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MB

December 10, 2003

RECEIVED
DEC 15 2003
DOWNERS GROVE
SANITARY DISTRICT

Mr. Mark Latham
Gardner, Carton & Douglas
191 North Wacker Drive
Suite 3700
Chicago, IL 60606

Re: October Sampling Results
Downers Grove Sanitary District
Monitoring Results

Dear Mark:

On October 23, 2003, we sampled the monitoring well network in the southeast portion of the District's property. We included the three new wells we had recently installed. Enclosed please find the tables of results, figures depicting the monitoring well locations and shallow zone groundwater flow, cross sections of the geology and groundwater elevations, and the analytical data sheets. The additional wells has clarified somewhat the groundwater flow directions.

I will attempt to summarize my observations from the data.

- There appears to be at least two groundwater zones; one in the sand/gravel above the silt layer, and the second in the silt layer (and sand layer that sometimes is present beneath the silt and above the bedrock).
- The shallower zone appears to have a generally south flow direction, with a ten foot drop in elevation across the site. The deeper zone is flatter, with a 2.6 ft variance in the four deeper screened wells.
- At DG-1(I) we were successful in punching through a large cobble, and installed DG-1(D) below the cobble, partially into the silt. The water quality in these two wells were similar, and essentially void of volatiles (VOCs). (Trichloroethylene (TCE) was detected in both samples as well as the lab's blank. Perchloroethylene (PCE) was detected in DG-1(D) at 0.0026 mg/L, but was also reported in the trip blank (0.0014 mg/L) and in the field blank (0.0016 mg/L).
- DG-2(I) and DG-3(I) along the east property line continue to have VOCs. In DG-2(I), 1,1,1-trichloroethane (TCA) at 0.0041 mg/L was present, along with its product of

degradation, 1,1-dichloroethane (1,1-DCA) at 0.0127 mg/L. DG-3(I) further south contained the 1,1-DCA (0.0089 mg/L) and a product of further degradation chloroethane (0.0053 mg/L). DG-3(I) also contained cis-1,2-dichloroethylene (DCE) at 0.0006 mg/L and vinyl chloride at 0.0033 mg/L.

- DG-5(I) drilled north of DG-2(I) was screened to the top of bedrock, similar to DG-2(I). However, DG-5(I)'s screen is totally contained within the silt and deeper sand, while DG-2(I)'s silt layer was smaller so it is also screened into the higher sand. DG-5(I) was void of VOCs except for PCE at 0.0019 mg/L, which was present in the trip blank and field blank.
- BD-4(I) which is screened into the silt and lower sands contained 0.0043 mg/L TCE, the lowest level recorded level to date, and 0.0011 mg/L TCA, similar to previous levels.
- DG-6(I) installed northwest of the sludge lagoons was void of VOCs, except for the PCE previously noted as suspect.

Hopefully we will be able to install two wells on the adjacent property to the east before the next sampling round. Based on the results to date, we will screen these wells above the silt layer.

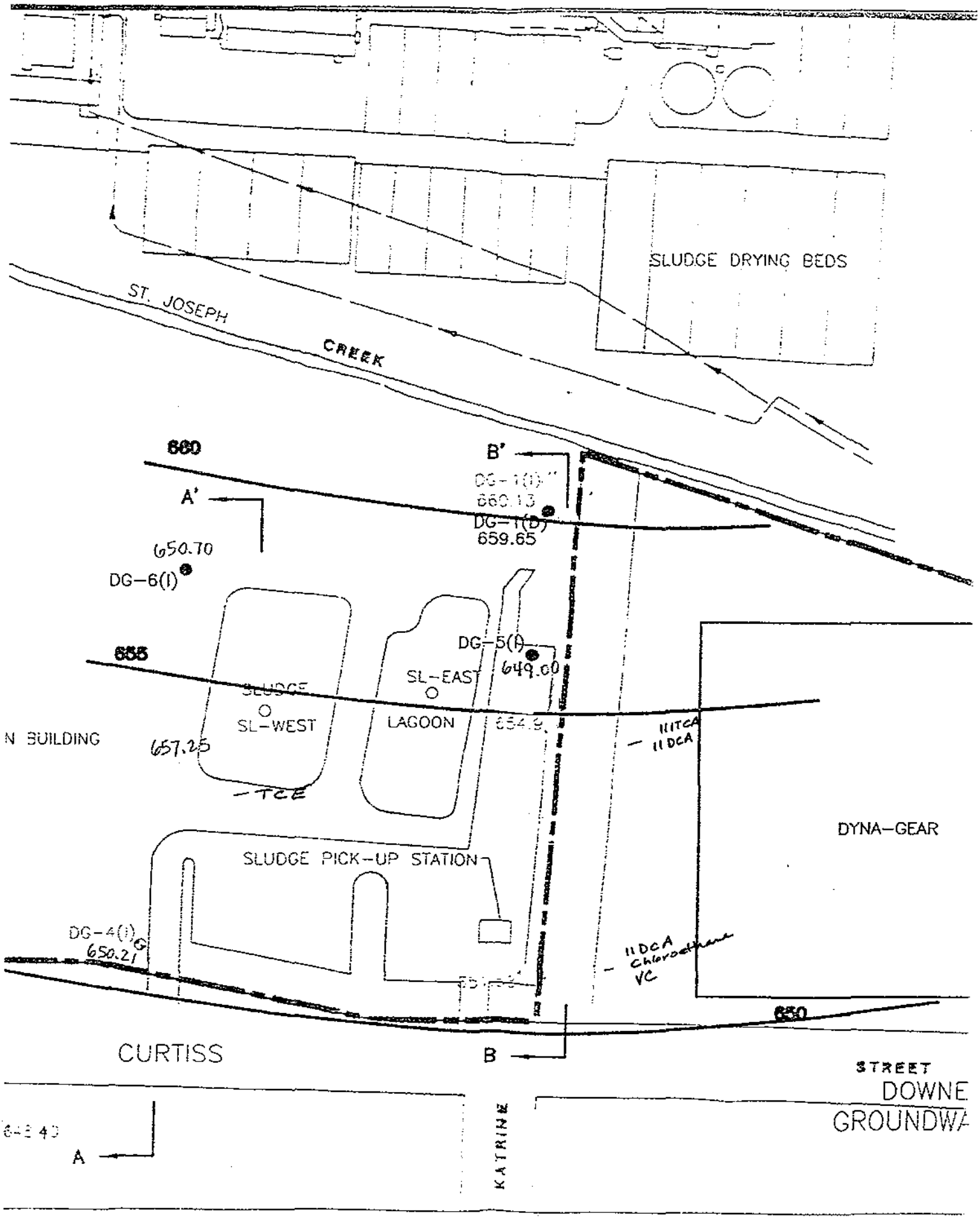
Please call if you have any questions.

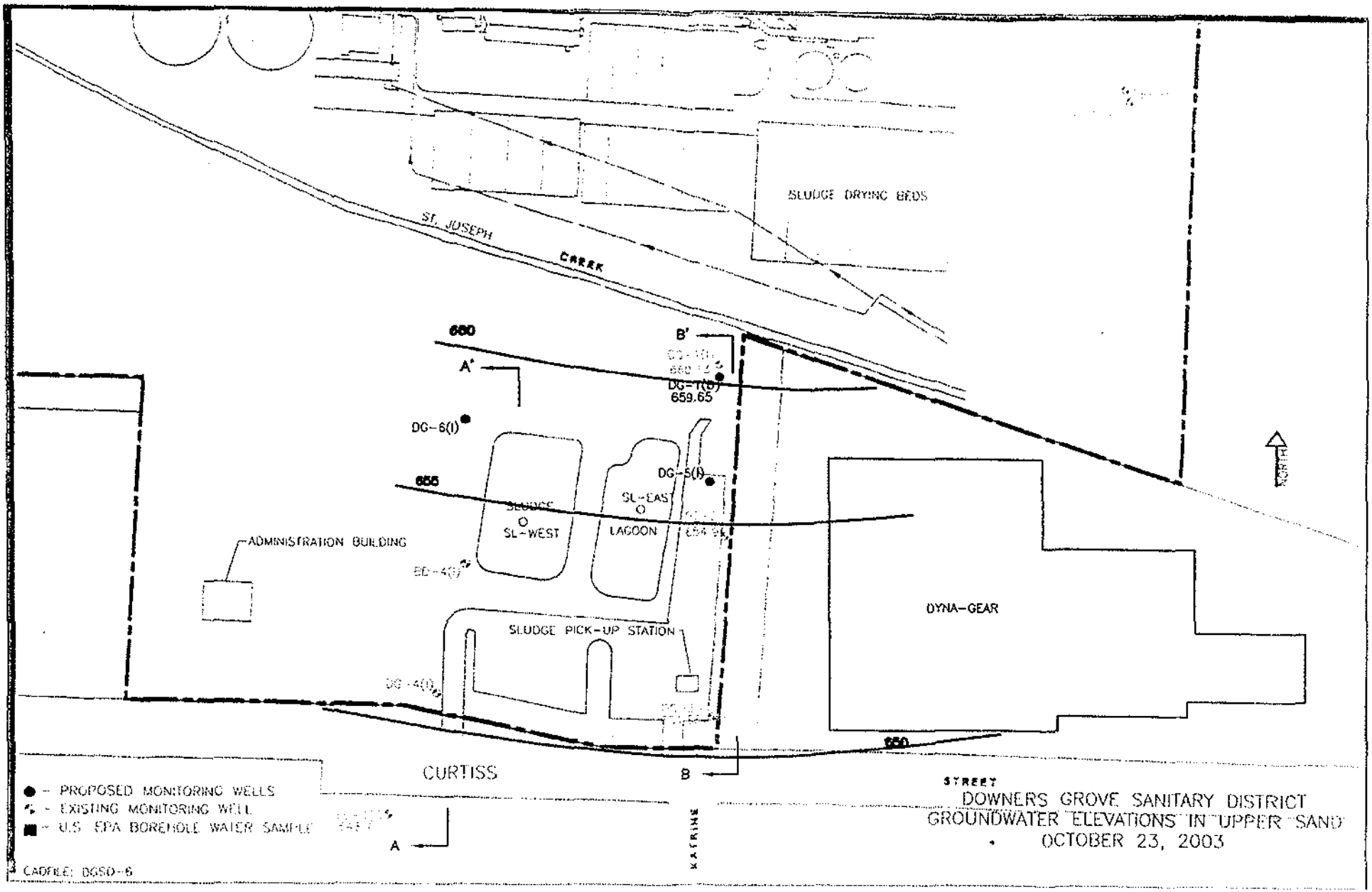
Sincerely,

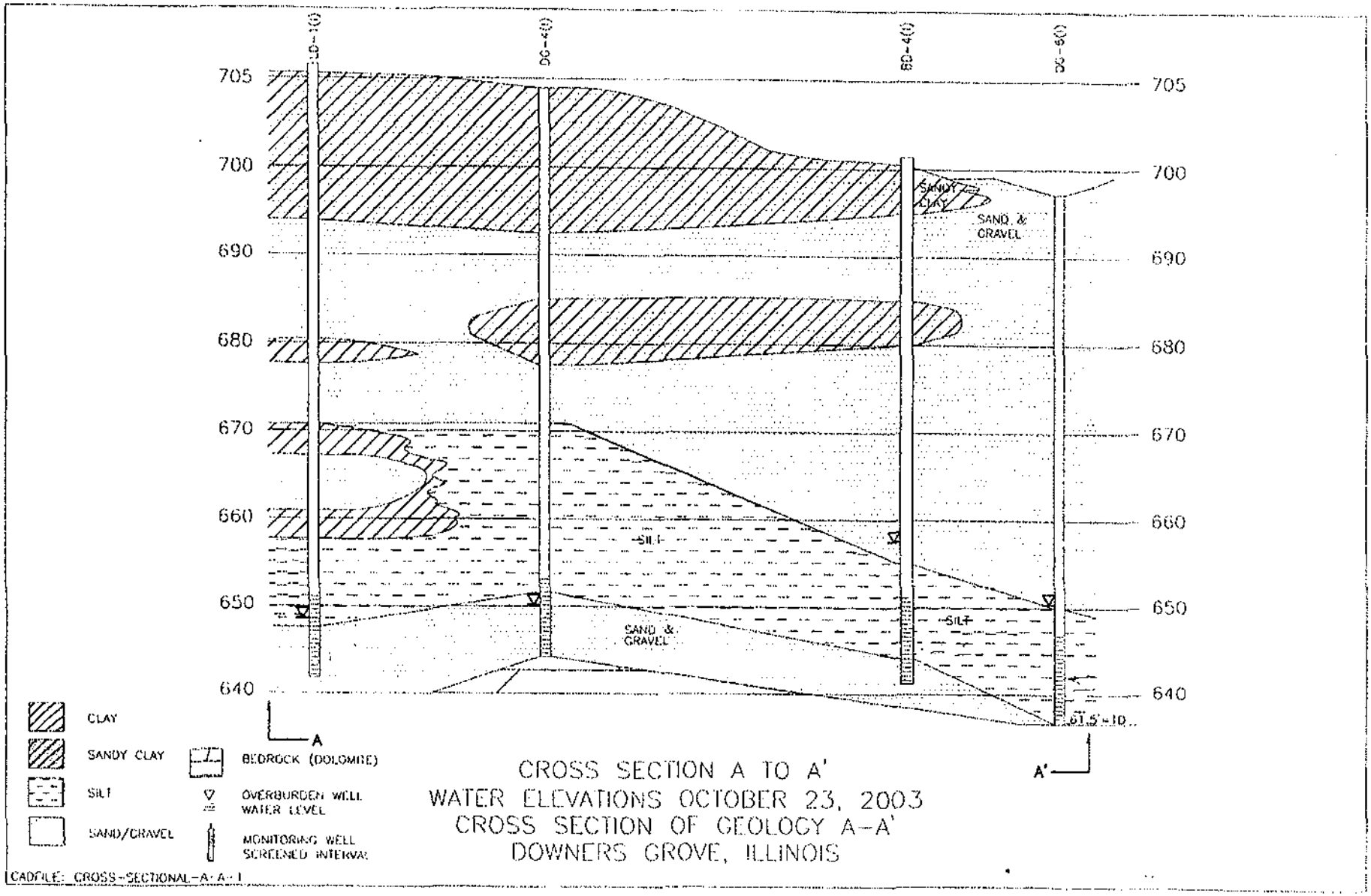
James E. Huff, P.E.

cc: Larry Cox, Downers Grove Sanitary District

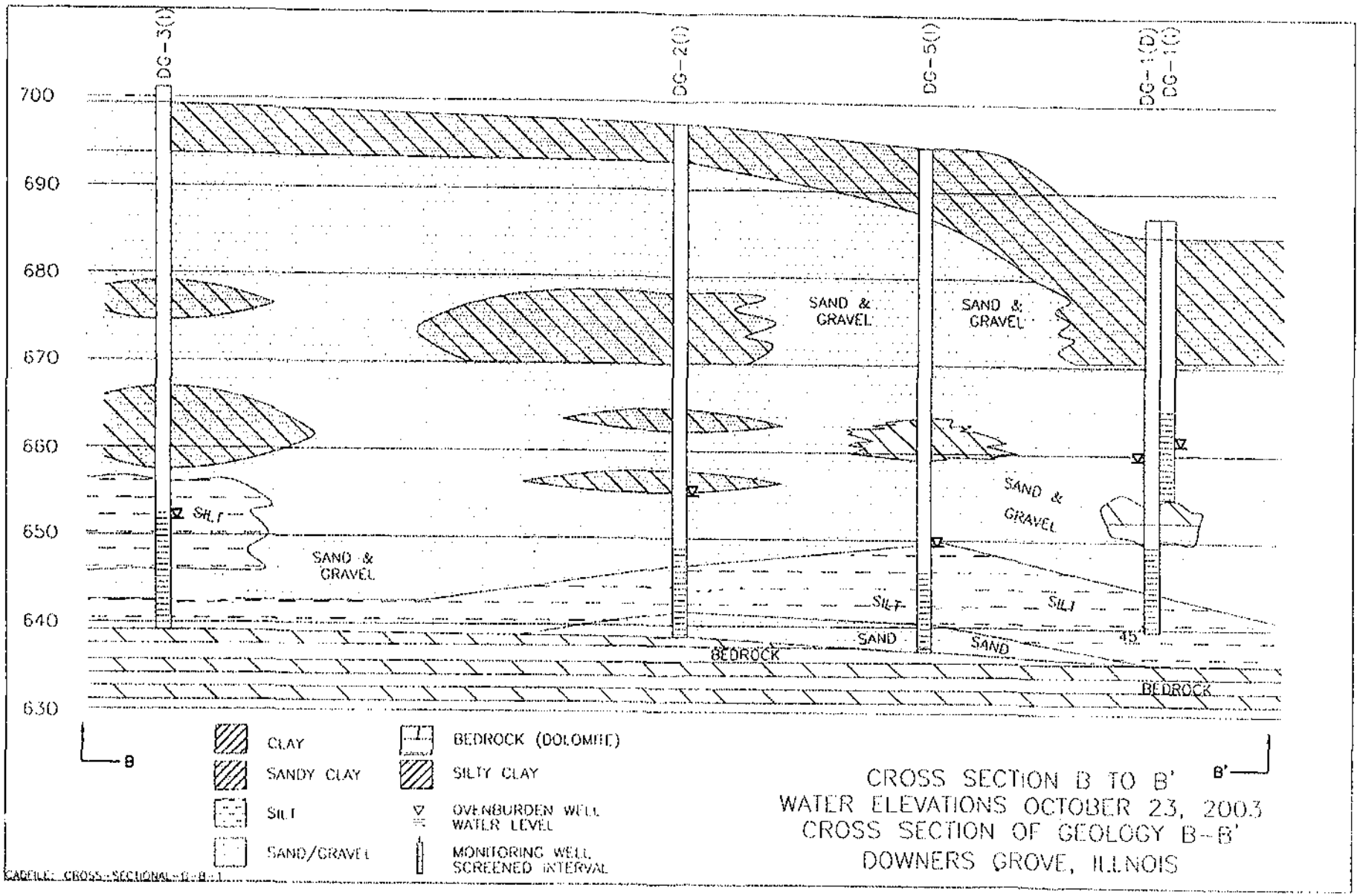
R:\Downers Gr San Dist\2003\Dec MW Report.doc


SLUDGE DRYING BEDS
ST. JOSEPH
CREEK
660
B'
DG-1(I)
660.13
DG-1(D)
659.65
A'
650.70
DG-6(I)
655
DG-5(I)
649.00
SL-EAST
LAGOON
SL-WEST
N BUILDING
657.25
TCE
111TCA
11DCA
DYNA-GEAR
SLUDGE PICK-UP STATION
DG-4(I)
650.21
11DCA
Chloroethane
VC
650
CURTISS
B
STREET
DOWNE
GROUNDWA
A
KATRINE


SLUDGE DRYING BEDS
ST. JOSEPH CREEK
660
B'
A'
DG-1(b)
659.65
DG-6(I)
DG-5(I)
655
SLUDGE
SL-WEST
SL-EAST
LAGOON
ADMINISTRATION BUILDING
SLUDGE PICK-UP STATION
DYNA-GEAR
NORTH
650
CURTISS
STREET
B
A
KATRINE
● - PROPOSED MONITORING WELLS
- EXISTING MONITORING WELL
■ - U.S. EPA BOREHOLE WATER SAMPLE
CADFILE: DGSD-6
DOWNERS GROVE SANITARY DISTRICT
GROUNDWATER ELEVATIONS IN UPPER SAND
OCTOBER 23, 2003



CROSS SECTION A TO A'
WATER ELEVATIONS OCTOBER 23, 2003
CROSS SECTION OF GEOLOGY A-A'
DOWNERS GROVE, ILLINOIS



CROSS SECTION B TO B'
WATER ELEVATIONS OCTOBER 23, 2003
CROSS SECTION OF GEOLOGY B-B'
DOWNERS GROVE, ILLINOIS

CADFILE: CROSS-SECTIONAL-B-B'.1

TABLE 1
DOWNERS GROVE OVERBURDEN WELL BD-4(I)
CHLORINATED SOLVENT RESULTS

Date	mg/L					
	06/18/2002	09/05/2002	11/12/2002	03/25/2003	06/24/2003	10/23/2003
1,1,1-Trichloroethane	**0.0012**	<0.0003	<0.0020	**0.0011**	**0.0010**	**0.0011**
1,1-Dichloroethane	<0.0010	<0.0002	<0.0050	<0.0002	<0.0002	<0.0002
1,1,-Dichloroethylene	<0.0010	<0.0003	<0.0020	<0.0003	<0.0003	<0.0003
Chloroethane	<0.0010	<0.0005	<0.0050	<0.0005	<0.0005	<0.0005
Perchloroethylene	**0.0005**	<0.0004	<0.0020	<0.0004	**0.0004**	**0.0021** a/
Trichloroethylene	**0.0092**	**0.0053**	**0.0086**	**0.0113**	**0.0090**	**0.0043**
cis-1,2-Dichloroethylene	<0.0010	<0.0020	<0.0020	<0.0003	<0.0003	<0.0003
Vinyl chloride	<0.0010	<0.0004	<0.0002	<0.0004	<0.0004	<0.0004

Detected Compounds Bolded

a/ Perchloroethylene detected in Trip Blank (0.0014 mg/L) and Field Blank (0.0016 mg/L)

R:\Downers Gr San Dist\[DG Tables.xls]BD-4(I)

TABLE 2
DOWNERS GROVE OVERBURDEN WELL DG-5(I)
CHLORINATED SOLVENT RESULTS

Date	10/23/2003 mg/L
1,1,1-Trichloroethane	<0.0003
1,1-Dichloroethane	<0.0002
1,1,-Dichloroethylene	<0.0003
Chloroethane	<0.0005
Percloroethylene	**0.0019** a/
Trichloroethylene	<0.0003
cis-1,2-Dichloroethylene	<0.0003
Vinyl chloride	<0.0004

Detected Compounds Bolded

B = Analyte detected in associated method blank.

a/ Perchloroethylene detected in Trip Blank (0.0014 mg/L)

and in Field Blank (0.0016 mg/L)

R:\Downers Gr San Dist\[DG Tables.xls]DG-5(I)

TABLE 3
DOWNERS GROVE OVERBURDEN WELL DG-6(I)
CHLORINATED SOLVENT RESULTS

Date	mg/L 10/23/2003
1,1,1-Trichloroethane	<0.0003
1,1-Dichloroethane	<0.0002
1,1,-Dichloroethylene	<0.0003
Chloroethane	<0.0005
Percloroethylene	**0.0017** [a/]
Trichloroethylene	<0.0003
cis-1,2-Dichloroethylene	<0.0003
Vinyl chloride	<0.0004

a/ Perchloroethylene detected in Trip Blank (0.0014 mg/L)
and Field Blank (0.0016 mg/L)

R:\Downers Gr San Dist\[DG Tables.xls]DG-6(I)

TABLE 4
DOWNERS GROVE OVERBURDEN WELL DG-1(I)
CHLORINATED SOLVENT RESULTS

	mg/L			
Date	11/12/2002	03/25/2003	06/24/2003	10/23/2003
1,1,1-Trichloroethane	<0.0020	<0.0003	<0.0003	<0.0003
1,1-Dichloroethane	<0.0050	<0.0002	<0.0002	<0.0002
1,1,-Dichloroethylene	<0.0020	<0.0003	<0.0002	<0.0003
Chloroethane	<0.0050	<0.0005	<0.0005	<0.0005
Percloroethylene	<0.0030	<0.0004	<0.0004	<0.0004
Trichloroethylene	<0.0020	<0.0003	**0.0003 B**	**0.0042 JB**
cis-1,2-Dichloroethylene	<0.0020	<0.0003	<0.0003	<0.0003
Vinyl chloride	<0.0020	<0.0004	<0.0004	<0.0004

Detected Compounds Bolded

B = Analyte detected in associated method blank.

J= Analyte detected below quantitative limits

R:\Downers Gr San Dist\[DG Tables.xls]DG-1(I)

TABLE 5
DOWNERS GROVE OVERBURDEN WELL DG-1(D)
CHLORINATED SOLVENT RESULTS

Date	mg/L 10/23/03
1,1,1-Trichloroethane	<0.0003
1,1-Dichloroethane	<0.0002
1,1,-Dichloroethylene	<0.0003
Chloroethane	<0.0005
Percloroethylene	**0.0026** a/
Trichloroethylene	**0.0042** JB
cis-1,2-Dichloroethylene	<0.0003
Vinyl chloride	<0.0004

Detected Compounds Bolded

B = Analyte detected in associated method blank.

J= Analyte detected below quantitative limits

a/ Perchloroethylene detected in Trip Blank (0.0014 mg/L) and Field Blank (0.0016 mg/L)

R:\Downers Gr San Dist\[DG Tables.xls]DG-1(D)

TABLE 6
DOWNERS GROVE OVERBURDEN WELL DG-2(I)
CHLORINATED SOLVENT RESULTS

	mg/L			
Date	11/12/2002	03/25/2003	06/24/2003	10/23/2003
1,1,1-Trichloroethane	**0.0040**	**0.0047**	**0.0059**	**0.0041**
1,1-Dichloroethane	**0.0110**	**0.0090**	**0.0228**	**0.0127**
1,1,-Dichloroethylene	<0.0020	<0.0003	<0.0003	<0.0003
Chloroethane	<0.0050	<0.0005	<0.0005	<0.0005
Percloroethylene	<0.0030	<0.0004	**0.0010 B**	**0.0018** [a/]
Trichloroethylene	<0.0020	<0.0003	<0.0003	<0.0003
cis-1,2-Dichloroethylene	<0.0020	<0.0003	<0.0003	<0.0003
Vinyl chloride	<0.0020	<0.0004	<0.0004	<0.0004

Detected Compounds Bolded

B = Analyte detected in associated method blank.

Perchloroethyene detected in Trip Blank (0.0014 mg/L and in Field Blank (0.0016 mg/L)

R:\Downers Gr San Dist\[DG Tables.xls]DG-2(I)

TABLE 7
DOWNERS GROVE OVERBURDEN WELL DG-3(I)
CHLORINATED SOLVENT RESULTS

	mg/L			
Date	11/12/2002	03/25/2003	06/24/2003	10/23/2003
1,1,1-Trichloroethane	<0.0020	<0.0003	<0.0003	<0.0003
1,1-Dichloroethane	<0.0050	**0.0142**	**0.0184**	**0.0089**
1,1,-Dichloroethylene	<0.0020	<0.0003	<0.0003	<0.0003
Chloroethane	**0.0070**	**0.0057**	**0.0111**	**0.0053**
Percloroethylene	<0.0020	<0.0004	<0.0004	**0.0018** a/
Trichloroethylene	<0.0020	<0.0003	<0.0003	<0.0003
cis-1,2-Dichloroethylene	<0.0020	<0.0003	**0.0013**	**0.0006**
Vinyl chloride	**0.0020**	**0.0034**	**0.0040**	**0.0033**

Detected Compounds Bolded

a/ Perchloroethylene detected in Trip Blank (0.0014 mg/L) and in Field Blank (0.0016 mg/L)

R:\Downers Gr San Dist\[DG Tables.xls]DG-3(I)

TABLE 8
DOWNERS GROVE OVERBURDEN WELL DG-4(I)
CHLORINATED SOLVENT RESULTS

	mg/L			
Date	11/12/2002	03/25/2003	06/24/2003	10/23/2003
1,1,1-Trichloroethane	<0.0020	<0.0003	<0.0003	<0.0003
1,1-Dichloroethane	<0.0050	<0.0002	<0.0002	<0.0002
1,1,-Dichloroethylene	<0.0020	<0.0003	<0.0003	<0.0003
Chloroethane	<0.0050	<0.0005	<0.0005	<0.0005
Percloroethylene	<0.0020	<0.0004	<0.0004	<0.0004
Trichloroethylene	<0.0020	<0.0003	<0.0003	**0.0040** JB
cis-1,2-Dichloroethylene	<0.0020	<0.0003	<0.0003	<0.0003
Vinyl chloride	<0.0020	<0.0004	<0.0004	<0.0004

Detected Compounds Bolded

B = Analyte detected in associated method blank.

J= Analyte detected below quantitative limits

R:\Downers Gr San Dist\[DG Tables.xls]DG-4(I)

TABLE 9
DOWNERS GROVE OVERBURDEN WELL LD-1(I)
CHLORINATED SOLVENT RESULTS

	mg/L			
Date	11/12/2002	03/25/2003	06/24/2003	10/23/03
1,1,1-Trichloroethane	<0.0020	<0.0003	<0.0003	<0.0003
1,1-Dichloroethane	<0.0050	<0.0002	<0.0002	<0.0002
1,1,-Dichloroethylene	<0.0020	<0.0003	<0.0003	<0.0003
Chloroethane	<0.0050	<0.0005	<0.0005	<0.0005
Percloroethylene	<0.0030	<0.0004	**0.0011 B**	<0.0004
Trichloroethylene	<0.0020	<0.0003	<0.0003	**0.0042 JB**
cis-1,2-Dichloroethylene	<0.0020	<0.0003	<0.0003	<0.0003
Vinyl chloride	<0.0020	<0.0004	<0.0004	<0.0004

Detected Compounds Bolded
B = Analyte detected in associated method blank.
J= Analyte detected below quantitative limits
Chloroform, chloromethane, methylene chloride
and Perchloroethene detected in trip blank.
Perchloroethene and toluene detected in Field Blank

R:\Downers Gr San Dist\[DG Tables.xls]LD-1(I)

TABLE 10
DOWNERS GROVE OVERBURDEN
FIELD BLANK AND TRIP BLANK RESULTS
CHLORINATED SOLVENT RESULTS
OCTOBER 23, 2003

	mg/L	
Date	Trip Blank	Field Blank
1,1,1-Trichloroethane	<0.0003	<0.0003
1,1-Dichloroethane	<0.0002	<0.0002
1,1,-Dichloroethylene	<0.0003	<0.0003
Chloroethane	<0.0005	<0.0005
Percloroethylene	**0.0014**	**0.0016**
Trichloroethylene	<0.0003	<0.0003
cis-1,2-Dichloroethylene	<0.0003	<0.0003
Vinyl chloride	<0.0004	<0.0004

R:\Downers Gr San Dist\[DG Tables.xls]Sheet1

TABLE 11
DOWNERS GROVE SANITARY DISTRICT
HISTORIC GROUNDWATER ELEVATIONS [a]

Well ID	Top of Casing, ft	11/12/02 - 11/14/02 Depth to GW, ft [b]	11/12/02 - 11/14/02 Groundwater Elevation, ft	03/27/03 Depth to GW, ft [b]	03/27/03 Groundwater Elevation, ft	06/23/03 Depth to GW, ft [b]	06/23/03 Groundwater Elevation, ft	10/23/03 Depth to GW, ft [b]	10/23/03 Groundwater Elevation, ft	11/21/03 Depth to GW, ft [b]	11/21/03 Groundwater Elevation, ft
SB-15(I)	702.04	33.00	669.04	33.53	668.51	33.54	702.04				
DG-15(I)	702.92	48.00	654.92	51.75	651.17	51.27	651.65				
DG-1(I)	688.31	29.30	659.01	26.03	662.28	27.32	660.99	28.18	660.13	27.21	661.10
DG-2(I)	698.62	39.30	659.32	44.67	653.95	43.18	655.44	43.66	654.96	43.22	655.40
DG-3(I)	701.56	42.70	658.86	42.22	659.34	47.82	653.74	49.98	651.58	40.24	661.32
LD-1(I)	708.03	58.50	649.53	59.28	648.75	58.29	649.74	59.63	648.40		
DG-4(I)	703.77	53.45	650.32	53.24	650.53	49.56	654.21	53.56	650.21	50.15	653.62
BD-4(I)	701.65	48.80	652.85	41.43	660.22	42.77	658.88	44.40	657.25		
DG-1(D)	686.94							27.29	659.65	26.21	660.73
DG-5(I)	694.34							45.34	649.00	44.65	649.69
DG-6(I)	697.93							47.23	650.70	46.95	650.98

[a] Top of casing, well screen interval, and groundwater elevations given relative to mean sea level in feet.
[b] Depth to groundwater taken from the top of well of the monitoring well casing

R:\Downers Gr San Dist\[gw elev10-23-03xls.xls]groundwater elevations