT ID 8310

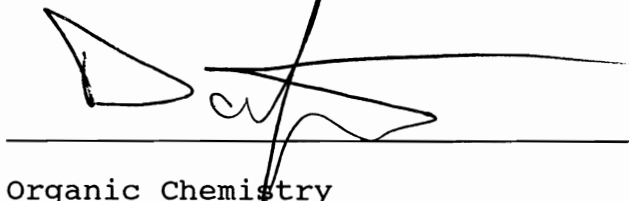
The following report, as well as the supporting data, have been carefully reviewed for accuracy, adherence to the cited methods, and completeness. All data contained in this report was generated in accordance with the AES Laboratory Quality Assurance/Quality Control Program.



Metals Department



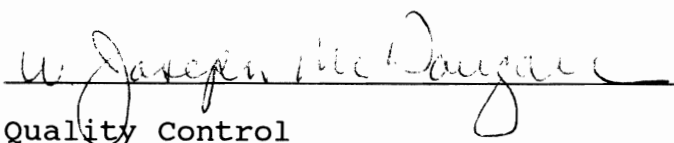
Inorganic Chemistry



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
December 3/4,1998

UCAR CARBON COMPANY, INC.

Hyde Park Boulevard
Niagara Falls, New York

AES Code: CTC

Project I.D. # 8310

Monitoring Well I.D.	Sampling Date	Sampling Time	Water Level (ft.)	Turbidity (NTU)	Filter Time	Field Comments/Observations
BW-1	12/4/98	12:20 PM	21.53	123.7	1:45 PM	Sl, Cloudy, Orange tint.
BW-2	12/4/98	10:05 AM	19.87	693.0	2:00 PM	Cloudy, Black
BW-3	12/4/98	9:35 AM	17.23	12.7	1:55 PM	Clear.
BW-4	12/4/98	11:45 AM	17.80	234.0	1:40 PM	Brown/Oily sheen
BW-5	12/4/98	8:45 AM	16.77	53.4	2:05 PM	Sl, Cloudy, Orange tint, Oily sheen
BW-6	12/4/98	11:15 AM	19.77	667.0	1:30 PM	Cloudy, Brown
MW-1	12/4/98	12:10 PM	18.07	12.6	2:10 PM	Clear
MW-2	Dry	N/A	N/A	N/A	NA	Dry
MW-3	Dry	N/A	N/A	N/A	N/A	Dry
OW-1 South	12/4/98	11:30 AM	8.62(Dry)	NA	NA	Required to take water elevation only.
OW-2 North	12/4/98	11:40 PM	9.68(Dry)	NA	NA	Required to take water elevation only.
Blind Dup	12/4/98	11:15 AM	19.77	660.0	1:35 PM	Cloudy, Brown
Trip Blank	12/4/98	1:45 PM	NA	NA	NA	Deionized Water

The Blind Duplicate site was BW-6.

 12/16/98
Field Technician Date

Advanced Environmental Services, Inc.

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

QUARTERLY GROUNDWATER MONITORING - WELL INFORMATION

December 3/4 1998

UCAR CARBON COMPANY, INC.

Hyde Park Boulevard
Niagara Falls, New York

AES Code: CTC

Project I.D. # 8310

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	12/3/98	610.72	4	21.55	589.17	28.85	4.77	14.5	C
BW-2	12/3/98	608.43	4	18.96	589.47	26.62	5.00	15.0	C
BW-3	12/4/98	604.72	4	17.12	587.60	24.79	5.01	15.0	C
BW-4	12/3/98	607.08	4	17.29	589.79	22.63	3.49	10.5	C
BW-5	12/3/98	603.33	4	16.49	586.84	28.80	8.04	24.0	C
BW-6	12/4/98	607.04	4	18.08	588.96	24.79	4.38	13.5	C
MW-1	12/3/98	609.43	2	17.50	591.93	23.65	1.00	1.25 (Dry)	S
MW-2	12/3/98	607.54	3	24.43	583.11	24.58	0.06	0 (Dry)	VS
MW-3	12/3/98	601.61	2	15.17	586.44	15.17	0.00	0 (Dry)	S
OW-1 SOUTH	12/4/98	608.81	2	8.62	600.19	NR	NR	NR	N/A
OW-2 NORTH	12/4/98	607.06	2	9.68	597.38	NR	NR	NR	N/A

Abbreviations:

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

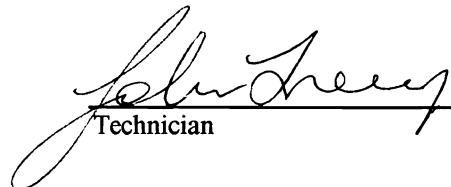
S = Slow ----- Recharge Rate within 24 hr period.

