

2021 Hazardous Waste Scanning Project

File Form Naming Convention.

(File_Type).(Program).(Site_Number).(YYYY-MM-DD).(File_Name).pdf

Note 1: Each category is separated by a period "."

Note 2: Each word within category is separated by an underscore "_"

Specific File Naming Convention Label:

report.HW.932035.2005-07-27.Post-Closure-Monitoring.pdf



**CONESTOGA-ROVERS
& ASSOCIATES**

932035

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July 27, 2005

Reference No. 5513

Ms. Mary E. McIntosh
Engineering Geologist
NYSDEC
270 Michigan Avenue
Buffalo, NY 14203-2999

RECEIVED

JUL 28 2005

NYSDEC REG 9
FOIL
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Dear Ms. McIntosh:

Re: Post-Closure Monitoring Program Review
UCAR Republic SWMF No. 32N03

On behalf of UCAR Carbon Company Inc., Conestoga-Rovers & Associates is submitting this review of the post-closure groundwater monitoring program at the above-referenced site. The review consists of the presentation of an overview of the post-closure groundwater monitoring program, an evaluation of the most recent 5 years of monitoring data, and a proposal for modification of the program.

Monitoring Program Summary

The UCAR Republic SWMF was capped and closed in 1987. Between 1987 and 2000, groundwater monitoring was conducted quarterly. In 2000, the post-closure groundwater monitoring program was reviewed cooperatively by UCAR and the NYSDEC Divisions of Solid Materials (Mr. Michael Hinton) and Environmental Remediation (Ms. Mary McIntosh). Based on that review, a modified monitoring program was designed to meet the requirements of 6 NYCRR Section 360 for solid waste landfill closure and to monitor the effectiveness of the landfill closure in protecting groundwater quality. The modified post-closure groundwater monitoring program commenced with a baseline monitoring event in April 2000. The most recent groundwater monitoring event was conducted in March 2005.

The monitoring program currently consists of semi-annual sampling of the eleven selected on-site monitoring wells listed in Table 1 and shown on Figure 1. As described in the letter from Mary E. McIntosh (NYSDEC) to Robert Bucci (UCAR) dated January 18, 2000, the monitoring of well GW-8B is conducted to fulfill requirements of the Environmental Remediation Program, and monitoring of wells BW-1, BW-2, BW-3, BW-4, BW-5, BW-6, MW-1, MW-2, and MW-3 is conducted to fulfill requirements of the Solid Materials Program. Monitoring of well GW-9B is included in both aspects of the monitoring program.

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Groundwater samples collected pursuant to the monitoring program are currently analyzed for selected metals and general chemistry parameters and the Target Compound List Volatile Organic Compounds (TCL VOCs) at the frequencies shown on Table 1. The groundwater Compounds of Concern (COCs) are listed in Table 2.

Monitoring Data Review

The Post-Closure Monitoring Program analytical database is presented in Table 3. For reference purposes, reported concentrations exceeding the New York State criteria for Class GA (potable) groundwater are boxed on Table 3. Review of the analytical data shows that concentrations of COCs in 6 (MW-1, MW-3, BW-2, BW-5, BW-6, and GW-9B) of the 11 monitoring wells included in the monitoring program are currently lower than the water quality criteria cited. One well, MW-2, has been purged to dryness in each of the monitoring events and has not recovered volume sufficient for sampling in the designated time; therefore, no data have been collected from this well.

Concentrations of the COCs exhibiting concentrations exceeding the water quality criteria in the four wells in which they were detected (BW-1, BW-3, BW-4, and GW-8B) have been graphed versus time and the graphs are presented on Figures 2 through 5. Review of the analytical data and graphs shows the following:

- i) The COC metals have not been detected in any of the sampling events under the current monitoring program at concentrations exceeding the water quality criteria.
- ii) The general parameters, ammonia, nitrite, and total kjeldahl nitrogen, are either not detected or are reported at very low concentrations.
- iii) Three of the four wells exhibiting COC concentrations exceeding the water quality criteria (BW-1, BW-4, and GW-8B) are located along the north property boundary. Chemical presence in these wells may be indicative of off-site impacts on groundwater.
- iv) Chloroethane is typically present in well BW-1 at concentrations ranging between 5.3 and 20 µg/L versus the water quality criteria of 5. The concentration of 20 µg/L was detected in the most recent sampling; previously the detected concentrations were stable, ranging between 5.3 and 9.2 µg/L. On one occasion, September 2001, cis-1,2-dichloroethene (cis-1,2-DCE) was detected in a sample from well BW-1 at a concentration exceeding its water quality standard, 5.6 µg/L versus the criteria of 5 µg/L. This single detection of cis-1,2-DCE is not significant.



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- v) Vinyl chloride is intermittently present in samples from well BW-3 at concentrations exceeding the water quality criteria of 2 µg/L. The detected concentrations range between 6.1 and 26 µg/L. The intermittent detections of vinyl chloride are not significant.
- vi) Concentrations of PCE, TCE, DCE, and vinyl chloride in samples from well BW-4 demonstrate that natural attenuation through biodegradation is occurring. The graphs of the concentrations of these compounds show that the concentrations of PCE and TCE have decreased over time while the concentrations of the degradation products, DCE and vinyl chloride, have increased. Isolated one-time detections of other VOCs in samples from BW-4 have been reported over the monitoring period. None of these detections were confirmed by subsequent analyses; therefore, they are not considered significant.
- vii) TCE and cis-1,2-DCE are present in samples from well GW-8B at concentrations exceeding their respective water quality criteria. The concentration of cis-1,2-DCE has ranged between 20 and 27 µg/L and the concentration of TCE has ranged between 6.5 and 13 µg/L. These concentrations indicate a stable condition. Cis-1,3-dichloropropene was detected in a sample from GW-8B on one occasion, September 2003.

Proposed Monitoring Program Modifications

The data collected from wells included in the monitoring program to fulfill the requirements of 6 NYCRR Subpart 360 are intended to be used to evaluate the effectiveness of the facility closure; in this case, the construction and capping of the landfill. Effectiveness is indicated when no further degradation of groundwater quality is observed. According to 6 NYCRR Section 360-2.15(k)(4), sampling must be performed for a minimum of 30 years following closure, at the UCAR SWMF until 2017. Also, according to 6 NYCRR, Section 360-2.15(k)(4), the routine monitoring of a closed solid waste landfill can be reviewed following 5 years of monitoring and requests for modification of the sampling requirements can be made, if appropriate. UCAR has conducted a review of the monitoring data from the Site as described previously and presents in this section a request for modification of the monitoring program.

As described previously, of the 11 wells included in the monitoring program, only 4 exhibit consistent presence of COCs at concentrations exceeding the water quality criteria, and the analytes exhibiting exceedances are limited to chloroethane, PCE, TCE, DCE, and vinyl chloride. Therefore, it is proposed that the COC list for the SWMF Post-Closure Monitoring Program be reduced to these compounds only. It is further proposed that only the four wells that have exhibited exceedances



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continue to be included in the monitoring program. Given that the entire landfill has been filled with carbon products, which will be adsorptive of organic compounds and the years of data showing no exceedances of any criteria, there is no need to continue monitoring the other wells.

A summary of the proposed modified Post-Closure analyte list is presented in Table 4.

Monitoring well MW-2 is located on the sideslope of the landfill and is consistently unsampleable due to limited recharge. It is proposed that well MW-2 be eliminated from the monitoring program. The remaining wells included in the monitoring program are located around the perimeter of the landfill as shown on Figure 1 and will continue to act as sentinels in the early detection of impacts to groundwater quality.

The existing monitoring data demonstrate that groundwater quality in the vicinity of the landfill is stable or, where occurring, changes in COC concentrations occur gradually and typically are indicative of increasing degradation products. Therefore, it is proposed that groundwater monitoring be reduced from the current semi-annual frequency to annual for a period of 5 years. After 5 years of annual monitoring have been completed (2010), a review of the monitoring program will again be conducted, and additional modifications may be proposed. If approved, the next monitoring event will be conducted in Spring 2006.

Should you have any questions or require additional information, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

James K. Kay, P. Eng.

RB/dl/12

Encl.

c.c.: M. Hans
M. Hinton
R. Bucci
C. Barron

TABLES



TABLE 1
POST-CLOSURE MONITORING PROGRAM SUMMARY
UCAR REPUBLIC SWMF #32N03

	<i>Annual</i>	<i>Semi-Annual</i>
MW-1	X	X ⁽¹⁾
MW-2	X	X ⁽¹⁾
MW-3	X	X ⁽¹⁾
BW-1	X	X
BW-2	X	X ⁽¹⁾
BW-3	X	X
BW-4	X	X
BW-5	X	X ⁽¹⁾
BW-6	X	X
GW-8B	X	X ⁽¹⁾
GW-9B	X	X ⁽¹⁾

Notes:

⁽¹⁾ VOC analyses not performed in this event.

TABLE 2

GROUNDWATER COMPOUNDS OF CONCERN
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32NO3

Target Compounds List Volatile Organic Compounds

Ammonia
Total and Dissolved Iron
Total and Dissolved Potassium
Total and Dissolved Zinc
Total Kjeldahl Nitrogen

TABLE 3

GROUNDWATER ANALYTICAL DATABASE
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32N03

			MW-1 03/30/00	MW-1 9/6/2001	MW-1 3/12/2002	MW-1 3/18/2003	MW-1 04/28/04	MW-1 09/20/04	MW-1 3/30/2005	MW-3 03/29/00
Class GA Groundwater Standard										
<u>TCL Volatiles</u>										
Acetone	ug/L	NS	-	-	24	ND20	ND20	-	ND20	-
Benzene	ug/L	1	-	-	ND5	ND5	ND5	-	ND5	-
Bromodichloromethane	ug/L	NS	-	-	ND5	ND5	ND5	-	ND5	-
Bromoform	ug/L	NS	-	-	ND5	ND5	ND5	-	ND5	-
Bromomethane	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
2-Butanone	ug/L	NS	-	-	ND10	ND10	ND10	-	ND10	-
Carbon disulfide	ug/L	NS	-	-	ND10	ND10	ND10	-	ND10	-
Carbon tetrachloride	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
Chlorobenzene	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-	-
Chloroethane	ug/L	5	ND10	-	ND5	ND5	ND5	-	ND5	ND10
Chloroform	ug/L	7	-	-	ND5	ND5	ND5	-	ND5	-
Chloromethane	ug/L	NS	-	-	ND5	ND5	ND5	-	ND5	-
Dibromochloromethane	ug/L	NS	-	-	ND5	ND5	ND5	-	ND5	-
1,1-Dichloroethane	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
1,2-Dichloroethane	ug/L	0.6	-	-	ND5	ND5	ND5	-	ND5	-
1,1-Dichloroethene	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
cis-1,2-Dichloroethene	ug/L	5	ND10	-	ND5	ND5	ND5	-	ND5	ND10
trans-1,2-Dichloroethene	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
1,2-Dichloropropane	ug/L	1	-	-	ND5	ND5	ND5	-	ND5	-
cis-1,3-Dichloropropene	ug/L	0.4	-	-	ND5	ND5	ND5	-	ND5	-
trans-1,3-Dichloropropene	ug/L	0.4	-	-	ND5	ND5	ND5	-	ND5	-
Ethyl benzene	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
2-Hexanone	ug/L	NS	-	-	ND10	ND10	ND10	-	ND10	-
Methylene chloride	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
4-Methyl-2-pentanone	ug/L	NS	-	-	ND10	ND10	ND10	-	ND10	-
Styrene	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
1,1,2,2-Tetrachloroethane	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
Tetrachloroethene	ug/L	5	ND10	-	ND5	ND5	ND5	-	ND5	ND10
1,1,1-Trichloroethane	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
1,1,2-Trichloroethane	ug/L	1	-	-	ND5	ND5	ND5	-	ND5	-
Toluene	ug/L	5	-	-	ND5	ND5	ND5	-	ND5	-
Trichloroethene	ug/L	5	ND10	-	ND5	ND5	ND5	-	ND5	ND10
Vinyl chloride	ug/L	2	ND10	-	ND5	ND5	ND5	-	ND5	ND10
o-Xylenes	ug/L	NS	-	-	ND5	ND5	ND5	-	ND5	-
m/p-Xylenes	ug/L	NS	-	-	ND5	ND5	ND5	-	ND5	-
<u>TAL Metals</u>										
Total Iron	mg/L	300	4.64	56.2	3.50	4.06	3.17	0.87	3.44	10.1
Total Dissolved Iron	mg/L	300	-	-	0.667	-	6.12	-	-	2.11
Total Potassium	mg/L	NS	37.9	46.3	32.8	3.88	4.13	8.49	3.42	2.86
Total Dissolved Potassium	mg/L	NS	-	-	35.8	-	ND2	-	-	2.29
Total Zinc	mg/L	300	0.047	0.442	0.0240	0.0285	0.0522	ND0.02	0.0238	0.067
Total Dissolved Zinc	mg/L	300	-	-	ND0.02	-	ND0.02	-	-	0.106
<u>General Chemistry</u>										
Ammonia	mg/L	NS	ND0.4	-	4.55	2.28	0.195	0.457	0.137	ND0.4
Nitrite	mg/L	NS	-	-	0.0320	0.0197	0.0165	0.0451	0.0301	ND0.04
Total Kjeldahl Nitrogen	mg/L	NS	0.82	-	7.91	8.92	0.757	1.00	0.445	1.36

TABLE 3

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GROUNDWATER ANALYTICAL DATABASE
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32N03

			MW-3 9/5/2001	MW-3 3/12/2002	MW-3 9/23/2002	MW-3 3/18/2003	MW-3 09/08/03	MW-3 03/23/04	MW-3 09/17/04	MW-3 3/30/2005
Class GA Groundwater Standard										
<u>TCL Volatiles</u>										
Acetone	ug/L	NS	-	ND20	-	ND20	-	ND20	-	ND20
Benzene	ug/L	1	-	ND5	-	ND5	-	ND5	-	ND5
Bromodichloromethane	ug/L	NS	-	ND5	-	ND5	-	ND5	-	ND5
Bromoform	ug/L	NS	-	ND5	-	ND5	-	ND5	-	ND5
Bromomethane	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
2-Butanone	ug/L	NS	-	ND10	-	ND10	-	ND10	-	ND10
Carbon disulfide	ug/L	NS	-	ND10	-	ND10	-	ND10	-	ND10
Carbon tetrachloride	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
Chlorobenzene	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-	-
Chloroethane	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
Chloroform	ug/L	7	-	ND5	-	ND5	-	ND5	-	ND5
Chloromethane	ug/L	NS	-	ND5	-	ND5	-	ND5	-	ND5
Dibromochloromethane	ug/L	NS	-	ND5	-	ND5	-	ND5	-	ND5
1,1-Dichloroethane	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
1,2-Dichloroethane	ug/L	0.6	-	ND5	-	ND5	-	ND5	-	ND5
1,1-Dichloroethene	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
cis-1,2-Dichloroethene	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
trans-1,2-Dichloroethene	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
1,2-Dichloropropane	ug/L	1	-	ND5	-	ND5	-	ND5	-	ND5
cis-1,3-Dichloropropene	ug/L	0.4	-	ND5	-	ND5	-	ND5	-	ND5
trans-1,3-Dichloropropene	ug/L	0.4	-	ND5	-	ND5	-	ND5	-	ND5
Ethyl benzene	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
2-Hexanone	ug/L	NS	-	ND10	-	ND10	-	ND10	-	ND10
Methylene chloride	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
4-Methyl-2-pentanone	ug/L	NS	-	ND10	-	ND10	-	ND10	-	ND10
Styrene	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
1,1,2,2-Tetrachloroethane	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
Tetrachloroethene	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
1,1,1-Trichloroethane	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
1,1,2-Trichloroethane	ug/L	1	-	ND5	-	ND5	-	ND5	-	ND5
Toluene	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
Trichloroethene	ug/L	5	-	ND5	-	ND5	-	ND5	-	ND5
Vinyl chloride	ug/L	2	-	ND5	-	ND5	-	ND5	-	ND5
o-Xylenes	ug/L	NS	-	ND5	-	ND5	-	ND5	-	ND5
m/p-Xylenes	ug/L	NS	-	ND5	-	ND5	-	ND5	-	ND5
<u>TAL Metals</u>										
Total Iron	mg/L	300	3.88	5.96	7.10	0.810	1.10	1.74	2.71	4.07
Total Dissolved Iron	mg/L	300	-	ND0.1	-	-	-	ND0.1	-	0.439
Total Potassium	mg/L	NS	2.04	4.31	2.50	2.24	2.25	2.56	2.24	3.08
Total Dissolved Potassium	mg/L	NS	-	2.25	-	-	-	ND2	-	ND2
Total Zinc	mg/L	300	ND0.02	0.0305	0.0292	ND0.02	ND0.02	ND0.02	ND0.02	0.0305
Total Dissolved Zinc	mg/L	300	-	ND0.02	-	-	-	ND0.02	-	ND0.02
<u>General Chemistry</u>										
Ammonia	mg/L	NS	ND J 0.05	ND0.05	ND0.05	ND0.05	ND0.05	ND0.05	0.0525	ND0.1
Nitrite	mg/L	NS	0.0109	0.0410	0.0114	ND0.01	ND0.01	0.0163	ND0.01	- 0.0158
Total Kjeldahl Nitrogen	mg/L	NS	0.279	0.376	0.450	ND0.2	0.343	0.353	0.726	0.449

TABLE 3

GROUNDWATER ANALYTICAL DATABASE
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32N03

			GW-8B 03/29/00	GW-8B 9/5/2001	GW-8B 9/5/2001 Duplicate	GW-8B 3/11/2002	GW-8B 9/23/2002	GW-8B 3/18/2003	GW-8B 09/08/03
Class GA Groundwater Standard									
<u>TCL Volatiles</u>									
Acetone	ug/L	NS	-	ND20	ND20	ND20	ND20	ND20	ND20
Benzene	ug/L	1	-	ND5	ND5	ND5	ND5	ND5	ND5
Bromodichloromethane	ug/L	NS	-	ND5	ND5	ND5	ND5	ND5	ND5
Bromoform	ug/L	NS	-	ND5	ND5	ND5	ND5	ND5	ND5
Bromomethane	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
2-Butanone	ug/L	NS	-	ND10	ND10	ND10	ND10	ND10	ND10
Carbon disulfide	ug/L	NS	-	ND10	ND10	ND10	ND10	ND10	ND10
Carbon tetrachloride	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
Chlorobenzene	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-
Chloroethane	ug/L	5	ND10	ND5	ND5	ND5	ND5	ND5	ND5
Chloroform	ug/L	7	-	ND5	ND5	ND5	ND5	ND5	ND5
Chloromethane	ug/L	NS	-	ND5	ND5	ND5	ND5	ND5	ND5
Dibromochloromethane	ug/L	NS	-	ND5	ND5	ND5	ND5	ND5	ND5
1,1-Dichloroethane	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
1,2-Dichloroethane	ug/L	0.6	-	ND5	ND5	ND5	ND5	ND5	ND5
1,1-Dichloroethene	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
cis-1,2-Dichloroethene	ug/L	5	14	23	22	26	27	22	ND5
trans-1,2-Dichloroethene	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
1,2-Dichloropropane	ug/L	1	-	ND5	ND5	ND5	ND5	ND5	ND5
cis-1,3-Dichloropropene	ug/L	0.4	-	ND5	ND5	ND5	ND5	ND5	24
trans-1,3-Dichloropropene	ug/L	0.4	-	ND5	ND5	ND5	ND5	ND5	ND5
Ethyl benzene	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
2-Hexanone	ug/L	NS	-	ND10	ND10	ND10	ND10	ND10	ND10
Methylene chloride	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
4-Methyl-2-pentanone	ug/L	NS	-	ND10	ND10	ND10	ND10	ND10	ND10
Styrene	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
1,1,2,2-Tetrachloroethane	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
Tetrachloroethene	ug/L	5	ND10	ND5	ND5	ND5	ND5	ND5	ND5
1,1,1-Trichloroethane	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
1,1,2-Trichloroethane	ug/L	1	-	ND5	ND5	ND5	ND5	ND5	ND5
Toluene	ug/L	5	-	ND5	ND5	ND5	ND5	ND5	ND5
Trichloroethene	ug/L	5	ND10	7.5	7.2	10	10	13	12
Vinyl chloride	ug/L	2	ND10	ND5	ND5	ND5	ND5	ND5	ND5
o-Xylenes	ug/L	NS	-	ND5	ND5	ND5	ND5	ND5	ND5
m/p-Xylenes	ug/L	NS	-	ND5	ND5	ND5	ND5	ND5	ND5
<u>TAL Metals</u>									
Total Iron	mg/L	300	-	0.261	0.354	0.335	0.288	0.290	0.438
Total Dissolved Iron	mg/L	300	-	-	-	-	-	-	-
Total Potassium	mg/L	NS	-	6.67	6.66	6.33	6.69	6.57	6.38
Total Dissolved Potassium	mg/L	NS	-	-	-	-	-	-	-
Total Zinc	mg/L	300	-	1.11	1.26	0.863	0.596	0.491	0.723
Total Dissolved Zinc	mg/L	300	-	-	-	-	-	-	-
<u>General Chemistry</u>									
Ammonia	mg/L	NS	-	ND0.05J	ND0.05J	0.0548	0.0585	0.0722	0.066
Nitrite	mg/L	NS	-	ND0.01	ND0.01	ND0.01	ND0.01	ND0.01	ND0.01
Total Kjeldahl Nitrogen	mg/L	NS	-	0.221	0.202	ND0.2	ND0.2	ND0.2	0.245

TABLE 3

GROUNDWATER ANALYTICAL DATABASE
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32N03

			GW-8B 04/28/04	GW-8B 09/24/04	GW-8B 3/29/2005	GW-9B 03/29/00	GW-9B 9/5/2001	GW-9B 3/12/2002	GW-9B 9/23/2002
Class GA Groundwater Standard									
<u>TCL Volatiles</u>									
Acetone	ug/L	NS	ND20	ND20	ND20	-	-	ND20	-
Benzene	ug/L	1	ND5	ND5	ND5	-	-	ND5	-
Bromodichloromethane	ug/L	NS	ND5	ND5	ND5	-	-	ND5	-
Bromoform	ug/L	NS	ND5	ND5	ND5	-	-	ND5	-
Bromomethane	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
2-Butanone	ug/L	NS	ND10	ND10	ND10	-	-	ND10	-
Carbon disulfide	ug/L	NS	ND10	ND10	ND10	-	-	ND10	-
Carbon tetrachloride	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
Chlorobenzene	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-
Chloroethane	ug/L	5	ND5	ND5	ND5	ND10	-	ND5	-
Chloroform	ug/L	7	ND5	ND5	ND5	-	-	ND5	-
Chloromethane	ug/L	NS	ND5	70	ND5	-	-	ND5	-
Dibromochloromethane	ug/L	NS	ND5	ND5	ND5	-	-	ND5	-
1,1-Dichloroethane	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
1,2-Dichloroethane	ug/L	0.6	ND5	ND5	ND5	-	-	ND5	-
1,1-Dichloroethene	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
cis-1,2-Dichloroethene	ug/L	5	21	20	22	ND10	-	ND5	-
trans-1,2-Dichloroethene	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
1,2-Dichloropropane	ug/L	1	ND5	ND5	ND5	-	-	ND5	-
cis-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	ND5	-	-	ND5	-
trans-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	ND5	-	-	ND5	-
Ethyl benzene	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
2-Hexanone	ug/L	NS	ND10	ND10	ND10	-	-	ND10	-
Methylene chloride	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
4-Methyl-2-pentanone	ug/L	NS	ND10	ND10	ND10	-	-	ND10	-
Styrene	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
1,1,2,2-Tetrachloroethane	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
Tetrachloroethene	ug/L	5	ND5	ND5	ND5	ND10	-	ND5	-
1,1,1-Trichloroethane	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
1,1,2-Trichloroethane	ug/L	1	ND5	ND5	ND5	-	-	ND5	-
Toluene	ug/L	5	ND5	ND5	ND5	-	-	ND5	-
Trichloroethene	ug/L	5	8.3	13	6.5	ND10	-	ND5	-
Vinyl chloride	ug/L	2	ND5	ND5	ND5	ND10	-	ND5	-
o-Xylenes	ug/L	NS	ND5	ND5	ND5	-	-	ND5	-
m/p-Xylenes	ug/L	NS	ND5	ND5	ND5	-	-	ND5	-
<u>TAL Metals</u>									
Total Iron	mg/L	300	0.428	0.462	0.286	0.468	0.217	0.239	0.327
Total Dissolved Iron	mg/L	300	-	-	-	-	-	-	-
Total Potassium	mg/L	NS	6.66	5.96	6.07	6.20	4.34	4.65	4.55
Total Dissolved Potassium	mg/L	NS	-	-	-	-	-	-	-
Total Zinc	mg/L	300	0.634	0.616	0.590	ND0.016	ND0.02	ND0.02	0.0445
Total Dissolved Zinc	mg/L	300	-	-	-	-	-	-	-
<u>General Chemistry</u>									
Ammonia	mg/L	NS	ND0.05	0.0567	ND0.05	ND0.4	0.458J	0.412	0.469
Nitrite	mg/L	NS	ND0.01	ND0.01	ND0.01	ND0.04	ND0.01	ND0.01	ND0.01
Total Kjeldahl Nitrogen	mg/L	NS	ND0.2	0.249	0.238	ND0.8	0.937	0.621	0.830

TABLE 3

GROUNDWATER ANALYTICAL DATABASE
POST-CLOSURE MONITORING PROGRAM
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			<u>GW-9B</u> <u>3/18/2003</u>	<u>GW-9B</u> <u>09/08/03</u>	<u>GW-9B</u> <u>04/28/04</u>	<u>GW-9B</u> <u>09/24/04</u>	<u>GW-9B</u> <u>3/29/2005</u>	<u>BW-1</u> <u>03/30/00</u>	<u>BW-1</u> <u>9/5/2001</u>	<u>BW-1</u> <u>3/12/2002</u>
<i>Class GA</i>										
<i>Groundwater</i>										
<i>Standard</i>										
<u>TCL Volatiles</u>	<u>Units</u>									
Acetone	ug/L	NS	ND20	-	ND20	-	ND20	-	ND20	ND20
Benzene	ug/L	1	ND5	-	ND5	-	ND5	-	ND5	ND5
Bromodichloromethane	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
Bromoform	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
Bromomethane	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
2-Butanone	ug/L	NS	ND10	-	ND10	-	ND10	-	ND10	ND10
Carbon disulfide	ug/L	NS	ND10	-	ND10	-	ND10	-	ND10	ND10
Carbon tetrachloride	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
Chlorobenzene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-	-
Chloroethane	ug/L	5	ND5	-	ND5	-	ND5	ND10	7.5	9.2
Chloroform	ug/L	7	ND5	-	ND5	-	ND5	-	ND5	ND5
Chloromethane	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
Dibromochloromethane	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
1,1-Dichloroethane	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
1,2-Dichloroethane	ug/L	0.6	ND5	-	ND5	-	ND5	-	ND5	ND5
1,1-Dichloroethene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
cis-1,2-Dichloroethene	ug/L	5	ND5	-	ND5	-	ND5	ND10	5.6	ND5
trans-1,2-Dichloroethene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
1,2-Dichloropropane	ug/L	1	ND5	-	ND5	-	ND5	-	ND5	ND5
cis-1,3-Dichloropropene	ug/L	0.4	ND5	-	ND5	-	ND5	-	ND5	ND5
trans-1,3-Dichloropropene	ug/L	0.4	ND5	-	ND5	-	ND5	-	ND5	ND5
Ethyl benzene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
2-Hexanone	ug/L	NS	ND10	-	ND10	-	ND10	-	ND10	ND10
Methylene chloride	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
4-Methyl-2-pentanone	ug/L	NS	ND10	-	ND10	-	ND10	-	ND10	ND10
Styrene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
1,1,2,2-Tetrachloroethane	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
Tetrachloroethene	ug/L	5	ND5	-	ND5	-	ND5	ND10	ND5	ND5
1,1,1-Trichloroethane	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
1,1,2-Trichloroethane	ug/L	1	ND5	-	ND5	-	ND5	-	ND5	ND5
Toluene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
Trichloroethene	ug/L	5	ND5	-	ND5	-	ND5	ND10	ND5	ND5
Vinyl chloride	ug/L	2	ND5	-	ND5	-	ND5	ND10	ND5	ND5
o-Xylenes	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
m/p-Xylenes	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
<u>TAL Metals</u>										
Total Iron	mg/L	300	0.47	0.481	0.436	0.467	0.211	3.02	1.80	3.63
Total Dissolved Iron	mg/L	300	-	-	-	-	-	2.45	-	-
Total Potassium	mg/L	NS	4.70	4.44	5.10	4.30	4.50	4.64	5.64	6.20
Total Dissolved Potassium	mg/L	NS	-	4.52	-	-	-	5.27	-	-
Total Zinc	mg/L	300	0.0666	ND0.02	ND0.02	ND0.02	ND0.02	3.54	1.28	1.39
Total Dissolved Zinc	mg/L	300	-	ND0.02	-	-	-	3.75	-	-
<u>General Chemistry</u>										
Ammonia	mg/L	NS	0.411	0.416	0.462	0.402	0.376	ND0.4	0.693J	0.446
Nitrite	mg/L	NS	ND0.01	ND0.01	ND0.01	ND0.01	ND0.01	ND0.04	ND0.01	ND0.01
Total Kjeldahl Nitrogen	mg/L	NS	0.952	0.827	0.820	0.874	0.757	1.06	1.08	1.37

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GROUNDWATER ANALYTICAL DATABASE
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			BW-1 9/23/2002	BW-1 9/23/2002 Duplicate	BW-1 03/18/03	BW-1 09/08/03	BW-1 04/28/04	BW-1 09/24/04	BW-1 3/29/2005	BW-2 03/30/00
Class GA Groundwater Standard										
<u>TCL Volatiles</u>										
Acetone	ug/L	NS	ND20	ND20	ND20	ND20	ND20	ND20	ND20	-
Benzene	ug/L	1	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
Bromodichloromethane	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
Bromoform	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
Bromomethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
2-Butanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND10	ND10	-
Carbon disulfide	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND10	ND10	-
Carbon tetrachloride	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
Chlorobenzene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-	-
Chloroethane	ug/L	5	ND5	6.1	ND5	5.3	11	ND5	20	22
Chloroform	ug/L	7	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
Chloromethane	ug/L	NS	ND5	ND5	ND5	ND5	ND5	15	ND5	-
Dibromochloromethane	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
1,1-Dichloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
1,2-Dichloroethane	ug/L	0.6	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
1,1-Dichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
cis-1,2-Dichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	ND10
trans-1,2-Dichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
1,2-Dichloropropane	ug/L	1	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
cis-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
trans-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
Ethyl benzene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
2-Hexanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND10	ND10	-
Methylene chloride	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
4-Methyl-2-pentanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND10	ND10	-
Styrene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
1,1,2,2-Tetrachloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
Tetrachloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	ND10
1,1,1-Trichloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
1,1,2-Trichloroethane	ug/L	1	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
Toluene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
Trichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND5	ND10
Vinyl chloride	ug/L	2	ND5	ND5	ND5	ND5	ND5	ND5	ND5	ND10
o-Xylenes	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
m/p-Xylenes	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND5	ND5	-
<u>TAL Metals</u>										
Total Iron	mg/L	300	1.55	1.68	1.80	5.25	6.65	3.46	2.12	0.872
Total Dissolved Iron	mg/L	300	-	-	-	-	-	-	-	-
Total Potassium	mg/L	NS	5.97	6.26	3.82	5.62	8.87	6.07	8.76	8.47
Total Dissolved Potassium	mg/L	NS	-	-	-	-	-	-	-	-
Total Zinc	mg/L	300	1.47	1.36	0.430	5.87	2.73	4.02	0.716	0.099
Total Dissolved Zinc	mg/L	300	-	-	-	-	-	-	-	-
<u>General Chemistry</u>										
Ammonia	mg/L	NS	0.769	0.758	0.499	0.685	0.907	0.827	0.984	ND0.4
Nitrite	mg/L	NS	ND0.01	ND0.01	ND0.01	0.0194	0.0101	0.0100	ND0.01	ND0.04
Total Kjeldahl Nitrogen	mg/L	NS	1.24	1.21	0.949	1.25	1.45	1.73	1.96	0.94

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GROUNDWATER ANALYTICAL DATABASE
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			BW-2 9/5/2001	BW-2 3/11/2002	BW-2 3/11/2002 Duplicate	BW-2 9/23/2002	BW-2 03/18/03	BW-2 09/08/03	BW-2 09/08/03 Duplicate
Class GA Groundwater Standard									
<u>TCL Volatiles</u>									
Acetone	ug/L	NS	-	ND20	ND20	-	ND20	-	-
Benzene	ug/L	1	-	ND5	ND5	-	ND5	-	-
Bromodichloromethane	ug/L	NS	-	ND5	ND5	-	ND5	-	-
Bromoform	ug/L	NS	-	ND5	ND5	-	ND5	-	-
Bromomethane	ug/L	5	-	ND5	ND5	-	ND5	-	-
2-Butanone	ug/L	NS	-	ND10	ND10	-	ND10	-	-
Carbon disulfide	ug/L	NS	-	ND10	ND10	-	ND10	-	-
Carbon tetrachloride	ug/L	5	-	ND5	ND5	-	ND5	-	-
Chlorobenzene	ug/L	5	-	ND5	ND5	-	ND5	-	-
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-
Chloroethane	ug/L	5	-	8.4	8.6	-	ND5	-	-
Chloroform	ug/L	7	-	ND5	ND5	-	ND5	-	-
Chloromethane	ug/L	NS	-	ND5	ND5	-	ND5	-	-
Dibromochloromethane	ug/L	NS	-	ND5	ND5	-	ND5	-	-
1,1-Dichloroethane	ug/L	5	-	ND5	ND5	-	ND5	-	-
1,2-Dichloroethane	ug/L	0.6	-	ND5	ND5	-	ND5	-	-
1,1-Dichloroethene	ug/L	5	-	ND5	ND5	-	ND5	-	-
cis-1,2-Dichloroethene	ug/L	5	-	ND5	ND5	-	ND5	-	-
trans-1,2-Dichloroethene	ug/L	5	-	ND5	ND5	-	ND5	-	-
1,2-Dichloropropane	ug/L	1	-	ND5	ND5	-	ND5	-	-
cis-1,3-Dichloropropene	ug/L	0.4	-	ND5	ND5	-	ND5	-	-
trans-1,3-Dichloropropene	ug/L	0.4	-	ND5	ND5	-	ND5	-	-
Ethyl benzene	ug/L	5	-	ND5	ND5	-	ND5	-	-
2-Hexanone	ug/L	NS	-	ND10	ND10	-	ND10	-	-
Methylene chloride	ug/L	5	-	ND5	ND5	-	ND5	-	-
4-Methyl-2-pentanone	ug/L	NS	-	ND10	ND10	-	ND10	-	-
Styrene	ug/L	5	-	ND5	ND5	-	ND5	-	-
1,1,2,2-Tetrachloroethane	ug/L	5	-	ND5	ND5	-	ND5	-	-
Tetrachloroethene	ug/L	5	-	ND5	ND5	-	ND5	-	-
1,1,1-Trichloroethane	ug/L	5	-	ND5	ND5	-	ND5	-	-
1,1,2-Trichloroethane	ug/L	1	-	ND5	ND5	-	ND5	-	-
Toluene	ug/L	5	-	ND5	ND5	-	ND5	-	-
Trichloroethene	ug/L	5	-	ND5	ND5	-	ND5	-	-
Vinyl chloride	ug/L	2	-	ND5	ND5	-	ND5	-	-
o-Xylenes	ug/L	NS	-	ND5	ND5	-	ND5	-	-
m/p-Xylenes	ug/L	NS	-	ND5	ND5	-	ND5	-	-
<u>TAL Metals</u>									
Total Iron	mg/L	300	3.00	2.98	2.52	1.28	3.68	9.62	5.83
Total Dissolved Iron	mg/L	300	-	-	-	-	-	-	-
Total Potassium	mg/L	NS	6.57	6.59	6.74	6.78	6.60	7.05	6.94
Total Dissolved Potassium	mg/L	NS	-	-	-	-	-	-	-
Total Zinc	mg/L	300	0.596	0.796	0.620	0.180	0.633	6.75	3.30
Total Dissolved Zinc	mg/L	300	-	-	-	-	-	-	-
<u>General Chemistry</u>									
Ammonia	mg/L	NS	0.33J	0.644	0.634	0.607	0.578	0.472	0.494
Nitrite	mg/L	NS	ND0.01	ND0.01	ND0.01	ND0.01	ND0.01	0.0116	ND0.01
Total Kjeldahl Nitrogen	mg/L	NS	1.09	1.27	1.39	1.19	1.21	1.18	1.24

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GROUNDWATER ANALYTICAL DATABASE
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			<u>BW-2</u> <u>04/28/04</u>	<u>BW-2</u> <u>04/28/04</u> <i>Duplicate</i>	<u>BW-2</u> <u>09/24/04</u>	<u>BW-2</u> <u>3/29/2005</u>	<u>BW-3</u> <u>03/30/00</u>	<u>BW-3</u> <u>9/6/2001</u>	<u>BW-3</u> <u>3/11/2002</u>
<i>Class GA</i> <i>Groundwater</i> <i>Standard</i>									
<u>TCL Volatiles</u>	<u>Units</u>								
Acetone	ug/L	NS	ND20	ND20	-	ND20	-	ND20	ND20
Benzene	ug/L	1	ND5	ND5	-	ND5	-	ND5	ND5
Bromodichloromethane	ug/L	NS	ND5	ND5	-	ND5	-	ND5	ND5
Bromoform	ug/L	NS	ND5	ND5	-	ND5	-	ND5	ND5
Bromomethane	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
2-Butanone	ug/L	NS	ND10	ND10	-	ND10	-	ND10	ND10
Carbon disulfide	ug/L	NS	ND10	ND10	-	ND10	-	ND10	ND10
Carbon tetrachloride	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
Chlorobenzene	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-
Chloroethane	ug/L	5	ND5	ND5	-	ND5	ND10	ND5	ND5
Chloroform	ug/L	7	ND5	ND5	-	ND5	-	ND5	ND5
Chloromethane	ug/L	NS	ND5	ND5	-	ND5	-	ND5	ND5
Dibromochloromethane	ug/L	NS	ND5	ND5	-	ND5	-	ND5	ND5
1,1-Dichloroethane	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
1,2-Dichloroethane	ug/L	0.6	ND5	ND5	-	ND5	-	ND5	ND5
1,1-Dichloroethene	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
cis-1,2-Dichloroethene	ug/L	5	ND5	ND5	-	ND5	ND10	ND5	ND5
trans-1,2-Dichloroethene	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
1,2-Dichloropropane	ug/L	1	ND5	ND5	-	ND5	-	ND5	ND5
cis-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	-	ND5	-	ND5	ND5
trans-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	-	ND5	-	ND5	ND5
Ethyl benzene	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
2-Hexanone	ug/L	NS	ND10	ND10	-	ND10	-	ND10	ND10
Methylene chloride	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
4-Methyl-2-pentanone	ug/L	NS	ND10	ND10	-	ND10	-	ND10	ND10
Styrene	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
1,1,2,2-Tetrachloroethane	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
Tetrachloroethene	ug/L	5	ND5	ND5	-	ND5	ND10	ND5	ND5
1,1,1-Trichloroethane	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
1,1,2-Trichloroethane	ug/L	1	ND5	ND5	-	ND5	-	ND5	ND5
Toluene	ug/L	5	ND5	ND5	-	ND5	-	ND5	ND5
Trichloroethene	ug/L	5	ND5	ND5	-	ND5	ND10	ND5	ND5
Vinyl chloride	ug/L	2	ND5	ND5	-	ND5	15	ND5	ND5
o-Xylenes	ug/L	NS	ND5	ND5	-	ND5	-	ND5	ND5
m/p-Xylenes	ug/L	NS	ND5	ND5	-	ND5	-	ND5	ND5
<u>TAL Metals</u>									
Total Iron	mg/L	300	2.60	2.20	4.34	36.4	1.21	1.09	0.653
Total Dissolved Iron	mg/L	300	-	-	-	0.463	-	-	-
Total Potassium	mg/L	NS	7.75	7.79	6.57	8.86	1.85	3.28	ND2
Total Dissolved Potassium	mg/L	NS	-	-	-	9.56	-	-	-
Total Zinc	mg/L	300	0.359	0.247	1.54	9.39	1.11	0.0567	0.581
Total Dissolved Zinc	mg/L	300	-	-	-	1.14	-	-	-
<u>General Chemistry</u>									
Ammonia	mg/L	NS	0.634	0.510	0.350	0.0795	ND0.4	0.405j	ND0.05
Nitrite	mg/L	NS	ND0.01	ND0.01	0.045 j	0.0207	ND0.04	ND0.01	ND0.01
Total Kjeldahl Nitrogen	mg/L	NS	0.942	0.864	1.06	11.9	1.39	0.804	ND0.2

TABLE 3

GROUNDWATER ANALYTICAL DATABASE
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32N03

			BW-3 9/23/2002	BW-3 3/18/2003	BW-3 09/08/03	BW-3 03/23/04	BW-3 09/24/04	BW-3 3/30/2005	BW-4 03/30/00	BW-4 9/5/2001
Class GA Groundwater Standard										
<u>TCL Volatiles</u>										
Acetone	ug/L	NS	ND20	ND20	ND20	ND20	ND20	ND20	-	ND100
Benzene	ug/L	1	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
Bromodichloromethane	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
Bromoform	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
Bromomethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
2-Butanone	ug/L	NS	ND10	ND10	ND10	ND10	ND5	ND5	-	ND50
Carbon disulfide	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND10	-	ND50
Carbon tetrachloride	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
Chlorobenzene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-	-
Chloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND10	ND25
Chloroform	ug/L	7	ND5	ND5	ND5	ND5	ND5	ND5	ND10	ND25
Chloromethane	ug/L	NS	ND5	ND5	ND5	ND5	56	ND5	-	ND25
Dibromochloromethane	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
1,1-Dichloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
1,2-Dichloroethane	ug/L	0.6	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
1,1-Dichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	ND10	ND25
cis-1,2-Dichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	180	270
trans-1,2-Dichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
1,2-Dichloropropane	ug/L	1	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
cis-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
trans-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
Ethyl benzene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
2-Hexanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND10	-	ND50
Methylene chloride	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
4-Methyl-2-pentanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND10	-	ND50
Styrene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
1,1,2,2-Tetrachloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
Tetrachloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	135	240
1,1,1-Trichloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
1,1,2-Trichloroethane	ug/L	1	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
Toluene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
Trichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND5	178	410
Vinyl chloride	ug/L	2	ND5	ND5	ND5	ND5	6.1	ND5	115	74
o-Xylenes	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
m/p-Xylenes	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND5	-	ND25
<u>TAL Metals</u>										
Total Iron	mg/L	300	0.878	0.385	1.69	1.70	1.60	0.407	2.41	6.96
Total Dissolved Iron	mg/L	300	-	-	-	ND0.1	-	-	-	-
Total Potassium	mg/L	NS	3.71	ND2	3.54	ND2	3.21	ND2	11.9	22.7
Total Dissolved Potassium	mg/L	NS	-	-	-	ND2	-	-	-	-
Total Zinc	mg/L	300	0.0227	0.414	0.201	0.849	0.625	0.187	0.058	0.187
Total Dissolved Zinc	mg/L	300	-	-	-	0.665	-	-	-	-
<u>General Chemistry</u>										
Ammonia	mg/L	NS	0.467	0.133	0.382	ND0.05	0.417	ND0.05	2.5	4.64J
Nitrite	mg/L	NS	ND0.01	ND0.01	ND0.01	ND0.01	ND0.01	ND0.01	ND0.04	-0.0221
Total Kjeldahl Nitrogen	mg/L	NS	0.824	0.290	0.699	ND0.2	0.764	ND0.2	3.1	5.06

TABLE 3

**GROUNDWATER ANALYTICAL DATABASE
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32N03**

			BW-4 3/12/2002	BW-4 9/23/2002	BW-4 3/19/2003	BW-4 03/18/03 <i>Duplicate</i>	BW-4 09/08/03	BW-4 04/28/04	BW-4 09/24/04
<i>Class GA</i>									
<i>Groundwater</i>									
<i>Standard</i>									
<u>TCL Volatiles</u>	<u>Units</u>								
Acetone	ug/L	NS	ND20	ND20	ND20	ND20	ND20	ND40	ND50
Benzene	ug/L	1	ND5	ND5	ND5	ND5	ND5	ND10	ND13
Bromodichloromethane	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND10	ND13
Bromoform	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND10	ND13
Bromomethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
2-Butanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND20	ND25
Carbon disulfide	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND20	ND25
Carbon tetrachloride	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
Chlorobenzene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-
Chloroform	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
Chloromethane	ug/L	7	ND5	8.3	ND5	ND5	6.6	ND10	ND13
Chloromethane	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND10	49
Dibromochloromethane	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND10	ND13
1,1-Dichloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
1,2-Dichloroethane	ug/L	0.6	ND5	ND5	ND5	ND5	ND5	ND10	ND13
1,1-Dichloroethene	ug/L	5	6.0	ND5	ND5	ND5	5.3	ND10	ND13
cis-1,2-Dichloroethene	ug/L	5	420	300	230	240	ND5	660	370
trans-1,2-Dichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
1,2-Dichloropropane	ug/L	1	ND5	ND5	ND5	ND5	ND5	ND10	ND13
cis-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	ND5	ND5	500	ND10	ND13
trans-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	ND5	ND5	ND5	ND10	ND13
Ethyl benzene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
2-Hexanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND20	ND25
Methylene chloride	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
4-Methyl-2-pentanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10	ND20	ND25
Styrene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
1,1,2,2-Tetrachloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
Tetrachloroethene	ug/L	5	64	230	29	30	100	110	55
1,1,1-Trichloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
1,1,2-Trichloroethane	ug/L	1	ND5	ND5	ND5	ND5	ND5	ND10	ND13
Toluene	ug/L	5	ND5	ND5	ND5	ND5	ND5	ND10	ND13
Trichloroethene	ug/L	5	230	420	170	170	330	230	290
Vinyl chloride	ug/L	2	92	59	41	41	100	180	75
o-Xylenes	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND10	ND13
m/p-Xylenes	ug/L	NS	ND5	ND5	ND5	ND5	ND5	ND10	ND13
<u>TAL Metals</u>									
Total Iron	mg/L	300	4.36	-	4.67	5.42	19.2	8.47	5.98
Total Dissolved Iron	mg/L	300	-	-	-	-	-	-	-
Total Potassium	mg/L	NS	11.6	-	12.7	12.8	23.5	17.4	16.2
Total Dissolved Potassium	mg/L	NS	-	-	-	-	-	-	-
Total Zinc	mg/L	300	0.402	-	0.529	0.626	6.08	0.493	2.09
Total Dissolved Zinc	mg/L	300	-	-	-	-	-	-	-
<u>General Chemistry</u>									
Ammonia	mg/L	NS	2.48	-	2.44	1.76	4.29	3.05	2.85
Nitrite	mg/L	NS	ND0.01	-	ND0.01	ND0.01	0.0235	0.0222	ND0.01
Total Kjeldahl Nitrogen	mg/L	NS	2.74	-	2.69	2.67	4.19	3.18	3.39

TABLE 3

GROUNDWATER ANALYTICAL DATABASE
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32N03

			BW-4 09/24/04 Duplicate	BW-4 3/30/2005	BW-4 3/30/2005 Duplicate	BW-5 03/30/00	BW-5 9/5/2001	BW-5 3/12/2002	BW-5 9/23/2002
Class GA Groundwater Standard									
<u>TCL Volatiles</u>									
Acetone	ug/L	NS	ND40	ND40	ND40	-	-	ND20	-
Benzene	ug/L	1	ND10	ND10	ND10	-	-	ND5	-
Bromodichloromethane	ug/L	NS	ND10	ND10	ND10	-	-	ND5	-
Bromoform	ug/L	NS	ND10	ND10	ND10	-	-	ND5	-
Bromomethane	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
2-Butanone	ug/L	NS	ND20	ND20	ND20	-	-	ND10	-
Carbon disulfide	ug/L	NS	ND20	ND20	ND20	-	-	ND10	-
Carbon tetrachloride	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
Chlorobenzene	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-
Chloroethane	ug/L	5	ND10	ND10	ND10	ND10	-	ND5	-
Chloroform	ug/L	7	ND10	ND10	ND10	-	-	ND5	-
Chloromethane	ug/L	NS	37	ND10	ND10	-	-	ND5	-
Dibromochloromethane	ug/L	NS	ND10	ND10	ND10	-	-	ND5	-
1,1-Dichloroethane	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
1,2-Dichloroethane	ug/L	0.6	ND10	ND10	ND10	-	-	ND5	-
1,1-Dichloroethene	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
cis-1,2-Dichloroethene	ug/L	5	390	540	530	ND10	-	ND5	-
trans-1,2-Dichloroethene	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
1,2-Dichloropropane	ug/L	1	ND10	ND10	ND10	-	-	ND5	-
cis-1,3-Dichloropropene	ug/L	0.4	ND10	ND10	ND10	-	-	ND5	-
trans-1,3-Dichloropropene	ug/L	0.4	ND10	ND10	ND10	-	-	ND5	-
Ethyl benzene	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
2-Hexanone	ug/L	NS	ND20	ND20	ND20	-	-	ND10	-
Methylene chloride	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
4-Methyl-2-pentanone	ug/L	NS	ND20	ND20	ND20	-	-	ND10	-
Styrene	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
1,1,2,2-Tetrachloroethane	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
Tetrachloroethene	ug/L	5	56	64	65	ND10	-	ND5	-
1,1,1-Trichloroethane	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
1,1,2-Trichloroethane	ug/L	1	ND10	ND10	ND10	-	-	ND5	-
Toluene	ug/L	5	ND10	ND10	ND10	-	-	ND5	-
Trichloroethene	ug/L	5	290	180	180	ND10	-	ND5	-
Vinyl chloride	ug/L	2	79	180	180	ND10	-	ND5	-
o-Xylenes	ug/L	NS	ND10	ND10	ND10	-	-	ND5	-
m/p-Xylenes	ug/L	NS	ND10	ND10	ND10	-	-	ND5	-
<u>TAL Metals</u>									
Total Iron	mg/L	300	5.00	9.33	11.4	2.79	2.04	1.44	5.17
Total Dissolved Iron	mg/L	300	-	5.53	5.42	-	-	-	-
Total Potassium	mg/L	NS	16.2	14.0	14.5	2	2.80	ND2	3.11
Total Dissolved Potassium	mg/L	NS	-	14.2	13.7	-	-	-	-
Total Zinc	mg/L	300	1.39	0.728	0.805	0.175	0.526	0.0846	0.401
Total Dissolved Zinc	mg/L	300	-	0.346	0.355	-	-	-	-
<u>General Chemistry</u>									
Ammonia	mg/L	NS	2.77	1.93	1.93	ND0.4	0.179J	0.0590	0.150
Nitrite	mg/L	NS	ND0.01	0.0154	0.0252	ND0.04	ND0.01	ND0.01	ND0.01
Total Kjeldahl Nitrogen	mg/L	NS	3.21	2.58	2.93	ND0.8	0.447	ND0.2	0.365

TABLE 3

GROUNDWATER ANALYTICAL DATABASE
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32N03

			BW-5 3/18/2003	BW-5 09/08/03	BW-5 03/23/04	BW-5 09/24/04	BW-5 3/30/2005	BW-6 03/30/00	BW-6 9/5/2001	BW-6 3/11/2002
Class GA Groundwater Standard										
<u>TCL Volatiles</u>	<u>Units</u>									
Acetone	ug/L	NS	ND20	-	ND20	-	ND20	-	ND20	ND20
Benzene	ug/L	1	ND5	-	ND5	-	ND5	-	ND5	ND5
Bromodichloromethane	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
Bromoform	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
Bromomethane	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
2-Butanone	ug/L	NS	ND10	-	ND10	-	ND10	-	ND10	ND10
Carbon disulfide	ug/L	NS	ND10	-	ND10	-	ND10	-	ND10	ND10
Carbon tetrachloride	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
Chlorobenzene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
Chlorodibromomethane	ug/L	NS	-	-	-	-	-	-	-	-
Chloroethane	ug/L	5	ND5	-	ND5	-	ND5	ND10	ND5	ND5
Chloroform	ug/L	7	ND5	-	ND5	-	ND5	-	ND5	ND5
Chloromethane	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
Dibromochloromethane	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
1,1-Dichloroethane	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
1,2-Dichloroethane	ug/L	0.6	ND5	-	ND5	-	ND5	-	ND5	ND5
1,1-Dichloroethene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
cis-1,2-Dichloroethene	ug/L	5	ND5	-	ND5	-	ND5	ND10	ND5	ND5
trans-1,2-Dichloroethene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
1,2-Dichloropropane	ug/L	1	ND5	-	ND5	-	ND5	-	ND5	ND5
cis-1,3-Dichloropropene	ug/L	0.4	ND5	-	ND5	-	ND5	-	ND5	ND5
trans-1,3-Dichloropropene	ug/L	0.4	ND5	-	ND5	-	ND5	-	ND5	ND5
Ethyl benzene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
2-Hexanone	ug/L	NS	ND10	-	ND10	-	ND10	-	ND10	ND10
Methylene chloride	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
4-Methyl-2-pentanone	ug/L	NS	ND10	-	ND10	-	ND10	-	ND10	ND10
Styrene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
1,1,2,2-Tetrachloroethane	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
Tetrachloroethene	ug/L	5	ND5	-	ND5	-	ND5	ND10	ND5	ND5
1,1,1-Trichloroethane	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
1,1,2-Trichloroethane	ug/L	1	ND5	-	ND5	-	ND5	-	ND5	ND5
Toluene	ug/L	5	ND5	-	ND5	-	ND5	-	ND5	ND5
Trichloroethene	ug/L	5	ND5	-	ND5	-	ND5	ND10	ND5	ND5
Vinyl chloride	ug/L	2	ND5	-	ND5	-	ND5	ND10	ND5	ND5
o-Xylenes	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
m/p-Xylenes	ug/L	NS	ND5	-	ND5	-	ND5	-	ND5	ND5
<u>TAL Metals</u>										
Total Iron	mg/L	300	1.04	6.66	1.43	3.78	1.98	2.67	8.93	10.5
Total Dissolved Iron	mg/L	300	-	-	ND0.1	-	-	-	2.37	3.40
Total Potassium	mg/L	NS	2.15	2.63	2.04	2.32	2.08	0.829	2.47	3.17
Total Dissolved Potassium	mg/L	NS	-	-	ND2	-	-	-	ND2	ND2
Total Zinc	mg/L	300	0.0899	0.859	0.0691	0.0990	0.0891	0.018	0.399	0.0277
Total Dissolved Zinc	mg/L	300	-	-	0.0616	-	-	-	ND0.02	ND0.02
<u>General Chemistry</u>										
Ammonia	mg/L	NS	0.0831	0.142	0.0701	0.110	0.0749	ND0.4	ND0.05 J	0.110
Nitrite	mg/L	NS	ND0.01	ND0.01	ND0.01	ND0.01	0.0158	ND0.04	ND0.01	ND0.01
Total Kjeldahl Nitrogen	mg/L	NS	ND0.2	0.426	0.289	0.385	0.246	0.98	0.371	0.424

TABLE 3

GROUNDWATER ANALYTICAL DATABASE
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32N03

			BW-6 9/23/2002	BW-6 3/18/2003	BW-6 09/09/03	BW-6 09/24/04	BW-6 3/30/2005
Class GA Groundwater Standard							
<u>TCL Volatiles</u>	<u>Units</u>						
Acetone	ug/L	NS	ND20	ND20	ND20	ND20	ND20
Benzene	ug/L	1	ND5	ND5	ND5	ND5	ND5
Bromodichloromethane	ug/L	NS	ND5	ND5	ND5	ND5	ND5
Bromoform	ug/L	NS	ND5	ND5	ND5	ND5	ND5
Bromomethane	ug/L	5	ND5	ND5	ND5	ND5	ND5
2-Butanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10
Carbon disulfide	ug/L	NS	ND10	ND10	ND10	ND10	ND10
Carbon tetrachloride	ug/L	5	ND5	ND5	ND5	ND5	ND5
Chlorobenzene	ug/L	5	ND5	ND5	ND5	ND5	ND5
Chlorodibromomethane	ug/L	NS	-	-	-	-	-
Chloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5
Chloroform	ug/L	7	ND5	ND5	ND5	ND5	ND5
Chloromethane	ug/L	NS	ND5	ND5	ND5	12	ND5
Dibromochloromethane	ug/L	NS	ND5	ND5	ND5	ND5	ND5
1,1-Dichloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5
1,2-Dichloroethane	ug/L	0.6	ND5	ND5	ND5	ND5	ND5
1,1-Dichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5
cis-1,2-Dichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5
trans-1,2-Dichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5
1,2-Dichloropropane	ug/L	1	ND5	ND5	ND5	ND5	ND5
cis-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	ND5	ND5	ND5
trans-1,3-Dichloropropene	ug/L	0.4	ND5	ND5	ND5	ND5	ND5
Ethyl benzene	ug/L	5	ND5	ND5	ND5	ND5	ND5
2-Hexanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10
Methylene chloride	ug/L	5	ND5	ND5	ND5	ND5	ND5
4-Methyl-2-pentanone	ug/L	NS	ND10	ND10	ND10	ND10	ND10
Styrene	ug/L	5	ND5	ND5	ND5	ND5	ND5
1,1,2,2-Tetrachloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5
Tetrachloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5
1,1,1-Trichloroethane	ug/L	5	ND5	ND5	ND5	ND5	ND5
1,1,2-Trichloroethane	ug/L	1	ND5	ND5	ND5	ND5	ND5
Toluene	ug/L	5	ND5	ND5	ND5	ND5	ND5
Trichloroethene	ug/L	5	ND5	ND5	ND5	ND5	ND5
Vinyl chloride	ug/L	2	ND5	ND5	ND5	ND5	ND5
o-Xylenes	ug/L	NS	ND5	ND5	ND5	ND5	ND5
m/p-Xylenes	ug/L	NS	ND5	ND5	ND5	ND5	ND5
<u>TAL Metals</u>							
Total Iron	mg/L	300	5.92	11.0	12.8	21.6	12.8
Total Dissolved Iron	mg/L	300	-	-	4.78	3.63	6.19
Total Potassium	mg/L	NS	ND2	ND2	2.09	2.97	2.49
Total Dissolved Potassium	mg/L	NS	-	-	ND2	ND2	ND2
Total Zinc	mg/L	300	ND0.02	0.0239	0.0208	0.0473	0.0364
Total Dissolved Zinc	mg/L	300	-	-	ND0.02	ND0.02	ND0.02
<u>General Chemistry</u>							
Ammonia	mg/L	NS	0.104	0.130	0.142	0.131	ND0.2
Nitrite	mg/L	NS	ND0.01	ND0.01	0.0110	ND0.01	ND0.01
Total Kjeldahl Nitrogen	mg/L	NS	0.416	0.501	0.462	0.845	0.533

Notes:

NDx Compound not detected at or above the limit specified.

J Estimated value.

- Compound not analyzed.

NS No standard.

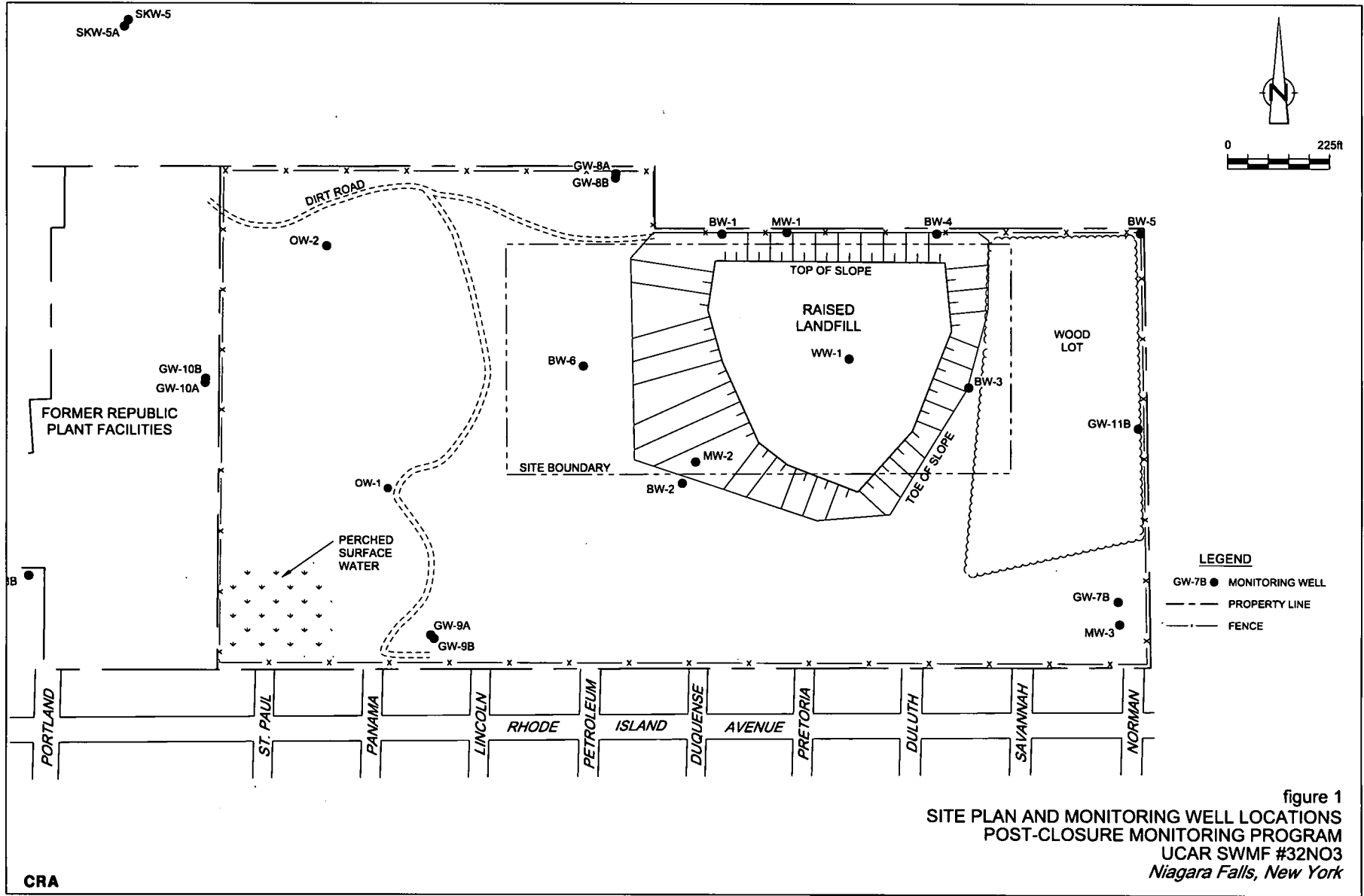
TABLE 4

PROPOSED POST-CLOSURE ANALYTICAL PARAMETERS
POST-CLOSURE MONITORING PROGRAM
UCAR REPUBLIC SWMF #32N03

Chloroethane
Tetrachloroethene
Trichloroethene
cis-1,2-Dichloroethene
Trans-1,2-Dichloroethene
Vinyl chloride

FIGURES





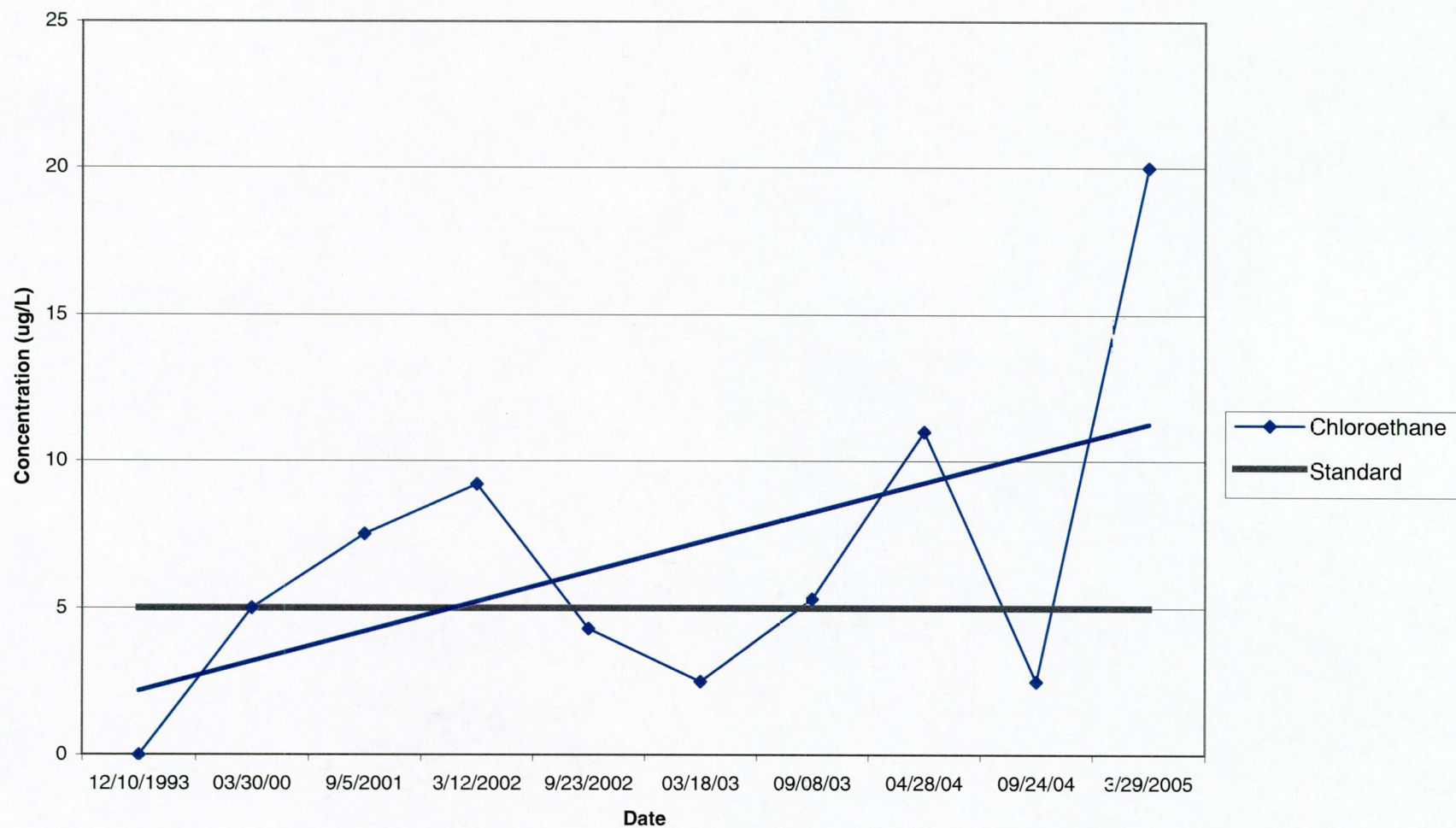


figure 2
 CHEMICAL CONCENTRATION VERSUS TIME - BW-1
 POST-CLOSURE MONITORING PROGRAM
 UCAR SWMF #32NO3
 Niagara Falls, New York



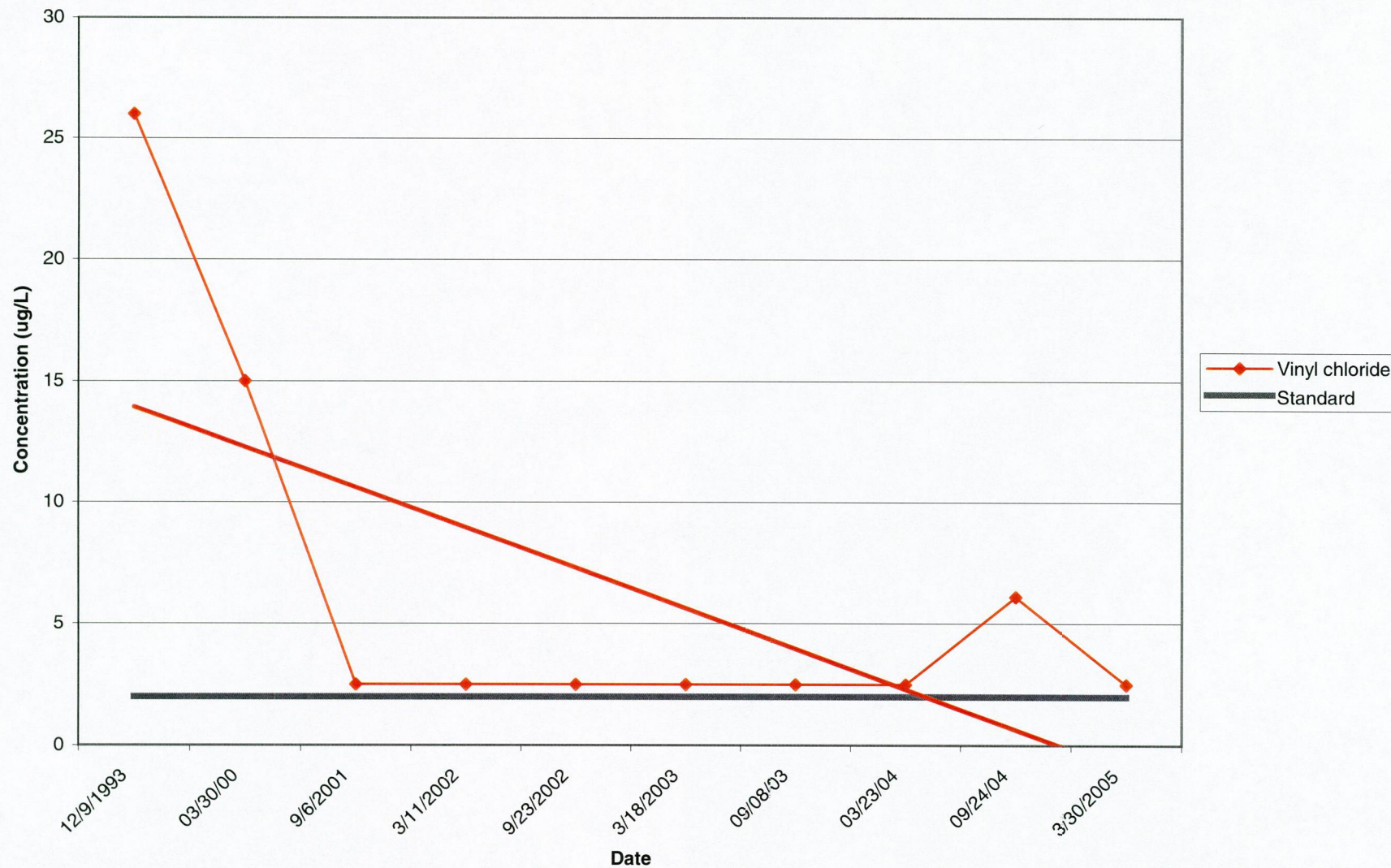


figure 3
CHEMICAL CONCENTRATION VERSUS TIME - BW-3
POST-CLOSURE MONITORING PROGRAM
UCAR SWMF #32NO3
Niagara Falls, New York



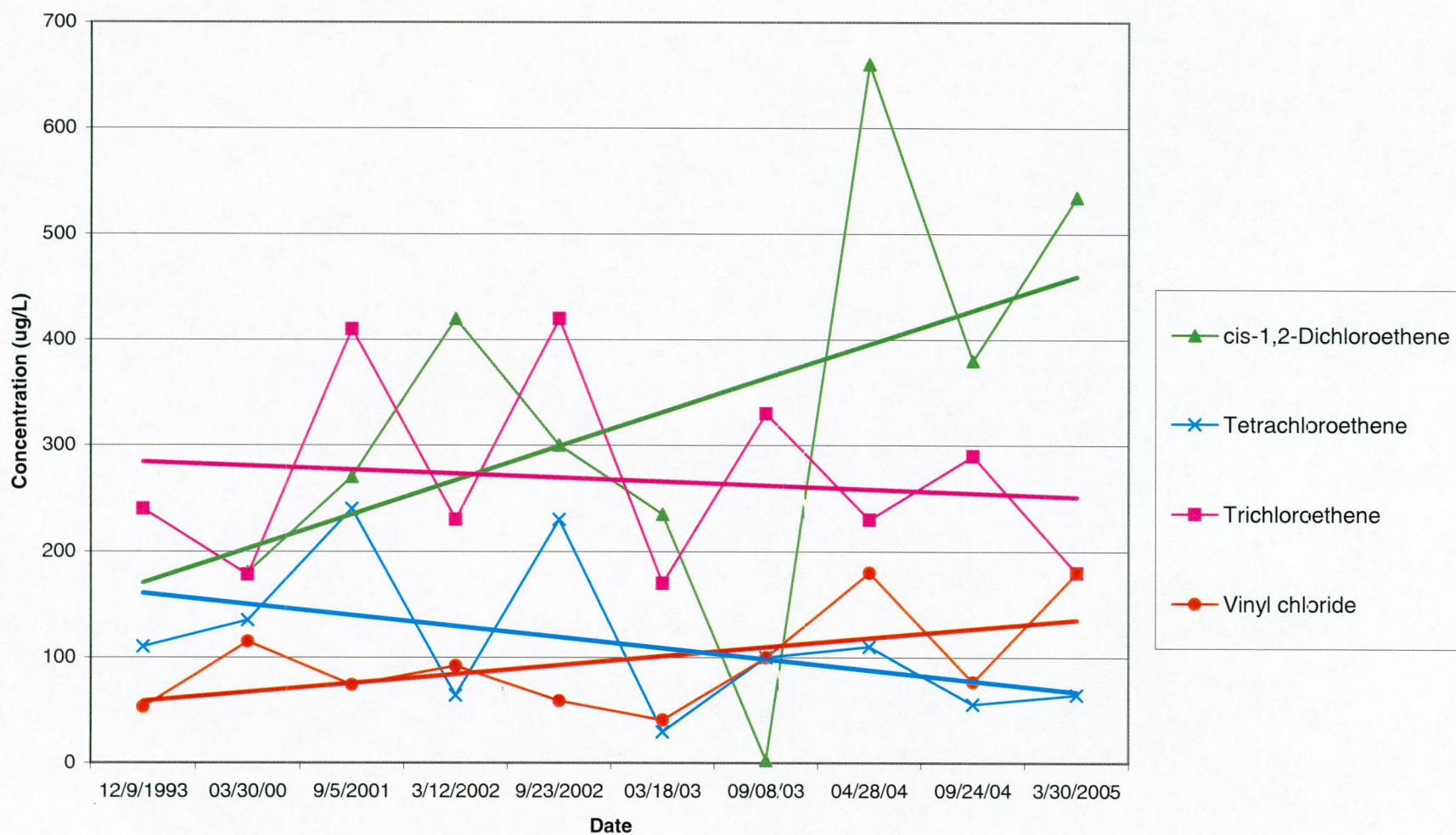


figure 4
 CHEMICAL CONCENTRATION VERSUS TIME - BW-4
 POST-CLOSURE MONITORING PROGRAM
 UCAR SWMF #32NO3
 Niagara Falls, New York



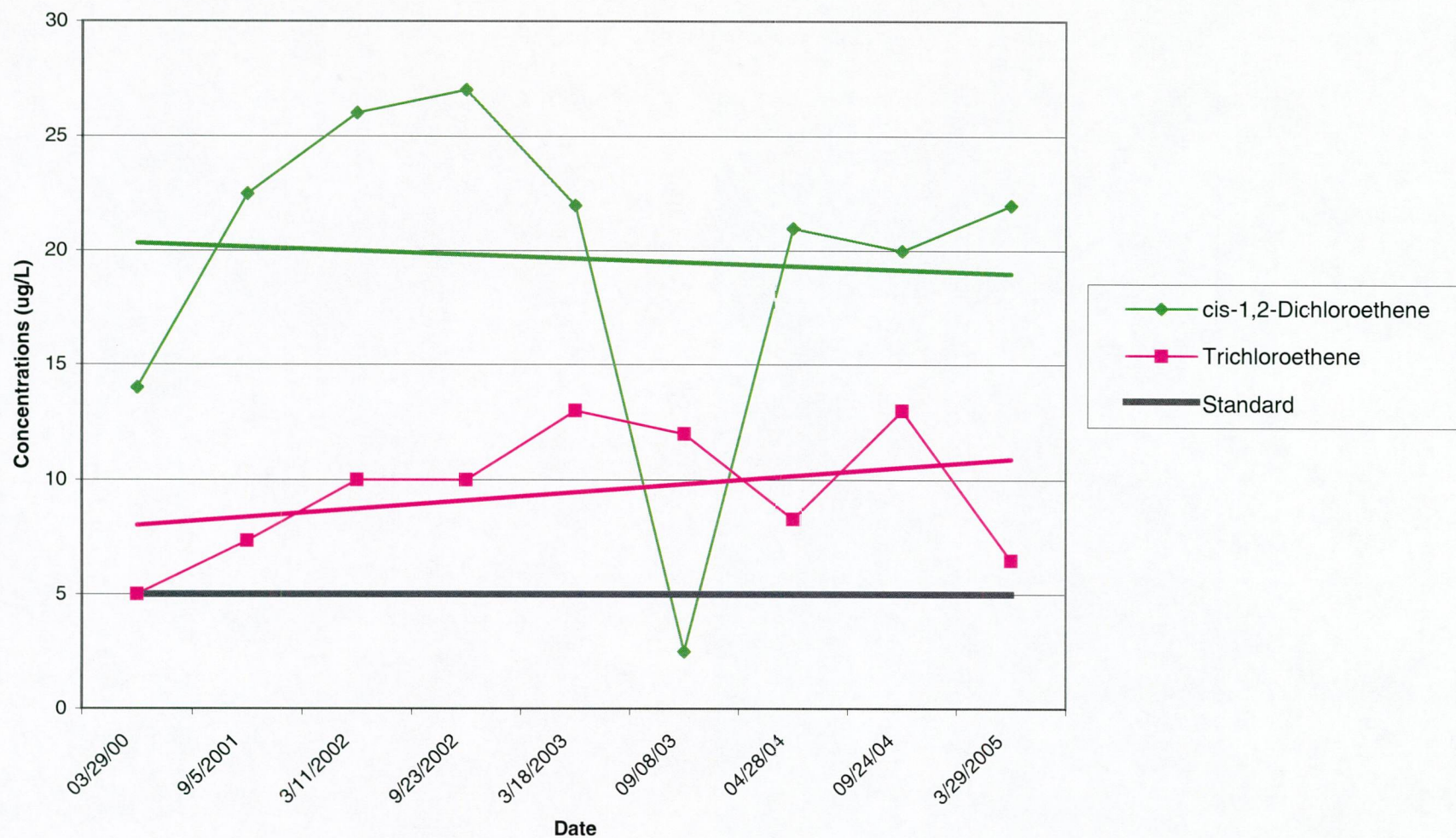


figure 5
 CHEMICAL CONCENTRATION VERSUS TIME - GW-8B
 POST-CLOSURE MONITORING PROGRAM
 UCAR SWMF #32NO3
 Niagara Falls, New York

