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PROFESSIONAL GROUND-WATER AND ENVIRONMENTAL ENGINEERING SERVICES

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August 2, 2001

Mr. Jason Chan
Minnesota Pollution Control Agency
1800 College Road South
Baxter, MN 56425

RE: April 2001 Ground-Water Monitoring Event
DeZurik/City of Sartell Hazardous Waste Lagoon #3

Dear Mr. Chan:

Leggette, Brashears & Graham, Inc. (LBG) has completed the April 2001 ground-water monitoring and sampling event at the DeZurik Sanitary Landfill. The purpose of this letter is to summarize and submit the data to the Minnesota Pollution Control Agency (MPCA) on behalf of the City of Sartell. These data were obtained and are reported in accordance with hazardous waste permit dated September 29, 1994.

Work Completed

On April 18, 2001, LBG collected fluid-level data and ground-water samples from the monitor wells in accordance with the required ground-water monitoring schedule. Figure 1 shows the monitor well locations and Table 1 summarizes the fluid-level measurements and calculated elevations for each well. Figure 1 shows the water-table elevation contours for this monitoring event.

Ground-water samples were collected from the monitor wells on the April sampling schedule and were re-sampled in July 2001. Field sampling data sheets are provided in Appendix I. The samples were submitted to Energy Laboratories in Rapid City, South Dakota for analysis of inorganics, nutrients, and trace metals. The laboratory analytical report is provided in Appendix II.

RAMSEY, NEW JERSEY

ST. PAUL, MINNESOTA

TAMPA, FLORIDA

TRUMBULL, CONNECTICUT

WEST CHESTER, PENNSYLVANIA

CHELMSFORD, MASSACHUSETTS.

WHITE PLAINS, NEW YORK

AUSTIN, TEXAS

MADISON, WISCONSIN

HOUSTON, TEXAS

Problems or Delays and Solutions

There were no notable problems or delays during the sampling event. All wells were sampled as specified in the monitoring plan. Due to matrix interferences in the samples, the detection limits for several of the dissolved metals were elevated. Please refer to the analytical report for a detailed explanation of the detection limit issue. Because of the elevated detection limits, the wells were re-sampled and analyzed for dissolved metals on July 25 and 26, 2001. The results of the re-sampling are presented below.

Anticipated Work Schedule

The next monitoring and sampling event is scheduled for October 2001.

Sampling and Analytical Results

Figure 1 shows that ground-water flows generally to the southeast. This is normal for the site. No anomalies in the fluid-level data are apparent.

A summary of the detected parameters from the April 2001 event and the re-sampling are provided on Table 2. Of the hazardous constituents to which the ground-water protection standards apply (arsenic, barium, cadmium, lead and selenium, Table 3), only barium and selenium were detected.

Barium was detected in all the wells in both sampling events. The concentrations of barium are below the regulatory limits and the site-specific calculated Tolerance Limit.

Selenium was measured at the detection limit of 0.10 mg/L in the April 2001 sampling in P-5R, P-9R and the duplicate sample (P-13). Selenium was not detected in any of the wells in the re-sampling with a detection limit of 0.005 mg/L, which is below the site-specific calculated Tolerance Limit of 0.0074 mg/L. Given the analytical problems related to matrix interferences, and the non-

detection of selenium in the re-sampling, the detections of selenium in the April event do not warrant further action.

Recommendations

No changes to the monitoring program are warranted at this time. The continuation of ground-water monitoring as directed by the MPCA is recommended.

Sincerely,

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GEOLOGIST

I hereby certify that this plan, document, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Geologist under the laws of the State of Minnesota

Print Name: Timothy L. Kenyon

Signature: 

Date: 8/2/01 License # 30512

Tim Kenyon, PG
Associate

Reviewed by:



Bradley J. Peschong, PG
Senior Hydrogeologist

Tk/kak

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cc: Mr. Bob Haarman
Mr. Lee Walz
Mr. Keith Sowada

TABLE 1
Water Elevations
DeZurik Hazardous Waste Lagoon #3

DATE	P-5A	P-5R	P-9R	P-12	P-12R	P-13
04/04/1990	1020.83					
06/26/1990	1021.79		1020.74	1021.81		1025.77
10/02/1990	1023.15		1023.05	1023.31		1026.18
12/18/1990	1023.13		1023.25	1023.41		1026.23
04/04/1991	1022.69		1022.79	1022.95		1026.14
07/31/1991	1024.29		1024.43	1024.5		1026.45
10/31/1991	1025.11		1024.97	1025.07		1026.48
04/23/1992	1024.22		1024.36	1024.34		1026.46
10/21/1992	1024.25		1024.28			
04/20/1993	1023.05		1022.94	1023.11		1026
10/27/1993	1025.29	1026.14	1025.2		1025.37	1026.98
04/20/1994	1024.56	1024.73	1024.56		1024.75	1026.59
07/11/1994			1025.52			
10/17/1994	1025.38	1025.47	1025.34		1025.44	1027.04
04/11/1995	1024.50	1024.79	1025.01		1024.80	1026.75
10/09/1995	1025.39	1025.63	1025.52		1025.53	1026.98
04/17/1996	1024.70	1024.94	1024.83		1024.97	1026.59
10/15/1996	1024.26	1024.4	1024.25		1024.37	1026.47
04/15/1997	1024.11	1024.35	1024.22		1024.23	1026.45
10/14/1997	1025.8	1026.04	1025.81		1025.91	1027.27
04/13/1998	1024.67	1024.84	1024.69		1024.84	1026.44
10/06/1998	1024.48	1024.62	1024.47		1024.63	1026.37
04/27/1999		1023.63	1023.48		1023.64	1026.1
10/27/1999		1023.93	1023.81		1023.93	1026.24
04/25/2000		1023	1022.96		1023	1026.22
10/23/2000		1022.17	1022.01		1022.18	1026.08
04/18/2001		1022.12	1021.97		1022.1	1025.94

blank = not sampled

TABLE 2

DEZURIK HAZARDOUS WASTE LAGOON #3
SARTELL, MINNESOTA

Water Quality Data Summary - Detected Parameters

Analyte	Units	P-9R	P-9R Resample	P-13	Duplicate (P-13)	P-13 Resample	P-5R	P-5R Resample	Duplicate Resample (P-5R)	P-12R	P-12R Resample
		18-Apr-01	25-Jul-01	18-Apr-01	18-Apr-01	26-Jul-01	18-Apr-01	26-Jul-01	26-Jul-01	18-Apr-01	26-Jul-01
Total Organic Carbon	mg/L	1.7		1.3	1.2		2.5			2.3	
Chloride	mg/L	29		21	22		33			38	
Conductivity	umhos/cm	977		742	744		1290			927	
Chemical Oxygen Demand	mg/L	19		32	18		15			29	
pH	su	7.57		7.58	7.56		7.4			7.64	
Sodium	mg/L	13		5	5		41			12	
Total Dissolved Solids	mg/L	560		430	400		820			520	
Sulfate	mg/L	91		58	51		254			102	
Nitrate as N	mg/L	5.82		5.46	5.53		4.52			5.05	
Dissolved Arsenic	mg/L	<0.01	<0.005	<0.01	<0.01	<0.005	<0.01	<0.005	<0.005	<0.01	<0.005
Dissolved Barium	mg/L	0.08	0.079	0.043	0.043	0.042	0.079	0.066	0.071	0.06	0.064
Dissolved Boron	mg/L	0.15	0.1	0.03	0.07	0.036	2.18	1.26	1.27	0.07	0.086
Dissolved Cadmium	mg/L	<0.001	<0.0005	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.001	<0.0005
Dissolved Calcium	mg/L	154		123	121		186			150	
Dissolved Chromium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Iron	mg/L	<0.01	<0.01	<0.01	<0.01	0.04	0.02	0.03	0.02	0.01	<0.01
Dissolved Lead	mg/L	<0.01	<0.002	<0.01	<0.001	<0.002	<0.01	<0.002	<0.002	<0.01	<0.002
Dissolved Magnesium	mg/L	46		28	29		56			37	
Dissolved Manganese	mg/L	0.03	0.03	0.006	0.005	<0.005	0.024	<0.005	<0.005	0.025	0.057
Dissolved Selenium	mg/L	0.01	<0.005	<0.01	0.01	<0.005	0.01	<0.005	<0.005	<0.01	<0.005
Dissolved Zinc	mg/L	0.007	0.028	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

TABLE 3
Summary of Analytical and Statistical Analysis Results
DeZurik Hazardous Waste Lagoon No. 3
(units = µg/L, dissolved)

WELL NUMBER	DATE	ARSENIC	BARIUM	CADMIUM	LEAD	SELENIUM
P-5A	12/27/1989	ND	50	ND	ND	ND
P-5A	06/28/1990	ND	ND	0.5	5	ND
P-5A	10/04/1990	ND	110	ND	ND	ND
P-5A	12/18/1990	ND	80	ND	ND	ND
P-5A	04/04/1991	ND	60	0.4	ND	ND
P-5A	08/01/1991	ND	67	ND	ND	ND
P-5A-1	10/31/1991	ND	63	0.32	ND	ND
P-5A-2	10/31/1991	ND	60	0.43	ND	ND
P-5A-3	10/31/1991	ND	62	0.38	ND	ND
P-5A-4	10/31/1991	ND	62	0.55	ND	ND
P-5A	04/23/1992	ND	56	ND	ND	ND
P-5A	09/30/1992	ND	ND	ND	ND	ND
P-5A	04/20/1993	ND	ND	ND	ND	ND
P-5R	10/27/1993	ND	78	1.4	ND	ND
P-5R	01/10/1994	--	ND	--	--	--
P-5R	04/20/1994	ND	ND	ND	ND	<6.02
P-5R	10/17/1994	ND	ND	ND	ND	ND
P-5R	04/11/1995	ND	ND	ND	ND	ND
P-5R	10/11/1995	ND	52	ND	ND	ND
P-5R	04/17/1996	ND	ND	ND	ND	ND
P-5R	10/16/1996	< 3.0	ND	0.36	< 3.0	< 3.0
P-5R	04/17/1997	< 3.0	50	< 0.30	< 3.0	< 3.0
P-5R	10/16/1997	<3.0	ND	<0.30	<3.0	<3.0
P-5R	04/13/1998	<2	16	<0.2	<1	<3
P-5R	10/06/1998	<2	33	<0.2	<1	<3
P-5R	04/27/1999	<2	131	<0.2	<1	<1
P-5R	10/27/1999	<2	210*	<0.2	<1	<1
P-5R	04/24/2000	<2	204	<0.2	<1	<1
P-5R	10/23/2000	<2	183	<0.2	<1	<1
P-5R	04/18/2001	<10	79	<1	<10	10
P-5R Resample	07/26/2001	<5	66	<0.5	<2	<5
P-5R Resample Dup	07/26/2001	<5	71	<0.5	<2	<5
P-9R	04/04/1991	ND	ND	ND	ND	ND
P-9R	08/01/1991	ND	ND	ND	ND	ND
P-9R-1	10/31/1991	ND	ND	ND	ND	ND
P-94-2	10/31/1991	ND	ND	ND	ND	ND
P-9R-3	10/31/1991	ND	ND	0.3	ND	ND
P-9R-4	10/31/1991	ND	ND	ND	ND	ND
P-9R	04/23/1992	ND	ND	0.19	ND	ND
P-9R	09/30/1992	ND	ND	ND	ND	ND
P-9R	04/20/1993	ND	ND	ND	ND	ND
P-9R	10/27/1993	ND	ND	0.7	ND	ND
P-9R	04/20/1994	ND	ND	ND	ND	<6.02
P-9R	10/17/1994	ND	ND	ND	ND	ND
P-9R	04/11/1995	ND	ND	ND	ND	ND
P-9R	10/10/1995	ND	ND	ND	ND	ND
P-9R	04/17/1996	ND	ND	ND	ND	ND
P-9R	10/16/1996	< 3.0	ND	< 0.30	< 3.0	< 3.0
P-9R	04/16/1997	< 3.0	53	< 0.30	< 3.0	< 3.0
P-9R	10/15/1997	<3.0	61	1.4	<3.0	<3.0
P-9R	04/10/1998	<2	17	0.7	2	<3
P-9R	10/06/1998	<2	46	<0.2	<1	<3
P-9R	04/27/1999	<2	191	<0.2	1.4	<1

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DeZurik Hazardous Waste Lagoon No. 3
(units = µg/L, dissolved)

WELL NUMBER	DATE	ARSENIC	BARIUM	CADMIUM	LEAD	SELENIUM
P-9R	10/27/1999	<2	126*	0.35	<1	<1
P-9R	04/25/2000	<2	99	0.26	<1	<1
P-9R	10/23/2000	<2	115	<0.2	<1	<1
P-9R	04/18/2001	<10	80	<1	<10	10
P-9R Resample	07/25/2001	<5	79	<0.5	<2	<5
P-12	04/04/1991	ND	ND	ND	ND	ND
P-12	08/01/1991	ND	ND	0.32	ND	ND
P-12-1	10/31/1991	ND	ND	0.31	ND	ND
P-12-2	10/31/1991	ND	ND	0.33	ND	ND
P-12-3	10/31/1991	ND	ND	ND	ND	ND
P-12-4	10/31/1991	ND	ND	ND	ND	ND
P-12	04/23/1992	ND	ND	ND	ND	ND
P-12	09/30/1992	ND	ND	ND	ND	ND
P-12	04/20/1993	ND	ND	ND	ND	ND
P-12R	10/27/1993	ND	ND	13	ND	ND
P-12R	01/10/1994	--	--	ND	--	--
P-12R	04/20/1994	ND	ND	ND	ND	<6.02
P-12R	10/17/1994	ND	ND	ND	ND	ND
P-12R	04/11/1995	ND	ND	ND	ND	ND
P-12R	10/10/1995	ND	ND	ND	5.2	ND
P-12R	04/17/1996	ND	ND	ND	ND	ND
P-12R	10/16/1996	< 3.0	ND	0.63	< 3.0	< 3.0
P-12R	04/17/1997	< 3.0	ND	< 0.30	< 3.0	< 3.0
P-12R	10/16/1997	<3.0	ND	<0.30	<3.0	<3.0
P-12R	04/13/1998	<2	9	<0.2	<1	<3
P-12R	10/06/1998	<2	30	<0.2	<1	<3
P-12R	04/27/1999	<2	54	<0.2	<1	<1
P-12R	10/27/1999	<2	159*	<0.2	<1	<1
P-12R	04/25/2000	<2	135	<0.2	1.1	<1
P-12R	10/24/2000	<2	185	<0.2	<1	<1
P-12R	04/18/2001	<10	60	<1	<10	<10
P-12R Resample	07/26/2001	<5	64	<0.5	<2	<5
P-13	06/28/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	06/28/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	06/28/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	06/28/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	10/04/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	10/04/1990	< 3.0	60	< 0.3	< 3.0	< 3.0
P-13B	10/04/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	10/04/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	12/18/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	12/18/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	12/18/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13D	12/18/1990	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	04/04/1991	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	08/01/1991	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-1	10/31/1991	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-2	10/31/1991	< 3.0	< 50	0.88	< 3.0	< 3.0
P-13-3	10/31/1991	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-4	10/31/1991	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-1	04/23/1992	< 3.0	< 50	< 0.3	< 3.0	< 3.0

TABLE 3
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(units = µg/L, dissolved)

WELL NUMBER	DATE	ARSENIC	BARIUM	CADMIUM	LEAD	SELENIUM
P-13-2	04/23/1992	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-3	04/23/1992	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-4	04/23/1992	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	09/30/1992	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-1	10/8-9/92	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-2	10/8-9/92	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-3	10/8-9/92	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	04/20/1993	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	04/20/1993	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	04/20/1993	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13D	04/20/1993	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	10/29/1993	< 3.0	< 50	3.3*	< 3.0	< 3.0
P-13B	10/29/1993	< 3.0	< 50	5.5*	< 3.0	< 3.0
P-13C	10/29/1993	< 3.0	< 50	3.9*	< 3.0	< 3.0
P-13D	10/29/1993	< 3.0	< 50	17*	< 3.0	< 3.0
P-13	04/20/1994	< 3.0	< 50	< 0.3	< 3.0	< 6.02
P-13A	04/20/1994	< 3.0	< 50	< 0.3	< 3.0	< 6.02
P-13B	04/20/1994	< 3.0	< 50	0.31	< 3.0	< 6.02
P-13C	04/20/1994	< 3.0	< 50	< 0.3	< 3.0	< 6.02
P-13	10/17/1994	< 3.0	54	< 0.3	< 3.0	< 3.0
P-13A	10/18/1994	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	10/18/1994	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	10/18/1994	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	04/11/1995	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	04/11/1995	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	04/11/1995	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	04/12/1995	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	10/11/1995	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	10/11/1995	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	10/11/1995	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	10/11/1995	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	04/17/1996	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	04/17/1996	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	04/17/1996	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	04/17/1996	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	10/16/1996	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13A	10/16/1996	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13B	10/17/1996	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13C	10/17/1996	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13	04/16/1997	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13A	04/17/1997	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13B	04/17/1997	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13C	04/17/1997	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13	10/15/1997	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13A	10/16/1997	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13B	10/16/1997	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13C	10/16/1997	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13A	04/09/1998	< 2	< 6	< 0.2	< 1	< 3
P-13B	04/10/1998	< 2	< 6	< 0.2	< 1	< 3
P-13C	04/10/1998	2.2	< 6	< 0.2	< 1	< 3
P-13D	04/13/1998	< 2	< 6	< 0.2	< 1	< 3
P-13A	10/05/1998	< 2	27	< 0.2	< 1	< 3

TABLE 3
Summary of Analytical and Statistical Analysis Results
DeZurik Hazardous Waste Lagoon No. 3
(units = µg/L, dissolved)

WELL NUMBER	DATE	ARSENIC	BARIUM	CADMIUM	LEAD	SELENIUM
P-13B	10/05/1998	<2	101	<0.2	<1	<3
P-13C	10/06/1998	<2	180	<0.2	<1	<3
P-13D	10/06/1998	<2	135	<0.2	<1	<3
P-13A	04/26/1999	<2	66	<0.2	<1	<1
P-13B	04/26/1999	<2	178	<0.2	<1	<1
P-13C	04/27/1999	<2	114	<0.2	<1	<1
P-13D	04/27/1999	<2	151	<0.2	<1	<1
P-13A	10/26/1999	<2	95*	<0.2	<1	<1
P-13B	10/27/1999	<2	300*	<0.2	<1	<1
P-13C	10/27/1999	<2	196*	<0.2	<1	<1
P-13D	10/27/1999	<2	229*	<0.2	<1	<1
P-13A	04/24/2000	<2	156	<0.2	<1	<1
P-13A	10/23/2000	<2	115	<0.2	<1	<1
P-13	04/18/2001	<10	43	<1	<10	<10
P-13Dup	04/18/2001	<10	43	<1	<10	<10
P-13 Resample	07/26/2001	<5	42	<0.5	<2	<5

Regulatory Limits:	MCL:	50	2000	5	15	50
	SMCL:	N/A	N/A	N/A	N/A	N/A
	HRL:	N/A	2000	4	N/A	30
	IL:	12.5	375	1.25	5	11

Background Detection limit**	3	50	0.3	3	3
Background Mean#	3	95	0.3	3	3
Background Standard deviation#	1.732	52.0	0.548	1.732	1.732
K _{0.95}	2.523	2.523	2.523	2.523	2.523
Tolerance level#**	7.4	230	1.7	7.4	7.4

ND Not detected.

-- Not measured.

The Poisson Distribution method was used for calculating the Tolerance Level for background constituents with two or less reported results above the detection limit. For background constituents with three or more results above the detection limit, the arithmetic mean and standard deviation is calculated.

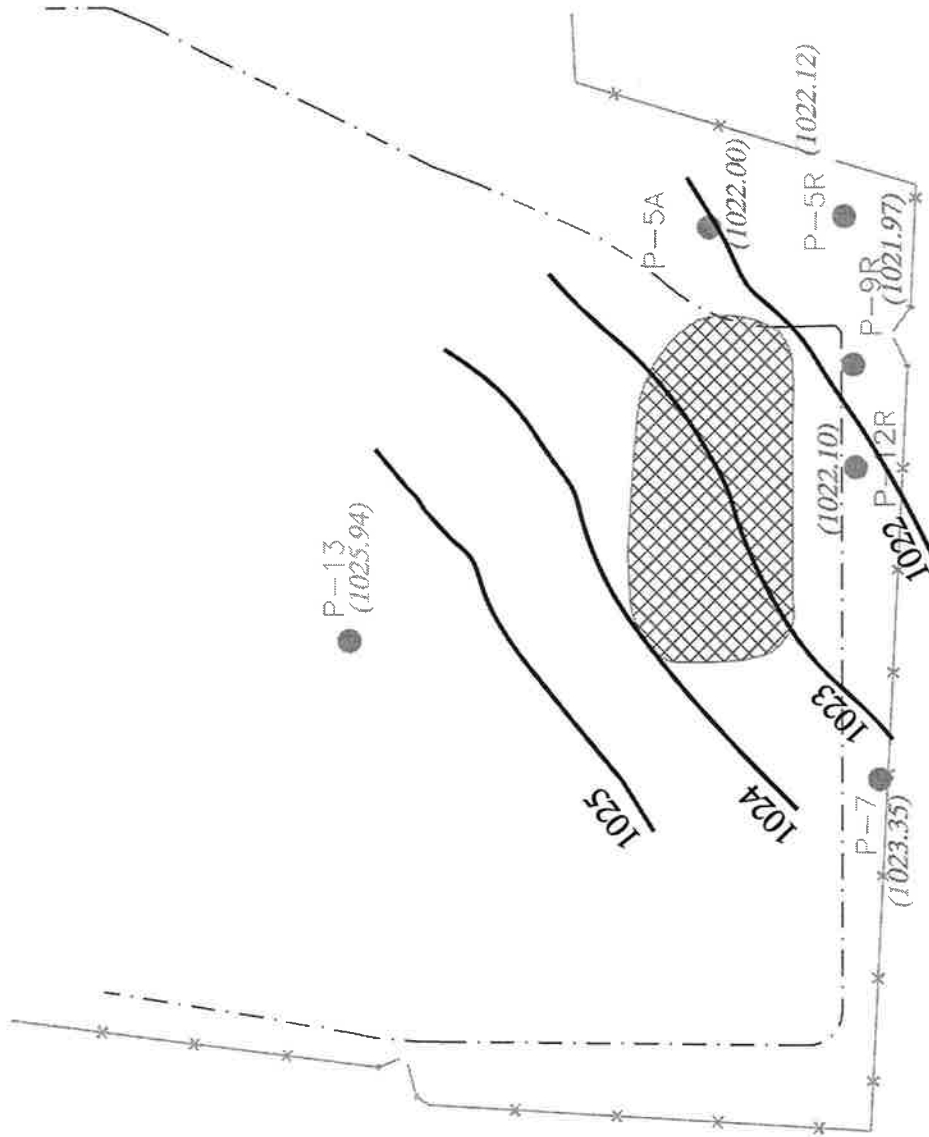
* Data collected are considered suspect and are excluded from the tolerance limit and background mean calculations. As required in the August 1994 Part B Permit Application, the most recent and valid 16 samples were included in the tolerance limit calculation.

** In 1998, new analytical equipment allowed the laboratory to obtain lower detection limits than that obtained in previous sampling years. These detection limits are lower than those required in the August 1994 Part B Permit Application for evaluating compliance of wells. Where the reported detection limit is lower than the required detection limit, the required detection limit is used for calculating the tolerance level to maintain continuity in evaluating compliance. Please note that the detection limits for the parameters are higher for the April 2001 event due to matrix interferences with the samples. Please refer to the analytical report for a complete explanation of the elevated detection limits.

FIGURE

LEGEND

- P-13 (1023.35)
- *—*— FENCE
- - - - - APPROXIMATE LIMIT OF LANDFILL WASTE
- ▨ APPROXIMATE LIMIT OF LAGOON
- 1025 WATER TABLE CONTOUR (DASHED WHERE INFERRED)



LEGGETTE, BRASHEARS & GRAHAM, INC.
 Professional Ground-Water
 and Environmental Services
 1113 East 14th Street
 Sioux Falls, South Dakota 57104
 (605) 334-6000

DeZurik Hazardous Waste Lagoon #3
 Sartell, Minnesota

GROUND-WATER ELEVATIONS AND INFERRED FLOW DIRECTION (18APR01)

DATE	REVISED

APPENDIX I

Field Sampling Data Sheets

FLUID-LEVEL DATA SHEET

DATE: 4-18-01

CLIENT NAME: DEZURIK LANDFILL LAGOON #3

CLIENT CODE: 6SARBT	LOCATION: SARTELL, MN
JOB CODE: DEZUQM	WEATHER CONDITIONS: P. CLOUDY WINDY, 45°
RECORDED BY: CMH	MEASURING DEVICE: SOLINST

WELL	DEPTH TO HYDROCARBON	DEPTH TO WATER	ELEVATION TOC	ELEVATION WATER	PRODUCT THICKNESS	COMMENTS
P-5R		76.92	1099.04	1022.12		
P-9R		80.12	1102.09	1021.97		
P-12R		79.23	1101.33	1022.10		
P-13		79.18	1105.12	1025.94		

DAILY ACTIVITY LOG

7:05	DEPARTURE
8:10	ARRIVAL AT SARTELL CITY OFFICES, PAGE BRAD BORDER TO OBTAIN SITE ACCESS.
9:00	ARRIVAL ON SITE - RICH TOWNSEND ARRIVES WITH A COPY OF A SITE MAP FROM DEZURIK, I WALK OVER SITE. I DO NOT HAVE KEYS TO ACCESS WELLS. LEE WALZ FROM DEZURIK ARRIVES ON SITE WITH KEYS. KEYS DO NOT OPEN LOCKS, HE DEPARTS.
10:25	LEE ARRIVES WITH NEW LOCKS. I HAVE TO BREAK OFF EVERY LOCK AND REPLACE WITH NEW LOCKS. P-5R, P-12R + P-13 NEED NEW LOCKS.
10:53	SAMPLING P-9R, P-13, P-5R, P-12R - DUPLICATE DUPLICATE SAMPLE P-13.
13:50	COMPLETE DEZURIK SAMPLING
13:55	SAMPLE P-6 SARTELL LANDFILL, PW-0 IS A PRIVATE WELL USED FOR WATERING ON A RESIDENCE NEXT TO P-6, I FIND OUT THE CHURCH HAS BOUGHT THE RESIDENCE, UNABLE TO GAIN ENTRY TO HOUSE TO DETERMINE WHICH OUTSIDE TAP IS CONNECTED TO THE WELL, WILL TRY TOMMORROW, FLUID LEVELS REMAINING WELLS, NO FLUID LEVEL PW-0, PW-1 OR MW-5 ALL ARE WELLS USED FOR WATERING, NO ACCESS THROUGH CAP.
17:17	DEPARTURE FROM SITE
17:46	ARRIVAL AT FEDEX - SAMPLE SHIPPMENT

GROUND-WATER SAMPLING DATA SHEET

Client Code: 6SARBT	Project Title: DEZURIK LANDFILL LAGOON #3
Job Code: DEZUQM	Address:
Date: 4.18.01	City, State, Zip: SARTELL, MN.

General Data	Stabilization Data					
Location ID:	Volume (gallons)	Well Volume	Temp (C)	ORP (mV)	SC (uS)	pH
P-5R <i>OLD LOCK UNKNOWN</i>						
Key Number: <i>NUMBER NEEDS REPLACEMENT</i>	3.00	1.0	11.8	8	1233	6.90
Casing Diameter (in): <i>4"</i>	5.75	2.0	11.8	-13	1235	6.90
Well Depth (ft): <i>81.35 PDC MEASURED</i>	8.75	3.0	11.8	-22	1230	6.89
Depth to water (ft): <i>76.92</i>						
Column length (ft): <i>4.43</i>						
Column volume (gal): <i>2.89</i>						
Total volume purged (gal): <i>8.75</i>						

Miscellaneous

Purge Method:	DISP. BAILER
Sampling Method:	DISP. BAILER
Analysis Requested:	Dissolved metals, CL, FL, NO3, SO4, COD, Cyanide, Phenols, TOC, TDS, pH, Conductivity
Weather Conditions:	<i>P. CLOUDY, WINDY, 48°</i>
Sample Description:	<i>SLIGHTLY SILTY, TAN/RUST TINT, NO ODOR</i>
Remarks:	

Sampler: CMH	Time Sample Collected: <i>1415</i>
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Leggette, Brashears & Graham, Inc.
 1210 West County Road E
 St. Paul, Minnesota 55112

GROUND-WATER SAMPLING DATA SHEET

Client Code: 6SARBT	Project Title: DEZURIK LANDFILL LAGOON #3
Job Code: DEZUQM	Address:
Date: 4.18.01	City, State, Zip: SARTELL, MN.

General Data	Stabilization Data					
Location ID:	Volume (gallons)	Well Volume	Temp (C)	ORP (mV)	SC (uS)	pH
P.9R <i>REPLACED LOCK</i>	4.00	1.0	11.1	-116	854	6.87
Key Number: 106013 <i>ms/r2</i>	8.00	2.0	11.1	-100	898	6.94
Casing Diameter (in): 4"	12.00	3.0	11.1	-83	915	6.95
Well Depth (ft): 86.20 <i>TOTOC MEASURES</i>	16.00	4.0	11.1	-80	930	6.98
Depth to water (ft): 80.12						
Column length (ft): 6.08						
Column volume (gal): 3.97						
Total volume purged (gal): 16.00						

Miscellaneous

Purge Method:	DISP. BAILER
Sampling Method:	DISP. BAILER
Analysis Requested:	Dissolved metals, CL, FL, NO3, SO4, COD, Cyanide, Phenols, TOC, TDS, pH, Conductivity
Weather Conditions:	P. CLOUDY, WINDY 42°
Sample Description:	SUBTLY SILTY, RUST TINT, NO ODOR
Remarks:	

Sampler: CMH	Time Sample Collected: 1149
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Leggette, Brashears & Graham, Inc.
 1210 West County Road E
 St. Paul, Minnesota 55112

GROUND-WATER SAMPLING DATA SHEET

Client Code: 6SARBT	Project Title: DEZURIK LANDFILL LAGOON #3
Job Code: DEZUQM	Address:
Date: 4-18-01	City, State, Zip: SARTELL, MN.

General Data	Stabilization Data					
Location ID: P-12R	Volume (gallons)	Well Volume	Temp (C)	ORP (mV)	SC (uS)	pH
Key Number: <small>OLD LOCK UNKNOWN NUMBER</small> NEEDS REPLACEMENT	5.00	1.0	10.9	18	889	7.19
Casing Diameter (in): 4"	10.00	2.0	11.0	-10	898	7.16
Well Depth (ft): 86.80 <small>TO DOCUMENTED</small>	15.00	3.0	10.9	-31	899	7.12
Depth to water (ft): 79.23	20.00	4.0	10.9	-35	899	7.12
Column length (ft): 7.57						
Column volume (gal): 4.94						
Total volume purged (gal): 20.00						

Miscellaneous

Purge Method:	DISP. BAILER
Sampling Method:	DISP. BAILER
Analysis Requested:	Dissolved metals, CL, FL, NO3, SO4, COD, Cyanide, Phenols, TOC, TDS, pH, Conductivity
Weather Conditions:	P CLOUDY, WINDY, 45°
Sample Description:	SLIGHTLY SILTY, RUST/TAN TINT, NO ODOR
Remarks:	

Sampler: CMH	Time Sample Collected: 1512
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Leggette, Brashears & Graham, Inc.
 1210 West County Road E
 St. Paul, Minnesota 55112

GROUND-WATER SAMPLING DATA SHEET

Client Code: 6SARBT	Project Title: DEZURIK LANDFILL LAGOON #3
Job Code: DEZUQM	Address:
Date: 4.18.01	City, State, Zip: SARTELL, MN.

General Data	Stabilization Data					
	Volume (gallons)	Well Volume	Temp (C)	ORP (mV)	SC (uS)	pH
Location ID: P-13						
Key Number: UNKNOWN NUMBER NEEDS REPLACEMENT	5.50	1.0	11.4	-62	712	7.14
Casing Diameter (in): 4	10.50	2.0	11.4	-52	716	7.05
Well Depth (ft): 86.90 TO TOP MEASURED	15.50	3.0	11.4	-55	716	7.04
Depth to water (ft): 79.18	20.50	4.0	11.4	-24	720	7.07
Column length (ft): 7.72						
Column volume (gal): 5.04						
Total volume purged (gal): 20.50						

Miscellaneous

Purge Method:	DISP. BAILER
Sampling Method:	DISP. BAILER
Analysis Requested:	Dissolved metals, CL, FL, NO3, SO4, COD, Cyanide, Phenols, TOC, TDS, pH, Conductivity
Weather Conditions:	P-CLOUDY, WINDY. 45°
Sample Description:	SLIGHTLY SILTY TANTUM, NO OODR
Remarks:	DUPLICATE SAMPLE ALL PARAMETERS

Sampler: CMH	Time Sample Collected: 1313
--------------	-----------------------------

Leggette, Brashears & Graham, Inc.
 1210 West County Road E
 St. Paul, Minnesota 55112



CHAIN OF CUSTODY RECORD

PLEASE PRINT OR TYPE ALL INFORMATION EXCEPT SIGNATURES

Received Date: _____ Cust. No.: _____
 Login Date: _____ Custody Seal: Yes/No
 Shipped by: _____ Intact: Yes/No
 Shipping Bill #: _____ Signature Match?: Yes/No
 Sample Temp: _____ °C If no - Reason: _____

For Lab Use Only

BILLINGS, MT 800-735-4489 **CASPER, WY** 888-235-0515 **GILLETTE, WY** 307-666-7175
 P.O. Box 30916 (59107) P.O. Box 3258 (826002) 1105 West First Street (82716) voice 307-682-4625
 1120 South 27th (59101) voice 406-252-6325 2393 Salt Creek Highway (82601) voice 307-235-0515
 Fax 406-252-6069 Fax 307-234-1639 Fax 307-682-4625

HELENA, MT 877-472-0711 **RAPID CITY, SD** 888-672-1225
 P.O. Box 5688 (59604) P.O. Box 2470 (57709) voice 605-342-1225
 2704 Billings Ave. (59601) Voice/Fax 406-442-0711 Fax 605-342-1397

Lab No. For Lab Use Only	DATE	TIME	Project Name / Address	Contact Name & Phone	Sampler's Signature	Invoice to:	number of containers	Sample Type: A W S V U Air Water Soils/Solids Vegetation Urine Other	Analysis Requested	Comments, Special Instructions, etc.
	4/18/01	1449	DEZURIK LANDFILL / SARTELL, MN			Report to: TIM KENYON 136 EAST 14th ST SIOUX FALLS, SD 57104 SAMPLE I.D.	5W		DISSOLVED METALS	
		1313				P-9R			TOXIC METALS	
		1415				P-13			GL, FL, NO3, SO4	
		1512				P-5R			TDS, PH, CONDUCTIVITY	
						P-12R			TOXIC METALS	
						DUPLICATE				

1. Relinquished (signature)	Date	Time	Received by: (signature)	2. Relinquished (signature)	Date	Time	Received for Laboratory by: (signature)
	4/18/01	1750					

FLUID-LEVEL DATA SHEET

DATE: 7.26.01

CLIENT NAME: DEZURIK LANDFILL LAGOON #3	LOCATION: 12 TH ST N, SARTELL, MN
CLIENT CODE: 6SARBT	WEATHER CONDITIONS: P.CLOUDY, 73°
JOB CODE: DESHWL	MEASURING DEVICE: SOLINST
RECORDED BY: CMH	

WELL	DEPTH TO HYDROCARBON	DEPTH TO WATER	ELEVATION TOC	ELEVATION WATER	PRODUCT THICKNESS	COMMENTS
P-5R		75.12				
P-9R		78.27 (7.24.01)				
P-12R		77.39				
P-13		78.91				

DAILY ACTIVITY LOG

7:50	DEPARTURE FROM OFFICE
9:07	ARRIVAL ON SITE
9:08	SAMPLING - SARTELL LANDFILL WELLS WERE SAMPLED THE PREVIOUS 2 DAYS. DEZURIK LANDFILL SAMPLED TODAY FOR METALS ONLY, NOT FIELD FILTERED LAB WILL FILTER, P-9R WAS SAMPLED YESTERDAY (7.25.01) AND NOT SAMPLED TODAY, FLUID LEVEL NOT REMEASURED, MEASUREMENT FROM 7.24.01.
9:08	SAMPLING P-13, P-5R, P-12R, DUPLICATE DUPLICATE SAMPLE P-5R.
11:05	COMPLETE SAMPLING
11:10	DEPARTURE FROM SITE
12:20	ARRIVAL AT OFFICE,

GROUND-WATER SAMPLING DATA SHEET

Client Code: 6SARBT	Project Title: DEZURIK LANDFILL LAGOON #3
Job Code: DESHWL	Address: 12TH ST N
Date: 7.26.01	City, State, Zip: SARTELL, MN.

General Data	Stabilization Data					
Location ID:	Volume (gallons)	Well Volume	Temp (C)	ORP (mV)	SC (uS)	pH
P-5R	500	1.0	11.1	39	1178	7.20
Key Number: —	9.00	2.0	11.1	49	1195	7.12
Casing Diameter (in): 4"	13.00	3.0	11.1	51	1189	7.14
Well Depth (ft): 81.35 TOTAL	17.00	4.0	11.1	46	1190	7.14
Depth to water (ft): 75.12						
Column length (ft): 6.23						
Column volume (gal): 4.07						
Total volume purged (gal): 17.00						

Miscellaneous

Purge Method: PVE BAILER	
Sampling Method: DISP. BAILER	
Analysis Requested: Dissolved metals.	
Weather Conditions: P.CLOUDY, 72°	
Sample Description: SLIGHTLY SWIRLY, FAN RUST TINT, NO ODOOR	
Remarks: DUPLICATE SAMPLE: NOT FIELD FILTERED. LAB MUST FILTER.	
Sampler: CMH	Time Sample Collected: 1025

Leggette, Brashears & Graham, Inc.
 1210 West County Road E
 St. Paul, Minnesota 55112

GROUND-WATER SAMPLING DATA SHEET

Client Code: 6SARBT

Project Title: DEZURIK LANDFILL LAGOON #3

Job Code: DESHWL

Address: 12TH ST N

Date: 7-26-01

City, State, Zip: SARTELL, MN.

General Data

Stabilization Data

Location ID:	Volume (gallons)	Well Volume	Temp (C)	ORP (mV)	SC (uS)	pH
P-12R	7.00	1.0	10.2	47	915	7.40
Key Number: NO LOG	13.00	2.0	10.2	47	906	7.44
Casing Diameter (in): 4"	19.00	3.0	10.2	49	899	7.43
Well Depth (ft): 86.80 TOTAL						
Depth to water (ft): 77.39						
Column length (ft): 9.41						
Column volume (gal): 6.14						
Total volume purged (gal): 19.00						

Miscellaneous

Purge Method: PVC BAILER

Sampling Method: DISP. BAILER

Analysis Requested: Dissolved metals

Weather Conditions: Partly cloudy, 73°

Sample Description: SILTY, RUST / TAN TINT, NO ODOR

Remarks: NOT FIELD FILTERED.
LAB MUST FILTER

Sampler: CMH

Time Sample Collected: 1102

Leggette, Brashears & Graham, Inc.
1210 West County Road E
St. Paul, Minnesota 55112

GROUND-WATER SAMPLING DATA SHEET

Client Code: 6SARBT

Project Title: DEZURIK LANDFILL LAGOON #3

Job Code: DESHWL

Address: 12TH ST N

Date: 7-26-01

City, State, Zip: SARTELL, MN.

General Data

Stabilization Data

Location ID:	Volume (gallons)	Well Volume	Temp (C)	ORP (mV)	SC (uS)	pH
P-13	6.00	1.0	10.7	-1	711	7.10
Key Number: —	11.00	2.0	10.7	20	707	7.10
Casing Diameter (in): 4"	16.00	3.0	10.7	24	707	7.12
Well Depth (ft): 86.90 TOTOC						
Depth to water (ft): 78.91						
Column length (ft): 7.99						
Column volume (gal): 5.22						
Total volume purged (gal): 16.00						

Miscellaneous

Purge Method: PVC BAILER

Sampling Method: DISP. BAILER

Analysis Requested: Dissolved metals

Weather Conditions: CLEAR, 72°

Sample Description: SLOW, TANTENT, NO ODOOR

Remarks: NOT FIELD FILTERED. LAB MUST FILTER.

Sampler: CMH

Time Sample Collected: 9:43

Leggette, Brashears & Graham, Inc.
 1210 West County Road E
 St. Paul, Minnesota 55112



CHAIN OF CUSTODY RECORD

PLEASE PRINT OR TYPE ALL INFORMATION EXCEPT SIGNATURES

Received Date: _____ Cust. No.: _____
 Login Date: _____ Custody Seal: _____ Yes/No
 Shipped by: _____ Intact: _____ Yes/No
 Shipping Bill #: _____ Signature Match?: Yes/No
 Sample Temp: _____ °C If no - Reason: _____

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CASPER, WY 888-235-0515 P.O. Box 3258 (82602) voice 307-235-0515 Fax 307-234-1639
GILLETTE, WY 888-235-0515 1105 West First Street (82716) voice 307-686-7175 Fax 307-682-4625
HELENA, MT 888-672-1225 P.O. Box 5688 (59604) voice 877-472-0711 Fax 406-442-0711
RAPID CITY, SD 605-342-1225 P.O. Box 2470 (57709) voice 605-342-1225 Fax 605-342-1397
 2704 Billings Ave. (59601) Voice/Fax 406-442-0711

P.O. #	Project Name / Address	Contact Name & Phone	Sampler's Signature	DATE	TIME	Report to:	number of containers	Sample Type: A W S V U O Air Water Soils/Solids Vegetation Urine Other	Analysis Requested	Comments, Special Instructions, etc.	Received for Laboratory by:
											(signature)
	DEZURIK LANDFILL	SAGTELL, MN									
			TIM KENYON LPG 1113 EAST 14th ST SLOW FALLS SD 57104								
				7-26-01	9:43	P-13	1	W	DISSOLVED METALS	NOT FILTERED	
					1025	P-5R	1	W		IN THE FIELD	
					1102	P-12R	1	W			
						DUPLICATE	1	W			
										MUST BE	
										FILTERED	

1. Relinquished (signature)	Date	Time	Received by: (signature)	2. Relinquished (signature)	Date	Time	Received for Laboratory by: (signature)
	7/26/01	13:07					

APPENDIX II

Energy Laboratory Analytical Report



ENERGY LABORATORIES, INC.

P.O. BOX 2470 • RAPID CITY, SD 57709 • PHONE (605) 342-1225 • FAX (605) 342-1397
610 FARNWOOD STREET • RAPID CITY, SD 57701 • energylab@sd.cybernex.net

CASE NARRATIVE

Client: Leggette, Brashears & Graham
Project: Dezurick Landfill

Date: July 24, 2001
Received: April 19, 2001

SDG Identification: 01-21004

Matrix: Aqueous

Analytical Suites: Traditional Chemistries, Trace Metal Analysis

The sample set identified above, consisting of five (5) samples, was received for analysis at Energy Laboratories, Inc., Rapid City, SD. The samples were received cool, intact and preserved for analysis.

Trace metal analyses were requested as dissolved and samples arrived to the lab having been filtered and preserved in field. In accordance with the referenced methodology samples with a turbidity of less than 1 NTU are not required to be digested prior to analysis. Conductivity data for the samples also indicated that the dissolved solids content was relatively low (1,000 ppm) for most of the samples received. Trace metal analysis was performed at full strength, without dilution. Upon review of the data, it was determined that although instrument and method detection limits supported reporting arsenic, cadmium, lead and selenium at levels below those reported, that some sample matrix interferent made detection at those levels not possible for these samples. It is suggested, and we have noted it for our records, that for future sampling events that a digestion be performed prior to analysis so that lower detection levels may be achieved for these parameters.

The methods used in the analysis of the sample reported here are found in SW-846, USEPA, Final Update II, September, 1994. All analytical sample results in this package reference the methods utilized. Analysis was conducted in full accordance with method and established quality control and quality assurance procedures. A copy of the quality control summary accompanies this package.

If there are any questions regarding the information presented in this package, please contact me at (888) 672-1225, (605) 342-1225 or ljhansen@energylab.com.

L.J. Hansen
Laboratory Director
Energy Laboratories, Inc.-Rapid City, SD



ENERGY LABORATORIES, INC.

P.O. BOX 2470 • RAPID CITY, SD 57709 • PHONE (605) 342-1225 • FAX (605) 342-1397
 610 FARNWOOD STREET • RAPID CITY, SD 57701 • energylab@sd.cybernex.net

AMMENDED LABORATORY ANALYSIS REPORT

Leggette, Brashears & Graham
 Tim Kenyon
 1113 East 14th Street
 Sioux Falls, SD 57104

Project ID: DEZURICK LANDFILL
 Sample ID: P-9R
 Laboratory ID: 01-21004-1
 Sample Matrix: Water
 Sample Date: 18-Apr-01 1149
 Received at Lab: 19-Apr-01 0930
 Reported: 24-July-01

P-9R / 01-21004-1

Constituent	Results	Units	Qual	Reporting	Regulatory	Method	Analyzed
				Limit	Limit		

INORGANIC ANALYSIS

Carbon, Total Organic (TOC)	1.7 mg/L		C	0.25		EPA 415.2	23-Apr-01 1421 JL
Chloride	29 mg/L			1		SM 4500CL	23-Apr-01 0940 BB
Conductivity @ 25 C	977 umhos/cm			1		EPA 160.1	19-Apr-01 1200 BB
Cyanide, Total	<0.005 mg/L			0.005		EPA 335.4	25-Apr-01 1140 JEM
Fluoride	<0.1 mg/L			0.1		SM 4500-F- C	26-Apr-01 1430 BB/JEM
Oxygen Demand, Chemical (COD)	19 mg/L			5		EPA 410.4	11-May-01 0838 BB
pH	7.57 su			0.01		EPA 150.1	20-Apr-01 1645 BB
Phenols, Total	<0.01 mg/L			0.01		EPA 420.2	03-May-01 1430 BB
Sodium	13 mg/L			1		EPA 200.7	03-May-01 1907 ED
Solids, Total Dissolved (TDS)	560 mg/L			5		SM 2540 C	25-Apr-01 1715 LMT
Sulfate	91 mg/L		D3	1		SM 4500E	02-May-01 1120 BB

NUTRIENT ANALYSIS

Nitrate as N	5.82 mg/L		D10	0.05		EPA 353.2	25-Apr-01 1047 BB
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TRACE METALS ANALYSIS

Dissolved Metals Analyses

Arsenic, Dissolved	<0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1907 ED
Barium, Dissolved	0.080 mg/L			0.005		EPA 6010B	03-May-01 1907 ED
Boron, Dissolved	0.15 mg/L			0.01		EPA 6010B	03-May-01 1907 ED
Cadmium, Dissolved	<0.001 mg/L		I	0.001		EPA 6010B	03-May-01 1907 ED
Calcium, Dissolved	154 mg/L			1		EPA 6010B	03-May-01 1907 ED
Chromium, Dissolved	<0.01 mg/L			0.01		EPA 6010B	03-May-01 1907 ED
Iron, Dissolved	<0.01 mg/L			0.01		EPA 6010B	03-May-01 1907 ED
Lead, Dissolved	<0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1907 ED
Magnesium, Dissolved	46 mg/L			1		EPA 6010B	03-May-01 1907 ED
Manganese, Dissolved	0.030 mg/L			0.005		EPA 6010B	03-May-01 1907 ED
Selenium, Dissolved	0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1907 ED
Zinc, Dissolved	0.007 mg/L			0.005		EPA 6010B	03-May-01 1907 ED

D3: Reported result reflects a dilution of 3x to quantitate within calibration range or to eliminate matrix interferences.

D10: Reported result reflects a dilution of 10x to quantitate within calibration range or to eliminate matrix interferences.

(C) Analysis performed at Energy Laboratories, Inc., Casper, Wyoming.

(I) Interference from sample matrix prohibited lowest levels of detection.



AMMENDED LABORATORY ANALYSIS REPORT

Leggette, Brashears & Graham
Tim Kenyon
1113 East 14th Street
Sioux Falls, SD 57104

Project ID: DEZURICK LANDFILL
Sample ID: P-13
Laboratory ID: 01-21004-2
Sample Matrix: Water
Sample Date: 18-Apr-01 1313
Received at Lab: 19-Apr-01 0930

Reported: 24-July-01

P-13 / 01-21004-2

Constituent	Results	Units	Qual	Reporting	Regulatory	Method	Analyzed
				Limit	Limit		
INORGANIC ANALYSIS							
Carbon, Total Organic (TOC)	1.3 mg/L		C	0.25		EPA 415.2	23-Apr-01 1517 JL
Chloride	21 mg/L			1		SM 4500CL	23-Apr-01 0940 BB
Conductivity @ 25 C	742 umhos/cm			1		EPA 160.1	19-Apr-01 1200 BB
Cyanide, Total	<0.005 mg/L			0.005		EPA 335.4	25-Apr-01 1140 JEM
Fluoride	<0.1 mg/L			0.1		SM 4500-F- C	26-Apr-01 1430 BB/JEM
Oxygen Demand, Chemical (COD)	32 mg/L			5		EPA 410.4	11-May-01 0838 BB
pH	7.58 su			0.01		EPA 150.1	20-Apr-01 1645 BB
Phenols, Total	<0.01 mg/L			0.01		EPA 420.2	03-May-01 1430 BB
Sodium	5 mg/L			1		EPA 200.7	03-May-01 1921 ED
Solids, Total Dissolved (TDS)	430 mg/L			5		SM 2540 C	26-Apr-01 1640 LMT
Sulfate	58 mg/L		D3	1		SM 4500E	02-May-01 1120 BB
NUTRIENT ANALYSIS							
Nitrate as N	5.46 mg/L		D10	0.05		EPA 353.2	25-Apr-01 1047 BB
TRACE METALS ANALYSIS							
Dissolved Metals Analyses							
Arsenic, Dissolved	<0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1921 ED
Barium, Dissolved	0.043 mg/L			0.005		EPA 6010B	03-May-01 1921 ED
Boron, Dissolved	0.03 mg/L			0.01		EPA 6010B	03-May-01 1921 ED
Cadmium, Dissolved	<0.001 mg/L		I	0.001		EPA 6010B	03-May-01 1921 ED
Calcium, Dissolved	123 mg/L			1		EPA 6010B	03-May-01 1921 ED
Chromium, Dissolved	<0.01 mg/L			0.01		EPA 6010B	03-May-01 1921 ED
Iron, Dissolved	<0.01 mg/L			0.01		EPA 6010B	03-May-01 1921 ED
Lead, Dissolved	<0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1921 ED
Magnesium, Dissolved	28 mg/L			1		EPA 6010B	03-May-01 1921 ED
Manganese, Dissolved	0.006 mg/L			0.005		EPA 6010B	03-May-01 1921 ED
Selenium, Dissolved	<0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1921 ED
Zinc, Dissolved	<0.005 mg/L			0.005		EPA 6010B	03-May-01 1921 ED

D3: Reported result reflects a dilution of 3x to quantitate within calibration range or to eliminate matrix interferences.

D10: Reported result reflects a dilution of 10x to quantitate within calibration range or to eliminate matrix interferences.

(C) Analysis performed at Energy Laboratories, Inc., Casper, Wyoming.

(I) Interference from sample matrix prohibited lowest levels of detection.



AMMENDED LABORATORY ANALYSIS REPORT

Leggette, Brashears & Graham
Tim Kenyon
1113 East 14th Street
Sioux Falls, SD 57104

Project ID: DEZURICK LANDFILL
Sample ID: P-5R
Laboratory ID: 01-21004-3
Sample Matrix: Water
Sample Date: 18-Apr-01 1415
Received at Lab: 19-Apr-01 0930

Reported: 24-July-01

P-5R / 01-21004-3

Constituent	Results	Units	Qual	Reporting	Regulatory	Method	Analyzed
				Limit	Limit		

INORGANIC ANALYSIS

Carbon, Total Organic (TOC)	2.5 mg/L		C	0.25		EPA 415.2	23-Apr-01 1614 JL
Chloride	33 mg/L			1		SM 4500CL	23-Apr-01 0940 BB
Conductivity @ 25 C	1,290 umhos/cm			1		EPA 160.1	19-Apr-01 1200 BB
Cyanide, Total	<0.005 mg/L			0.005		EPA 335.4	25-Apr-01 1140 JEM
Fluoride	<0.1 mg/L			0.1		SM 4500-F- C	09-May-01 1130 BB
Oxygen Demand, Chemical (COD)	15 mg/L			5		EPA 410.4	11-May-01 0838 BB
pH	7.40 su			0.01		EPA 150.1	20-Apr-01 1645 BB
Phenols, Total	<0.01 mg/L			0.01		EPA 420.2	03-May-01 1430 BB
Sodium	41 mg/L			1		EPA 200.7	03-May-01 1933 ED
Solids, Total Dissolved (TDS)	820 mg/L			5		SM 2540 C	26-Apr-01 1640 LMT
Sulfate	254 mg/L		D12	1		SM 4500E	02-May-01 1120 BB

NUTRIENT ANALYSIS

Nitrate as N	4.52 mg/L		D5	0.05		EPA 353.2	25-Apr-01 1047 BB
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TRACE METALS ANALYSIS

Dissolved Metals Analyses

Arsenic, Dissolved	<0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1933 ED
Barium, Dissolved	0.079 mg/L			0.005		EPA 6010B	03-May-01 1933 ED
Boron, Dissolved	2.18 mg/L			0.01		EPA 6010B	03-May-01 1933 ED
Cadmium, Dissolved	<0.001 mg/L		I	0.001		EPA 6010B	03-May-01 1933 ED
Calcium, Dissolved	186 mg/L			1		EPA 6010B	03-May-01 1933 ED
Chromium, Dissolved	<0.01 mg/L			0.01		EPA 6010B	03-May-01 1933 ED
Iron, Dissolved	0.02 mg/L			0.01		EPA 6010B	03-May-01 1933 ED
Lead, Dissolved	<0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1933 ED
Magnesium, Dissolved	56 mg/L			1		EPA 6010B	03-May-01 1933 ED
Manganese, Dissolved	0.024 mg/L			0.005		EPA 6010B	03-May-01 1933 ED
Selenium, Dissolved	0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1933 ED
Zinc, Dissolved	<0.005 mg/L			0.005		EPA 6010B	03-May-01 1933 ED

D5: Reported result reflects a dilution of 5x to quantitate within calibration range or to eliminate matrix interferences.

D12: Reported result reflects a dilution of 12x to quantitate within calibration range or to eliminate matrix interferences.

(C) Analysis performed at Energy Laboratories, Inc., Casper, Wyoming.

(I) Interference from sample matrix prohibited lowest levels of detection.



AMMENDED LABORATORY ANALYSIS REPORT

Leggette, Brashears & Graham
Tim Kenyon
1113 East 14th Street
Sioux Falls, SD 57104

Project ID: DEZURICK LANDFILL
Sample ID: P-12R
Laboratory ID: 01-21004-4
Sample Matrix: Water
Sample Date: 18-Apr-01 1512
Received at Lab: 19-Apr-01 0930

Reported: 24-July-01

P-12R / 01-21004-4

Constituent	Results	Units	Qual	Reporting	Regulatory	Method	Analyzed
				Limit	Limit		

INORGANIC ANALYSIS

Carbon, Total Organic (TOC)	2.3 mg/L		C	0.25		EPA 415.2	23-Apr-01 1711 JL
Chloride	38 mg/L			1		SM 4500CL	23-Apr-01 0940 BB
Conductivity @ 25 C	927 umhos/cm			1		EPA 160.1	19-Apr-01 1200 BB
Cyanide, Total	<0.005 mg/L			0.005		EPA 335.4	25-Apr-01 1140 JEM
Fluoride	<0.1 mg/L			0.1		SM 4500-F- C	09-May-01 1130 BB
Oxygen Demand, Chemical (COD)	29 mg/L			5		EPA 410.4	11-May-01 0838 BB
pH	7.64 su			0.01		EPA 150.1	20-Apr-01 1645 BB
Phenols, Total	<0.01 mg/L			0.01		EPA 420.2	03-May-01 1430 BB
Sodium	12 mg/L			1		EPA 200.7	03-May-01 1941 ED
Solids, Total Dissolved (TDS)	520 mg/L			5		SM 2540 C	26-Apr-01 1640 LMT
Sulfate	102 mg/L		D3	1		SM 4500E	02-May-01 1120 BB

NUTRIENT ANALYSIS

Nitrate as N	5.05 mg/L		D10	0.05		EPA 353.2	25-Apr-01 1047 BB
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TRACE METALS ANALYSIS

Dissolved Metals Analyses

Arsenic, Dissolved	<0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1941 ED
Barium, Dissolved	0.060 mg/L			0.005		EPA 6010B	03-May-01 1941 ED
Boron, Dissolved	0.07 mg/L			0.01		EPA 6010B	03-May-01 1941 ED
Cadmium, Dissolved	<0.001 mg/L		I	0.001		EPA 6010B	03-May-01 1941 ED
Calcium, Dissolved	150 mg/L			1		EPA 6010B	03-May-01 1941 ED
Chromium, Dissolved	<0.01 mg/L			0.01		EPA 6010B	03-May-01 1941 ED
Iron, Dissolved	0.01 mg/L			0.01		EPA 6010B	03-May-01 1941 ED
Lead, Dissolved	<0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1941 ED
Magnesium, Dissolved	37 mg/L			1		EPA 6010B	03-May-01 1941 ED
Manganese, Dissolved	0.025 mg/L			0.005		EPA 6010B	03-May-01 1941 ED
Selenium, Dissolved	<0.01 mg/L		I	0.01		EPA 6010B	03-May-01 1941 ED
Zinc, Dissolved	<0.005 mg/L			0.005		EPA 6010B	03-May-01 1941 ED

D3: Reported result reflects a dilution of 3x to quantitate within calibration range or to eliminate matrix interferences.

D10: Reported result reflects a dilution of 10x to quantitate within calibration range or to eliminate matrix interferences.

(C) Analysis performed at Energy Laboratories, Inc., Casper, Wyoming.

(I) Interference from sample matrix prohibited lowest levels of detection.



AMMENDED LABORATORY ANALYSIS REPORT

Leggette, Brashears & Graham
Tim Kenyon
1113 East 14th Street
Sioux Falls, SD 57104

Project ID: DEZURICK LANDFILL
Sample ID: DUPLICATE
Laboratory ID: 01-21004-5
Sample Matrix: Water
Sample Date: 18-Apr-01
Received at Lab: 19-Apr-01 0930

Reported: 24-July-01

DUPLICATE / 01-21004-5

Table with 8 columns: Constituent, Results, Units, Qual, Reporting Limit, Regulatory Limit, Method, Analyzed

INORGANIC ANALYSIS

Table listing inorganic analysis results including Carbon, Total Organic (TOC), Chloride, Conductivity @ 25 C, Cyanide, Total, Fluoride, Oxygen Demand, Chemical (COD), pH, Phenols, Total, Sodium, Solids, Total Dissolved (TDS), and Sulfate.

NUTRIENT ANALYSIS

Table listing nutrient analysis results for Nitrate as N.

TRACE METALS ANALYSIS

Dissolved Metals Analyses

Table listing dissolved metals analysis results including Arsenic, Barium, Boron, Cadmium, Calcium, Chromium, Iron, Lead, Magnesium, Manganese, Selenium, and Zinc.

(C) Analysis performed at Energy Laboratories, Inc., Casper, Wyoming.

D2: Reported result reflects a dilution of 2x to quantitate within calibration range or to eliminate matrix interferences.

D10: Reported result reflects a dilution of 10x to quantitate within calibration range or to eliminate matrix interferences.

(I) Interference from sample matrix prohibited lowest levels of detection.

L.J. Hansen
Laboratory Director



Quality Assurance Data

Parameter	Original	Duplicate	Spike Result (%Rec)	Blank Result	Calibration Verification	Acceptance Range	Date Analyzed	Analysts Initials
As,D	<0.01	<0.01	108	<0.01	0.94	0.90 - 1.10	3-May-01	ED
B,D	0.16	0.15	110	<0.01	0.99	0.90 - 1.10	3-May-01	ED
Ba,D	<0.1	<0.1	103	<0.1	0.98	0.90 - 1.10	3-May-01	ED
Be,D	<0.005	<0.005	104	<0.005	0.98	0.90 - 1.10	3-May-01	ED
Ca,D	157	155	109	<1	1.09	0.90 - 1.10	3-May-01	ED
Cd,D	<0.001	<0.001	104	<0.001	0.96	0.90 - 1.10	3-May-01	ED
Cr,D	<0.01	<0.01	100	<0.01	0.97	0.90 - 1.10	3-May-01	ED
Fe,D	<0.03	<0.03	102	<0.03	1.04	0.90 - 1.10	3-May-01	ED
Mg,D	60.0	58.4	1.03	<1	1.03	0.90 - 1.10	3-May-01	ED
Mn,D	0.037	0.037	106	<0.01	1.02	0.90 - 1.10	3-May-01	ED
Na,D	13.4	10.4	90	<1	0.90	0.90 - 1.10	3-May-01	ED
Pb,D	<0.01	<0.01	102	<0.01	1.00	0.90 - 1.10	3-May-01	ED
Se,D	0.012	0.014	92	<0.01	0.92	0.90 - 1.10	3-May-01	ED
Zn,D	0.0065	0.0067	108	<0.005	1.00	0.90 - 1.10	3-May-01	ED
SC	1,290	1,290	NA	<1	345	288 - 390	19-Apr-2001	BB
pH	7.71	7.70	NA	NA	9.20	8.93 - 9.33	20-Apr-2001	BB
CL	29	30	98	<1	37	33.8 - 41.4	23-Apr-2001	BB
NO3	0.08	0.08	103	<0.05	17.6	14.7 - 18.4	25-Apr-2001	BB
F	1.2	1.2	105	<0.1	3.29	2.74 - 3.70	26-Apr-2001	BB/JEM
CN-T	<0.005	<0.005	86	<0.005	0.301	0.248 - .432	25-Apr-2001	JEM
TDS	432	426	na	<5	162	155-201	26-Apr-2001	LMT
Phenolics	<0.01	<0.01	106	<0.01	0.44	0.248 - 0.411	3-May-2001	BB
COD	29	29	109	<1	103	96.9 - 131	11-Feb-2001	BB



ENERGY LABORATORIES, INC.

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LABORATORY ANALYSIS REPORT

Leggette, Brashears & Graham
Tim Kenyon
1113 East 14th Street
Sioux Falls, SD 57104

Project ID: DEZURIK LANDFILL
Sample ID: P-13
Laboratory ID: 01-22606-1
Sample Matrix: Water
Sample Date: 26-Jul-01 0943
Received at Lab: 27-Jul-01 1000

Reported: 30-Jul-01

P-13 / 01-22606-1

Constituent	Results	Units	Qual	Reporting Limit	Regulatory Limit	Method	Analyzed
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TRACE METALS ANALYSIS

Dissolved Metals Analyses

Arsenic, Dissolved	<0.005	mg/L		0.005		EPA 7060A	28-Jul-01 1449 ED
Barium, Dissolved	0.042	mg/L		0.005		EPA 6010B	30-Jul-01 1140 ED
Boron, Dissolved	0.036	mg/L		0.005		EPA 6010B	30-Jul-01 1140 ED
Cadmium, Dissolved	<0.0005	mg/L		0.0005		EPA 7131A	27-Jul-01 1641 ED
Chromium, Dissolved	<0.01	mg/L		0.01		EPA 6010B	30-Jul-01 1140 ED
Iron, Dissolved	0.04	mg/L		0.01		EPA 6010B	30-Jul-01 1140 ED
Lead, Dissolved	<0.002	mg/L		0.002		EPA 7421	27-Jul-01 1517 ED
Manganese, Dissolved	<0.005	mg/L		0.005		EPA 6010B	30-Jul-01 1140 ED
Selenium, Dissolved	<0.005	mg/L		0.005		EPA 7740	27-Jul-01 1913 ED
Zinc, Dissolved	<0.005	mg/L		0.005		EPA 6010B	30-Jul-01 1140 ED



LABORATORY ANALYSIS REPORT

Leggette, Brashears & Graham
Tim Kenyon
1113 East 14th Street
Sioux Falls, SD 57104

Project ID: DEZURIK LANDFILL
Sample ID: P-5R
Laboratory ID: 01-22606-2
Sample Matrix: Water
Sample Date: 26-Jul-01 1025
Received at Lab: 27-Jul-01 1000

Reported: 30-Jul-01

P-5R / 01-22606-2

Constituent	Results	Units	Qual	Reporting	Regulatory	Method	Analyzed
				Limit	Limit		

TRACE METALS ANALYSIS

Dissolved Metals Analyses

Arsenic, Dissolved	<0.005 mg/L			0.005		EPA 7060A	28-Jul-01 1455	ED
Barium, Dissolved	0.066 mg/L			0.005		EPA 6010B	30-Jul-01 1148	ED
Boron, Dissolved	1.26 mg/L			0.005		EPA 6010B	30-Jul-01 1148	ED
Cadmium, Dissolved	<0.0005 mg/L			0.0005		EPA 7131A	27-Jul-01 1646	ED
Chromium, Dissolved	<0.01 mg/L			0.01		EPA 6010B	30-Jul-01 1148	ED
Iron, Dissolved	0.03 mg/L			0.01		EPA 6010B	30-Jul-01 1148	ED
Lead, Dissolved	<0.002 mg/L			0.002		EPA 7421	27-Jul-01 1521	ED
Manganese, Dissolved	<0.005 mg/L			0.005		EPA 6010B	30-Jul-01 1148	ED
Selenium, Dissolved	<0.005 mg/L			0.005		EPA 7740	27-Jul-01 1919	ED
Zinc, Dissolved	<0.005 mg/L			0.005		EPA 6010B	30-Jul-01 1148	ED



LABORATORY ANALYSIS REPORT

Leggette, Brashears & Graham
Tim Kenyon
1113 East 14th Street
Sioux Falls, SD 57104

Project ID: DEZURIK LANDFILL
Sample ID: P-12R
Laboratory ID: 01-22606-3
Sample Matrix: Water
Sample Date: 26-Jul-01 1102
Received at Lab: 27-Jul-01 1000

Reported: 30-Jul-01

P-12R / 01-22606-3

Constituent	Results	Units	Qual	Reporting		Regulatory	Method	Analyzed
				Limit	Limit			

TRACE METALS ANALYSIS

Dissolved Metals Analyses

Arsenic, Dissolved	<0.005 mg/L			0.005		EPA 7060A	28-Jul-01 1501	ED
Barium, Dissolved	0.064 mg/L			0.005		EPA 6010B	30-Jul-01 1156	ED
Boron, Dissolved	0.086 mg/L			0.005		EPA 6010B	30-Jul-01 1156	ED
Cadmium, Dissolved	<0.0005 mg/L			0.0005		EPA 7131A	27-Jul-01 1651	ED
Chromium, Dissolved	<0.01 mg/L			0.01		EPA 6010B	30-Jul-01 1156	ED
Iron, Dissolved	<0.01 mg/L			0.01		EPA 6010B	30-Jul-01 1156	ED
Lead, Dissolved	<0.002 mg/L			0.002		EPA 7421	27-Jul-01 1525	ED
Manganese, Dissolved	0.057 mg/L			0.005		EPA 6010B	30-Jul-01 1156	ED
Selenium, Dissolved	<0.005 mg/L			0.005		EPA 7740	27-Jul-01 1925	ED
Zinc, Dissolved	<0.005 mg/L			0.005		EPA 6010B	30-Jul-01 1156	ED



LABORATORY ANALYSIS REPORT

Leggette, Brashears & Graham
Tim Kenyon
1113 East 14th Street
Sioux Falls, SD 57104

Project ID: DEZURIK LANDFILL
Sample ID: DUPLICATE
Laboratory ID: 01-22606-4
Sample Matrix: Water
Sample Date: 26-Jul-01
Received at Lab: 27-Jul-01 1000
Reported: 30-Jul-01

DUPLICATE / 01-22606-4

Constituent	Results	Units	Qual	Reporting	Regulatory	Method	Analyzed
				Limit	Limit		

TRACE METALS ANALYSIS

Dissolved Metals Analyses

Arsenic, Dissolved	<0.005 mg/L			0.005		EPA 7060A	28-Jul-01 1507	ED
Barium, Dissolved	0.071 mg/L			0.005		EPA 6010B	30-Jul-01 1200	ED
Boron, Dissolved	1.27 mg/L			0.005		EPA 6010B	30-Jul-01 1200	ED
Cadmium, Dissolved	<0.0005 mg/L			0.0005		EPA 7131A	27-Jul-01 1656	ED
Chromium, Dissolved	<0.01 mg/L			0.01		EPA 6010B	30-Jul-01 1200	ED
Iron, Dissolved	0.02 mg/L			0.01		EPA 6010B	30-Jul-01 1200	ED
Lead, Dissolved	<0.002 mg/L			0.002		EPA 7421	27-Jul-01 1529	ED
Manganese, Dissolved	<0.005 mg/L			0.005		EPA 6010B	30-Jul-01 1200	ED
Selenium, Dissolved	<0.005 mg/L			0.005		EPA 7740	27-Jul-01 1931	ED
Zinc, Dissolved	<0.005 mg/L			0.005		EPA 6010B	30-Jul-01 1200	ED



LABORATORY ANALYSIS REPORT

Leggette, Brashears & Graham
Tim Kenyon
1113 East 14th Street
Sioux Falls, SD 57104

Project ID: DEZURIK LANDFILL
Sample ID: P-9R
Laboratory ID: 01-22606-5
Sample Matrix: Water
Sample Date: 25-Jul-01 1034
Received at Lab: 27-Jul-01 1000

Reported: 30-Jul-01

P-9R / 01-22606-5

Constituent	Results	Units	Qual	Reporting Limit	Regulatory Limit	Method	Analyzed
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TRACE METALS ANALYSIS

Dissolved Metals Analyses

Arsenic, Dissolved	<0.005	mg/L		0.005		EPA 7060A	28-Jul-01 1513 ED
Barium, Dissolved	0.079	mg/L		0.005		EPA 6010B	30-Jul-01 1204 ED
Boron, Dissolved	0.10	mg/L		0.005		EPA 6010B	30-Jul-01 1204 ED
Cadmium, Dissolved	<0.0005	mg/L		0.0005		EPA 7131A	27-Jul-01 1701 ED
Chromium, Dissolved	<0.01	mg/L		0.01		EPA 6010B	30-Jul-01 1204 ED
Iron, Dissolved	<0.01	mg/L		0.01		EPA 6010B	30-Jul-01 1204 ED
Lead, Dissolved	<0.002	mg/L		0.002		EPA 7421	27-Jul-01 1534 ED
Manganese, Dissolved	0.030	mg/L		0.005		EPA 6010B	30-Jul-01 1204 ED
Selenium, Dissolved	<0.005	mg/L		0.005		EPA 7740	27-Jul-01 1938 ED
Zinc, Dissolved	0.028	mg/L		0.005		EPA 6010B	30-Jul-01 1204 ED

L.J. Hansen

Laboratory Director



ENERGY LABORATORIES, INC.

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Quality Assurance Data

Parameter	Original	Duplicate	Spike Result (%Rec)	Blank Result	Calibration Verification	Acceptance Range	Date Analyzed	Analysts Initials
As,D	<0.005	<0.005	95	<0.005	0.0102	0.009 - 0.011	28-Jul-01	ED
B,D	0.036	0.032	99	<0.01	0.96	0.90 - 1.10	30-Jul-01	ED
Ba,D	0.042	0.044	109	<0.005	1.03	0.90 - 1.10	30-Jul-01	ED
Cd,D	<0.0005	<0.0005	106	<0.0005	0.00123	0.0011 - 0.0013	27-Jul-01	ED
Cr,D	<0.01	<0.01	98	<0.01	0.98	0.90 - 1.10	30-Jul-01	ED
Fe,D	<0.03	<0.03	105	<0.005	1.08	0.90 - 1.10	30-Jul-01	ED
Mn,D	<0.01	<0.01	102	<0.005	0.99	0.90 - 1.10	30-Jul-01	ED
Pb,D	<0.002	<0.002	98	<0.002	0.99	0.90 - 1.10	27-Jul-01	ED
Se,D	<0.005	<0.005	93	<0.005	0.015	0.013 - 0.017	27-Jul-01	ED
Zn,D	<0.005	<0.005	98	<0.005	1.10	0.90 - 1.10	30-Jul-01	ED



CHAIN OF CUSTODY RECORD

PLEASE PRINT OR TYPE ALL INFORMATION EXCEPT SIGNATURES

Received Date: _____
Cust. No.: _____
Login Date: _____
Custody Seal: _____ Yes/No
Shipped by: _____ Intact: Yes/No
Shipping Bill #: _____
Signature Match?: _____ Yes/No
Sample Temp: _____ °C If no - Reason: _____

For Lab Use Only

BILLINGS, MT P.O. Box 30916 (59107) 1120 South 27th (59101) watts 800-735-4489 voice 406-232-6325 Fax 406-232-6069		CASPER, WY P.O. Box 3258 (82602) 2393 Salt Creek Highway (82601) watts 888-235-0515 voice 307-235-0515 Fax 307-234-1639		GILLETTE, WY 1105 West First Street (82716) watts 307-686-7175 voice 307-682-4625 Fax 307-682-4625		HELENA, MT P.O. Box 5688 (59604) 2704 Billings Ave. (59601) watts 877-472-0711 Voice/Fax 406-442-0711		RAPID CITY, SD P.O. Box 2470 (57709) 610 Farmwood (57701) watts 888-672-1225 voice 605-342-1225 Fax 605-342-1397		
Project Name / Address DEZURIK LANDFILL SARTELL, MN		Sampler's Signature 		number of containers Sample Type: A W S V O Air Water Soils/Solids Vegetation Urine Other		Analysis Requested DISSOLVED METALS		Comments, Special Instructions, etc.		
Contact Name & Phone Report to: TLM KENYON LBC 1113 EAST 14th ST SIOUX FALLS SD 57104		Report to: Report to:		Sample Type: A W S V O Air Water Soils/Solids Vegetation Urine Other		Analysis Requested		Comments, Special Instructions, etc.		
Lab No. For Lab Use Only	DATE	TIME	SAMPLE I.D.	number of containers	Sample Type: A W S V O Air Water Soils/Solids Vegetation Urine Other	Analysis Requested	Comments, Special Instructions, etc.	Time	Date	Received for Laboratory by: (signature)
01-221001	7-26-01	9:43	P-13	1W			NOT FILTERED			
002		1025	P-5R	1W			IN THE FIELD			
003		1102	P-12R	1W						
004			DUPLICATE	1W						
1.	Relinquished (signature) 	Date 7-26-01	Time 13:00	Received by: (signature)	2.	Relinquished (signature)	Date 7/27/01	Time 1000	Received for Laboratory by: (signature) K. Bubaker	



July 12, 2000

Mr. Jason Chan
Minnesota Pollution Control Agency
1601 Minnesota Dr.
Brainerd, MN 56401

Subject: Groundwater Monitoring Reports (DeZurik Lagoon No. 3 and City of Sartell
Landfill)

Dear Mr. Chan:

On behalf of the City of Sartell, URS (formerly URS Greiner Woodward Clyde) is submitting the attached DeZurik Hazardous Waste Lagoon No. 3 Groundwater Monitoring Report and City of Sartell Groundwater Monitoring Report for your records. Please note that we reiterated last Falls problems with the analysis of Barium as it affected the calculation of the Tolerance level for the DeZurik Lagoon No. 3. We also reattached the MVTL letter of explanation.

If you should have any questions regarding this information please feel free to contact me at (612) 373-6881.

Sincerely,

Dean Stockwell
Project Manager

DDS:dds

Attachments

cc: Robert Therres – City of Sartell
Lee Walz – DeZurik
Keith Sowada – International Paper (City of Sartell Report Only)

RECEIVED

JUL 13 2000

**MPCA - BRAINERD
BAXTER, MN**

URS Corporation
Thresher Square
700 South Third Street, Suite 700
Minneapolis, MN 55415-1199
Tel: 612.370.0700
Fax: 612.370.1378