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

C = Continuous ---- Recharge Rate immediate.

NR = Not Required

N/A = Not Applicable


Technician

12/16/98
Date

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-1
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 12/04/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 8310-1

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	12.6	NTU	0.1	EPA 180.1
Ammonia	4.8	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	9.9	mg/L	0.8	EPA 351.3
Total Iron	2.76	mg/L	0.060	EPA 200.7
Soluble Iron	ND	mg/L	0.060	EPA 200.7
Total Potassium	41.7	mg/L	1.8	EPA 200.7
Soluble Potassium	40 .4	mg/L	1.8	EPA 200.7
Total Zinc	0.113	mg/L	0.016	EPA 200.7
Soluble Zinc	0.065	mg/L	0.016	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-1
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 12/04/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 8310-3

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	123.7	NTU	0.1	EPA 180.1
Ammonia	1.2	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	2.5	mg/L	0.8	EPA 351.3
Total Iron	4.87	mg/L	0.060	EPA 200.7
Soluble Iron	0.112	mg/L	0.060	EPA 200.7
Total Potassium	6.37	mg/L	1.8	EPA 200.7
Soluble Potassium	9.60	mg/L	1.8	EPA 200.7
Total Zinc	11.6	mg/L	0.016	EPA 200.7
Soluble Zinc	2.11	mg/L	0.016	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-2
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 12/04/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 8310-4

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	693.0	NTU	0.1	EPA 180.1
Ammonia	0.7	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	0.9	mg/L	0.8	EPA 351.3
Total Iron	75.0	mg/L	0.060	EPA 200.7
Soluble Iron	1.74	mg/L	0.060	EPA 200.7
Total Potassium	7.89	mg/L	1.8	EPA 200.7
Soluble Potassium	8.61	mg/L	1.8	EPA 200.7
Total Zinc	80.5	mg/L	0.016	EPA 200.7
Soluble Zinc	0.112	mg/L	0.016	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-3
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 12/04/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 8310-5

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	12.7	NTU	0.1	EPA 180.1
Ammonia	1.0	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	2.1	mg/L	0.8	EPA 351.3
Total Iron	1.39	mg/L	0.060	EPA 200.7
Soluble Iron	0.289	mg/L	0.060	EPA 200.7
Total Potassium	3.39	mg/L	1.8	EPA 200.7
Soluble Potassium	4.02	mg/L	1.8	EPA 200.7
Total Zinc	0.341	mg/L	0.016	EPA 200.7
Soluble Zinc	0.060	mg/L	0.016	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-6

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	234.0	NTU	0.1	EPA 180.1
Ammonia	3.9	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	6.1	mg/L	0.8	EPA 351.3
Total Iron	25.8	mg/L	0.060	EPA 200.7
Soluble Iron	1.57	mg/L	0.060	EPA 200.7
Total Potassium	21.2	mg/L	1.8	EPA 200.7
Soluble Potassium	27.8	mg/L	1.8	EPA 200.7
Total Zinc	7.97	mg/L	0.016	EPA 200.7
Soluble Zinc	0.180	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	280	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Carbon disulfide	22	µg/L	20	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
1,2-Dichloroethylene (total)	330	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	20	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-6

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Trichloroethene	570 /	µg/L	10	SW 846 8260
Chlorodibromomethane	ND	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Tetrachloroethene	601 /	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
Styrene	ND	µg/L	10	SW 846 8260
o-Xylene	ND	µg/L	10	SW 846 8260
m/p-Xylene	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	10	SW 846 8270
Phenol	ND	µg/L	10	SW 846 8270
bis(2-chloroethyl)ether	ND	µg/L	10	SW 846 8270
2-Chlorophenol	ND	µg/L	10	SW 846 8270
1,3-Dichlorobenzene	ND	µg/L	10	SW 846 8270
1,4-Dichlorobenzene	ND	µg/L	10	SW 846 8270
1,2-Dichlorobenzene	ND	µg/L	10	SW 846 8270
2-Methylphenol	ND	µg/L	10	SW 846 8270
bis(2-chloroisopropyl)ether	ND	µg/L	10	SW 846 8270
4-Methylphenol	ND	µg/L	10	SW 846 8270
n-Nitrosodi-n-propylamine	ND	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-6

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Hexachloroethane	ND	µg/L	10	SW 846 8270
Nitrobenzene	ND	µg/L	10	SW 846 8270
Isophorone	ND	µg/L	10	SW 846 8270
2-Nitrophenol	ND	µg/L	10	SW 846 8270
2,4-Dimethylphenol	ND	µg/L	10	SW 846 8270
bis(2-chloroethoxy)methane	ND	µg/L	10	SW 846 8270
2,4-Dichlorophenol	ND	µg/L	10	SW 846 8270
1,2,4-Trichlorobenzene	ND	µg/L	10	SW 846 8270
Naphthalene	ND	µg/L	10	SW 846 8270
4-Chloroaniline	ND	µg/L	10	SW 846 8270
Hexachlorobutadiene	93	µg/L	10	SW 846 8270
4-Chloro-3-methylphenol	ND	µg/L	10	SW 846 8270
2-Methylnaphthalene	ND	µg/L	10	SW 846 8270
Hexachlorocyclopentadiene	ND	µg/L	10	SW 846 8270
2,4,6-Trichlorophenol	ND	µg/L	10	SW 846 8270
2,4,5-Trichlorophenol	ND	µg/L	10	SW 846 8270
2-Chloronaphthalene	ND	µg/L	10	SW 846 8270
2-Nitroaniline	ND	µg/L	10	SW 846 8270
Dimethyl phthalate	ND	µg/L	10	SW 846 8270
Acenaphthylene	ND	µg/L	10	SW 846 8270
2,6-Dinitrotoluene	ND	µg/L	10	SW 846 8270
3-Nitroaniline	ND	µg/L	10	SW 846 8270
Acenaphthene	ND	µg/L	10	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	10	SW 846 8270
2,4-Dinitrotoluene	ND	µg/L	10	SW 846 8270
Diethyl phthalate	ND	µg/L	10	SW 846 8270
4-Chlorophenyl phenyl ether	ND	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-6

PROJECT ID: 8310

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

* High limit due to sample matrix; dilution was required.(1:5)

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: BW-5
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 12/04/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 8310-7

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	53.4	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	16.8	mg/L	0.060	EPA 200.7
Soluble Iron	0.199	mg/L	0.060	EPA 200.7
Total Potassium	2.48	mg/L	1.8	EPA 200.7
Soluble Potassium	4.81	mg/L	1.8	EPA 200.7
Total Zinc	1.61	mg/L	0.016	EPA 200.7
Soluble Zinc	0.109	mg/L	0.016	EPA 200.7

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-8

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	667.0	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	0.9	mg/L	0.8	EPA 351.3
Total Iron	62.4	mg/L	0.060	EPA 200.7
Soluble Iron	1.49	mg/L	0.060	EPA 200.7
Total Potassium	2.00	mg/L	1.8	EPA 200.7
Soluble Potassium	2.31	mg/L	1.8	EPA 200.7
Total Zinc	0.166	mg/L	0.016	EPA 200.7
Soluble Zinc	0.038	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Carbon disulfide	28 /	µg/L	20	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
1,2-Dichloroethylene (total)	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	20	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-8

PROJECT ID: 8310

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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-8

PROJECT ID: 8310

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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-8

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Fluorene	ND	µg/L	10	SW 846 8270
4-Nitroaniline	ND	µg/L	10	SW 846 8270
4,6-Dinitro-2-methylphenol	ND	µg/L	10	SW 846 8270
n-Nitrosodiphenylamine	ND	µg/L	10	SW 846 8270
4-Bromophenyl phenyl ether	ND	µg/L	10	SW 846 8270
Hexachlorobenzene	ND	µg/L	10	SW 846 8270
Pentachlorophenol	ND	µg/L	10	SW 846 8270
Phenanthrene	ND	µg/L	10	SW 846 8270
Anthracene	ND	µg/L	10	SW 846 8270
Carbazole	ND	µg/L	10	SW 846 8270
di-n-Butylphthalate	ND	µg/L	10	SW 846 8270
Fluoranthene	ND	µg/L	10	SW 846 8270
Pyrene	ND	µg/L	10	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	10	SW 846 8270
Chrysene	ND	µg/L	10	SW 846 8270
bis(2ethylhexyl)phthalate	ND	µg/L	10	SW 846 8270
di-n-Octylphthalate	ND	µg/L	10	SW 846 8270
Benzo(b)fluoranthene	ND	µg/L	10	SW 846 8270
Benzo(k)fluoranthene	ND	µg/L	10	SW 846 8270
Benzo(a)pyrene	ND	µg/L	10	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): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-9

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	660.0	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	1.8	mg/L	0.8	EPA 351.3
Total Iron	62.0	mg/L	0.060	EPA 200.7
Soluble Iron	1.55	mg/L	0.060	EPA 200.7
Total Potassium	3.53	mg/L	1.8	EPA 200.7
Soluble Potassium	1.80	mg/L	1.8	EPA 200.7
Total Zinc	0.160	mg/L	0.016	EPA 200.7
Soluble Zinc	0.028	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Carbon disulfide	24	µg/L	20	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
1,2-Dichloroethylene (total)	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	20	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-9

PROJECT ID: 8310

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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-9

PROJECT ID: 8310

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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-9

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Fluorene	ND	µg/L	10	SW 846 8270
4-Nitroaniline	ND	µg/L	10	SW 846 8270
4,6-Dinitro-2-methylphenol	ND	µg/L	10	SW 846 8270
n-Nitrosodiphenylamine	ND	µg/L	10	SW 846 8270
4-Bromophenyl phenyl ether	ND	µg/L	10	SW 846 8270
Hexachlorobenzene	ND	µg/L	10	SW 846 8270
Pentachlorophenol	ND	µg/L	10	SW 846 8270
Phenanthrene	ND	µg/L	10	SW 846 8270
Anthracene	ND	µg/L	10	SW 846 8270
Carbazole	ND	µg/L	10	SW 846 8270
di-n-Butylphthalate	ND	µg/L	10	SW 846 8270
Fluoranthene	ND	µg/L	10	SW 846 8270
Pyrene	ND	µg/L	10	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	10	SW 846 8270
Chrysene	ND	µg/L	10	SW 846 8270
bis(2ethylhexyl)phthalate	ND	µg/L	10	SW 846 8270
di-n-Octylphthalate	ND	µg/L	10	SW 846 8270
Benzo(b)fluoranthene	ND	µg/L	10	SW 846 8270
Benzo(k)fluoranthene	ND	µg/L	10	SW 846 8270
Benzo(a)pyrene	ND	µg/L	10	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): 12/04/98
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-10

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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
Bromomethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Carbon disulfide	ND	µg/L	20	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
1,2-Dichloroethylene (total)	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	20	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Trichloroethene	ND	µg/L	10	SW 846 8260
Chlorodibromomethane	ND	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-10

PROJECT ID: 8310

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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-10

PROJECT ID: 8310

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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 12/04/98
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 8310-10

PROJECT ID: 8310

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Hexachlorobenzene	ND	µg/L	10	SW 846 8270
Pentachlorophenol	ND	µg/L	10	SW 846 8270
Phenanthrene	ND	µg/L	10	SW 846 8270
Anthracene	ND	µg/L	10	SW 846 8270
Carbazole	ND	µg/L	10	SW 846 8270
di-n-Butylphthalate	ND	µg/L	10	SW 846 8270
Fluoranthene	ND	µg/L	10	SW 846 8270
Pyrene	ND	µg/L	10	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	10	SW 846 8270
Chrysene	ND	µg/L	10	SW 846 8270
bis(2ethylhexyl)phthalate	ND	µg/L	10	SW 846 8270
di-n-Octylphthalate	ND	µg/L	10	SW 846 8270
Benzo(b)fluoranthene	ND	µg/L	10	SW 846 8270
Benzo(k)fluoranthene	ND	µg/L	10	SW 846 8270
Benzo(a)pyrene	ND	µg/L	10	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

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 1

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 8310

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
Ammonia	EPA 350.3	8310-6	Matrix Spike	88
Nitrite	HACH 8507	8310-6	Matrix Spike	112
Total Kjeldahl Nitrogen	EPA 351.3	8310-6	Matrix Spike	92
Total Iron	EPA 200.7	8310-6	Matrix Spike	99
Soluble Iron	EPA 200.7	8310-6	Matrix Spike	97
Total Potassium	EPA 200.7	8310-6	Matrix Spike	100
Soluble Potassium	EPA 200.7	8310-6	Matrix Spike	112
Total Zinc	EPA 200.7	8310-6	Matrix Spike	100
Soluble Zinc	EPA 200.7	8310-6	Matrix Spike	107
Chloromethane	SW 846 8260	8310-6	Matrix Spike	114
Bromomethane	SW 846 8260	8310-6	Matrix Spike	99
Vinyl chloride	SW 846 8260	8310-6	Matrix Spike	NA
Chloroethane	SW 846 8260	8310-6	Matrix Spike	93
Methylene chloride	SW 846 8260	8310-6	Matrix Spike	98
Acetone	SW 846 8260	8310-6	Matrix Spike	106
Carbon disulfide	SW 846 8260	8310-6	Matrix Spike	86
1,1-Dichloroethene	SW 846 8260	8310-6	Matrix Spike	92
1,1-Dichloroethane	SW 846 8260	8310-6	Matrix Spike	106
1,2-Dichloroethylene (total)	SW 846 8260	8310-6	Matrix Spike	NA
Chloroform	SW 846 8260	8310-6	Matrix Spike	105
1,2-Dichloroethane	SW 846 8260	8310-6	Matrix Spike	98
2-Butanone	SW 846 8260	8310-6	Matrix Spike	102
1,1,1-Trichloroethane	SW 846 8260	8310-6	Matrix Spike	91
Carbon tetrachloride	SW 846 8260	8310-6	Matrix Spike	86
Bromodichloromethane	SW 846 8260	8310-6	Matrix Spike	107
1,2-Dichloropropane	SW 846 8260	8310-6	Matrix Spike	123
cis-1,3-Dichloropropene	SW 846 8260	8310-6	Matrix Spike	112
Trichloroethene	SW 846 8260	8310-6	Matrix Spike	NA
Chlorodibromomethane	SW 846 8260	8310-6	Matrix Spike	94

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 8310

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
1,1,2-Trichloroethane	SW 846 8260	8310-6	Matrix Spike	109
Benzene	SW 846 8260	8310-6	Matrix Spike	116
trans-1,3-Dichloropropene	SW 846 8260	8310-6	Matrix Spike	101
Bromoform	SW 846 8260	8310-6	Matrix Spike	92
4-Methyl-2-pentanone	SW 846 8260	8310-6	Matrix Spike	95
2-Hexanone	SW 846 8260	8310-6	Matrix Spike	95
Tetrachloroethene	SW 846 8260	8310-6	Matrix Spike	NA
Toluene	SW 846 8260	8310-6	Matrix Spike	111
1,1,2,2-Tetrachloroethane	SW 846 8260	8310-6	Matrix Spike	108
Chlorobenzene	SW 846 8260	8310-6	Matrix Spike	107
Ethylbenzene	SW 846 8260	8310-6	Matrix Spike	108
Styrene	SW 846 8260	8310-6	Matrix Spike	108
o-Xylene	SW 846 8260	8310-6	Matrix Spike	103
m/p-Xylene	SW 846 8260	8310-6	Matrix Spike	112
Aniline	SW 846 8270	8310-6	Matrix Spike	80
Benzyl alcohol	SW 846 8270	8310-6	Matrix Spike	72
Phenol	SW 846 8270	8310-6	Matrix Spike	41
bis(2-chloroethyl)ether	SW 846 8270	8310-6	Matrix Spike	98
2-Chlorophenol	SW 846 8270	8310-6	Matrix Spike	85
1,3-Dichlorobenzene	SW 846 8270	8310-6	Matrix Spike	54
1,4-Dichlorobenzene	SW 846 8270	8310-6	Matrix Spike	56
1,2-Dichlorobenzene	SW 846 8270	8310-6	Matrix Spike	60
2-Methylphenol	SW 846 8270	8310-6	Matrix Spike	90
bis(2-chloroisopropyl)ether	SW 846 8270	8310-6	Matrix Spike	77
4-Methylphenol	SW 846 8270	8310-6	Matrix Spike	83
n-Nitrosodi-n-propylamine	SW 846 8270	8310-6	Matrix Spike	90
Hexachloroethane	SW 846 8270	8310-6	Matrix Spike	50
Nitrobenzene	SW 846 8270	8310-6	Matrix Spike	111
Isophorone	SW 846 8270	8310-6	Matrix Spike	98

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 8310

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
2-Nitrophenol	SW 846 8270	8310-6	Matrix Spike	95
2,4-Dimethylphenol	SW 846 8270	8310-6	Matrix Spike	96
bis(2-chloroethoxy)methane	SW 846 8270	8310-6	Matrix Spike	94
2,4-Dichlorophenol	SW 846 8270	8310-6	Matrix Spike	88
1,2,4-Trichlorobenzene	SW 846 8270	8310-6	Matrix Spike	68
Naphthalene	SW 846 8270	8310-6	Matrix Spike	78
4-Chloroaniline	SW 846 8270	8310-6	Matrix Spike	69
Hexachlorobutadiene	SW 846 8270	8310-6	Matrix Spike	148
4-Chloro-3-methylphenol	SW 846 8270	8310-6	Matrix Spike	91
2-Methylnaphthalene	SW 846 8270	8310-6	Matrix Spike	83
Hexachlorocyclopentadiene	SW 846 8270	8310-6	Matrix Spike	115
2,4,6-Trichlorophenol	SW 846 8270	8310-6	Matrix Spike	92
2,4,5-Trichlorophenol	SW 846 8270	8310-6	Matrix Spike	88
2-Chloronaphthalene	SW 846 8270	8310-6	Matrix Spike	85
2-Nitroaniline	SW 846 8270	8310-6	Matrix Spike	96
Dimethyl phthalate	SW 846 8270	8310-6	Matrix Spike	94
Acenaphthylene	SW 846 8270	8310-6	Matrix Spike	87
2,6-Dinitrotoluene	SW 846 8270	8310-6	Matrix Spike	95
3-Nitroaniline	SW 846 8270	8310-6	Matrix Spike	82
Acenaphthene	SW 846 8270	8310-6	Matrix Spike	89
2,4-Dinitrophenol	SW 846 8270	8310-6	Matrix Spike	58
4-Nitrophenol	SW 846 8270	8310-6	Matrix Spike	64
Dibenzofuran	SW 846 8270	8310-6	Matrix Spike	83
2,4-Dinitrotoluene	SW 846 8270	8310-6	Matrix Spike	99
Diethyl phthalate	SW 846 8270	8310-6	Matrix Spike	97
4-Chlorophenyl phenyl ether	SW 846 8270	8310-6	Matrix Spike	85
Fluorene	SW 846 8270	8310-6	Matrix Spike	87
4-Nitroaniline	SW 846 8270	8310-6	Matrix Spike	89
4,6-Dinitro-2-methylphenol	SW 846 8270	8310-6	Matrix Spike	105

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 4

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 8310

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
n-Nitrosodiphenylamine	SW 846 8270	8310-6	Matrix Spike	85
4-Bromophenyl phenyl ether	SW 846 8270	8310-6	Matrix Spike	86
Hexachlorobenzene	SW 846 8270	8310-6	Matrix Spike	85
Pentachlorophenol	SW 846 8270	8310-6	Matrix Spike	92
Phenanthrene	SW 846 8270	8310-6	Matrix Spike	89
Anthracene	SW 846 8270	8310-6	Matrix Spike	96
Carbazole	SW 846 8270	8310-6	Matrix Spike	92
di-n-Butylphthalate	SW 846 8270	8310-6	Matrix Spike	99
Fluoranthene	SW 846 8270	8310-6	Matrix Spike	86
Pyrene	SW 846 8270	8310-6	Matrix Spike	84
Butyl benzyl phthalate	SW 846 8270	8310-6	Matrix Spike	87
3,3'-Dichlorobenzidine	SW 846 8270	8310-6	Matrix Spike	60
Benzo(a)anthracene	SW 846 8270	8310-6	Matrix Spike	73
Chrysene	SW 846 8270	8310-6	Matrix Spike	90
bis(2ethylhexyl)phthalate	SW 846 8270	8310-6	Matrix Spike	109
di-n-Octylphthalate	SW 846 8270	8310-6	Matrix Spike	90
Benzo(b)fluoranthene	SW 846 8270	8310-6	Matrix Spike	70
Benzo(k)fluoranthene	SW 846 8270	8310-6	Matrix Spike	75
Benzo(a)pyrene	SW 846 8270	8310-6	Matrix Spike	58
Indeno(1,2,3-cd)pyrene	SW 846 8270	8310-6	Matrix Spike	56
Dibenzo(a,h)anthracene	SW 846 8270	8310-6	Matrix Spike	53
Benzo(g,h,i)perylene	SW 846 8270	8310-6	Matrix Spike	48

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 1

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 8310

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Ammonia	EPA 350.3	8310-6	Duplicate	3
Nitrite	HACH 8507	8310-6	Duplicate	NA
Total Kjeldahl Nitrogen	EPA 351.3	8310-6	Duplicate	5
Total Iron	EPA 200.7	8310-6	Duplicate	0.8
Soluble Iron	EPA 200.7	8310-6	Duplicate	10.8
Total Potassium	EPA 200.7	8310-6	Duplicate	1.4
Soluble Potassium	EPA 200.7	8310-6	Duplicate	4.6
Total Zinc	EPA 200.7	8310-6	Duplicate	0.9
Soluble Zinc	EPA 200.7	8310-6	Duplicate	18
Chloromethane	SW 846 8260	8310-6	Duplicate	NA
Bromomethane	SW 846 8260	8310-6	Duplicate	NA
Vinyl chloride	SW 846 8260	8310-6	Duplicate	6.9
Chloroethane	SW 846 8260	8310-6	Duplicate	NA
Methylene chloride	SW 846 8260	8310-6	Duplicate	NA
Acetone	SW 846 8260	8310-6	Duplicate	NA
Carbon disulfide	SW 846 8260	8310-6	Duplicate	45
1,1-Dichloroethene	SW 846 8260	8310-6	Duplicate	NA
1,1-Dichloroethane	SW 846 8260	8310-6	Duplicate	NA
1,2-Dichloroethylene (total)	SW 846 8260	8310-6	Duplicate	1.5
Chloroform	SW 846 8260	8310-6	Duplicate	NA
1,2-Dichloroethane	SW 846 8260	8310-6	Duplicate	NA
2-Butanone	SW 846 8260	8310-6	Duplicate	NA
1,1,1-Trichloroethane	SW 846 8260	8310-6	Duplicate	NA
Carbon tetrachloride	SW 846 8260	8310-6	Duplicate	NA
Bromodichloromethane	SW 846 8260	8310-6	Duplicate	NA
1,2-Dichloropropane	SW 846 8260	8310-6	Duplicate	NA
cis-1,3-Dichloropropene	SW 846 8260	8310-6	Duplicate	NA
Trichloroethene	SW 846 8260	8310-6	Duplicate	0.5

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

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 8310

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Chlorodibromomethane	SW 846 8260	8310-6	Duplicate	NA
1,1,2-Trichloroethane	SW 846 8260	8310-6	Duplicate	NA
Benzene	SW 846 8260	8310-6	Duplicate	NA
trans-1,3-Dichloropropene	SW 846 8260	8310-6	Duplicate	NA
Bromoform	SW 846 8260	8310-6	Duplicate	NA
4-Methyl-2-pentanone	SW 846 8260	8310-6	Duplicate	NA
2-Hexanone	SW 846 8260	8310-6	Duplicate	NA
Tetrachloroethene	SW 846 8260	8310-6	Duplicate	1.6
Toluene	SW 846 8260	8310-6	Duplicate	NA
1,1,2,2-Tetrachloroethane	SW 846 8260	8310-6	Duplicate	NA
Chlorobenzene	SW 846 8260	8310-6	Duplicate	NA
Ethylbenzene	SW 846 8260	8310-6	Duplicate	NA
Styrene	SW 846 8260	8310-6	Duplicate	NA
o-Xylene	SW 846 8260	8310-6	Duplicate	NA
m/p-Xylene	SW 846 8260	8310-6	Duplicate	NA
Aniline	SW 846 8270	8310-6	Duplicate	NA
Benzoic acid	SW 846 8270	8310-6	Duplicate	NA
Benzyl alcohol	SW 846 8270	8310-6	Duplicate	NA
Phenol	SW 846 8270	8310-6	Duplicate	NA
bis(2-chloroethyl)ether	SW 846 8270	8310-6	Duplicate	NA
2-Chlorophenol	SW 846 8270	8310-6	Duplicate	NA
1,3-Dichlorobenzene	SW 846 8270	8310-6	Duplicate	NA
1,4-Dichlorobenzene	SW 846 8270	8310-6	Duplicate	NA
1,2-Dichlorobenzene	SW 846 8270	8310-6	Duplicate	NA
2-Methylphenol	SW 846 8270	8310-6	Duplicate	NA
bis(2-chloroisopropyl)ether	SW 846 8270	8310-6	Duplicate	NA
4-Methylphenol	SW 846 8270	8310-6	Duplicate	NA
n-Nitrosodi-n-propylamine	SW 846 8270	8310-6	Duplicate	NA

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 3

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 8310

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Hexachloroethane	SW 846 8270	8310-6	Duplicate	NA
Nitrobenzene	SW 846 8270	8310-6	Duplicate	NA
Isophorone	SW 846 8270	8310-6	Duplicate	NA
2-Nitrophenol	SW 846 8270	8310-6	Duplicate	NA
2,4-Dimethylphenol	SW 846 8270	8310-6	Duplicate	NA
bis(2-chloroethoxy)methane	SW 846 8270	8310-6	Duplicate	NA
2,4-Dichlorophenol	SW 846 8270	8310-6	Duplicate	NA
1,2,4-Trichlorobenzene	SW 846 8270	8310-6	Duplicate	NA
Naphthalene	SW 846 8270	8310-6	Duplicate	NA
4-Chloroaniline	SW 846 8270	8310-6	Duplicate	NA
Hexachlorobutadiene	SW 846 8270	8310-6	Duplicate	25
4-Chloro-3-methylphenol	SW 846 8270	8310-6	Duplicate	NA
2-Methylnaphthalene	SW 846 8270	8310-6	Duplicate	NA
Hexachlorocyclopentadiene	SW 846 8270	8310-6	Duplicate	NA
2,4,6-Trichlorophenol	SW 846 8270	8310-6	Duplicate	NA
2,4,5-Trichlorophenol	SW 846 8270	8310-6	Duplicate	NA
2-Chloronaphthalene	SW 846 8270	8310-6	Duplicate	NA
2-Nitroaniline	SW 846 8270	8310-6	Duplicate	NA
Dimethyl phthalate	SW 846 8270	8310-6	Duplicate	NA
Acenaphthylene	SW 846 8270	8310-6	Duplicate	NA
2,6-Dinitrotoluene	SW 846 8270	8310-6	Duplicate	NA
3-Nitroaniline	SW 846 8270	8310-6	Duplicate	NA
Acenaphthene	SW 846 8270	8310-6	Duplicate	NA
2,4-Dinitrophenol	SW 846 8270	8310-6	Duplicate	NA
4-Nitrophenol	SW 846 8270	8310-6	Duplicate	NA
Dibenzofuran	SW 846 8270	8310-6	Duplicate	NA
2,4-Dinitrotoluene	SW 846 8270	8310-6	Duplicate	NA
Diethyl phthalate	SW 846 8270	8310-6	Duplicate	NA

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

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 4

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 8310

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
4-Chlorophenyl phenyl ether	SW 846 8270	8310-6	Duplicate	NA
Fluorene	SW 846 8270	8310-6	Duplicate	NA
4-Nitroaniline	SW 846 8270	8310-6	Duplicate	NA
4,6-Dinitro-2-methylphenol	SW 846 8270	8310-6	Duplicate	NA
n-Nitrosodiphenylamine	SW 846 8270	8310-6	Duplicate	NA
4-Bromophenyl phenyl ether	SW 846 8270	8310-6	Duplicate	NA
Hexachlorobenzene	SW 846 8270	8310-6	Duplicate	NA
Pentachlorophenol	SW 846 8270	8310-6	Duplicate	NA
Phenanthrene	SW 846 8270	8310-6	Duplicate	NA
Anthracene	SW 846 8270	8310-6	Duplicate	NA
Carbazole	SW 846 8270	8310-6	Duplicate	NA
di-n-Butylphthalate	SW 846 8270	8310-6	Duplicate	NA
Fluoranthene	SW 846 8270	8310-6	Duplicate	NA
Pyrene	SW 846 8270	8310-6	Duplicate	NA
Butyl benzyl phthalate	SW 846 8270	8310-6	Duplicate	NA
3,3'-Dichlorobenzidine	SW 846 8270	8310-6	Duplicate	NA
Benzo(a)anthracene	SW 846 8270	8310-6	Duplicate	NA
Chrysene	SW 846 8270	8310-6	Duplicate	NA
bis(2ethylhexyl)phthalate	SW 846 8270	8310-6	Duplicate	NA
di-n-Octylphthalate	SW 846 8270	8310-6	Duplicate	NA
Benzo(b)fluoranthene	SW 846 8270	8310-6	Duplicate	NA
Benzo(k)fluoranthene	SW 846 8270	8310-6	Duplicate	NA
Benzo(a)pyrene	SW 846 8270	8310-6	Duplicate	NA
Indeno(1,2,3-cd)pyrene	SW 846 8270	8310-6	Duplicate	NA *
Dibenzo(a,h)anthracene	SW 846 8270	8310-6	Duplicate	NA *
Benzo(g,h,i)perylene	SW 846 8270	8310-6	Duplicate	NA *

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

* High limit due to sample matrix; dilution was required.(1:5)

Advanced Environmental Services, Inc
Sample Traceability Report

Project Identification

CTC 831C

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
8310-6	12-4-98	-	-	3510/8270	12-7-98	BA/BK	8270	12-9-98	BA
8310-8	12-4-98	-	-	3510/8270	12-7-98	BA/BK	8270	12-9-98	BA
8310-9	12-4-98	-	-	3510/8270	12-7-98	BA/BK	8270	12-9-98	BA
8310-10	12-4-98	-	-	3510/8270	12-7-98	BA/BK	8270	12-9-98	BA
8310 -6,8,9,10	12/04/98	-	-	-	-	-	8260	12/09/98	JS

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 8310

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
830 ^{1,3456} 38,910	12/4/98	—	—	9.3	12/9/98	RP	200.7	12/15/98	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 8310

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
8310(13-10)	12/4/98	2120		-	-	-	8507	12/4/98	UN
8310 ¹³⁻ ₁₀	12/4/98	2005	141	-	-	-	350.1	12/14/98	DB
8310 ¹³⁻ ₁₀	12/4/98	2027	136 ⁺ 137	351.3	12/10/98 12/14/98	DB	351.3	12/10-12/14/98	DB

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



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

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

CUSTOMER NAME: UCAR

PROJECT NAME: QUARTERLY LANDFILL MONITORING

SAMPLER'S SIGNATURE: *[Signature]*

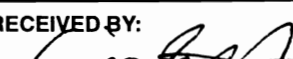
PROJECT I.D.#: 8310

JOB CODE: 23CU

[illegible]

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

TOTAL NUMBER OF CONTAINERS 63

1. RELINQUISHED BY: 	DATE 12/4/98	TIME 2:15pm	RECEIVED BY: 
2. RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
3. RELINQUISHED BY:	DATE	TIME	RECEIVED BY: