



UCAR CARBON COMPANY INC.

32 No 3. 6W53

MJH
MM 2/1/99

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

September 29, 1999

logged in
computer

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

32 No 3

X

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

Dear Mr. Hans,

Please find enclosed a copy of the forty-sixth (46) quarter's groundwater analysis from the closed Republic Waste Management Facility. Bedrock Well, BW-4, continues to demonstrate some slight semi-volatile organic contamination in less than one part per million range.

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

If you have any questions, please contact me at 278-3486.

Very truly yours,

R. Bucci
Site Manager

R. Bucci
nm
Attachments

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

46th QUARTER

POSITIVE ORGANIC PARAMETERS FROM BW-4

CONTAMINATE	46th Quarter ppb	Mean Conc. ppb	Range ppb
Trichloroethene	340	285	30 - 740
Tetrachloroethene	240	226	72 – 601
Hexachlobutadiene	29	49	10 – 160
Vinyl Chloride	42	99	29 – 300
cis-1,2 Dichloroethene	120	151	137 - 197

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

UCAR CARBON COMPANY, INCORPORATED

REPUBLIC WASTE MANAGEMENT FACILITY

POST CLOSURE MONITORING PROGRAM

QUARTERLY REPORT

AUGUST, 1999

Prepared By:

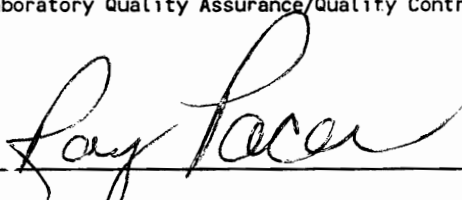


"A Company Dedicated to Honesty, Quality and Service"

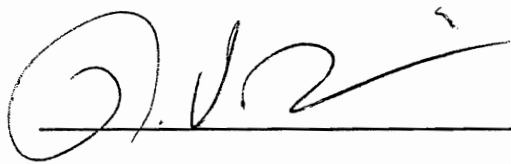
September 15, 1999
REF: CTC92HH/100B
Lab ID No. 10233

QA/QC VERIFICATION FOR PROJECT ID 92HH

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.



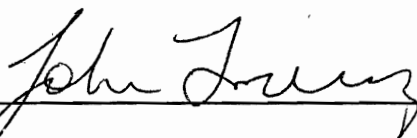
Metals Department



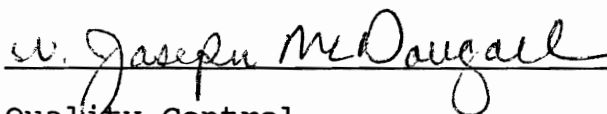
Inorganic Chemistry



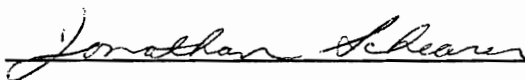
Organic Chemistry



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 - WELL INFORMATION

Aug 12/13 1999

UCAR CARBON COMPANY, INC.

Hyde Park Boulevard
Niagara Falls, New York

AES Code: CTC

Project I.D. # 92HH

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	8/12/99	610.72	4	19.90	590.82	28.82	5.82	18.0	C
BW-2	8/12/99	608.43	4	17.58	590.85	26.61	6.00	18.0	C
BW-3	8/12/99	604.72	4	16.30	588.42	24.80	5.60	17.0	C
BW-4	8/12/99	607.08	4	16.40	590.68	22.68	4.10	12.5	C
BW-5	8/12/99	603.33	4	14.68	588.65	28.70	9.15	28.0	C
BW-6	8/12/99	607.04	4	16.98	590.06	25.25	5.40	16.5	C
MW-1	8/12/99	609.43	2	13.58	595.85	23.37	1.60	2.0(Dry)	S
MW-2	8/12/99	607.54	3	24.18	583.36	24.60	0.15	0*	S
MW-3	8/12/99	601.61	2	15.42	586.19	15.91	0.08	0*	S
OW-1 SOUTH	8/12/99	608.81	2	8.62	600.19	NR	NR	NR	Dry
OW-2 NORTH	8/12/99	607.06	2	9.68	597.38	NR	NR	NR	Dry

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

* *nsignificant volume to purge


Technician

8/28/99
Date

Advanced Environmental Services, Inc.

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

QUARTERLY GROUNDWATER MONITORING - FIELD PARAMETER INFORMATION

Aug12/13 1999

UCAR CARBON COMPANY, INC.

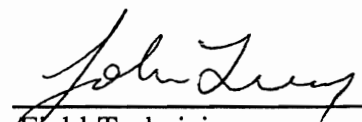
Hyde Park Boulevard
Niagara Falls, New York

AES Code: CTC

Project I.D. # 92HH

Monitoring Well I.D.	Sampling Date	Sampling Time	Water Level (ft.)	Turbidity (NTU)	Filter Time	Field Comments/Observations
BW-1	08/13/99	10:30 AM	19.85	13.1	2:00 PM	Clear
BW-2	08/13/99	8:20 AM	17.45	28.3	1:35 PM	Sl. Cloudy, SO2 Odor
BW-3	08/13/99	8:50 AM	16.20	12.7	1:55 PM	Clear.
BW-4	08/13/99	9:40 AM	16.30	126.8	1:45 PM	Brown-Oily Sheen
BW-5	08/13/99	9:10 AM	14.65	6.1	2:15 PM	Clear, SO2
BW-6	08/13/99	8:10 AM	16.90	13.5	1:30 PM	Sl. Tan Tint
MW-1	08/13/99	10:10 AM	17.00	9.7	2:30 PM	Clear
MW-2	N/A	N/A	Dry	N/A	N/A	Dry
MW-3	N/A	N/A	Dry	N/A	N/A	Dry
OW-1 South	08/12/99	2:25 PM	Dry	NA	NA	Required to take water elevation only.
OW-2 North	08/12/99	2:35 PM	Dry	NA	NA	Required to take water elevation only.
Blind Dup	08/13/99	9:40 AM	16.26	129.2	1:50 PM	Sl. Tan Tint
Trip Blank	08/13/99	12:30 PM	NA	NA	NA	Deionized Water

The Blind Duplicate site was BW-4

 8/24/99
Field Technician Date

CLIENT: Ucar Carbon Company, Incorporated
SAMPLE ID: MW-1
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 08/13/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 92HH-1

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	9.7	NTU	0.1	EPA 180.1
Ammonia	6.13	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	13.9	mg/L	0.8	EPA 351.3
Total Iron	2.26	mg/L	0.060	EPA 200.7
Soluble Iron	2.28	mg/L	0.060	EPA 200.7
Total Potassium	37	mg/L	1.8	EPA 200.7
Soluble Potassium	40	mg/L	1.8	EPA 200.7
Total Zinc	ND	mg/L	0.016	EPA 200.7
Soluble Zinc	0.021	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): 08/13/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 92HH-3

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	13.1	NTU	0.1	EPA 180.1
Ammonia	1.40	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.30 D	mg/L	0.8	EPA 351.3
Total Iron	1.67	mg/L	0.060	EPA 200.7
Soluble Iron	0.092	mg/L	0.060	EPA 200.7
Total Potassium	3.6	mg/L	1.8	EPA 200.7
Soluble Potassium	ND	mg/L	1.8	EPA 200.7
Total Zinc	3.19	mg/L	0.016	EPA 200.7
Soluble Zinc	1.83	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): 08/13/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 92HH-4

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	28.3	NTU	0.1	EPA 180.1
Ammonia	1.49	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.57 D	mg/L	0.8	EPA 351.3
Total Iron	3.06	mg/L	0.060	EPA 200.7
Soluble Iron	0.476	mg/L	0.060	EPA 200.7
Total Potassium	6.9	mg/L	1.8	EPA 200.7
Soluble Potassium	7.5	mg/L	1.8	EPA 200.7
Total Zinc	1.14	mg/L	0.016	EPA 200.7
Soluble Zinc	0.069	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): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-6

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	126.8	NTU	0.1	EPA 180.1
Ammonia	6.00	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	13.5	mg/L	0.8	EPA 351.3
Total Iron	21.8	mg/L	0.060	EPA 200.7
Soluble Iron	0.414	mg/L	0.060	EPA 200.7
Total Potassium	19	mg/L	1.8	EPA 200.7
Soluble Potassium	20	mg/L	1.8	EPA 200.7
Total Zinc	1.73	mg/L	0.016	EPA 200.7
Soluble Zinc	ND	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	42	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
Carbon disulfide	ND	µg/L	20	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
cis-1,2-Dichloroethene	120	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
Trichloroethene	340	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): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-6

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Tetrachloroethene	240 ✓	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Chlorodibromomethane	ND	µg/L	10	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
m/p-Xylene	ND	µg/L	10	SW 846 8260
o-Xylene	ND	µg/L	10	SW 846 8260
Styrene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
Aniline	ND	µg/L	10	SW 846 8270
Benzoic acid	ND	µg/L	40	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-6

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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	29	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	40	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	40	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-4
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-6

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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	40	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	40	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: BW-5
COLLECTION METHOD: GRAB
COLLECTION DATE(S): 08/13/99
SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
AES SAMPLE ID: 92HH-7

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	6.1	NTU	0.1	EPA 180.1
Ammonia	0.50	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.16 D	mg/L	0.8	EPA 351.3
Total Iron	2.88	mg/L	0.060	EPA 200.7
Soluble Iron	0.101	mg/L	0.060	EPA 200.7
Total Potassium	ND	mg/L	1.8	EPA 200.7
Soluble Potassium	ND	mg/L	1.8	EPA 200.7
Total Zinc	1.65	mg/L	0.016	EPA 200.7
Soluble Zinc	0.047	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): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-8

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	13.5	NTU	0.1	EPA 180.1
Ammonia	0.40	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.12 D	mg/L	0.8	EPA 351.3
Total Iron	13.6	mg/L	0.060	EPA 200.7
Soluble Iron	2.00	mg/L	0.060	EPA 200.7
Total Potassium	ND	mg/L	1.8	EPA 200.7
Soluble Potassium	ND	mg/L	1.8	EPA 200.7
Total Zinc	ND	mg/L	0.016	EPA 200.7
Soluble Zinc	ND	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
Carbon disulfide	ND	µg/L	20	SW 846 8260
Acetone	22	µg/L	20	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
cis-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
Trichloroethene	ND	µg/L	10	SW 846 8260

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-8

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Tetrachloroethene	ND	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Chlorodibromomethane	ND	µg/L	10	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
m/p-Xylene	ND	µg/L	10	SW 846 8260
o-Xylene	ND	µg/L	10	SW 846 8260
Styrene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
Aniline	ND	µg/L	10	SW 846 8270
Benzoic acid	ND	µg/L	40	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-8

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Di-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	40	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	40	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BW-6
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-8

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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	40	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	40	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): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-9

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	129.2	NTU	0.1	EPA 180.1
Ammonia	6.22	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	13.9	mg/L	0.8	EPA 351.3
Total Iron	20.3	mg/L	0.060	EPA 200.7
Soluble Iron	ND	mg/L	0.060	EPA 200.7
Total Potassium	18	mg/L	1.8	EPA 200.7
Soluble Potassium	16	mg/L	1.8	EPA 200.7
Total Zinc	1.08	mg/L	0.016	EPA 200.7
Soluble Zinc	0.063	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	45	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
Carbon disulfide	ND	µg/L	20	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
cis-1,2-Dichloroethene	130	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
Trichloroethene	360	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): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-9

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Tetrachloroethene	250	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Chlorodibromomethane	ND	µg/L	10	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
m/p-Xylene	ND	µg/L	10	SW 846 8260
o-Xylene	ND	µg/L	10	SW 846 8260
Styrene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
Aniline	ND	µg/L	10	SW 846 8270
Benzoic acid	ND	µg/L	40	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-9

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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	43	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	40	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	40	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: BLIND DUPLICATE
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 08/13/99
 SAMPLE TYPE: GROUNDWATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-9

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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	40	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	40	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): 08/13/99
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-10

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Turbidity *	0.1	NTU	0.1	EPA 180.1
Ammonia	ND	mg/L	0.4	EPA 350.3
Nitrite	ND	mg/L	0.04	HACH 8507
Total Kjeldahl Nitrogen	1.09 D	mg/L	0.8	EPA 351.3
Total Iron	ND	mg/L	0.060	EPA 200.7
Total Potassium	ND	mg/L	1.8	EPA 200.7
Total Zinc	ND	mg/L	0.016	EPA 200.7
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
Carbon disulfide	ND	µg/L	20	SW 846 8260
Acetone	ND	µg/L	20	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
cis-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
Trichloroethene	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
Bromodichloromethane	ND	µg/L	10	SW 846 8260
cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260

* Analysis performed in the field.

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 08/13/99
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-10

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
Toluene	ND	µg/L	10	SW 846 8260
4-Methyl-2-pentanone	ND	µg/L	20	SW 846 8260
trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Tetrachloroethene	ND	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Chlorodibromomethane	ND	µg/L	10	SW 846 8260
2-Hexanone	ND	µg/L	20	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
m/p-Xylene	ND	µg/L	10	SW 846 8260
o-Xylene	ND	µg/L	10	SW 846 8260
Styrene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
Aniline	ND	µg/L	10	SW 846 8270
Benzoic acid	ND	µg/L	40	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 08/13/99
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-10

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
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	40	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	40	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

CLIENT: Ucar Carbon Company, Incorporated
 SAMPLE ID: TRIP BLANK
 COLLECTION METHOD: GRAB
 COLLECTION DATE(S): 08/13/99
 SAMPLE TYPE: BAKER WATER

AES CLIENT ID: CTC
 AES SAMPLE ID: 92HH-10

PROJECT ID: 92HH

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
4,6-Dinitro-2-methylphenol	ND	µg/L	40	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	40	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

AES CLIENT ID: CTC
PROJECT ID: 92HH

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
Ammonia	EPA 350.3	92HH-8	Matrix Spike	95
Nitrite	HACH 8507	92HH-8	Matrix Spike	80
Total Kjeldahl Nitrogen	EPA 351.3	92HH-8	Matrix Spike	93
Total Iron	EPA 200.7	92HH-8	Matrix Spike	101
Soluble Iron	EPA 200.7	92HH-8	Matrix Spike	89
Total Potassium	EPA 200.7	92HH-8	Matrix Spike	96
Soluble Potassium	EPA 200.7	92HH-8	Matrix Spike	100
Total Zinc	EPA 200.7	92HH-8	Matrix Spike	95
Soluble Zinc	EPA 200.7	92HH-8	Matrix Spike	101
Chloromethane	SW 846 8260	92HH-8	Matrix Spike	104
Vinyl chloride	SW 846 8260	92HH-8	Matrix Spike	88
Bromomethane	SW 846 8260	92HH-8	Matrix Spike	93
Chloroethane	SW 846 8260	92HH-8	Matrix Spike	85
1,1-Dichloroethene	SW 846 8260	92HH-8	Matrix Spike	106
Carbon disulfide	SW 846 8260	92HH-8	Matrix Spike	85
Acetone	SW 846 8260	92HH-8	Matrix Spike	95
Methylene chloride	SW 846 8260	92HH-8	Matrix Spike	84
trans-1,2-Dichloroethene	SW 846 8260	92HH-8	Matrix Spike	94
1,1-Dichloroethane	SW 846 8260	92HH-8	Matrix Spike	92
cis-1,2-Dichloroethene	SW 846 8260	92HH-8	Matrix Spike	90
2-Butanone	SW 846 8260	92HH-8	Matrix Spike	95
Chloroform	SW 846 8260	92HH-8	Matrix Spike	92
1,1,1-Trichloroethane	SW 846 8260	92HH-8	Matrix Spike	94
Carbon tetrachloride	SW 846 8260	92HH-8	Matrix Spike	100
Benzene	SW 846 8260	92HH-8	Matrix Spike	77
1,2-Dichloroethane	SW 846 8260	92HH-8	Matrix Spike	95
Trichloroethene	SW 846 8260	92HH-8	Matrix Spike	92
1,2-Dichloropropane	SW 846 8260	92HH-8	Matrix Spike	108
Bromodichloromethane	SW 846 8260	92HH-8	Matrix Spike	113

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 92HH

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
cis-1,3-Dichloropropene	SW 846 8260	92HH-8	Matrix Spike	105
Toluene	SW 846 8260	92HH-8	Matrix Spike	96
4-Methyl-2-pentanone	SW 846 8260	92HH-8	Matrix Spike	124
trans-1,3-Dichloropropene	SW 846 8260	92HH-8	Matrix Spike	112
Tetrachloroethene	SW 846 8260	92HH-8	Matrix Spike	92
1,1,2-Trichloroethane	SW 846 8260	92HH-8	Matrix Spike	104
Chlorodibromomethane	SW 846 8260	92HH-8	Matrix Spike	109
2-Hexanone	SW 846 8260	92HH-8	Matrix Spike	143
Chlorobenzene	SW 846 8260	92HH-8	Matrix Spike	93
Ethylbenzene	SW 846 8260	92HH-8	Matrix Spike	102
m/p-Xylene	SW 846 8260	92HH-8	Matrix Spike	100
o-Xylene	SW 846 8260	92HH-8	Matrix Spike	100
Styrene	SW 846 8260	92HH-8	Matrix Spike	97
Bromoform	SW 846 8260	92HH-8	Matrix Spike	102
1,1,2,2-Tetrachloroethane	SW 846 8260	92HH-8	Matrix Spike	111
Benzoic acid	SW 846 8270	92HH-8	Matrix Spike	45
Benzyl alcohol	SW 846 8270	92HH-8	Matrix Spike	16
Phenol	SW 846 8270	92HH-8	Matrix Spike	29
bis(2-chloroethyl)ether	SW 846 8270	92HH-8	Matrix Spike	54
2-Chlorophenol	SW 846 8270	92HH-8	Matrix Spike	61
1,3-Dichlorobenzene	SW 846 8270	92HH-8	Matrix Spike	59
1,4-Dichlorobenzene	SW 846 8270	92HH-8	Matrix Spike	57
1,2-Dichlorobenzene	SW 846 8270	92HH-8	Matrix Spike	63
2-Methylphenol	SW 846 8270	92HH-8	Matrix Spike	55
bis(2-chloroisopropyl)ether	SW 846 8270	92HH-8	Matrix Spike	67
4-Methylphenol	SW 846 8270	92HH-8	Matrix Spike	52
n-Nitrosodi-n-propylamine	SW 846 8270	92HH-8	Matrix Spike	71
Hexachloroethane	SW 846 8270	92HH-8	Matrix Spike	62
Nitrobenzene	SW 846 8270	92HH-8	Matrix Spike	60

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 92HH

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
Isophorone	SW 846 8270	92HH-8	Matrix Spike	64
2-Nitrophenol	SW 846 8270	92HH-8	Matrix Spike	69
2,4-Dimethylphenol	SW 846 8270	92HH-8	Matrix Spike	58
bis(2-chloroethoxy)methane	SW 846 8270	92HH-8	Matrix Spike	64
2,4-Dichlorophenol	SW 846 8270	92HH-8	Matrix Spike	72
1,2,4-Trichlorobenzene	SW 846 8270	92HH-8	Matrix Spike	60
Naphthalene	SW 846 8270	92HH-8	Matrix Spike	60
Hexachlorobutadiene	SW 846 8270	92HH-8	Matrix Spike	64
4-Chloro-3-methylphenol	SW 846 8270	92HH-8	Matrix Spike	77
2-Methylnaphthalene	SW 846 8270	92HH-8	Matrix Spike	61
Hexachlorocyclopentadiene	SW 846 8270	92HH-8	Matrix Spike	57
2,4,6-Trichlorophenol	SW 846 8270	92HH-8	Matrix Spike	61
2,4,5-Trichlorophenol	SW 846 8270	92HH-8	Matrix Spike	75
2-Chloronaphthalene	SW 846 8270	92HH-8	Matrix Spike	68
Dimethyl phthalate	SW 846 8270	92HH-8	Matrix Spike	65
Acenaphthylene	SW 846 8270	92HH-8	Matrix Spike	59
2,6-Dinitrotoluene	SW 846 8270	92HH-8	Matrix Spike	71
Acenaphthene	SW 846 8270	92HH-8	Matrix Spike	62
2,4-Dinitrophenol	SW 846 8270	92HH-8	Matrix Spike	77
4-Nitrophenol	SW 846 8270	92HH-8	Matrix Spike	57
Dibenzofuran	SW 846 8270	92HH-8	Matrix Spike	61
2,4-Dinitrotoluene	SW 846 8270	92HH-8	Matrix Spike	72
Diethyl phthalate	SW 846 8270	92HH-8	Matrix Spike	59
4-Chlorophenyl phenyl ether	SW 846 8270	92HH-8	Matrix Spike	55
Fluorene	SW 846 8270	92HH-8	Matrix Spike	62
4,6-Dinitro-2-methylphenol	SW 846 8270	92HH-8	Matrix Spike	74
n-Nitrosodiphenylamine	SW 846 8270	92HH-8	Matrix Spike	61
4-Bromophenyl phenyl ether	SW 846 8270	92HH-8	Matrix Spike	61
Hexachlorobenzene	SW 846 8270	92HH-8	Matrix Spike	59

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 92HH

ACCURACY

Analytical Parameter(s)	Method	Sample ID	Type	Percent Recovery
Pentachlorophenol	SW 846 8270	92HH-8	Matrix Spike	76
Phenanthrene	SW 846 8270	92HH-8	Matrix Spike	58
Anthracene	SW 846 8270	92HH-8	Matrix Spike	56
Carbazole	SW 846 8270	92HH-8	Matrix Spike	71
di-n-Butylphthalate	SW 846 8270	92HH-8	Matrix Spike	47
Fluoranthene	SW 846 8270	92HH-8	Matrix Spike	62
Pyrene	SW 846 8270	92HH-8	Matrix Spike	63
Etyl benzyl phthalate	SW 846 8270	92HH-8	Matrix Spike	67
Benzo(a)anthracene	SW 846 8270	92HH-8	Matrix Spike	65
Chrysene	SW 846 8270	92HH-8	Matrix Spike	63
bis(2ethylhexyl)phthalate	SW 846 8270	92HH-8	Matrix Spike	104
di-n-Octylphthalate	SW 846 8270	92HH-8	Matrix Spike	98
Benzo(b)fluoranthene	SW 846 8270	92HH-8	Matrix Spike	91
Benzo(k)fluoranthene	SW 846 8270	92HH-8	Matrix Spike	87
Benzo(a)pyrene	SW 846 8270	92HH-8	Matrix Spike	67
Indeno(1,2,3-cd)pyrene	SW 846 8270	92HH-8	Matrix Spike	24
Dibenzo(a,h)anthracene	SW 846 8270	92HH-8	Matrix Spike	23
Benzo(g,h,i)perylene	SW 846 8270	92HH-8	Matrix Spike	24

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 1

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 92HH

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Ammonia	EPA 350.3	92HH-8	Duplicate	4.8
Nitrite	HACH 8507	92HH-8	Duplicate	NA
Total Kjeldahl Nitrogen	EPA 351.3	92HH-8	Duplicate	8.0
Total Iron	EPA 200.7	92HH-8	Duplicate	1.4
Soluble Iron	EPA 200.7	92HH-8	Duplicate	4.9
Total Potassium	EPA 200.7	92HH-8	Duplicate	NA
Soluble Potassium	EPA 200.7	92HH-8	Duplicate	NA
Total Zinc	EPA 200.7	92HH-8	Duplicate	NA
Soluble Zinc	EPA 200.7	92HH-8	Duplicate	NA
Chloromethane	SW 846 8260	92HH-8	Duplicate	NA
Vinyl chloride	SW 846 8260	92HH-8	Duplicate	NA
Bromomethane	SW 846 8260	92HH-8	Duplicate	NA
Chloroethane	SW 846 8260	92HH-8	Duplicate	NA
1,1-Dichloroethene	SW 846 8260	92HH-8	Duplicate	NA
Carbon disulfide	SW 846 8260	92HH-8	Duplicate	NA
Acetone	SW 846 8260	92HH-8	Duplicate	124
Methylene chloride	SW 846 8260	92HH-8	Duplicate	NA
trans-1,2-Dichloroethene	SW 846 8260	92HH-8	Duplicate	NA
1,1-Dichloroethane	SW 846 8260	92HH-8	Duplicate	NA
cis-1,2-Dichloroethene	SW 846 8260	92HH-8	Duplicate	NA
2-Butanone	SW 846 8260	92HH-8	Duplicate	NA
Chloroform	SW 846 8260	92HH-8	Duplicate	NA
1,1,1-Trichloroethane	SW 846 8260	92HH-8	Duplicate	NA
Carbon tetrachloride	SW 846 8260	92HH-8	Duplicate	NA
Benzene	SW 846 8260	92HH-8	Duplicate	NA
1,2-Dichloroethane	SW 846 8260	92HH-8	Duplicate	NA
Trichloroethene	SW 846 8260	92HH-8	Duplicate	NA
1,2-Dichloropropane	SW 846 8260	92HH-8	Duplicate	NA

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

ADVANCED ENVIRONMENTAL SERVICES, INC.
QUALITY CONTROL REPORT

PAGE 2

CLIENT: Ucar Carbon Company, Incorporated

AES CLIENT ID: CTC
PROJECT ID: 92HH

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Bromodichloromethane	SW 846 8260	92HH-8	Duplicate	NA
cis-1,3-Dichloropropene	SW 846 8260	92HH-8	Duplicate	NA
Toluene	SW 846 8260	92HH-8	Duplicate	NA
4-Methyl-2-pentanone	SW 846 8260	92HH-8	Duplicate	NA
trans-1,3-Dichloropropene	SW 846 8260	92HH-8	Duplicate	NA
Tetrachloroethene	SW 846 8260	92HH-8	Duplicate	NA
1,1,2-Trichloroethane	SW 846 8260	92HH-8	Duplicate	NA
Chlorodibromomethane	SW 846 8260	92HH-8	Duplicate	NA
2-Hexanone	SW 846 8260	92HH-8	Duplicate	NA
Chlorobenzene	SW 846 8260	92HH-8	Duplicate	NA
Ethylbenzene	SW 846 8260	92HH-8	Duplicate	NA
m/p-Xylene	SW 846 8260	92HH-8	Duplicate	NA
o-Xylene	SW 846 8260	92HH-8	Duplicate	NA
Styrene	SW 846 8260	92HH-8	Duplicate	NA
Bromoform	SW 846 8260	92HH-8	Duplicate	NA
1,1,2,2-Tetrachloroethane	SW 846 8260	92HH-8	Duplicate	NA
Aniline	SW 846 8270	92HH-8	Duplicate	NA
Benzoic acid	SW 846 8270	92HH-8	Duplicate	NA
Benzyl alcohol	SW 846 8270	92HH-8	Duplicate	NA
Phenol	SW 846 8270	92HH-8	Duplicate	NA
bis(2-chloroethyl)ether	SW 846 8270	92HH-8	Duplicate	NA
2-Chlorophenol	SW 846 8270	92HH-8	Duplicate	NA
1,3-Dichlorobenzene	SW 846 8270	92HH-8	Duplicate	NA
1,4-Dichlorobenzene	SW 846 8270	92HH-8	Duplicate	NA
1,2-Dichlorobenzene	SW 846 8270	92HH-8	Duplicate	NA
2-Methylphenol	SW 846 8270	92HH-8	Duplicate	NA
bis(2-chloroisopropyl)ether	SW 846 8270	92HH-8	Duplicate	NA
4-Methylphenol	SW 846 8270	92HH-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: 92HH

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
n-Nitrosodi-n-propylamine	SW 846 8270	92HH-8	Duplicate	NA
Hexachloroethane	SW 846 8270	92HH-8	Duplicate	NA
Nitrobenzene	SW 846 8270	92HH-8	Duplicate	NA
Isophorone	SW 846 8270	92HH-8	Duplicate	NA
2-Nitrophenol	SW 846 8270	92HH-8	Duplicate	NA
2,4-Dimethylphenol	SW 846 8270	92HH-8	Duplicate	NA
bis(2-chloroethoxy)methane	SW 846 8270	92HH-8	Duplicate	NA
2,4-Dichlorophenol	SW 846 8270	92HH-8	Duplicate	NA
1,2,4-Trichlorobenzene	SW 846 8270	92HH-8	Duplicate	NA
Naphthalene	SW 846 8270	92HH-8	Duplicate	NA
4-Chloroaniline	SW 846 8270	92HH-8	Duplicate	NA
Hexachlorobutadiene	SW 846 8270	92HH-8	Duplicate	NA
4-Chloro-3-methylphenol	SW 846 8270	92HH-8	Duplicate	NA
2-Methylnaphthalene	SW 846 8270	92HH-8	Duplicate	NA
Hexachlorocyclopentadiene	SW 846 8270	92HH-8	Duplicate	NA
2,4,6-Trichlorophenol	SW 846 8270	92HH-8	Duplicate	NA
2,4,5-Trichlorophenol	SW 846 8270	92HH-8	Duplicate	NA
2-Chloronaphthalene	SW 846 8270	92HH-8	Duplicate	NA
2-Nitroaniline	SW 846 8270	92HH-8	Duplicate	NA
Dimethyl phthalate	SW 846 8270	92HH-8	Duplicate	NA
Acenaphthylene	SW 846 8270	92HH-8	Duplicate	NA
2,6-Dinitrotoluene	SW 846 8270	92HH-8	Duplicate	NA
3-Nitroaniline	SW 846 8270	92HH-8	Duplicate	NA
Acenaphthene	SW 846 8270	92HH-8	Duplicate	NA
2,4-Dinitrophenol	SW 846 8270	92HH-8	Duplicate	NA
4-Nitrophenol	SW 846 8270	92HH-8	Duplicate	NA
Dibenzofuran	SW 846 8270	92HH-8	Duplicate	NA
2,4-Dinitrotoluene	SW 846 8270	92HH-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: 92HH

PRECISION

Analytical Parameter(s)	Method	Sample ID	Type	Relative % Difference
Diethyl phthalate	SW 846 8270	92HH-8	Duplicate	NA
4-Chlorophenyl phenyl ether	SW 846 8270	92HH-8	Duplicate	NA
Fluorene	SW 846 8270	92HH-8	Duplicate	NA
4-Nitroaniline	SW 846 8270	92HH-8	Duplicate	NA
4,6-Dinitro-2-methylphenol	SW 846 8270	92HH-8	Duplicate	NA
n-Nitrosodiphenylamine	SW 846 8270	92HH-8	Duplicate	NA
4-Bromophenyl phenyl ether	SW 846 8270	92HH-8	Duplicate	NA
Hexachlorobenzene	SW 846 8270	92HH-8	Duplicate	NA
Pentachlorophenol	SW 846 8270	92HH-8	Duplicate	NA
Phenanthrene	SW 846 8270	92HH-8	Duplicate	NA
Anthracene	SW 846 8270	92HH-8	Duplicate	NA
Carbazole	SW 846 8270	92HH-8	Duplicate	NA
di-n-Butylphthalate	SW 846 8270	92HH-8	Duplicate	NA
Fluoranthene	SW 846 8270	92HH-8	Duplicate	NA
Pyrene	SW 846 8270	92HH-8	Duplicate	NA
Butyl benzyl phthalate	SW 846 8270	92HH-8	Duplicate	NA
3,3'-Dichlorobenzidine	SW 846 8270	92HH-8	Duplicate	NA
Benzo(a)anthracene	SW 846 8270	92HH-8	Duplicate	NA
Chrysene	SW 846 8270	92HH-8	Duplicate	NA
bis(2ethylhexyl)phthalate	SW 846 8270	92HH-8	Duplicate	NA
di-n-Octylphthalate	SW 846 8270	92HH-8	Duplicate	NA
Benzo(b)fluoranthene	SW 846 8270	92HH-8	Duplicate	NA
Benzo(k)fluoranthene	SW 846 8270	92HH-8	Duplicate	NA
Benzo(a)pyrene	SW 846 8270	92HH-8	Duplicate	NA
Indeno(1,2,3-cd)pyrene	SW 846 8270	92HH-8	Duplicate	NA
Dibenzo(a,h)anthracene	SW 846 8270	92HH-8	Duplicate	NA
Benzo(g,h,i)perylene	SW 846 8270	92HH-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 92HH

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
92HH ¹³¹⁰	8/13/99	~	-	9.3	8/19/99	NP	200.7	8/25/99	RP

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

Advanced Environmental Services, Inc.
Sample Traceability Report

Project Identification CTC 92HH

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
92HH-1, 3-10	8/13/99	2120	162	-	-	-	8507	8/13/99	CR
92HH ^{1,3-10}	8/13/99	2005	212	-	-	-	350.3	8/27/99	KM
92HH ^{1,3-10}	8/13/99	2027	187	351.3	9/1/99	KM	351.3	9/1/99	KM

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 92HH

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
92HH-6	8/13/99	—	—	3510	8/20/99	SB/CB/HH	8270	9/15/99	SB/DJ
92HH-8	↓	—	—	↓	↓	↓	↓	↓	↓
92HH-9	↓	—	—	↓	↓	↓	↓	↓	↓
92HH-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-92HH

Sample #	Sample Collection	Group #	Run #	Prep Method	Prep Date	Analyst	Analytical Methodology	Analysis Date	Analyst
6, 8, 9, 10	8/13/99	—	—	—	—	—	8260	8/24/99	DS

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: UCLAR CARBON

PROJECT NAME: LANDFILL MONITORING

SAMPLER'S SIGNATURE:

PROJECT I.D.#: 92MH

JOB CODE: CTC

[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.

1. RELINQUISHED BY: 	DATE 8/13/99	TIME 1:25pm	RECEIVED BY: 
2. RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
3. RELINQUISHED BY:	DATE	TIME	RECEIVED BY: