



UCAR CARBON COMPANY INC.

32N03.GW47

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

August 14, 1998

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

RECEIVED

AUG 18 1998

NYSDEC - REG. 9
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☒ REL ☐ UNREL

32N03

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

Dear Mr. Hans,

I am enclosing a copy of the forty-first (41) quarter's groundwater sampling analysis from the closed Republic Waste Management Facility. Bedrock well, BW-4, continues to demonstrate some slight volatile organic contamination in the less than one part per million range.

The attached table summarizes the positive organic parameters from BW-4 for the forty-first (41) quarter.

Though Trichloroethene (TCE) was found in groundwater on the north boundary (bedrock well BW-4) of the site, it has been shown by soil gas and surface soil sampling to originate from an area just north of the site. The downgradient bedrock well BW-6 continues to show no similar contamination. Diethyl phthalate was detected for the first time at 11 PPB (quant. limit 10 PPB) and would suggest contamination from a plastic source.

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

Very truly yours,

A.C. Ogg
Site Manager

A.C. Ogg
nm
encls.

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

41ST QUARTER

POSITIVE ORGANIC PARAMETERS FROM BW-4

CONTAMINATE	41st Quarter ppb	Mean Conc. ppb	Range ppb
1,2-Dichlorethene (Total)	142	259	200 - 570
Trichloroethene	68	283	30 - 740
Tetrachloroethene	68	219	72 - 440
Hexachlobutadiene	77	49	10 – 160

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

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UCAR CARBON COMPANY, INCORPORATED

REPUBLIC WASTE MANAGEMENT FACILITY

POST CLOSURE MONITORING PROGRAM

QUARTERLY REPORT

JUNE 1998

Prepared By:

ADVANCED
ENVIRONMENTAL SERVICES INC.

"A Company Dedicated to Honesty, Quality and Service"

July 31, 1998
REF: CTC81RT/100B
Lab ID No. 10233

QA/QC VERIFICATION FOR PROJECT ID 81RT

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.



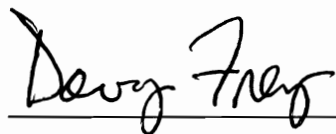
Metals Department



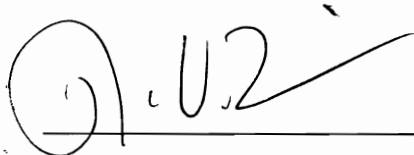
Inorganic Chemistry



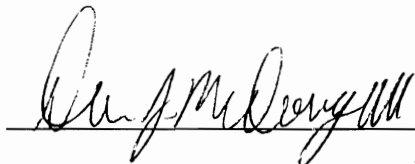
Organic Chemistry



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.
Groundwater Monitoring Field Log

Site Information

Site Location: Ucar Carbon Co

Address: Niagara Falls

Monitoring Location: MW-1

Was Well I.D. Easily Visible? ☒ Yes ☐ No

Physical Condition of Well: Good

AES Job Code: CTC

Project I.D. #:

Was Well Locked? ☒ Yes ☐ No

Water Table Information

Elevation Taken From: ☐ Inner Casing ☒ Outer Casing ☐ Other:

Depth of Well Bottom (A): 23.40 feet

Depth of Watertable (B): 12.0 feet

Length of Water Column [A-B=C]: 11.40 feet

Diameter of Well (D): 2 inches

Volume of Water in Well: 1.54 gallons

Well Coefficient: .16

Purging Information

Method of Purging: Peristaltic Pump

Purge Date:

Weather During Purging: 60°F cloudy

Volume of water in well:

HNU Background: NA

HNU in Well:

Purge Start Time: 3:00p

Purge Stop Time: 3:10p

Volume of Water Purged: 2.25 gallons

Number of Well Volumes Purged: 2

Solids Content: ☐ None ☒ Low ☐ Medium ☐ High

Did the well go dry before the purging was completed: ☐ Yes ☐ No

Was there an odor?: ☐ Yes ☒ No If Yes, describe:

Observations about Purge Water (i.e. color, types of solids):

Black solids present

Groundwater Indicators	After 1 Volume	After 2 Volumes	After 3 Volumes	After 4 Volumes	After 5 Volumes
pH (SU)	N	N	N	N	N
Spec. Conductivity (umhos/cm)	/	/	/	/	/
Temperature (F)	/	/	/	/	/
Turbidity (NTU)	A	A	A	A	A
Eh (ORP) (Millivolts)	/	/	/	/	/

Purging Technicians Signature:

Davey Fray

Date:

6-22-98

Advanced Environmental Services, Inc.
Groundwater Monitoring Field Log

Site Information

Site Location: Ucar Carbon Co Inc
Address: Niagara Falls
Monitoring Location: MW-3
Was Well I.D. Easily Visible? ☒ Yes ☐ No
Physical Condition of Well: Good

AES Job Code:
Project I.D. #:
Was Well Locked? ☒ Yes ☐ No

Water Table Information

Elevation Taken From: ☒ Inner Casing ☐ Outer Casing ☐ Other:
Depth of Well Bottom (A): 16-11 feet
Depth of Watertable (B): 10.15 feet
Length of Water Column [A-B=C]: 5.96 feet
Diameter of Well (D): 2 inches
Volume of Water in Well: .95 gallons
Well Coefficient: .16

Purging Information

Method of Purging: Teflon bailer
Weather During Purging: 86°F
HNU Background: N/A
Purge Start Time: 12:23 P
Volume of Water Purged: 2.50 gallons
Solids Content: ☒ None ☐ Low ☐ Medium ☐ High
Did the well go dry before the purging was completed: ☐ Yes ☐ No
Was there an odor?: ☐ Yes ☒ No If Yes, describe:
Observations about Purge Water (i.e. color, types of solids): tan color to brown

Purge Date: 6-24-98
Volume of water in well: .95
HNU in Well: NA
Purge Stop Time: 12:35 P
Number of Well Volumes Purged: 2.5

Groundwater Indicators	After 1 Volume	After 2 Volumes	After 3 Volumes	After 4 Volumes	After 5 Volumes
pH (SU)	<u>N</u>				
Spec. Conductivity (umhos/cm)					
Temperature (F)					
Turbidity (NTU)				<u>A</u>	
Eh (ORP) (Millivolts)					

Purging Technicians Signature:

Davey Frey

Date:

6-24-98

Advanced Environmental Services, Inc.
Groundwater Monitoring Field Log

Site Information

Site Location: U Car Carbon Co. Inc.

