CDM Camp Dresser & McKee

140915

Report

FINAL

REMEDIAL INVESTIGATION REPORT SOUTHEAST ROCKFORD GROUNDWATER CONTAMINATION STUDY

APPENDICES VOLUME 1

A MONITORING WELL DETAILS AND BOREHOLE LOGS
B PARTICLE SIZE ANALYSIS
C HYDRAULIC CONDUCTIVITY
D SURVEYING RESULTS
E USEABILITY OF CHEMICAL DATA
F BLANK AND DUPLICATE ANALYSIS WITH SELECTED RELATIVE PERCENT DIFFERENCES

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APPENDIX A
MONITORING WELL DETAILS AND BOREHOLE LOGS

Appendix
A

APPENDIX A
MONITORING WELL DETAILS
AND BOREHOLE LOGS

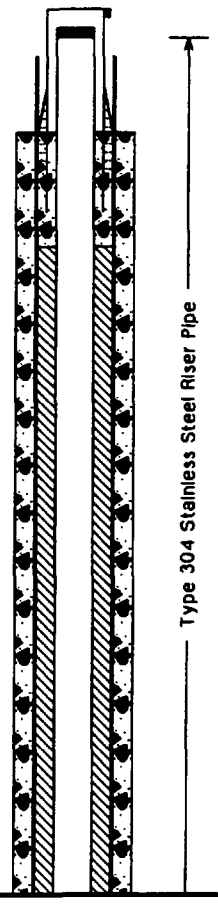
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL
MW-101C

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 766.48 Ft.
Total Depth: 173.4 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-24-93 End 07-27-93
Drillers: Paul Dickinson, Mike Nelson, Paul Cranfield
Development Date: Start 07-27-93 End 07-27-93
Surface Elevation: 764.0 Ft.
Depth To Initial Water Level (GS): Not Measured
Well Coordinates:
N: 2029675.694 E: 2598076.007

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
				Note: Refer to MW101B and MW101D for geologic logs.		764 / 0 759 / 5 754 / 10 749 / 15	Cement High-Solids Bentonite Grout Type 304 Stainless Steel Riser Pipe



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE
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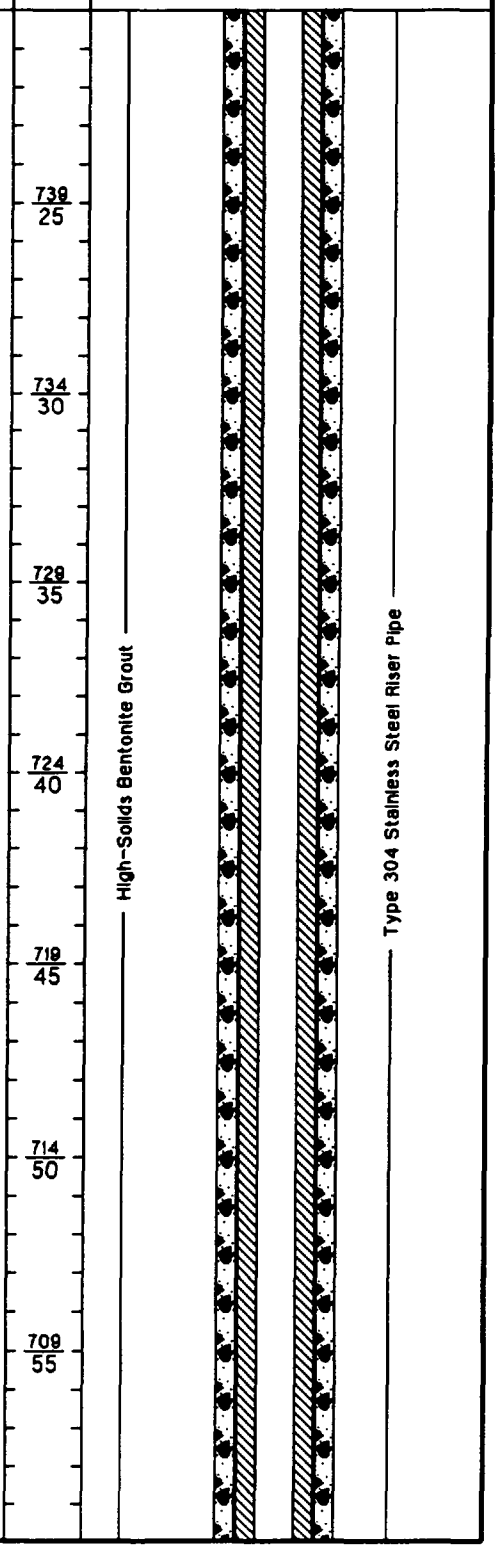
MONITORING WELL DETAIL

MW-101C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL



CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-101C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
						699 / 65	High-Solids Bentonite Grout; Type 304 Stainless Steel Riser Pipe
						694 / 70	
						689 / 75	
						684 / 80	
						679 / 85	
						674 / 90	
						669 / 95	

CAMP DRESSER & McKEE

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MONITORING WELL DETAIL

MW-101C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
						659 / 105	High-Solids Bentonite Grout
						654 / 110	
						649 / 115	
						644 / 120	
						639 / 125	
						634 / 130	
				Top of Bedrock		629 / 135	Type 304 Stainless Steel Riser Pipe

CAMP DRESSER & McKEE

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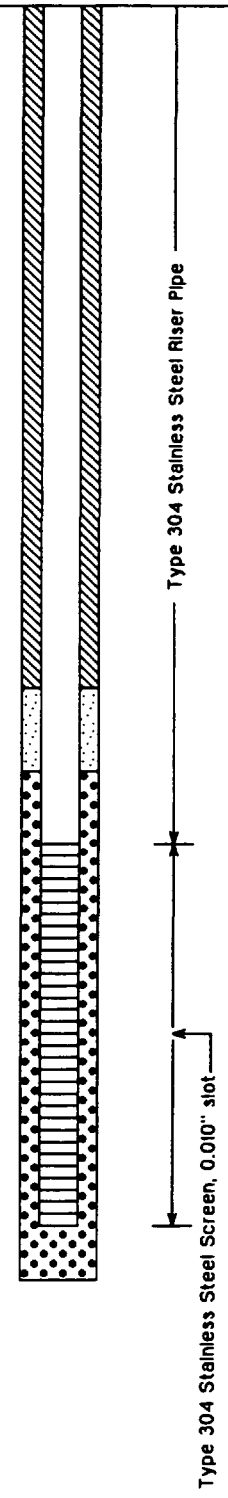
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-101C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
						619 / 145	High-Solids Bentonite Grout
						614 / 150	
						609 / 155	
						604 / 160	#70 (Fine) Filter Sand Collar
						599 / 165	#30 (Coarse) Filter Sand Pack
						594 / 170	
				Bottom of Boring @ 173.4 feet		589 / 175	



WELL COMPLETION RECORD

USGS Rev 1-91

MW101D

Site: S.E. ROCKFORD County: Winnebago Well No.: BH1

Site Name: Laude east of 22nd Latitude 42° 14' 04" N Longitude 89° 03' 10" W

Drilling Contractor: U.S.G.S. Coal Branch Date Drilling Started: 11-06-92

Driller: Todd Hunter Geologist: Scott Prinos Date Drilling Ended: 11-30-92

Drilling Method: Mud Rotary / Air Hammer Drilling Fluid (type): Bentonite Mud / Water

ANNULAR SPACE DETAILS:

Type of Surface Seal: Concrete

Type of Annular Sealant: Concrete / Grout

Borehole Plug: Bentonite Chips

Amount of Cement # of bags 2 lbs. per bag 94

Amount of Bentonite # of bags 2 lbs. per bag 50

Type of volclay grout (granular, pellets): Granular

Amount of bentonite: # of bags 29 lbs. per bag 50

Type of Sand Pack: Pea Gravel

Source of Sand: Rockford gravel quarry

Amount of pea gravel: 1 barrel lbs. per BBL: 135

WELL CONSTRUCTION MATERIALS:

Date of Construction: 12-23-92	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser Coupling Joint	T304			
Riser pipe above W.T.	T304			
Riser pipe below W.T.	T304			
Screen	T304			
Coupling joint screen to riser	T304			
Protective Casing				Black Pipe
Surface Casing				Black Pipe

MEASUREMENTS

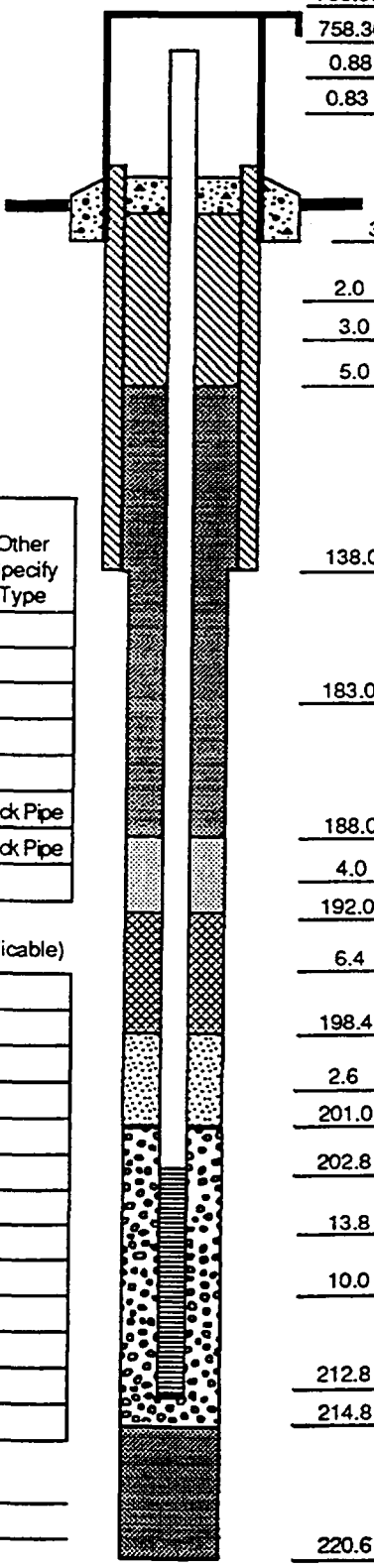
to 0.01 ft. (where applicable)

Riser pipe length	203.6 ft
Protective casing length	3.0 ft
Screen length	10.0 ft.
Bottom of screen to end cap	0.8 ft.
Top of screen to first joint	10.0 ft.
Total length of casing	6in. x 138 ft.
Screen slot size	10 slot
No. of opening in screen	N/A
I D of Riser Pipe	2.0 in.
Diameter of bore hole	12.25 in.} 0.00 ft -138.0 ft
	6.00 in.}138.0 ft - 220.6 ft.

Well Constructed By: Scott Prinos, Jim Rouman

Surveyed By: Scott Prinos, Steve Robinson

Form Completed By: Scott Prinos



ELEVATION - 0.01 ft.

758.35 MSL Top of Protective Casing

758.30 **MSL Top of Riser Pipe**

0.88 Ft. of Protective Casing Stickup

0.83 **Ft. of Riser Stickup**

757.47 MSL Ground Surface

3.0 Ft. Bottom of Surface plug

2.0 Ft. Total Concrete

3.0 Ft. Total Bentonite Chips

5.0 Ft. Top of Volclay Grout

138.0 Ft. Bottom of Surface Casing

183.0 Ft. Total Volclay Grout

188.0 Ft. Top of Fine Sand

4.0 Ft. Total Sand Interval

192.0 Ft. Top of Seal

6.4 Ft. Total Seal Interval

198.4 Ft. Top of SandPack

2.6 Ft. Total Sand Interval

201.0 Ft. Top of Pea Gravel

202.8 Ft. Top of Screen

13.8 Ft. Total Pea Gravel Interval

10.0 Ft. Total Screen Interval

212.8 Ft. Bottom of Screen

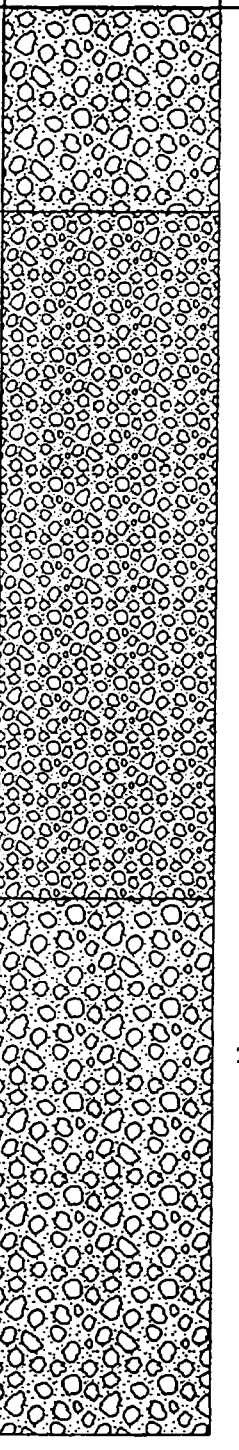
214.8 Ft. Top of Bentonite Chips

220.6 Ft. Bottom of Borehole

Project: S. E. Rockford | Boring No.: BH-1 | LSE: 757.5

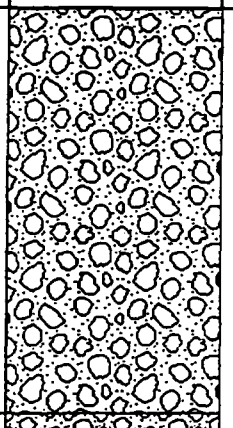
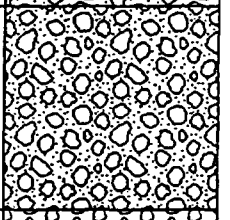
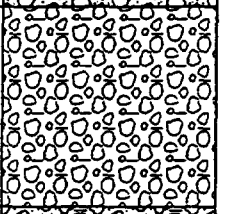
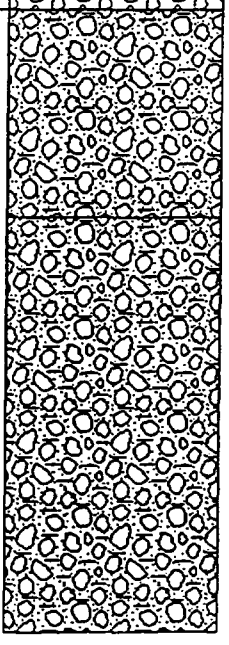
Sampling Method(s): Return of Cuttings | Description by: Scott T. Prinos

Location: NE SW NW Sec.6,T43N,R2E: 42° 14'04"N 89° 03'10"W | Date: Nov. 30, 1992 | Sheet 1 of 7

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
5 ft.	0-5 ft. 90% medium pebble sized gravel, 10% tan coarse sand, moderately sorted. Gravel is rounded to angular and composed of 90% carbonate, 10% chert, granite and other lithics. Sand is angular to subrounded mostly limestone fragments.		Samples taken at 5 foot intervals. Some depths of contacts approximate.
10 ft.	5-10 ft. Sand and Gravel.		
15 ft.	10-45 ft. Sand and Gravel. Coarse sand and fine pebble sized gravel, grading downward to medium pebble sized gravel and coarse sand. Poorly sorted, dark yellow to tan, well rounded to subangular. Gravel clasts: 85% carbonate, 5% quartz, 5% chert, 2% orthoclase feldspar, <1% each of granite, shale, and greenstone. Faint trend toward discoidal form in gravel.		
20 ft.			
25 ft.			
30 ft.			26-28 ft. Very smooth drilling compared to that above and below.
35 ft.			

Ground Elev. @ BH-1 ~764'

Project:	S. E. Rockford	Boring No.: BH-1	LSE: 757.5
Sampling Method(s):	Return of Cuttings	Description by: Scott T. Prinos	
Location: NE SW NW Sec.6,T43N,R2E: 42° 14'04"N 89° 03'10"W		Date: Nov. 30, 1992	Sheet 2 of 7

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
40 ft. 45 ft.			37-44 ft. Very rough and slow drilling, possible boulders and cobbles in hole.
50 ft.	45-50 ft. Fine gravel and sand. 60% fine pebble sized gravel, 40% coarse sand. Tan, poorly sorted. Gravel clasts: Predominantly carbonate, 2% gneiss, 1% chert, trace granite.		
55 ft.	50-55 ft. Glacial Till. 98% fine to medium pebble sized gravel, 2% clay. Trace quantities of fine to coarse sand. Sand is tan, moderatley sorted, angular. Gravel is 95% carbonate, 2% granite, 2% chert, <1% greenstone and quartz.		
60 ft. 65 ft. 70 ft.	55-95 ft. Glacial Till. 70-90% poorly sorted sand and gravel, 10-30% lt. tan to lt. brown silty clay. Clay content reaches maximum of 30% from 60-80 ft., then decreases sharply. Fining downward trend from medium pebble sized gravel at 55 ft. to fine pebble sized gravel at 95 ft. Clasts rounded to angular. Clast composition 95% carbonate, 2% chert, 1% greenstone, 2% other lithics.		

Project: S. E. Rockford | Boring No.: BH-1 | LSE: 757.5

Sampling Method(s): Return of Cuttings | Description by: Scott T. Prinos

Location: NE SW NW Sec.6,T43N,R2E: 42° 14'04"N 89° 03'10"W | Date: Nov. 30, 1992 | Sheet 3 of 7

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
75 ft.			
80 ft.			
85 ft.			
90 ft.			90-95 ft. Average drilling rate is 2.5 ft./min.
95 ft.			95 ft. Sharp decrease in drilling rate.
100 ft.	95-112 ft. Fine Gravel. Moderately sorted fine to very fine gravel with some coarse sand and trace brown clay, grading downward to very fine pebble sized gravel and very coarse sand with up to 10% brown clay. Lithology is much more varied. Composition of gravel is 80% carbonate,10% chert, 3% quartzite, 3% gneiss, 2% quartz, 2% orthoclase feldspar.		97 ft. Drill rate less than 1 in./min. 97-98 ft. Slight increase in drill rate. 99 ft. Drilling rate increased sharply and is drilling smoother.
105 ft			

Project: S. E. Rockford | Boring No.: BH-1 | LSE: 757.5

Sampling Method(s): Return of Cuttings | Description by: Scott T. Prinos

Location: NE SW NW Sec.6,T43N,R2E: 42° 14'04"N 89° 03'10"W | Date: Nov. 30, 1992 | Sheet 4 of 7

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
110 ft.			105-124 ft. Average drilling rate is 1 ft./min.
115 ft.	112-133 ft. 60% dark brown, moderately plastic, silty, sandy clay. 40% fine pebble sized gravel imbedded in clay matrix. Gravel is poorly sorted and angular to subangular.		
120 ft.			
125 ft.			124 ft. Drilling rough and slow, possible boulders in the hole.
130 ft.			Some wood mixed in with cuttings. Drill rate increased to 0.6 ft./min.
135 ft.	133-143 ft. Tan and lt. gray dolomite. Highly weathered in upper 2 ft. Abundant chert.		133 ft. Bedrock. ⇒ 631' elev. Periodic HNU screening indicated nothing above background to this point. 137 ft. Sharp increase in drilling rate.
140 ft			

Project: S. E. Rockford | Boring No.: BH-1 | LSE: 757.5

Sampling Method(s): Return of Cuttings | Description by: Scott T. Prinos

Location: NE SW NW Sec.6,T43N,R2E: 42° 14'04"N 89° 03'10"W | Date: Nov. 30, 1992 | Sheet 5 of 7

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
			142 ft. Water color tan, cloudy.
145 ft.	143-150 ft. Gray to dark gray mottled dolomite with some calcite veins and shale partings.		144 ft. Very little water from formation. 145 ft. Drill rate is 0.8 ft./min.
150 ft.			149 ft. Drilling rate increased sharply.
155 ft.	150-158 ft. Lt. tan fine grained dolomite.		150 ft. Water produced from formation increased to 3 gpm. 155 ft. Drilling rate is 0.83 ft./min. 157 ft. Drilling rate slowed.
160 ft. 165 ft.	158-164 ft. Mottled lt. gray sucrosic dolomite with shale partings.		158 ft. Drilling rate increased sharply for several inches. Increase in water flow from formation. Water color gray to tan. 163 ft. Water color milky tan, flow 20-25 gpm.
170 ft. 175 ft	164-210 ft. Tan to gray, mottled dolomite with abundant crinoid stems, some pelycepods. Iron oxide and limonite coatings present throughout but most abundant at 170 ft. and 185 ft. Red clay at 170 ft. Shale partings occur at 175 ft., 185ft., and 195-210 ft. Thin lt. tan limestone and white quartz sandstone interbedded from 200-205 ft. Calcite in veins at 205 ft.		165 ft. Flow 50 gpm. 170-175 ft. Drilling rate is 0.71 ft./min.

Project: S. E. Rockford | Boring No.: BH-1 | LSE: 757.5

Sampling Method(s): Return of Cuttings | Description by: Scott T. Prinos

Location: NE SW NW Sec.6,T43N,R2E: 42° 14'04"N 89° 03'10"W | Date: Nov. 30, 1992 | Sheet 6 of 7

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
180 ft.			180 ft. Much slower drilling for a few inches.
185 ft.			185 ft. Water flow over 60 gpm.
190 ft.			185-190 ft. Drilling rate is 0.71 ft./min.
195 ft.			
200 ft.			
205 ft.			204 ft. Water flow is over 70 gpm. Water color lt. tan. HNU not working.
210 ft			

Project: S. E. Rockford | Boring No.: BH-1 | LSE: 757.5

Sampling Method(s): Return of Cuttings | Description by: Scott T. Prinos

Location: NE SW NW Sec.6,T43N,R2E: 42 14'04"N 89 03'10"W | Date: Nov. 30, 1992 | Sheet 7 of 7

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
	210-215 ft. 60% lt. gray dolomite with medium well rounded quartz sand and shale partings. 40% lt. gray mottled dolomite.		
215 ft.			549' elev
	215-220 ft. Tan and gray, highly agrillaceous, dolomite with fine, well rounded sand and abundant pyrite.		
220 ft.			
	220 ft. End of boring.		220 ft. Sharp increase in drilling rate.
	544' elev.		Periodic HNU screening showed no contamination while it was working.

USGS Rev 1-91

WELL COMPLETION RECORD

MW103D

Site: S.E. ROCKFORD County: Winnebago Well No.: BH2

Site Name: Balsam at Eidelweiss Latitude 42° 13' 53" N Longitude 89° 02' 42" W

Drilling Contractor: U.S.G.S. Coal Branch Date Drilling Started: 10-29-92

Driller: Todd Hunter Geologist: Bob Kay, Scott Prinos Date Drilling Ended: 11-03-92

Drilling Method: Mud Rotary / Air Hammer Drilling Fluid (type): Bentonite Mud / Water

ANNULAR SPACE DETAILS:

Type of Surface Seal: Concrete

Type of Annular Sealant: Concrete

Borehole Plug: Bentonite Chips

Amount of Cement # of bags 1.5 lbs. per bag 94

Amount of Bentonite # of bags 2 lbs. per bag 50

Type of volclay grout (granular, pellets): Granular

Amount of bentonite: # of bags 17 lbs. per bag 50

Type of Sand Pack: Pea Gravel

Source of Sand: Rockford gravel quarry

Amount of pea gravel: 1 barrel lbs. per BBL: 150

WELL CONSTRUCTION MATERIALS:

Date of Construction: 1-07-93	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser Coupling Joint	T304			
Riser pipe above W.T.	T304			
Riser pipe below W.T.	T304			
Screen	T304			
Coupling joint screen to riser	T304			
Protective Casing				Black Pipe
Surface Casing				Black Pipe

MEASUREMENTS

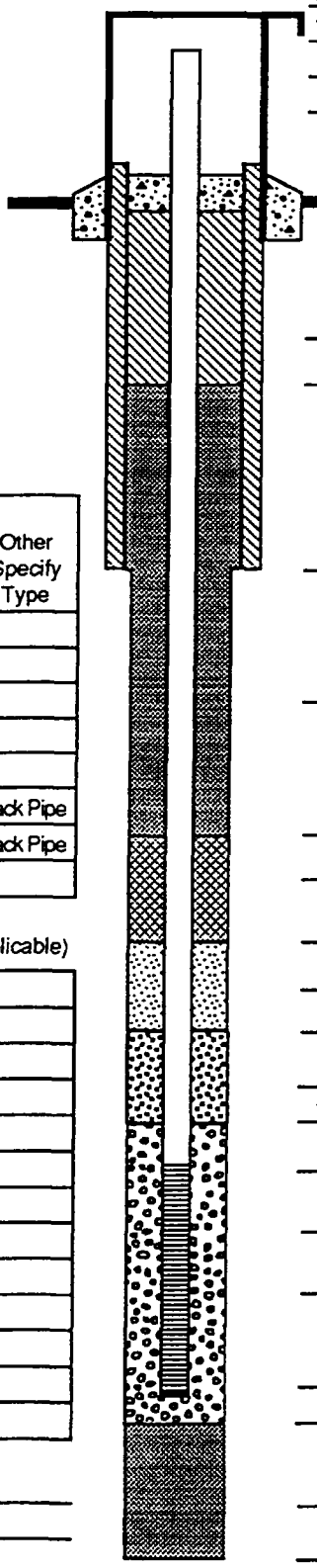
to 0.01 ft. (where applicable)

Riser pipe length	191.0 ft
Protective casing length	5.0 ft
Screen length	10.0 ft.
Bottom of screen to end cap	0.5 ft.
Top of screen to first joint	10.0 ft.
Total length of casing	8in. x 48.9 ft.
Screen slot size	10 slot
No. of opening in screen	N/A
I D of Riser Pipe	2.0 in.
Diameter of bore hole	12.25 in.} 0.00 ft.- 48.5 ft.
	6.00 in.} 48.5 ft.- 254.0 ft.

Well Constructed By: Scott Prinos; Jim Rouman

Surveyed By: Scott Prinos, Jim Rouman

Form Completed By: Scott Prinos



ELEVATION - 0.01 ft.

790.70 MSL Top of Protective Casing

790.33 **MSL Top of Riser Pipe**

0.49 Ft. of Protective Casing Stickup

0.12 ***Ft. of Riser Stickup***

790.21 MSL Ground Surface

3.0 Ft. Bottom of Surface plug

3.0 Ft. Total Portland Cement

3.0 Ft. Top of Volclay Grout

48.5 Ft. Bottom of Surface Casing

175.0 Ft. Total Volclay Grout

178.0 Ft. Top of Seal

5.0 Ft. Total Seal Interval

183.0 Ft. Top of SandPack

2.1 Ft. Total Fine Sand Interval

185.1 Ft. Top of Coarse Sand

2.7 Ft. Total Coarse Sand Interval

187.8 Ft. Top of Pea Gravel

190.5 Ft. Top of Screen

16.2 Ft. Total Pea Gravel Interval

10.0 Ft. Total Screen Interval

200.5 Ft. Bottom of Screen

204.0 Ft. Top of Bentonite Chips

50.0 Ft. Total Bentonite Chips

254.0 Ft. Bottom of Borehole

Project:	S. E. Rockford	Boring No.: BH-2	LSE: 790.33
Sampling Method(s):	Return of Cuttings	Description by: Scott T. Prinos	
Location: NE NW SE Sec.6,T43N,R2E: 42° 14'02"N 89° 02'42"W		Date: Oct. 28, 1992	Sheet 1 of 8

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
	0-2 ft. Top soil.		Samples taken at 5 foot intervals. Some depths of contacts approximate.
5 ft.	2-10 ft. Black organic rich clay loam. Sand is well rounded to subangular.		
10 ft.	10-15 ft. 80% tan glacial till. 70% corse to very fine pebble sized gravel, 10% coarse to fine sand, 20% silt and clay. Clasts are well rounded to angular, 40% carbonate, 30% chert, 30% quartz, <1% granite, quartzite, etc. 20% black clay loam, same as at 5 ft.		13 ft. Drilling rate increased.
15 ft.	15-25 ft. Tan glacial till. 75% tan silty clay, 20% coarse to fine sand, 5% medium pebble sized gravel. Clasts are well rounded to very angular, 60% quartz, 30% carbonate, 5% green shale, 5% orthoclase feldspar. Gravel content increases to 40% from 20 to 25 ft. Trace amounts of darl gray marble at 20 ft. Fining downward starting at 20 ft.		15 ft. Drilling rate decreased.
20 ft.			19 ft. Nothing on HNU above background.
25 ft.	25-35 ft. Tan clay, sand, and gravel. 50% subangular to well rounded fine to very fine pebble sized gravel. 35% fine to very coarse subrounded to angular sand, 15% silt and clay. Clasts are 65% carbonate, 20% quartz, 10% chert, 2% orthoclase feldspar,3% schist, quartzite, shale, etc.		26-27 ft. Iron oxide in cuttings.
30 ft.			Significant amount of organic matter (leaves, twigs, etc.) from 0 to 48 ft.
35 ft.			

Project:	S. E. Rockford	Boring No.: BH-2	LSE: 790.33
Sampling Method(s):	Return of Cuttings	Description by: Scott T. Prinos	
Location: NE NW SE Sec.6,T43N,R2E: 42° 14'02"N 89° 02'42"W		Date: Oct. 28, 1992	Sheet 2 of 8

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
40 ft. 45 ft.	35-48 ft. Dark brown glacial till. 50% silty dark brown clay, 30% fine to very fine angular to well rounded pebble sized gravel, 20% fine to very coarse subrounded to angular sand. Clasts are 65% carbonate, 20% quartz, 10% chert, 5% orthoclase feldspar, <1% granite and other lithics. Grading downward to fine pebble sized gravel, angular to subrounded, 80% carbonate, 20% chert, <1% mafies. Percentage of dolomite increased until mostly dolomite at 47 ft.		742' elev
50 ft. 55 ft.	48 ft. Bedrock. 50-57 ft. 70% lt. tan microcrystalline vuggy limestone, 30% dark gray microcrystalline limestone, grading to 95% tan, 5% dark gray limestone.		Nothing on the HNU above background.
60 ft. 65 ft. 70 ft.	57-110 ft. Gray-tan, vuggy, sucrosic dolomite with lt. tan highly corroded dolomite. Cherty from 90 to 105 ft.		733' elev

Project: S. E. Rockford | Boring No.: BH-2 | LSE: 790.33

Sampling Method(s): Return of Cuttings | Description by: Scott T. Prinos

Location: NE NW SE Sec.6,T43N,R2E: 42° 14'02"N 89° 02'42"W | Date: Oct. 28, 1992 | Sheet 3 of 8

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
75 ft.			Average drilling rate 75-80 ft. is 1.67 ft./min.
80 ft.			
85 ft.			
90 ft.			Average drilling rate 90-95 ft. is 1.67 ft./min.
95 ft.			Increased water return from 95 to 105 ft.
100 ft.			
105 ft.			

Project:	S. E. Rockford	Boring No.: BH-2	LSE: 790.33
Sampling Method(s):	Return of Cuttings	Description by: Scott T. Prinos	
Location: NE NW SE Sec.6,T43N,R2E: 42° 14'02"N 89° 02'42"W		Date: Oct. 28, 1992	Sheet 4 of 8

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
110 ft.			110 ft. Decreased water return. 680' elev
	110-135 ft. Gray, sucrosic dolomite. Moderately vuggy, less corroded than above. Minor shale partings at 110 ft. increasing in frequency downward.		Average drilling rate 110-115 ft. is 1.43 ft./min.
115 ft.			
120 ft.			Average drilling rate 120-125 ft. is 1.37 ft./min.
125 ft.			
130 ft.			
135 ft.			655' elev
	135-145 ft. Tan dolomite. Slightly vuggy, coated with limonite and iron oxide at 135 ft.		
140 ft.			

Project:	S. E. Rockford	Boring No.: BH-2	LSE: 790.33
Sampling Method(s):	Return of Cuttings	Description by: Scott T. Prinos	
Location: NE NW SE Sec.6,T43N,R2E: 42° 14'02"N 89° 02'42"W		Date: Oct. 28, 1992	Sheet 5 of 8

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
			Water flow from formation is 20 gpm.
145 ft.			645' elev.
	145-203 ft. Alternating beds of tan to dark gray dolomite. Generally sucrosic and mottled with shale partings. Cherty at 145 ft. Fossiliferous at 170 ft. Limonite coated at 170 ft.		
150 ft.			
155 ft.			
160 ft.			
165 ft.			
170 ft.			Average drilling rate 170-175 ft. is 0.88 ft./min.
175 ft.			

Project:	S. E. Rockford	Boring No.: BH-2	LSE: 790.33
Sampling Method(s):	Return of Cuttings	Description by: Scott T. Prinos	
Location: NE NW SE Sec.6,T43N,R2E: 42° 14'02"N 89° 02'42"W		Date: Oct. 28, 1992	Sheet 6 of 8

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
180 ft.			Average drilling rate 180-185 ft. is 0.98 ft./min.
185 ft.			183-185 ft. Drilling rate increased.
190 ft.			Average drilling rate 190-195 ft. is 0.97 ft./min.
195 ft.			Average drilling rate 190-195 ft. is 0.83 ft./min.
200 ft.			
			— 587' elev
205 ft.	203-230 ft. Light gray sucrosic dolomite with shale partings, trace pyrite, fossiliferous, with minor yellow/tan limestone at 225 ft.		
210 ft.			

Project: S. E. Rockford | Boring No.: BH-2 | LSE: 790.33

Sampling Method(s): Return of Cuttings | Description by: Scott T. Prinos

Location: NE NW SE Sec.6,T43N,R2E: 42° 14'02"N 89° 02'42"W | Date: Oct. 28, 1992 | Sheet 7 of 8

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
			Average drilling rate 210-215 ft. is 0.86 ft./min.
215 ft.			
220 ft.			Average drilling rate 220-225 ft. is 0.91 ft./min.
225 ft.			Periodic HNU screening shows no contamination to this point.
230 ft.			560' elev
	230-245 ft. Light gray/tan dolomite. Shale partings at 230 ft.		
235 ft.			
240 ft.			
245 ft.			

Project:	S. E. Rockford	Boring No.: BH-2	LSE: 790.33
Sampling Method(s):	Return of Cuttings	Description by: Scott T. Prinos	
Location: NE NW SE Sec.6,T43N,R2E: 42° 14'02"N 89° 02'42"W		Date: Oct. 28, 1992	Sheet 8 of 8

DEPTH (ft)	DESCRIPTION	PROFILE	REMARKS
	245 ft. Dark gray sucrosic dolomite with shale partings.		
250 ft.			540' elev
	250 ft. Dark gray/brown dolomite with medium well rounded quartz sand and some pyrite, argillaceous.		
255 ft.			536' elev
	254 ft. Dark gray sandy dolomite. Fine, well rounded quartz sand, minor pyrite and some dark gray dolomite with medium well rounded sand.		
	254 ft. End of Boring.		

