YALE SECURITY, INC.

SEPTEMBER 1999 SEMI-ANNUAL COMPLIANCE MONITORING REPORT

Dec 21 1999

PREPARED FOR:

Tennessee Department of Environment and Conservation
Division of Solid Waste Management
5th Floor, L&C Annex
401 Church Street
Nashville, Tennessee 37243

PREPARED BY:

GZA GeoEnvironmental, Inc.
N4140 Duplainville Road
Pewaukee, Wisconsin 53072

December 21, 1999
GZA File No. 150346.00

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LETTER OF TRANSMITTAL

GZA GeoEnvironmental, Inc.
N4140 Duplainville Road
Pewaukee, WI 53072
(262) 691-2662
(262) 691-9279 – FAX

TO: TN Dept. of Env. and Conservation
Division of Solid Waste Mgmt.
5th Floor, L&C Annex
401 Church Street
Nashville, Tennessee 37243

DATE:	December 21, 1999	File No.	150346.00
ATTN.:	Mr. Mike Apple		
RE:	Semi-Annual Compliance Monitoring Report		

ENCLOSED:

COPIES	DATE	DESCRIPTION
1	12/21/99	Yale Security, Inc. September 1999 Semi-Annual Compliance Monitoring Report (Compliance Monitoring Event No. 14) EPA I.D. Number: TN 09 505 0019

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REMARKS:

Should you have any comments or questions regarding the enclosed material, please contact me at (262) 691-2662.

Cc: Mr. David Hunt (Yale Security, Inc.)
Mr. William Crispin (TDEC)
Mr. Leo Romanowski (US EPA-Region IV)

SIGNED: _____
Bernard G. Fenelon, P.G.

GZA
GeoEnvironmental, Inc.

Engineers and Scientists

December 21, 1999
File No. 150346.00

Tennessee Department of Environment and Conservation
Division of Solid Waste Management
5th Floor, L & C Annex
401 Church Street
Nashville, Tennessee 37243

Attention: Mr. Mike Apple, Director

Subject: Yale Security, Inc.
September 1999 Semi-Annual Compliance Monitoring Report
(Compliance Monitoring Event No. 14)
EPA I.D. Number TN 09 505 0019

N4140 Duplainville Road
Pewaukee
Wisconsin 53072
414-691-2662
FAX 414-691-9279
http://www.gza.net

Dear Mr. Apple:

GZA GeoEnvironmental, Inc. (GZA) is pleased to submit the Semi-Annual Compliance Monitoring Report for the September 1999 groundwater sampling event (Compliance Event No. 14), on behalf of Yale Security, Inc. (Yale). This Report complies with reporting requirements presented in Condition IV.H.1 of Yale's RCRA Post-Closure Care Permit (No. TNHW-013A), issued September 30, 1992. Yale submitted an Application for Permit Modification on May 27, 1994, as well as subsequent supporting documentation which seeks to modify and update certain compliance monitoring protocols and procedures consistent with ongoing Corrective Action Measures. Until a revised permit is issued by the Tennessee Department of Environment and Conservation (TDEC), Yale will continue to follow the 1992 Permit requirements, with two specific modifications as detailed below. Note that this Report is subject to the Limitations in Appendix A.

SAMPLING AND ANALYTICAL METHODS

A Subsidiary of GZA
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Water levels were measured on September 29, 1999, and the background and compliance wells were purged and sampled on September 30, 1999, in accordance with the Sampling and Analysis Plan contained in the Post-Closure Care Permit. Groundwater samples were collected within one hour of purging and as soon as sufficient recovery had occurred in each well to allow collection of the required sample volume. Each of the wells, with the exception of GMW-1, bailed dry after one to two well volumes of water were purged. Samples were analyzed in accordance with U.S. EPA Method 335.2 for cyanide and Method 200.7 for total metals; cadmium, chromium, copper, beryllium and nickel. A duplicate sample was collected from monitoring well GMW-12. While not a permit requirement, Yale also analyzed the groundwater samples for beryllium, based on its detection during the Appendix 06/D sampling event conducted on November 6, 1993, in monitoring wells GMW-5P and GMW-12.

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The sampling protocols detailed in the Permit's Sampling and Analysis Plan were followed, except for the following specific changes:

- The monitoring wells were sampled with disposable, 2-inch polyethylene bailers, regardless of well diameter, rather than the permit requirement of PVC bailers for 2-inch wells and stainless steel bailers for 4-inch wells.

- The sampling data were recorded on groundwater sampling field data sheets rather than in a field logbook.

The changes do not affect data quality, and sampling was performed in accordance with prior approval from TDEC personnel. Yale submitted a revised Sampling and Analysis Plan as part of the Addendum to the Application for Permit Modification (August 18, 1994) which seeks to make the above sampling changes permanent.

Groundwater Sampling Field Data Sheets for this monitoring event are presented in Appendix B and the field measurements of temperature, specific conductance and pH are summarized on Table 1. Laboratory analytical summaries for the event are presented in Appendix C with a copy of the chain-of-custody form that accompanied the samples to the laboratory. The results of the metals analyses are summarized on Table 2.

STATISTICAL ANALYSIS METHODS

As required by the RCRA Post-Closure Care Permit, the upper tolerance limit of background provides the primary criteria for compliance determination. A summary of historical analytical results for required metals analyses and statistical evaluation for background well GMW-1, calculated in accordance with guidance presented in the U.S. EPA guidance document, "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities," EPA/530-SW-89-026 (April 1989) are presented on Table 3. The GRITS/STAT v5.00 software program, developed by U.S. EPA Region VI, was used to perform the statistical evaluations.

The background groundwater data were used to calculate the coefficient of variation for each metal, which was less than 1.0, indicating the data may be normally distributed. As other tests for normality did not indicate a normal distribution of values for background parameters, additional statistical tests were conducted, as described below, which are appropriate for non-normal distributions of data. The parametric upper tolerance concentration limits (UTLs) for background results were calculated for each metal using the GRITS/STAT software based on an assumption of normal distribution of background data. The analytical results for each compliance well were compared to the UTLs and the drinking water maximum contaminant levels (MCLs).

In addition to comparing the September 1999 compliance monitoring results to MCLs and UTLs, two additional statistical tests assuming a non-normal distribution of data were performed using the GRITS/STAT program. The non-parametric confidence interval was

calculated for comparison to MCLs and a non-parametric analysis of variance (Kruskal-Wallis test) was completed for comparison to background as recommended in U.S. EPA statistical guidance when a data set contains a high percentage (greater than 15 percent) of non-detections. For each of the parameters tested, the background data set contains approximately 80 percent of the results below detection limits. Both the non-parametric confidence interval and the Kruskal-Wallis tests were completed using the GRITS/STAT software.

ANALYTICAL RESULTS

The in-field water quality data obtained during collection of the September 1999 compliance samples are presented in Table 1. These data are summarized from the field data sheets presented in Appendix B. The results of the September 1999 compliance-sampling event are summarized on Table 2.

In the latest sampling round, cadmium, beryllium and cyanide were not detected in the compliance or background monitoring wells. Copper was detected in two of the five compliance wells at concentrations of 0.011 milligrams per liter (mg/l) in GMW-3 and 0.031 mg/l in GMW-6. Nickel was detected in GMW-12 at 0.039 mg/l and 0.026 mg/l in the duplicate sample. Chromium was elevated above background in monitoring well GMW-12 at a concentration of 3.68 mg/l and 3.56 mg/l in the duplicate sample. Chromium was also detected in GMW-1, the background well, at 0.009 mg/l. With the exception of chromium in GMW-12, detected concentrations of metals were below their respective drinking water standards.

Beryllium was last detected in a compliance monitoring well in 1994 in GMW-5P and there have been 10 semi-annual compliance groundwater sampling rounds since the last detection of beryllium in a compliance well. Beryllium was last detected in 1998 in background monitoring well, GMW-1.

STATISTICAL ANALYTICAL RESULTS

Historical data for the background well and the calculated statistical parameters, including the UTLs, are presented in Table 3. The results for this sampling round and historical results for Yale's five compliance monitoring wells down-gradient of the closed lagoons are presented in Tables 4 through 8. Data obtained prior to January 1993, represent results before the post-closure monitoring requirement.

Results of the current compliance-monitoring event indicated that no constituents were present in excess of MCLs, except chromium in GMW-12. Upper tolerance limits were exceeded for copper in GMW-6 and chromium in GMW-12. This is similar to the number of UTL exceedances obtained in the last sampling when UTLs were measured for copper in GMW-4 and chromium in GMW-12.

The non-parametric confidence interval calculated for comparison to MCLs indicates that the only MCL exceeded is chromium in GMW-12. The non-parametric analysis of variance (Kruskal-Wallis test) completed for comparison to background analytical results indicates exceedances for copper in GMW-6 and chromium in GMW-12.

GROUNDWATER FLOW CONFIGURATION

Groundwater elevation data collected from wells and piezometers associated with the Yale facility during the September 1999 sampling event are presented in Table 9. The September 1998 and March 1999 measurements are provided for comparison. The groundwater elevations and flow pattern for September 1999, are similar to those measured in September 1998. Evaluation of the data indicates a general flow pattern east-southeast, with groundwater discharge to Town Creek and the Tennessee River.

FUTURE COMPLIANCE MONITORING ACTIVITIES

The next compliance monitoring event (Number 15) is planned for March 27 and 28, 1999. Based on the historical analytical results, beryllium will no longer be included in the analyses, commencing with the next sampling event.

Should you have any questions or need additional information, please contact the undersigned at (262) 691-2662 (bfenelon@gza.com or mkrumenacher@gza.com).

Very truly yours,

GZA GeoEnvironmental, Inc.

Bernard G. Fenelon, P.G.
Senior Project Manager

Mark J. Krumenacher, P.G.
Associate Principal

wp51/bgf/yale/reports/comp14

Attachments
- Tables 1 - 9
- Appendix A - Limitations
- Appendix B - Groundwater Sampling Field Data Sheets
- Appendix C - Laboratory Analytical Report

c: Mr. David Hunt, Yale Security Inc.
Mr. William Crispin, TDEC
Mr. Leo Romanowski, US EPA-Region IV

TABLES

TABLE 1
GROUNDWATER IN-FIELD MEASUREMENT RESULTS
September 28, 1999 Semi-Annual Compliance Monitoring Event (No. 14)
Yale Security, Inc.
Lenoir City, Tennessee

Parameter	GMW-1	GMW-3	GMW-4	GMW-5P	GMW-6	GMW-12
Casing Elevaion (ft)	767.37	764.26	761.29	764.86	765.32	763.82
Depth to Water (ft)	19.38	16.77	13.83	15.59	15.38	17.98
Water Elevation (ft MSL)	747.99	747.49	747.46	749.27	749.94	745.84
Temperature (°C)						
1st Well Volume	17.9	18.6(2)	15.4(2)	16.2(2)	16.9(2)	16.5(2)
2nd Well Volume	17.6					
3rd Well Volume	17.4					
Specific Conductance (1) (umho/cm)						
1st Well Volume	655	148(2)	79(2)	246(2)	342(2)	184(2)
2nd Well Volume	719					
3rd Well Volume	741					
pH (Standard Units)						
1st Well Volume	6.70	6.12(2)	6.11(2)	6.15(2)	6.33(2)	6.10(2)
2nd Well Volume	6.61					
3rd Well Volume	6.59					

Notes:
1) Specific conductance values corrected to 25°C.
2) Indicates the well bailed dry after purging approximately one well volume.
3) Indicates the well bailed dry after purging approximately two well volumes.

TABLE 2
GROUNDWATER COMPLIANCE MONITORING RESULTS
September 28, 1999 Post-Closure Compliance Sampling Event (No. 14)
Yale Security, Inc.
Lenoir City, Tennessee

Parameter	Units	Detection Limit	GMW-1	GMW-3 *	GMW-4 *	GMW-5P *	GMW-6 *	GMW-12 *	GMW-12 Duplicate
Cadmium	mg/l	0.004	ND	ND	ND	ND	ND	ND	ND
Chromium	mg/l	0.007	0.009	ND	ND	ND	ND	3.68	3.56
Copper	mg/l	0.006	ND	0.011	ND	ND	0.031	ND	ND
Beryllium	mg/l	0.003	ND	ND	ND	ND	ND	ND	ND
Nickel	mg/l	0.015	ND	ND	ND	ND	ND	0.039	0.026
Cyanide	mg/l	0.020	ND	ND	ND	ND	ND	ND	ND

Notes:
1. Samples were collected by GZA GeoEnvironmental, Inc. on September 28, 1999.
2. Sample analyses performed by Analytical Industrial Research Laboratory by US EPA Methods 200.7 for the metals and 335.2 for cyanide.
3. Results provided in milligrams per liter (mg/l).
4. "ND" denotes that the constituent was not detected above the laboratory detection limit.
5. "*" indicates compliance monitoring well

TABLE 3
HISTORICAL ANALYTICAL RESULTS AND STATISTICAL EVALUATION
FOR BACKGROUND MONITORING WELL GMW-1
Yale Security, Inc.
Lenoir City, Tennessee

GMW-1 (Background well)	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)
3/15/83		0.005 L	0.020		
6/15/83		0.004	0.002		
10/4/83		0.008	0.003		
2/14/84		0.003	0.005		0.062
8/15/84		0.020	0.005 L		
2/5/85		0.001 L	0.010 L		
6/7/89		0.010	0.010 L		0.025 L
12/11/91		0.005 L	0.030	0.005 L	
6/19/92		0.005 L	0.005 L	0.010	
11/5/93	0.0025 L	0.005 L	0.005 L	0.025 L	0.010 L

COMPLIANCE MONITORING EVENTS

GMW-1 (Background well)	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)
1/13/93	0.00025 L	0.005 L	0.005 L	0.040	0.010 L
8/12/93	0.0025 L	0.005 L	0.005 L	0.010	0.010 L
3/10/94	0.0025 L	0.011	0.005 L	0.001	0.010 L
7/14/94	0.0005 L	0.005 L	0.005 L	0.0025 L	0.010 L
2/16/95	0.0005 L	0.005 L	0.005 L	0.0025 L	0.010 L
9/12/95	0.0005 L	0.005 L	0.005 L	0.01 L	0.010 L
3/20/96	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L
9/20/96	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L
3/27/97	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L
9/26/97	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L
3/24/98	0.002 L	0.004 L	0.014	0.01 L	0.008 L
9/30/98	0.002 L	0.030	0.022	0.010 L	0.029
3/30/99	0.002 L	0.008	0.003 L	0.010 L	0.008 L
9/28/99	0.002 L	0.009	0.003 L	0.010 L	0.008 L

BACKGROUND WELL SUMMARY STATISTICS

Statistical Summary	Cadmium	Chromium	Copper	Cyanide	Nickel
No of Samples (n)	15	24	24	17	17
Mean (mg/l)	0.0017	0.0070	0.0075	0.011	0.014
Standard Deviation	0.00080	0.0062	0.0071	0.0091	0.014
Coefficient of Variation	0.48	0.87	0.95	0.83	0.99
K (tolerance factor)	2.57	2.31	2.31	2.49	2.486
Upper Tolerance Limit (mg/l)	0.0037	0.021	0.024	0.034	0.048
MCL (mg/l)	0.005	0.1	1.0 (b)	0.2	0.1

NOTES:
L = Method detection limit divided by 2
(b) = Secondary Maximum Contaminant Level

TABLE 4
HISTORICAL ANALYTICAL RESULTS AND CRITERIA COMPARISON
FOR COMPLIANCE MONITORING WELL GMW-3
Yale Security, Inc.
Lenoir City, Tennessee

GMW-3	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)
3/15/83		0.013	0.007		
6/15/83		0.011	0.004		
10/4/83		0.014	0.002		
2/14/84		0.006	0.005		0.043
8/15/84		0.005 L	0.005 L		
2/5/85		0.001 L	0.003 L		
9/23/85		0.006	0.01		0.005 L
12/20/85		0.005 L	0.027		0.005 L
3/25/86		0.005	0.005		0.030
6/5/86		0.007	0.006		0.003 L
7/2/86		0.013	0.03		0.003 L
1/15/87		0.025 L	0.025 L		
6/4/87		0.003 L	0.003 L		
12/10/87		0.003 L	0.003 L		
6/1/88 Yale		0.003 L	0.003 L		
6/1/88 TDEC		0.003 L	0.005 L		0.010 L
12/7/88		0.18	0.16		
6/7/89		0.01	0.09		0.110
12/22/89		0.005 L	0.010 L		
12/18/90		0.005 L	0.015 L		
6/5/91			0.006		
12/11/91		0.005 L	0.030	0.005 L	
6/19/92		0.005 L	0.005 L	0.005 L	
11/5/93	0.0025 L	0.005 L	0.005 L		0.010 L

COMPLIANCE MONITORING EVENTS

GMW-3	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)	Criteria Exceeded	
						MCL	UTL
1/13/93	0.00025 L	0.005 L	0.005 L	0.03	0.01 L	No	No
8/12/93	0.0025 L	0.005 L	0.005 L	0.005 L	0.010 L	No	No
3/10/94	0.0025 L	0.005 L	0.005 L	0.001	0.010 L	No	No
7/14/94	0.0005 L	0.032	0.021	0.0025 L	0.035	No	Cr
2/16/95	0.0005 L	0.005 L	0.005 L	0.005	0.010 L	No	No
9/12/95	0.0005 L	0.005 L	0.005 L	0.01 L	0.010 L	No	No
3/20/96	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L	No	No
9/20/96	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L	No	No
3/27/97	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L	No	No
9/26/97	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L	No	No
3/24/98	0.002 L	0.004 L	0.016	0.01 L	0.008 L	No	No
9/30/98	0.002 L	0.024	0.027	0.010 L	0.017	No	Cr, Cu
3/30/99	0.002 L	0.007	0.008	0.010 L	0.008 L	No	No
9/28/99	0.002 L	0.004 L	0.011	0.010 L	0.008 L	No	No

CRITERIA

Constituent	Cadmium	Chromium	Copper	Cyanide	Nickel
MCL (mg/l)	0.005	0.1	1.0	0.2	0.1
UTL (mg/l)	0.0037	0.021	0.024	0.034	0.048

COMPLIANCE MONITORING STATISTICS

NON-PARAMETRIC CONFIDENCE INTERVAL FOR COMPARISON TO MCL

GMW-3	Cadmium	Chromium	Copper	Cyanide	Nickel
Lower Confidence Interval (mg/l)	0.002	0.005	0.005	0.005	0.0075
MCL Exceeded	No	No	No	No	No

NON-PARAMETRIC ANALYSIS OF VARIANCE FOR COMPARISON TO BACKGROUND (KRUSKAL-WALLIS TEST)

GMW-3	Cadmium	Chromium	Copper	Cyanide	Nickel
Result ($R-R_b$)	0.0	-0.04	15.81	-4.45	6.10
Criteria (CD)	22.18	30.71	31.25	22.25	26.10
Critical Difference Exceeded	No	No	No	No	No

NOTES:
L = Method detection limit divided by 2
R = Compliance Well Rank Average
R_b = Background Well Rank Average
CD = Critical Difference

TABLE 5
HISTORICAL ANALYTICAL RESULTS AND CRITERIA COMPARISON
FOR COMPLIANCE MONITORING WELL GMW-4
Yale Security, Inc.
Lenior City Tennessee

GMW-4	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)
3/15/83		0.02	0.005		
6/15/83		0.007	0.002		
10/4/83		0.005	0.005		
2/14/84		0.006	0.008		
8/15/84		0.01	0.01		
2/5/85		0.001 L	0.001 L		
9/23/85		0.004	0.03		0.005 L
12/20/85		0.005 L	0.02		0.005 L
3/25/86		0.001	0.001 L		0.04
6/5/86		0.013	0.011		0.003 L
7/2/86		0.013	0.019		0.003 L
1/15/87		0.025 L	0.025 L		
6/4/87		0.003 L	0.003 L		
12/10/87		0.003 L	0.003 L		
6/1/88 Yale		0.003 L	0.003 L		
6/1/88 TDEC		0.003 L	0.005 L		0.01 L
12/7/88		0.03	0.04		
6/7/89		0.01	0.01 L		0.025 L
12/18/90		0.005 L	0.015 L		
6/5/91			0.022		
12/11/91		0.005 L	0.03	0.005 L	
6/19/92		0.005 L	0.005 L	0.005 L	
11/5/93	0.0025 L	0.005 L	0.005 L		0.010 L

COMPLIANCE MONITORING EVENTS

GMW-4	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)	Criteria Exceeded	
						MCL	UTL
1/13/93	0.00025 L	0.005 L	0.005 L	0.005 L	0.01 L	No	No
8/12/93	0.0025 L	0.005 L	0.005 L	0.005 L	0.010 L	No	No
3/10/94	0.0025 L	0.005 L	0.005 L	0.001 L	0.010 L	No	No
7/14/94	0.001 L	0.005 L	0.011	0.003 L	0.010 L	No	No
2/16/95	0.0005 L	0.005 L	0.022	0.003 L	0.010 L	No	No
9/12/95	0.0005 L	0.005 L	0.005 L	0.010 L	0.010 L	No	No
3/20/96	0.002 L	0.004 L	0.003 L	0.010 L	0.008 L	No	No
9/20/96	0.002 L	0.004 L	0.003 L	0.010 L	0.008 L	No	No
3/26/97	0.002 L	0.004 L	0.003 L	0.010 L	0.008 L	No	No
9/26/97	0.002 L	0.004 L	0.003 L	0.010 L	0.008 L	No	No
3/24/98	0.002 L	0.004 L	0.023	0.010 L	0.015	No	No
9/30/98	0.002 L	0.013	0.022	0.010 L	0.015	No	No
3/30/99	0.002 L	0.018	0.031	0.010 L	0.008 L	No	Cu
9/28/99	0.002 L	0.004 L	0.003 L	0.010 L	0.008 L	No	No

CRITERIA

Constituent	Cadmium	Chromium	Copper	Cyanide	Nickel
MCL (mg/l)	0.005	0.1	1.0	0.2	0.1
UTL (mg/l)	0.0037	0.021	0.024	0.034	0.048

COMPLIANCE MONITORING STATISTICS

NON-PARAMETRIC CONFIDENCE INTERVAL FOR COMPARISON TO MCL

GMW-4	Cadmium	Chromium	Copper	Cyanide	Nickel
Lower Confidence Interval (mg/l)	0.002	0.005	0.005	0.005	0.0075
MCL Exceeded	No	No	No	No	No

NON-PARAMETRIC ANALYSIS OF VARIANCE FOR COMPARISON TO BACKGROUND (KRUSKAL-WALLIS TEST)

GMW-4	Cadmium	Chromium	Copper	Cyanide	Nickel
Result ($R-R_b$)	0.0	-0.46	16.49	-11.68	0.49
Criteria (CD)	22.18	30.88	31.42	23.14	26.62
Critical Difference Exceeded	No	No	No	No	No

NOTES:
L = Method detection limit divided by 2
R = Compliance Well Rank Average
R_b = Background Well Rank Average
CD = Critical Difference

TABLE 6
HISTORICAL ANALYTICAL RESULTS AND CRITERIA COMPARISON
FOR COMPLIANCE MONITORING WELL GMW-5P
Yale Security, Inc.
Lenoir City, Tennessee

GMW-5P	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)
9/23/85		0.02	0.03		0.03
12/20/85		0.005 L	0.7		0.005 L
3/25/86		0.004	0.004		0.03
6/5/86		0.026	0.012		0.011
7/2/86		0.019	0.018		0.006
1/15/87		0.025 L	0.025 L		
6/4/87		0.003 L	0.008		
12/10/87		0.003 L	0.003 L		
6/1/88 Yale		0.003 L	0.003 L		
6/1/88 TDEC		0.023	0.007		0.01 L
12/7/88		0.005 L	0.005 L		
6/7/89		0.005 L	0.005 L		0.025 L
12/22/89		0.005 L	0.005 L		
12/18/90		0.005 L	0.015 L		0.03
6/5/91			0.009		
12/11/91		0.005 L	0.02	0.01	
6/19/92		0.005 L	0.005 L	0.09	
11/5/93	0.0025 L	0.0286	0.0324		0.01 L

COMPLIANCE MONITORING EVENTS

GMW-5P	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)	Criteria Exceeded	
						MCL	UTL
1/13/93	0.00025 L	0.005 L	0.005 L	0.04	0.01 L	No	HCN
8/12/93	0.0025 L	0.005 L	0.005 L	0.005 L	0.010 L	No	No
3/10/94	0.0025 L	0.005 L	0.048	0.001	0.010 L	No	Cu
7/14/94	0.0005 L	1.100	0.160	0.0025 L	0.430	Cr, Ni	Cr, Cu, Ni
2/16/95	0.0005 L	0.005 L	0.005 L	0.0025 L	0.010 L	No	No
9/12/95	0.0005 L	0.005 L	0.005 L	0.01 L	0.010 L	No	No
3/20/96	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L	No	No
9/20/96	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L	No	No
3/26/97	0.002 L	0.004 L	0.013	0.01 L	0.008 L	No	No
9/26/97	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L	No	No
3/24/98	0.002 L	0.004 L	0.007	0.01 L	0.008 L	No	No
9/30/98	0.002 L	0.004 L	0.009	0.010 L	0.008 L	No	No
3/30/99	0.002 L	0.004 L	0.003 L	0.010 L	0.008 L	No	No
9/28/99	0.002 L	0.004 L	0.003 L	0.010 L	0.008 L	No	No

Constituent	Cadmium	Chromium	Copper	Cyanide	Nickel
MCL (mg/l)	0.005	0.1	1.0	0.2	0.1
UTL (mg/l)	0.0037	0.021	0.024	0.034	0.048

COMPLIANCE MONITORING STATISTICS

NON-PARAMETRIC CONFIDENCE INTERVAL FOR COMPARISON TO MCL

GMW-5P	Cadmium	Chromium	Copper	Cyanide	Nickel
Lower Confidence Interval (mg/l)	0.002	0.004	0.005	0.010	0.0075
MCL Exceeded	No	No	No	No	No

NON-PARAMETRIC ANALYSIS OF VARIANCE FOR COMPARISON TO BACKGROUND (KRUSKAL-WALLIS TEST)

GMW-5P	Cadmium	Chromium	Copper	Cyanide	Nickel
Result ($R-R_b$)	0.0	-7.55	18.8	1.32	7.03
Criteria (CD)	22.18	31.86	32.37	23.50	26.10
Criteria Exceeded	No	No	No	No	No

NOTES: L = Method detection limit divided by 2
R = Compliance Well Rank Average
R_b = Background Well Rank Average
CD = Critical Difference

TABLE 7
HISTORICAL ANALYTICAL RESULTS AND CRITERIA COMPARISON
FOR COMPLIANCE MONITORING WELL GMW-6
Yale Security, Inc.
Lenoir City Tennessee

GMW-6	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)
9/23/85		0.01	0.03		0.01
12/20/85		0.005 L	0.11		0.012
3/25/86		0.003	0.3		0.04
6/5/86		0.012	0.039		0.003 L
7/2/86		0.012	0.068		0.005 L
1/15/87		0.025 L	0.025 L		
6/4/87		0.003 L	0.027		
12/10/87		0.003 L	0.033		
6/1/88 Yale		0.003 L	0.032		
6/1/88 TDEC		0.005 L	0.03		
12/7/88		0.005 L	0.09		0.01 L
6/7/89		0.005 L	0.14		
12/22/89		0.005 L	0.01 L		0.16
12/18/90		0.005 L	0.03		
6/5/91			0.035		
12/11/91		0.005 L	0.04	0.01	
6/19/92		0.005 L	0.02	0.03	
11/5/93	0.0025 L	0.0234	0.248		0.037

COMPLIANCE MONITORING EVENTS

GMW-6	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)	Criteria Exceeded	
						MCL	UTL
1/13/93	0.00025 L	0.005 L	0.04	0.03	0.01 L	No	No
8/12/93	0.0025 L	0.005 L	0.05	0.005 L	0.010 L	No	No
3/10/94	0.0025 L	0.005 L	0.016	0.001	0.010 L	No	No
7/14/94	0.0005 L	0.0012	0.026	0.0025 L	0.053	No	Cu, Ni
2/16/95	0.0005 L	0.005 L	0.015	0.0025 L	0.010 L	No	No
9/12/95	0.0041	0.005 L	0.041	0.01 L	0.010 L	No	Cd, Cu
3/20/96	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L	No	No
9/20/96	0.002 L	0.004 L	0.003 L	0.01 L	0.008 L	No	No
3/25/97	0.002 L	0.004 L	0.011	0.01 L	0.008 L	No	No
9/26/97	0.002 L	0.004 L	0.008	0.01 L	0.008 L	No	No
3/24/98	0.002 L	0.004 L	0.032	0.01 L	0.008 L	No	Cu
9/30/98	0.002 L	0.026	0.059	0.010 L	0.008 L	No	Cr, Cu
3/30/99	0.002 L	0.004 L	0.003 L	0.010 L	0.008 L	No	No
9/28/99	0.002 L	0.004 L	0.031	0.010 L	0.008 L	No	Cu

Constituent	Cadmium	Chromium	Copper	Cyanide	Nickel
MCL (mg/l)	0.005	0.1	1.0	0.2	0.1
UTL (mg/l)	0.0037	0.021	0.024	0.034	0.048

COMPLIANCE MONITORING STATISTICS

NON-PARAMETRIC CONFIDENCE INTERVAL FOR COMPARISON TO MCL

GMW-6	Cadmium	Chromium	Copper	Cyanide	Nickel
Lower Confidence Interval (mg/l)	0.002	0.005	0.03	0.010	0.0075
MCL Exceeded	No	No	No	No	No

NON-PARAMETRIC ANALYSIS OF VARIANCE FOR COMPARISON TO BACKGROUND (KRUSKAL-WALLIS TEST)

GMW-6	Cadmium	Chromium	Copper	Cyanide	Nickel
Result ($R-R_b$)	3.0	-9.79	67.36	0.92	9.48
Criteria (CD)	22.18	31.86	32.37	23.50	26.35
Criteria Exceeded	No	No	Yes	No	No

NOTES:
L = Method detection limit divided by 2
R = Compliance Well Rank Average
R_b = Background Well Rank Average
CD = Critical Difference

TABLE 8
HISTORICAL ANALYTICAL RESULTS AND CRITERIA COMPARISON
FOR COMPLIANCE MONITORING WELL GMW-12
Yale Security, Inc.
Lenoir City, Tennessee

GMW-12	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)
01/13/1993	0.00025 L	1.8	0.005 L	0.02	0.01 L
03/01/1993		1.7			
03/03/1993		5.1			
03/05/1993		4.5			
03/08/1993		2.1			
03/10/1993		2.9			
03/12/1993		4.7			
03/15/1993		4.9			
03/17/1993		2.7			
03/19/1993		5.0			
03/22/1993		4.6			
03/22/1993		4.6			
03/24/1993		5.1			
03/24/1993		4.8			
03/26/1993		4.7		0.01	
03/26/1993		4.6		0.03	
11/05/1993	0.0025 L	9.66	0.0282		0.0905

COMPLIANCE MONITORING EVENTS

GMW-12	Cadmium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Cyanide (mg/l)	Nickel (mg/l)	Criteria Exceeded	
						MCL	UTL
01/13/1993	0.00025 L	1.8	0.005 L	0.02	0.01 L	Cr	Cr
08/12/1993	0.0025 L	4.2	0.005 L	0.005 L	0.04	Cr	Cr
03/10/1994	0.0025 L	5.3	0.005 L	0.001	0.036	Cr	Cr
07/14/1994	0.0005 L	5.35 *	0.005 L	0.003 L	0.050 *	Cr	Cr, Cu
02/16/1995	0.0005 L	4.55 *	0.005 L	0.003 L	0.044 *	Cr	Cr
09/12/1995	0.0005 L	3.59 *	0.005 L	0.015 *	0.034 *	Cr	Cr
03/20/1996	0.002 L	4.37 *	0.003 L	0.01 L	0.008 L	Cr	Cr
09/20/1996	0.002 L	3.46 *	0.003 L	0.01 L	0.031 *	Cr	Cr
03/27/1997	0.002 L	0.543	0.003 L	0.01 L	0.034	Cr	Cr
09/26/1997	0.002 L	4.82 *	0.003 L	0.01 L	0.008 L	Cr	Cr
03/24/1998	0.002 L	4.33 *	0.018 *	0.01 L	0.049 *	Cr	Cr
09/30/1998	0.002 L	6.21 *	0.0125 *	0.01 L	0.034 *	Cr	Cr
03/30/1999	0.002 L	4.12 *	0.003 L	0.01 L	0.008 L	Cr	Cr
09/28/1999	0.002 L	3.62 *	0.003 L	0.01 L	0.033 *	Cr	Cr

Constituent	Cadmium	Chromium	Copper	Cyanide	Nickel
MCL (mg/l)	0.005	0.1	1.0	0.2	0.1
UTL (mg/l)	0.0037	0.021	0.024	0.034	0.048

COMPLIANCE MONITORING STATISTICS

NON-PARAMETRIC CONFIDENCE INTERVAL FOR COMPARISON TO MCL

GMW-12	Cadmium	Chromium	Copper	Cyanide	Nickel
Lower Confidence Interval (mg/l)	0.002	3.62	0.003	0.01	0.031
MCL Exceeded	No	Yes	No	No	No

NON-PARAMETRIC ANALYSIS OF VARIANCE FOR COMPARISON TO BACKGROUND (KRUSKAL-WALLIS TEST)

GMW-12	Cadmium	Chromium	Copper	Cyanide	Nickel
Result ($R-R_b$)	0.0	83.43	-4.20	-1.14	39.54
Criteria (CD)	22.18	38.57	39.45	24.35	28.90
Criteria Exceeded	No	Yes	No	No	Yes

NOTES:
L = Method detection limit divided by 2
* = Reflects the average value between the sample and its duplicate
R = Compliance Well Rank Average
R_b = Background Well Rank Average
CD = Critical Difference

TABLE 9
GROUNDWATER ELEVATION MEASUREMENTS
Yale Security, Inc.
Lenoir City, Tennessee

Well ID	Top of Casing Elevation (AMSL)	September 30, 1998 Depth (ft)	September 30, 1998 Elevation (ft)	March 30, 1999 Depth (ft)	March 30, 1999 Elevation (ft)	September 27, 1999 Depth (ft)	September 27, 1999 Elevation (ft)
DMW-1	765.27	17.36	747.91	17.72	747.55	17.72	747.55
DMW-2	767.48	19.87	747.61	20.42	747.06	20.29	747.19
GMW-1	767.37	19.62	747.75	13.84	753.53	19.38	747.99
GMW-2	762.69	13.32	749.37	13.02	749.67	13.46	749.23
GMW-3*	764.26	14.46	749.80	13.89	750.37	16.77	747.49
GMW-4*	761.29	14.04	747.25	10.66	750.63	13.83	747.46
GMW-5	764.37	11.05	753.32	9.40	754.97	12.93	751.44
GMW-5P*	764.86	14.59	750.27	13.27	751.59	15.59	749.27
GMW-6*	765.32	15.26	750.06	9.08	756.24	15.38	749.94
GMW-7	771.28	(5)	(5)	24.05	747.23	-	pumping
GMW-8	769.91	22.42	747.49	23.05	746.86	22.75	747.16
GMW-11	765.09	16.76	748.33	16.94	748.15	16.98	748.11
GMW-12*	763.82	17.54	746.28	15.46	748.36	17.98	745.84
GMW-13	761.78	19.89	741.89	23.65	738.13	19.47	742.31
GMW-14	763.84	11.04	752.80	10.09	753.75	14.79	749.05
GMW-15	770.69	26.68	744.01	28.23	742.46	27.00	743.69
GMW-16	766.70	23.48	743.22	25.18	741.52	23.77	742.93
GMW-17	762.74	21.28	741.46	25.11	737.63	20.94	741.80
P-1	769.71	22.37	747.34	22.98	746.73	22.81	746.90
P-2	767.62	19.4	748.22	20.06	747.56	19.54	748.08
P-3	769.51	21.64	747.87	22.11	747.40	22.08	747.43
P-4	767.63	19.46	748.17	19.98	747.65	19.9	747.73
P-5	767.33	21.88	745.45	22.59	744.74	21.97	745.36
P-6	763.44	12.86	750.58	6.72	756.72	12.74	750.70
P-7	764.63	22.1	742.53	23.80	740.83	22.06	742.57
P-8	765.01	16.86	748.15	17.14	747.87	17.26	747.75
P-9	766.73	18.52	748.21	18.88	747.85	18.91	747.82
RW-1	765.54	14.94	750.60	8.12	757.42	17.65	747.89
RW-2	764.85	(5)	(5)	5.67	759.18	34.05	pumping
RW-3	766.65	(5)	(5)	18.47	748.18	-	pumping
RW-4	770.02	(5)	(5)	26.60	743.42	-	pumping
RW-5	767.30			18.76	748.54	18.89	748.41
RW-6	766.97			18.15	748.82	18.23	748.74
TW-1A	772.75	26.38	746.37	23.45	749.30	26.22	746.53
TW-1B	773.04	27.00	746.04	24.31	748.73	26.88	746.16
TW-2A	763.59	16.02	747.57	13.97	749.62	16.27	747.32
TW-3A	763.77	10.21	753.56	9.58	754.19	13.27	750.50
TW-5	765.60	20.95	744.65	22.1	743.50	21.5	744.10
TW-6	765.75	16.42	749.33	15.95	749.80	16.45	749.30
TW-7	761.62	19.97	741.65	24.34	737.28	19.4	742.22
TW-8	765.43	16.18	749.25	18.69	746.74	16.1	749.33
TW-9	765.24	18.51	746.73	19.37	745.87	19.03	746.21
TW-1 1	763.80	19.43	744.37	21.43	742.37	19.52	744.28
TW-12	769.12	20.42	748.70	20.52	748.60	20.73	748.39

Notes:
1. Northings, eastings, elevations, and depths as recorded by Consoer Townsend Envirodyne Engineers, Inc.
2. Depth measurements in feet from ground surface.
3. Elevations in feet referenced to Feet Above Mean Sea Level (AMSL)
4. "*" denotes compliance monitoring well.
5. Indicates well was being pumped at the time groundwater measurements were taken.

APPENDIX A

Limitations

HYDROGEOLOGICAL ASSESSMENT LIMITATIONS

1. The conclusions and recommendations submitted in this Report are based in part upon the data obtained from a limited number of soil samples from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until further investigation. If variations or other latent conditions then appear evident, it will be necessary to re-evaluate the recommendations of this Report.

2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more gradual. For specific information, refer to the stratigraphic logs.

3. Water level readings have been made in the test pits, borings and/or monitoring wells at times and under conditions stated within the text of the Report. These data have been reviewed and interpretations have been made in the text of this Report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, and other factors different from those prevailing at the time measurements were made.

4. Except as noted within the text of the Report, no quantitative laboratory testing was performed as part of the hydrogeological assessment. Where such analyses have been conducted by an outside laboratory, GZA has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.

5. The conclusions and recommendations contained in this Report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the Report. As indicted within the Report, some of these data are preliminary "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by GZA, and the conclusions and recommendations presented therein modified accordingly.

6. Chemical analyses have been performed for specific parameters during the course of this study, as detailed in the text. It must be noted that additional constituents not searched for during the current study may be present in soil and groundwater at the Site.

7. It is recommended that this firm be retained to provide further engineering services during design, implementation and/or construction of any remedial measures, if necessary. This is to observe compliance with the concepts and recommendations contained herein and to allow design changes in the event that subsurface conditions differ from those anticipated.

8. This Report contains approximate cost estimates for purposes of evaluating alternative remedial programs. These estimates involve approximate quantity evaluations. A preliminary estimate of this nature is likely to vary substantially from Contractors' Bid Prices and is not to be considered the equivalent of nor as reliable as Contractors' Bid Prices. Prices for similar work undertaken in the future will be subject to general and sometimes erratic price increases. The costs of future environmental, technical and engineering services which may be required to implement any corrective action or remediation or installation of any systems cannot be accurately estimated.

APPENDIX B

Groundwater Sampling Field Data Sheets

Field Data Sheet

GROUND-WATER SAMPLING FIELD DATA SHEET

GENERAL

Well No.: GMW-1 Date/Time: 9-28-99

Site Name: YALE SECURITY Weather: CLOUDS

Sampling Team: AINSWORTH

Casing Type: PVC Inner Casing Diameter: 4"

Condition of Well (lock, casing, etc): GOOD, LOCKED

WELL DEPTH AND PURGE INFORMATION

DTW[1]: 19.38 DTB[1]: 37.20

Water Column Length: 17.82 Water Volume in Casing[2]: 11.6

Method of Purging: BAILER Purge Volume Required: 34.8

Volume Purged: 33.0 Organic Vapors (HNu, OVA): –

Duration of Purging: 60 MINUTES

Observations (odor, color, phases): BROWN, MOD. TURBIDITY, NO ODOR

Comments:

[1] From top of inner casing [2] 2" well = 0.16 gal/ft. 4" well = 0.65 gal/ft.

IN-SITU MEASUREMENTS

	Time	Temp (units)	pH	S.C. (units)
Initial	9:45	18.2	6.73	530
Beginning purge	10:05	17.9	6.70	570
Middle purge	10:30	~~[illegible]~~ 17.6	6.61	620
End purge	10:45	17.4	6.59	650

SAMPLE INFORMATION

Time Allowed for Recovery: 100 MIN. Metals Filtered? NO

Sampling Date/Time: 9-28 12:25 Weather: SUNNY

DTW[1]: – Method of Sampling: BAILER

Time	Sample No.	Container Type	Parameter	Preservative
12:25	GMW-1	40 ml VIALS	VOC	HCl
12:25	GMW-1	1 L PLASTIC	METALS	HNO_3
12:25	GMW-1	1 L PLASTIC	CN	NaOH

Comments on Sample:

Signature

GROUND-WATER SAMPLING FIELD DATA SHEET

GENERAL

Well No.: GMW-3 Date/Time: 9-28-99

Site Name: YALE SECURITY Weather: CLOUDS

Sampling Team: AINSWORTH

Casing Type: PVC Inner Casing Diameter: 4"

Condition of Well (lock, casing, etc): GOOD, LOCKED

WELL DEPTH AND PURGE INFORMATION

DTW[1]: 16.77 DTB[1]: 32.60

Water Column Length: 15.83 Water Volume in Casing[2]: 10.2

Method of Purging: BAILER Purge Volume Required: 30.6

Volume Purged: 14.0 Organic Vapors (HNu, OVA):

Duration of Purging: 20 MINUTES

Observations (odor, color, phases): DK BROWN, HEAVY TURBIDITY, NO ODOR

Comments:

[1] From top of inner casing [2] 2" well = 0.16 gal/ft. 4" well = 0.65 gal/ft.

IN-SITU MEASUREMENTS

	Time	Temp (units)	pH	S.C. (units)
Initial	9:20	20.2	6.06	120
Beginning purge	9:30	18.6	6.12	130
Middle purge				
End purge				

SAMPLE INFORMATION

Time Allowed for Recovery: 2 HR 45 MIN Metals Filtered? NO

Sampling Date/Time: 9-28 12:15 Weather: SUNNY

DTW[1]: – Method of Sampling: BAILER

Time	Sample No.	Container Type	Parameter	Preservative
12:15	GMW-3	40 mL VIALS	VOC	HCl
12:15	GMW-3	1 L PLASTIC	~~[illegible]~~ METALS	~~[illegible]~~ HNO_3
12:15	GMW-3	1 L PLASTIC	~~[illegible]~~ CN	~~[illegible]~~ NaOH

Comments on Sample:

Signature

GROUND-WATER SAMPLING FIELD DATA SHEET

GENERAL

Well No.: GMW-4 Date/Time: 9-28-99

Site Name: YALE SECURITY Weather: CLOUDS

Sampling Team: AINSWORTH

Casing Type: PVC Inner Casing Diameter: 4"

Condition of Well (lock, casing, etc): GOOD, LOCKED

WELL DEPTH AND PURGE INFORMATION

DTW[1]: 13.83 DTB[1]: 29.25

Water Column Length: 15.42 Water Volume in Casing[2]: 10.0

Method of Purging: BAILER Purge Volume Required: 30.0

Volume Purged: 12.5 Organic Vapors (HNu, OVA): —

Duration of Purging: 20 MINUTE

Observations (odor, color, phases): BROWN, MODERATE TURB., SLIGHT ODOR

Comments:

[1] From top of inner casing [2] 2" well = 0.16 gal/ft. 4" well = 0.65 gal/ft.

IN-SITU MEASUREMENTS

	Time	Temp (units)	pH	S.C. (units)
Initial	8:32	18.8	5.90	120
Beginning purge	8:46	19.0	5.94	70
Middle purge				
End purge				

SAMPLE INFORMATION

Time Allowed for Recovery: 3 HR Metals Filtered? NO

Sampling Date/Time: 9-28 11:45 Weather: SUNNY

DTW[1]: — Method of Sampling: BAILER

Time	Sample No.	Container Type	Parameter	Preservative
11:45	GMW-4	40 mL VIALS	VOC	HCl
11:45	GMW-4	1 L PLASTIC	~~[illegible]~~ METALS	HNO3
11:45	GMW-4	1 L PLASTIC	~~[illegible]~~ CN	NaOH

Comments on Sample:

Signature

GROUND-WATER SAMPLING FIELD DATA SHEET

GENERAL

Well No.: GMW-5P

Date/Time: 9-28-99

Site Name: YALE SECURITY

Weather: CLOUDS

Sampling Team: AINSWORTH

Casing Type: PVC

Inner Casing Diameter: 2"

Condition of Well (lock, casing, etc): GOOD, LOCKED

WELL DEPTH AND PURGE INFORMATION

DTW[1]: 15.59

DTB[1]: 33.30

Water Column Length: 17.71

Water Volume in Casing[2]: ~~11.5~~ 2.8

Method of Purging: BAILER

Purge Volume Required: ~~34.5~~ 8.4

Volume Purged: 3.0

Organic Vapors (HNu, OVA): –

Duration of Purging: 4 MINUTES

Observations (odor, color, phases): CLEAR, NO ODOR

Comments: –

[1] From top of inner casing [2] 2" well = 0.16 gal/ft. 4" well = 0.65 gal/ft.

IN-SITU MEASUREMENTS

	Time	Temp (units)	pH	S.C. (units)
Initial	8:20	18.4	6.10	260
Beginning purge	8:24	17.5	6.13	210
Middle purge				
End purge				

SAMPLE INFORMATION

Time Allowed for Recovery: 4 HR 5 MIN.

Metals Filtered? NO

Sampling Date/Time: 9-25 12:30

Weather: SUNNY

DTW[1]: –

Method of Sampling: BAILER

Time	Sample No.	Container Type	Parameter	Preservative
12:30	GMW-5P	40 mL VIAL	VOC	HCl
12:30	GMW-5P	1 L PLASTIC	METALS	HNO_3
12:30	GMW-5P	1 L PLASTIC	CN	NaOH

Comments on Sample:

Chris Ainsworth

Signature

GROUND-WATER SAMPLING FIELD DATA SHEET

GENERAL

Well No.: GMW-6 Date/Time: 9-28-99

Site Name: YALE SECURITY Weather: CLOUDS

Sampling Team: AINSWORTH

Casing Type: PVC Inner Casing Diameter: 2"

Condition of Well (lock, casing, etc): GOOD, LOCKED

WELL DEPTH AND PURGE INFORMATION

DTW[1]: 15.38 DTB[1]: 33.55

Water Column Length: 18.17 Water Volume in Casing[2]: 2.9

Method of Purging: BAILER Purge Volume Required: 8.7

Volume Purged: 3.5 Organic Vapors (HNu, OVA): _____

Duration of Purging: 5 MINUTES

Observations (odor, color, phases): BROWN, HEAVY TURBIDITY, NO ODOR

Comments: _____

[1] From top of inner casing [2] 2" well = 0.16 gal/ft. 4" well = 0.65 gal/ft.

IN-SITU MEASUREMENTS

	Time	Temp (units)	pH	S.C. (units)
Initial	9:10	18.8	6.11	310
Beginning purge	9:15	18.6	6.22	300
Middle purge				
End purge				

SAMPLE INFORMATION

Time Allowed for Recovery: 2 HR 50 MIN Metals Filtered? NO

Sampling Date/Time: 9-28 12:05 Weather: SUNNY

DTW[1]: — Method of Sampling: BAILER

Time	Sample No.	Container Type	Parameter	Preservative
12:05	GMW-6	40 mL VIALS	VOC	HCl
12:05	GMW-6	1 L PLASTIC	METALS	HNO_3
12:05	GMW-6	1 L PLASTIC	CN	NaOH

Comments on Sample: _____

Chris Ainsworth

Signature

GROUND-WATER SAMPLING FIELD DATA SHEET

GENERAL

Well No.: GMW-12 Date/Time: 9-28-99

Site Name: YALE SECURITY Weather: CLOUDS

Sampling Team: AINSWORTH

Casing Type: PVC Inner Casing Diameter: 2"

Condition of Well (lock, casing, etc): GOOD, LOCKED

WELL DEPTH AND PURGE INFORMATION

DTW[1]: 17.98 DTB[1]: 32.75

Water Column Length: 14.77 Water Volume in Casing[2]: 2.4

Method of Purging: BAILER Purge Volume Required: 7.2

Volume Purged: 3.5 Organic Vapors (HNu, OVA): —

Duration of Purging: 10 MINUTES

Observations (odor, color, phases): YELLOWISH BROWN, MOD. TURBIDITY, SLIGHT ODOR

Comments:

[1] From top of inner casing [2] 2" well = 0.16 gal/ft. 4" well = 0.65 gal/ft.

IN-SITU MEASUREMENTS

	Time	Temp (units)	pH	S.C. (units)
Initial	9:00	18.7	5.90	160
Beginning purge	9:05	18.1	5.85	160
Middle purge				
End purge				

SAMPLE INFORMATION

Time Allowed for Recovery: 2 HR 45 MIN Metals Filtered? NO

Sampling Date/Time: 9-28 11:50 Weather: SUNNY

DTW[1]: — Method of Sampling: BAILER

Time	Sample No.	Container Type	Parameter	Preservative
11:50	GMW-12	40 mL VIALS	VOC	HCl
11:50	GMW-12	1 L PLASTIC	METALS	HNO_3
11:50	GMW-12	1 L PLASTIC	CN	NaOH

Comments on Sample: DUPLICATE

Signature

APPENDIX C

Laboratory Analytical Report

OPERATIONS LABORATORY SERVICES CONSULTATION

ANALYTICAL INDUSTRIAL RESEARCH LABORATORY

1550 37TH STREET, NE
CLEVELAND, TENNESSEE 37312
(423) 476-7766

LAB. NO.:990930-12256

CUSTOMER: 3374
GZA GEOENVIRONMENTAL, INC.
W225 N4140 DUPLAINVILLE
PEWAUKEE, WI 53072

DATE RECD. : 09/30/99
SAMPLE DATE: 09/28/99

ATTENTION:BERNARD FENELON
(414) 691-2662 FAX:691-9279

DATE REQUESTED : 10/14/99
CUST P.O.:

SAMPLE :YALE SECURITY, LENOIR CITY
:DUPLICATE

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

ANALYSIS

			M.D.L.	Methods	Date	Initial
Cyanide	<0.02	mg/L	0.02	335.2	10/04/99	QG
TOTAL METALS:						
Cadmium	<0.004	mg/L	0.004	200.7	10/07/99	JD
Chromium	3.56	mg/L	0.007	200.7	10/07/99	JD
Copper	<0.006	mg/L	0.006	200.7	10/07/99	JD
Beryllium	<0.003	mg/L	0.003	200.7	10/07/99	JD
Nickel	0.026	mg/L	0.015	200.7	10/07/99	JD
Trichloroethene	28	ug/L	5	8260	10/12/99	TRB
Vinyl Chloride	<5	ug/L	5	8260	10/12/99	TRB
trans-1,2-dichloroethene ..	<5	ug/L	5	8260	10/12/99	TRB
cis-1,2-dichloroethene	7	ug/L	5	8260	10/12/99	TRB
Tetrachloroethene	<5	ug/L	5	8260	10/12/99	TRB
1,1-dichloroethane	<5	ug/L	5	8260	10/12/99	TRB
1,1-dichloroethene	<5	ug/L	5	8260	10/12/99	TRB
1,1,1-trichloroethane	<5	ug/L	5	8260	10/12/99	TRB
1,2-dichlorobenzene	<5	ug/L	5	8260	10/12/99	TRB
1,4-dichlorobenzene	<5	ug/L	5	8260	10/12/99	TRB

Notes:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

We hereby certify that the analytical procedures employed are those approved by the Environmental Protection Agency or other applicable methods for these analyses.

ANALYTICAL INDUSTRIAL RESEARCH LABORATORIES

By ____________________

OPERATIONS LABORATORY SERVICES CONSULTATION

ANALYTICAL INDUSTRIAL RESEARCH LABORATORY

1550 37TH STREET, NE
CLEVELAND, TENNESSEE 37312
(423) 476-7766

LAB. NO.:990930-12255

CUSTOMER: 3374
GZA GEOENVIRONMENTAL, INC.
W225 N4140 DUPLAINVILLE
PEWAUKEE, WI 53072

DATE RECD. : 09/30/99
SAMPLE DATE: 09/28/99

ATTENTION:BERNARD FENELON
(414) 691-2662 FAX:691-9279

DATE REQUESTED : 10/14/99
CUST P.O.:

SAMPLE :YALE SECURITY, LENOIR CITY
:GMW-12 WATER

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

ANALYSIS

			M.D.L.	Methods	Date	Initial
Cyanide	<0.02	mg/L	0.02	335.2	10/04/99	QG
TOTAL METALS:						
Cadmium	<0.004	mg/L	0.004	200.7	10/04/99	JD
Chromium	3.68	mg/L	0.007	200.7	10/04/99	JD
Copper	<0.006	mg/L	0.006	200.7	10/04/99	JD
Beryllium	<0.003	mg/L	0.003	200.7	10/04/99	JD
Nickel	0.039	mg/L	0.015	200.7	10/04/99	JD
Trichloroethene	26	ug/L	5	8260	10/12/99	TRB
Vinyl Chloride	<5	ug/L	5	8260	10/12/99	TRB
trans-1,2-dichloroethene ..	<5	ug/L	5	8260	10/12/99	TRB
cis-1,2-dichloroethene	7	ug/L	5	8260	10/12/99	TRB
Tetrachloroethene	<5	ug/L	5	8260	10/12/99	TRB
1,1-dichloroethane	<5	ug/L	5	8260	10/12/99	TRB
1,1-dichloroethene	<5	ug/L	5	8260	10/12/99	TRB
1,1,1-trichloroethane	<5	ug/L	5	8260	10/12/99	TRB
1,2-dichlorobenzene	<5	ug/L	5	8260	10/12/99	TRB
1,4-dichlorobenzene	<5	ug/L	5	8260	10/12/99	TRB

Notes:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

We hereby certify that the analytical procedures employed are those approved by the Environmental Protection Agency or other applicable methods for these analyses.

ANALYTICAL INDUSTRIAL RESEARCH LABORATORIES

By Roy R. Patterson

OPERATIONS LABORATORY SERVICES CONSULTATION

ANALYTICAL INDUSTRIAL RESEARCH LABORATORY

1550 37TH STREET, NE
CLEVELAND, TENNESSEE 37312
(423) 476-7766

LAB. NO.:990930-12254

CUSTOMER: 3374
GZA GEOENVIRONMENTAL, INC.
W225 N4140 DUPLAINVILLE
PEWAUKEE, WI 53072

DATE RECD. : 09/30/99
SAMPLE DATE: 09/28/99

ATTENTION:BERNARD FENELON
(414) 691-2662 FAX:691-9279

DATE REQUESTED : 10/14/99
CUST P.O.:

SAMPLE :YALE SECURITY, LENOIR CITY
:GMW-6 WATER

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

ANALYSIS

			M.D.L.	Methods	Date	Initial
Cyanide	<0.02	mg/L	0.02	335.2	10/04/99	QG
TOTAL METALS:						
Cadmium	<0.004	mg/L	0.004	200.7	10/04/99	JD
Chromium	<0.007	mg/L	0.007	200.7	10/04/99	JD
Copper	0.031	mg/L	0.006	200.7	10/04/99	JD
Beryllium	<0.003	mg/L	0.003	200.7	10/04/99	JD
Nickel	<0.015	mg/L	0.015	200.7	10/04/99	JD
Trichloroethene	<5	ug/L	5	8260	10/11/99	TRB
Vinyl Chloride	<5	ug/L	5	8260	10/11/99	TRB
trans-1,2-dichloroethene ..	<5	ug/L	5	8260	10/11/99	TRB
cis-1,2-dichloroethene	<5	ug/L	5	8260	10/11/99	TRB
Tetrachloroethene	<5	ug/L	5	8260	10/11/99	TRB
1,1-dichloroethane	<5	ug/L	5	8260	10/11/99	TRB
1,1-dichloroethene	<5	ug/L	5	8260	10/11/99	TRB
1,1,1-trichloroethane	<5	ug/L	5	8260	10/11/99	TRB
1,2-dichlorobenzene	<5	ug/L	5	8260	10/11/99	TRB
1,4-dichlorobenzene	<5	ug/L	5	8260	10/11/99	TRB

Notes:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

We hereby certify that the analytical procedures employed are those approved by the Environmental Protection Agency or other applicable methods for these analyses.

ANALYTICAL INDUSTRIAL RESEARCH LABORATORIES

By Gary R. Patterson

OPERATIONS LABORATORY SERVICES CONSULTATION

ANALYTICAL INDUSTRIAL RESEARCH LABORATORY

1550 37TH STREET, NE
CLEVELAND, TENNESSEE 37312
(423) 476-7766

LAB. NO.:990930-12253

CUSTOMER: 3374
GZA GEOENVIRONMENTAL, INC.
W225 N4140 DUPLAINVILLE
PEWAUKEE, WI 53072

DATE RECD. : 09/30/99
SAMPLE DATE: 09/28/99

ATTENTION:BERNARD FENELON
(414) 691-2662 FAX:691-9279

DATE REQUESTED : 10/14/99
CUST P.O.:

SAMPLE :YALE SECURITY, LENOIR CITY
:GMW-5P WATER

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

ANALYSIS

			M.D.L.	Methods	Date	Initial
Cyanide	<0.02	mg/L	0.02	335.2	10/04/99	QG
TOTAL METALS:						
Cadmium	<0.004	mg/L	0.004	200.7	10/07/99	JD
Chromium	<0.007	mg/L	0.007	200.7	10/07/99	JD
Copper	<0.006	mg/L	0.006	200.7	10/07/99	JD
Beryllium	<0.003	mg/L	0.003	200.7	10/07/99	JD
Nickel	<0.015	mg/L	0.015	200.7	10/07/99	JD
Trichloroethene	<5	ug/L	5	8260	10/11/99	TRB
Vinyl Chloride	<5	ug/L	5	8260	10/11/99	TRB
trans-1,2-dichloroethene ..	<5	ug/L	5	8260	10/11/99	TRB
cis-1,2-dichloroethene	25	ug/L	5	8260	10/11/99	TRB
Tetrachloroethene	<5	ug/L	5	8260	10/11/99	TRB
1,1-dichloroethane	<5	ug/L	5	8260	10/11/99	TRB
1,1-dichloroethene	<5	ug/L	5	8260	10/11/99	TRB
1,1,1-trichloroethane	<5	ug/L	5	8260	10/11/99	TRB
1,2-dichlorobenzene	<5	ug/L	5	8260	10/11/99	TRB
1,4-dichlorobenzene	<5	ug/L	5	8260	10/11/99	TRB

Notes:

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We hereby certify that the analytical procedures employed are those approved by the Environmental Protection Agency or other applicable methods for these analyses.

ANALYTICAL INDUSTRIAL RESEARCH LABORATORIES

By [signature]

OPERATIONS LABORATORY SERVICES CONSULTATION

ANALYTICAL INDUSTRIAL RESEARCH LABORATORY

1550 37TH STREET, NE
CLEVELAND, TENNESSEE 37312
(423) 476-7766

LAB. NO.:990930-12252

CUSTOMER: 3374
GZA GEOENVIRONMENTAL, INC.
W225 N4140 DUPLAINVILLE
PEWAUKEE, WI 53072

DATE RECD. : 09/30/99
SAMPLE DATE: 09/28/99

ATTENTION:BERNARD FENELON
(414) 691-2662 FAX:691-9279

DATE REQUESTED : 10/14/99
CUST P.O.:

SAMPLE :YALE SECURITY, LENOIR CITY
:GMW-4 WATER

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

ANALYSIS

			M.D.L.	Methods	Date	Initial
Cyanide	<0.02	mg/L	0.02	335.2	10/04/99	QG
TOTAL METALS:						
Cadmium	<0.004	mg/L	0.004	200.7	10/04/99	JD
Chromium	<0.007	mg/L	0.007	200.7	10/04/99	JD
Copper	<0.006	mg/L	0.006	200.7	10/04/99	JD
Beryllium	<0.003	mg/L	0.003	200.7	10/04/99	JD
Nickel	<0.015	mg/L	0.015	200.7	10/04/99	JD
Trichloroethene	6	ug/L	5	8260	10/11/99	TRB
Vinyl Chloride	<5	ug/L	5	8260	10/11/99	TRB
trans-1,2-dichloroethene ..	<5	ug/L	5	8260	10/11/99	TRB
cis-1,2-dichloroethene	<5	ug/L	5	8260	10/11/99	TRB
Tetrachloroethene	<5	ug/L	5	8260	10/11/99	TRB
1,1-dichloroethane	<5	ug/L	5	8260	10/11/99	TRB
1,1-dichloroethene	<5	ug/L	5	8260	10/11/99	TRB
1,1,1-trichloroethane	<5	ug/L	5	8260	10/11/99	TRB
1,2-dichlorobenzene	<5	ug/L	5	8260	10/11/99	TRB
1,4-dichlorobenzene	<5	ug/L	5	8260	10/11/99	TRB

Notes:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

We hereby certify that the analytical procedures employed are those approved by the Environmental Protection Agency or other applicable methods for these analyses.

ANALYTICAL INDUSTRIAL RESEARCH LABORATORIES

By Roy R Patterson

OPERATIONS LABORATORY SERVICES CONSULTATION

ANALYTICAL INDUSTRIAL RESEARCH LABORATORY

1550 37TH STREET, NE
CLEVELAND, TENNESSEE 37312
(423) 476-7766

LAB. NO.:990930-12251

CUSTOMER: 3374
GZA GEOENVIRONMENTAL, INC.
W225 N4140 DUPLAINVILLE
PEWAUKEE, WI 53072

DATE RECD. : 09/30/99
SAMPLE DATE: 09/28/99

ATTENTION:BERNARD FENELON
(414) 691-2662 FAX:691-9279

DATE REQUESTED : 10/14/99
CUST P.O.:

SAMPLE :YALE SECURITY, LENOIR CITY
:GMW-3 WATER

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

ANALYSIS

			M.D.L.	Methods	Date	Initial
Cyanide	<0.02	mg/L	0.02	335.2	10/04/99	QG
TOTAL METALS:						
Cadmium	<0.004	mg/L	0.004	200.7	10/04/99	JD
Chromium	<0.007	mg/L	0.007	200.7	10/04/99	JD
Copper	0.011	mg/L	0.006	200.7	10/04/99	JD
Beryllium	<0.003	mg/L	0.003	200.7	10/04/99	JD
Nickel	<0.015	mg/L	0.015	200.7	10/04/99	JD
Trichloroethene	12	ug/L	5	8260	10/11/99	TRB
Vinyl Chloride	<5	ug/L	5	8260	10/11/99	TRB
trans-1,2-dichloroethene ..	<5	ug/L	5	8260	10/11/99	TRB
cis-1,2-dichloroethene	<5	ug/L	5	8260	10/11/99	TRB
Tetrachloroethene	<5	ug/L	5	8260	10/11/99	TRB
1,1-dichloroethane	<5	ug/L	5	8260	10/11/99	TRB
1,1-dichloroethene	<5	ug/L	5	8260	10/11/99	TRB
1,1,1-trichloroethane	<5	ug/L	5	8260	10/11/99	TRB
1,2-dichlorobenzene	<5	ug/L	5	8260	10/11/99	TRB
1,4-dichlorobenzene	<5	ug/L	5	8260	10/11/99	TRB

Notes:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

We hereby certify that the analytical procedures employed are those approved by the Environmental Protection Agency or other applicable methods for these analyses.

ANALYTICAL INDUSTRIAL RESEARCH LABORATORIES

By Roy R Patterson

OPERATIONS LABORATORY SERVICES CONSULTATION

ANALYTICAL INDUSTRIAL RESEARCH LABORATORY

1550 37TH STREET, NE
CLEVELAND, TENNESSEE 37312
(423) 476-7766

LAB. NO.:990930-12250

CUSTOMER: 3374
GZA GEOENVIRONMENTAL, INC.
W225 N4140 DUPLAINVILLE
PEWAUKEE, WI 53072

DATE RECD. : 09/30/99
SAMPLE DATE: 09/28/99

ATTENTION:BERNARD FENELON
(414) 691-2662 FAX:691-9279

DATE REQUESTED : 10/14/99
CUST P.O.:

SAMPLE :YALE SECURITY, LENOIR CITY
:GMW-1 WATER

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

ANALYSIS

			M.D.L.	Methods	Date	Initial
Cyanide	<0.02	mg/L	0.02	335.2	10/04/99	QG
TOTAL METALS:						
Cadmium	<0.004	mg/L	0.004	200.7	10/04/99	JD
Chromium	0.009	mg/L	0.007	200.7	10/04/99	JD
Copper	<0.006	mg/L	0.006	200.7	10/04/99	JD
Beryllium	<0.003	mg/L	0.003	200.7	10/04/99	JD
Nickel	<0.015	mg/L	0.015	200.7	10/04/99	JD
Trichloroethene	<5	ug/L	5	8260	10/11/99	TRB
Vinyl Chloride	<5	ug/L	5	8260	10/11/99	TRB
trans-1,2-dichloroethene ..	<5	ug/L	5	8260	10/11/99	TRB
cis-1,2-dichloroethene	<5	ug/L	5	8260	10/11/99	TRB
Tetrachloroethene	<5	ug/L	5	8260	10/11/99	TRB
1,1-dichloroethane	<5	ug/L	5	8260	10/11/99	TRB
1,1-dichloroethene	<5	ug/L	5	8260	10/11/99	TRB
1,1,1-trichloroethane	<5	ug/L	5	8260	10/11/99	TRB
1,2-dichlorobenzene	<5	ug/L	5	8260	10/11/99	TRB
1,4-dichlorobenzene	<5	ug/L	5	8260	10/11/99	TRB

Notes:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

We hereby certify that the analytical procedures employed are those approved by the Environmental Protection Agency or other applicable methods for these analyses.

ANALYTICAL INDUSTRIAL RESEARCH LABORATORIES

By Roy R. Patterson

OPERATIONS LABORATORY SERVICES CONSULTATION

ANALYTICAL INDUSTRIAL RESEARCH LABORATORY

1550 37TH STREET, NE
CLEVELAND, TENNESSEE 37312
(423) 476-7766

LAB. NO.:990930-12263

CUSTOMER: 3374
GZA GEOENVIRONMENTAL, INC.
W225 N4140 DUPLAINVILLE
PEWAUKEE, WI 53072

DATE RECD. : 09/30/99
SAMPLE DATE: 09/28/99

ATTENTION:BERNARD FENELON
(414) 691-2662 FAX:691-9279

DATE REQUESTED : 10/14/99
CUST P.O.:

SAMPLE :YALE SECURITY, LENOIR CITY
:TRIP BLANK

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

ANALYSIS

			M.D.L.	Methods	Date	Initial
Trichloroethene	<5.0	ug/L	5	8260	10/12/99	TRB
Vinyl Chloride	<5.0	ug/L	5	8260	10/12/99	TRB
trans-1,2-dichloroethene ..	<5.0	ug/L	5	8260	10/12/99	TRB
cis-1,2-dichloroethene	<5.0	ug/L	5	8260	10/12/99	TRB
Tetrachloroethene	<5.0	ug/L	5	8260	10/12/99	TRB
1,1-dichloroethane	<5.0	ug/L	5	8260	10/12/99	TRB
1,1-dichloroethene	<5.0	ug/L	5	8260	10/12/99	TRB
1,1,1-trichloroethane	<5.0	ug/L	5	8260	10/12/99	TRB
1,2-dichlorobenzene	<5.0	ug/L	5	8260	10/12/99	TRB
1,4-dichlorobenzene	<5.0	ug/L	5	8260	10/12/99	TRB

Notes:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

We hereby certify that the analytical procedures employed are those approved by the Environmental Protection Agency or other applicable methods for these analyses.

ANALYTICAL INDUSTRIAL RESEARCH LABORATORIES

By ______________________________

ANALYTICAL INDUSTRIAL
RESEARCH LABORATORIES, INC.
1550 37th STREET, NE
CLEVELAND, TN 37312
(423) 476-7766 Tel.
(423) 476-7714 Fax

Report To:
BERNARD FENELON
G2A GEOENVIRONMENTAL, INC.
W225 N4140 DUPLAINVILLE ROAD
PEWAUKEE, WI 53072

Invoice To:
G2A GEOENVIRONMENTAL, INC.

12250 - 12257

Chain of Custody Record

Page 1 of 2

PROJECT SITE:
PO#:
SITE NAME: YALE SECURITY
COLLECTED BY (Signature): Chris Answorth
PROJECT #:
DATE REPORT DUE:
VERBAL/FAX/HARDCOPY:

ANALYSES: VOC (8260), METALS (200.7), CYANIDE (335.2)

	FIELD SAMPLE ID	RUSH FACTOR	SAMPLE	DATE/ TIME	NO. OF CONTAINERS	VOC (8260)	METALS (200.7)	CYANIDE (335.2)	REMARKS	LAB ID NO. (for lab use only)	RCI / Pres. / pH
50	GMW-1	NO	GW	9/29/99 12:25		X	X	X	METALS - BERYLLIUM		A - NaOH >1
51	GMW-3			12:15					CADMIUM		- HNO3 <2
52	GMW-4			11:45					CHROMIUM		- HCL -
53	GMW-5P			12:30					COPPER		
54	GMW-6			12:05					NICKEL		
55	GMW-12			11:50							
56	DUPLICATE			—							
57	TRIP BLANK			—							

REMARKS: VOC - TCE, VINYL CHLORIDE, CIS 1,2 DCE, TRANS 1,2 DCE, PCE, 1,1 DCA, 1,1 DCE, 1,1,1 TCA, 1,2 DCB, 1,4 DCB

RELINQUISHED BY: Chris Answorth — DATE 9/29/99 — TIME 1400

RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME
Ben Sutterfield	9/29/99	1400	Ben Sutterfield	9/30/99	1200						

DISPOSAL BY LABORATORY ☐ RETURN TO ORIGINATOR ☐ ARCHIVE _____ MONTHS ☐

LAB USE ONLY

RECEIVED FOR LAB BY:	DATE	TIME	AIRBILL NO.	OPENED BY:	DATE	TIME	TEMP °C	SEAL #	CONDITION:
[illegible]	9/30/99	1200							

REMARKS:

KA