Address: Niagara Falls

Monitoring Location: BW-1

Was Well I.D. Easily Visible? ☒ Yes ☐ No

Physical Condition of Well: Good

AES Job Code:

Project I.D. #:

Was Well Locked? ☒ Yes ☐ No

Water Table Information

Elevation Taken From: ☐ Inner Casing ☒ Outer Casing ☐ Other:

Depth of Well Bottom (A): 28.85 feet

Depth of Watertable (B): 17.39 feet

Length of Water Column [A-B=C]: 11.46 feet

Diameter of Well (D): 4 inches

Volume of Water in Well: 9.23 gallons

Well Coefficient: .64

Purging Information

Method of Purging: Peristaltic Pump

Purge Date: 6-23-98

Weather During Purging: Rain 68°F

Volume of water in well: 9.23

HNU Background: NA

HNU in Well: NA

Purge Start Time: 1:22 P

Purge Stop Time: 2:28 P

Volume of Water Purged: 30.0 gallons

Number of Well Volumes Purged: 3

Solids Content: ☒ None ☐ Low ☐ Medium ☐ High

Did the well go dry before the purging was completed: ☐ Yes ☒ No

Was there an odor?: ☐ Yes ☒ No If Yes, describe:

Observations about Purge Water (i.e. color, types of solids):

tan, then turned jet black

Groundwater Indicators	After 1 Volume	After 2 Volumes	After 3 Volumes	After 4 Volumes	After 5 Volumes
pH (SU)	N	N	N	N	N
Spec. Conductivity (umhos/cm)	/	/	/	/	/
Temperature (F)	/	/	/	/	/
Turbidity (NTU)	A	A	A	A	A
Eh (ORP) (Millivolts)	/	/	/	/	/

Purging Technicians Signature:

Devo Frey

Date:

6-23-98

Advanced Environmental Services, Inc.
Groundwater Monitoring Field Log

Site Information

Site Location: U Car Carton Co. Inc.

Address: NIAG Falls

Monitoring Location: BW-2

Was Well I.D. Easily Visible? ☒ Yes ☐ No

Physical Condition of Well: Good

AES Job Code:

Project I.D. #: CTC

Was Well Locked? ☒ Yes ☐ No

Water Table Information

Elevation Taken From: ☐ Inner Casing ☒ Outer Casing ☐ Other:

Depth of Well Bottom (A): 26.60 feet

Depth of Watertable (B): 13.27 feet

Length of Water Column [A-B=C]: 13.39 feet

Diameter of Well (D): 2 inches

Volume of Water in Well: 8.56 gallons

Well Coefficient: .16

Purging Information

Method of Purging: Peristaltic Pump

Purge Date: 6-24-98

Weather During Purging: 86°F Sun

Volume of water in well: 8.56

HNU Background: NA

HNU in Well:

Purge Start Time: 1:45 P

Purge Stop Time: 2:27 P

Volume of Water Purged: 26.0 gallons

Number of Well Volumes Purged: 3

Solids Content: ☐ None ☐ Low ☐ Medium ☒ High

Did the well go dry before the purging was completed: ☐ Yes ☐ No

Was there an odor?: ☐ Yes ☐ No If Yes, describe:

Observations about Purge Water (i.e. color, types of solids): black solids present

Groundwater Indicators	After 1 Volume	After 2 Volumes	After 3 Volumes	After 4 Volumes	After 5 Volumes
pH (SU)	<u>N</u>				
Spec. Conductivity (umhos/cm)					
Temperature (F)					
Turbidity (NTU)					
Eh (ORP) (Millivolts)					<u>A</u>

Purging Technicians Signature: Doug Trer

Date: 6-24-98

Advanced Environmental Services, Inc.
Groundwater Monitoring Field Log

Site Information

Site Location: Ucar Carbon Co
Address: Niag Falls
Monitoring Location: BW-3
Was Well I.D. Easily Visible? ☒ Yes ☐ No
Physical Condition of Well: Good

AES Job Code:
Project I.D. #: CTC
Was Well Locked? ☒ Yes ☐ No

Water Table Information

Elevation Taken From: ☐ Inner Casing ☒ Outer Casing ☐ Other:
Depth of Well Bottom (A): 22.91 feet
Length of Water Column [A-B=C]: 9.57 feet
Volume of Water in Well: 6.12 gallons
Depth of Watertable (B): 13.34 feet
Diameter of Well (D): 4 inches
Well Coefficient: .64

Purging Information

Method of Purging: Peristaltic pump
Weather During Purging: 90°F sunny
HNU Background: N/A
Purge Start Time: 2:45 p
Volume of Water Purged: 20.00 gallons

Purge Date: 6-24-98
Volume of water in well:
HNU in Well: NA
Purge Stop Time: 3:15 p
Number of Well Volumes Purged: 3

Solids Content: ☒ None ☐ Low ☐ Medium ☐ High

Did the well go dry before the purging was completed: ☐ Yes ☐ No

Was there an odor? ☐ Yes ☒ No If Yes, describe: _____

Observations about Purge Water (i.e. color, types of solids): clear

Groundwater Indicators	After 1 Volume	After 2 Volumes	After 3 Volumes	After 4 Volumes	After 5 Volumes
pH (SU)	<u>N</u>				
Spec. Conductivity (umhos/cm)					
Temperature (F)					
Turbidity (NTU)				<u>A</u>	
Eh (ORP) (Millivolts)					

Purging Technicians Signature: Doug Frier

Date: 6-24-98

Advanced Environmental Services, Inc.
Groundwater Monitoring Field Log

Site Information

Site Location: Ucar Carbon Co. Inc.
Address: NIAG Falls
Monitoring Location: BW-4 (Blind Dupe)
Was Well I.D. Easily Visible? ☒ Yes ☐ No
Physical Condition of Well: Good

AES Job Code: CTC
Project I.D. #: 81RT
Was Well Locked? ☒ Yes ☐ No

Water Table Information

Elevation Taken From: ☐ Inner Casing ☒ Outer Casing ☐ Other:
Depth of Well Bottom (A): 22.69 feet
Length of Water Column [A-B=C]: 9.53 feet
Volume of Water in Well: 6.09 gallons
Depth of Watertable (B): 13.16 feet
Diameter of Well (D): 4 inches
Well Coefficient: .64

Purging Information

Method of Purging: Peristaltic Pump
Weather During Purging: 80°F sun
HNU Background: N/A
Purge Start Time: 10:28 A
Volume of Water Purged: _____ gallons

Purge Date: 6-24-98
Volume of water in well: 6.09
HNU in Well: NA
Purge Stop Time: _____
Number of Well Volumes Purged: 3

Solids Content: ☐ None ☐ Low ☒ Medium ☐ High

Did the well go dry before the purging was completed: ☐ Yes ☐ No

Was there an odor?: ☐ Yes ☐ No If Yes, describe: yes

Observations about Purge Water (i.e. color, types of solids):

noticeably contaminated heavy
sheen and black solids

Groundwater Indicators	After 1 Volume	After 2 Volumes	After 3 Volumes	After 4 Volumes	After 5 Volumes
pH (SU)	<u>N</u>				
Spec. Conductivity (umhos/cm)					
Temperature (F)					
Turbidity (NTU)					<u>A</u>
Eh (ORP) (Millivolts)					

Purging Technicians Signature: Devy Frey

Date: 6-24-98

Advanced Environmental Services, Inc.
Groundwater Monitoring Field Log

Site Information

Site Location: U CAR Carbon Co. Inc

Address: NIAG FALLS

Monitoring Location: BW-5

Was Well I.D. Easily Visible? ☒ Yes ☐ No

Physical Condition of Well: Good

AES Job Code:

Project I.D. #: LTC

Was Well Locked? ☒ Yes ☐ No

Water Table Information

Elevation Taken From: ☐ Inner Casing ☒ Outer Casing ☐ Other:

Depth of Well Bottom (A): 28.80 feet

Depth of Watertable (B): 11.51 feet

Length of Water Column [A-B=C]: 17.29 feet

Diameter of Well (D): 4 inches

Volume of Water in Well: 11.06 gallons

Well Coefficient: 64

Purging Information

Method of Purging: Peristaltic Pump

Purge Date: 6-24-98

Weather During Purging: 85° F sun

Volume of water in well:

HNU Background: NA

HNU in Well: NA

Purge Start Time: 11:39 A

Purge Stop Time: 11:59 A

Volume of Water Purged: 30.0 gallons

Number of Well Volumes Purged:

Solids Content: ☐ None ☒ Low to ☒ Medium ☐ High

Did the well go dry before the purging was completed: ☐ Yes ☐ No

Was there an odor?: ☐ Yes ☐ No If Yes, describe: _____

Observations about Purge Water (i.e. color, types of solids): Clear small solids

Groundwater Indicators	After 1 Volume	After 2 Volumes	After 3 Volumes	After 4 Volumes	After 5 Volumes
pH (SU)	<u>N</u>				
Spec. Conductivity (umhos/cm)					
Temperature (F)					
Turbidity (NTU)					
Eh (ORP) (Millivolts)					<u>A</u>

Purging Technicians Signature: Darryl Fries

Date: 6-24-98

Advanced Environmental Services, Inc.
Groundwater Monitoring Field Log

Site Information

Site Location: U Car Carbon Co Inc

Address: Niagara Falls

Monitoring Location: BW-6 (QC)

Was Well I.D. Easily Visible? ☒ Yes ☐ No

Physical Condition of Well: Good

AES Job Code:

Project I.D. #:

Was Well Locked? ☒ Yes ☐ No

Water Table Information

Elevation Taken From: ☐ Inner Casing ☐ Outer Casing ☐ Other:

Depth of Well Bottom (A): 25.15 feet

Depth of Watertable (B): 11.77 feet

Length of Water Column [A-B=C]: 14.38 feet

Diameter of Well (D): inches

Volume of Water in Well: 9.20 gallons

Well Coefficient:

Purging Information

Method of Purging: Peristaltic Pump

Purge Date: 6-24-98

Weather During Purging: 85° Sun

Volume of water in well: 9.20

HNU Background: N/A

HNU in Well: NA

Purge Start Time: 3:30 P

Purge Stop Time: 4:00 P

Volume of Water Purged: 27.60 gallons

Number of Well Volumes Purged:

Solids Content: ☐ None ☒ Low ☐ Medium ☐ High

Did the well go dry before the purging was completed: ☐ Yes ☐ No

Was there an odor?: ☐ Yes ☒ No If Yes, describe:

Observations about Purge Water (i.e. color, types of solids):

clear/slight sheen

Groundwater Indicators	After 1 Volume	After 2 Volumes	After 3 Volumes	After 4 Volumes	After 5 Volumes
pH (SU)	N				
Spec. Conductivity (umhos/cm)					
Temperature (F)					
Turbidity (NTU)				A	
Eh (ORP) (Millivolts)					

Purging Technicians Signature:

Deong Frey

Date:

6-24-98

Advanced Environmental Services, Inc.
Groundwater Monitoring Field Log

Site Information

Site Location: 0 CAR Carbon Co Inc.

Address: Niagara Falls

Monitoring Location: MW-2

Was Well I.D. Easily Visible? ☐ Yes ☐ No

Physical Condition of Well:

AES Job Code:

Project I.D. #:

Was Well Locked? ☐ Yes ☐ No

Water Table Information

Elevation Taken From: ☐ Inner Casing ☐ Outer Casing ☐ Other:

Depth of Well Bottom (A): 24.61 feet

Depth of Watertable (B): 23.46 feet

Length of Water Column [A-B=C]: 1.15 feet

Diameter of Well (D): 3 inches

Volume of Water in Well: .42 gallons

Well Coefficient: .367

Purging Information

Method of Purging: Teflon Bailer

Purge Date: 6-24-98

Weather During Purging: 86°F sun

Volume of water in well: .42 gal

HNU Background: NA

HNU in Well:

Purge Start Time: 1:30P

Purge Stop Time: 1:40P

Volume of Water Purged: _____ gallons

Number of Well Volumes Purged:

Solids Content: ☐ None ☐ Low ☐ Medium ☒ High

Did the well go dry before the purging was completed: ☐ Yes ☐ No

Was there an odor?: ☐ Yes ☒ No If Yes, describe: Black solids

Observations about Purge Water (i.e. color, types of solids): Black solids

Groundwater Indicators	After 1 Volume	After 2 Volumes	After 3 Volumes	After 4 Volumes	After 5 Volumes
pH (SU)					
Spec. Conductivity (umhos/cm)	<u>N</u>				
Temperature (F)					
Turbidity (NTU)			<u>A</u>		
Eh (ORP) (Millivolts)					

Purging Technicians Signature:

Davey Frey

Date:

6-24-98

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-1
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 06/24/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 81RT-1

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	23.8	NTU	0.1	EPA 180.1
Ammonia	4.4	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	7.6 D	mg/L	0.4	EPA 351.3
Total Iron	3.01	mg/L	0.060	EPA 200.7
Soluble Iron	1.35	mg/L	0.060	EPA 200.7
Total Potassium	35	mg/L	1.8	EPA 200.7
Soluble Potassium	38 **	mg/L	1.8	EPA 200.7
Total Zinc	0.069	mg/L	0.016	EPA 200.7
Soluble Zinc	0.149***	mg/L	0.016	EPA 200.7

* Analysis performed in the field.

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

*** Sample was rerun with similar results.

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-3
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 06/25/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 81RT-2

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	13.72	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	2.7 D	mg/L	0.4	EPA 351.3
Total Iron	100	mg/L	0.060	EPA 200.7
Soluble Iron	1.81	mg/L	0.060	EPA 200.7
Total Potassium	12	mg/L	1.8	EPA 200.7
Soluble Potassium	1.2	mg/L	1.8	EPA 200.7
Total Zinc	0.882	mg/L	0.016	EPA 200.7
Soluble Zinc	0.083	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): 06/23/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 81RT-3

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	24.2	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	2.8 D	mg/L	0.4	EPA 351.3
Total Iron	2.54	mg/L	0.060	EPA 200.7
Soluble Iron	1.05	mg/L	0.060	EPA 200.7
Total Potassium	11	mg/L	1.8	EPA 200.7
Soluble Potassium	11	mg/L	1.8	EPA 200.7
Total Zinc	3.32	mg/L	0.016	EPA 200.7
Soluble Zinc	0.566	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): 06/24/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 81RT-4

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	16.6	NTU	0.1	EPA 180.1
Ammonia	0.5	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.4 D	mg/L	0.4	EPA 351.3
Total Iron	3.67	mg/L	0.060	EPA 200.7
Soluble Iron	2.53	mg/L	0.060	EPA 200.7
Total Potassium	6.0	mg/L	1.8	EPA 200.7
Soluble Potassium	6.5 **	mg/L	1.8	EPA 200.7
Total Zinc	9.25	mg/L	0.016	EPA 200.7
Soluble Zinc	0.102	mg/L	0.016	EPA 200.7

* Analysis performed in the field.

** 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-3
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 06/24/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 81RT-5

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	37.5	NTU	0.1	EPA 180.1
Ammonia	0.5	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.0 D	mg/L	0.4	EPA 351.3
Total Iron	1.50	mg/L	0.060	EPA 200.7
Soluble Iron	1.40	mg/L	0.060	EPA 200.7
Total Potassium	4.7	mg/L	1.8	EPA 200.7
Soluble Potassium	4.5	mg/L	1.8	EPA 200.7
Total Zinc	0.029	mg/L	0.016	EPA 200.7
Soluble Zinc	0.102**	mg/L	0.016	EPA 200.7

* Analysis performed in the field.

** Sample was rerun with similar results.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-6

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	30.2	NTU	0.1	EPA 180.1
Ammonia	2.5	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	3.2 D	mg/L	0.4	EPA 351.3
Total Iron	48.9	mg/L	0.060	EPA 200.7
Soluble Iron	0.467	mg/L	0.060	EPA 200.7
Total Potassium	19	mg/L	1.8	EPA 200.7
Soluble Potassium	21 **	mg/L	1.8	EPA 200.7
Total Zinc	13.9	mg/L	0.016	EPA 200.7
Soluble Zinc	0.243	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	20	SW 846 8260 ***
Bromomethane	ND	µg/L	20	SW 846 8260
Vinyl chloride	ND	µg/L	20	SW 846 8260
Chloroethane	ND	µg/L	20	SW 846 8260
Methylene chloride	ND	µg/L	20	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	20	SW 846 8260
1,1-Dichloroethane	ND	µg/L	20	SW 846 8260
1,2-Dichloroethylene (total)	142	µg/L	20	SW 846 8260
Chloroform	ND	µg/L	20	SW 846 8260
1,2-Dichloroethane	ND	µg/L	20	SW 846 8260
2-Butanone	ND	µg/L	20	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	20	SW 846 8260
Carbon tetrachloride	ND	µg/L	20	SW 846 8260
Vinyl acetate	ND	µg/L	20	SW 846 8260
Bromodichloromethane	ND	µg/L	20	SW 846 8260

* Analysis performed in the field.

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

*** Analyzed past holding time due to instrument malfunction.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-6

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
1,2-Dichloropropane	ND	µg/L	20	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	20	SW 846 8260
Trichloroethene	68	µg/L	20	SW 846 8260
Chlorodibromomethane	ND	µg/L	20	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	20	SW 846 8260
Benzene	ND	µg/L	20	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	20	SW 846 8260
2-Chloroethyl vinyl ether	ND	µg/L	20	SW 846 8260
Bromoform	ND	µg/L	20	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Tetrachloroethene	68	µg/L	20	SW 846 8260
Toluene	ND	µg/L	20	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	20	SW 846 8260
Chlorobenzene	ND	µg/L	20	SW 846 8260
Ethylbenzene	ND	µg/L	20	SW 846 8260
Styrene	ND	µg/L	20	SW 846 8260
m-Xylene	ND	µg/L	20	SW 846 8260
o/p-Xylene	ND	µg/L	20	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-6

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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
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	77	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-6

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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
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	50	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: BW-5
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-7

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	77.0	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	0.6 D	mg/L	0.4	EPA 351.3
Total Iron	1.57	mg/L	0.060	EPA 200.7
Soluble Iron	1.06	mg/L	0.060	EPA 200.7
Total Potassium	3.1	mg/L	1.8	EPA 200.7
Soluble Potassium	2.9	mg/L	1.8	EPA 200.7
Total Zinc	0.129	mg/L	0.016	EPA 200.7
Soluble Zinc	0.137 **	mg/L	0.016	EPA 200.7

* Analysis performed in the field.

** 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-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-8

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	26.1	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	0.5 D	mg/L	0.4	EPA 351.3
Total Iron	48.1	mg/L	0.060	EPA 200.7
Soluble Iron	12.2	mg/L	0.060	EPA 200.7
Total Potassium	1.36	mg/L	1.8	EPA 200.7
Soluble Potassium	1.07	mg/L	1.8	EPA 200.7
Total Zinc	0.046	mg/L	0.016	EPA 200.7
Soluble Zinc	0.092**	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	10	SW 846 8260
Carbon disulfide	ND	µg/L	10	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	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Vinyl acetate	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260

* Analysis performed in the field.

** Sample was rerun with similar results.

*** Analyzed past holding time due to instrument malfunction.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-8

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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
2-Chloroethyl vinyl ether	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	10	SW 846 8260
2-Hexanone	ND	µg/L	10	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
m-Xylene	ND	µg/L	10	SW 846 8260
o/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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-8

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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
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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-8

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
2,4-Dinitrotoluene	ND	µg/L	10	SW 846 8270
Diethyl phthalate	11	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
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	50	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): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-9

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	30.2	NTU	0.1	EPA 180.1
Ammonia	2.0	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	2.4 D	mg/L	0.4	EPA 351.3
Total Iron	25.3	mg/L	0.060	EPA 200.7
Soluble Iron	0.270	mg/L	0.060	EPA 200.7
Total Potassium	20	mg/L	1.8	EPA 200.7
Soluble Potassium	19	mg/L	1.8	EPA 200.7
Total Zinc	4.90	mg/L	0.016	EPA 200.7
Soluble Zinc	0.302	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	20	SW 846 8260 ***
Bromomethane	ND	µg/L	20	SW 846 8260
Vinyl chloride	ND	µg/L	20	SW 846 8260
Chloroethane	ND	µg/L	20	SW 846 8260
Methylene chloride	ND	µg/L	20	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	20	SW 846 8260
1,1-Dichloroethane	ND	µg/L	20	SW 846 8260
1,2-Dichloroethylene (total)	138	µg/L	20	SW 846 8260
Chloroform	ND	µg/L	20	SW 846 8260
1,2-Dichloroethane	ND	µg/L	20	SW 846 8260
2-Butanone	ND	µg/L	20	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	20	SW 846 8260
Carbon tetrachloride	ND	µg/L	20	SW 846 8260
Vinyl acetate	ND	µg/L	20	SW 846 8260
Bromodichloromethane	ND	µg/L	20	SW 846 8260
1,2-Dichloropropane	ND	µg/L	20	SW 846 8260

* Analysis performed in the field.

*** Analyzed past holding time due to instrument malfunction.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-9

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
cis-1,3-Dichloropropene	ND	µg/L	20	SW 846 8260
Trichloroethene	75	µg/L	20	SW 846 8260
Chlorodibromomethane	ND	µg/L	20	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	20	SW 846 8260
Benzene	ND	µg/L	20	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	20	SW 846 8260
2-Chloroethyl vinyl ether	ND	µg/L	20	SW 846 8260
Bromoform	ND	µg/L	20	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Tetrachloroethene	65	µg/L	20	SW 846 8260
Toluene	ND	µg/L	20	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	20	SW 846 8260
Chlorobenzene	ND	µg/L	20	SW 846 8260
Ethylbenzene	ND	µg/L	20	SW 846 8260
Styrene	ND	µg/L	20	SW 846 8260
m-Xylene	ND	µg/L	20	SW 846 8260
o/p-Xylene	ND	µg/L	20	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-9

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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
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	30	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-9

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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
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	50	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/RINSE BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: DI WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-10

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	0.0	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	ND D	mg/L	0.4	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	10	SW 846 8260
Carbon disulfide	ND	µg/L	10	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	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Vinyl acetate	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

* Analysis performed in the field.

*** Analyzed past holding time due to instrument malfunction.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP/RINSE BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: DI WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-10

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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
2-Chloroethyl vinyl ether	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	10	SW 846 8260
2-Hexanone	ND	µg/L	10	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
m-Xylene	ND	µg/L	10	SW 846 8260
o/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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP/RINSE BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: DI WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-10

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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
Fluorene	ND	µg/L	10	SW 846 8270

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP/RINSE BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 06/24/98
 SAMPLE TYPE: DI WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 81RT-10

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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	50	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: MW-2
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 06/25/98
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 81RT-11

PROJECT ID: 81RT

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	234.0	NTU	0.1	EPA 180.1
Ammonia	ND	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.2 **	HACH 8507
Total Kjeldahl Nitrogen	0.6 D	mg/L	0.4	EPA 351.3
Total Iron	440 D	mg/L	0.060	EPA 200.7
Soluble Iron	4.82	mg/L	0.060	EPA 200.7
Total Potassium	4.7 D	mg/L	1.8	EPA 200.7
Soluble Potassium	3.4	mg/L	1.8	EPA 200.7
Total Zinc	28.5 D	mg/L	0.016	EPA 200.7
Soluble Zinc	0.641	mg/L	0.016	EPA 200.7

* Analysis performed in the field.

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

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 81RT

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
Ammonia	EPA 350.3	81RT-8	Matrix Spike	110
Nitrite	HACH 8507	81RT-8	Matrix Spike	80
Total Kjeldahl Nitrogen	EPA 351.3	81RT-8	Matrix Spike	80
Total Iron	EPA 200.7	81RT-8	Matrix Spike	93
Soluble Iron	EPA 200.7	81RT-8	Matrix Spike	115
Total Potassium	EPA 200.7	81RT-8	Matrix Spike	90
Soluble Potassium	EPA 200.7	81RT-8	Matrix Spike	100
Total Zinc	EPA 200.7	81RT-8	Matrix Spike	93
Soluble Zinc	EPA 200.7	81RT-8	Matrix Spike	100
Chloromethane	SW 846 8260 ***	81RT-8	Matrix Spike	127
Bromomethane	SW 846 8260	81RT-8	Matrix Spike	134
Vinyl chloride	SW 846 8260	81RT-8	Matrix Spike	144
Chloroethane	SW 846 8260	81RT-8	Matrix Spike	149
Methylene chloride	SW 846 8260	81RT-8	Matrix Spike	136
Acetone	SW 846 8260	81RT-8	Matrix Spike	88
Carbon disulfide	SW 846 8260	81RT-8	Matrix Spike	120
1,1-Dichloroethene	SW 846 8260	81RT-8	Matrix Spike	154
1,1-Dichloroethane	SW 846 8260	81RT-8	Matrix Spike	133
1,2-Dichloroethylene (total)	SW 846 8260	81RT-8	Matrix Spike	132
Chloroform	SW 846 8260	81RT-8	Matrix Spike	113
1,2-Dichloroethane	SW 846 8260	81RT-8	Matrix Spike	120
1,1,1-Trichloroethane	SW 846 8260	81RT-8	Matrix Spike	148
Carbon tetrachloride	SW 846 8260	81RT-8	Matrix Spike	132
Bromodichloromethane	SW 846 8260	81RT-8	Matrix Spike	112
1,2-Dichloropropane	SW 846 8260	81RT-8	Matrix Spike	86
cis-1,3-Dichloropropene	SW 846 8260	81RT-8	Matrix Spike	122
Trichloroethene	SW 846 8260	81RT-8	Matrix Spike	104
Chlorodibromomethane	SW 846 8260	81RT-8	Matrix Spike	102
1,1,2-Trichloroethane	SW 846 8260	81RT-8	Matrix Spike	129

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 81RT

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
Benzene	SW 846 8260	81RT-8	Matrix Spike	134
trans-1,3-Dichloropropene	SW 846 8260	81RT-8	Matrix Spike	111
2-Chloroethyl vinyl ether	SW 846 8260	81RT-8	Matrix Spike	122
4-Methyl-2-pentanone	SW 846 8260	81RT-8	Matrix Spike	108
Tetrachloroethene	SW 846 8260	81RT-8	Matrix Spike	102
Toluene	SW 846 8260	81RT-8	Matrix Spike	120
1,1,2,2-Tetrachloroethane	SW 846 8260	81RT-8	Matrix Spike	60
Chlorobenzene	SW 846 8260	81RT-8	Matrix Spike	121
Ethylbenzene	SW 846 8260	81RT-8	Matrix Spike	133
Styrene	SW 846 8260	81RT-8	Matrix Spike	119
m-Xylene	SW 846 8260	81RT-8	Matrix Spike	125
o/p-Xylene	SW 846 8260	81RT-8	Matrix Spike	135
Aniline	SW 846 8270	81RT-8	Matrix Spike	70
Benzoic acid	SW 846 8270	81RT-8	Matrix Spike	67
Phenol	SW 846 8270	81RT-8	Matrix Spike	71
bis(2-chloroethyl)ether	SW 846 8270	81RT-8	Matrix Spike	58
2-Chlorophenol	SW 846 8270	81RT-8	Matrix Spike	72
1,3-Dichlorobenzene	SW 846 8270	81RT-8	Matrix Spike	75
1,4-Dichlorobenzene	SW 846 8270	81RT-8	Matrix Spike	74
1,2-Dichlorobenzene	SW 846 8270	81RT-8	Matrix Spike	80
2-Methylphenol	SW 846 8270	81RT-8	Matrix Spike	72
bis(2-chloroisopropyl)ether	SW 846 8270	81RT-8	Matrix Spike	73
4-Methylphenol	SW 846 8270	81RT-8	Matrix Spike	67
n-Nitrosodi-n-propylamine	SW 846 8270	81RT-8	Matrix Spike	71
Hexachloroethane	SW 846 8270	81RT-8	Matrix Spike	70
Nitrobenzene	SW 846 8270	81RT-8	Matrix Spike	79
Isophorone	SW 846 8270	81RT-8	Matrix Spike	77
2-Nitrophenol	SW 846 8270	81RT-8	Matrix Spike	74
2,4-Dimethylphenol	SW 846 8270	81RT-8	Matrix Spike	70

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 81RT

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
bis(2-chloroethoxy)methane	SW 846 8270	81RT-8	Matrix Spike	79
2,4-Dichlorophenol	SW 846 8270	81RT-8	Matrix Spike	74
1,2,4-Trichlorobenzene	SW 846 8270	81RT-8	Matrix Spike	76
Naphthalene	SW 846 8270	81RT-8	Matrix Spike	76
4-Chloroaniline	SW 846 8270	81RT-8	Matrix Spike	30
Hexachlorobutadiene	SW 846 8270	81RT-8	Matrix Spike	79
4-Chloro-3-methylphenol	SW 846 8270	81RT-8	Matrix Spike	77
2-Methylnaphthalene	SW 846 8270	81RT-8	Matrix Spike	76
Hexachlorocyclopentadiene	SW 846 8270	81RT-8	Matrix Spike	92
2,4,6-Trichlorophenol	SW 846 8270	81RT-8	Matrix Spike	79
2,4,5-Trichlorophenol	SW 846 8270	81RT-8	Matrix Spike	81
2-Chloronaphthalene	SW 846 8270	81RT-8	Matrix Spike	78
Dimethyl phthalate	SW 846 8270	81RT-8	Matrix Spike	81
Acenaphthylene	SW 846 8270	81RT-8	Matrix Spike	80
2,6-Dinitrotoluene	SW 846 8270	81RT-8	Matrix Spike	85
Acenaphthene	SW 846 8270	81RT-8	Matrix Spike	73
2,4-Dinitrophenol	SW 846 8270	81RT-8	Matrix Spike	104
4-Nitrophenol	SW 846 8270	81RT-8	Matrix Spike	78
Dibenzofuran	SW 846 8270	81RT-8	Matrix Spike	75
2,4-Dinitrotoluene	SW 846 8270	81RT-8	Matrix Spike	81
Diethyl phthalate	SW 846 8270	81RT-8	Matrix Spike	84
4-Chlorophenyl phenyl ether	SW 846 8270	81RT-8	Matrix Spike	75
Fluorene	SW 846 8270	81RT-8	Matrix Spike	69
4,6-Dinitro-2-methylphenol	SW 846 8270	81RT-8	Matrix Spike	95
n-Nitrosodiphenylamine	SW 846 8270	81RT-8	Matrix Spike	80
4-Bromophenyl phenyl ether	SW 846 8270	81RT-8	Matrix Spike	76
Hexachlorobenzene	SW 846 8270	81RT-8	Matrix Spike	77
Pentachlorophenol	SW 846 8270	81RT-8	Matrix Spike	84
Phenanthrene	SW 846 8270	81RT-8	Matrix Spike	71

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
 PROJECT ID: 81RT

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
Anthracene	SW 846 8270	81RT-8	Matrix Spike	71
Carbazole	SW 846 8270	81RT-8	Matrix Spike	76
di-n-Butylphthalate	SW 846 8270	81RT-8	Matrix Spike	79
Fluoranthene	SW 846 8270	81RT-8	Matrix Spike	73
Pyrene	SW 846 8270	81RT-8	Matrix Spike	72
Butyl benzyl phthalate	SW 846 8270	81RT-8	Matrix Spike	50
Benzo(a)anthracene	SW 846 8270	81RT-8	Matrix Spike	40
Chrysene	SW 846 8270	81RT-8	Matrix Spike	72
bis(2ethylhexyl)phthalate	SW 846 8270	81RT-8	Matrix Spike	91
di-n-Octylphthalate	SW 846 8270	81RT-8	Matrix Spike	35
Benzo(b)fluoranthene	SW 846 8270	81RT-8	Matrix Spike	37
Benzo(k)fluoranthene	SW 846 8270	81RT-8	Matrix Spike	41
Benzo(a)pyrene	SW 846 8270	81RT-8	Matrix Spike	73
Indeno(1,2,3-cd)pyrene	SW 846 8270	81RT-8	Matrix Spike	107
Dibenzo(a,h)anthracene	SW 846 8270	81RT-8	Matrix Spike	108
Benzo(g,h,i)perylene	SW 846 8270	81RT-8	Matrix Spike	110

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 81RT

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Ammonia	EPA 350.3	81RT-8	Duplicate	NA
Nitrite	HACH 8507	81RT-8	Duplicate	NA
Total Kjeldahl Nitrogen	EPA 351.3	81RT-8	Duplicate	2.0
Total Iron	EPA 200.7	81RT-8	Duplicate	23
Soluble Iron	EPA 200.7	81RT-8	Duplicate	31
Total Potassium	EPA 200.7	81RT-8	Duplicate	24
Soluble Potassium	EPA 200.7	81RT-8	Duplicate	1.0
Total Zinc	EPA 200.7	81RT-8	Duplicate	2.4
Soluble Zinc	EPA 200.7	81RT-8	Duplicate	22
Chloromethane	SW 846 8260 ***	81RT-8	Duplicate	NA
Bromomethane	SW 846 8260	81RT-8	Duplicate	NA
Vinyl chloride	SW 846 8260	81RT-8	Duplicate	NA
Chloroethane	SW 846 8260	81RT-8	Duplicate	NA
Methylene chloride	SW 846 8260	81RT-8	Duplicate	NA
Acetone	SW 846 8260	81RT-8	Duplicate	NA
Carbon disulfide	SW 846 8260	81RT-8	Duplicate	NA
1,1-Dichloroethene	SW 846 8260	81RT-8	Duplicate	NA
1,1-Dichloroethane	SW 846 8260	81RT-8	Duplicate	NA
1,2-Dichloroethylene (total)	SW 846 8260	81RT-8	Duplicate	NA
Chloroform	SW 846 8260	81RT-8	Duplicate	NA
1,2-Dichloroethane	SW 846 8260	81RT-8	Duplicate	NA
2-Butanone	SW 846 8260	81RT-8	Duplicate	NA
1,1,1-Trichloroethane	SW 846 8260	81RT-8	Duplicate	NA
Carbon tetrachloride	SW 846 8260	81RT-8	Duplicate	NA
Vinyl acetate	SW 846 8260	81RT-8	Duplicate	NA
Bromodichloromethane	SW 846 8260	81RT-8	Duplicate	NA
1,2-Dichloropropane	SW 846 8260	81RT-8	Duplicate	NA
cis-1,3-Dichloropropene	SW 846 8260	81RT-8	Duplicate	NA

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

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 81RT

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Trichloroethene	SW 846 8260	81RT-8	Duplicate	NA
Chlorodibromomethane	SW 846 8260	81RT-8	Duplicate	NA
1,1,2-Trichloroethane	SW 846 8260	81RT-8	Duplicate	NA
Benzene	SW 846 8260	81RT-8	Duplicate	NA
trans-1,3-Dichloropropene	SW 846 8260	81RT-8	Duplicate	NA
2-Chloroethyl vinyl ether	SW 846 8260	81RT-8	Duplicate	NA
Bromoform	SW 846 8260	81RT-8	Duplicate	NA
4-Methyl-2-pentanone	SW 846 8260	81RT-8	Duplicate	NA
2-Hexanone	SW 846 8260	81RT-8	Duplicate	NA
Tetrachloroethene	SW 846 8260	81RT-8	Duplicate	NA
Toluene	SW 846 8260	81RT-8	Duplicate	NA
1,1,2,2-Tetrachloroethane	SW 846 8260	81RT-8	Duplicate	NA
Chlorobenzene	SW 846 8260	81RT-8	Duplicate	NA
Ethylbenzene	SW 846 8260	81RT-8	Duplicate	NA
Styrene	SW 846 8260	81RT-8	Duplicate	NA
m-Xylene	SW 846 8260	81RT-8	Duplicate	NA
o/p-Xylene	SW 846 8260	81RT-8	Duplicate	NA
Aniline	SW 846 8270	81RT-8	Duplicate	NA
Benzoic acid	SW 846 8270	81RT-8	Duplicate	NA
Benzyl alcohol	SW 846 8270	81RT-8	Duplicate	NA
Phenol	SW 846 8270	81RT-8	Duplicate	NA
bis(2-chloroethyl)ether	SW 846 8270	81RT-8	Duplicate	NA
2-Chlorophenol	SW 846 8270	81RT-8	Duplicate	NA
1,3-Dichlorobenzene	SW 846 8270	81RT-8	Duplicate	NA
1,4-Dichlorobenzene	SW 846 8270	81RT-8	Duplicate	NA
1,2-Dichlorobenzene	SW 846 8270	81RT-8	Duplicate	NA
2-Methylphenol	SW 846 8270	81RT-8	Duplicate	NA
bis(2-chloroisopropyl)ether	SW 846 8270	81RT-8	Duplicate	NA

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

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 81RT

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
4-Methylphenol	SW 846 8270	81RT-8	Duplicate	NA
n-Nitrosodi-n-propylamine	SW 846 8270	81RT-8	Duplicate	NA
Hexachloroethane	SW 846 8270	81RT-8	Duplicate	NA
Nitrobenzene	SW 846 8270	81RT-8	Duplicate	NA
Isophorone	SW 846 8270	81RT-8	Duplicate	NA
2-Nitrophenol	SW 846 8270	81RT-8	Duplicate	NA
2,4-Dimethylphenol	SW 846 8270	81RT-8	Duplicate	NA
bis(2-chloroethoxy)methane	SW 846 8270	81RT-8	Duplicate	NA
2,4-Dichlorophenol	SW 846 8270	81RT-8	Duplicate	NA
1,2,4-Trichlorobenzene	SW 846 8270	81RT-8	Duplicate	NA
Naphthalene	SW 846 8270	81RT-8	Duplicate	NA
4-Chloroaniline	SW 846 8270	81RT-8	Duplicate	NA
Hexachlorobutadiene	SW 846 8270	81RT-8	Duplicate	NA
4-Chloro-3-methylphenol	SW 846 8270	81RT-8	Duplicate	NA
2-Methylnaphthalene	SW 846 8270	81RT-8	Duplicate	NA
Hexachlorocyclopentadiene	SW 846 8270	81RT-8	Duplicate	NA
2,4,6-Trichlorophenol	SW 846 8270	81RT-8	Duplicate	NA
2,4,5-Trichlorophenol	SW 846 8270	81RT-8	Duplicate	NA
2-Chloronaphthalene	SW 846 8270	81RT-8	Duplicate	NA
2-Nitroaniline	SW 846 8270	81RT-8	Duplicate	NA
Dimethyl phthalate	SW 846 8270	81RT-8	Duplicate	NA
Acenaphthylene	SW 846 8270	81RT-8	Duplicate	NA
2,6-Dinitrotoluene	SW 846 8270	81RT-8	Duplicate	NA
3-Nitroaniline	SW 846 8270	81RT-8	Duplicate	NA
Acenaphthene	SW 846 8270	81RT-8	Duplicate	NA
2,4-Dinitrophenol	SW 846 8270	81RT-8	Duplicate	NA
4-Nitrophenol	SW 846 8270	81RT-8	Duplicate	NA
Dibenzofuran	SW 846 8270	81RT-8	Duplicate	NA

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

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 81RT

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
2,4-Dinitrotoluene	SW 846 8270	81RT-8	Duplicate	NA
Diethyl phthalate	SW 846 8270	81RT-8	Duplicate	26
4-Chlorophenyl phenyl ether	SW 846 8270	81RT-8	Duplicate	NA
Fluorene	SW 846 8270	81RT-8	Duplicate	NA
4-Nitroaniline	SW 846 8270	81RT-8	Duplicate	NA
4,6-Dinitro-2-methylphenol	SW 846 8270	81RT-8	Duplicate	NA
n-Nitrosodiphenylamine	SW 846 8270	81RT-8	Duplicate	NA
4-Bromophenyl phenyl ether	SW 846 8270	81RT-8	Duplicate	NA
Hexachlorobenzene	SW 846 8270	81RT-8	Duplicate	NA
Pentachlorophenol	SW 846 8270	81RT-8	Duplicate	NA
Phenanthrene	SW 846 8270	81RT-8	Duplicate	NA
Anthracene	SW 846 8270	81RT-8	Duplicate	NA
Carbazole	SW 846 8270	81RT-8	Duplicate	NA
di-n-Butylphthalate	SW 846 8270	81RT-8	Duplicate	NA
Fluoranthene	SW 846 8270	81RT-8	Duplicate	NA
Pyrene	SW 846 8270	81RT-8	Duplicate	NA
Butyl benzyl phthalate	SW 846 8270	81RT-8	Duplicate	NA
3,3'-Dichlorobenzidine	SW 846 8270	81RT-8	Duplicate	NA
Benzo(a)anthracene	SW 846 8270	81RT-8	Duplicate	NA
Chrysene	SW 846 8270	81RT-8	Duplicate	NA
bis(2ethylhexyl)phthalate	SW 846 8270	81RT-8	Duplicate	NA
di-n-Octylphthalate	SW 846 8270	81RT-8	Duplicate	NA
Benzo(b)fluoranthene	SW 846 8270	81RT-8	Duplicate	NA
Benzo(k)fluoranthene	SW 846 8270	81RT-8	Duplicate	NA
Benzo(a)pyrene	SW 846 8270	81RT-8	Duplicate	NA
Indeno(1,2,3-cd)pyrene	SW 846 8270	81RT-8	Duplicate	NA
Dibenzo(a,h)anthracene	SW 846 8270	81RT-8	Duplicate	NA
Benzo(g,h,i)perylene	SW 846 8270	81RT-8	Duplicate	NA

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

Advanced Environmental Services, Inc.
Sample Traceability Report

Project Identification

CTC 8/RT

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
8/RT 1-11	6/24/98	—	—	9.3	6-30-98	RP	200.7	7-1-98	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 CTR 8IRT

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
8IRT-6	6/24/98	-	-	-	-	-	8260	06/27/98	DP
-8		-	-	-	-	-			
-9		-	-	-	-	-			
-10		-	-	-	-	-			

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 81RT

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
81RT-6	6-24-98	-	-	³⁵¹⁰ 8270	7-1-98	BA/JH/LB	8270	7-29-98	BA
-8		-	-						
-9		-	-						
-10		-	-						

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

Project Identification

CTC 8/RT

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 CO.

PROJECT NAME: Quarterly Landfill Monitoring

SAMPLER'S SIGNATURE: W.D. C.

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

PROJECT I.D.#: 81RT

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
6/24/98	11:00 A	BW-4	X		H ₂ O			X						1	TKN, AMMO
							X							2	T. Metal, Sol. Metal
						X								2	TCLSV, Nitrite
									X					2	TCLV
6/24/98		Blind Duplicate	X		H ₂ O			X						1	TKN, AMMO
							X							2	T. Metal, Sol. Metal
						X								2	TCLSV, Nitrite
									X					2	TCLV
6/24/98	10:00 A	Trip Blank	X		H ₂ O				X					2	TCLV

TOTAL NUMBER OF CONTAINERS 16

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>W.D. C.</u>	DATE <u>6/24/98</u>	TIME <u>5:00 P</u>	RECEIVED BY: <u>Linda A Ratka</u>
2. RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
3. RELINQUISHED BY:	DATE	TIME	RECEIVED BY:

ADVANCED
ENVIRONMENTAL SERVICES INC.

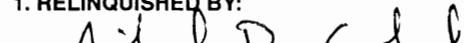
(716) 283-3120
(800) 791-3120
Fax (716) 283-4727

SAMPLER'S SIGNATURE: Michael D. Kelly

JOB CODE: _____

[illegible]

TOTAL NUMBER OF CONTAINERS 4

1. RELINQUISHED BY: 	DATE 6/25/98	TIME 4:30P	RECEIVED BY: 
2. RELINQUISHED BY: _____	DATE _____	TIME _____	RECEIVED BY: _____
3. RELINQUISHED BY: _____	DATE _____	TIME _____	RECEIVED BY: _____

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: YCAR CARBON CO.

PROJECT NAME: Quarterly Monitoring

SAMPLER'S SIGNATURE: Bill D. [Signature]

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

PROJECT I.D.#: _____

JOB CODE: _____

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
6/25/98	2:05 P	BW-6 (Q.C.)	X		H ₂ O	X								6	TCLSV, Nitrite
							X							6	Metal, Sol. Metal
								X						3	AMMO, TKN
									X					6	TCLV
6/25/98	12:00 P	Trip Blank	X		H ₂ O	X								3	TCLSV, Nitrite
							X							2	T. Metal, Sol. Metal
								X						1	AMMO, TKN
6/25/98	1:40 P	MW-2	X		H ₂ O	X								1	Nitrite
								X						1	AMMO, TKN
							X							2	T. Metals, Sol. Metals

TOTAL NUMBER OF CONTAINERS 4

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>Bill D. [Signature]</u>	DATE <u>6/25/98</u>	TIME <u>4:30 P</u>	RECEIVED BY: <u>Jennifer J. [Signature]</u>
2. RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
3. RELINQUISHED BY:	DATE	TIME	RECEIVED BY:

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 Co.

PROJECT NAME: _____

SAMPLER'S SIGNATURE: [Signature]

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

PROJECT I.D.#: 81RT

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
6/24/98	12:05 P	BW-5	X		H ₂ O	X								2	Metal, Sol. Metal
↓	↓	↓	↓		↓		X							1	TKN, AMMO
						X								1	Nitrate
6/24/98	3:23 P	BW-3	X		H ₂ O	X								2	Metal, Sol. Metal
↓	↓	↓	↓		↓		X							1	TKN, AMMO
						X								1	Nitrate
6/24/98	9:47 A	MW-1	X		H ₂ O	X								2	T Metal, Sol. Metal
↓	↓	↓	↓		↓		X							1	TKN, AMMO
						X								1	Nitrate
6/24/98	2:32 P	BW-2	X		H ₂ O	X								1	Nitrate
↓	↓	↓	↓		↓		X							2	T. Metal, Sol. Metal
							X							1	TKN, AMMO

TOTAL NUMBER OF CONTAINERS 16

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>6/24/98</u>	TIME <u>4:58 P</u>	RECEIVED BY: <u>Linda A Ratka</u>
2. RELINQUISHED BY: _____	DATE _____	TIME _____	RECEIVED BY: _____
3. RELINQUISHED BY: _____	DATE _____	TIME _____	RECEIVED BY: _____