



July 12, 2000

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MPCA - BRAINERD
BAXTER, MN

Mr. Robert Therres
City of Sartell
310 2nd Street S.
Sartell, Minnesota 56377

Subject: Spring 2000 Groundwater Monitoring Results for the Dezurik Closed
Hazardous Waste Landfill Lagoon No. 3
Project No. 3600013526.00 Task 00001

Dear Mr. Therres:

URS Greiner Woodward Clyde (URSGWC) has completed the Spring 2000 Water Quality Sampling and data analysis for the monitoring wells at the Dezurik Closed Hazardous Waste Landfill Lagoon No. 3 (Facility) located in Sartell, Minnesota (Figure 1). As part of the Spring 2000 sampling round, upgradient monitoring well P-13 was sampled on April 24, 2000, and downgradient monitoring wells P-5R, P-9R and P-12R were sampled on April 24-25, 2000. Groundwater samples were analyzed for general water quality parameters and dissolved metals per the permit requirements. On March 30, 2000, Minnesota Pollution Control Agency (MPCA) staff approved the elimination of quadruplicate sampling of monitoring well P-13 and Total Metal analysis from all monitoring points.

All sampling and laboratory analyses were completed by Minnesota Valley Testing Laboratory (MVTL) of New Ulm, Minnesota. Depth to water measurements were obtained from each well prior to sampling and are summarized in Table 1. Figure 2 shows the groundwater contour map with the groundwater flow direction at the site for the Spring 2000 sampling event.

SPRING 2000 RESULTS SUMMARY

Analytical results from the spring sampling event are attached to the end of this letter report. General water quality and dissolved metals groundwater results were compared to state and federal water quality standards. Dissolved boron and total dissolved solids (TDS) levels exceeded federal or state water quality standards during this sampling event in at least one monitoring well. Lead was detected at P-12R in exceedance of the EPA's Maximum Contaminant Level Goal (MCLG).

Boron (dissolved) was detected in monitoring well P-5R (1.18 mg/l) above the 0.6 mg/l Health Risk Limit (HRL). P-5R is located sidegradient of the Facility and has historically shown boron results ranging from 0.4 to 2.6 mg/l, with a relatively steady downward trend since the December 1990

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Mr. Robert Therres
City of Sartell
July 12, 2000
Page 2

sampling event. With approval from the Minnesota Pollution Control Agency (MPCA), P-5A was removed from the sampling program in 1993 and was replaced with P-5R. RMT, Inc. suggested in a correspondence dated February 17, 1998, that there may be an upgradient boron source or that naturally occurring variability could affect groundwater quality at the facility.

TDS was detected in P-5R (717 mg/l), P-9R (508 mg/l), and P-12R (582 mg/l). These results are above the EPA secondary maximum contaminant level for drinking water (SMCL) of 500 mg/l. TDS has historically exceeded the SMCL at P-5R and P-9R, but the TDS level has generally been decreasing since October 1990. The TDS level for P-12R has decreased significantly from the Fall 1999 reading (3,540 mg/L), but this well has not consistently historically exceeded the SMCL. The TDS concentrations in the other wells have generally been consistent with the exception of P-13. P-13 has tended to have variable TDS levels (RMT, Inc. 2/17/98).

Lead (dissolved) was detected in P-12R (0.0011 mg/l). This result is above the EPA's MCLG, which is a non-enforceable public health goal. This result is below the EPA's Maximum Contaminant Level standard of 0.015 mg/l.

STATISTICAL ANALYSIS SUMMARY

Laboratory analytical results and field notes are attached. Table 2 summarizes the historical analytical data and statistical analysis. As requested in the September 8, 1998 letter from the MPCA, Table 2 has been modified to show the actual levels of barium detected since the fourth quarter 1996 sampling event. However, where these values are lower than the historical detection limit of 50 mg/l, the historical value was used to calculate the tolerance level for barium.

The analytical method for barium was changed in October 1996, lowering the detection limit for this analyte from 50 ug/l to 5 ug/l for the period 10/16/96 through 10/16/97. Based on the change in the detection limit, a nonparametric tolerance limit was used for comparison to background until the October 1997 sampling event. The change in statistical methods led to an apparent statistical exceedance of barium in P-9R. RMT, Inc. concluded that the apparent statistical exceedance was an artifact of the lowering of the detection limit and proposed to return to the 50 ug/l detection limit for barium along with returning to the Tolerance Limit based on the Poisson Distribution, calculated by the method outlined in the Post Closure Permit dated September 1994 in a correspondence dated February 17, 1998. The MPCA agreed with this proposal in a correspondence dated March 10, 1998.

In a March 17, 1999 letter, MPCA stated that the high barium data for P-13 was suspect due to the lack of quality control (QC) data and should not be used in calculating future tolerance levels. URSGWC agrees that the Fall 1999 barium results should be excluded from calculating the tolerance levels. Table 2 reflects this exclusion. For this and all future sampling events, the barium tolerance



Mr. Robert Therres
City of Sartell
July 12, 2000
Page 3

level is calculated based on the most recent sixteen data points, excluding the four data points associated with the October 1999 sampling event. Attached is a letter from MVTL explaining the potential cause of the barium results, and the appropriate response. However, the barium field blank results were omitted from this laboratory report, but a revised report will be included a future correspondence. MVTL has indicated that potential carryover problems exist and is examining the issue further. Results of this diagnosis will also be transmitted in future correspondence.

Based on the data collected at the site to April 1999, a tolerance level for barium of 220 ug/l was calculated. The statistical increase in barium in the past few years in both the upgradient and downgradient wells is likely the result of an off-site source and not Lagoon No. 3, since the groundwater flow direction has been consistently from the north-northwest.

SUMMARY

This report summarizes the results of the Spring 2000 Groundwater Sampling Event. The results were compared to relevant regulatory standards and criteria detailed in the Part B Permit issued in September 1994. While boron (P-5R) and TDS (P-5R, P-9R, and P-12R) levels exceeded water quality standards, the results from the Spring 2000 sampling event are in general, similar to previous sampling rounds. The Spring 2000 data will be reviewed and presented in detail along with the Fall 2000 sampling events in the 2000 Annual Groundwater Monitoring Report.

URSGWC appreciates the opportunity to provide consulting services to you on this project. If you have any questions regarding this letter report, please do not hesitate to contact us at (612) 370-0700.

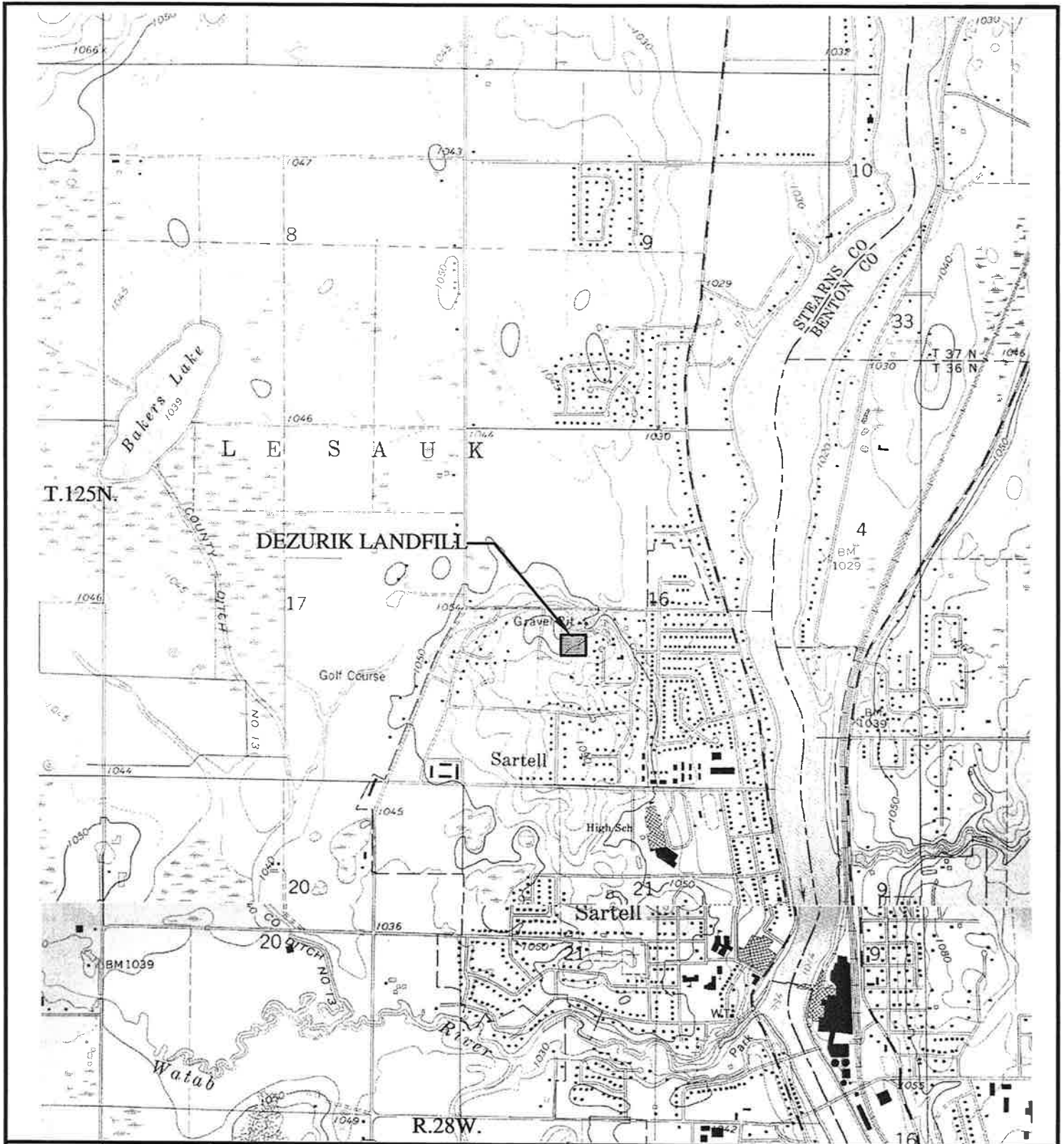
Sincerely,

Dean Stockwell
Project Manager

DS:tea

Enclosure

cc: Lee Walz – Dezurik



QUADRANGLE LOCATION
LITTLE ROCK LAKE, MINN.

URS Corporation

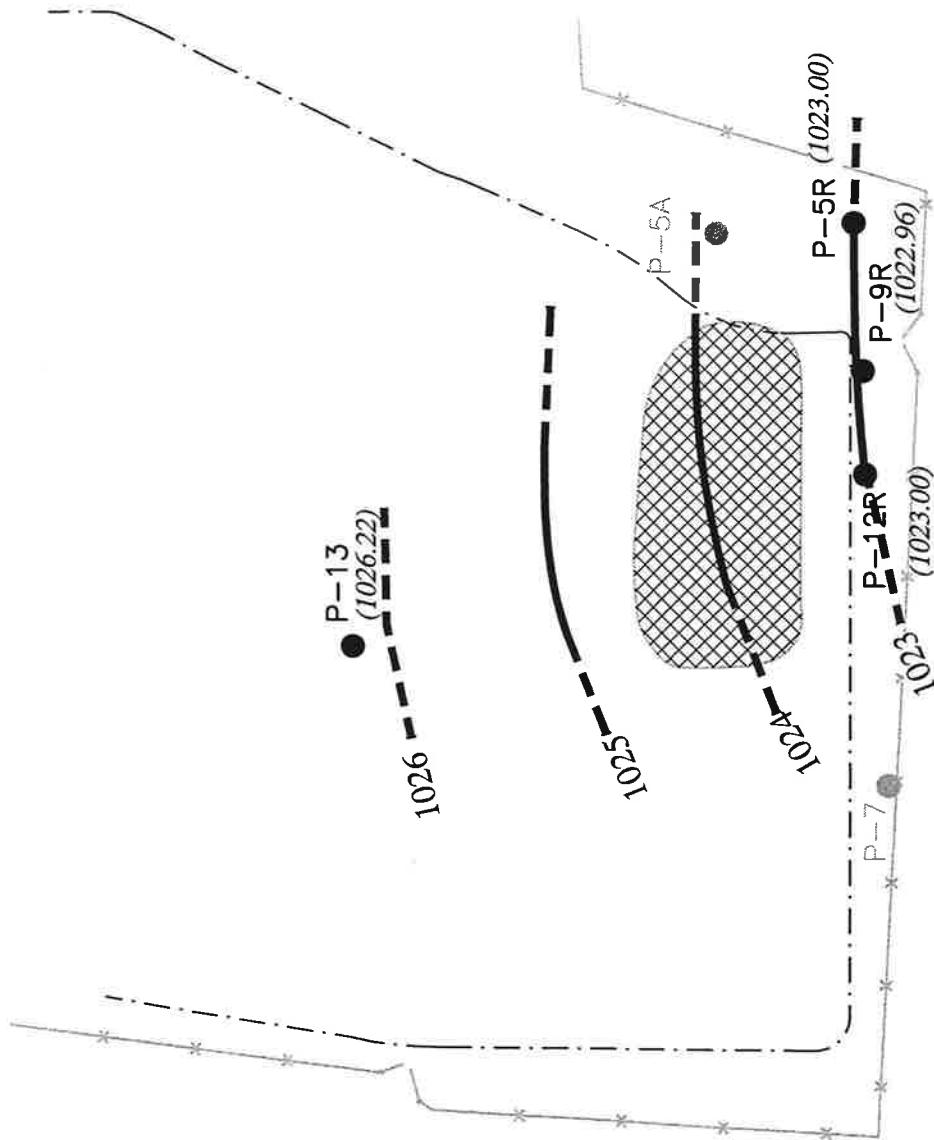
Engineering & sciences applied to the earth & its environment

SITE LOCATION MAP DEZURIK LANDFILL SARTELL, MINNESOTA

DRN BY: KAH	DATE: 05/00	PROJECT NO. 3600013526	FIG. NO. 1
CHK'D BY: JRJC	DATE: 05/00		

LEGEND

- P-13
(1026.10)
- *—*— FENCE
- · - · - · - APPROXIMATE LIMIT OF LANDFILL WASTE
- ▨ APPROXIMATE LIMIT OF LAGOON
- 1025 — WATER TABLE CONTOUR (DASHED WHERE INFERRED)



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GROUNDWATER CONTOUR MAP, APRIL 24&25, 2000
 DEZURIK HAZARDOUS WASTE LAGOON NO. 3
 SARTELL, MINNESOTA

DRN BY: KAH	DATE: 05/00	PROJECT NO. 3600013526	FIG. NO. 2
CHK'D BY: JRJC	DATE: 05/00		

Table 1
Groundwater Elevation Data, 2000
DeZurik Hazardous Waste Lagoon #3

Well I.D.	Top of Casing Elevation (feet above MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet above MSL)
SPRING 2000			
P-5R	1099.04	76.04	1023.00
P-9R	1102.09	79.13	1022.96
P-12R	1101.33	78.33	1023.00
P-13*	1105.12	78.90	1026.22

Note: MSL, mean sea level, used as a vertical datum.

*P-13A was used for this elevation

Table 2
Summary of Analytical and Statistical Analysis Results
DeZurik Hazardous Waste Lagoon No. 3
(units = $\mu\text{g/L}$, dissolved)

WELL NUMBER	DATE	ARSENIC	BARIUM	CADMIUM	LEAD	SELENIUM
P-5A	12/27/89	ND	50	ND	ND	ND
P-5A	6/28/90	ND	ND	0.5	5	ND
P-5A	10/4/90	ND	110	ND	ND	ND
P-5A	12/18/90	ND	80	ND	ND	ND
P-5A	4/4/91	ND	60	0.4	ND	ND
P-5A	8/1/91	ND	67	ND	ND	ND
P-5A-1	10/31/91	ND	63	0.32	ND	ND
P-5A-2	10/31/91	ND	60	0.43	ND	ND
P-5A-3	10/31/91	ND	62	0.38	ND	ND
P-5A-4	10/31/91	ND	62	0.55	ND	ND
P-5A	4/23/92	ND	56	ND	ND	ND
P-5A	9/30/92	ND	ND	ND	ND	ND
P-5A	4/20/93	ND	ND	ND	ND	ND
P-5R	10/27/93	ND	78	1.4	ND	ND
P-5R	1/10/94	--	ND	--	--	--
P-5R	4/20/94	ND	ND	ND	ND	<6.02
P-5R	10/17/94	ND	ND	ND	ND	ND
P-5R	4/11/95	ND	ND	ND	ND	ND
P-5R	10/11/95	ND	52	ND	ND	ND
P-5R	4/17/96	ND	ND	ND	ND	ND
P-5R	10/16/96	< 3.0	ND	0.36	< 3.0	< 3.0
P-5R	4/17/97	< 3.0	50	< 0.30	< 3.0	< 3.0
P-5R	10/16/97	<3.0	ND	<0.30	<3.0	<3.0
P-5R	4/13/98	<2	16	<0.2	<1	<3
P-5R	10/6/98	<2	33	<0.2	<1	<3
P-5R	4/27/99	<2	131	<0.2	<1	<1
P-5R	10/27/99	<2	210*	<0.2	<1	<1
P-5R	4/24/00	<2	204	<0.2	<1	<1
P-9R	4/4/91	ND	ND	ND	ND	ND
P-9R	8/1/91	ND	ND	ND	ND	ND
P-9R-1	10/31/91	ND	ND	ND	ND	ND
P-9R-2	10/31/91	ND	ND	ND	ND	ND
P-9R-3	10/31/91	ND	ND	0.3	ND	ND
P-9R-4	10/31/91	ND	ND	ND	ND	ND
P-9R	4/23/92	ND	ND	0.19	ND	ND
P-9R	9/30/92	ND	ND	ND	ND	ND
P-9R	4/20/93	ND	ND	ND	ND	ND
P-9R	10/27/93	ND	ND	0.7	ND	ND
P-9R	4/20/94	ND	ND	ND	ND	<6.02
P-9R	10/17/94	ND	ND	ND	ND	ND
P-9R	4/11/95	ND	ND	ND	ND	ND
P-9R	10/10/95	ND	ND	ND	ND	ND
P-9R	4/17/96	ND	ND	ND	ND	ND
P-9R	10/16/96	< 3.0	ND	< 0.30	< 3.0	< 3.0
P-9R	4/16/97	< 3.0	53	< 0.30	< 3.0	< 3.0
P-9R	10/15/97	<3.0	61	1.4	<3.0	<3.0

Table 2
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-9R	4/10/98	<2	17	0.7	2	<3
P-9R	10/6/98	<2	46	<0.2	<1	<3
P-9R	4/27/99	<2	191	<0.2	1.4	<1
P-9R	10/27/99	<2	126*	0.35	<1	<1
P-9R	4/25/00	<2	99	0.26	<1	<1
P-12	4/4/91	ND	ND	ND	ND	ND
P-12	8/1/91	ND	ND	0.32	ND	ND
P-12-1	10/31/91	ND	ND	0.31	ND	ND
P-12-2	10/31/91	ND	ND	0.33	ND	ND
P-12-3	10/31/91	ND	ND	ND	ND	ND
P-12-4	10/31/91	ND	ND	ND	ND	ND
P-12	4/23/92	ND	ND	ND	ND	ND
P-12	9/30/92	ND	ND	ND	ND	ND
P-12	4/20/93	ND	ND	ND	ND	ND
P-12R	10/27/93	ND	ND	13	ND	ND
P-12R	1/10/94	--	--	ND	--	--
P-12R	4/20/94	ND	ND	ND	ND	<6.02
P-12R	10/17/94	ND	ND	ND	ND	ND
P-12R	4/11/95	ND	ND	ND	ND	ND
P-12R	10/10/95	ND	ND	ND	5.2	ND
P-12R	4/17/96	ND	ND	ND	ND	ND
P-12R	10/16/96	< 3.0	ND	0.63	< 3.0	< 3.0
P-12R	4/17/97	< 3.0	ND	< 0.30	< 3.0	< 3.0
P-12R	10/16/97	<3.0	ND	<0.30	<3.0	<3.0
P-12R	4/13/98	<2	9	<0.2	<1	<3
P-12R	10/6/98	<2	30	<0.2	<1	<3
P-12R	4/27/99	<2	54	<0.2	<1	<1
P-12R	10/27/99	<2	159*	<0.2	<1	<1
P-12R	4/25/00	<2	135	<0.2	1.1	<1
P-13	6/28/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	6/28/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	6/28/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	6/28/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	10/4/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	10/4/90	< 3.0	60	< 0.3	< 3.0	< 3.0
P-13B	10/4/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	10/4/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	12/18/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	12/18/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	12/18/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13D	12/18/90	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	4/4/91	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	8/1/91	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-1	10/31/91	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-2	10/31/91	< 3.0	< 50	0.88	< 3.0	< 3.0
P-13-3	10/31/91	< 3.0	< 50	< 0.3	< 3.0	< 3.0

Table 2
Summary of Analytical and Statistical Analysis Results
DeZurik Hazardous Waste Lagoon No. 3
(units = $\mu\text{g/L}$, dissolved)

WELL NUMBER	DATE	ARSENIC	BARIUM	CADMIUM	LEAD	SELENIUM
P-13-4	10/31/91	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-1	4/23/92	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-2	4/23/92	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-3	4/23/92	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13-4	4/23/92	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	9/30/92	< 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	4/20/93	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	4/20/93	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	4/20/93	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13D	4/20/93	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	10/29/93	< 3.0	< 50	3.3*	< 3.0	< 3.0
P-13B	10/29/93	< 3.0	< 50	5.5*	< 3.0	< 3.0
P-13C	10/29/93	< 3.0	< 50	3.9*	< 3.0	< 3.0
P-13D	10/29/93	< 3.0	< 50	17*	< 3.0	< 3.0
P-13	4/20/94	< 3.0	< 50	< 0.3	< 3.0	< 6.02
P-13A	4/20/94	< 3.0	< 50	< 0.3	< 3.0	< 6.02
P-13B	4/20/94	< 3.0	< 50	0.31	< 3.0	< 6.02
P-13C	4/20/94	< 3.0	< 50	< 0.3	< 3.0	< 6.02
P-13	10/17/94	< 3.0	54	< 0.3	< 3.0	< 3.0
P-13A	10/18/94	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	10/18/94	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	10/18/94	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	4/11/95	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	4/11/95	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	4/11/95	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	4/12/95	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	10/11/95	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	10/11/95	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	10/11/95	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	10/11/95	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	4/17/96	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13A	4/17/96	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13B	4/17/96	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13C	4/17/96	< 3.0	< 50	< 0.3	< 3.0	< 3.0
P-13	10/16/96	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13A	10/16/96	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13B	10/17/96	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13C	10/17/96	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13	4/16/97	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13A	4/17/97	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13B	4/17/97	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13C	4/17/97	< 3.0	< 50	< 0.30	< 3.0	< 3.0
P-13	10/15/97	< 3.0	< 50	< 0.30	< 3.0	< 3.0

Table 2
Summary of Analytical and Statistical Analysis Results
DeZurik Hazardous Waste Lagoon No. 3
(units = $\mu\text{g/L}$, dissolved)

WELL NUMBER	DATE	ARSENIC	BARIUM	CADMIUM	LEAD	SELENIUM
P-13A	10/16/97	< 3.0	<50	< 0.30	< 3.0	< 3.0
P-13B	10/16/97	< 3.0	<50	< 0.30	< 3.0	< 3.0
P-13C	10/16/97	< 3.0	<50	< 0.30	< 3.0	< 3.0
P-13A	4/9/98	<2	<6	<0.2	<1	<3
P-13B	4/10/98	<2	<6	<0.2	<1	<3
P-13C	4/10/98	2.2	<6	<0.2	<1	<3
P-13D	4/13/98	<2	<6	<0.2	<1	<3
P-13A	10/5/98	<2	27	<0.2	<1	<3
P-13B	10/5/98	<2	101	<0.2	<1	<3
P-13C	10/6/98	<2	180	<0.2	<1	<3
P-13D	10/6/98	<2	135	<0.2	<1	<3
P-13A	4/26/99	<2	66	<0.2	<1	<1
P-13B	4/26/99	<2	178	<0.2	<1	<1
P-13C	4/27/99	<2	114	<0.2	<1	<1
P-13D	4/27/99	<2	151	<0.2	<1	<1
P-13A	10/26/99	<2	95*	<0.2	<1	<1
P-13B	10/27/99	<2	300*	<0.2	<1	<1
P-13C	10/27/99	<2	196*	<0.2	<1	<1
P-13D	10/27/99	<2	229*	<0.2	<1	<1
P-13A	4/24/00	<2	156	<0.2	<1	<1
Background Detection limit**		3	50	0.3	3	3
Background Mean#		3	93	0.3	3	3
Background Standard deviation#		1.732	51.6	0.548	1.732	1.732
$K_{0.95}$		2.532	2.532	2.532	2.532	2.532
Tolerance level###**		7.4	220	1.7	7.4	7.4

ND Not detected.

-- Not measured.

The Poisson Distribution method was used for calculating the mean and standard deviation 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 calculation. As required in the August 1994 Part B Permit Application, the most recent and valid 16 samples were included in the tolerance limit calculation.

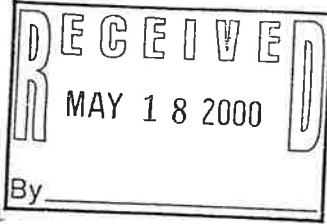
** In 1998, new analytical equipment allowed the laboratory to obtain lower detection limits than that obtained in previous sampling years. These detection limits are lower than those required in the August 1994 Part B Permit Application for evaluating compliance of wells. Where the reported detection 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.

Note: Sample results in bold type exceed MCL and/or HRL



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 N. Front St. - New Ulm, MN 56073 - 800-782-3557 - Fax 507-359-2890
1411 S. 12th St. - Bismarck, ND 58502 - 800-279-6885 - Fax 701-258-9724
710 S. 14th St. - Grand Forks, ND 58201 - 800-272-7645 - Fax 701-772-0028
35 W. Lincoln Way - Nevada, IA 50201 - 800-362-0855 - Fax 515-382-3885



Date Reported: 10 May 2000

Work Order #: 31-162

Account Number: 013138

DEAN STOCKWELL
URS GREINER WOODWARD CLYDE
6465 WAYZATA BLVD STE 660
MINNEAPOLIS MN 55426-1711

Project Name: DEZURIK


Sampler Signature

RL = Reporting Limits
NQ = Not Present, Qualitative Only
PQ = Present, Qualitative Only
ND = Not Determined

All data for this report has been approved by MVTL Laboratory Management.



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 N. Front St. - New Ulm, MN 56073 - 800-782-3557 - Fax 507-359-2890
 1411 S. 12th St. - Bismarck, ND 58502 - 800-279-6885 - Fax 701-258-9724
 710 S. 14th St. - Grand Forks, ND 58201 - 800-272-7645 - Fax 701-772-0028
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Report Date: 10 May 2000

Lab Number: 00-L9889
 Work Order #: 31-162
 Account #: 013138

DEAN STOCKWELL
 URS GREINER WOODWARD CLYDE
 6465 WAYZATA BLVD STE 660
 MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000
 Date Sampled: 24 Apr 2000
 Time Sampled: 16:04
 Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-5R

Analyte	Result	RL	Method	Date Analyzed	Analyst
Appearance, Field	Slightly cloudy	NA	2110		MS
Water Elevation	76.04	NA	NA		MS
Temperature - Field	13.9 deg. C	NA	170.1		MS
Specific Conductance, fld	1046 umhos/cm	1.	120.1		MS
Specific Conductance	1109 umhos/cm	0.1	120.1	5/ 1/00 3:00	SDH
pH, Field	7.15 units	1.00	150.1		MS
pH (Laboratory)	7.3 units	1.0	150.1	5/ 3/00 8:33	SDH
Fluoride	< 0.1 mg/L	0.10	340.2	4/28/00	JD
Sulfate	157 mg/L	4	375.4	5/ 2/00 10:24	TKK
Chloride	23.0 mg/L	3.0	325.2	5/ 2/00 15:46	TKK
Nitrate+Nitrite	5.57 mg/L as N	0.20	353.2	4/28/00 8:40	TKK
Nitrite	< 0.01 mg/L as N	0.010	EPA 353.2	4/27/00 11:30	TKK
Phenolics, Total	< 5 ug/L	5	420.1	5/ 3/00 9:19	JD
Cyanide, Total	< 0.02 mg/L	0.02	335.2	4/28/00	JD
Chemical Oxygen Demand	41 mg/L	5	410.4	4/28/00 6:00	JD

MINNESOTA LAB # 027-015-125
 WISCONSIN LAB ID # 999447680

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Report Date: 10 May 2000

Lab Number: 00-L9889
 Work Order #: 31-162
 Account #: 013138

DEAN STOCKWELL
 URS GREINER WOODWARD CLYDE
 6465 WAYZATA BLVD STE 660
 MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000
 Date Sampled: 24 Apr 2000
 Time Sampled: 16:04
 Temperature at Receipt: 1.00

Project Name: DEZURIK

Sample Description: P-5R

Analyte	Result	RL	Method	Date Analyzed	Analyst
Solids, Total Dissolved	717 mg/L	1	160.1	4/27/00 14:59	AKF
Barium, Dissolved	0.204 mg/L	0.001	6010	5/ 2/00 10:30	TB
Chromium, Dissolved	< 0.002 mg/L	0.002	6010	5/ 2/00 10:30	TB
Iron, Dissolved	< 0.008 mg/L	0.008	6010	5/ 2/00 10:30	TB
Manganese, Dissolved	0.092 mg/L	0.003	6010	5/ 2/00 10:30	TB
Zinc, Dissolved	0.065 mg/L	0.007	6010	5/ 2/00 10:30	TB
Boron, Dissolved	1.18 mg/L	0.10	6010	5/ 4/00 9:15	TB
Arsenic, Dissolved	< 2 ug/L	2.0	206.2	5/ 1/00 6:20	JGS
Cadmium, Dissolved	< 0.2 ug/L	0.20	213.2	5/ 2/00 8:07	JGS
Lead, Dissolved	< 1 ug/L	1.0	239.2	5/ 1/00 9:14	JGS
Selenium, Dissolved	< 1 ug/L	1.0	270.2	5/ 8/00 11:03	JGS
Calcium, Dissolved	153 mg/L	0.20	215.1	4/26/00 13:45	JGS
Magnesium, Dissolved	47.0 mg/L	0.03	242.1	4/26/00 14:01	JGS
Sodium, Dissolved	26.0 mg/L	0.05	273.1	4/27/00 9:47	JGS
Nitrate	5.57 mg/L as N	NA	353.2	4/28/00 8:40	Calculated

OL = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125
 WISCONSIN LAB ID # 999447680

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Report Date: 10 May 2000

Lab Number: 00-L9889
Work Order #: 31-162
Account #: 013138

DEAN STOCKWELL
URS GREINER WOODWARD CLYDE
6465 WAYZATA BLVD STE 660
MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000
Date Sampled: 24 Apr 2000
Time Sampled: 16:04
Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-5R

Analyte	Result	RL	Method	Date Analyzed	Analyst
Carbon, Total Organic	1.3 mg/l	1.0	415.1	4/28/00	01

01 = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125
WISCONSIN LAB ID # 999447680

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Report Date: 10 May 2000

Lab Number: 00-L9890
 Work Order #: 31-162
 Account #: 013138

DEAN STOCKWELL
 URS GREINER WOODWARD CLYDE
 6465 WAYZATA BLVD STE 660
 MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000
 Date Sampled: 25 Apr 2000
 Time Sampled: 9:33
 Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-12R

Analyte	Result	RL	Method	Date Analyzed	Analyst
Appearance, Field	Slightly cloudy	NA	2110		MS
Water Elevation	78.33	NA	NA		MS
Temperature - Field	11.4 deg. C	NA	170.1		MS
Specific Conductance, Fld	879 umhos/cm	1.	120.1		MS
Specific Conductance	958.0 umhos/cm	0.1	120.1	5/ 1/00 3:00	SDH
pH, Field	7.31 units	1.00	150.1		MS
pH (Laboratory)	7.4 units	1.0	150.1	5/ 3/00 8:33	SDH
Fluoride	< 0.1 mg/L	0.10	340.2	4/28/00	JD
Sulfate	96 mg/L	4	375.4	5/ 2/00 10:24	TRK
Chloride	31.5 mg/L	3.0	325.2	5/ 2/00 15:46	TRK
Nitrate+Nitrite	4.72 mg/L as N	0.20	353.2	4/28/00 8:40	TRK
Nitrite	< 0.01 mg/L as N	0.010	EPA 353.2	4/27/00 11:30	TRK
Phenolics, Total	< 5 ug/L	5	420.1	5/ 3/00 9:19	JD
Cyanide, Total	< 0.02 mg/L	0.02	335.2	4/28/00	JD
Chemical Oxygen Demand	15 mg/L	5	410.4	4/28/00 6:00	JD

OL = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125
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Report Date: 10 May 2000

Lab Number: 00-L9890

Work Order #: 31-162

Account #: 013138

DEAN STOCKWELL
 URS GREINER WOODWARD CLYDE
 6465 WAYZATA BLVD STE 660
 MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000

Date Sampled: 25 Apr 2000

Time Sampled: 9:33

Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-12R

Analyte	Result	RL	Method	Date Analyzed	Analyst
Solids, Total Dissolved	582 mg/L	1	160.1	5/ 1/00 13:58	AKF
Barium, Dissolved	0.135 mg/L	0.001	6010	5/ 8/00 14:00	TB
Chromium, Dissolved	< 0.002 mg/L	0.002	6010	5/ 8/00 14:00	TB
Iron, Dissolved	0.028 mg/L	0.008	6010	5/ 8/00 14:00	TB
Manganese, Dissolved	0.022 mg/L	0.003	6010	5/ 8/00 14:00	TB
Zinc, Dissolved	0.042 mg/L	0.007	6010	5/ 8/00 14:00	TB
Boron, Dissolved	< 0.1 mg/L	0.10	6010	5/ 4/00 9:15	TB
Arsenic, Dissolved	< 2 ug/L	2.0	206.2	5/ 1/00 6:20	JGS
Cadmium, Dissolved	< 0.2 ug/L	0.20	213.2	5/ 2/00 8:07	JGS
Lead, Dissolved	1.1 ug/L	1.0	239.2	5/ 1/00 9:14	JGS
Selenium, Dissolved	< 1 ug/L	1.0	270.2	5/ 8/00 11:03	JGS
Calcium, Dissolved	136 mg/L	0.20	215.1	5/ 5/00 12:40	JGS
Magnesium, Dissolved	37.0 mg/L	0.03	242.1	5/ 5/00 12:47	JGS
Sodium, Dissolved	9.70 mg/L	0.05	273.1	5/ 5/00 12:26	JGS
Nitrate	4.72 mg/L as N	NA	353.2	4/28/00 8:40	Calculated

OL = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125

WISCONSIN LAB ID # 999447680

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Report Date: 10 May 2000

Lab Number: 00-L9890
Work Order #: 31-162
Account #: 013138

DEAN STOCKWELL
URS GREINER WOODWARD CLYDE
6465 WAYZATA BLVD STE 660
MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000
Date Sampled: 25 Apr 2000
Time Sampled: 9:33
Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-12R

Analyte	Result	RL	Method	Date Analyzed	Analyst
Carbon, Total Organic	1.9 mg/L	1.0	415.1	4/28/00	01

01 = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125
WISCONSIN LAB ID # 999447680

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Report Date: 10 May 2000

Lab Number: 00-L9891

Work Order #: 31-162

Account #: 013138

DEAN STOCKWELL
 URS GREINER WOODWARD CLYDE
 6465 WAYZATA BLVD STE 660
 MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000

Date Sampled: 25 Apr 2000

Time Sampled: 9:55

Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-9R

Analyte	Result	RL	Method	Date Analyzed	Analyst
Appearance, Field	Clear	NA	2110		MS
Water Elevation	79.13	NA	NA		MS
Temperature - Field	12.5 deg. C	NA	170.1		MS
Specific Conductance, Fld	773 umhos/cm	1.	120.1		MS
Specific Conductance	864.0 umhos/cm	0.1	120.1	5/ 1/00 3:00	SDH
pH, Field	7.48 units	1.00	150.1		MS
pH (Laboratory)	7.5 units	1.0	150.1	5/ 3/00 8:33	SDH
Fluoride	< 0.1 mg/l	0.10	340.2	4/28/00	JD
Sulfate	67 mg/l	4	375.4	5/ 2/00 10:24	THK
Chloride	21.4 mg/l	3.0	325.2	5/ 2/00 15:46	THK
Nitrate+Nitrite	4.60 mg/L as N	0.20	353.2	4/28/00 8:40	THK
Nitrite	0.010 mg/L as N	0.010	EPA 353.2	4/27/00 11:30	THK
Phenolics, Total	< 5 ug/l	5	420.1	5/ 3/00 9:19	JD
Cyanide, Total	< 0.02 mg/l	0.02	335.2	5/ 5/00	JD
Chemical Oxygen Demand	9 mg/l	5	410.4	4/28/00 6:00	JD

OL = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125
 WISCONSIN LAB ID # 999447680

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Report Date: 10 May 2000

Lab Number: 00-L9891
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DEAN STOCKWELL
 URS GREINER WOODWARD CLYDE
 6465 WAYZATA BLVD STE 660
 MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000
 Date Sampled: 25 Apr 2000
 Time Sampled: 9:55
 Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-9R

Analyte	Result	RL	Method	Date Analyzed	Analyst
Solids, Total Dissolved	508 mg/L	1	160.1	5/ 1/00 13:58	AKF
Barium, Dissolved	0.099 mg/L	0.001	6010	5/ 2/00 10:30	TB
Chromium, Dissolved	< 0.002 mg/L	0.002	6010	5/ 2/00 10:30	TB
Iron, Dissolved	< 0.008 mg/L	0.008	6010	5/ 2/00 10:30	TB
Manganese, Dissolved	0.024 mg/L	0.003	6010	5/ 2/00 10:30	TB
Zinc, Dissolved	0.020 mg/L	0.007	6010	5/ 2/00 10:30	TB
Boron, Dissolved	< 0.1 mg/L	0.10	6010	5/ 4/00 9:15	TB
Arsenic, Dissolved	< 2 ug/L	2.0	206.2	5/ 1/00 6:20	JGS
Cadmium, Dissolved	0.26 ug/L	0.20	213.2	5/ 2/00 8:07	JGS
Lead, Dissolved	< 1 ug/L	1.0	239.2	5/ 1/00 9:14	JGS
Selenium, Dissolved	< 1 ug/L	1.0	270.2	5/ 8/00 11:03	JGS
Calcium, Dissolved	118 mg/L	0.20	215.1	4/26/00 13:45	JGS
Magnesium, Dissolved	37.0 mg/L	0.03	242.1	4/26/00 14:01	JGS
Sodium, Dissolved	8.40 mg/L	0.05	273.1	4/27/00 9:47	JGS
Nitrate	4.59 mg/L as N	NA	353.2	4/28/00 8:40	Calculated

OL = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125
 WISCONSIN LAB ID # 999447680

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Report Date: 10 May 2000

Lab Number: 00-L9891
Work Order #: 31-162
Account #: 013138

DEAN STOCKWELL
URS GREINER WOODWARD CLYDE
6465 WAYZATA BLVD STE 660
MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000
Date Sampled: 25 Apr 2000
Time Sampled: 9:55
Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-9R

Analyte	Result	RL	Method	Date Analyzed	Analyst
Carbon, Total Organic	1.3 mg/L	1.0	415.1	4/28/00	OL

OL = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125
WISCONSIN LAB ID # 999447680

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Report Date: 10 May 2000

Lab Number: 00-L9892

Work Order #: 31-162

Account #: 013138

DEAN STOCKWELL
 URS GREINER WOODWARD CLYDE
 6465 WAYZATA BLVD STE 660
 MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000

Date Sampled: 24 Apr 2000

Time Sampled: 12:53

Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-13A

Analyte	Result	RL	Method	Date Analyzed	Analyst
Appearance, Field	Clear	NA	2110		MS
Water Elevation	78.90	NA	NA		MS
Temperature - Field	13.0 deg. C	NA	170.1		MS
Specific Conductance, Fld	661 umhos/cm	1.	120.1		MS
Specific Conductance	720.0 umhos/cm	0.1	120.1	5/ 1/00 3:00	SDH
pH, Field	7.46 units	1.00	150.1		MS
pH (Laboratory)	7.7 units	1.0	150.1	5/ 3/00 8:33	SDH
Fluoride	< 0.1 mg/L	0.10	340.2	4/28/00	JD
Sulfate	26 mg/L	4	375.4	5/ 2/00 10:24	TMK
Chloride	16.8 mg/L	3.0	325.2	5/ 2/00 15:46	TMK
Nitrate+Nitrite	5.81 mg/L as N	0.20	353.2	4/28/00 8:40	TMK
Nitrite	0.010 mg/L as N	0.010	EPA 353.2	4/27/00 11:30	TMK
Phenolics, Total	< 5 ug/L	5	420.1	5/ 3/00 9:19	JD
Cyanide, Total	< 0.02 mg/L	0.02	335.2	5/ 5/00	JD
Chemical Oxygen Demand	9 mg/L	5	410.4	4/28/00 6:00	JD

01 = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125

WISCONSIN LAB ID # 999447680

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Report Date: 10 May 2000

Lab Number: 00-L9892

Work Order #: 31-162

Account #: 013138

DEAN STOCKWELL
 URS GREINER WOODWARD CLYDE
 6465 WAYZATA BLVD STE 660
 MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000

Date Sampled: 24 Apr 2000

Time Sampled: 12:53

Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-13A

Analyte	Result	RL	Method	Date Analyzed	Analyst
Solids, Total Dissolved	413 mg/L	1	160.1	4/27/00 14:59	AKF
Barium, Dissolved	0.156 mg/L	0.001	6010	5/ 2/00 10:30	TB
Chromium, Dissolved	< 0.002 mg/L	0.002	6010	5/ 2/00 10:30	TB
Iron, Dissolved	< 0.008 mg/L	0.008	6010	5/ 2/00 10:30	TB
Manganese, Dissolved	0.013 mg/L	0.003	6010	5/ 2/00 10:30	TB
Zinc, Dissolved	0.045 mg/L	0.007	6010	5/ 2/00 10:30	TB
Boron, Dissolved	< 0.1 mg/L	0.10	6010	5/ 4/00 9:15	TB
Arsenic, Dissolved	< 2 ug/L	2.0	206.2	5/ 1/00 6:20	JGS
Cadmium, Dissolved	< 0.2 ug/L	0.20	213.2	5/ 2/00 8:07	JGS
Lead, Dissolved	< 1 ug/L	1.0	239.2	5/ 1/00 9:14	JGS
Selenium, Dissolved	< 1 ug/L	1.0	270.2	5/ 8/00 11:03	JGS
Calcium, Dissolved	102 mg/L	0.20	215.1	4/26/00 13:45	JGS
Magnesium, Dissolved	27.0 mg/L	0.03	242.1	4/26/00 14:01	JGS
Sodium, Dissolved	4.40 mg/L	0.05	273.1	4/27/00 9:47	JGS
Nitrate	5.80 mg/L as N	NA	353.2	4/28/00 8:40	Calculated

OL = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125

WISCONSIN LAB ID # 999447680

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Report Date: 10 May 2000

Lab Number: 00-L9892
Work Order #: 31-162
Account #: 013138

DEAN STOCKWELL
URS GREINER WOODWARD CLYDE
6465 WAYZATA BLVD STE 660
MINNEAPOLIS MN 55426-1711

Date Received: 25 Apr 2000
Date Sampled: 24 Apr 2000
Time Sampled: 12:53
Temperature at Receipt: 1.0C

Project Name: DEZURIK

Sample Description: P-13A

Analyte	Result	RL	Method	Date Analyzed	Analyst
Carbon, Total Organic	< 1 mg/l	1.0	415.1	4/28/00	OL

OL = Analysis Performed by an Outside Laboratory

MINNESOTA LAB # 027-015-125
WISCONSIN LAB ID # 999447680

All data for this report has been approved by MVTL Laboratory Management.

Field Service
CHAIN OF CUSTODY RECORD

Project Name: <i>De Zwik</i>		Name of Samplers: <i>T. J. Newkirk, Mike Schuel</i>	
Report To: <i>DEAN STOCKWELL</i> Address: <i>JRS GREINER</i> <i>6465 WAZATA BLVD, SUITE 660</i> <i>MINNEAPOLIS, MN 55462</i>		Carbon Copy 1:	Carbon Copy 2:
Phone: <i>(612) 593-5656</i> Fax: <i>(612) 593-0094</i>		Work Order Number: <i>31-162 L9889-92</i>	

"HOT"	Sample ID	Date	Time	Sample Type	Sample Location	Analysis
	<i>P-5R</i>	<i>4-24-00</i>	<i>4:05pm</i>	<i>Groundwater</i>		<i>See</i>
	<i>P-12R</i>	<i>4-24-00</i>	<i>9:34m</i>	↓		<i>attached</i>
	<i>P-9R</i>	<i>4-25-00</i>	<i>9:50am</i>			<i>list</i>
	<i>P-13A</i>	<i>4-24-00</i>	<i>12:54pm</i>			

"HOT" Sample is ≥ 100 ug/L Volatile Organic Chemicals (VOC's)
 Comments:

Samples Relinquished by: <i>Mike Schuel</i>	Date/Time: <i>4/25/00 1:00</i> Temp:	Received By: <i>Alice Sueder</i>	Date/Time: <i>4/25/00 16:00</i> Temp:
Samples Relinquished by:	Date/Time: Temp:	Received By:	Date/Time: Temp:

Means of Delivery: <i>Samplers</i> MVTL Courier Other: _____	Seals Intact? Yes No <i>NA</i>
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MINNESOTA VALLEY TESTING LABORATORIES, INC.

New Ulm, MN 56073 (507) 354-8517

Groundwater Assessment

Sampling Personnel:

T.J. Newkirk

MIKE SABER

Site: Dezurik

Solid Waste Permit #: —

Date: 24 APR 08

Well Number: P-5R

WELL INFORMATION

Well Depth: 81.20

Screen Interval: —

Constructed Depth: —

Well Casing Elev: —

Casing Diameter: 4"

Static Elevation: —

Well Volume: 3.4 Gallons

Previous Static: —

Water Depth Before: 76.04

Water Depth After: 76.04

WELL CONDITION

Well Locked?: Yes / No

Protective Posts?: Yes / No

Well Labelled?: Yes / No

State ID Tag?: Yes / No

Casing Straight?: Yes / No

Grout Seal Intact?: Yes / No

SAMPLING INFORMATION

Sampling Method: Bladder / Bailor / Grundfos / Whale / Grab / Other:

Dedicated Equipment: Yes / No

Pumping Rate: 1.25 GPM.

Weather Conditions: Sunny, ESE Wind 5-10 mph, 73°

Well Purged Dry?: Yes / No

Time Pumping Began: 3:52

Time Purged Dry: —

Time of Sampling: 4:05

Amount of Water Removed: 15 Gallons

Sample Appearance: Slightly cloudy

Duplicate Sample?: Yes / No ID: —

Sample pH/ORP: —

Time	pH	Specific Cond.	Temp (Deg. Cel)	D.O. (mg/L)	Turbidity (NTU)	Water Removed (Gallons)
3:55	7.27	1048	14.63	N/A	N/A	3.75
3:58	7.23	1047	13.74	↓	↓	7.50
4:01	7.17	1046	13.81	↓	↓	11.25
4:04	7.15	1046	13.88	↓	↓	15.00
4:07				↓	↓	18.75

Comments:

Exceptions to Protocol:

MINNESOTA VALLEY TESTING LABORATORIES, INC.

New Ulm, MN 56073 · (507) 354-8517

Groundwater Assessment

Sampling Personnel:

T.J. NEWKIRK

MIKE SCHORS

Site: Dezurik

Solid Waste Permit #: —

Date: 25 APR 00

Well Number: P-12R

WELL INFORMATION

Well Depth: 86.77

Screen Interval: NA

Constructed Depth: —

Well Casing Elev: —

Casing Diameter: 4"

Static Elevation: —

Well Volume: 5.5 Gallons

Previous Static: —

Water Depth Before: 78.33

Water Depth After: 78.34

WELL CONDITION

Well Locked?: Yes / No

Protective Posts?: Yes / No

Well Labelled?: Yes / No

State ID Tag?: Yes / No

Casing Straight?: Yes / No

Grout Seal Intact?: Yes / No

SAMPLING INFORMATION

Sampling Method: Bladder / Bailor / Groundwater / Whale / Grab / Other: —

Dedicated Equipment: Yes / No

Pumping Rate: 2 GPM

Weather Conditions: SUNNY WINDS LIGHT & VARIABLE 56°

Well Purged Dry?: Yes / No

Time Pumping Began: 9:24

Time Purged Dry: —

Time of Sampling: 9:34

Amount of Water Removed: 24 Gallons

Sample Appearance: Slightly Cloudy

Duplicate Sample?: Yes / No ID: —

Sample EH/CRP: —

Time	pH	Specific Cond.	Temp (Deg. Cel)	D.O. (mg/L)	Turbidity (NTU)	Water Removed (Gallons)
9:24	7.23	885	11.07	NA	NA	6
9:27	7.34	885	11.21	↓	↓	12
9:30	7.34	881	11.34	↓	↓	18
9:33	7.31	879	11.43	↓	↓	24
9:34				↓	↓	30

Comments:

Exceptions to Protocol:

MINNESOTA VALLEY TESTING LABORATORIES, INC.

New Ulm, MN 56073 (507) 354-8517

Groundwater Assessment

Sampling Personnel:

Mike Scheub

Site: Sidell / Dezun

Solid Waste Permit #: —

Date: 7-25-00

Well Number: P-9R

WELL INFORMATION

Well Depth: 86.09

Constructed Depth: —

Casing Diameter: 4"

Well Volume: 1.1 Gallons

Water Depth Before: 79.13

Screen Interval: NA

Well Casing Elev: —

Static Elevation: —

Previous Static: —

Water Depth After: 79.81

WELL CONDITION

Well Locked?: Yes / No

Well Labelled?: Yes / No

Casing Straight?: Yes / No

Protective Posts?: Yes / No

State ID Tag?: Yes / No

Grout Seal Intact?: Yes / No

SAMPLING INFORMATION

Sampling Method: Bladder / Bailer / Grundfos / Whale / Grab / Other:

Dedicated Equipment: Yes / No

Pumping Rate: 1 GPM.

Weather Conditions: Sunny 56°F Wind S @ 10 mph

Well Purged Dry?: Yes / No

Time Pumping Began: 9:49³⁹

Time Purged Dry: —

Time of Sampling: 9:50

Amount of Water Removed: 6 Gallons

Sample Appearance: CLEAR

Duplicate Sample?: Yes / No ID: —

Sample EH/ORP: -22.5

Time	pH	Specific Cond.	Temp (Deg. Cel)	D.O. (mg/L)	Turbidity (NTU)	Water Removed (Gallons)
9:51	7.58	762	12.62	NA	NA	2
9:53	7.52	769	12.54	↓	↓	4
9:55	7.48	773	12.53	↓	↓	6
9:57				↓	↓	8
9:59				↓	↓	10

Comments:

Exceptions to Protocol:

MINNESOTA VALLEY TESTING LABORATORIES, INC.

New Ulm, MN 56073 (507) 354-8517

Groundwater Assessment

Sampling Personnel:

Mike Schuch
T. J. Wawchuk

Site: SARTELL DeZurik

Solid Waste Permit #: NA

Date: 4-24-00

Well Number: P-13A

WELL INFORMATION

Well Depth: 86.75
Constructed Depth: _____
Casing Diameter: 4"
Well Volume: 5.1 Gallons
Water Depth Before: 78.90

Screen Interval: NA
Well Casing Elev: 1105.12
Static Elevation: 1026.22
Previous Static: NA
Water Depth After: 78.97

WELL CONDITION

Well Locked?: Yes / No
Well Labelled?: Yes / No
Casing Straight?: Yes / No

Protective Posts?: Yes / No
State ID Tag?: Yes / No
Grout Seal Intact?: Yes / No Grad

SAMPLING INFORMATION

Sampling Method: Bladder / Bailor / Grundfos / Whale / Scoop / Other: _____
Dedicated Equipment: Yes / No Pumping Rate: 2.0 GPM.
Weather Conditions: Sunny, 63°F, ESE @ 5-15 mph
Well Purged Dry?: Yes / No Time Pumping Began: 12:38⁵⁷
Time Purged Dry: _____ Time of Sampling: 12:54
Amount of Water Removed: 30 Gallons Sample Appearance: Clear
Duplicate Sample?: Yes / No ID: _____ Sample ER/ORP: _____

Time	pH	Specific Cond.	Temp (Deg. Cel)	D.O. (mg/L)	Turbidity (NTU)	Water Removed (Gallons)
12:41	7.62	592	14.89	NA	NA	6
12:44	7.53	590	14.30	↓	↓	12
12:47	7.48	629	13.58	↓	↓	18
12:50	7.46	651	13.25	↓	↓	24
12:53	7.44	664	13.01	↓	↓	30

Comments:

Exceptions to Protocol:

**LABORATORIES, Inc.**

P.O. BOX 249, 1126 N. FRONT STREET
NEW ULM, MN 56073-0249

PHONE (507) 354-8517 WATS (800) 782-3557 FAX (507) 359-2890

WE ARE AN EQUAL OPPORTUNITY EMPLOYER



January 25, 2000

Dean Stockwell
URS Dames & Moore
6465 Wayzata Blvd
Suite 660
Minneapolis, MN 55426

Dear Mr. Stockwell:

I am writing in response to your request for clarification on analytical results for the DeZurik site. Specifically, you inquired about the total and dissolved data for Barium, based on the fact that some dissolved results are higher than the total.

Routine review of the analytical data by MVTL revealed higher dissolved results compared to the total results on some of the monitoring wells. Samples were re-analyzed to double-check the original results. The re-checks confirmed the Barium data was higher on some dissolved samples than the total. This data indicates that field contamination may have occurred during this sampling event. The field filtering apparatus may have contained carry-over Barium. Sample bottle contamination is another possibility. Bottle contamination is less likely due to the fact that MVTL uses new bottles for each sample.

Corrective action will be taken during the next sampling event. Our technicians will collect a field blank from the filtering apparatus prior to sampling. The field blank will be analyzed with the monitoring well samples to check for contamination.

I apologize for any inconvenience this may have caused. If you have any questions or need further clarification, please contact us in New Ulm. Our toll free number is 800-782-3557. You can reach me direct at 507-233-7130.

Sincerely,

Michael K. Grob