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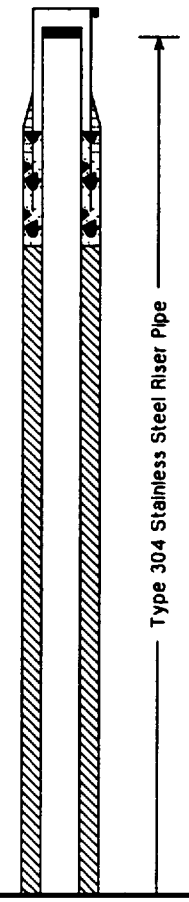
MONITORING WELL DETAIL
MW-109D

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen, & surge block
Top of Riser Elevation: 850.65 Ft.
Total Depth: 44 Ft.
Field Screening Instrument: HNU
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-27-93 End 07-28-93
Drillers: Rick O' Gorman, Mark Thorson
Development Date: Start 10-05-93 End 10-05-93
Surface Elevation: 848.0 Ft.
Depth To Initial Water Level (GS): 22 Ft.
Well Coordinates:
N: 2026849.601 E: 2604568.541

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
				Note: See Phase I well logs MW-109A & MW-109B for geologic log for this location.		848 / 0 843 / 5 838 / 10 833 / 15	Concrete High-Solids Bentonite Grout Type 304 Stainless Steel Riser Pipe



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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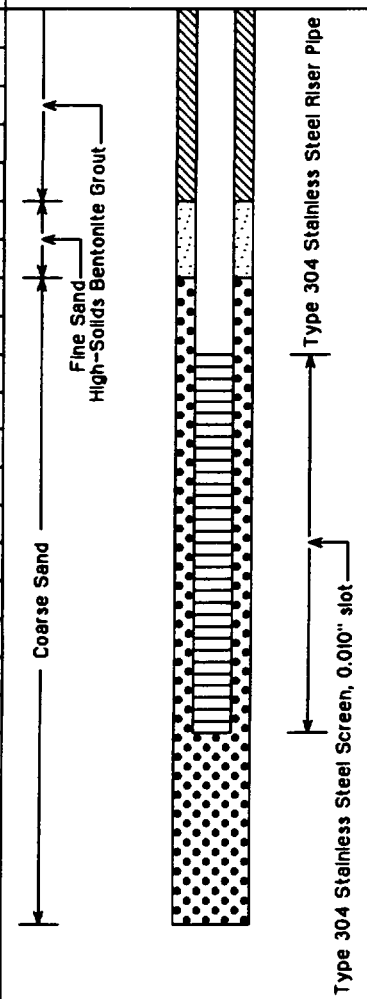
MONITORING WELL DETAIL

MW-109D

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
						823/25	
						818/30	
						813/35	
						808/40	
				Bottom of Boring at 44 feet.		803/45	
						798/50	
						793/55	



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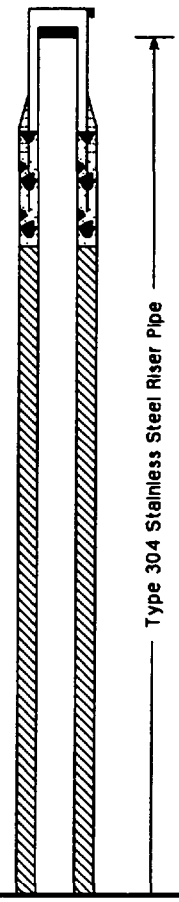
MONITORING WELL DETAIL

MW-112A

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow stem-auger/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 802.58 Ft.
Total Depth: 36 Ft.
Field Screening Instrument: OVM
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-08-93 End 09-08-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-01-93 End 10-01-93
Surface Elevation: 799.9 Ft.
Depth To Initial Water Level (GS): ~5.68 Ft.
Well Coordinates:
N: 2028750.226 E: 2602843.351

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
				Note: See MW112C for geologic log.		799.9 / 0	Concrete
						794.9 / 5	High-Solids Bentonite Grout
						789.9 / 10	Type 304 Stainless Steel Riser Pipe
						784.9 / 15	



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
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MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
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SAMPLING TYPES:
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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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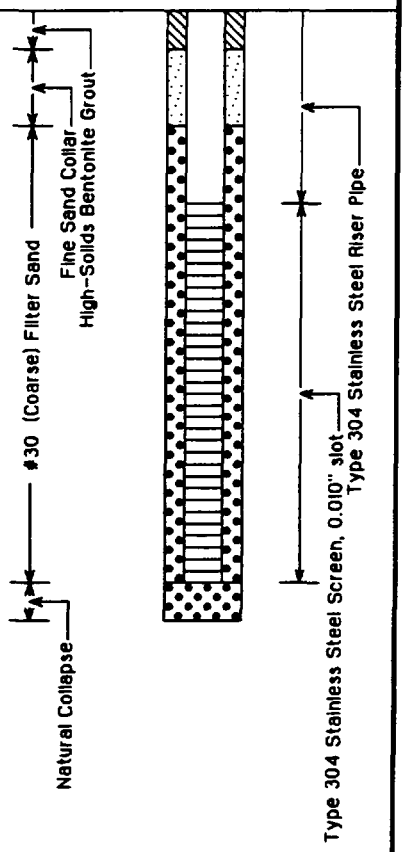
MONITORING WELL DETAIL

MW-112A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
						774.9 / 25	
						769.9 / 30	
						764.9 / 35	
				Bottom of Boring @ 36 feet		759.9 / 40	
						754.9 / 45	
						749.9 / 50	
						744.9 / 55	



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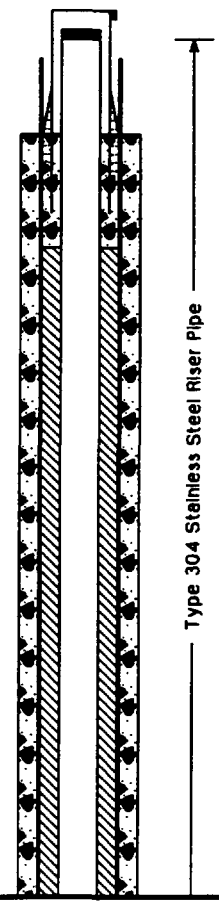
MONITORING WELL DETAIL

MW-112B

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 803.05 Ft.
Total Depth: 96 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-09-93 End 09-16-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-01-93 End 10-01-93
Surface Elevation: 800.3 Ft.
Depth To Initial Water Level (GS): Not Measured
Well Coordinates:
N: 2028744.421 E: 2602840.294

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				Note: See MW112C for geologic log.		800.3 / 0 795.3 / 5 790.3 / 10 785.3 / 15	Cement High-Solids Bentonite Grout Type 304 Stainless Steel Riser Pipe



EXPLANATION OF ABBREVIATIONS

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SSA - Solid Stem Auger
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CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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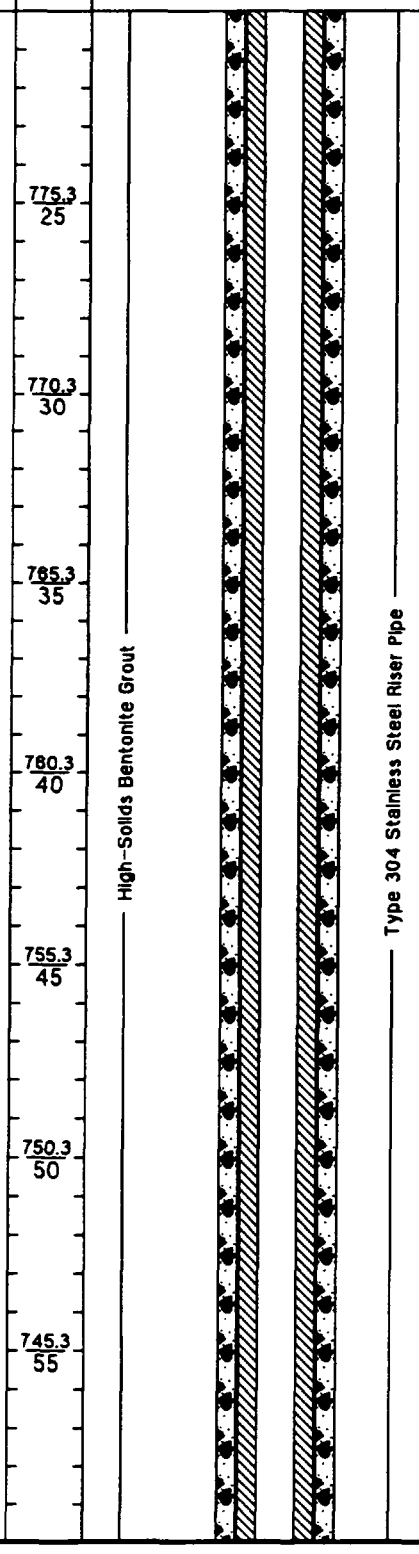
MONITORING WELL DETAIL

MW-112B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL



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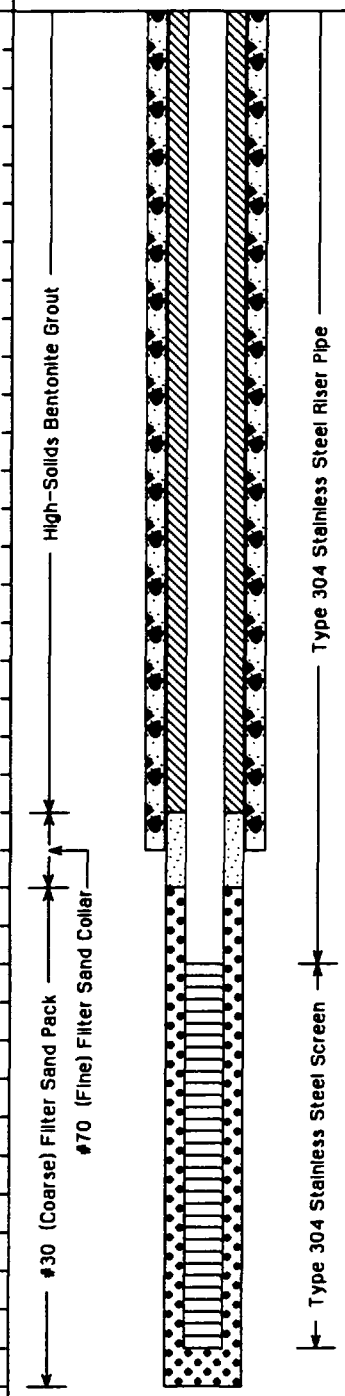
MONITORING WELL DETAIL

MW-112B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
						735.3 / 65	
						730.3 / 70	High-Solids Bentonite Grout
						725.3 / 75	
						720.3 / 80	
						715.3 / 85	#70 (Fine) Filter Sand Collar
						710.3 / 90	#30 (Coarse) Filter Sand Pack
						705.3 / 95	
				Bottom of Boring @ 96 feet			



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MONITORING WELL DETAIL

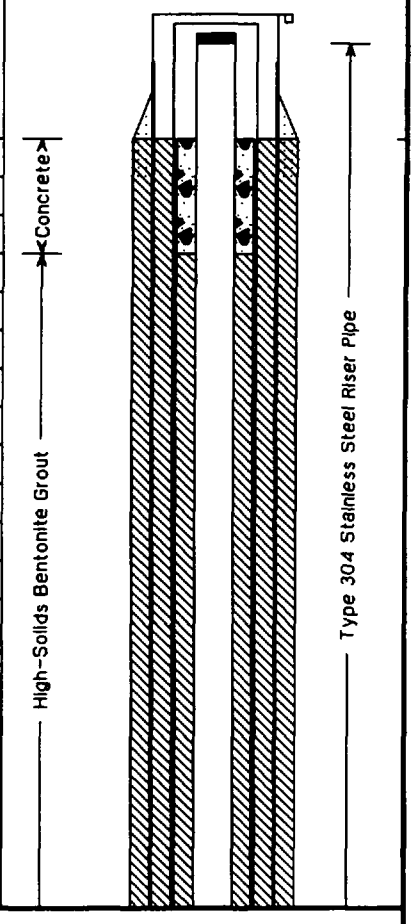
MW-112C

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: MR/BK81;AR/Canterra CT-350
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 802.83 Ft.
Total Depth: 302 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-23-93 End 09-02-93
Drillers: Chuck Blount, Paul Dickinson
Development Date: Start 10-01-93 End 10-01-93
Surface Elevation: 800.2 Ft.
Depth To Initial Water Level (GS): ~17 Ft.
Well Coordinates:
N: 2028747.020 E: 2602834.050

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
				Topsoil		800.2 / 0
SS	BG	6 8 8 12		5-7': Brown/tan gravelly, silty fine sand.		795.2 / 5
SS	BG	30 90 100 /0.5'		10-12': Tan, gravelly silty sand, fine.		790.2 / 10
SS	BG	37 78 100 /0.4'		15-17': Tan, v well sorted; fine to med sand. Moist but probably not saturated. Tip of spoon possibly saturated.		785.2 / 15

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

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OTHER:
BGS - Below Ground Surface

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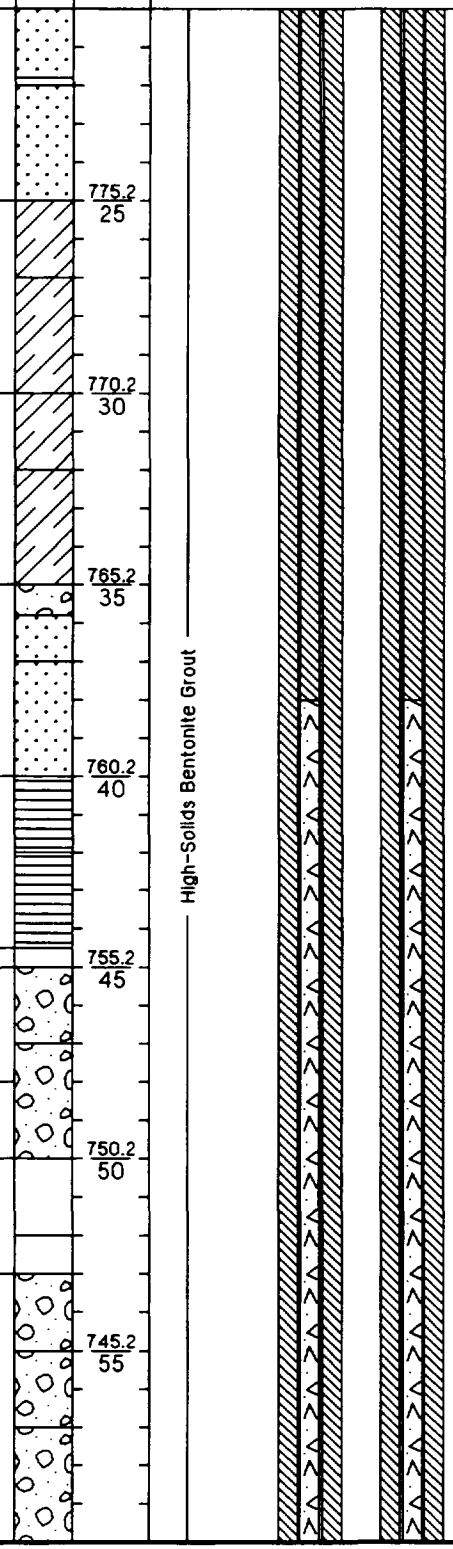
MONITORING WELL DETAIL

MW-112C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	BG	34 84 100		20-22': Tan, v well sorted; fine to med sand; bottom 1" is silty fine sand; bedding defined by reddish color laminae in places.	
					775.2 / 25
SS		69 100 /0.2'		25-27': Tan, gravelly & silty fine sand. Note: Field instrument readings from 25-47' not shown because of high humidity affecting HNU.	
					770.2 / 30
SS		51 89 100 /0.3'		30-32': Gray, gravelly & silty fine/med sand. Moist, possibly saturated.	
					765.2 / 35
SS		59 47 52 79		35-37': Top 8" tan coarse sand & gravel. Lower 6" is med, tan sand. Saturated.	
					760.2 / 40
SS		88 100 /0.4'		40-42': Gray, gravelly clay; very hard; dry; angular to rounded clasts.	
				44.5-46.5': No recovery.	755.2 / 45
SS		40 51 68 79		45-47': Brown coarse sand and gravel. Gray zone in middle 4".	
HP	-			Hydro Punch Sample 48-49.5'.	
					750.2 / 50
SS	-	88 100 /0.5'		50-52': No recovery.	
SS	BG	74 56 57 69		53-55': Tan/brown coarse sand & gravel. Sample SB112C-B collected for VOC's and TOC only.	
					745.2 / 55



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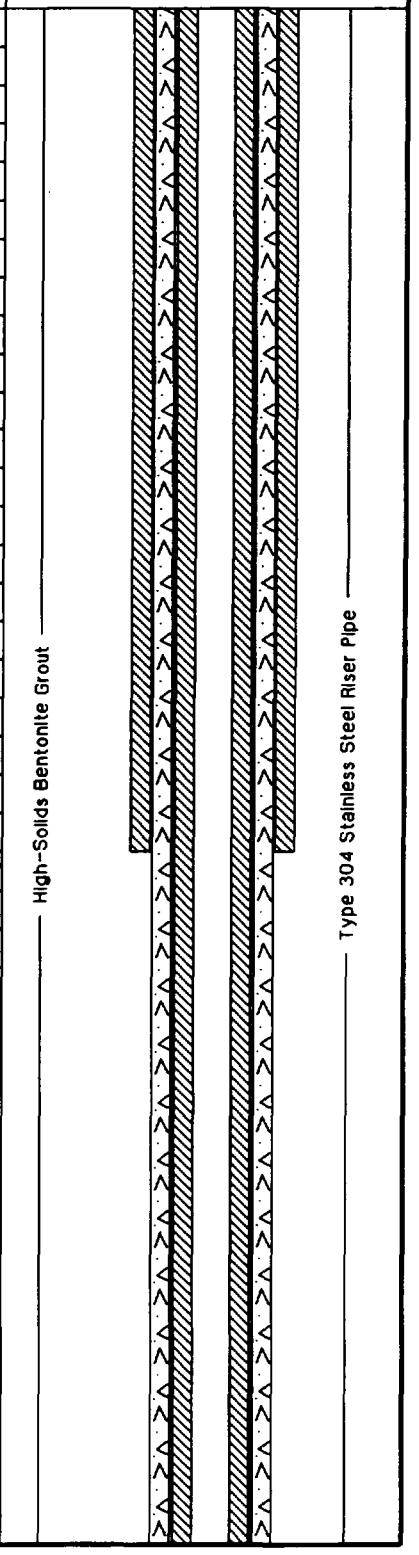
MONITORING WELL DETAIL

MW-112C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	BG	27 40 35 51		60-62': Gray fine & med sand; well sorted; Top 3" med, well sorted sand. Middle 8" silty fine sand; bottom 6" gravelly med sand. Coarse layers define bedding.	
HP	-			Hydro Punch Sample 63-64.5'.	
SS	BG	26 35 52 40		65-67': Top 7" gray silty fine sand grading downward to gray plastic clay 1" thick (6-7" from top). Bottom 8" brown coarse sand & gravel; rounded clasts mostly; sharp contact. Bedding defined by grain size variations.	735.2 / 65
SS	BG	20 41 45 52		70-72': Top 8" gray gravelly, silty fine sand; bottom 11" gray coarse sand & gravel. Bedding defined by grain size variation in lower 11"; faint bedding visible in upper 8".	730.2 / 70
HP	-			Hydro Punch Sample 73-73.5'.	
SS	BG	47 100 /0.3'		75-76': Reddish brown (oxide stain) gravelly, med/coarse sand; gravel mostly dolomite. Top of Bedrock @ 76'.	725.2 / 75
				78': Cuttings are 90-95% angular, tan, limestone (dolomite) with trace amounts white/gray chert & dark-colored fragments.	
				79': Cuttings are 95% dolomite w/ trace amounts of white/gray chert & dark lithics.	720.2 / 80
				80': Cuttings same as above.	
				81': Cuttings same as above.	
				82': Cuttings same as above.	
				84-88': Cuttings contain 100% tan dolomite w/ sucrosic texture w/ 1-2% having oxide (reddish color) stain. Water color is brown/reddish.	715.2 / 85
				90-94': Cuttings contain 100% tan dolomite w/sucrosic texture. Water color is reddish brown to brown.	710.2 / 90
				96': Cuttings same as above.	705.2 / 95
				98': 20% white/gray chert, 80% tan dolomite.	



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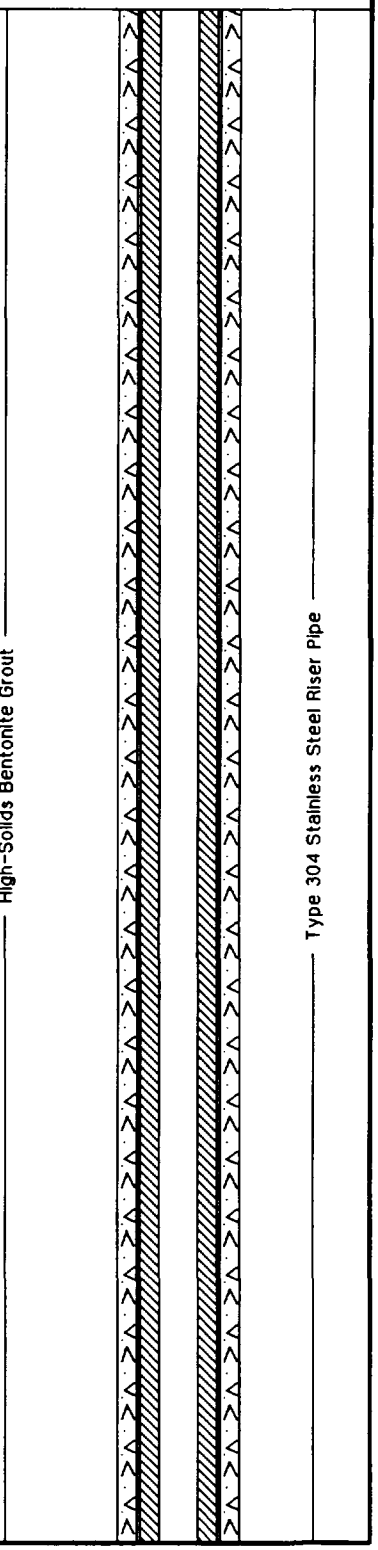
MONITORING WELL DETAIL

MW-112C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
				100': 10% white/gray chert, 90% tan dolomite.		
				102': 100% tan dolomite.		
				104': 100% reddish brown clayey shaly material. Water turned deep reddish brown color starting @ 104'.		685.2 / 105
				106': 40% brown clay/shale, 60% tan dolomite.		
				108': 15% brown clay, 85% tan dolomite.		690.2 / 110
				110': 65% tan dolomite, 15% gray/white chert, 20% brown clay. Deep reddish brown color of water essentially diminished @ ~108'.	CHER	
				112': 5% brown clay, 10% gray/white chert, 85% tan dolomite.		
				114': 2% brown clay, 98% tan dolomite.		685.2 / 115
				116': Cuttings are 2% brown clay, 98% tan dolomite. Water color @ 108-116' is brown to reddish brown.		
				118': 5% brown clay, 95% tan dolomite.		680.2 / 120
				120': 3% brown clay, 98% tan dolomite.		
				122': 1% brown clay, 99% tan dolomite.		
				124': 100% tan/buff dolomite.		675.2 / 125
				126': 98% tan dolomite, 2% brown clay. Dolomite has sucrosic texture & is fossiliferous.		
				128': 100% tan dolomite as above. Trace silicification visible. Water is milky brown color.		670.2 / 130
				130': 50% tan dolomite, 48% gray dolomite, 2% brown clay/shale; dolomite is fossiliferous.		
				132': 90% gray dolomite, some is argillaceous, 10% tan dolomite, and trace brown clay.		
				134': 90% gray dolomite, 8% tan dolomite, 2% brown clay.		665.2 / 135
				136': 90% gray dolomite (somewhat argillaceous, 10% tan dolomite, trace brown clay.		
				138': 85% gray dolomite, 10% dark gray argillaceous, v fossiliferous dolomite/limestone, 5% brown clay.		

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-112C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				Gray dolomite is fossiliferous & calcarenitic.			
				140': 93% gray, fossiliferous dolomite, 5% tan dolomite, 2% brown clay/shale. Argillaceous coating on some gray dolomite.			
				142': 95% gray fossiliferous dolomite containing blue gray silicification of fossils, 5% brown shale and argillaceous, dark gray dolomite. Gray dolomite is calcarenitic.			
				144': Water is dark reddish brown. Cuttings 50% gray calcarenitic fossiliferous dolomite (some blue-gray mottling); 50% tan/reddish brown dolomite, appears non-fossiliferous;; trace amounts of white chert.		655.2 / 145	
				146': 90% gray lithographic dolomite, platy fragments; 10% reddish brown clay/shale.			
				148': 98% gray lithographic dolomite w/rare blue-gray specks of mottling and/or silicification; 2% brown clay, v soft. Dolomite cuttings are platy. Water color is now yellowish brown.		650.2 / 150	
				150': 100% gray lithographic dolomite; platy cuttings, rare blue-gray mottling & some argillaceous coatings (dark gray); trace brown clay.			
				152': 100% gray to dark gray, lithographic dolomite, platy fragments; trace brown clay. Argillaceous coatings not observed.		645.2 / 155	
				154': Same as @ 152'.			
				156': 100% gray to dark gray, platy lithographic dolomite w/ rare blue gray mottling; rare argillaceous coatings; trace brown clay.			High-Solids Bentonite Grout
				158': Same as above w/ addition of trace argillaceous dolomite.		640.2 / 160	
				160': Gray to dark gray lithographic dolomite w/ blue-gray mottling; fragments more blocky/equant than above; trace brown clay.			
				162': 100% mixed light gray and dark gray dolomite; lt gray is calcarenitic; dark gray is lithographic, w/ blue gray mottling; trace brown clay. Argillaceous coatings on dolomite.			
				164': 100% lt gray to brown/gray, calcarenitic dolomite, poorly fossiliferous; trace of very dark gray shale (1 fragment) & ubiquitious brown clay.		635.2 / 165	
				166': Same as above. Except trace sandstone.			
				168': 100% lt gray to brown/gray, calcarenitic dolomite; trace of reddish yellow/tan sandstone (3 fragments); trace brown clay.		630.2 / 170	
				170': 95% dark gray lithogrphic dolomite, poorly fossiliferous; 5% brown clay. Dolomite has blue gray mottling.			
				172': 100% gray to dark gray, lithographic dolomite, blue gray mottling; trace brown clay. Ground water is still milky brown color.			
				174': 96% gray to dark gray, lithographic, blue gray mottled dolomite; 4% reddish brown sandstone & brown to reddish brown clay (soft, plastic).		625.2 / 175	
				176': 100% gray & dark gray, argillaceous dolomite, some fragments v fossiliferous & others lithographic, non-fossiliferous; trace tan/reddish brown ss & brown laminated shale. Blue-gray mottling is lithographic fragments.			Type 304 Stainless Steel Riser Pipe
				178': 95% gray to dark gray lithographic dolomite,			

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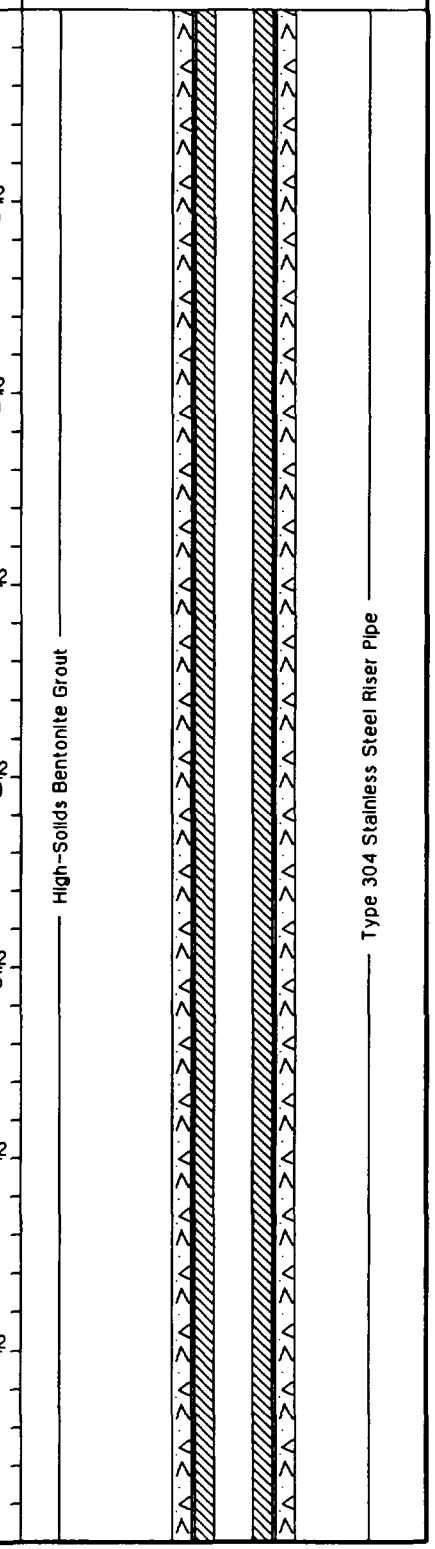
MONITORING WELL DETAIL

MW-112C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
				blue gray mottled; 5% tan/reddish brown sandstone & brown soft shale.		
				180': 95% gray/dark gray, lithographic, blue gray mottled dolomite; 5% tan/reddish brown sandstone & trace brown soft shale/clay.		
				182': 97% gray/dark gray, lithographic, blue gray mottled dolomite; 3% tan/reddish brown sandstone.		
				184: 95% gray/dark gray, lithographic, blue gray mottled dolomite; 5% mixed v dark gray, argillaceous, fossiliferous.		615.2 / 185
				186': 90% gray/dark gray, lithographic, blue gray mottled dolomite; 10% v dark gray argillaceous & fossiliferous dolomite/limestone as well as brown soft shale/clay.		
				188': Same as @ 186'. Bryozoan & echinoderm fragments visible. Trace tan/reddish brown sandstone.		610.2 / 190
				190': Same as @ 188'; pyritic, shaly parting on 1 fragment.		
				192': 95% gray/dark gray, lithographic, blue gray mottled dolomite; 5% v dark gray, argillaceous, fossiliferous dolomite/limestone, trace brown soft shale/clay & tan/reddish brown coarse sandstone.		
				194': Same as @ 192'.		605.2 / 195
				196': Same as @ 192' except proportions are 90% lithographic dolomite, 5% argillaceous & fossiliferous dolomite/limestone, & 5% brown soft shale/clay & tan/reddish brown sandstone.		
				198': Same as @ 196'.		
				200': Same as @ 195 & 198'. Water is milky light brown color.		600.2 / 200
				202': 90% gray/dark gray, lithographic, blue gray mottled dolomite; 7% tan/brown fossiliferous, calcarenitic, partly silicified dolomite; 3% brown clay/soft shale. Trace tan/reddish brown, coarse sandstone.		
				204': Similar to 202' except 90% gray/dark gray, gray mottled lithographic dolomite; 4% tan/brown calcarenitic dolomite; 4% v dark gray argillaceous & fossiliferous dolomite/limestone; 2% brown soft shale/clay; trace tan reddish/brown coarse sandstone.		595.2 / 205
				206': Same as @ 204'.		
				208': 100% gray/dark gray, lithographic, blue gray mottled dolomite; fragments are more platy than above. Trace dark brown fossiliferous shale or shaly dolomite/limestone.		590.2 / 210
				210': Same lithologies & proportion as @ 208'.		
				212': Same as @ 210'.		
				214': 85% gray/dark gray, lithographic, blue gray mottled dolomite; 15% tan fossiliferous, calcarenitic, argillaceous dolomite; trace tan/reddish brown, coarse sandstone & brown soft shale/clay.		585.2 / 215
				216': 95% gray/dark gray, lithographic, blue gray mottled dolomite; 5% brown clay/soft shale.		
				218': 93% gray, blue gray, partly lithographic dolomite; 4% tan/reddish brown stained sandstone; 3% brown clay/soft shale.		

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-112C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				Sandstone is quartzose, possibly dolomite. Water is it brown color.			
				220': 95% gray, blue gray, partly lithographic dolomite; pyritic 5% brown clay/soft shale; trace quartzose sandstone.			
				222': 100% blue gray dolomite, mottled & argillaceous in places; trace tan quartz sandstone & brown clay/shale.			
				224': 92% gray, blue gray mottled, poorly lithographic dolomite; 4% tan quartz sandstone/dolomite sandstone; 4% brown clay/soft shale.		575.2 / 225	
				226': 95% gray, blue gray mottled dolomite; 5% brown clay; trace tan quartz sandstone dolomite slightly argillaceous.			
				228': Same as @ 226'.			
				230': 90% gray, blue gray mottled dolomite; 10% brown soft shale, laminated/fissile; trace tan, quartz sandstone.		570.2 / 230	
				232': 95% gray, blue gray mottled fossiliferous & argillaceous dolomite; 5% brown soft shale.			
				234': 95% gray, blue gray mottled fossiliferous & argillaceous dolomite; 5% mix of calcarenite (brown gray), brown soft shale, & tan quartz sandstone.		565.2 / 235	
				236': Same as @ 234' except less argillaceous & some sandstone has deep reddish brown color.			
				238': Same as @ 236'.			
				240': Same as @ 236 & 238'.		560.2 / 240	
				242': Same as @ 236, 238, & 240'.			
				244': Same as @ 236, 238, 240, & 242'.		555.2 / 245	
				246': Same as @ 244'.			
				248': 85% gray, blue gray mottled dolomite, slightly fossiliferous & argillaceous; 10% brown soft shale; 5% tan quartz sandstone, sometimes w/reddish brown oxide stain. Sandstone is dolomite.		550.2 / 250	
				250': Same as @ 248'.			
				252': Same as @ 248 & 250'.			
				254': Same as @ 248, 250, & 252'.		545.2 / 255	
				256': Same as @ 248-254' except that proportions are 95% dolomite; 5% brown clay; & trace dolomite sandstone w/reddish brown oxide stain.			
				258': 60% gray, blue gray mottled dolomitic; 40% med quartz sandstone in fine-grained matrix, green gray.			

High-Solids Bentonite Grout

Type 304 Stainless Steel Riser Pipe

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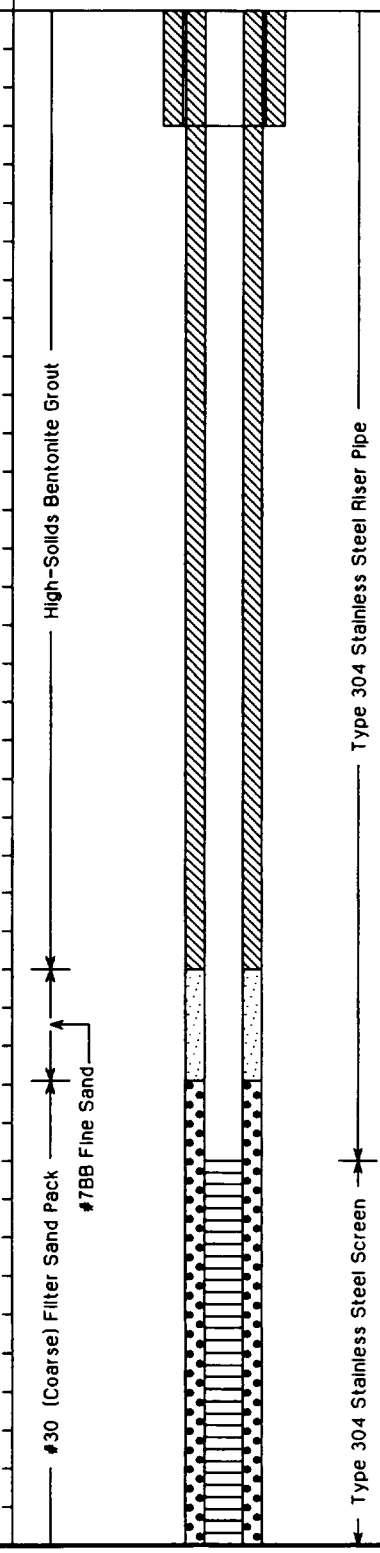
MONITORING WELL DETAIL

MW-112C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
				258.5': Same as above but w/ addition of greenish silty dolomitic shale: ~50% gray dolomite; 30% greenish shale; 20% green gray sandstone fine-grained matrix.	
				259': 50% greenish silty shale; 50% brown soft shale.	
				262': 100% green, silty, shale.	
				263': 100% green, silty, shale.	535.2
				265': 100% green, pyritic shale, silty & possibly dolomitic. Drill bit is advancing rapidly.	265
				267': 100% green, pyritic silty shale.	530.2 270
				272': 100% green to gray/green, pyritic silty to fine sandy shale. Drill bit advancement is so rapid that it is difficult to collect samples @ regular 2' intervals.	
				273': 100% green, pyritic silty shale/dolomite.	525.2
				274': 100% green, pyritic silty shale/dolomite.	275
				276': 100% green, pyritic silty to sandy shale. Water is milky white.	
				278': 85% green, pyritic silty to sandy shale; 15% gray, pyritic silty to sandy dolomite.	520.2
				280': 80% green, pyritic silty to sandy shale; 20% gray, pyritic sandy dolomite or dolomitic sandstone.	280
				282': 60% green, pyritic silty/sandy shale; 20% gray, pyritic sandy dolomite; 20% dark gray dolomite, pyritic med sandstone.	
				284': Same lithologies as @ 282' except proportions are 33% green shale, 33% gray dolomite & 34% dark gray sandstone.	515.2 285
				284.5-285': Lithology changed. Driller notes fracture @ ~283'. Increased water production. The cuttings noted above (i.e. 264-284') disappeared. From 284.5-288' had v fine grained material that passed through wire mesh strainer.	
				288': Very small amount of pure quartz sand; clear to white; fine to med grained.	510.2 290
				290': 100% white/lt gray, fine quartz sandstone.	
				292': Same as @ 290'. Drill bit is advancing @ ~2' per minute.	
				294': Same as @ 290 & 292'.	505.2 295

GRAPHIC LOG

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-112C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				301': Discrete samples are difficult to obtain because of rapid advancement (~3' per minute) and fine-grained nature of the sandstone. Cuttings from 296-301' consist of white, fine-grained sandstone w/ some larger fragments of pyritic sandstone. *Bottom of Boring @ 302 feet*		495.2 / 305 490.2 / 310 485.2 / 315 480.2 / 320 475.2 / 325 470.2 / 330 465.2 / 335	#30 (Coarse) Filter Sand Pack

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MONITORING WELL DETAIL

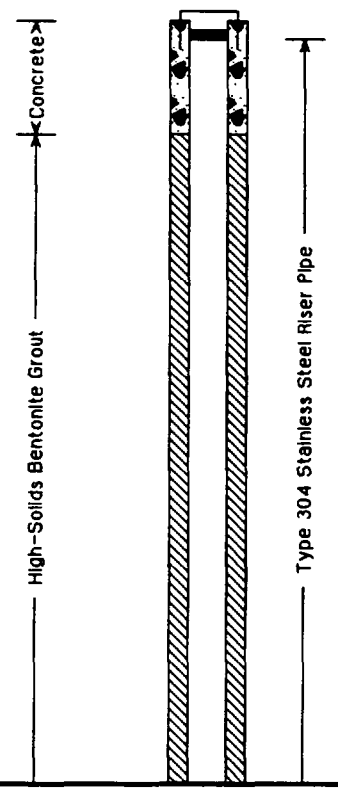
MW-113A

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 766.54 Ft.
Total Depth: 105 Ft.
Field Screening Instrument: HNU & OVA
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-21-93 End 07-24-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 09-29-93 End 09-29-93
Surface Elevation: 767.0 Ft.
Depth To Initial Water Level (GS): ~50 Ft.
Well Coordinates:
N: 2029869.641 E: 2596096.439

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		767 / 0
			ML	Drilling action & cuttings here and @ MW18 (ISWS well) suggests brown sandy clay w/ some gravel from ~1' to 36'. The sand @ 20' is apparently a thin layer.		762 / 5; 757 / 10; 752 / 15

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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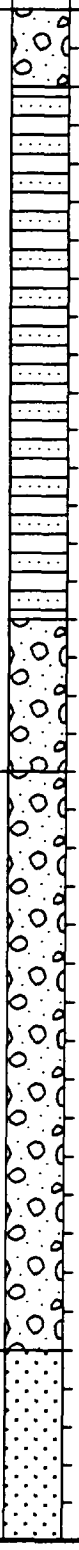
MONITORING WELL DETAIL

MW-113A

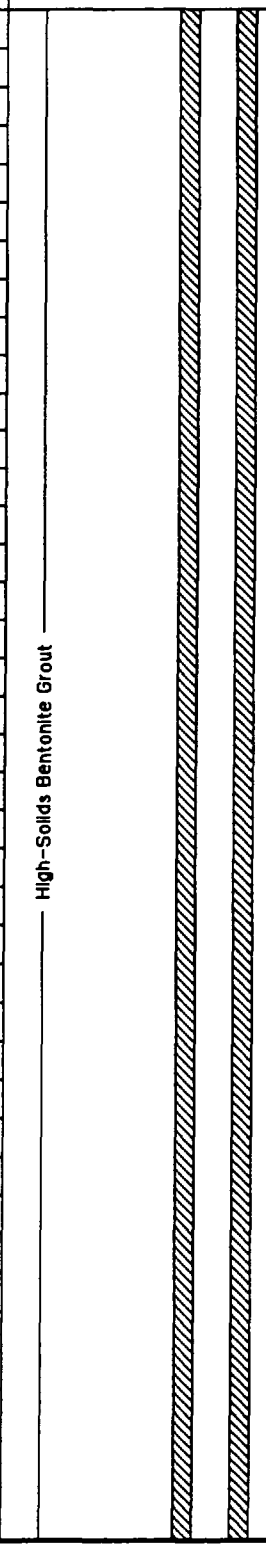
SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	0 ppm	15 50 0.3'	SW-GW	Gravelly sand, SW-GW; the sand is very coarse to medium & poorly sorted. Gravel is ~25% of sample & ranges from granules to large pebbles which are rounded to subrounded; gravel lithology is ~75% carbonate & chert, & ~25% igneous (incl. basalt, granite); moist not wet. Drilling action & cuttings here and @ MW18 (ISWS well) suggests brown sandy clay w/ some gravel from ~1' to 36'. The sand @ 20' is apparently a thin layer.
			ML	
			SW-GW	
SS	0 ppm	6 10 14 16	SW-GW	Lt. bn sand, SW-GW w/~15% gravel; the sand is v coarse to medium & poorly sorted; gravel is granules to medium pebbles which are subrounded to rounded; moist not wet. Drilling action indicates sand & gravel from 40-55'.
			SP	Drilling action indicates sand from 55-60'.

GRAPHIC LOG



ELEV. DEPTH
742 / 25
737 / 30
732 / 35
727 / 40
722 / 45
717 / 50
712 / 55

WELL CONSTRUCTION DETAIL



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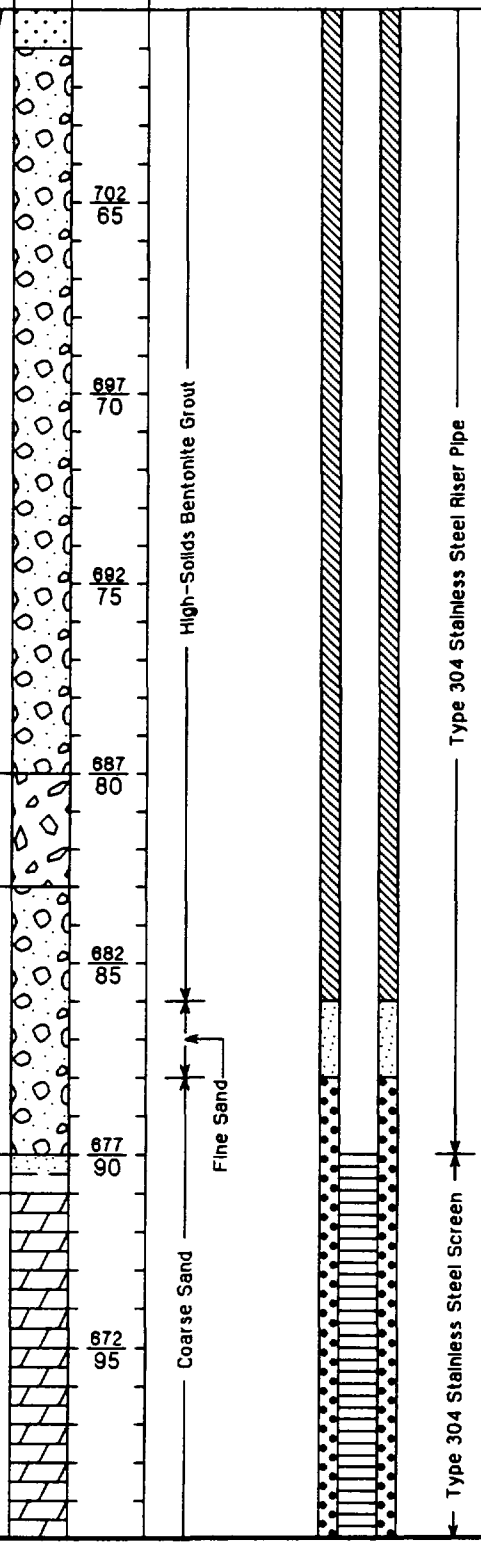
MONITORING WELL DETAIL

MW-113A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	0 ppm	6 12 31 11	SP	Lt. bn sand, SP, fine to medium; @ 60.10-60.12' has lt bn silty clay matrix, but elsewhere has no visible clay, silt, or gravel. Well sorted; has one horizontal rusty-colored zone. Saturated.
			SP-GP	Drilling action indicates mostly sand & gravel from 60-80'.
			GP	Drilling action indicates boulder @ 80-83'.
			SP-GP	Drilling action indicates sand & gravel @ 83-90'.
SS	0 ppm	58 0.3'	SM	90.0-90.2' & 90.25-90.3': Lt bn sand, very fine, silty. 90.2-90.25 is dark bn to med bn clay.
				91-100' (cuttings): Lt yel bn to lt gy bn dolomite/limestone w/fine to to medium grained sucrosic (sandy) texture & ranging to a finely crystalline compact (i.e. non-sucrosic) texture. Contains ~3% chert.



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MONITORING WELL DETAIL

MW-113A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				100-105' (cuttings): Lt yel bn to lt gy bn dolomite with sucrosic to compact texture;~8% chert			Coarse Sand
				Bottom of Boring @ 105 feet.		662/105	
						657/110	
						652/115	
						647/120	
						642/125	
						637/130	
						632/135	

Type 304 Stainless Steel Screen, 0.010" slot

CAMP DRESSER & McKEE
CDM
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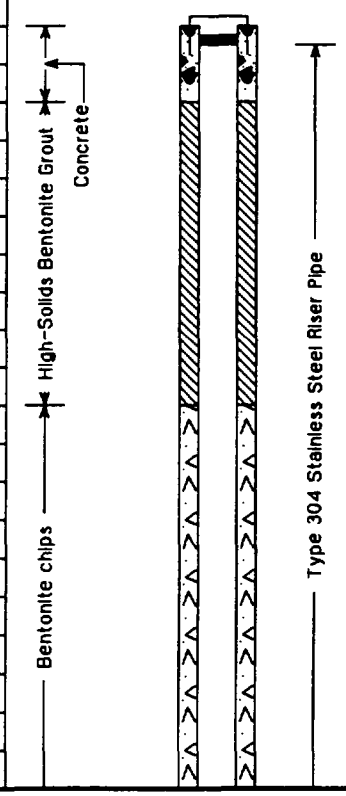
MONITORING WELL DETAIL
MW-113B

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 766.65 Ft.
Total Depth: 160 Ft.
Field Screening Instrument: HNU & OVA
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-20-93 End 10-12-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-14-93 End 10-14-93
Surface Elevation: 766.4 Ft.
Depth To Initial Water Level (GS): ~50 Ft.
Well Coordinates:
N: 2029873.559 E: 2596088.180

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		766.4 / 0
			ML	Drilling action & cuttings here and @ MW18 (ISWS well) suggests brown sandy clay w/ some gravel from ~1' to 36'. The sand @ 20' is apparently a thin layer.		761.4 / 5; 756.4 / 10; 751.4 / 15

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
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BX - 1.6" Rock Core
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HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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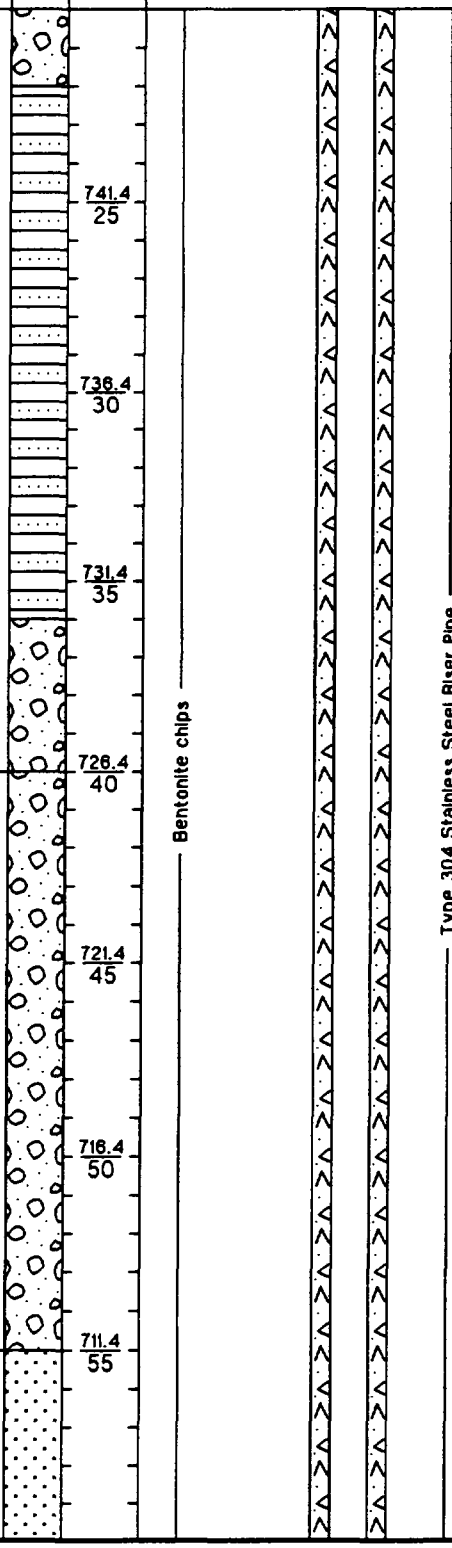
MONITORING WELL DETAIL

MW-113B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	15 50 0.3'	SW-GW	Gravelly sand, SW-GW; the sand is very coarse to medium & poorly sorted. Gravel is ~25% of sample & ranges from granules to large pebbles which are rounded to subrounded; gravel lithology is ~75% carbonate & chert, & ~25% igneous (incl. basalt, granite); moist not wet.	
			ML	Drilling action & cuttings here and @ MW18 (ISWS well) suggests brown sandy clay w/ some gravel from ~1' to 36'. The sand @ 20' is apparently a thin layer.	741.4 / 25; 736.4 / 30; 731.4 / 35
			SW-GW		726.4 / 40
SS	0 ppm	6 10 14 16	SW-GW	Lt. bn sand, SW-GW w/~15% gravel; the sand is v coarse to medium & poorly sorted; gravel is granules to medium pebbles which are subrounded to rounded; moist not wet. Drilling action indicates sand & gravel from 40-55'.	721.4 / 45; 716.4 / 50; 711.4 / 55
			SP	Drilling action indicates sand from 55-60'.	

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-113B

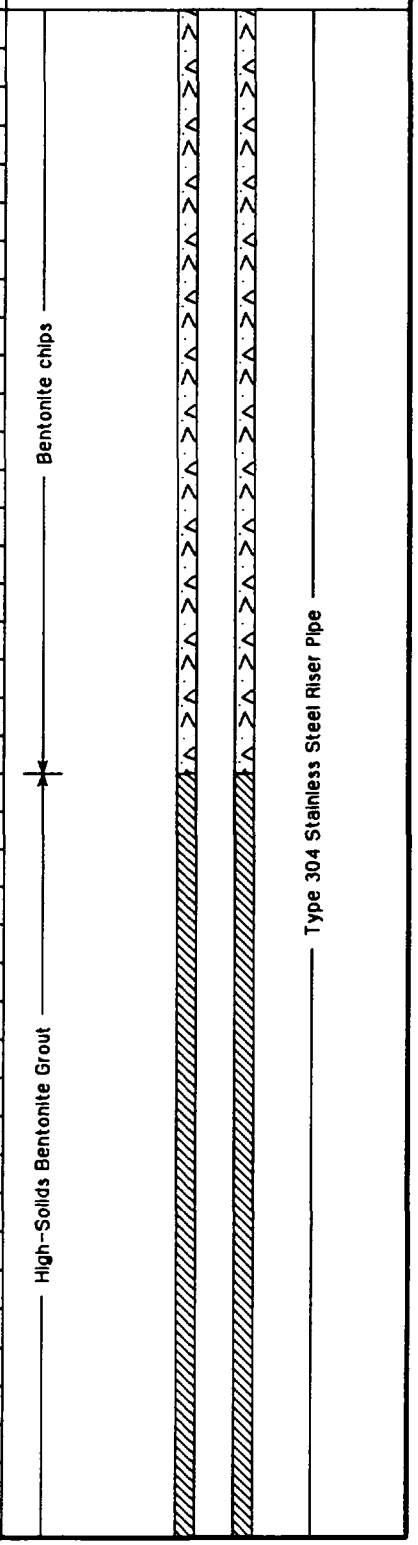
SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	0 ppm	6 12 31 11	SP	Lt. bn sand, SP, fine to medium; @ 60.10-60.12' has lt bn silty clay matrix, but elsewhere has no visible clay, silt, or gravel. Well sorted; has one horizontal rusty-colored zone. Saturated.
			SP-GP	Drilling action indicates mostly sand & gravel from 60-80'.
			GP	Drilling action indicates boulder @ 80-83'.
			SP-GP	Drilling action indicates sand & gravel @ 83-90'.
SS	0 ppm	58 0.3'	SM	90.0-90.2' & 90.25-90.3': Lt bn sand, very fine, silty. 90.2-90.25 is dark bn to med bn clay.
				91-100' (cuttings): Lt yel bn to lt gy bn dolomite/limestone w/fine to to medium grained sucrosic (sandy) texture & ranging to a finely crystalline compact (i.e. non-sucrosic) texture. Contains ~3% chert.

GRAPHIC LOG

ELEV. DEPTH

701.4 / 65
696.4 / 70
691.4 / 75
686.4 / 80
681.4 / 85
676.4 / 90
671.4 / 95

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-113B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				100-110' (cuttings): Lt yel bn to lt gy bn dolomite with sucrosic to compact texture;~8% chert			
				103-104.5 zone is soft, contains gravel (up to lg pebbles) along w/ bedrock chips & produces much water; therefore appears to be a void in the bedrock subsequently filled w/gravel.	CAVITY	661.4 / 105	High-Solids Bentonite Grout
				110-120' (cuttings): Lt yel bn to bn gy dolomite/limestone w/~10% chert present mainly as zoned chips that are white on outside & gy bn on inside. ~10% of cuttings are rounded granules & pebbles, probably coming in from 103-104.5' zone		656.4 / 110	Bentonite chips
						651.4 / 115	
				120-130' (cuttings): Lt yel bn dolomite/limestone, w/color also lt gy @ 125-130' (20% is lt gy); contains ~10% chert & 8% rounded granules & pebbles of igneous rocks & quartz. Producing ~100 gpm. Texture of dolomite/limestone is crystalline to sucrosic & fine to micritic.		646.4 / 120	
						641.4 / 125	Natural sand pack
				130-140' (cuttings): Lt yel bn & lt gy dolomite/limestone, w/~15% chert & ~7% gravel as pebbles of igneous rocks & quartz. Texture is v finely crystalline (~70% of dolomite/lime) to finely sucrosic (~30%). Produces water @ >100 gpm.		636.4 / 130	
						631.4 / 135	

Type 304 Stainless Steel Riser Pipe

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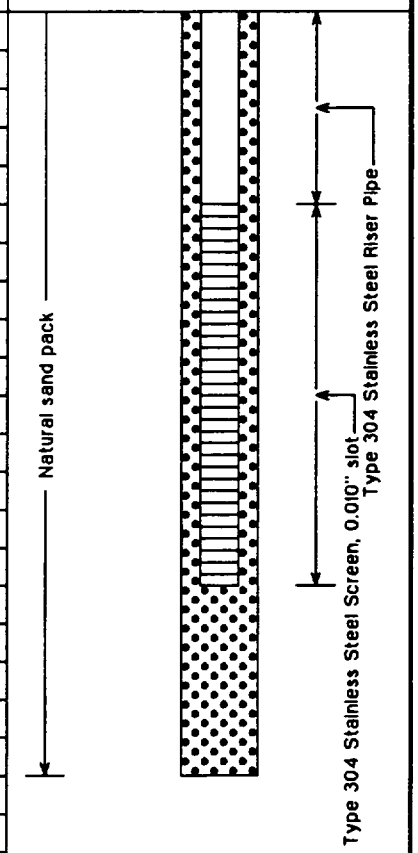
MONITORING WELL DETAIL

MW-113B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
				140-150' (cuttings): Lt yel bn & lt gy dolomite/limestone, w/~20% chert & 8% exotic (granite, basalt, shale/slate, quartz, etc.) subrounded granules & chips of sm pebbles. Texture of dolomite/limestone is v finely crystalline to finely sucrosic (~25% of dolomite/limestone).	CHERT	621.4 / 145
				150-160' (cuttings): 150-151' is dolomite/limestone as above. At 151-160' get abundant soft, chocolate-brown mudstone (metabentonite?; easily compressed by hand) as 2-5 mm chips w/ some large as 1x1x2cm; these are 70% of cuttings in 151-157' interval and 50% @ 157-160'.		616.4 / 150
				At 151-157' the remainder is 15% chert, 10% dolomite/limestone, and 5% granules & small rounded pebbles of non-sedimentary origin.	CHERT	611.4 / 155
				At 157-160' the above proportions are 25%, 15% and 10% respectively.	CHERT	606.4 / 160
				Bottom of Boring @ 160 feet.		601.4 / 165; 596.4 / 170; 591.4 / 175

WELL CONSTRUCTION DETAIL



CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

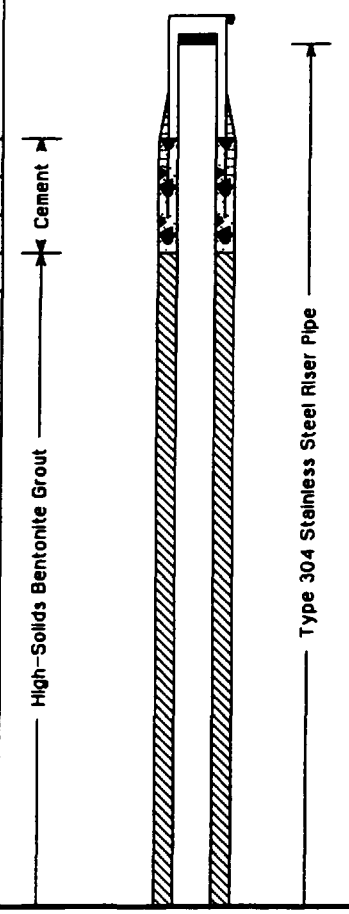
MONITORING WELL DETAIL

MW-114A

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 726.89 Ft.
Total Depth: 97 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-11-93 End 08-12-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 09-14-93 End 09-15-93
Surface Elevation: 724.9 Ft.
Depth To Initial Water Level (GS): Not measured
Well Coordinates:
N: 2030016.183 E: 2593333.104

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				Note: See MW-114B for geologic log.		724.9 / 0	
						719.9 / 5	
						714.9 / 10	
						709.9 / 15	



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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MONITORING WELL DETAIL

MW-114A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
						699.9 / 25	
						694.9 / 30	
						689.9 / 35	High-Solids Bentonite Grout
						684.9 / 40	
						679.9 / 45	Type 304 Stainless Steel Riser Pipe
						674.9 / 50	
						669.9 / 55	

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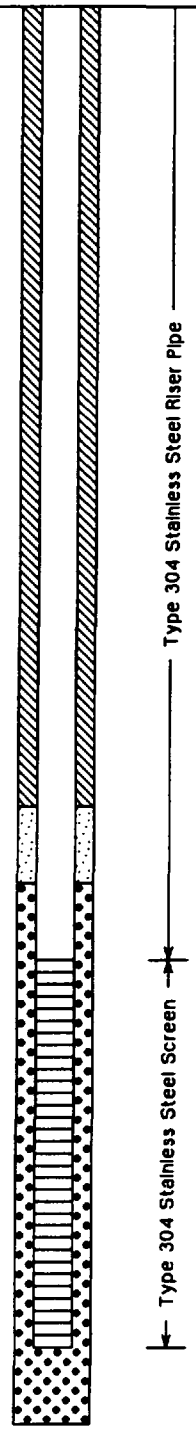
MONITORING WELL DETAIL

MW-114A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
						659.9 / 65	
						654.9 / 70	High-Solids Bentonite Grout
						649.9 / 75	
						644.9 / 80	
						639.9 / 85	#70 (Fine) Filter Sand Collar
						634.9 / 90	#30 (Coarse) Filter Sand Pack
						629.9 / 95	
				Bottom of Boring @ 97 feet.			



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MONITORING WELL DETAIL

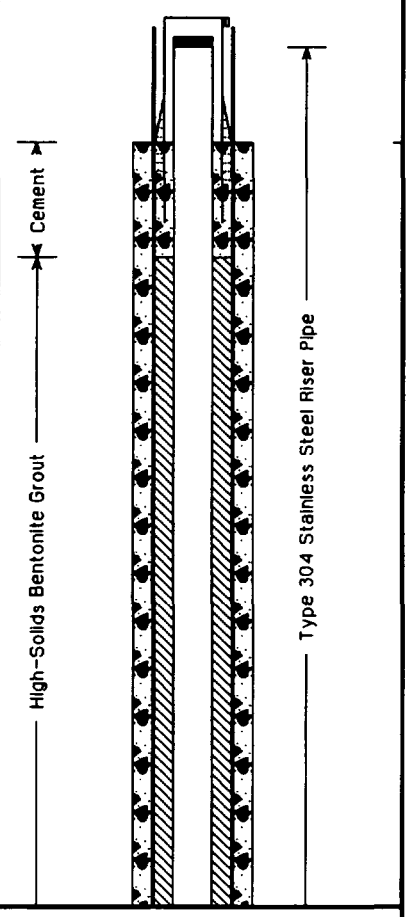
MW-114B

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: MR/BK81;AR/Canterra CT-350
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 727.42 Ft.
Total Depth: 233 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat/M. Nugent

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-02-93 End 08-30-93
Drillers: Paul Dickinson, Chuck Blount
Development Date: Start 09-15-93 End 09-15-93
Surface Elevation: 725.2 Ft.
Depth To Initial Water Level (GS): ~25 Ft.
Well Coordinates:
N: 2030023.507 E: 2593338.004

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
				Topsoil		725.2 / 0
						720.2 / 5
SS	BG	2 2 3 3		9-11': Tan, well sorted, fine-med sand; dry.		715.2 / 10
						710.2 / 15
SS	BG	3 2		19-21': Tan, well sorted, fine-med sand; dry.		

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

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HSA - Hollow Stem Auger
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WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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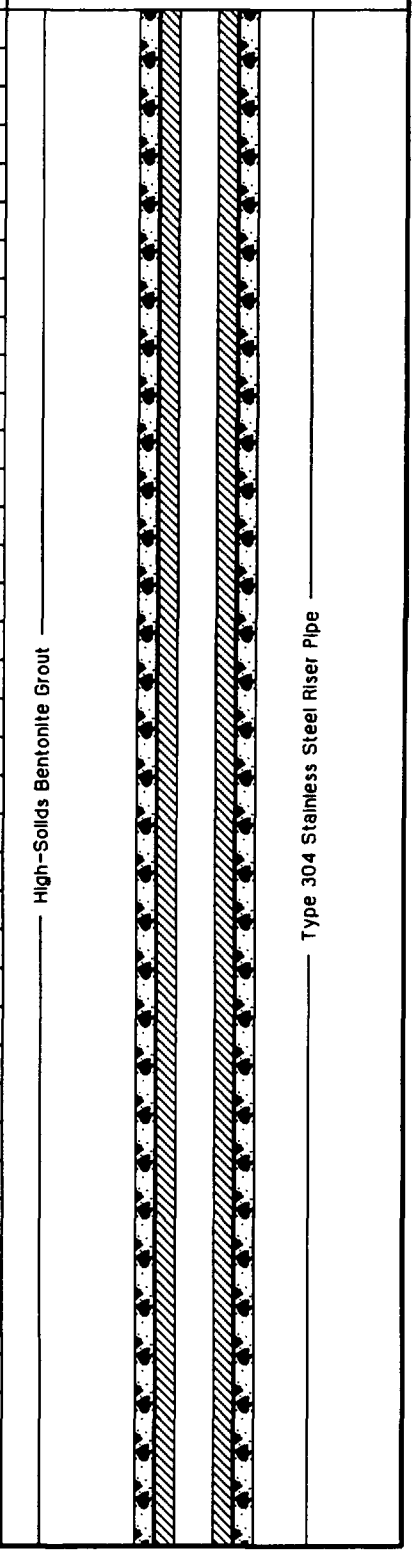
MONITORING WELL DETAIL

MW-114B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	BG	3 2			
					700.2 / 25
SS	-	2 2 2 2		29-31': Spoon consisting of blow-in, med sand w/gravel. Possibly saturated. Water table is probably between 21-29'.	695.2 / 30
					690.2 / 35
SS	BG	3 3 2 5		39-41': Brown, med sand & gravel. Saturated.	685.2 / 40
					680.2 / 45
SS	BG	8 8 5 5		49-51': Tan, coarse sand & gravel.	675.2 / 50
					670.2 / 55
SS	BG	13 23		59-61': Tan/brown, well sorted, med sand.	



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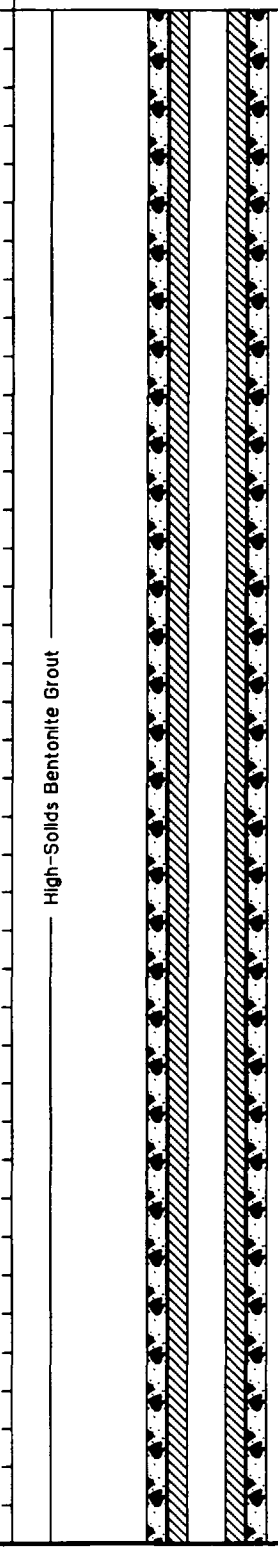
MONITORING WELL DETAIL

MW-114B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	BG	30 35			
					660.2 / 65
SS	BG	10 15 21 25		69-71': Gray, interbedded silty fine sand & silty clay. Sand is moist to saturated & clay is essentially dry. Contacts between clay & sand are distinct. No bedding observed within each lithology; no clasts observed.	655.2 / 70
					650.2 / 75
					645.2 / 80
SS	BG	12 16 16 22		81-83': Tan, well sorted fine sand; saturated.	
					640.2 / 85
SS	BG	16 47 109 113		86-88': Tan, well sorted med sand.	
					635.2 / 90
HP	-			90.5-92': Hydro Punch Sample.	
					630.2 / 95
SS	BG	10 10		99-101': Tan, well sorted med sand.	

WELL CONSTRUCTION DETAIL



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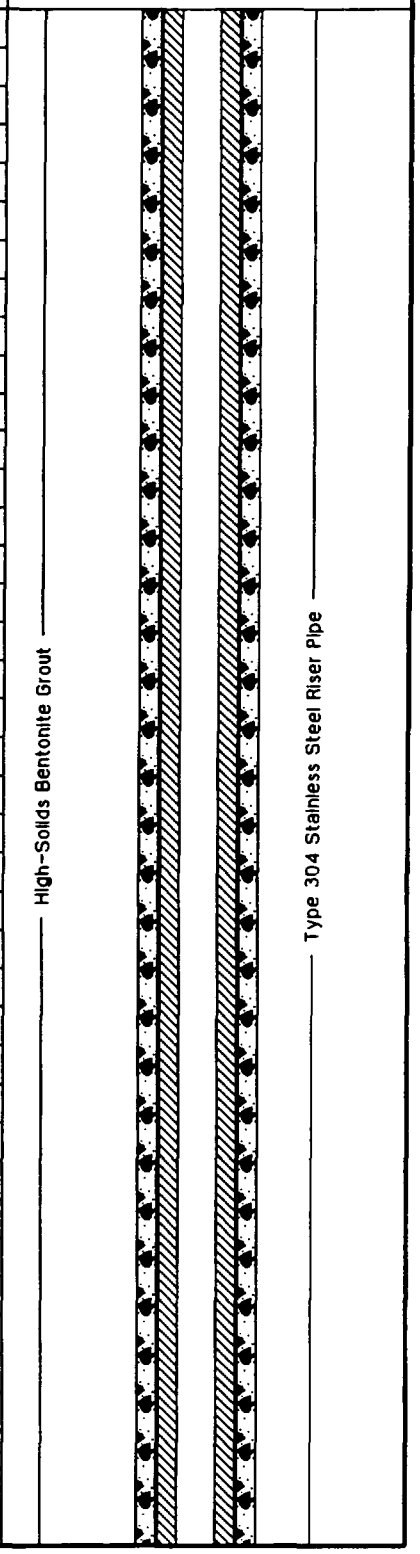
MONITORING WELL DETAIL

MW-114B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. / DEPTH
SS	BG	12 12			
SS	BG	13 13 14 13		104-106': Tan, well sorted med sand; rare gravel.	620.2 / 105
HP	-			108.5-110': Hydro Punch Sample.	615.2 / 110
					610.2 / 115
SS	BG	7 8 6 11		119-121': Gray, silty clay; dry. P Dickinson noticed drilling change @ ~117', top of silty clay layer.	605.2 / 120
					600.2 / 125
					595.2 / 130
					590.2 / 135



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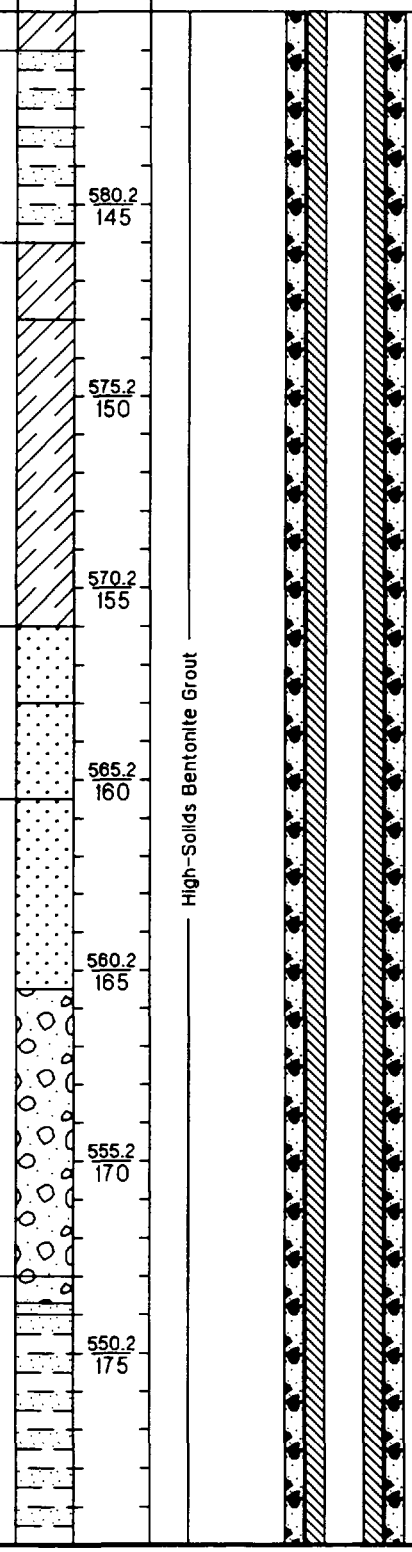
MONITORING WELL DETAIL

MW-114B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	BG	16 16 17 13		141-143': Gray, silty very fine sand; moist.	
					580.2 / 145
SS	BG	7 7 7 10		146-148': Gray, silty & gravelly clay; dry; probably a "till".	
					575.2 / 150
					570.2 / 155
SS	BG	15 20 18 16		156-158': Gray, well sorted med sand.	
					565.2 / 160
HP	-			160.5-162': Hydro Punch Sample.	
					560.2 / 165
					555.2 / 170
SS	BG	21 18 26 17		173-175': Gray, gravelly fine-med sand from 173-173.7'. Gray, silty, v fine sand from 173.7-174.	
					550.2 / 175

GRAPHIC LOG

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-114B

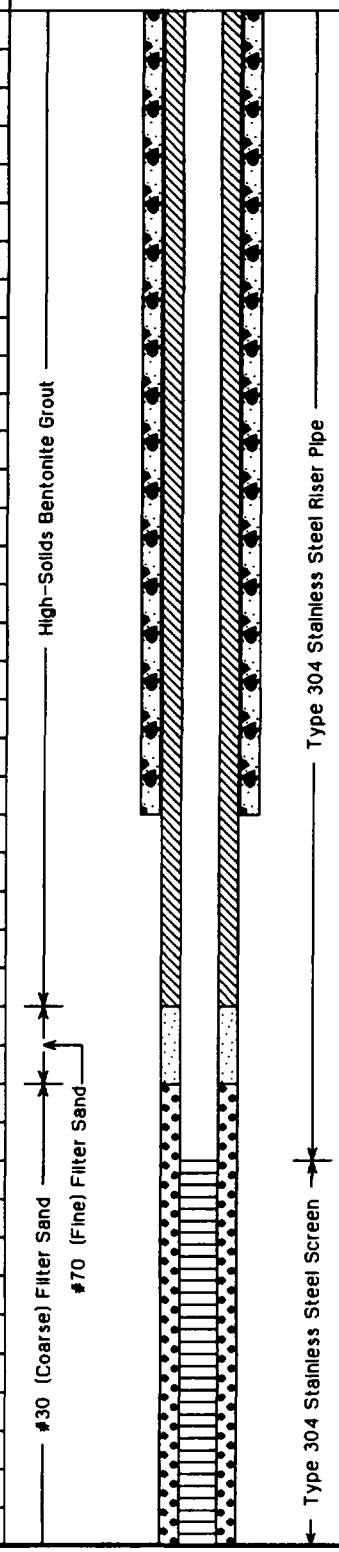
SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	-	65 /6"		183-185': Gray & tan gravel; coarse sand in upper 2". Contains large limestone fragments.
				190-201.5': Predominantly limestone (65-80%) and lesser amounts of lithic fragments (including igneous & metamorphics) and quartz. This interval most likely is a rubbly zone containing mostly limestone.
SS	BG	50 /zero		201-203': Complete refusal.

GRAPHIC LOG

ELEV. DEPTH

540.2 / 185
535.2 / 190
530.2 / 195
525.2 / 200
520.2 / 205
515.2 / 210
510.2 / 215

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-114B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
						500.2 / 225	#30 (Coarse) Filter Sand
						495.2 / 230	
				Bottom of Boring @ 233 feet.		490.2 / 235	
						485.2 / 240	
						480.2 / 245	
						475.2 / 250	
						470.2 / 255	

CAMP DRESSER & McKEE
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233 South Wacker Drive, Suite 450
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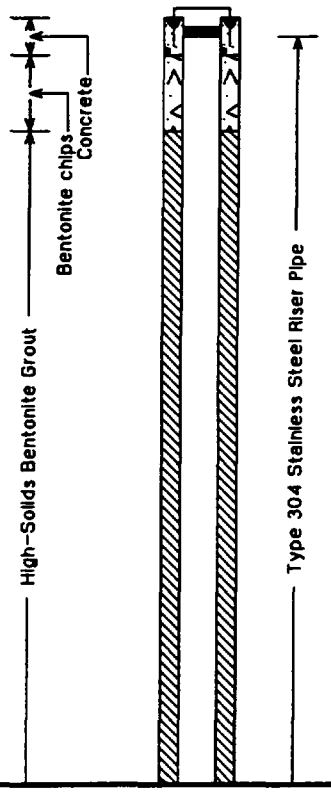
MONITORING WELL DETAIL
MW-115A

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Bailing & surge block
Top of Riser Elevation: 801.33 Ft.
Total Depth: 102 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-25-93 End 08-10-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-05-93 End 10-11-93
Surface Elevation: 801.9 Ft.
Depth To Initial Water Level (GS): ~85 Ft.
Well Coordinates:
N: 2031331.502 E: 2598719.361

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		801.9 / 0
			ML			796.9 / 5
SS	0 ppm	20 16 50 /0.5'	ML	10-12': Clayey gravelly sandy silt, mod yellow bn. Gravel is ~15% & is med pebbles to granules, subangular to angular, and with no preferred orientation. Silt & clay is ~75% & forms matrix to gravel & sand. No bedding; moist.		791.9 / 10
			ML			786.9 / 15

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
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AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

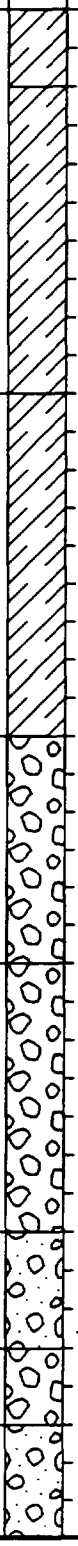
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

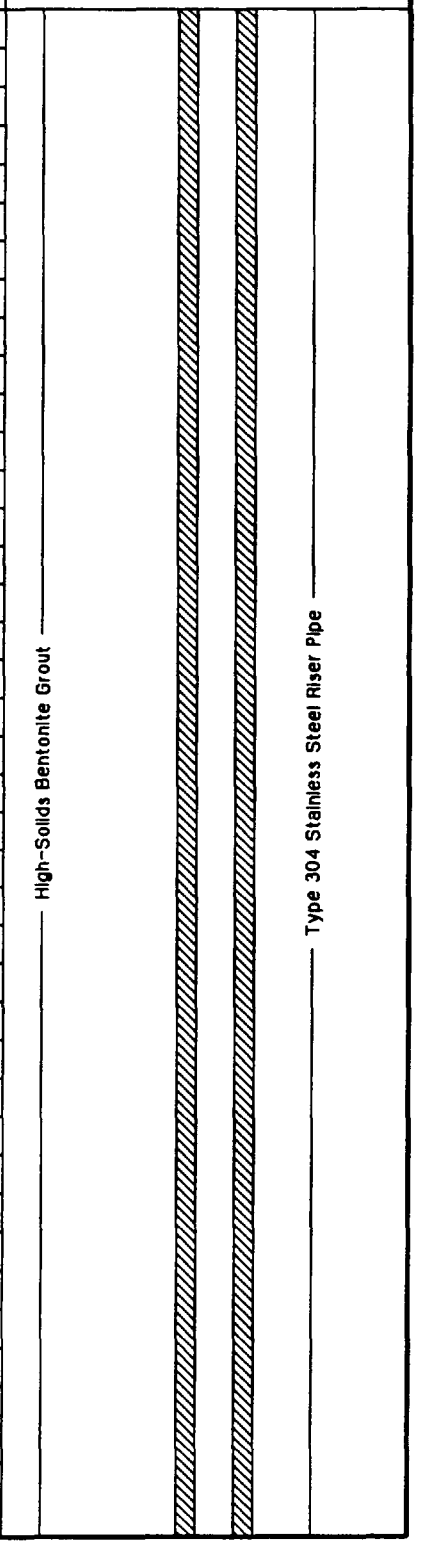
MW-115A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	14 10 15 18	ML	20-22': Clayey gravelly sandy silt, mod yellow bn to med gy bn; otherwise same as 10-12' sample.	
			ML		776.9 / 25
					771.9 / 30
SS	0 ppm	9 12 10 17	ML	30-32': Clayey gravelly sandy silt, mod gy bn to med yellow bn; otherwise same as 10-12' sample.	
					766.9 / 35
			GP	39-45': A dolomite boulder (no sample)	761.9 / 40
					756.9 / 45
			GP	45-52': Gravel (based on drilling action & cuttings; no sample)	
					751.9 / 50
			GP-SP	52-55': Sandy gravel (no sample)	
					746.9 / 55
			GP	55-57': Gravel (no sample)	
			GP-SP	57-60': Sandy gravel (no sample)	

GRAPHIC LOG



WELL CONSTRUCTION DETAIL



CAMP DRESSER & McKEE
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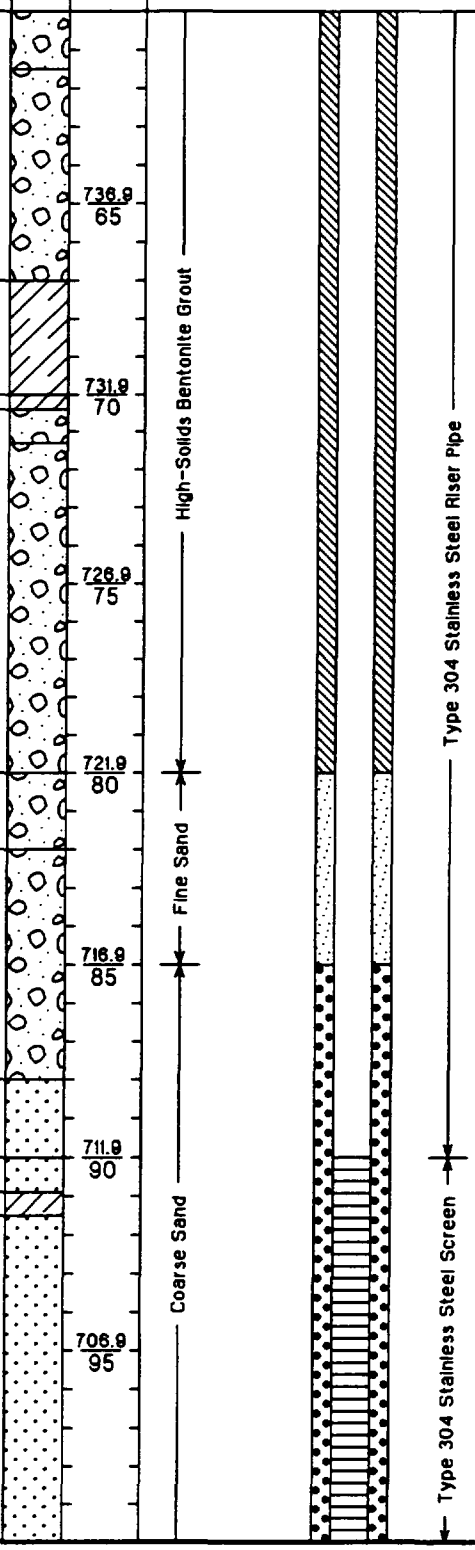
MONITORING WELL DETAIL

MW-115A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	16 13 19	SP	60-61.5': Gravelly sand, v.coarse to med, mod bn; gravel is subrounded sm. - lg. pebbles & is carbonate, chert, igneous & meta rock fragments & quartz; wet but not quite saturated	
			SP		736.9 / 65
			ML-SP	67-69': Silt or clay, based on cuttings & drilling action	
			ML	70-70.4': Clayey gravelly silt, mod gy bn; gravel is sm pebbles, subang.	731.9 / 70
			SP	70.4-71.3': Gravelly sand, bn; sand is coarse to fine; gravel is large to sm pebbles which are subrounded to subangular; moist.	
			SP		726.9 / 75
SS	0 ppm	32 50 /0.4'	SP-SW	80-82': Gravelly sand, mod or bn; sand is coarse to fine; gravel is subrounded to subang., sm - lg pebbles; ~3% silt/clay; wet but not saturated.	721.9 / 80
			SP-GP	82-88': Sand & Gravel (based on drilling action, cuttings)	716.9 / 85
			SP	88-90': Sand (drilling action)	
SS	0 ppm	20 25 50 /0.4'	SP	90-90.9': Lt bn sand, fine exc. @ 90-90.2' which is med,; subhoriz. laminae of dark min'l concentrations.	711.9 / 90
			ML	90.9-91.5': Mod or bn to lt bn sandy silt, loc clayey; numerous subhoriz. laminae, like varves; the sand is v.fine; saturated.	
			SP	91.5-100': Sand (drilling action)	706.9 / 95



CAMP DRESSER & McKEE
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233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-115A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
SS	0 ppm		SP	100-101.5': Lt bn sand, coarse to med exc. @ 100-100.3 where it is fine; mod well sorted; saturated.			Coarse Sand
				Bottom of Boring @ 102 feet.			
						696.9 / 105	
						691.9 / 110	
						686.9 / 115	
						681.9 / 120	
						676.9 / 125	
						671.9 / 130	
						666.9 / 135	

CAMP DRESSER & McKEE
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MONITORING WELL DETAIL

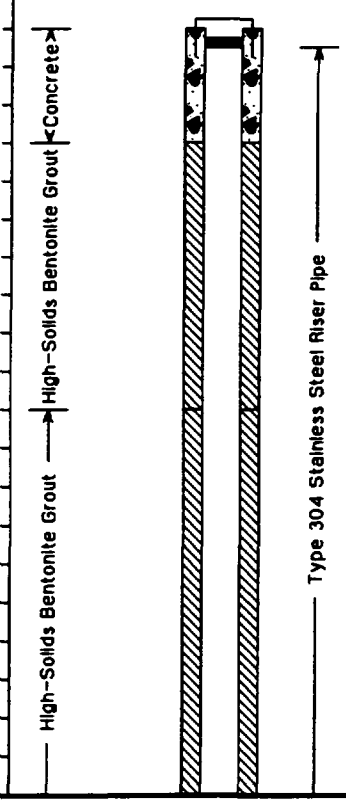
MW-115B

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Bailing & surge block
Top of Riser Elevation: 802.26 Ft.
Total Depth: 102 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-26-93 End 08-05-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-05-93 End 10-11-93
Surface Elevation: 802.9 Ft.
Depth To Initial Water Level (GS): ~85 Ft.
Well Coordinates:
N: 2031347.023 E: 2598719.166

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		802.9 / 0
			ML			797.9 / 5
SS	0 ppm	20 16 50 /0.5'	ML	10-12': Clayey gravelly sandy silt, mod yellow bn. Gravel is ~15% & is med pebbles to granules, subangular to angular, and with no preferred orientation. Silt & clay is ~75% & forms matrix to gravel & sand. No bedding; moist.		792.9 / 10
			ML			787.9 / 15

WELL CONSTRUCTION DETAIL



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OTHER:
BGS - Below Ground Surface

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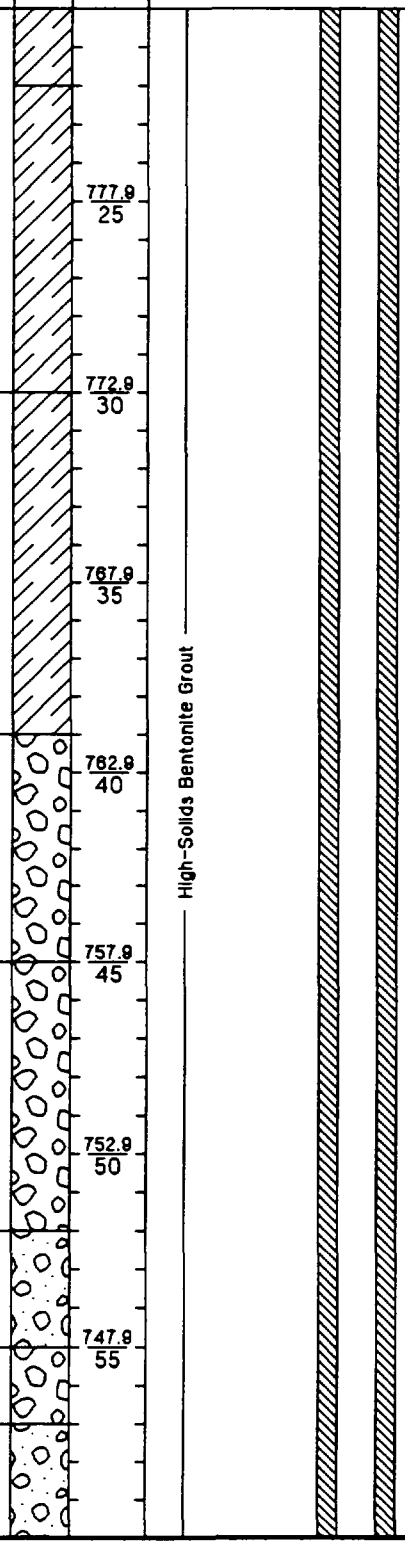
MONITORING WELL DETAIL

MW-115B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. / DEPTH
SS	0 ppm	14 10 15 18	ML	20-22': Clayey gravelly sandy silt, mod yellow bn to med gy bn; otherwise same as 10-12' sample.	
			ML		777.9 / 25
					772.9 / 30
SS	0 ppm	9 12 10 17	ML	30-32': Clayey gravelly sandy silt, mod gy bn to med yellow bn; otherwise same as 10-12' sample.	
					767.9 / 35
			GP	39-45': A dolomite boulder (no sample)	762.9 / 40
					757.9 / 45
			GP	45-52': Gravel (based on drilling action & cuttings; no sample)	
					752.9 / 50
			GP-SP	52-55': Sandy gravel (no sample)	
					747.9 / 55
			GP	55-57': Gravel (no sample)	
			GP-SP	57-60': Sandy gravel (no sample)	

WELL CONSTRUCTION DETAIL



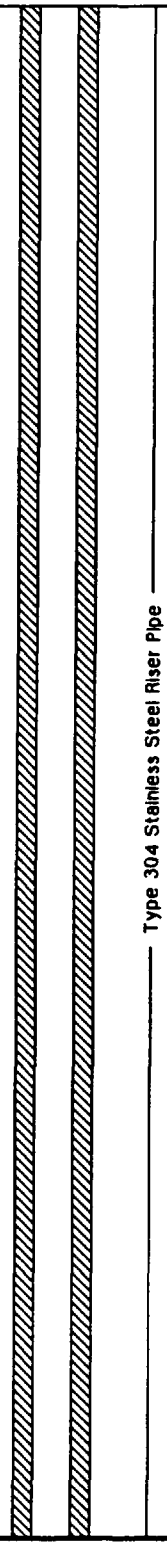
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-115B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. / DEPTH
SS	0 ppm	16 13 19	SP	60-61.5': Gravelly sand, v.coarse to med, mod bn; gravel is subrounded sm. - lg. pebbles & is carbonate, chert, igneous & meta rock fragments & quartz; wet but not quite saturated	
			SP		737.9 / 65
			ML-SP	67-69': Silt or clay, based on cuttings & drilling action	
			ML	70-70.4': Clayey gravelly silt, mod gy bn; gravel is sm pebbles, subang.	732.9 / 70
			SP	70.4-71.3': Gravelly sand, bn; sand is coarse to fine; gravel is large to sm pebbles which are subrounded to subangular; moist.	
			SP		727.9 / 75
SS	0 ppm	32 50 /0.4'	SP-SW	80-82': Gravelly sand, mod or bn; sand is coarse to fine; gravel is subrounded to subang., sm - lg pebbles; ~3% silt/clay; wet but not saturated.	722.9 / 80
			SP-GP	82-88': Sand & Gravel (based on drilling action, cuttings)	717.9 / 85
			SP	88-90': Sand (drilling action)	
SS	0 ppm	20 25 50 /0.4'	SP	90-90.9': Lt bn sand, fine exc. @ 90-90.2' which is med,; subhoriz. laminae of dark min'l concentrations.	712.9 / 90
			ML	90.9-91.5': Mod or bn to lt bn sandy silt, loc clayey; numerous subhoriz. laminae, like varves; the sand is v.fine; saturated.	
			SP	91.5-100': Sand (drilling action)	707.9 / 95

WELL CONSTRUCTION DETAIL



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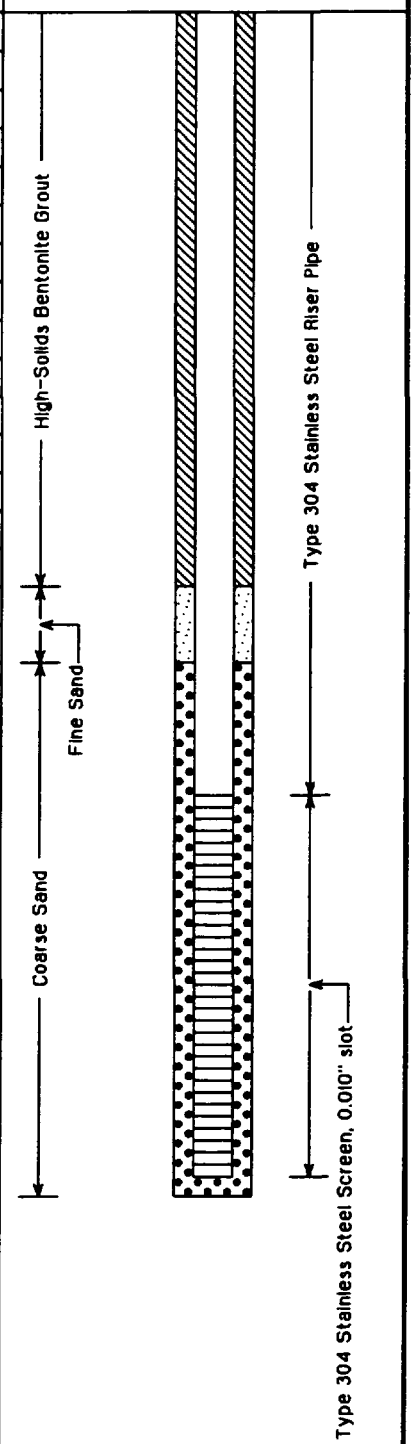
MONITORING WELL DETAIL

MW-115B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	16 22 22 10	SP	100-101.5': Lt bn sand, coarse to med exc. @ 100-100.3 where it is fine; mod well sorted; saturated.	
			SP	101.5-110': Sand (drilling action)	697.9 / 105
SS	0 ppm	16 32 33 15	SP	110-110.7': Lt gy bn sand, fine; saturated.	692.9 / 110
			SP	110.7-111.4': Lt gy bn sand, med-coarse; few pebbles @ base; saturated.	
			SP	111.4-120': Sand (drilling action)	687.9 / 115
SS	0 ppm	32 40 50 /0.4'	SP	120-121.2': Lt gy bn sand, med to coarse, mod well sorted; saturated.	682.9 / 120
			SP	121.2-124': Sand (drilling action)	
			GP	124-130': Coarse sand or gravel	677.9 / 125
SS	0 ppm	36 40 50 16	GP	130-131': Mod bn to or bn sandy gravel, ~3% or bn to bn silt/clay; sand is coarse to med & ~40% of sample; gravel is large to sm pebbles, generally subrounded; flattish pebbles tend to have subhorizontal orientation; saturated.	672.9 / 130
				Bottom of Boring @ 131 feet.	667.9 / 135

WELL CONSTRUCTION DETAIL



CAMP DRESSER & McKEE
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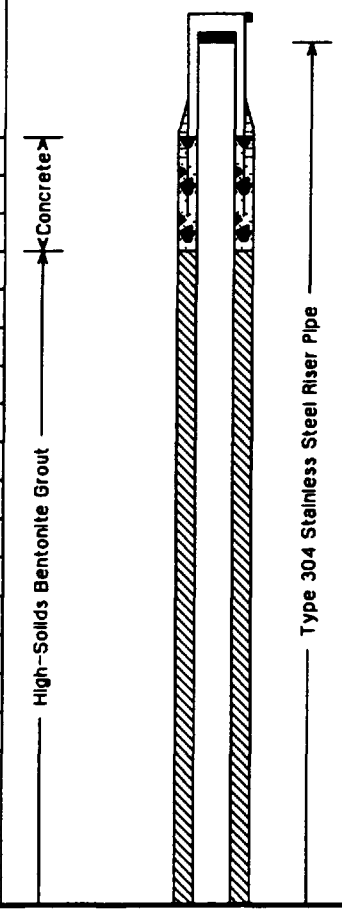
MONITORING WELL DETAIL

MW-116A

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 736.24 Ft.
Total Depth: 82 Ft.
Field Screening Instrument: HNU
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-11-93 End 07-12-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 09-14-93 End 09-14-93
Surface Elevation: 733.7 Ft.
Depth To Initial Water Level (GS): 35 Ft.
Well Coordinates:
N: 2032217.563 E: 2589306.154

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	733.7 / 0
			SP		728.7 / 5
SS	0 ppm	8 10 22 16		Lt gy bn SAND, medium to coarse w/~15% small (up to 2cm) subrounded pebbles, moist.	723.7 / 10
			SP		718.7 / 15



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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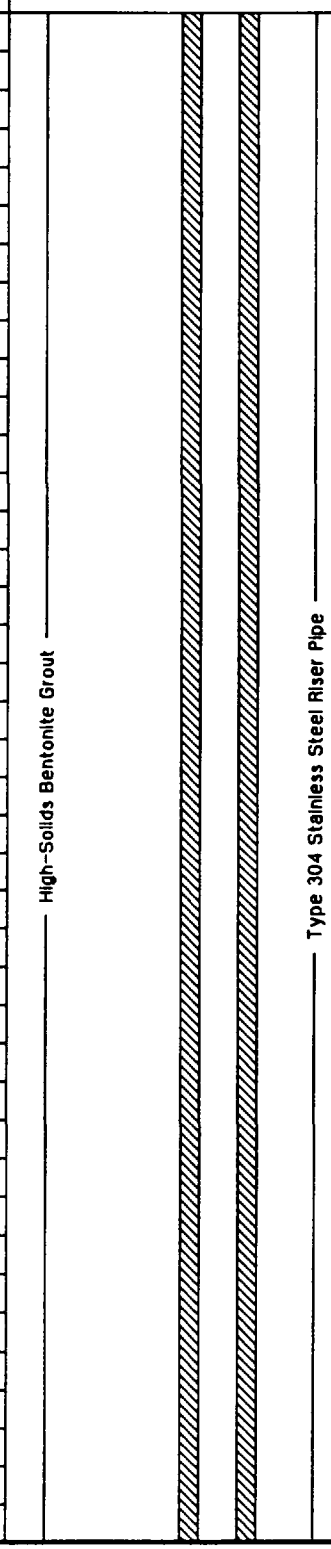
MONITORING WELL DETAIL

MW-116A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	11 12 11 18	SP	Lt bn SAND, medium to fine-grained, trace (<5%) granules & pebbles; loose, moist; sand grains are angular; no silt or clay visible.	708.7 / 25
SS	0 ppm	7 12 9 28	SP	Lt gy bn SAND, fine to coarse, w/~10% gravel as small pebbles which are subrounded to subangular & concentrated in discrete beds; loose, moist.	703.7 / 30; 698.7 / 35
SS	0 ppm	10 15 17 13	SP	Lt bn SAND, fine to coarse , w/ 5% gravel (in several layers, especially @ 40.0-40.3') as granules & small pebbles that are subrounded to subangular; wet.	693.7 / 40; 688.7 / 45
SS	0 ppm	6 14 14 40	SP	Lt bn SAND, w/10% gravel; sand is fine to coarse w/ loc abundant granules in horizontal layers; gravel is mainly small subrounded to angular pebbles which are carbonate, chert, igneous & jasper; no silt or clay observed; saturated.	683.7 / 50; 678.7 / 55

WELL CONSTRUCTION DETAIL



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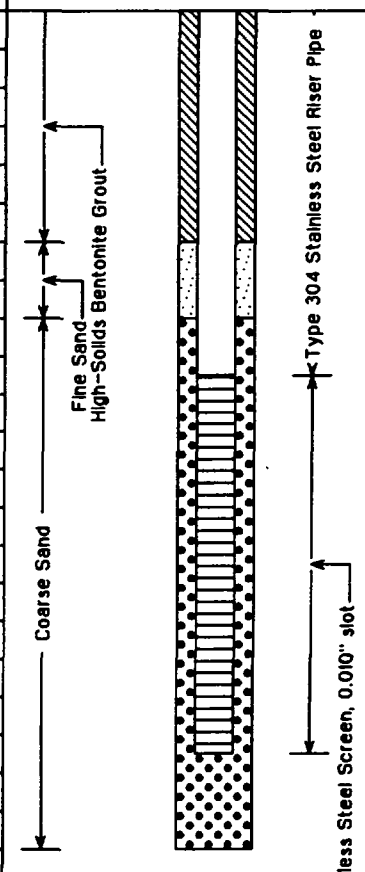
MONITORING WELL DETAIL

MW-116A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	25 22 18 26	SP	Lt bn SAND, fine to med w/ some coarse @ 60.0-60.2'; trace sm pebbles; up to 15% granules @ 60.0-60.2. Subhorizontal bedding; loose; saturated.	668.7 / 65
SS	-	100 /0.3'	SP	(No recovery - rock)	663.7 / 70; 658.7 / 75
SS	0 ppm	10 12 14 14	SP	Lt bn SAND, w/ ~20% gravel; sand is fine to coarse; gravel is subrounded to subangular small pebbles of same lithology as @ 50-52'; wet.	653.7 / 80
				Bottom of Boring @ 82 feet	648.7 / 85; 643.7 / 90; 638.7 / 95



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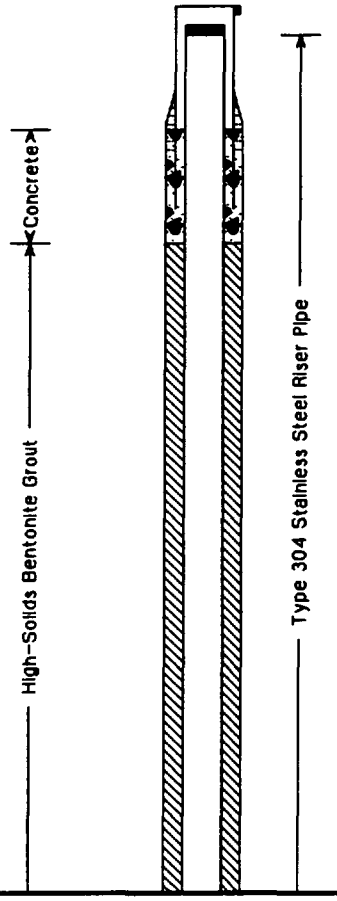
MONITORING WELL DETAIL

MW-116B

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 736.35 Ft.
Total Depth: 169 Ft.
Field Screening Instrument: HNU
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-07-93 End 07-10-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-07-93 End 10-07-93
Surface Elevation: 733.8 Ft.
Depth To Initial Water Level (GS): ~35 Ft.
Well Coordinates:
N: 2032217.424 E: 2589294.698

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		733.8 / 0
			SP			728.8 / 5
SS	0 ppm	8 10 22 16		Lt gy bn SAND, medium to coarse w/~15% small (up to 2cm) subrounded pebbles, moist.		723.8 / 10
			SP			718.8 / 15



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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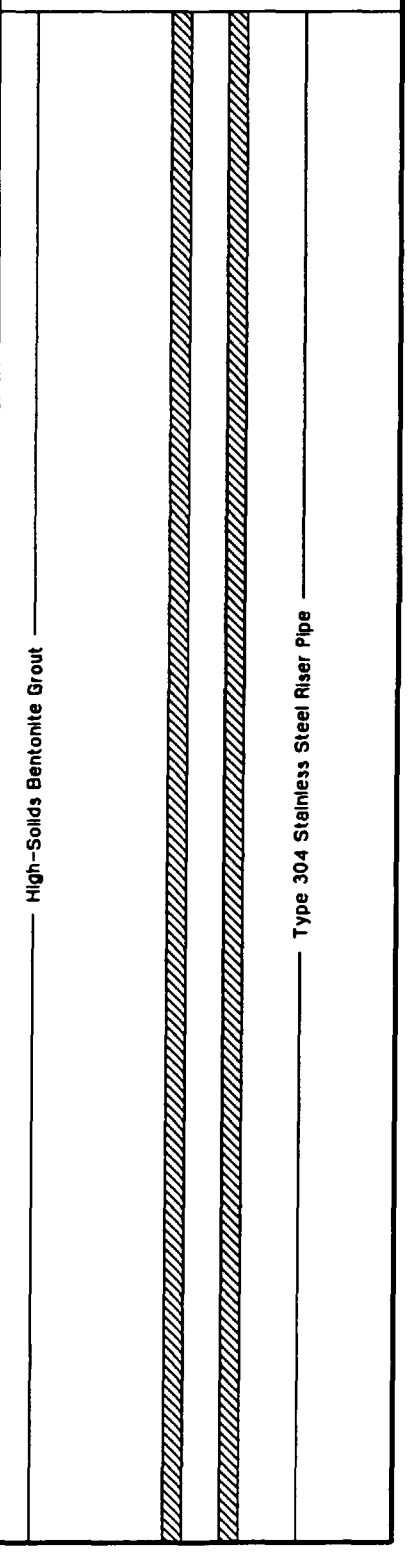
MONITORING WELL DETAIL

MW-116B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
SS	0 ppm	11 12 11 18	SP	Lt bn SAND, medium to fine-grained, trace (<5%) granules & pebbles; loose, moist; sand grains are angular; no silt or clay visible.		708.8 / 25
SS	0 ppm	7 12 9 28	SP	Lt gy bn SAND, fine to coarse, w/~10% gravel as small pebbles which are subrounded to subangular & concentrated in discrete beds; loose, moist.		703.8 / 30; 698.8 / 35
SS	0 ppm	10 15 17 13	SP	Lt bn SAND, fine to coarse , w/ 5% gravel (in several layers, especially @ 40.0-40.3') as granules & small pebbles that are subrounded to subangular; wet.		693.8 / 40; 688.8 / 45
SS	0 ppm	6 14 14 40	SP	Lt bn SAND, w/10% gravel; sand is fine to coarse w/ loc abundant granules in horizontal layers; gravel is mainly small subrounded to angular pebbles which are carbonate, chert, igneous & jasper; no silt or clay observed; saturated.		683.8 / 50; 678.8 / 55

WELL CONSTRUCTION DETAIL



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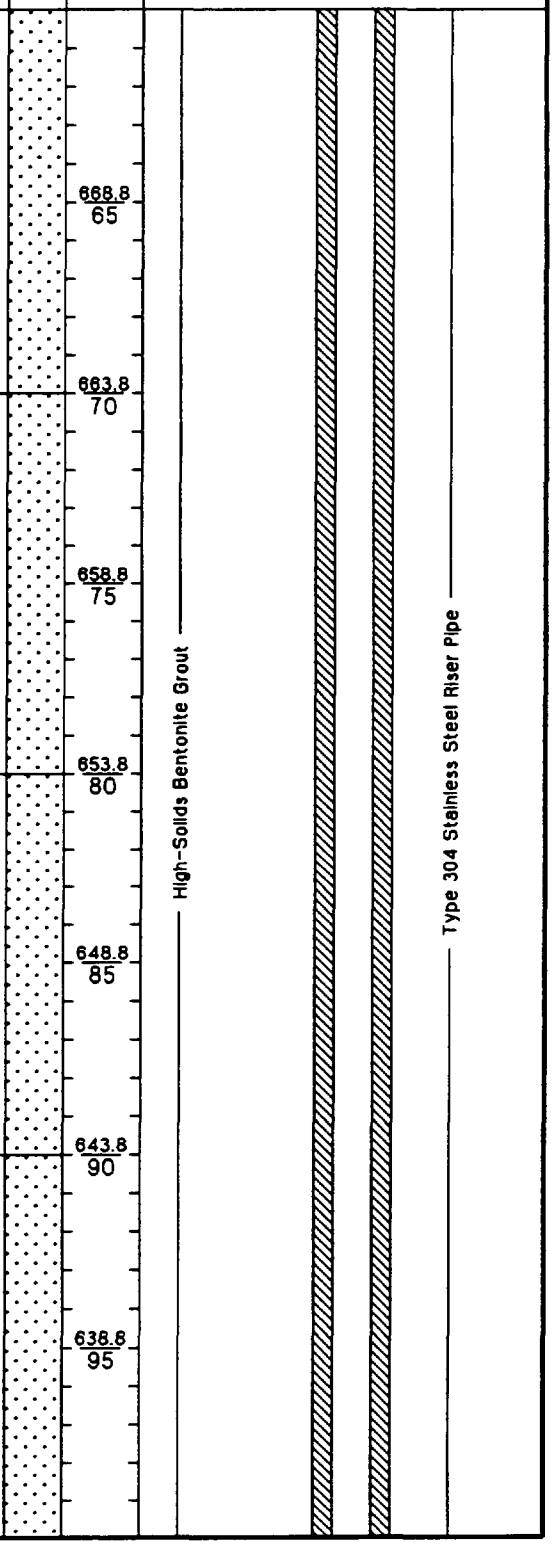
MONITORING WELL DETAIL

MW-116B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	25 22 18 26	SP	Lt bn SAND, fine to med w/ some coarse @ 60.0-60.2'; trace sm pebbles; up to 15% granules @ 60.0-60.2. Subhorizontal bedding; loose; saturated.	668.8 / 65
SS	-	100 /0.3'	SP	(No recovery - rock)	663.8 / 70; 658.8 / 75
SS	0 ppm	10 12 14 14	SP	Lt bn SAND, w/ ~20% gravel; sand is fine to coarse; gravel is subrounded to subangular small pebbles of same lithology as @ 50-52'; wet.	653.8 / 80; 648.8 / 85
SS	0 ppm	23 17 19 28	SP	Lt bn SAND, w/~10% gravel 90.0-90.3' is med sand w/~5% pebbles; 90.3-90.6: coarse sand w/~25% gravel; 90.6-90.9: fine to v.fine SAND. The gravel is small subrounded to subangular pebbles of same lithology as @ 50-52'; wet.	643.8 / 90; 638.8 / 95



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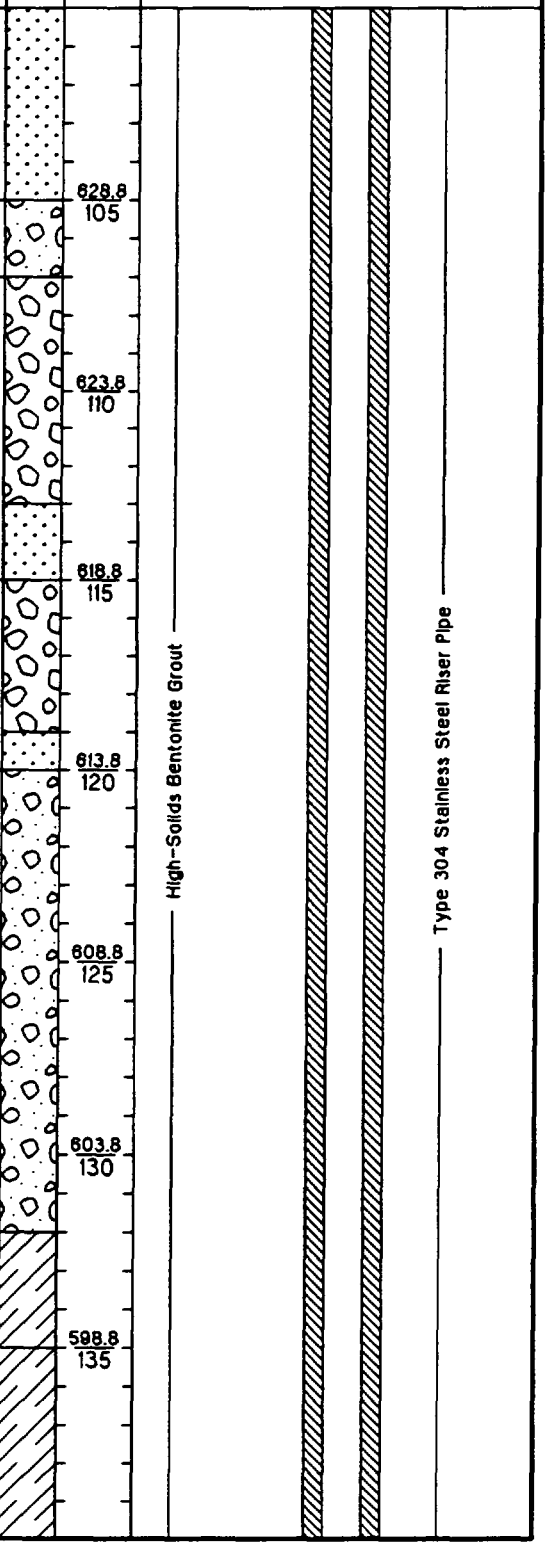
MONITORING WELL DETAIL

MW-116B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			SP		628.8 / 105
SS	0 ppm	16 23 28 30	SP-GP	Lt gy bn gravelly SAND, sand is coarse to fine; gravel is large to small subrounded to subangular pebbles which are ~75-80% carbonate & chert, remainder being largely igneous (granite, basalt, rhyolite, diorite).	
			GP	Note: Drilling action suggests large cobbles @ 107-113'	623.8 / 110
			SP		618.8 / 115
			GP	Note: Drilling action suggests large cobbles @ 115-119'	
			SP		613.8 / 120
SS	0 ppm	26 33 38 42	SP-GP	Lt gy bn gravelly SAND; sand is coarse to fine, subrounded to subangular & predominantly quartz; gravel is cobbles to small pebbles, subrounded & of same lithology as @ 105-107', wet.	608.8 / 125
					603.8 / 130
			CL-SM	Note: Drilling action suggests silty clay begins @ 132'.	598.8 / 135
SS	0 ppm	16 36 24 50	CL-SM	Silty clay and silty v.fine sand; Detailed description: 135.0-135.1': Lt bn to or bn SAND, med to coarse, iron-stained near base. 135.1-135.8': Mod bn gy to or bn silty clay (or bn @ 135.1-135.4'), with horizontal laminated bedding occasionally marked by silty partings or charcoal fragments. 135.8-135.9': Laminated clayey SILT (lt gy) & silty clay (mod bn gy), possibly glaciolacustrine varves; 135.9-136.1: silty clay as	

WELL CONSTRUCTION DETAIL



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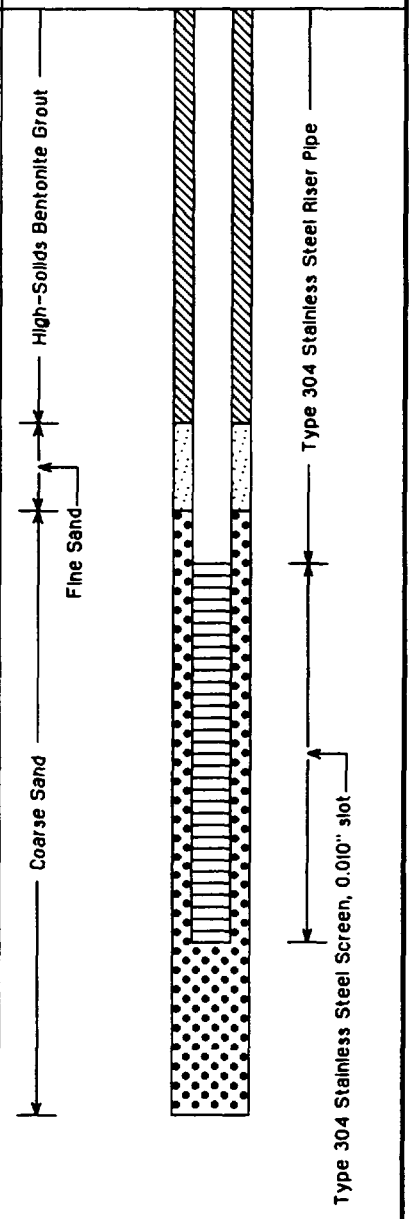
MONITORING WELL DETAIL

MW-116B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			CL-SM	in 135.1-135.8; 136.1-136.3: mod-lt gy silty v.fine sand	
			SP	Note: Drilling action suggests silty clay ends @ 144'	588.8 / 145
SS	0 ppm	20 25 30 18	SP	Lt bn gy SAND, med to fine, trace (~2%) medium pebbles; subhorizontal bdg; no silt/clay observed; sand is subrounded to angular, ~95% qtz; wet.	583.8 / 150
					578.8 / 155
					573.8 / 160
					568.8 / 165
SS	0 ppm	23 27 25 19	SP-GP	Lt bn SAND, w/some gravel (up to 20%); sand is coarse to med.; gravel is mainly small pebbles which are subrounded & of same lithology as 105-107' sample.	
				Bottom of Boring @ 169 feet	563.8 / 170
					558.8 / 175



CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

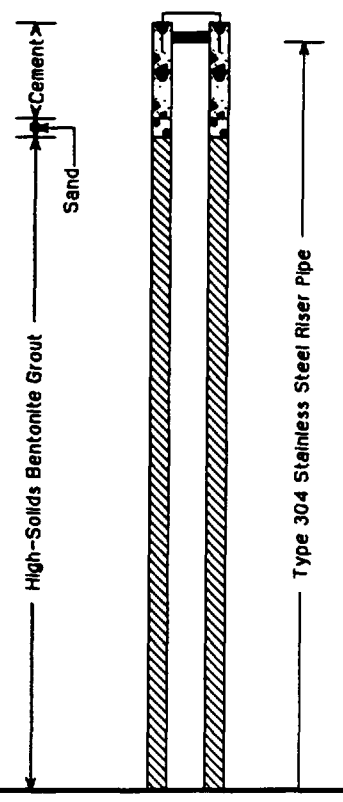
MONITORING WELL DETAIL

MW-117A

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 696.19 Ft.
Total Depth: 40 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-22-93 End 07-22-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 09-22-93 End 09-22-93
Surface Elevation: 696.4 Ft.
Depth To Initial Water Level (GS): ~3 Ft.
Well Coordinates:
N: 2028106.575 E: 2586529.157

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
				Note: See MW-117C for geologic log.		696.4 / 0 691.4 / 5 686.4 / 10 681.4 / 15	Cement Sand High-Solids Bentonite Grout Type 304 Stainless Steel Riser Pipe



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
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MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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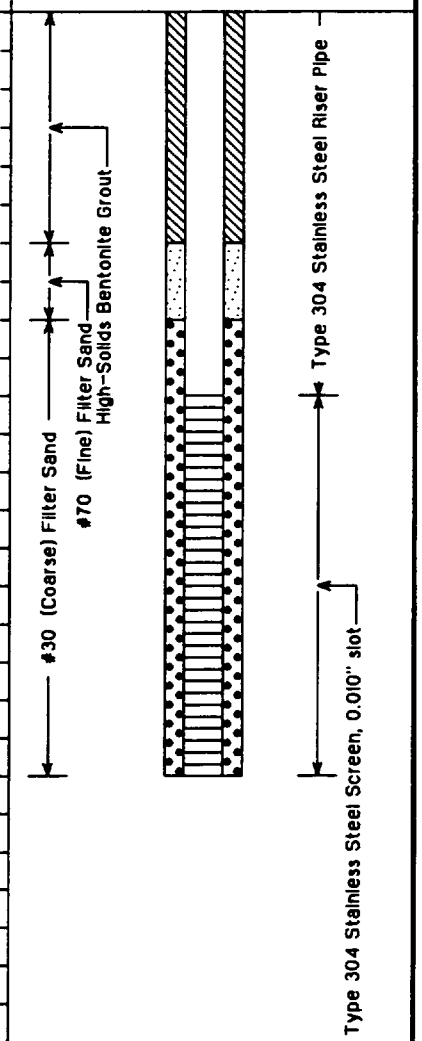
MONITORING WELL DETAIL

MW-117A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
						671.4 / 25	
						666.4 / 30	
						661.4 / 35	
				Bottom of Boring @ 40 feet		656.4 / 40	
						651.4 / 45	
						646.4 / 50	
						641.4 / 55	



CAMP DRESSER & McKEE
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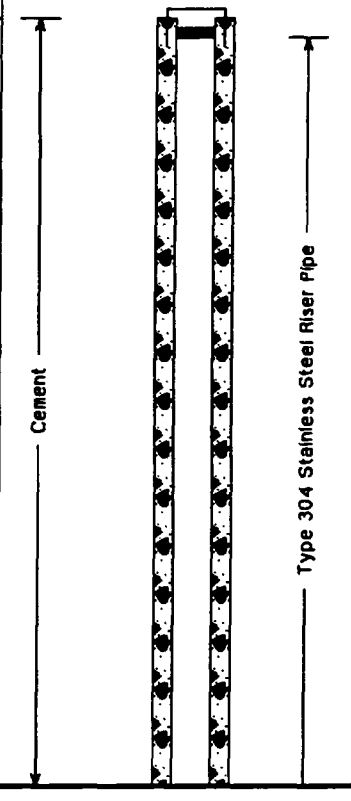
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL
MW-117B

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 696.26 Ft.
Total Depth: 90 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-13-93 End 07-19-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 09-17-93 End 09-22-93
Surface Elevation: 696.4 Ft.
Depth To Initial Water Level (GS): Not Measured
Well Coordinates:
N: 2028092.927 E: 2586515.638

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				Note: See MW-117C for geologic log.		696.4 / 0	
						691.4 / 5	
						686.4 / 10	
						681.4 / 15	



EXPLANATION OF ABBREVIATIONS

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HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
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DTC - Drill Through Casing

SAMPLING TYPES:
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CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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MONITORING WELL DETAIL

MW-117B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
						671.4 / 25	High-Solids Bentonite Grout; Type 304 Stainless Steel Riser Pipe
						666.4 / 30	
						661.4 / 35	
						656.4 / 40	
						651.4 / 45	
						646.4 / 50	
						641.4 / 55	

CAMP DRESSER & McKEE

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MONITORING WELL DETAIL

MW-117B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
						631.4 / 65	High-Solids Bentonite Grout
						626.4 / 70	
						621.4 / 75	
						616.4 / 80	#70 (Fine) Filter Sand Collar
						611.4 / 85	#30 (Coarse) Filter Sand Pack
				Bottom of Boring @ 90 feet		606.4 / 90	Type 304 Stainless Steel Riser Pipe; Type 304 Stainless Steel Screen, 0.010" slot
						601.4 / 95	

CAMP DRESSER & McKEE
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Chicago, Illinois 60606-5306

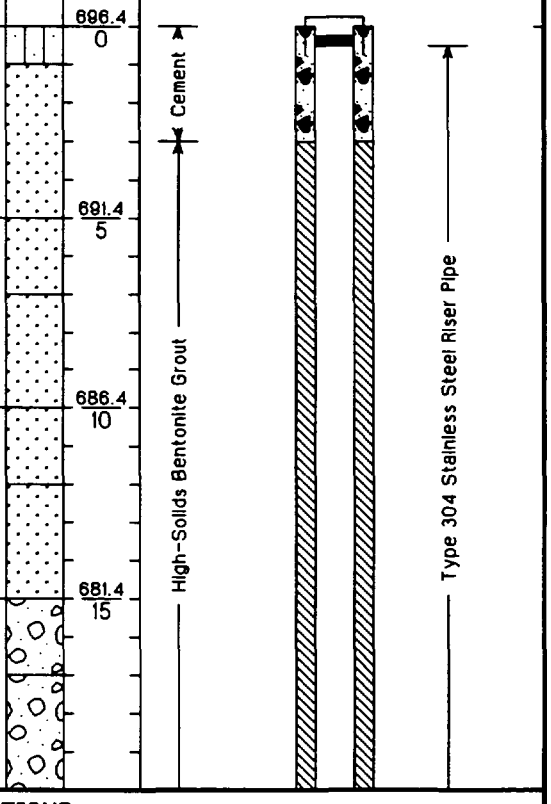
MONITORING WELL DETAIL

MW-117C

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 696.11 Ft.
Total Depth: 162 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-19-93 End 07-22-93
Drillers: Paul Dickinson, Mike Nelson, Paul Cranfield
Development Date: Start 10-07-93 End 10-08-93
Surface Elevation: 696.4 Ft.
Depth To Initial Water Level (GS): Not Measured Ft.
Well Coordinates:
N: 2028099.948 E: 2586522.277

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
				Topsoil	696.4 / 0
SS	BG	2 2 1 2		5-7': Gray/brown, gravelly med sand.	691.4 / 5
SS	BG	1 1 1 1		10-12': Gray/brown, well sorted med sand. Saturated.	686.4 / 10
SS	BG	3 3 5 6		15-17': Brown, gravelly med sand.	681.4 / 15



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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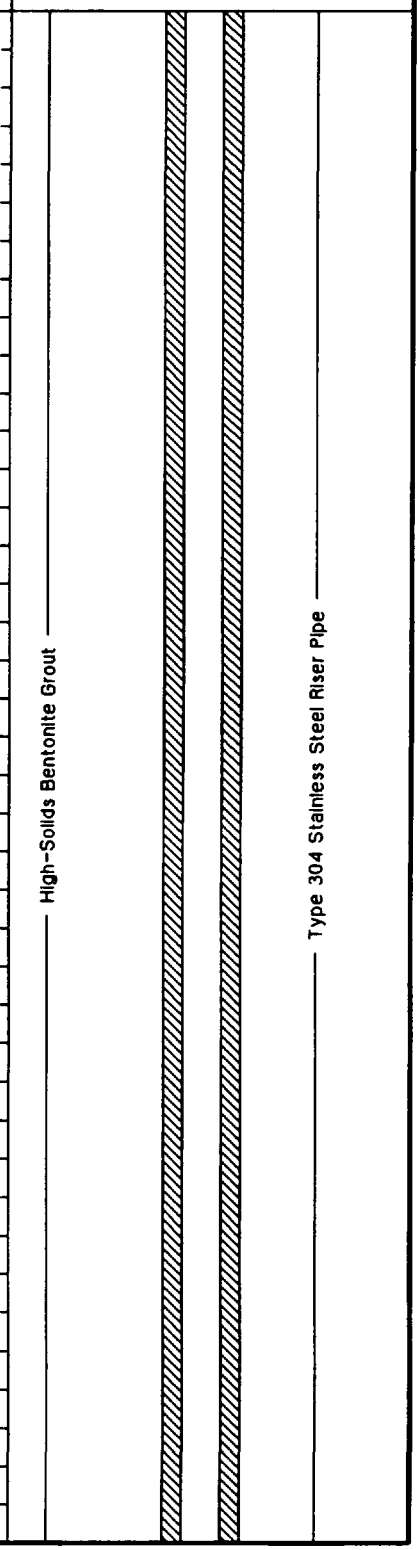
MONITORING WELL DETAIL

MW-117C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	BG	3 5 5 7		20-22': Brown, med-coarse sand & gravel.	
					671.4 / 25
SS	BG	3 5 7 6		25-27': Brown, well sorted, med sand; rare gravel.	
					666.4 / 30
SS	BG	5 5 8 10		30-32': Gray/brown, gravelly med sand from 30-30.3'. Brown/tan, gravelly med sand from 30.3-31'.	
					661.4 / 35
SS	BG	5 5 7 13		35-37': Gravel blow in w/ angular to rounded clasts from 35-35'; tan/brown well sorted med sand from 36-36.5'.	
					656.4 / 40
SS	BG	4 8 11 13		40-42': Gravel blow in from 40-41.1'; angular to rounded; tan, well sorted, med sand from 41.1' to 41.9'; rare gravel.	
					651.4 / 45
SS	BG	2 3 5 8			
					646.4 / 50
SS	BG	7 8 8 8			
					641.4 / 55
SS	BG	6 8 12 13			

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-117C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	BG	7 14 22 25			
SS	BG	7 14 12 18		65-67': Tan/brown, well sorted, fine-med sand; rare gravel.	631.4 / 65
SS	BG	30 40 21 22		70-72': Tan/brown coarse sand & gravel.	626.4 / 70
SS	BG	25 40 21 22		75-77': Tan, med-coarse sand & gravel.	621.4 / 75
SS	BG	31 39 51 46		80-82': Tan, coarse sand & gravel.	616.4 / 80
	-	150		85-87': No recovery - hit a rock.	611.4 / 85
SS	BG	10 20 24 26		90-92': Tan fine sand, well sorted; rare gravel.	606.4 / 90
SS	BG	18 21 17 25		95-97': Reddish brown, coarse sand; gravelly.	601.4 / 95

WELL CONSTRUCTION DETAIL

High-Solids Bentonite Grout

Type 304 Stainless Steel Riser Pipe

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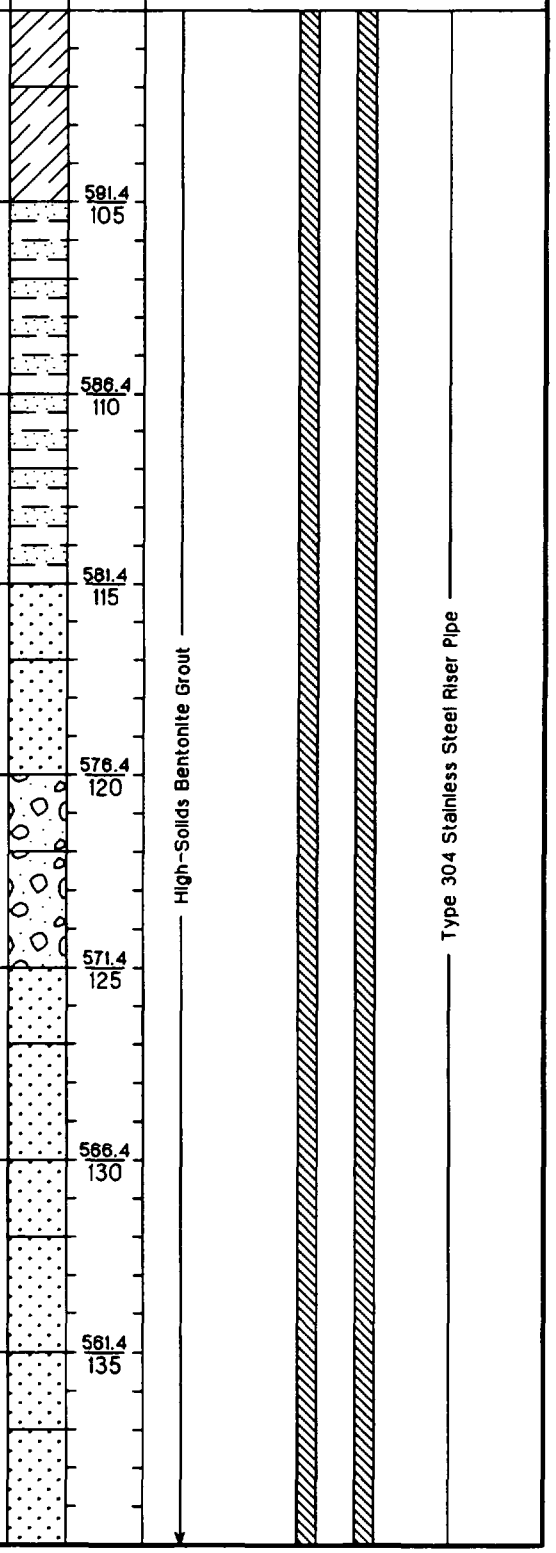
MONITORING WELL DETAIL

MW-117C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	BG	16 20 20 21		100-102': Gray, moist, silt; slight clay in top 3".	
SS	BG	12 17 22 30		105-107': Tan/brown silty v fine sand; moist. Top 3" fine sand, oxide-stained. Oxide laminations visible throughout, but are most prominent in uppermost 3". Rare gravel (1 clast).	581.4 105
SS	BG	8 10 18 25		110-112': Tan/brown, v fine sand, silty; also gravelly; fine laminae visible - appears to be oxide staining. High blow counts & presence of gravel do not favor this material staying in a Shelby Tube.	586.4 110
SS	BG	12 16 16 20		115-117': Top 11" reddish brown, bedded, well sorted, fine to med sand w/ 1" gravel zone. Bottom 6" tan/brown, well sorted, med sand; rare gravel; bedding is enhanced by oxide staining, especially in upper 11".	581.4 115
SS	BG	15 10 10 13		120-122': Reddish brown, coarse sand & gravel; mostly rounded clasts.	576.4 120
SS	BG	8 11 13 15		125-127': Reddish brown, med well sorted; bedded med coarse sand; red color probably oxide.	571.4 125
SS	BG	8 8 12 18		130-132': Top 6" tan, well sorted, med coarse sand; Bottom 6" reddish brown, well sorted, med is sand.	566.4 130
SS	BG	15 50 - -		135-137': Spoon advanced 8" only. Deep reddish brown, well sorted, fine med sand.	561.4 135



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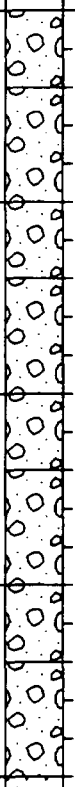
MONITORING WELL DETAIL

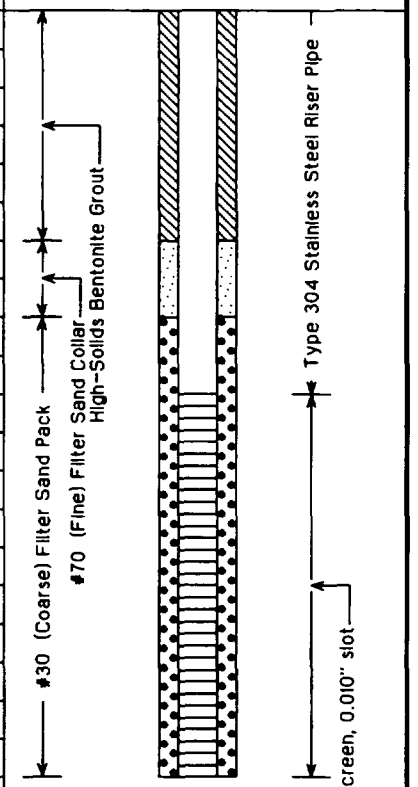
MW-117C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. / DEPTH
SS	BG	15 30 30 28		140-142': Reddish tan, gravelly med-coarse sand.	
				145-147': Reddish tan, bedded, med sand; gravel in bottom 2". Red color probably oxide. Upper 6" well sorted.	551.4 / 145
SS	BG	15 20 23 25		150-152': Reddish tan, bedded, gravelly, med to coarse sand. Oxide staining defines bedding.	546.4 / 150
SS	BG	23 40 40 45		155-157': Top 9" tan, coarse sand & gravel; Bottom 9" reddish tan, coarse sand & gravel; bedding visible throughout, especially in lower 9".	541.4 / 155
SS	BG	12 20 25 37		160-162': Reddish brown, well sorted, bedded, med sand.	536.4 / 160
				Bottom of Boring @ 162 feet	531.4 / 165; 526.4 / 170; 521.4 / 175

GRAPHIC LOG



WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

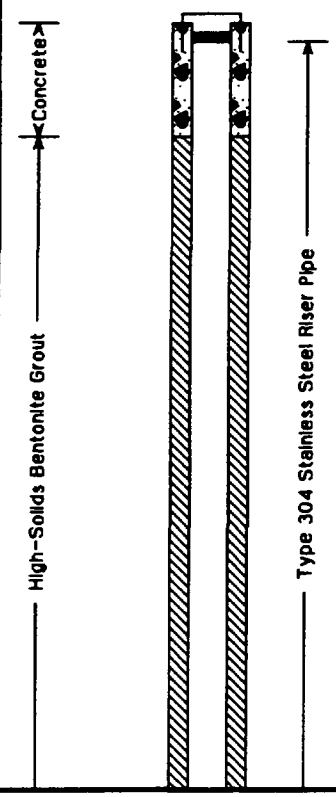
MW-118

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 717.59 Ft.
Total Depth: 145 Ft.
Field Screening Instrument: HNU
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-13-93 End 07-20-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 09-14-93 End 09-14-93
Surface Elevation: 717.9 Ft.
Depth To Initial Water Level (GS): ~30 Ft.
Well Coordinates:
N: 2028580.339 E: 2592071.628

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		717.9 / 0
			SP			712.9 / 5
						707.9 / 10
						702.9 / 15

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
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SAMPLING TYPES:
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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
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WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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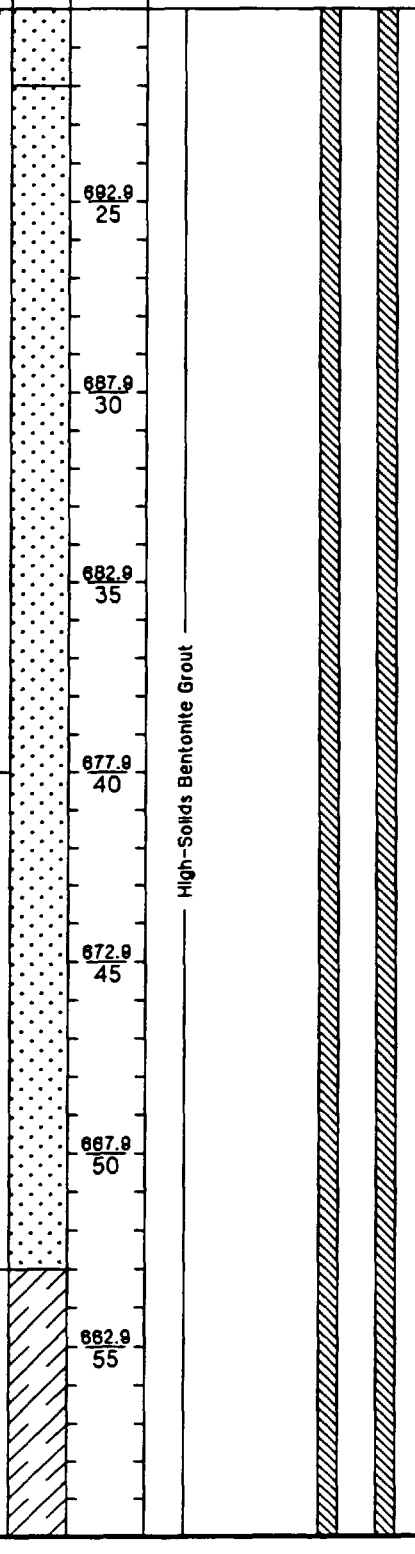
MONITORING WELL DETAIL

MW-118

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	8 7 16 29	SP	Lt bn gravelly SAND, SP; contains ~20% gravel as rounded to subangular small to medium pebbles; the sand is coarse to med.	
			SP	Note: Drilling action suggests sand with gravelly zones from 20-53'.	692.9 / 25; 687.9 / 30; 682.9 / 35; 677.9 / 40; 672.9 / 45; 667.9 / 50
SS		100 /0.1'		(No recovery - rock) Note: Drilling action suggests sand with gravelly zones from 20-53'.	
			CH	Note: Drilling action suggests clay from 53-60.2'.	662.9 / 55

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

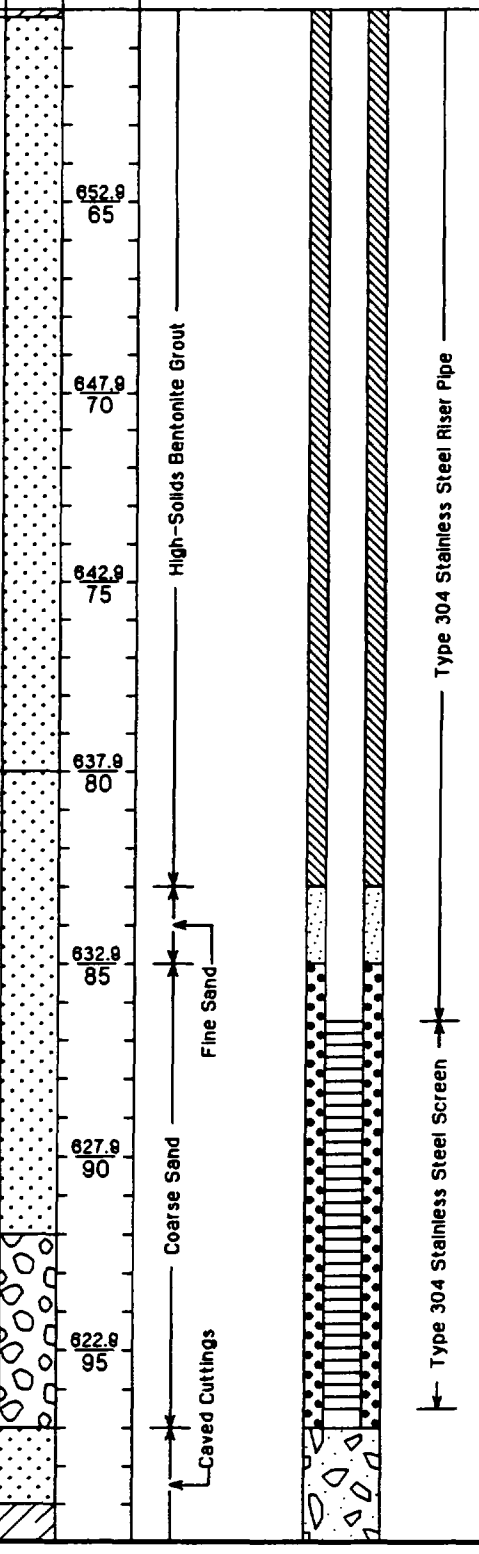
MW-118

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	0 ppm	12 14 28 33	CH	60.0-60.2': Lt bn gy silty clay, CH; plastic & sticky; no pebbles observed; saturated
			SP	60.2-61.5': mod gy bn SAND, SP; med to fine, tr sm subangular pebbles; saturated
SS	0 ppm	18 17 23 33	SP	Lt bn gy sand, SP; med to fine, trace pebbles; wet
			GP-SP	Note: Drilling action suggests gravelly zone @ 92-97' & clayey/silty @ 99-103'; sandy @ 60.2 to 92' & 97-99'.
			SP	
			CH	

GRAPHIC LOG

ELEV. DEPTH: 652.9 / 65; 647.9 / 70; 642.9 / 75; 637.9 / 80; 632.9 / 85; 627.9 / 90; 622.9 / 95

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-118

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
SS	Inop.	17 10 17 12	CH	100.0-100.3': Lt gy SAND, SP; fine, w/some mod dk gy subhorizontal laminations. 100.3-101.0': Bn gy silty clay to clayey silt w/horizontal partings-possible lacustrine sediment; saturated in the silty lower half, but moist in clayey upper half. 101.0-101.1': Lt gy silty v.fine sand, saturated. 101.1-101.5': Silty clay CH as in 100.3-101.0'.		612.9 / 105	Caved Cuttings
			SP-CH			607.9 / 110	
						602.9 / 115	
SS	Inop.	11 12 20 17	CH	115.0-115.2': mod gy silty SAND, fine, SW, saturated. 115.2-116.8': mod gn gy clayey silt w/~10% pebbles & granules, and trace wood frags. Pebbles are angular to subangular. Moist; no bedding visible; looks like a till. Note: Drilling action indicates clay/silt continues to 133.5'.		597.9 / 120	
						592.9 / 125	
						587.9 / 130	
			SW	Note: Drilling action indicates sand starts @ 133.5'.		582.9 / 135	

Figure No.

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MONITORING WELL DETAIL

MW-118

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
SS	Inop.	25 28 30 9	SP	140-141.3': Mod bn gy SAND, SP; med to fine w/<5% subangular to subrounded pebbles, only @ top; wet.			Caved Cuttings
			SP				
				Bottom of Boring @ 145 feet.		572.9 / 145	
						587.9 / 150	
						562.9 / 155	
						557.9 / 160	
						552.9 / 165	
						547.9 / 170	
						542.9 / 175	

Figure No.

CAMP DRESSER & McKEE
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MONITORING WELL DETAIL

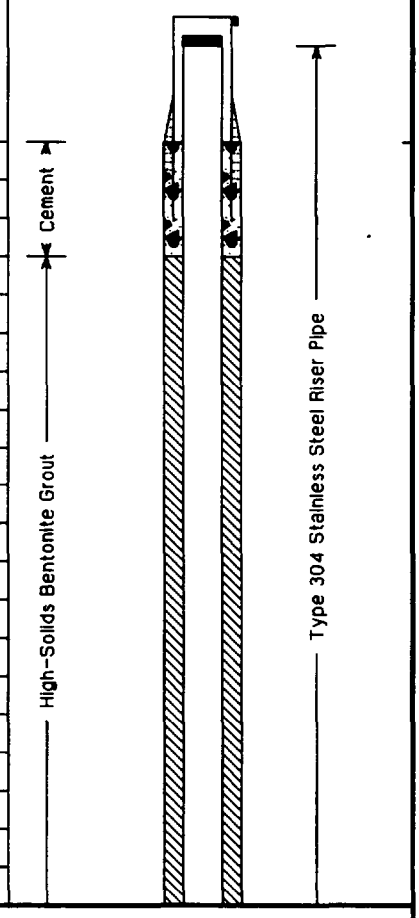
MW-119

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow stem-auger/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 718.97 Ft.
Total Depth: 64 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-07-93 End 07-08-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-01-93 End 10-01-93
Surface Elevation: 716.5 Ft.
Depth To Initial Water Level (GS): ~22 Ft.
Well Coordinates:
N: 2027137.222 E: 2589374.238

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
				Topsoil		716.5 / 0
SS	Not meas.	3 4 4 4		4-6': Brown, med sand, mostly quartz.		711.5 / 5
SS	BG	4 8 9 21		9-11': Brown quartz sand (med) upper 4". Bottom 10" med coarse tan, quartz sand. Unsaturated.		706.5 / 10
SS	BG	6 12 19 23		14-16': Brown/tan med quartz sand. Well sorted.		701.5 / 15
SS	BG	4 11		19-21': Tan, well sorted, med quartz sand. Unsaturated.		

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
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BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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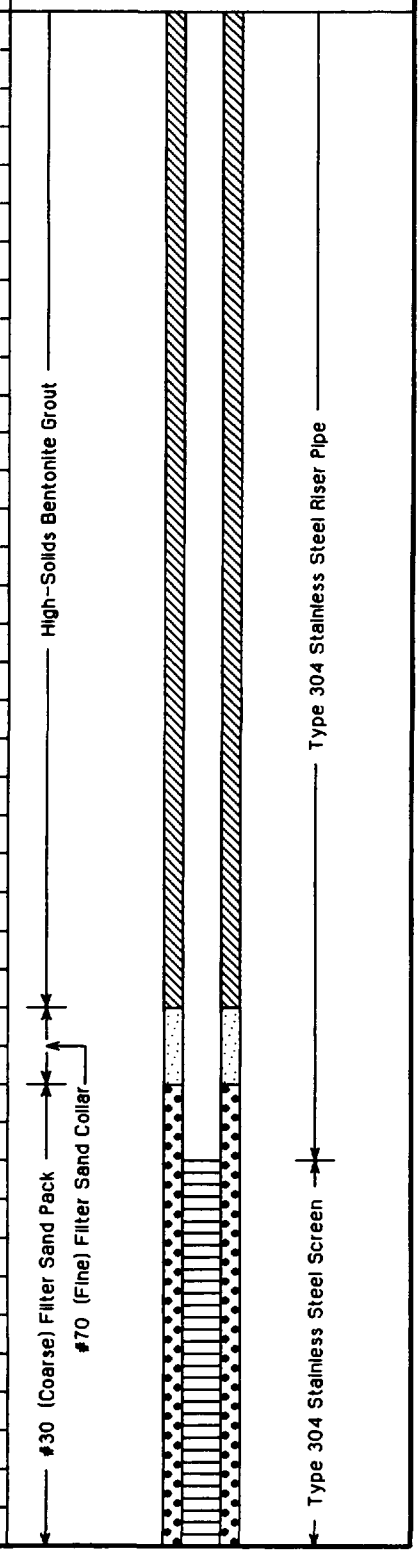
MONITORING WELL DETAIL

MW-119

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	BG	16 4			
				Water encountered @ 22'.	
SS	BG	6 15 24 31		24-26': Tan, well sorted, med quartz sand. Saturated.	691.5 25
HP				26-30': Hydro Punch Sample. VP119A	
SS	BG	8 12 16 32		29-31': Top 8" fine brown sand; mid 8" fine-med brown sand; lower 8" fine sand, brown, well sorted. Upper 16" containing small pebbles.	686.5 30
SS	BG	16 23 27 51		34-36': Tan, med-coarse sand, well sorted but with two pebble horizons.	681.5 35
HP				36-40': Hydro Punch Sample. VP119B	
SS	BG	42 18 12 12		39-41': Brown, med sand; well sorted. Gravelly @ bottom 1".	676.5 40
SS	BG	40 42 30 52	-	44-46': Tan/brown, med quartz sand, well sorted.	671.5 45
HP				46-50': Hydro Punch Sample. VP119C	
SS	BG	2 3 3 6		49-51': Tan/brown, med grained, well sorted sand.	666.5 50
SS		22 26 28 33		54-56: No recovery	661.5 55
HP	none			56-60': Hydro Punch Sample. VP119E	
SS	none	5 6		59-61': Brown, coarse sand; pebbly.	



WELL CONSTRUCTION DETAIL

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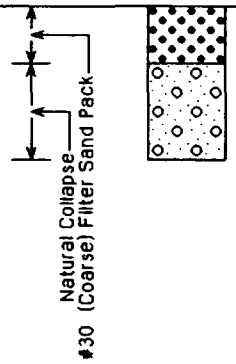
MONITORING WELL DETAIL

MW-119

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
SS	none	8 12				
SS	BG	8 12 16 24		64-66': Tan, med sand grading downward to gravelly coarse sand, tan.		651.5 65
				Bottom of Boring @ 66 feet		
						646.5 70
						641.5 75
						636.5 80
						631.5 85
						626.5 90
						621.5 95

WELL CONSTRUCTION DETAIL



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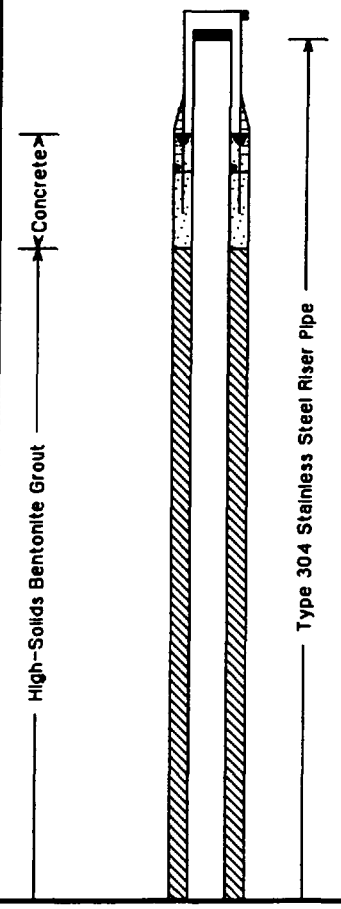
MONITORING WELL DETAIL

MW-121

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 716.98 Ft.
Total Depth: 66 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-08-93 End 07-10-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 09-14-93 End 09-14-93
Surface Elevation: 714.5 Ft.
Depth To Initial Water Level (GS): ~18 Ft.
Well Coordinates:
N: 2030898.781 E: 2587523.446

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	714.5 / 0
SS	0 ppm	7 6 7 6	SP	Reddish brown, well sorted, med sand for top 6". Bottom 6" is tan, med to coarse sand and gravel. Dry.	709.5 / 5
SS	0 ppm	5 8 16 21	SP	Tan, Fine to med, very well sorted sand. Dry.	704.5 / 10
SS	0 ppm	9 16 14 22	SP	Tan, well sorted, medium sand.	699.5 / 15
SS	0 ppm	6 21	SP	Brown, well sorted, medium sand with rare	



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
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D - Driving
DTC - Drill Through Casing

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CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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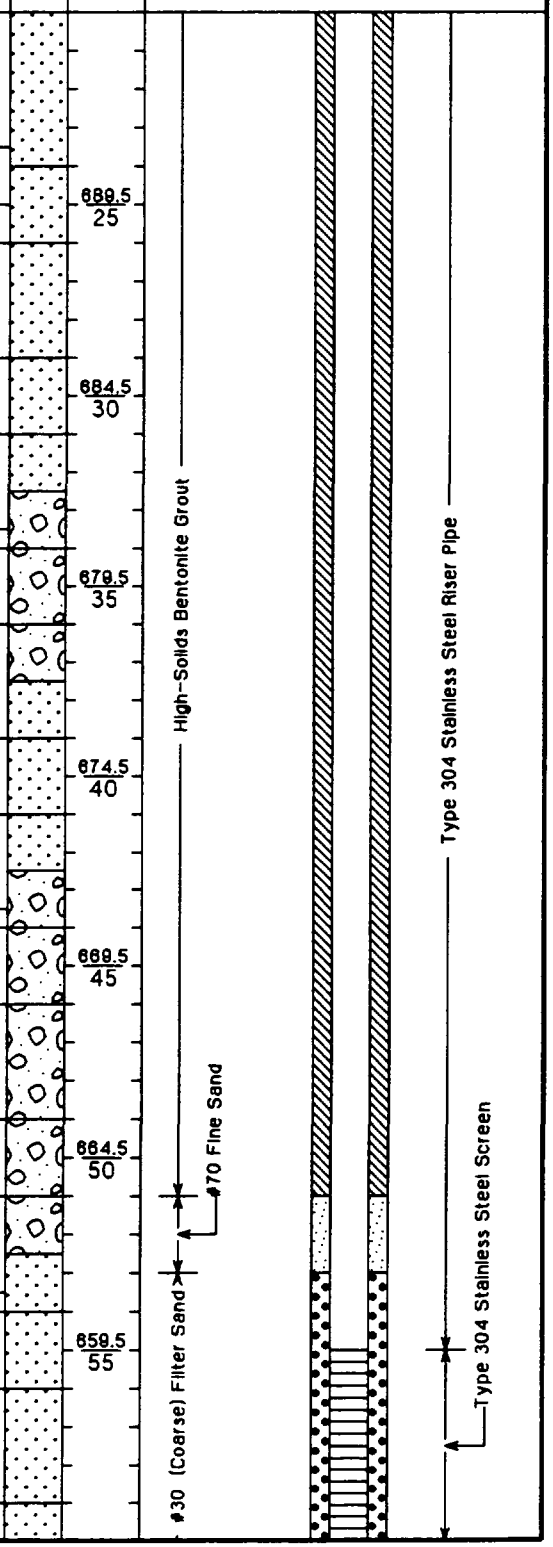
MONITORING WELL DETAIL

MW-121

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	26 31	SP	pebbles. Saturated.	
HP				Hydro Punch Sample 23.5-25'.	
SS	0 ppm	5 5 9 19	SP		689.5 / 25
SS	0 ppm	3 4 4 6	SP	Brown, well sorted, fine to med sand, with rare pebbles. Lower 8" is brown, coarse sand and gravel.	684.5 / 30
HP				Hydro Punch Sample 33.5-35'.	
SS	0 ppm	17 15 10 18	GP	Top 13" Brown, fine to med gravel, well sorted. Coarse sand and gravel 5" thick below top 13" rare pebbles in both 6"	679.5 / 35
SS	0 ppm	4 4 20 33	SP	Brown, coarse sand, gravelly for top 3" rare pebbles 3"-14".	674.5 / 40
HP				Hydro Punch Sample 43.5-45'.	
SS	0 ppm	15 100 100 85	GP	Brown, coarse sand and gravel.	669.5 / 45
SS	0 ppm	69 37 42 50	GP-SP	Brown/Tan, Gravelly coarse sand.	664.5 / 50
HP				Hydro Punch Sample 53.5-55'.	
SS	0 ppm	3 4 10 30	SP	Tan/Brown, med sand, gravelly in places.	659.5 / 55
SS	0 ppm	10 6	SP	Tan/Brown, med sand, gravel rare to common.	



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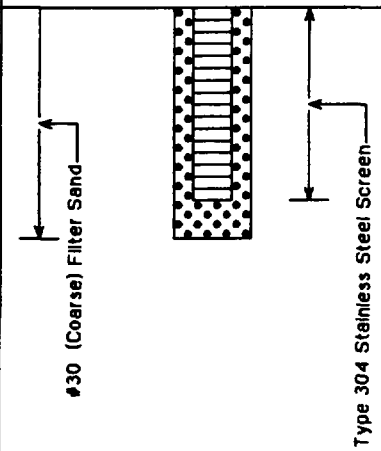
MONITORING WELL DETAIL

MW-121

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
SS	0 ppm	8 11	SP			
HP				Hydro Punch Sample 63.5-65'.		649.5 / 65
				Bottom of Boring @ 66 feet.		

WELL CONSTRUCTION DETAIL



644.5 / 70

639.5 / 75

634.5 / 80

629.5 / 85

624.5 / 90

619.5 / 95

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

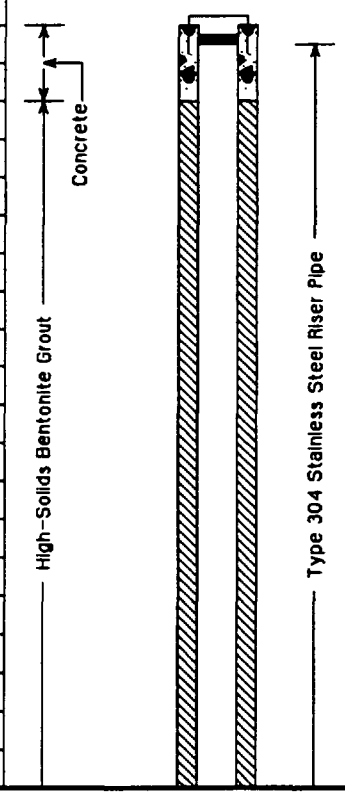
MONITORING WELL DETAIL

MW-122A

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 810.47 Ft.
Total Depth: 62 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-09-93 End 09-10-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 09-15-93 End 09-15-93
Surface Elevation: 810.5 Ft.
Depth To Initial Water Level (GS): ~15 Ft.
Well Coordinates:
N: 2029604.787 E: 2603165.498

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		810.5 / 0
			ML			805.5 / 5
SS	Inop.	5 9 9 11		10.0-10.8': Lt olive bn (2.5Y 5/4) clayey sandy gravelly SILT; clay-sand-gravel-silt proportions estimated @ 30-20-15-35. The sand is v coarse to v fine & is mainly rock fragments. Gravel is subangular to subrounded & has no preferred orientation of individual pebbles. The sand & gravel both are matrix-supported; poorly sorted overall. Moist; looks like a till.		800.5 / 10
			SP			795.5 / 15



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE
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Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

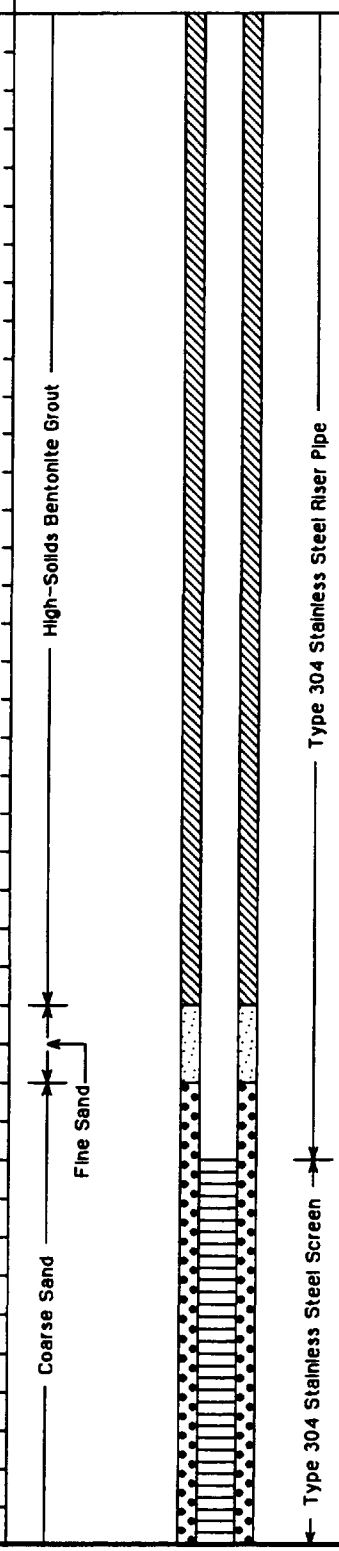
MW-122A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	Inop.	8 12 13 15	SP	20.0-20.2': Lt yel bn (2.5Y 6/4) SAND, fine to med, wet.
			SP-GP	20.2-21.1': Gravelly SAND, lt yel bn (2.5Y 6/4) sand is coarse, ranging from v coarse to med; gravel is subrounded to subangular med pebbles to granules, wet.
			ML	
SS	0 ppm	15 21 23 30	ML	30.0-31.6': Lt olive bn (2.5Y 5/3 to 5/4) clayey sandy gravelly SILT; respective proportions are 30-20-15-35%; Sand is ~60% quartz, 40% sedimentary & igneous rock fragments. Gravel is subangular to subrounded small pebbles, granules & med pebbles.
			SP	
			SP	31.6-32.0': Lt yel bn (2.5Y 6/4) SAND, coarse to v coarse, bedded; ~5% subangular to subrounded sm pebbles & granules. Wet.
SS	0 ppm	12 14 10 12	SP-SW	35.0-36.0': Lt yel bn (10YR 6/4) gravelly SAND, coarse to v coarse; Gravel is subrounded to angular granules to med pebbles. Wet.
			ML	
			SP-GW	36.0-36.4': Yel bn (10YR 5/4) to brown (10YR 5/3) clayey sandy SILT, w/~10% gravel. Clay, sand & silt estimated @ 35-15-40%. Wet @ 36.0-36.1', moist elsewhere. Sand is v fine to v coarse & >=50% non-quartz (i.e. rock fragment grains). Gravel is angular to subrounded granules to sm pebbles. Poorly sorted. There are no preferred orientations or concentrations of gravel or sand, and they are matrix supported. There are numerous Fe-oxide-coated surfaces, many of them subvertical.
SS	0 ppm	14 18 22 16		
			SP-GW	40.0-41.8': Reddish yel (7.5YR 6/6) to bn yel (10YR 6/6) gravelly sand; sand is v coarse to coarse, & some med., & is mainly (90%) quartz; gravel is subrounded to subangular granules to lg pebbles & is ~50% of sample; gravel lithology is ~60% carbonate, 20% chert, 10% mafic igneous, 4% jasper, 4% quartz, & ~2% combined of granite, diorite, shale/slate, quartzite. Local traces silt/clay. Largest pebbles are carbonate. Wet.
SS	0 ppm	7 8 9 9		50.0-51.4': Bn yellow (10YR 6/6) gravelly sand to sandy gravel. Gravel & sand ~50% each. Gravel is mainly subrounded to large pebbles & granules, & is of similar lithology as at 40'. Wet.
			SP-GW	

GRAPHIC LOG

ELEV. DEPTH: 785.5 / 25; 780.5 / 30; 775.5 / 35; 770.5 / 40; 765.5 / 45; 760.5 / 50; 755.5 / 55

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-122A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
SS	0 ppm	5 6 10 12	SP-GW SW-SP	60-60.7': Lt olive bn (2.5Y 5/4) gravelly SAND, SW, mod sorting; sand is coarse, ranging v coarse to med,; gravel is ~25% & is subrdd granules & sm pebbles. Wet.			
				60.7-61.2': Yel bn SAND (10YR5/4), SP, med, ranging coarse to fine. Two wet, plastic, clayey silt (MH) layers 4mm & 6mm thick, @ 60.8 & 60.9', lt olive bn (2.5Y 5/3).			
				Bottom of Boring @ 62 feet.		745.5 / 65	Coarse Sand
						740.5 / 70	
						735.5 / 75	
						730.5 / 80	
						725.5 / 85	
						720.5 / 90	
						715.5 / 95	

CAMP DRESSER & McKEE
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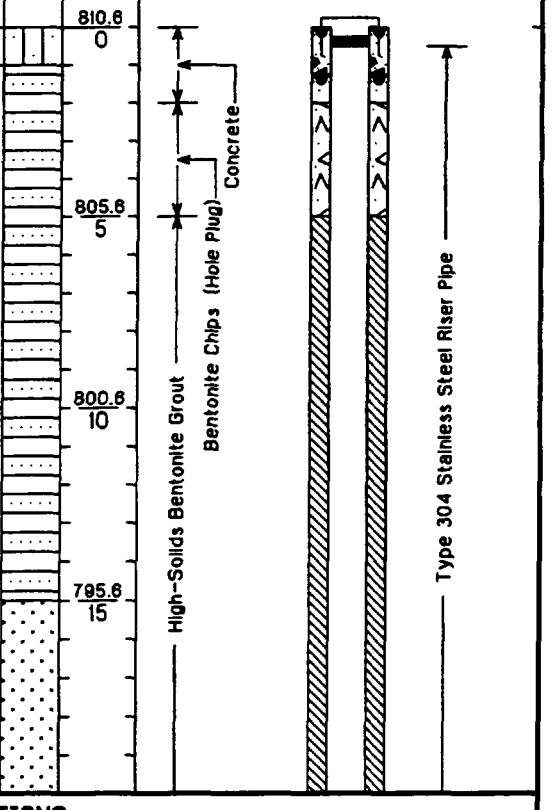
MONITORING WELL DETAIL

MW-122B

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 810.33 Ft.
Total Depth: 144 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-02-93 End 09-09-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 09-15-93 End 10-01-93
Surface Elevation: 810.6 Ft.
Depth To Initial Water Level (GS): ~15 Ft.
Well Coordinates:
N: 2029612.614 E: 2603164.677

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	810.6 / 0
			ML		805.6 / 5
SS	Inop.	5 8 8 11	ML	10.0-10.8': Lt olive bn (2.5Y 5/4) clayey sandy gravelly SILT; clay-sand-gravel-silt proportions estimated @ 30-20-15-35. The sand is v coarse to v fine & is mainly rock fragments. Gravel is subangular to subrounded & has no preferred orientation of individual pebbles. The sand & gravel both are matrix-supported; poorly sorted overall. Moist; looks like a till.	800.6 / 10
			SP		795.6 / 15



EXPLANATION OF ABBREVIATIONS

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HSA - Hollow Stem Auger
SSA - Solid Stem Auger
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BX - 1.6" Rock Core
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SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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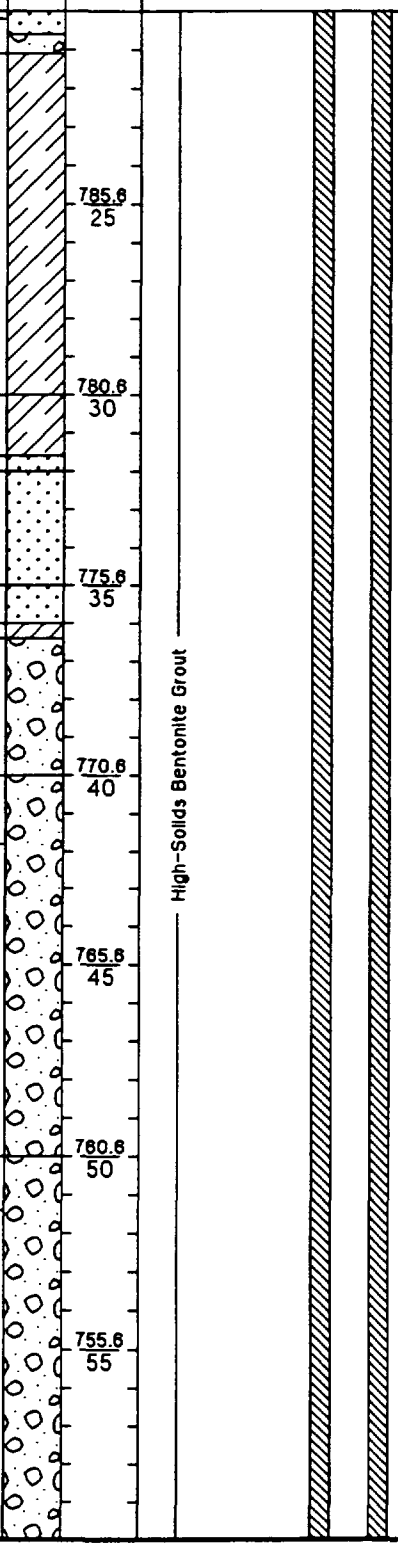
MONITORING WELL DETAIL

MW-122B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	Inop.	8 12 13 15	SP	20.0-20.2': Lt yel bn (2.5Y 6/4) SAND, fine to med, wet.	
			SP-GP	20.2-21.1': Gravelly SAND, lt yel bn (2.5Y 6/4) sand is coarse, ranging from v coarse to med; gravel is subrounded to subangular med pebbles to granules, wet.	
			ML		785.6 / 25
SS	0 ppm	15 21 23 30	ML	30.0-31.6': Lt olive bn (2.5Y 5/3 to 5/4) clayey sandy gravelly SILT; respective proportions are 30-20-15-35%; Sand is ~60% quartz, 40% sedimentary & igneous rock fragments. Gravel is subangular to subrounded small pebbles, granules & med pebbles.	780.6 / 30
			SP		
			SP	31.6-32.0': Lt yel bn (2.5Y 6/4) SAND, coarse to v coarse, bedded; ~5% subangular to subrounded sm pebbles & granules. Wet.	
SS	0 ppm	12 14 10 12	SP-SW	35.0-36.0': Lt yel bn (10YR 6/4) gravelly SAND, coarse to v coarse; Gravel is subrounded to angular granules to med pebbles. Wet.	775.6 / 35
			ML		
			SP-GW	36.0-36.4': Yel bn (10YR 5/4) to brown (10YR 5/3) clayey sandy SILT, w/~10% gravel. Clay, sand & silt estimated @ 35-15-40%. Wet @ 36.0-36.1', moist elsewhere. Sand is v fine to v coarse & >=50% non-quartz (i.e. rock fragment grains). Gravel is angular to subrounded granules to sm pebbles. Poorly sorted. There are no preferred orientations or concentrations of gravel or sand, and they are matrix supported. There are numerous Fe-oxide-coated surfaces, many of them subvertical.	770.6 / 40
SS	0 ppm	14 18 22 16			
			SP-GW	40.0-41.8': Reddish yel (7.5YR 6/6) to bn yel (10YR 6/6) gravelly sand; sand is v coarse to coarse, & some med., & is mainly (90%) quartz; gravel is subrounded to subangular granules to lg pebbles & is ~50% of sample; gravel lithology is ~60% carbonate, 20% chert, 10% mafic igneous, 4% jasper, 4% quartz, & ~2% combined of granite, diorite, shale/slate, quartzite. Local traces silt/clay. Largest pebbles are carbonate. Wet.	765.6 / 45
SS	0 ppm	7 8 9 9		50.0-51.4': Bn yellow (10YR 6/6) gravelly sand to sandy gravel. Gravel & sand ~50% each. Gravel is mainly subrounded to large pebbles & granules, & is of similar lithology as at 40'. Wet.	760.6 / 50
			SP-GW		755.6 / 55

WELL CONSTRUCTION DETAIL



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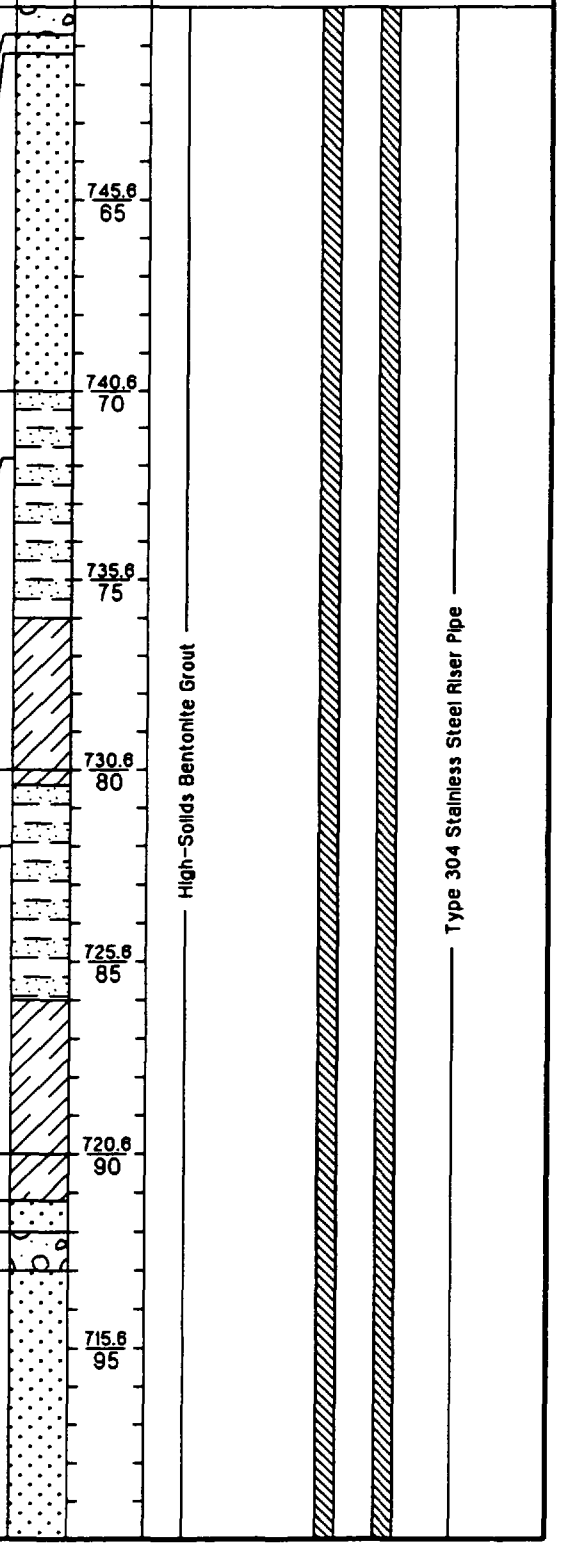
MONITORING WELL DETAIL

MW-122B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	5 6 10 12	SP-GW, SW-SP	60-60.7': Lt olive bn (2.5Y 5/4) gravelly SAND, SW, mod sorting; sand is coarse, ranging v coarse to med,; gravel is ~25% & is subrdd granules & sm pebbles. Wet.	
			SW-SP	60.7-61.2': Yel bn SAND (10YR5/4), SP, med, ranging coarse to fine. Two wet, plastic, clayey silt (MH) layers 4mm & 6mm thick, @ 60.8 & 60.9', lt olive bn (2.5Y 5/3).	745.6 / 65
SS	0 ppm	8 10 10 11	SM	70-71.8': Gray (10YR 5/1) v fine SAND, with numerous silty interbeds @ 71.4-71.8'. Laminated; wet; sm pebbles ~10% @70.4'; trace (~0.5%) granules elsewhere. The silty interbeds are 1-5mm, & are about half the thickness of adjoining sand layers.	740.6 / 70
			ML		735.6 / 75
SS	0 ppm	8 10 14 20	ML, SM	80-80.4': Gray to gy bn (10YR 5/1-5/2) silty clay w/~10% each of gravel & sand; gravel is small subang to subrdd pebbles; sand mainly fine; moist @ 80-80.3', wet @ 80.3-80.4'. Poorly sorted. 80.4-82': Gray to gy bn (10YR 5/1-5/2) silty v fine SAND, wet.	730.6 / 80
			ML		725.6 / 85
SS	0 ppm	10 15 19 25	ML, SP, SP-GP	90-90.6': Gray (10YR 5/1) to gn gy (5GY 6/1) silty clay (gray) to clayey silt (gn gy), finely laminated in horizontal beds. Clayey beds ~70% & silt ~29% of the thickness; ~1% sand is a 2mm bed @ 90.2'. 90.6-90.7': Gy bn (10YR 5/2) SAND, SW, medium. 90.7-91.1': Same as 90-90.6'	720.6 / 90
			SP	91.1-92': Gy bn (10YR 5/2) SAND, med @ 91.1-91.3' & coarse to v coarse @ 91.3-92'. Latter zone gravelly w/~15% rounded to subrounded sm pebbles & granules. All zones wet.	715.6 / 95
				92-93': Drilling action suggests sand & gravel.	
				93-100': Drilling action smoother, suggesting mainly sand.	



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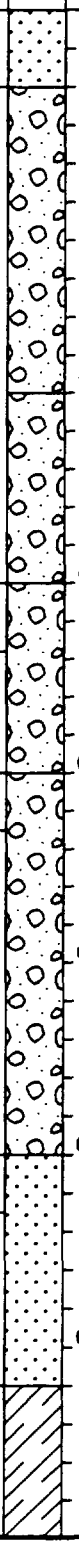
MONITORING WELL DETAIL

MW-122B

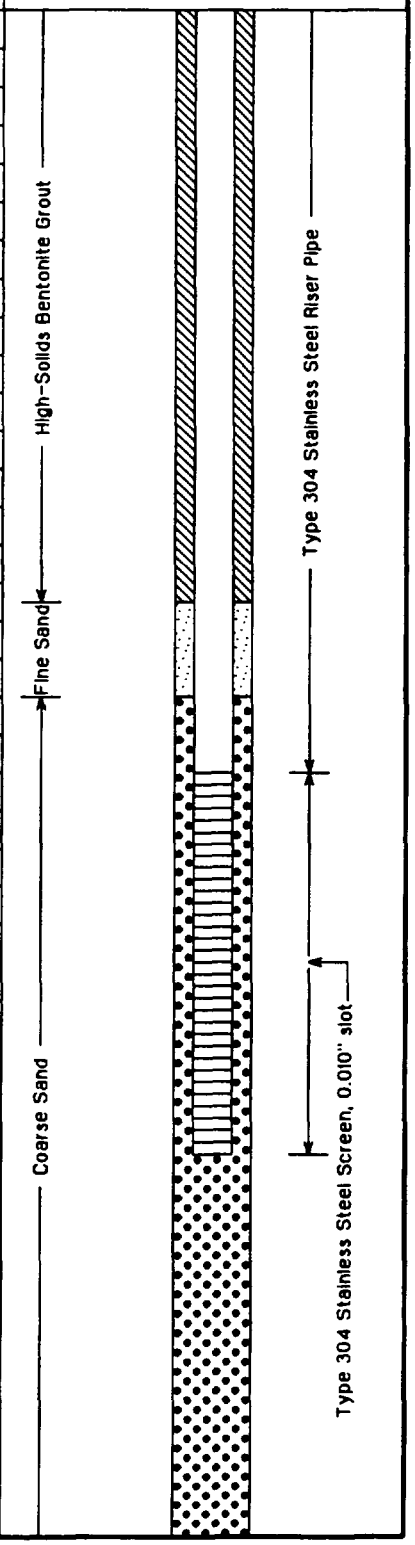
SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	0 ppm	11 15 24 32	SP	100-100.3': Gray (10YR 5/1) SAND, SP, v coarse to med, gravelly w/~15% subang to subrdd sm pebbles & granules. Wet. 100.3-100.5': Gy bn (10YR 5/2) to gy (10YR 5/1) silty clay (the gy bn) to clayey silt (gy), bedded horizontally. Wet. 100.5-101': Gy fine to v fine SAND. Wet. 101-101.2': Gy med to coarse SAND. Wet.
			GP	102-~110': Drilling action indicates heavy gravel or a boulder.
			SP-GP	
SS	0 ppm	14 14 20 25	SP-GP	115-116.8': Lt bn gy (10YR 6/2) gravelly SAND; sand is coarse & mixed w/gravel exc. for two med sand beds (each 2-3cm) which are free of gravel. Gravel is subrounded to rounded, fine pebbles & granules. Wet.
SS	0 ppm	30 32 39 -	SP-GP	120-121.5': Lt bn gy (10YR 6/2) gravelly SAND to sandy GRAVEL, SW-GW; sand is coarse, ranging from v coarse to med; gravel is med pebbles to granules, subrounded to subangular, & lithology is ~80% carbonate/chert, with remainder being mafic igneous, jasper, quartz, shale. Trace (~5%) yel bn silt/clay. Wet. Gravel & sand both ~50%.
SS	0 ppm	12 14 14 16	SP-SW	130-131.5': Lt bn gy (10YR 6/2) gravelly SAND, SP-SW; sand is mainly v coarse, ranging to med; gravel (45%) is subang to subrdd granules to sm pebbles which are same lithology as in 120' sample, but here carbonate/chert proportion is ~65%; in addition, granite is present. Wet.
			ML	Drilling action indicates sand-silt contact @ 136'.

GRAPHIC LOG



ELEV. DEPTH
705.6 / 105
700.6 / 110
695.6 / 115
690.6 / 120
685.6 / 125
680.6 / 130
675.6 / 135

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-122B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
SS	0 ppm	12 14 16 18	ML	140-142': Dk gy bn to dk gy (10YR 4/2-4/1) clayey sandy SILT, ML, moist & not wet'; ~6% gravel as subang granules to sm pebbles. Sand (~14%) ranges from v fine to v coarse; sand is mainly dispersed, but forms several concentrations of sorted (>90%) sand in the form of discontinuous lenses, tubes & spherules 1-5mm thick (<1% of sample). Lithology of sand: ~60% lithic fragments of carbonate, chert & igneous rock, w/mica in fine fraction (remainder is quartz). Gravel is largely carbonate. Also contains three wood fragments & a peaty tabular zone 2-3mm thick.		665.6 145	Coarse Sand
				Bottom of Boring @ 144 feet.		660.6 150	
						655.6 155	
						650.6 160	
						645.6 165	
						640.6 170	
						635.6 175	

CAMP DRESSER & McKEE
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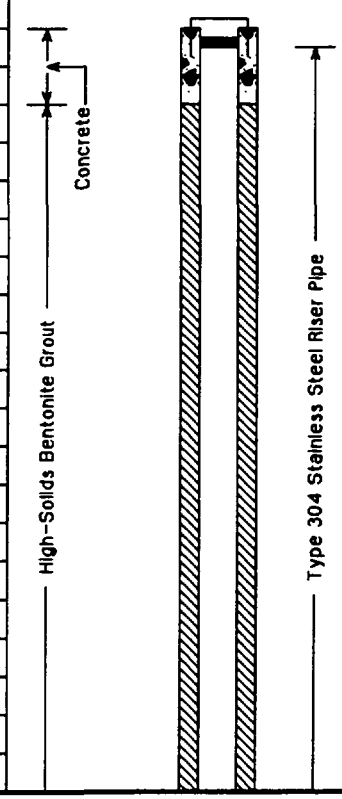
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL
MW-123

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 729.52 Ft.
Total Depth: 69 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-11-93 End 08-12-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 09-16-93 End 09-17-93
Surface Elevation: 729.9 Ft.
Depth To Initial Water Level (GS): ~23 Ft.
Well Coordinates:
N: 2030827.585 E: 2589855.903

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		729.9 / 0
			SP			
SS	0 ppm	1 3 6 7	SP	5.0-7.0': Lt bn SAND, medium, loose, dry; subhorizontal bedding visible.		724.9 / 5
						719.9 / 10
SS	0 ppm	8 11 20 19	SP	15-17.0': Lt bn SAND, trace gravel (<5%). Gravel is sm to med pebbles oriented subhorizontally. Dry.		714.9 / 15



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

Figure No.

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MONITORING WELL DETAIL

MW-123

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			SP		704.9
SS	0 ppm	5 5 10 11	SP	25-27.0': Lt bn SAND, med to fine; trace sm pebbles. Saturated.	25 / 699.9
SS	0 ppm	10 13 18 28	SP	30-32.0': Lt gy bn SAND, some gravel (10% average, ranging from trace to 30%); gravel is subang to subrdd med to sm pebbles which are mainly chert & carbonate; sand is coarse to med.	30 / 694.9
SS	0 ppm	6 7 11 21	SP	35-37.0': Lt gy bn SAND, w/some (7%) gravel which is sm to med pebbles.	35 / 689.9
SS	0 ppm	5 5 10 10	SP	40-42.0': Lt gy bn SAND, some (12%) gravel; sand is coarse to med; gravel is sm to med pebbles which are subrdd to subangular.	40 / 684.9
SS				No recovery	45
				Hydropunch @ 49'	679.9
SS	0 ppm	12 12 20 15	SP-GP	50-52.0': Lt gy bn gravelly SAND; gravel is sm to med subrounded pebbles; sand is modally coarse, but ranges to fine. Saturated.	50 / 674.9
SS	0 ppm	9 12 9 15	SP-GP	55-57.0': Lt gy bn gravelly SAND; gravel (20%) is sm to lg subrdd pebbles of carbonate & chert; sand is coarse to med. Saturated.	55
				Hydropunch @ 59'	

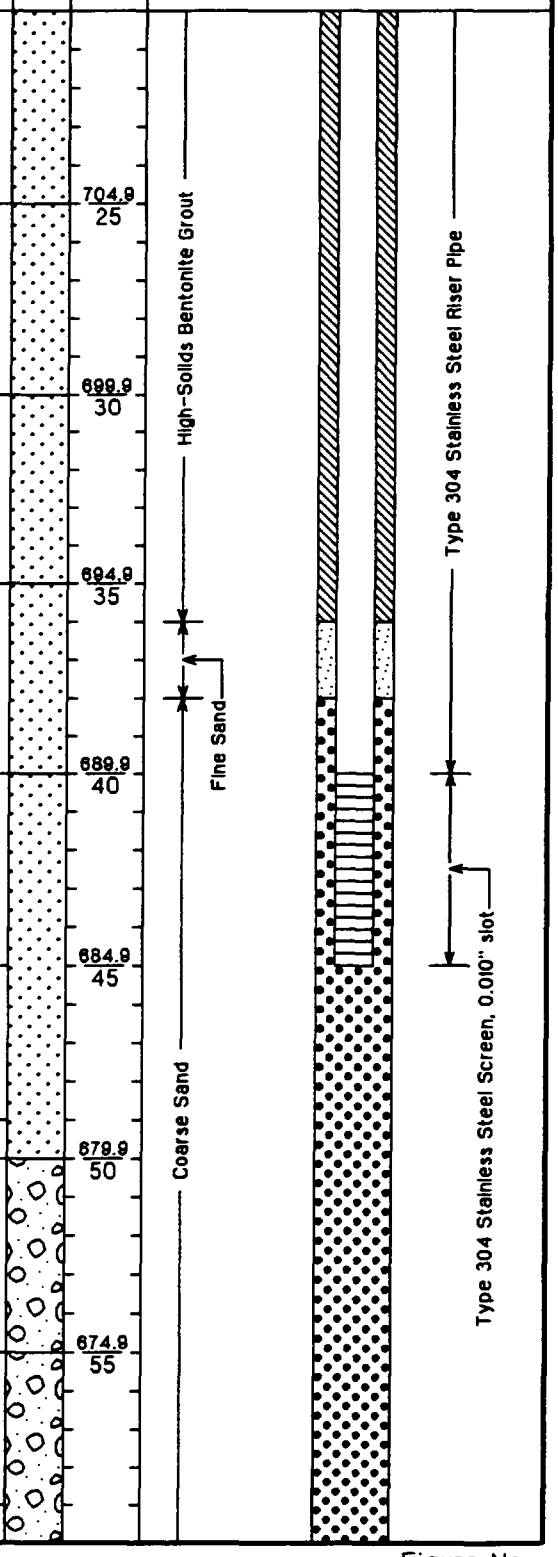

Figure No.

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Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-123

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
SS	0 ppm	8 12 18 15	SP	60-62.0': Lt gy bn SAND w/some (8%) gravel; sand is med, ranging from coarse to fine; gravel as in 55-57' sample. Saturated.			Coarse Sand
SS	0 ppm	8 8 14 18	SP	65-67.0': Lt gy bn SAND w/~7% gravel; sand is coarse to med; gravel is sm to med subrounded pebbles; saturated w/ a lt bn silty water.		664.9 / 65	
				Hydropunch @ 69' *Bottom of Boring @ 69 feet.*		659.9 / 70	
						654.9 / 75	
						649.9 / 80	
						644.9 / 85	
						639.9 / 90	
						634.9 / 95	

Figure No.

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233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

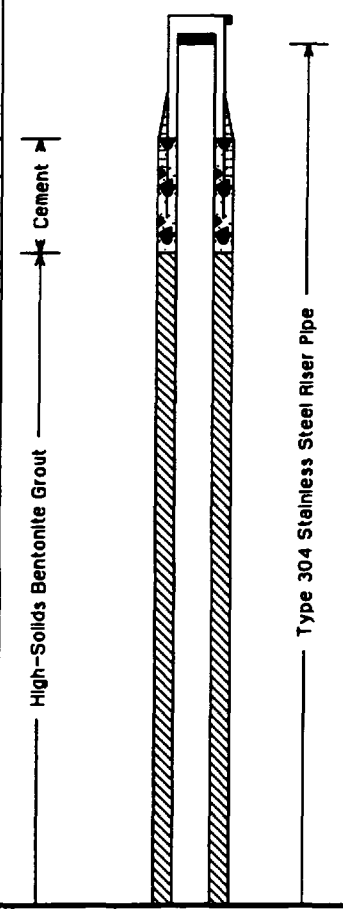
MONITORING WELL DETAIL

MW-124

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 731.30 Ft.
Total Depth: 100.5 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-16-93 End 09-21-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-08-93 End 10-12-93
Surface Elevation: 729.0 Ft.
Depth To Initial Water Level (GS): ~25 Ft.
Well Coordinates:
N: 2030300.319 E: 2590224.674

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	729 / 0
					724 / 5
SS	0 ppm	3 3 4 5		Tan/Brown, well sorted, med sand, rare gravel. Dry.	719 / 10
					714 / 15
SS	0 ppm			Tan/Brown, well sorted, med sand. Dry.	



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

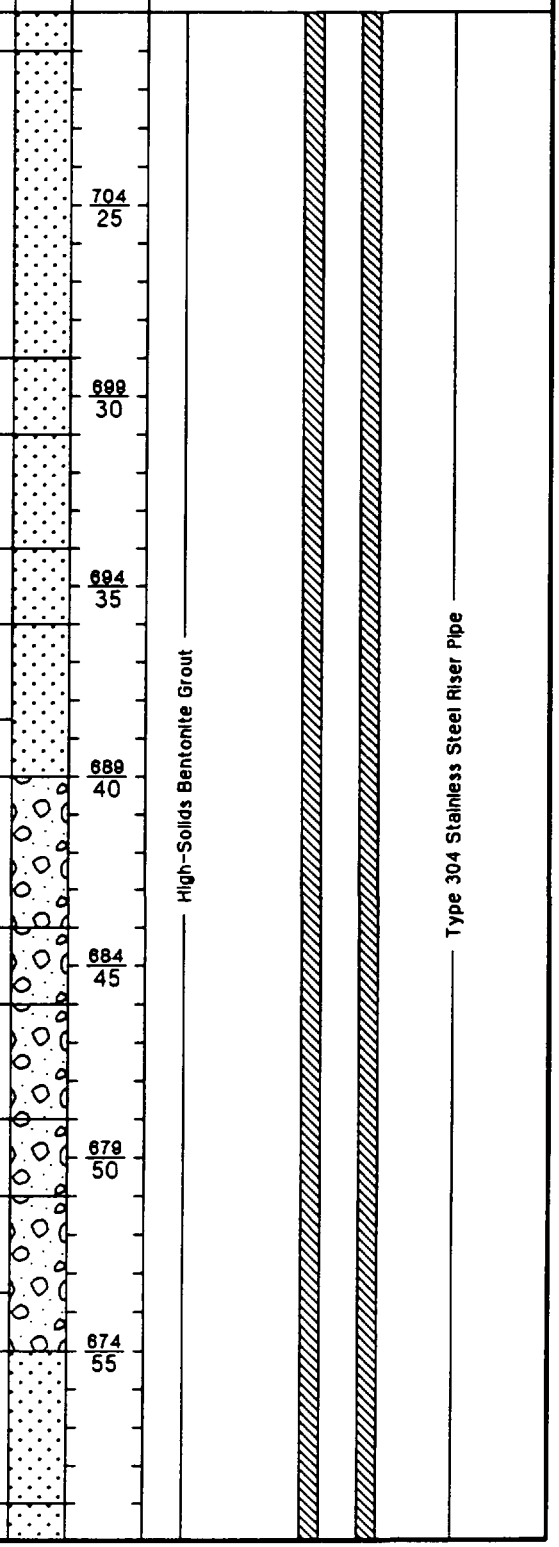
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-124

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. / DEPTH
SS	0 ppm				
					704 / 25
SS	0 ppm	6 8 8 6		Tan/Brown, well sorted, med sand. Saturated.	699 / 30
SS	0 ppm	5 8 8 11		Tan/Brown, well sorted, med sand, rare gravel.	694 / 35
HP				Hydro Punch Sample VP124A.	689 / 40
SS	0 ppm	8 10 12 10		Tan/Brown, gravelly, med to coarse sand.	684 / 45
SS	1 ppm	15 14 12 12		Tan/Brown, coarse sand and gravel	679 / 50
HP				Hydro Punch Sample VP124B.	674 / 55
SS	.2 ppm			Tan/Brown, poorly sorted, coarse sand, rare	

WELL CONSTRUCTION DETAIL



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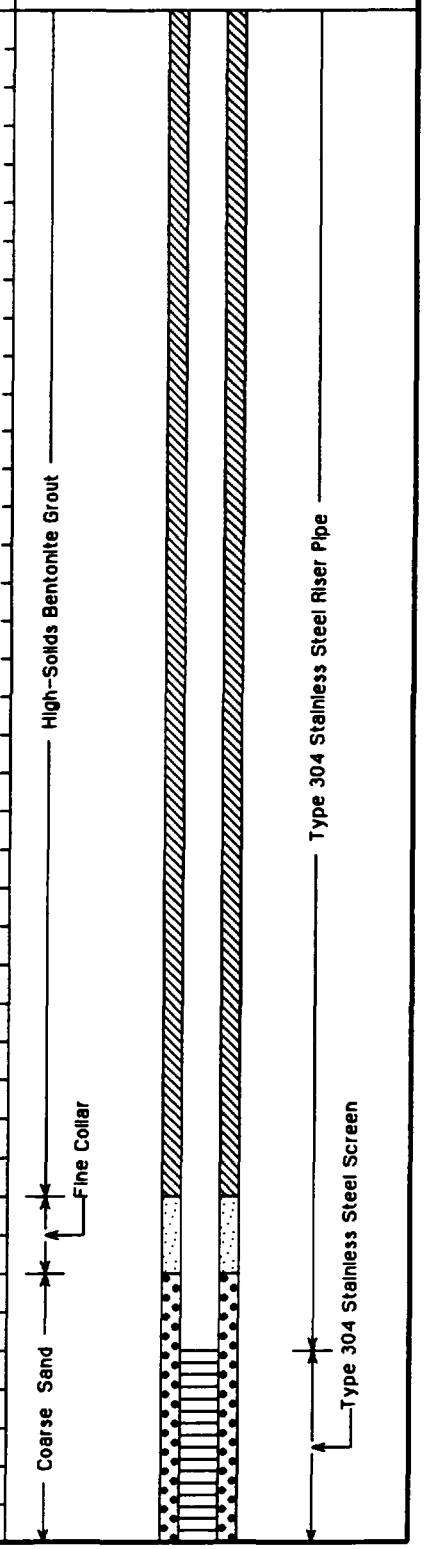
MONITORING WELL DETAIL

MW-124

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. / DEPTH
SS	.2 ppm			gravel.	
SS	.2 ppm	7 10 11 10		Tan/Brown, well sorted, med sand.	664 / 65
HP				Hydro Punch Sample VP124D.	659 / 70
SS	.3 ppm	23 15 13 16		Tan/Brown, coarse sand and gravel.	654 / 75
SS	-	50		No Recovery	649 / 80
					644 / 85
				Beginning of clay layer based on driller's observation.	
SS	0 ppm	5 8 7 7		Dark gray, plastic clay.	639 / 90
				End of clay layer based on driller's observation.	
SS	0 ppm	13 23 26 32		Reddish Brown, med to coarse sand, rare gravel.	634 / 95
HP				Hydro Punch Sample VP124F.	
SS	.3 ppm			Tan/Brown, coarse sand, gravelly in places.	

GRAPHIC LOG

WELL CONSTRUCTION DETAIL



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MONITORING WELL DETAIL

MW-124

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
SS	.3 ppm						
				Bottom of Boring @ 101 feet.			
						624 / 105	Natural Collapse
						619 / 110	
						614 / 115	
						609 / 120	
						604 / 125	
						599 / 130	
						594 / 135	

CAMP DRESSER & McKEE
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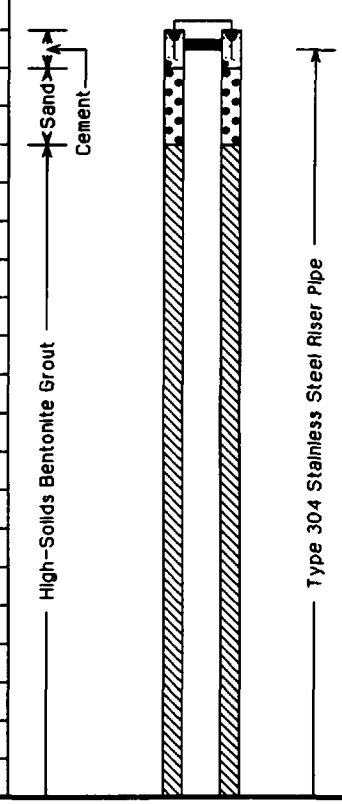
MONITORING WELL DETAIL

MW-125

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/BK81
Development Method: Air lift, bailing, & surge block
Top of Riser Elevation: 727.31 Ft.
Total Depth: 47 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-09-93 End 07-09-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 09-21-93 End 09-21-93
Surface Elevation: 727.9 Ft.
Depth To Initial Water Level (GS): ~31 Ft.
Well Coordinates:
N: 2030992.041 E: 2590996.582

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Dark Brown Topsoil	727.9 / 0
SS	0 ppm	2 3 3 4		Reddish brown, fine to med sand; very well sorted. Dry.	722.9 / 5
SS	0 ppm	3 5 7 9		Tan, med sand; well sorted.	717.9 / 10
SS	0 ppm	4 5 12 13		Tan, fine sand; well sorted.	712.9 / 15



WELL CONSTRUCTION DETAIL

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE
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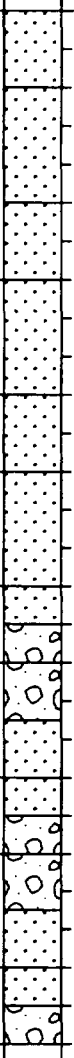
MONITORING WELL DETAIL

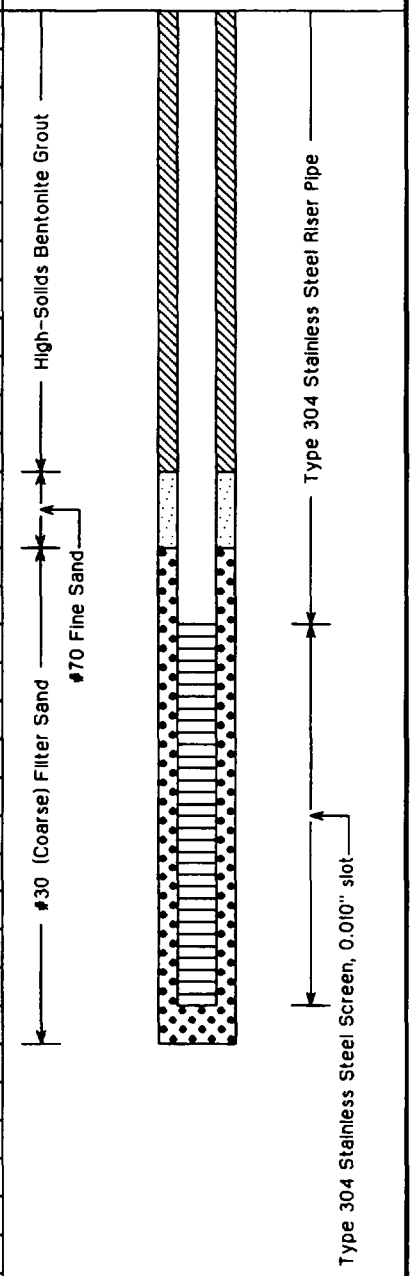
MW-125

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	6 7 8 15		Tan, fine sand; very well sorted.	
					702.9 / 25
SS	0 ppm	3 5 10 16			
					697.9 / 30
SS	0 ppm	6 10 14 16		Tan, well sorted, med sand, w/some gravel in bottom 2" of sample.	
					692.9 / 35
SS	0 ppm	4 9 20 51		Brown, med sand, gravelly sand @ 36-37'. Saturated.	
					687.9 / 40
SS	0 ppm	10 51 48 46		Brown, coarse sand, well sorted from 40-41'. Gravelly from 41-42'.	
					682.9 / 45
SS	0 ppm	6 24 52 47		Brown, med and coarse sand, gravelly @ 46-47'.	
				Bottom of Boring @ 47 feet.	
					677.9 / 50
					672.9 / 55

GRAPHIC LOG



WELL CONSTRUCTION DETAIL



CAMP DRESSER & McKEE
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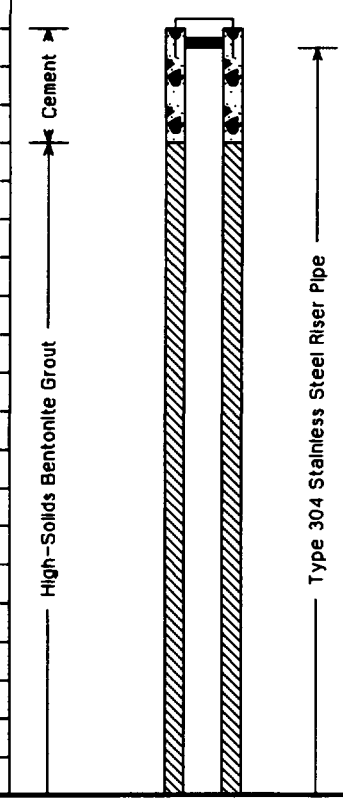
MONITORING WELL DETAIL
MW-126A

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/BK81
Development Method: Bailing & surging
Top of Riser Elevation: 727.62 Ft.
Total Depth: 56 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-11-93 End 07-11-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-12-93 End 10-14-93
Surface Elevation: 727.9 Ft.
Depth To Initial Water Level (GS): ~31 Ft.
Well Coordinates:
N: 2030750.547 E: 2591003.188

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				Note: See MW-126B for geologic log.		727.9 / 0	
						722.9 / 5	
						717.9 / 10	
						712.9 / 15	



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

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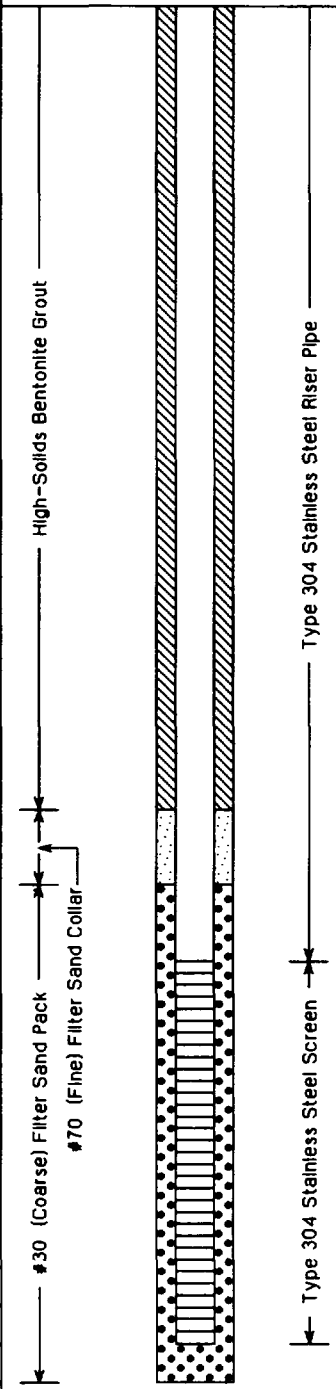
MONITORING WELL DETAIL

MW-126A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
						702.9 / 25
						697.9 / 30
						692.9 / 35
						687.9 / 40
ST				45-47': Shelby Tube Sample OT126A. See MW-126B for sample description.		682.9 / 45
						677.9 / 50
						672.9 / 55
				Bottom of Boring @ 56 feet		

WELL CONSTRUCTION DETAIL



CAMP DRESSER & McKEE
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MONITORING WELL DETAIL

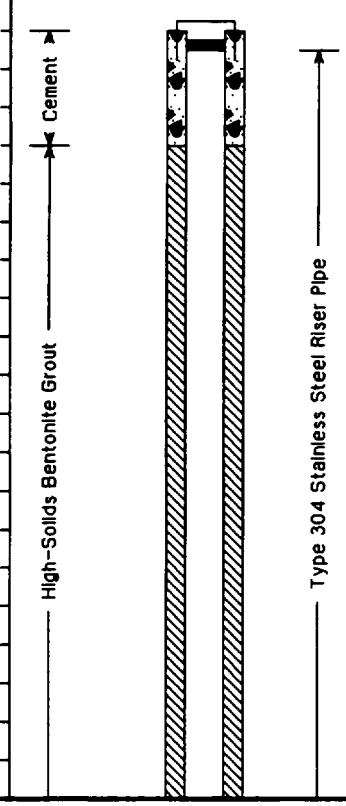
MW-126B

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 727.60 Ft.
Total Depth: 87 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-11-93 End 07-12-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-08-93 End 10-08-93
Surface Elevation: 727.9 Ft.
Depth To Initial Water Level (GS): ~31 Ft.
Well Coordinates:
N: 2030742.648 E: 2591003.420

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
				Topsoil		727.9 / 0
						722.9 / 5
SS	BG	3 4 5 10		10-12': Tan/brown, well sorted, med sand; rare gravel.		717.9 / 10
						712.9 / 15

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
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CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE
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MONITORING WELL DETAIL

MW-126B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	BG	3 6 8 13		20-22': Tan/brown, well sorted, med sand.	
					702.9 / 25
SS	BG	9 13 19 20		30-32': Tan, med sand; gravelly med sand from 31-32'.	697.9 / 30
					692.9 / 35
SS	BG	5 6 11 32		35-37': Tan/brown, med sand, gravelly from 36-37'. Saturated.	
					687.9 / 40
SS	BG	3 14 26 46		40-42': Tan/brown, well sorted, med sand from 40-41.5'; gravel from 41.5-42'.	
					682.9 / 45
SS	BG	11 12 11 14		45-47': Tan/brown, gravelly med sand; gravel common from 46-47'.	
					677.9 / 50
SS	BG	7 7 16 21		50-52': Tan/brown, gravelly med sand.	
ST				52-54': No recovery - the saturated sand & gravelly sand will not stay in the tube. Shelby Tube deformed slightly by the formation.	
SS	BG	17 16 24 54		54-56': Tan/brown, gravelly med sand.	672.9 / 55

WELL CONSTRUCTION DETAIL

High-Solids Bentonite Grout

Type 304 Stainless Steel Riser Pipe

CAMP DRESSER & McKEE
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Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

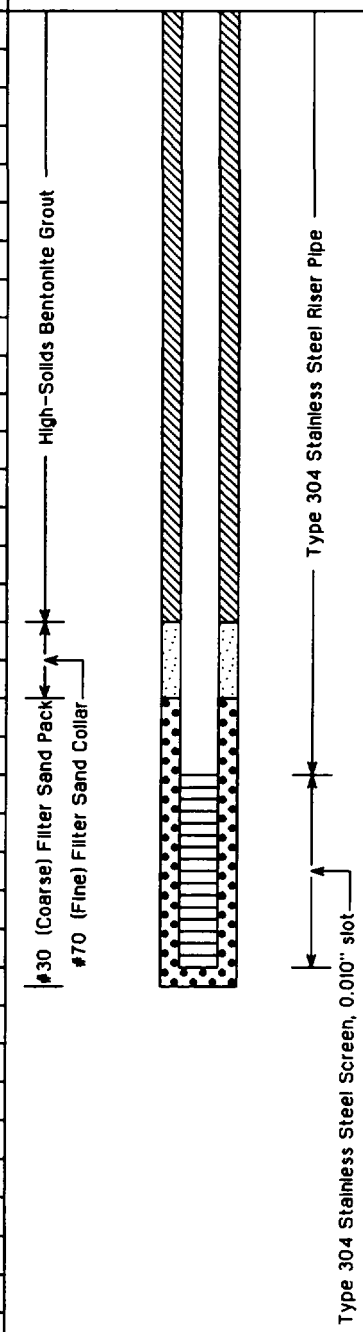
MW-126B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	BG	30 53 54 51		60-62': Tan/brown, gravelly med sand.
SS	BG	21 56 68 70		65-67': Tan/brown, gravelly med sand from 65-65.5'; tan/brown, well sorted, med sand from 65.5-66'.
SS	BG	8 11 15 18		70-72': Tan/brown, well sorted med sand; rare gravel.
SS	BG	18 27 26 23		75-77': Tan/brown, gravelly med sand. Clasts are primarily limestone, often silicified & fossiliferous; also have granitic clasts & rare fine-grained siliciclastic fragments.
SS	BG	82 38 37 28		80.5-82.5': Tan/brown coarse sand & gravel.
SS /ST	BG	16 26 28 30		85-87': Tan/brown coarse sand 85-85.3'; Tan/brown med to fine sand, well sorted from 85.3-86'. Collect Shelby Tube Sample OT126B.
				Bottom of Boring @ 87 feet

GRAPHIC LOG

ELEV. / DEPTH: 662.9 / 65; 657.9 / 70; 652.9 / 75; 647.9 / 80; 642.9 / 85; 637.9 / 90; 632.9 / 95

WELL CONSTRUCTION DETAIL



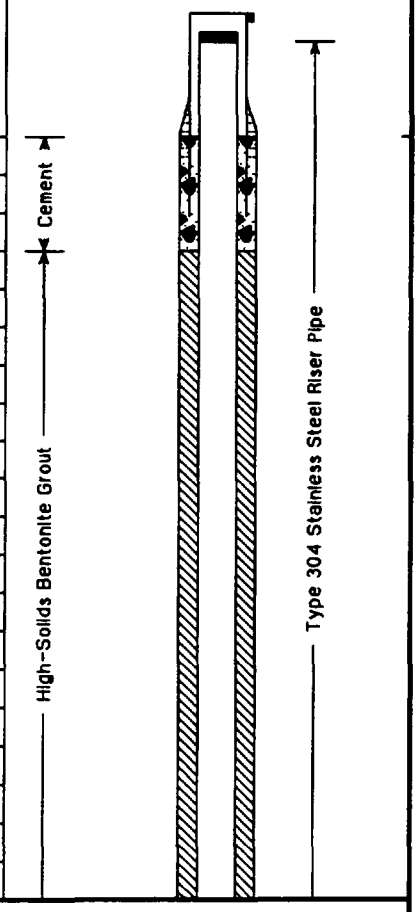
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL
MW-127

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 728.59 Ft.
Total Depth: 44 Ft.
Field Screening Instrument: HNU
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-20-93 End 07-20-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 09-14-93 End 09-15-93
Surface Elevation: 726.2 Ft.
Depth To Initial Water Level (GS): ~23 Ft.
Well Coordinates:
N: 2031361.511 E: 2592021.970

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	726.2 / 0
			ML		
SS	0 ppm	9 6 4 5	ML	5.0-5.2': Dk bn to black topsoil w/some coal (from railroad bed)	721.2 / 5
			SP	5.2-5.7': Dk to mod or bn SAND, w/~15% gravel & little to trace clay (<10%) The sand is med to coarse, gravel is sm to med pebbles that are subrounded to rounded. Moist, not wet.	
SS	0 ppm	6 10 10 12	SP	10-11.0': Mod to lt bn SAND, med to coarse; trace granules & pebbles; loose; dry.	716.2 / 10
SS	0 ppm	7 8 12 15	SP	15-16.1': Lt bn SAND, med to fine, w/subhorizontal dark laminations; loose; dry.	711.2 / 15



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
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CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

Figure No.

CAMP DRESSER & McKEE

CDM

233 South Wacker Drive, Suite 450
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MONITORING WELL DETAIL

MW-127

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	6 13 20 17	SP	20-21.0': Lt bn SAND, med to coarse w/ a gravelly zone (30% pebbles) @ 20.2-20.3'. Pebbles are subrounded. Moist.	
SS	0 ppm	8 17 12 21	SP	25-26.1': Lt bn SAND, coarse to med w/~8% subangular sm pebbles & granules. Wet.	701.2 / 25
SS	0 ppm	6 7 8 15	SP	30-30.2': Coarse to med SAND w/few sm pebbles 30.2-30.5': Gravel w/no sand 30.5-31.2': Lt bn SAND, coarse to med w/~5% small subrounded pebbles & granules; wet.	696.2 / 30
SS	0 ppm	8 7 9 16	SP	35-36.0': Lt bn SAND, med to coarse, ~5% sm subrounded pebbles; wet.	691.2 / 35
SS	0 ppm	4 5 9 28	SP	40-41.0': Same as 35-36' but w/ ~8% gravel.	686.2 / 40
				Bottom of Boring @ 44 feet.	681.2 / 45 676.2 / 50 671.2 / 55

GRAPHIC LOG

WELL CONSTRUCTION DETAIL

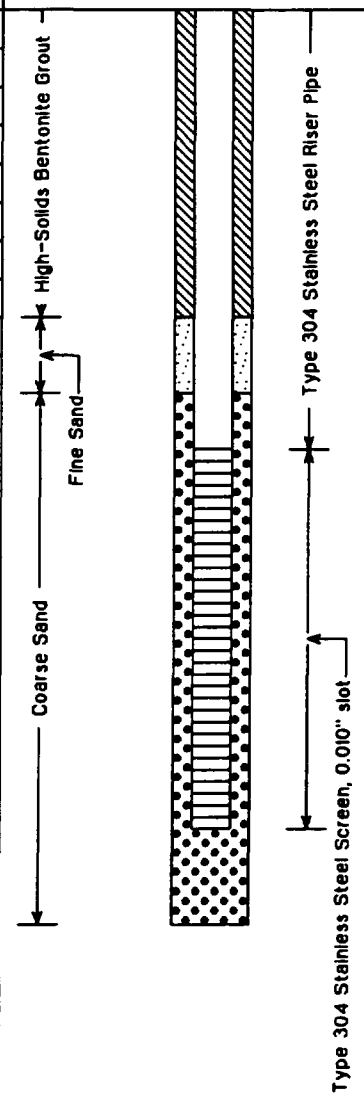

Figure No.

CAMP DRESSER & McKEE
CDM
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Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

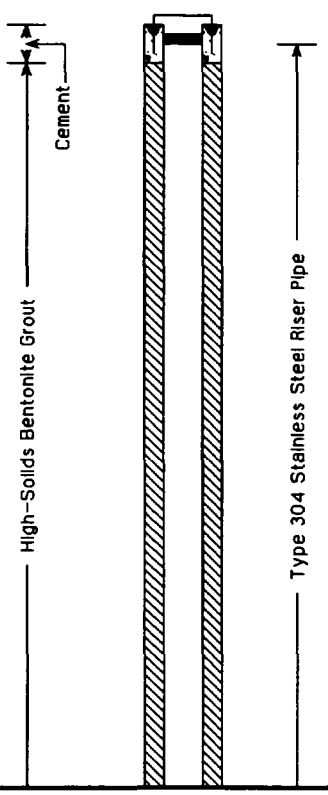
MW-128

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 728.40 Ft.
Total Depth: 62 Ft.
Field Screening Instrument: HNU/OVM
Logged By: M. Nugent and S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-01-93 End 09-02-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-13-93 End 10-13-93
Surface Elevation: 728.8 Ft.
Depth To Initial Water Level (GS): ~25 Ft.
Well Coordinates:
N: 2031300.815 E: 2593097.852

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
				Topsoil		728.8 / 0
SS	0 ppm	3 4 6 9		5-7': Brownish yel (10YR 6/6) med well sorted sand unsaturated.		723.8 / 5
SS	3.2 ppm	4 7 11 20		10-12': Brownish yel (10YR 6/6) med, well sorted sand, unsaturated.		718.8 / 10
SS	6.4 ppm	7 10 11 12		15-17': Lt olive brown (2.5YR 5/6) fine to v fine well sorted sand, unsaturated.		713.8 / 15

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
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MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

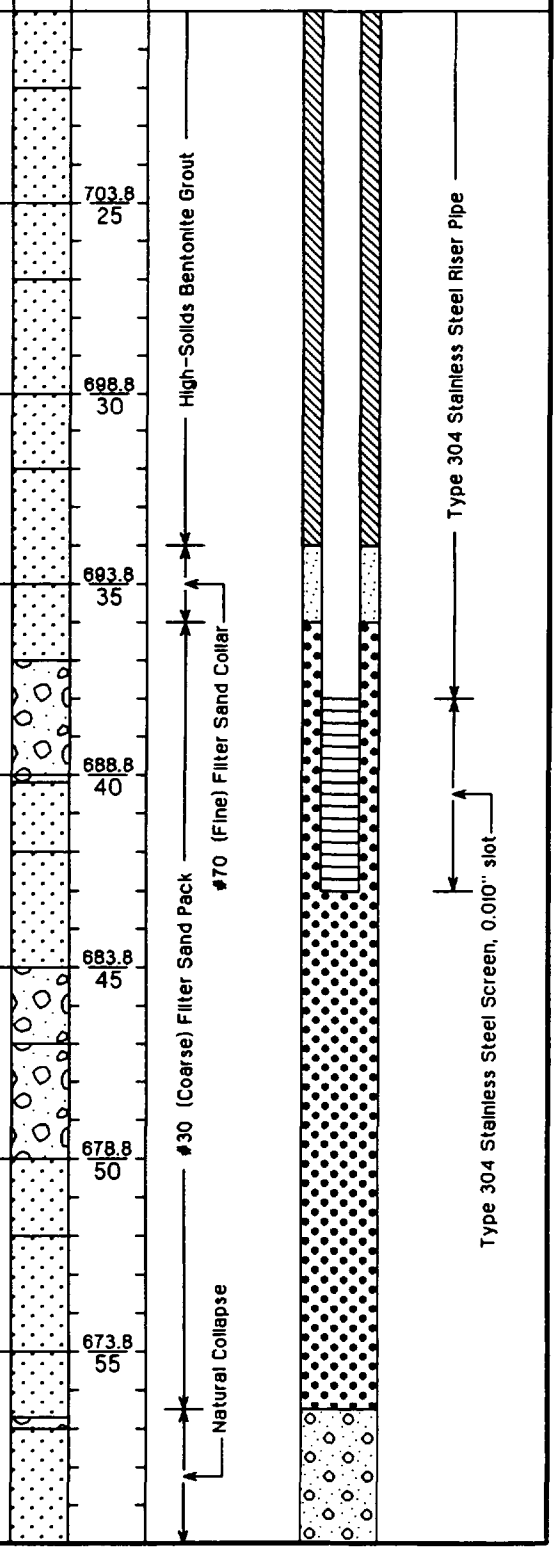
OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-128

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	5.4 ppm	4 7 9 11		20-22': Lt yel brown (10YR 6/4) med to fine well sorted sand.	
SS	3.8 ppm	6 6 12 12		25-27': Lt brownish gray (10YR 6/2) med to fine well sorted sand.	703.8 / 25
SS	5 ppm	11 15 15 20		30-32': Lt yel brown (10YR 6/4) coarse to med poorly sorted sand with some gravel.	698.8 / 30
SS	200 ppm	7 15 19 21		35-37': Lt yel brown (10YR 6/4) coarse to med poorly sorted sand with some gravel.	693.8 / 35
SS	300 ppm	8 17 23 26		40-42': Gray , well sorted coarse sand. Top 2" gray gravelly coarse sand.	688.8 / 40
SS	35 ppm	10 11 14 17		45-47': Gray, gravelly coarse sand. Gravel is rounded.	683.8 / 45
SS	30 ppm	10 20 18 18		50-52': Gray, gravelly coarse sand.	678.8 / 50
SS	6 ppm	9 8 7 11		55-57': Dark gray, coarse sand; gravelly in lower 3".	673.8 / 55



CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-128

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
SS	4 ppm	12 20 18 23		60-62': Dark, gray coarse sand; rare gravel.			
				Bottom of Boring @ 62 feet		663.8 / 65 658.8 / 70 653.8 / 75 648.8 / 80 643.8 / 85 638.8 / 90 633.8 / 95	Natural Collapse

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

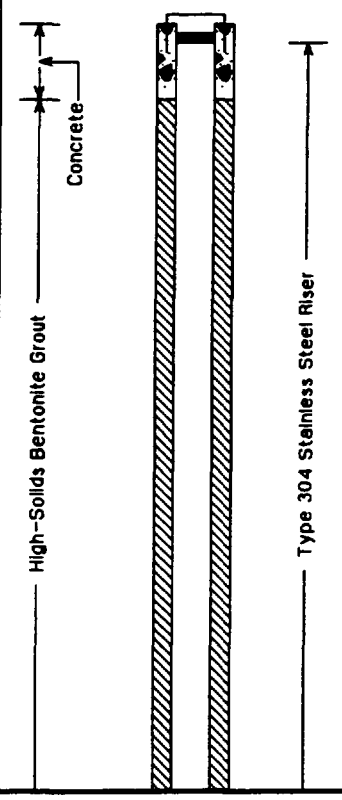
MW-129

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Bailing & surge block
Top of Riser Elevation: 732.12 Ft.
Total Depth: 37 Ft.
Field Screening Instrument: HNU
Logged By: Craig Almanza

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-24-93 End 08-24-93
Drillers: Rick O' Gorman, Mark Thorson
Development Date: Start 10-14-93 End 10-15-93
Surface Elevation: 732.1 Ft.
Depth To Initial Water Level (GS): ~19 Ft.
Well Coordinates:
N: 2031344.813 E: 2593910.535

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	4 4 5 5		Brown med sand & gravel fill	732.1 / 0
				Dark brown sandy silt, dry.	
SS	0 ppm	6 8 9 12		Brown fine sand, dry.	727.1 / 5
SS	0 ppm	5 6 10 12		Light brown fine sand, dry.	722.1 / 10
SS	0 ppm	3 4 8 8		Light brown fine sand, dry.	717.1 / 15

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE
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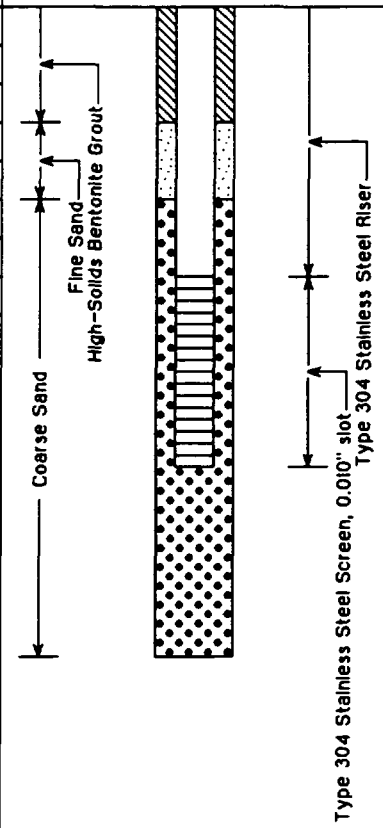
MONITORING WELL DETAIL

MW-129

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH
SS	0 ppm	5 5 7 10		Brown fine sand w/sm gravel - water between 17-20'.		
						707.1 / 25
SS	0 ppm	5 6 12 13		Brown fine to med sand, saturated; no gravel.		
						702.1 / 30
SS	0 ppm	8 9 10 12		Brown fine to med sand, saturated; no gravel.		
						697.1 / 35
SS	0 ppm	7 6 8 11		Brown fine to med sand w/sm gravel (quartz, chert, feldspar)		
				Bottom of Boring at 37 feet.		
						692.1 / 40
						687.1 / 45
						682.1 / 50
						677.1 / 55

WELL CONSTRUCTION DETAIL



CAMP DRESSER & McKEE
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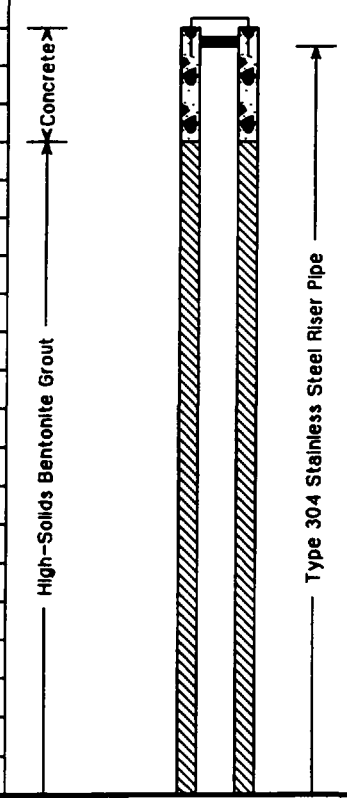
MONITORING WELL DETAIL
MW-130

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 727.95 Ft.
Total Depth: 42 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 07-24-93 End 07-25-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-14-93 End 10-14-93
Surface Elevation: 728.0 Ft.
Depth To Initial Water Level (GS): ~23 Ft.
Well Coordinates:
N: 2030701.267 E: 2594440.108

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. / DEPTH
			ML	Topsoil	728 / 0
			ML		
SS	0 ppm	1 1 1 2	ML	5.0-5.2': Dk bn loamy soil	723 / 5
			SM	5.2-6.2': Mod-dk bn silty SAND, fine, moist.	
			SP	6.2-7.0': Mod bn SAND, coarse to med, very moist.	
SS	0 ppm	2 2 2 4	SP	10-10.8': Mod-lt bn SAND, med; no silt, clay or gravel observed; mod well sorted; moist.	718 / 10
SS	0 ppm	2 2 4 4	SP	15-15.7': Lt bn SAND, med to coarse, mod well sorted, moist.	713 / 15



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
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MR - Mud Rotary
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CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

Figure No.

CAMP DRESSER & McKEE
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MONITORING WELL DETAIL

MW-130

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	0 ppm	7 8 7 9	SP	20-20.8': Lt bn SAND, med, wet.
SS	0 ppm	7 9 6 10	SP	25-26.0': Lt bn SAND, coarse to med; 25.0-25.5' zone has ~15% sm pebbles; wet. Sampled: SB130E
SS	0 ppm	10 13 18 18	SP	30-31.3': Lt bn SAND, coarse to v coarse, w/ 10-15% sm pebbles; wet.
SS	0 ppm	7 10 9 12	SP	35-36.5': Lt bn SAND, coarse to v coarse, w/ 10-15% sm to lg pebbles; wet. Sampled: SB130G
SS	0 ppm	16 23 11 10	SP	40-41.5': Lt bn SAND, coarse to med, w/ ~8% lg to sm subrounded pebbles. A zone @ 40.4-40.55' has sm pebbles & granules, subangular to angular & mainly chert, carbonate, basalt & quartz. Sampled: SB130H *Bottom of Boring @ 42 feet.*

GRAPHIC LOG

ELEV. / DEPTH: 703/25, 698/30, 693/35, 688/40, 683/45, 678/50, 673/55

WELL CONSTRUCTION DETAIL

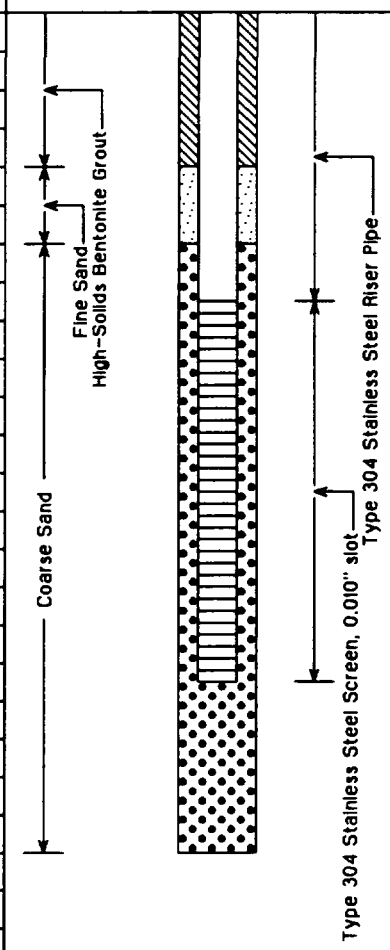

Figure No.

CAMP DRESSER & McKEE
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MONITORING WELL DETAIL

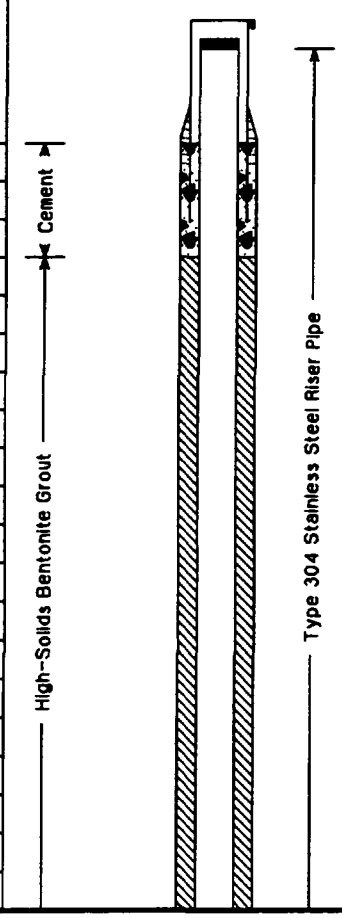
MW-131

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Bailing & surge block
Top of Riser Elevation: 736.95 Ft.
Total Depth: 37 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-23-93 End 08-23-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-14-93 End 10-15-93
Surface Elevation: 734.4 Ft.
Depth To Initial Water Level (GS): ~ 19 Ft.
Well Coordinates:
N: 2034470.960 E: 2594407.030

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		734.4 / 0
			SP			729.4 / 5
SS	0 ppm	2 2 2 3	SP	5.0-5.9': Mod-dk yel bn SAND, med to fine, well sorted exc. @ base (5.8-5.9') where it contains dk gy wet silty clay in matrix. Elsewhere is moist, not wet.		724.4 / 10
SS	0 ppm	3 4 6 7	SP	10-11.0': Lt yel bn SAND, fine, well sorted, moist.		719.4 / 15
SS	0 ppm	6 8 8 7	SP-SM	15-16.0': Lt-mod yel bn SAND, fine; ~4mm thick layers of silty sand alternating w/ the fine sand @ 15.3-15.8'; moist (particularly the silty sand).		

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

Figure No.

CAMP DRESSER & McKEE
CDM
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Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-131

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH
SS	0 ppm	7 9 8 11	SP	20-21.6': Lt-mod yel bn SAND, v fine @ 20-20.8; fine @ 20.8-21.4; fine to med @ 21.4-21.6' Saturated.		709.4 / 25
SS	0 ppm	8 8 8 12	SP	25-25.9': Lt-mod yel bn SAND, med to fine, saturated. A mod-dk bn zone @ 25.0-25.03' is clayey.		704.4 / 30
SS		11 18 25 15	SP	30-30.8': Mod yel bn SAND, med, wet; 30.8-31.1': Mod-lt yel bn SAND, v fine, sl silty (~10% silt), moist.		699.4 / 35
SS	0 ppm	8 8 11 13	SP	35-35.7': Mod yel bn SAND, med to coarse, w/ 5% gravel as med pebbles to granules; saturated.		
				Bottom of Boring @ 37 feet.		694.4 / 40; 689.4 / 45; 684.4 / 50; 679.4 / 55

WELL CONSTRUCTION DETAIL

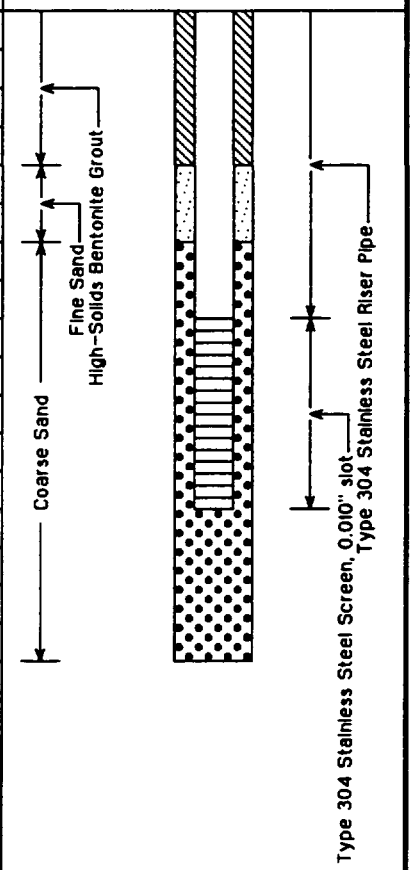


Figure No.

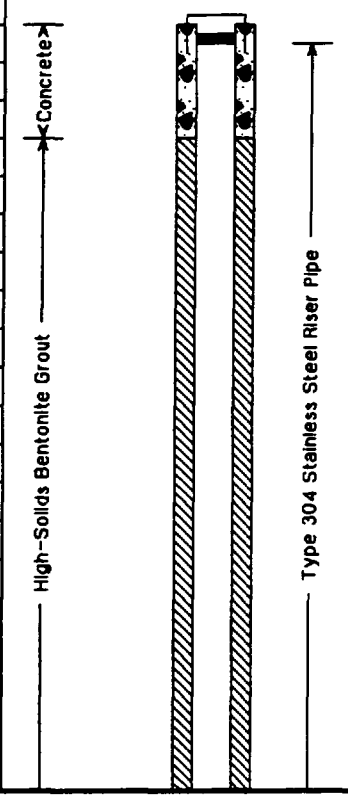
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL
MW-132

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Bailing & surge block
Top of Riser Elevation: 728.73 Ft.
Total Depth: 35 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-23-93 End 08-24-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-12-93 End 10-13-93
Surface Elevation: 728.7 Ft.
Depth To Initial Water Level (GS): ~18.5 Ft.
Well Coordinates:
N: 2033567.152 E: 2593223.923

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	728.7 / 0
			SP		
SS	0 ppm	1 1 2 8	SP	5.0-5.8': Mod to lt yel bn SAND, med to coarse; moist to dry.	723.7 / 5
SS	0 ppm	4 5 6 10	SP	10-11.0': Lt yel bn SAND, med, nearly dry.	718.7 / 10
SS	0 ppm	10 9 10 15	SP	15-15.9': Lt yel bn SAND, fine to v fine. Many greenish brown to rusty brown laminations 0.5 to 3mm thick @ 15.4-15.9'; these are sl.silty; moist to dry.	713.7 / 15



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
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DTC - Drill Through Casing

SAMPLING TYPES:
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CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

Figure No.

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-132

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS		6 5 12 15	SP	20-21.7': Mod yel bn SAND, fine to med, wet.	
					703.7 / 25
SS	0 ppm	5 6 9 13	SP	25-25.8': Mod-lt yel bn SAND, med to fine, wet.	
			GP	Note: Drilling action indicates gravel @ 29-30'.	698.7 / 30
SS	0 ppm	5 5 6 10	SP	30-31.0': Mod bn SAND, coarse w/~10% gravel as med pebbles to granules which are rounded to subangular & show preferred horizontal orientation of the tabular-shaped pebbles.	
					693.7 / 35
SS	0 ppm	5 6 8 10	SP-GP	35-36.3': Mod gray bn SAND, contains ~35% gravel @ 36.0-36.3' and a sm pebble-gravel zone @ 35.2-35.3', w/ no sand. The sand is coarse. Gravel is ~75% carbonate & chert, remainder igneous, jasper, quartz, sandstone, & gravel is subrounded.	
				Bottom of Boring @ 37 feet.	
					688.7 / 40
					683.7 / 45
					678.7 / 50
					673.7 / 55

GRAPHIC LOG

WELL CONSTRUCTION DETAIL

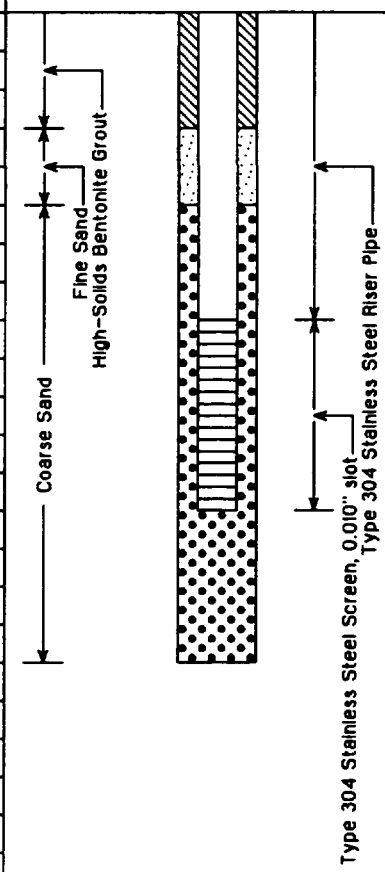


Figure No.

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-133A

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Bailing & surge block
Top of Riser Elevation: 780.18 Ft.
Total Depth: 35 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

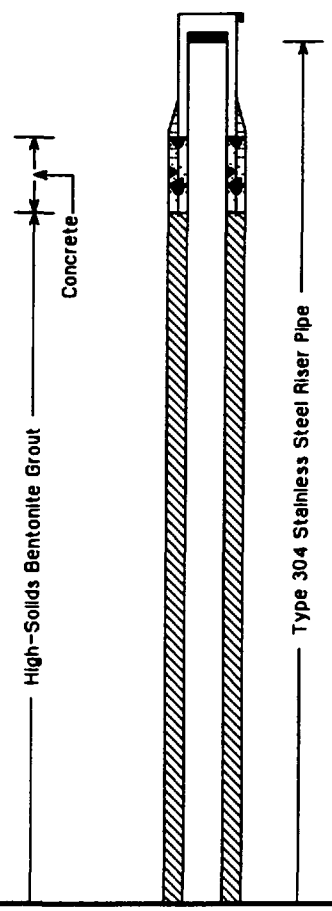
Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-20-93 End 08-20-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-15-93 End 10-15-93
Surface Elevation: 777.6 Ft.
Depth To Initial Water Level (GS): ~18.5 Ft.
Well Coordinates:
N: 2028900.383 E: 2600083.739

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	777.6 / 0
			ML-CL		772.6 / 5
SS	0 ppm	3 5 6 8	CL	10-12': Tan silty gravelly sandy clay, w/ orange-bn streaks & films along certain zones. Gravel (~15%) is predominantly subangular to subrounded granules to lg pebbles. Sand is ~15%, silt & clay ~35% each. Both the gravel & sand are randomly dispersed throughout the silty clay matrix, & also show no preferred orientation. Variably moist to wet; mod low plasticity.	767.6 / 10
SS	0 ppm	6 8 9 10	ML	15-15.5': Gray-bn to orange-bn clayey gravelly sandy SILT, slightly plastic, moist. Gravel (~15% of sample) is subangular to subrounded sm to lg pebbles randomly oriented & distributed throughout the matrix. Sand (10%) v coarse to fine & also randomly distributed. Remaining 75% are silt & clay.	762.6 / 15

Note: Slow drilling 15-20, suggesting the same ML (till) unit as @ 15.0-15.5'.

GRAPHIC LOG

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

Figure No.

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

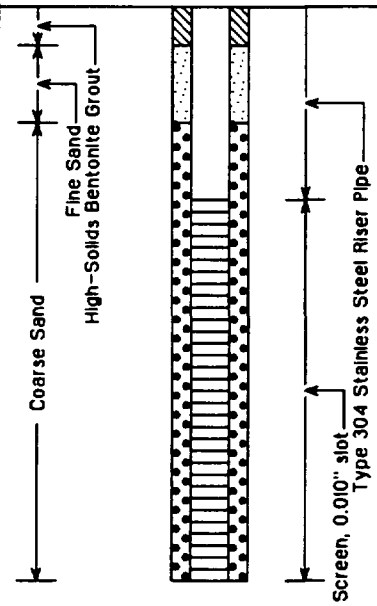
MONITORING WELL DETAIL

MW-133A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	10 8 8 15	ML	20-20.05': Mod or bn clayey gravelly sandy SILT as above.	
			SP	20.05-22.0': Lt -mod gy bn gravelly SAND; sand is mainly coarse, & ranges to fine; gravel (25%) is rounded to subangular sm to lg pebbles which are ~75% carbonate & chert; remainder are igneous, jasper & quartz. Saturated. Note: Drilled easily from 20-25', suggesting sand throughout.	752.6 / 25
SS	0 ppm	8 9 12 15	SP	25-27.0': Lt gy bn to lt gn gy SAND, fine to v fine; upper portion (25.0-25.4') has sand interfingering w/ lenses of lt gn gy saturated SILT. The sand here is lt gy bn. Saturated throughout.	
			ML		747.6 / 30
SS	0 ppm	7 9 10 16	SP	30-30.1': Or bn to lt gy clayey gravelly SILT. 30.1-32.0': Mod or bn to gy bn gravelly sand; sand is coarse, ranging to fine. Gravel (15%) is rounded to subangular sm to lg pebbles w/lithology as in 20.1-22.0' zone. Saturated.	
			ML	Drilling action indicates silt or clay @ 33-35'.	742.6 / 35
				Bottom of Boring @ 35 feet.	

GRAPHIC LOG

WELL CONSTRUCTION DETAIL



737.6 / 40

732.6 / 45

727.6 / 50

722.6 / 55

Figure No.

CAMP DRESSER & McKEE
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Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

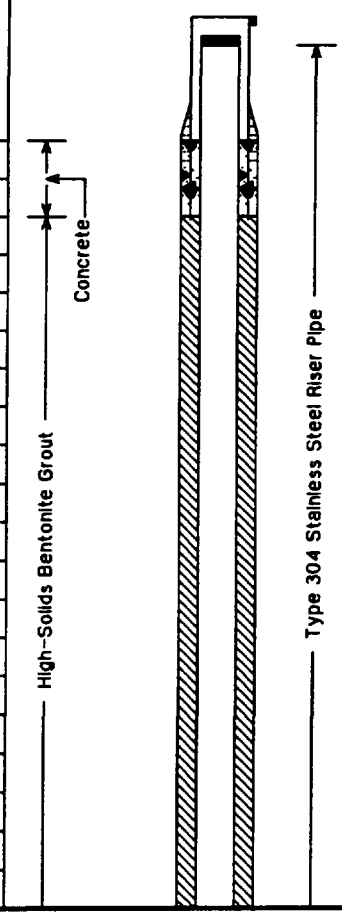
MW-133B

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Pumping (Grundfos) & surge block
Top of Riser Elevation: 780.33 Ft.
Total Depth: 60 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-19-93 End 08-20-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-15-93 End 10-15-93
Surface Elevation: 777.5 Ft.
Depth To Initial Water Level (GS): ~18.5 Ft.
Well Coordinates:
N: 2028906.975 E: 2600084.587

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	777.5 / 0
			ML CL		772.5 / 5
SS	0 ppm	3 5 6 8	CL	10-12': Tan silty gravelly sandy clay, w/ orange-bn streaks & films along certain zones. Gravel (~15%) is predominantly subangular to subrounded granules to lg pebbles. Sand is ~15%, silt & clay ~35% each. Both the gravel & sand are randomly dispersed throughout the silty clay matrix, & also show no preferred orientation. Variably moist to wet; mod low plasticity.	767.5 / 10
SS	0 ppm	6 8 9 10	ML	15-15.5': Gray-bn to orange-bn clayey gravelly sandy SILT, slightly plastic, moist. Gravel (~15% of sample) is subangular to subrounded sm to lg pebbles randomly oriented & distributed throughout the matrix. Sand (10%) v coarse to fine & also randomly distributed. Remaining 75% are silt & clay.	762.5 / 15

Note: Slow drilling 15-20, suggesting the same ML (till) unit as @ 15.0-15.5'.



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

Figure No.

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-133B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	0 ppm	10 8 8 15	ML	20-20.05': Mod or bn clayey gravelly sandy SILT as above.
			SP	20.05-22.0': Lt -mod gy bn gravelly SAND; sand is mainly coarse, & ranges to fine; gravel (25%) is rounded to subangular sm to lg pebbles which are ~75% carbonate & chert; remainder are igneous, jasper & quartz. Saturated. Note: Drilled easily from 20-25', suggesting sand throughout.
SS	0 ppm	8 9 12 15	SP	25-27.0': Lt gy bn to lt gn gy SAND, fine to v fine; upper portion (25.0-25.4') has sand interfingering w/ lenses of lt gn gy saturated SILT. The sand here is lt gy bn. Saturated throughout.
			ML	
SS	0 ppm	7 9 10 16	SP	30-30.1': Or bn to lt gy clayey gravelly SILT. 30.1-32.0': Mod or bn to gy bn gravelly sand; sand is coarse, ranging to fine. Gravel is (15%) rounded to subangular sm to lg pebbles w/lithology as in 20.1-22.0' zone. Saturated.
			ML	Drilling action indicates silt or clay @ 33-35'.
SS	0 ppm	10 20 18 16	ML	35-35.1':Or bn clayey gravelly sandy SILT, moist to wet; could be stuff, but appears to be in place.
			SP/SM	35.1-36.5': Or bn to gy bn SAND, w/ ~7% gravel as subrounded sm to lg pebbles; sand is med to fine & locally silty to clayey; silt/clay ranges from trace to 30% & average is ~5%. Wet.
SS	0 ppm	13 12 18 10	SP/GP	40-41.4': Lt to mod gray gravelly SAND, locally silty (there is one 2cm greenish gray silty fine sand lens @ 41.2'); Gravel is lg to sm subrounded to subangular pebbles & is ~40% of sample. Sand is coarse. Saturated.
			ML	Note: Drilling action suggests we entered SILT @ ~ 44.0'
SS	0 ppm	12 9 18 10	ML	45.0-46.8': Clayey gravelly sandy SILT, lt gn gy w/ or bn along certain planes of parting (which are inclined @ about 40 degrees). Gravel is sm to med subrounded to angular pebbles of lithographic proportions in 20.1-22.0' zone; gravel has no preferred orientations and floats unsupported in matrix. Gravel ~15%, sand ~10%, clay ~25% silt ~50%; based on apparent permeability, clay <10% @ 45.0-45.6'.
			SP	
SS	0 ppm	15 20 32 10	SP	46.8-47.0': Or bn to dk gy SAND, med; colors are in distinct lenticular zones. 50.0-50.9': Lt gy bn SAND, med to fine; ~3% subrounded sm to med pebbles; local horizons have subhoriz mod-dk or bn & dk gy color bands. 50.9-51.0': A subhorizontal bed of v fine sandy SILT, mod gy bn.
SS	0 ppm	12 29 32 18	SP	51.0-51.4': Lt gy bn SAND, same as 50.0-50.9' exc color is predom. the mod-dk or bn & dk gy.
			ML	55.0-55.4': Lt bn gy gravelly SAND; gravel is mainly sm pebbles & granules, w/ one sm cobble, & is subangular to subrdd. 55.4-57': Lt gy bn to mod yel bn SILT, locally sandy (at 56.8-57' sand is ~30%; sand is trace elsewhere); bedded subhorizontally; saturated.

GRAPHIC LOG

ELEV. DEPTH: 752.5 / 25; 747.5 / 30; 742.5 / 35; 737.5 / 40; 732.5 / 45; 727.5 / 50; 722.5 / 55

WELL CONSTRUCTION DETAIL

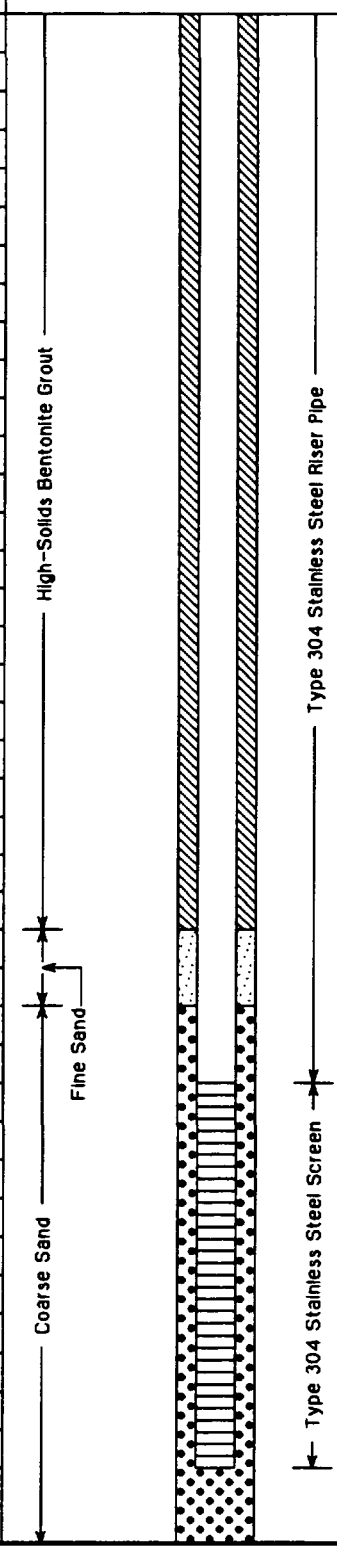


Figure No.

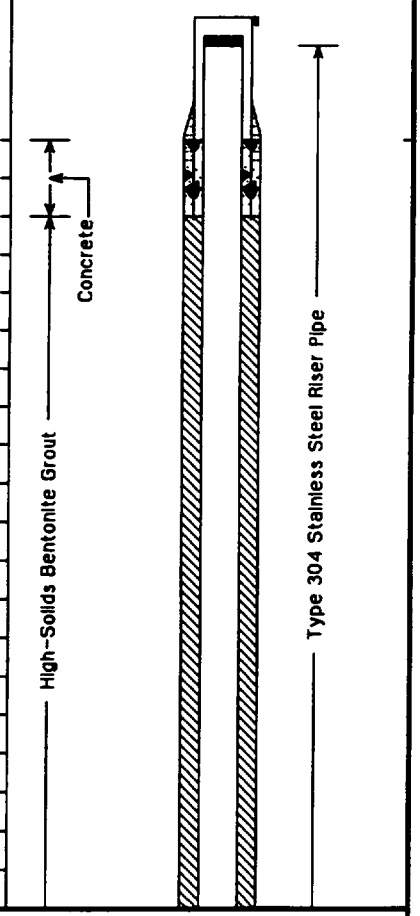
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL
MW-133C

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Pumping (Grundfos) & surge block
Top of Riser Elevation: 780.29 Ft.
Total Depth: 100 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-17-93 End 08-19-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-15-93 End 10-15-93
Surface Elevation: 777.7 Ft.
Depth To Initial Water Level (GS): ~18 Ft.
Well Coordinates:
N: 2028901.637 E: 2600090.106

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. / DEPTH
			ML	Topsoil	777.7 / 0
			ML/CL		772.7 / 5
SS	0 ppm	3 5 6 8	CL	10-12': Tan silty gravelly sandy clay, w/ orange-bn streaks & films along certain zones. Gravel (~15%) is predominantly subangular to subrounded granules to lg pebbles. Sand is ~15%, silt & clay ~35% each. Both the gravel & sand are randomly dispersed throughout the silty clay matrix, & also show no preferred orientation. Variably moist to wet; mod low plasticity.	767.7 / 10
SS	0 ppm	6 8 9 10	ML	15-15.5': Gray-bn to orange-bn clayey gravelly sandy SILT, slightly plastic, moist. Gravel (~15% of sample) is subangular to subrounded sm to lg pebbles randomly oriented & distributed throughout the matrix. Sand (10%) v coarse to fine & also randomly distributed. Remaining 75% are silt & clay. Note: Slow drilling 15-20, suggesting the same ML (till) unit as @ 15.0-15.5'.	762.7 / 15



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

Figure No.

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-133C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	10 8 8 15	ML	20-20.05': Mod or bn clayey gravelly sandy SILT as above. Sampled: SB133C-B	
			SP	20.05-22.0': Lt -mod gy bn gravelly SAND; sand is mainly coarse, & ranges to fine; gravel (25%) is rounded to subangular sm to lg pebbles which are ~75% carbonate & chert; remainder are igneous, jasper & quartz. Saturated.	752.7 / 25
SS	0 ppm	8 9 12 15	SP	Note: Drilled easily from 20-25', suggesting sand throughout. 25-27.0': Lt gy bn to lt gn gy SAND, fine to v fine; upper portion (25.0-25.4') has sand interfingering w/ lenses of lt gn gy saturated SILT. The sand here is lt gy bn. Saturated throughout.	
			ML		747.7 / 30
SS	0 ppm	7 9 10 16	SP	30-30.1': Or bn to lt gy clayey gravelly SILT. Sampled: SB133C-D	
			ML	30.1-32.0': Mod or bn to gy bn gravelly sand; sand is coarse, ranging to fine. Gravel is (15%) rounded to subangular sm to lg pebbles w/lithology as in 20.1-22.0' zone. Saturated. Drilling action indicates silt or clay @ 33-35'.	742.7 / 35
SS	0 ppm	10 20 18 16	ML	35-35.1':Or bn clayey gravelly sandy SILT, moist to wet; could be sluff, but appears to be in place.	
			SP SM	35.1-36.5': Or bn to gy bn SAND, w/ ~7% gravel as subrounded sm to lg pebbles; sand is med to fine & locally silty to clayey; silt/clay ranges from trace to 30% & average is ~5%. Wet.	737.7 / 40
SS	0 ppm	13 12 18 10	SP GP	40-41.4': Lt to mod gray gravelly SAND, locally silty (there is one 2cm greenish gray silty fine sand lens @ 41.2'); Gravel is lg to sm subrounded to subangular pebbles & is ~40% of sample. Sand is coarse. Saturated. Note: Drilling action suggests we entered SILT @ ~ 44.0'	
			ML		732.7 / 45
SS	0 ppm	12 9 18 10	ML	45.0-46.8': Clayey gravelly sandy SILT, lt gn gy w/ or bn along certain planes of parting (which are inclined @ about 40 degrees). Gravel is sm to med subrounded to angular pebbles of lithographic proportions in 20.1-22.0' zone; gravel has no preferred orientations and floats unsupported in matrix. Gravel ~15%, sand ~10%, clay ~25% silt ~50%; based on apparent permeability, clay <10% @ 45.0-45.6'.	
			SP		727.7 / 50
SS	0 ppm	15 20 32 10	SP	46.8-47.0': Or bn to dk gy SAND, med; colors are in distinct lenticular zones. 50.0-50.9': Lt gy bn SAND, med to fine; ~3% subrounded sm to med pebbles; local horizons have subhoriz mod-dk or bn & dk gy color bands. Sampled: SB133C-H 50.9-51.0': A subhorizontal bed of v fine sandy SILT, mod gy bn.	
SS	0 ppm	12 29 32 18	SP	51.0-51.4': Lt gy bn SAND, same as 50.0-50.8' exc color is predom. the mod-dk or bn & dk gy.	722.7 / 55
			ML	55.0-55.4': Lt bn gy gravelly SAND; gravel is mainly sm pebbles & granules, w/ one sm cobble, & is subangular to subrdd. 55.4-57': Lt gy bn to mod yel bn SILT, locally sandy (at 56.8-57' sand is ~30%; sand is trace elsewhere); bedded subhorizontally; saturated.	

GRAPHIC LOG

WELL CONSTRUCTION DETAIL

High-Solids Bentonite Grout

Type 304 Stainless Steel Riser Pipe

Figure No.

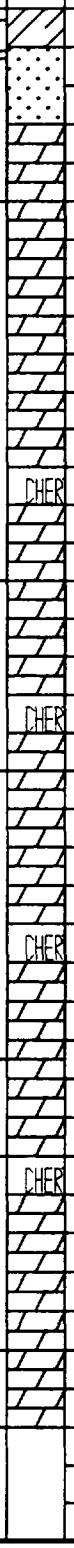
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-133C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	22 13 32 17	ML SP-SM	60.0-60.3': Lt gy bn gravelly SAND; gravel (30%) is subrounded sm to lg pebbles; wet.	
			SP	60.3-61.1': Mod pinkish bn clayey sandy gravelly SILT, moist; gravel (8%) is subangular to subrdd sm pebbles in matrix of sample. Sand (20%) is coarse to fine; clay & silt ~36% each, based on mod low plasticity.	
				61.1-61.3': Yel bn clayey gravelly silty SAND (~20%, 20%, 10%, 50% respectively).	712.7 / 65
				61.3-61.4': Gravelly sand, yel bn to nearly white. Gravel is subrounded and is friable sucrosic to soft micritic dolomite. Could mark an ancient soil. Moist.	
				65': Sample attempted, but no recovery due to probable bedrock.	707.7 / 70
				75': Cuttings are ~98% yel bn dolomite/limestone & bn to white chert (~20% chert); remainder is rounded sand, representing minor cave-in.	702.7 / 75
				80': Cuttings show ~80% yel bn dolomite/limestone somewhat sucrosic; ~20% white to bn gray chert (color variations sometimes seen on individual chips - i.e., zoned); trace (<1%) dk bn lithographic limestone/dolomite; tr lt gn gy shaly limestone/dolomite.	697.7 / 80
				87.5': Cuttings same as @ 80'.	692.7 / 85
				90': Cuttings same as @ 80'.	687.7 / 90
				95': Cuttings similar to 80', but ~90% dolomite & ~10% chert.	682.7 / 95
				97': Cuttings similar to 80', but ~95% dolomite/limestone & 5% chert.	

GRAPHIC LOG



WELL CONSTRUCTION DETAIL

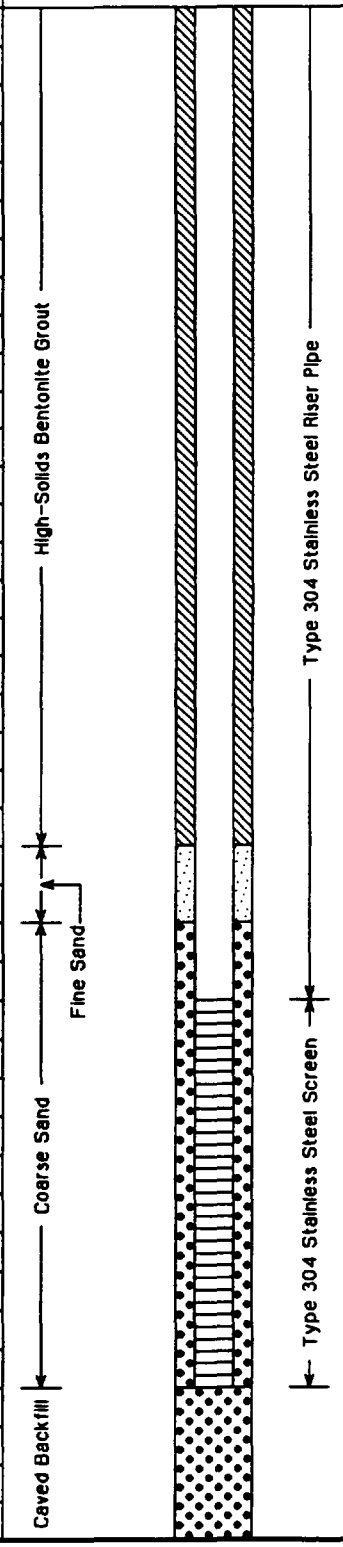


Figure No.

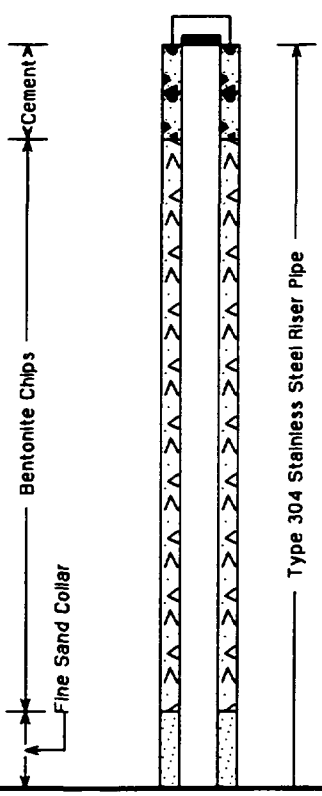
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL
MW-134A

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/BK81
Development Method: Bailing & surge block
Top of Riser Elevation: 799.09 Ft.
Total Depth: 28 Ft.
Field Screening Instrument: OVM
Logged By: M. Nugent

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-24-93 End 08-24-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-11-93 End 10-12-93
Surface Elevation: 799.1 Ft.
Depth To Initial Water Level (GS): ~10.5 Ft.
Well Coordinates:
N: 2028676.820 E: 2602291.372

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				Note: See MW-134C for geologic log.		799.1 / 0	
						794.1 / 5	
						789.1 / 10	
						784.1 / 15	



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE

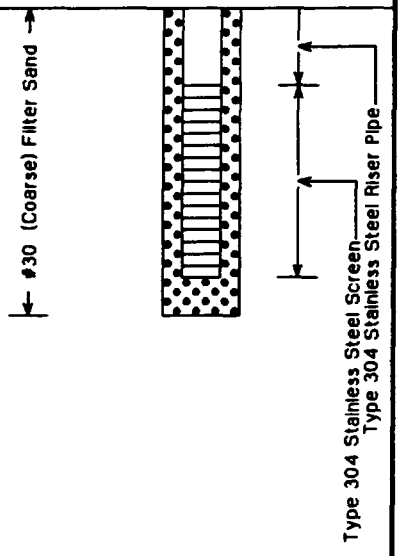
CDM

233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-134A

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
						774.1 / 25	#30 (Coarse) Filter Sand; Type 304 Stainless Steel Screen; Type 304 Stainless Steel Riser Pipe
				Bottom of Boring @ 28 feet.		769.1 / 30	
						764.1 / 35	
						759.1 / 40	
						754.1 / 45	
						749.1 / 50	
						744.1 / 55	



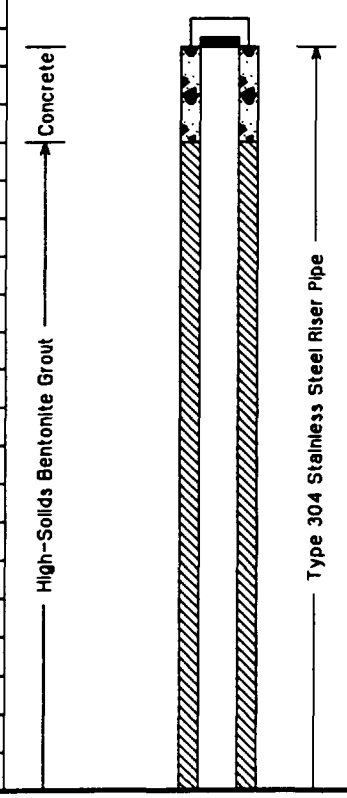
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL
MW-134B

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/BK81
Development Method: Pumping (Grundfos) & surge block
Top of Riser Elevation: 798.80 Ft.
Total Depth: 46 Ft.
Field Screening Instrument: OVM
Logged By: M. Nugent

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-24-93 End 08-24-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-08-93 End 10-08-93
Surface Elevation: 799.9 Ft.
Depth To Initial Water Level (GS): ~10.5 Ft.
Well Coordinates:
N: 2028674.166 E: 2602294.015

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
				Note: See MW-134C for geologic log.		799.9 / 0 794.9 / 5 789.9 / 10 784.9 / 15	



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
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AR - Air Rotary
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MR - Mud Rotary
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CT - Cable Tool
JET - Jetting
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BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE

CDM

233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-134B

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
						774.9 / 25	High-Solids Bentonite Grout; Type 304 Stainless Steel Riser Pipe
						769.9 / 30	
						764.9 / 35	
						759.9 / 40	#30 (Coarse) Filter Sand; Fine Sand Collar
						754.9 / 45	Type 304 Stainless Steel Screen
				Bottom of Boring @ 46 feet.		749.9 / 50	
						744.9 / 55	

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

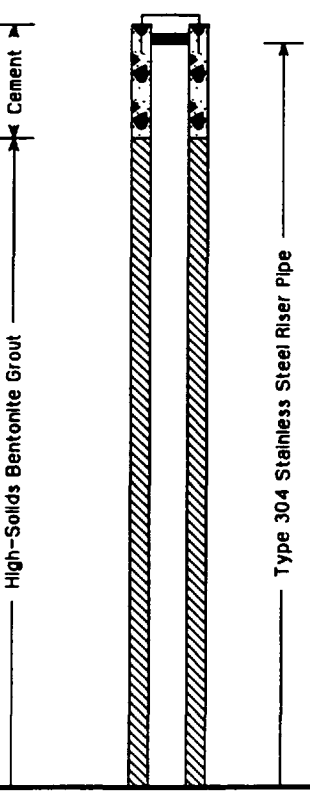
MONITORING WELL DETAIL
MW-134C

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Pumping (Grundfos) & surge block
Top of Riser Elevation: 799.11 Ft.
Total Depth: 67.5 Ft.
Field Screening Instrument: HNU
Logged By: S. S. Bhagat & M. Nugent

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-19-93 End 08-23-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-11-93 End 10-11-93
Surface Elevation: 799.2 Ft.
Depth To Initial Water Level (GS): ~10.5 Ft.
Well Coordinates:
N: 2028674.267 E: 2602289.057

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		799.2 / 0
	2 ppm	14 20 18 16		Brown/reddish brown coarse sand & gravel; saturated. Gravel is angular to rounded. Saturated.		794.2 / 5; 789.2 / 10
	6 ppm	9 12 24 32		Tan gravelly fine to med sand.		784.2 / 15
	2 ppm	8 10		Top 19" is gravel, rounded to angular. Bottom		

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
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DTR - Dual Tube Rotary
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GP - Geoprobe
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WS - Wash Sample

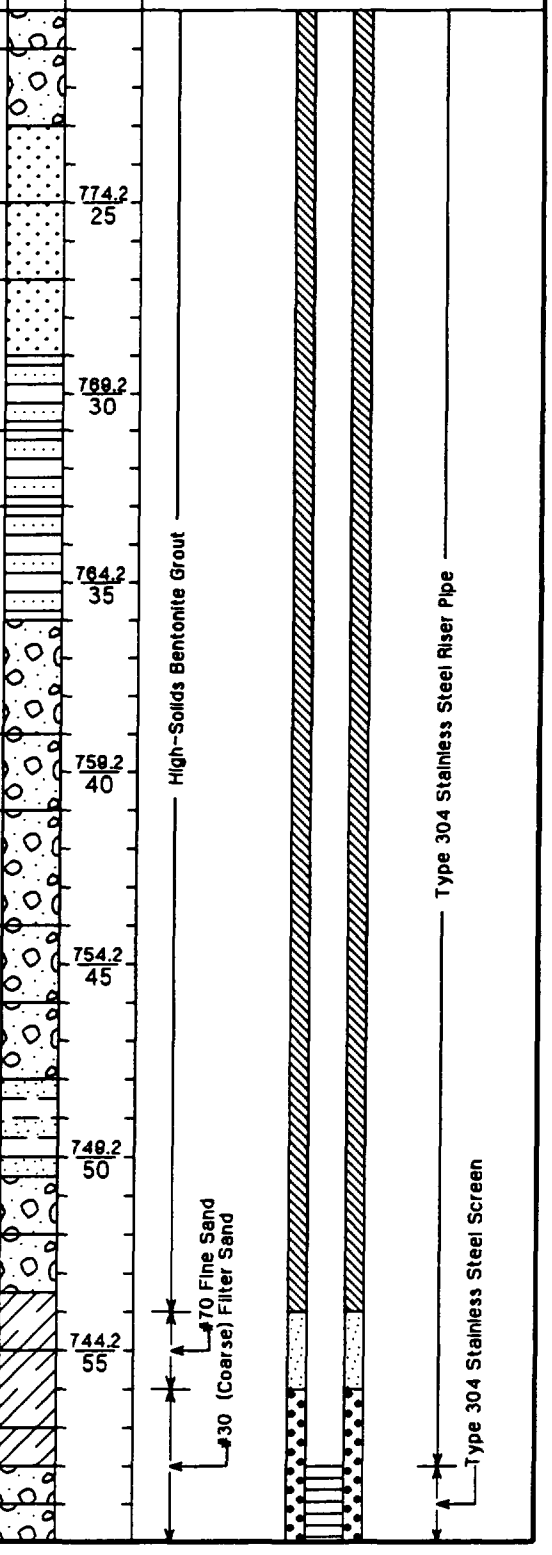
OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-134C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
	2 ppm	13 17		5" is fine sand, gray, gravelly in places.	
					774.2 / 25
	.5 ppm	8 6 7 8		Tan fine sand, very well sorted.	
					769.2 / 30
	0 ppm	8 10 10 12		Top 2" is Brown fine sandy clay; remainder of sample is brown plastic clay.	
					764.2 / 35
	0 ppm	10 13 17 19		Tan coarse sand and gravel; gravel is subangular to rounded.	759.2 / 40
	0 ppm	8 8 6 8		Dark brown to black piece of weathered rock, probably mafic-rich.	754.2 / 45
HP				Hydro Punch Sample 48.5-50', VP134A.	
	0 ppm	6 3 3 6		Top 5" is tan/brown silty fine sand. Bottom 13" is gray gravelly fine sand. Contact is sharp.	749.2 / 50
	0 ppm	5 6 7 10		Gray silty and gravelly fine sand.	744.2 / 55
	0 ppm	3 10		Tan to brown coarse sand and gravel.	



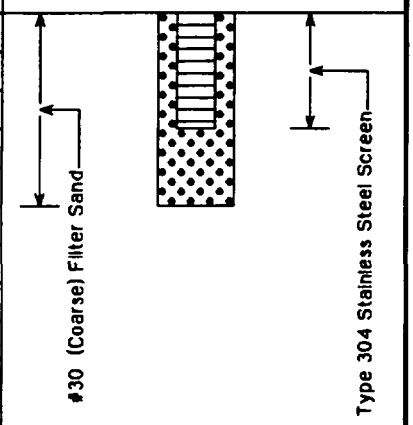
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-134C

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH
	0 ppm	15 16				
HP				Hydro Punch Sample 63.5-65', VP134B.		734.2 / 65
				Bedrock		
				Bottom of Boring @ 67.5 feet.		
						729.2 / 70
						724.2 / 75
						719.2 / 80
						714.2 / 85
						709.2 / 90
						704.2 / 95

WELL CONSTRUCTION DETAIL



CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-135

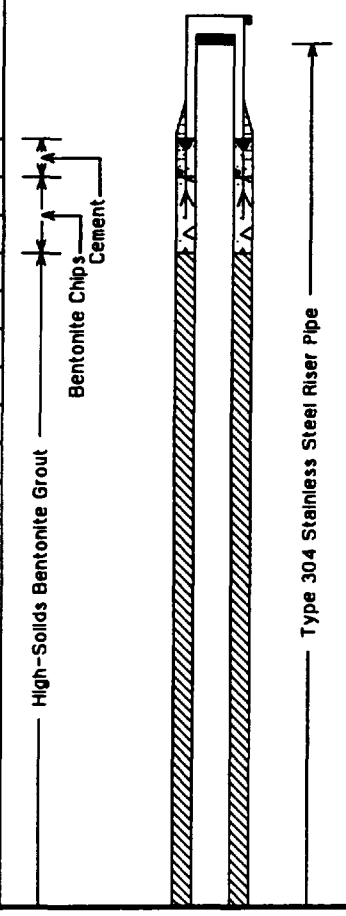
Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Bailing & surge block
Top of Riser Elevation: 835.19 Ft.
Total Depth: 38 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-16-93 End 08-16-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-08-93 End 10-08-93
Surface Elevation: 832.8 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Well Coordinates:
N: 2027883.103 E: 2602492.753

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	832.8 / 0
			ML		
SS	0 ppm	4 6 9 13	ML	5.0-6.2': Clayey gravelly sandy SILT, mod yel bn, moist; gravel is sm - lg angular to subrounded pebbles distributed randomly in the matrix & w/ no preferred orientation. Gravel ~15%, sand ~15% w/ remainder being silt & clay	827.8 / 5
			ML		
SS	0 ppm	6 7 22 8	ML ML	10-10.3': Mod yellow bn gravelly SILT, not plastic, saturated. 10.3-11.4': Mod yel bn to mod gy bn clayey gravelly sandy SILT as in 5-7'. Includes one large granite pebble or cobble (>2x2") that is weathered in place. Moist.	822.8 / 10
			ML		
SS	0 ppm	13 10 19 12	ML	15-17': Clayey gravelly sandy SILT, mod gy bn to mod yel bn, somewhat plastic; nature & proportion of gravel & sand as in 5-7'. Moist.	817.8 / 15
			ML		

GRAPHIC LOG

WELL CONSTRUCTION DETAIL



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

Figure No.

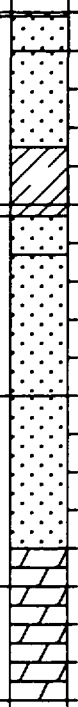
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-135

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	0 ppm	15 10 22 12	ML SP	20-20.1': Mod bn silty clay w/ 7% small subangular to angular pebbles. Moist. Contains black partings parallel to contact w/underlying sand, both @ 25 degree angle to horizontal
			SP	20.1-21': Lt bn SAND, med to fine, w/subhorizontal bedding, moist.
			ML	
SS	0 ppm	15 32 38 10	ML SP	25-25.2': Mod yel bn v fine sandy SILT, wet. 25.2-25.3': Mod to dk yel bn clayey SILT, moist.
			SP	25.3-26.3': Mod to lt yel bn SAND, med to coarse, w/ ~4% subrounded to subangular, small pebbles & granules; moist to dry.
SS	0 ppm	22 37 50 /0.3'	SP	30-31': Mod gy bn SAND, coarse to med, saturated; ~10% rounded to subangular sm to lg pebbles. Contains one silt lens (wet) 2-4cm thick
SS	0 ppm	50 /0.1'		35-35.1': Chips of lt bn dolomite w/cream-colored, partly silicified zones irregularly cutting the rock.
				Bottom of Boring @ 38 feet.

GRAPHIC LOG



ELEV. / DEPTH

807.8 / 25
802.8 / 30
797.8 / 35
792.8 / 40
787.8 / 45
782.8 / 50
777.8 / 55

WELL CONSTRUCTION DETAIL

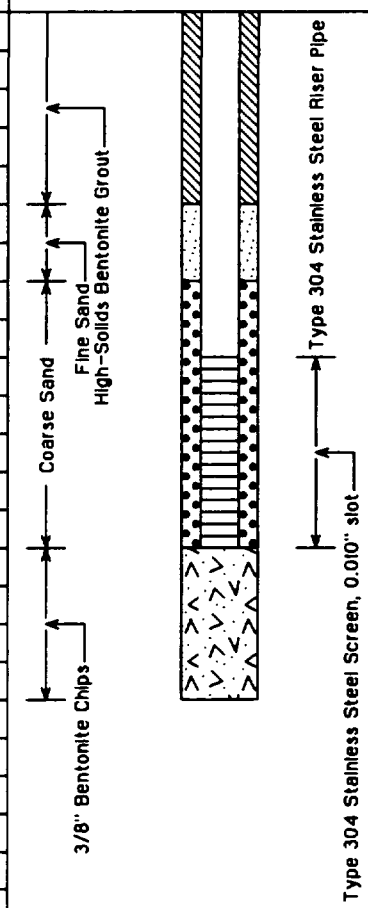


Figure No.

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5305

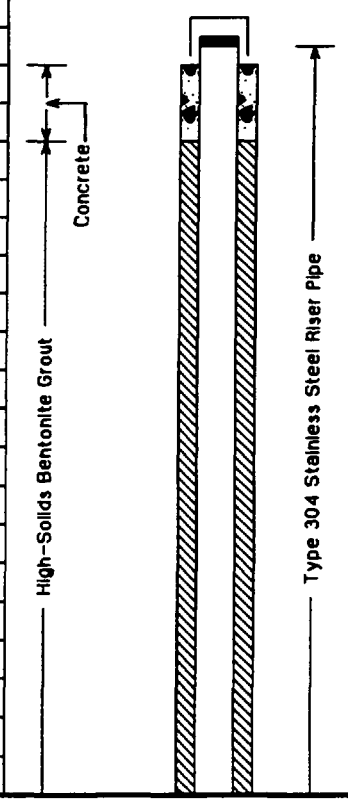
MONITORING WELL DETAIL

MW-136

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Air Rotary
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 834.77 Ft.
Total Depth: 61.5 Ft.
Field Screening Instrument: OVM
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-13-93 End 08-19-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 08-19-93 End 08-19-93
Surface Elevation: 834.9 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Well Coordinates:
N: 2027821.674 E: 2603572.259

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH	WELL CONSTRUCTION DETAIL
						834.9 / 0	
						829.9 / 5	
						824.9 / 10	
						819.9 / 15	



EXPLANATION OF ABBREVIATIONS

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HSA - Hollow Stem Auger
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CT - Cable Tool
JET - Jetting
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DTC - Drill Through Casing

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BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE

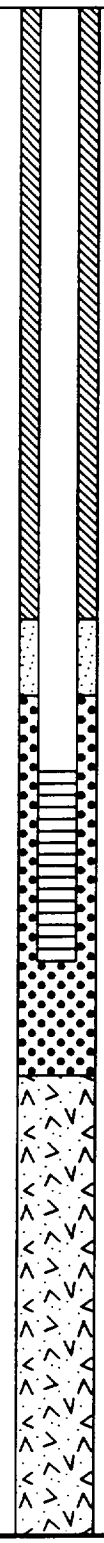
CDM

233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-136

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
						809.9 / 25	High-Solids Bentonite Grout
						804.9 / 30	
				Top of Bedrock		799.9 / 35	#70 Fine Sand
						794.9 / 40	#30 Filter Sand
						789.9 / 45	
						784.9 / 50	Bentonite Chips
						779.9 / 55	



CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-136

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. / DEPTH	WELL CONSTRUCTION DETAIL
				Bottom of Boring @ 61.5 feet.		769.9 / 65	Bentonite Chips
						764.9 / 70	
						759.9 / 75	
						754.9 / 80	
						749.9 / 85	
						744.9 / 90	
						739.9 / 95	

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

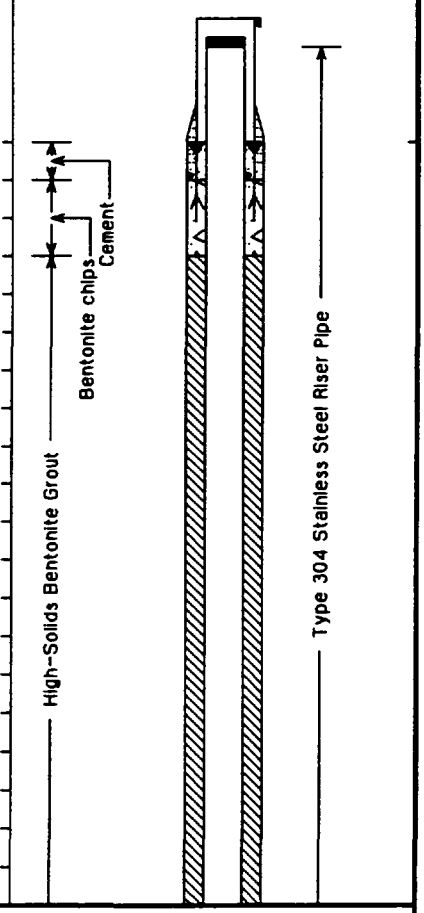
MONITORING WELL DETAIL

MW-138

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 734.79 Ft.
Total Depth: 42 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-10-93 End 08-11-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 09-15-93 End 10-12-93
Surface Elevation: 732.3 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Well Coordinates:
N: 2031962.469 E: 2594148.912

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV./DEPTH
			ML	Topsoil	732.3 / 0
			SW		
SS	0 ppm	7 7 10 11	SW	5.0-5.4': Mod bn SAND, v fine, slightly silty	727.3 / 5
			SP	5.4-6.5': Lt bn SAND, med, loose, dry.	
			SP		
SS	0 ppm	6 13 23 14	SP	10-11.5': Lt bn SAND, med, loose, dry.	722.3 / 10
			SP		
SS	0 ppm	8 16 20 12	SP	15-16.3': Lt bn SAND, med ranging from coarse to fine, loose, moist.	717.3 / 15
			SP		



EXPLANATION OF ABBREVIATIONS

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HSA - Hollow Stem Auger
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NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE

CDM

233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

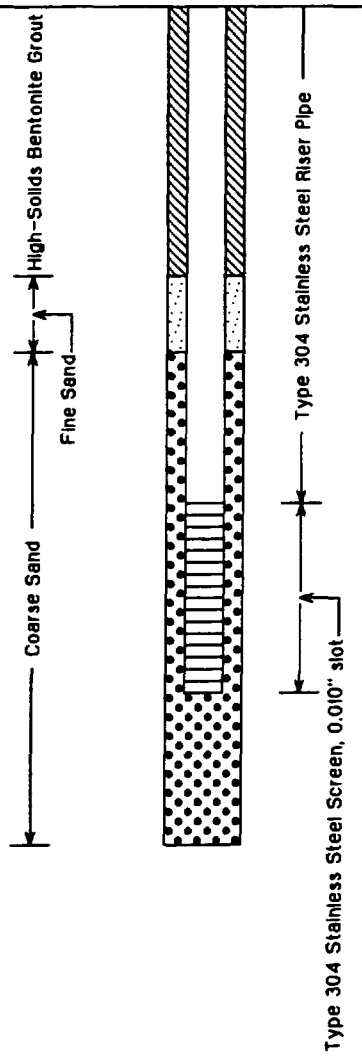
MW-138

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION
SS	0 ppm	10 14 18 25	SP	20-21.7': Lt bn SAND, med, trace sm pebbles, locally saturated only (20.0-20.8' only)
			SP	
SS	0 ppm	8 11 18 12	SP	25-26.1': Lt bn SAND, med to fine, moist to wet, loose.
			SP	
SS	0 ppm	6 11 18 22	SP	30-31.3': Lt bn SAND, med to coarse, saturated.
			SP	
SS	0 ppm	6 8 16 16	SP	35-36.3': Lt bn SAND, med, saturated.
			SP	
SS	0 ppm	6 10 15 25	SP SP-GP SP	40-40.2': Lt gy bn SAND, med to coarse; 40.2-40.4': sandy gravel. Saturated. 40.4-41.5': Lt gy bn SAND, med to coarse.
				Bottom of Boring @ 42 feet.

GRAPHIC LOG

ELEV. / DEPTH: 707.3 / 25; 702.3 / 30; 697.3 / 35; 692.3 / 40; 687.3 / 45; 682.3 / 50; 677.3 / 55

WELL CONSTRUCTION DETAIL



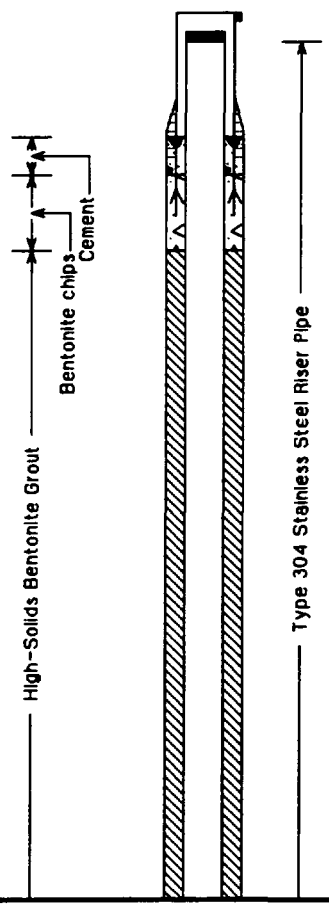
CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL
MW-140

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Development Method: Bailing & surge block
Top of Riser Elevation: 739.71 Ft.
Total Depth: 42 Ft.
Field Screening Instrument: OVM
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-12-93 End 08-13-93
Drillers: Rick O'Gorman, Mark Thorson
Development Date: Start 10-12-93 End 10-14-93
Surface Elevation: 737.9 Ft.
Depth To Initial Water Level (GS): ~23 Ft.
Well Coordinates:
N: 2031858.145 E: 2595405.195

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	737.9 / 0
			SP		
SS	0 ppm	6 8 8 12	SP	5-5.6': Lt bn SAND, fine; contains three brown silty clay layers, each <= 1mm & oriented subhorizontally. Dry.	732.9 / 5
SS	0 ppm	4 7 3 6	SP	10-10.6': Lt bn SAND, fine to med, moist.	727.9 / 10
			SP-ML	10.6-11.1': Interbedded vfine SAND, lt bn & saturated, and mod bn clayey silt; sand is loc saturated just above clay; otherwise moist.	
			SP		
SS	0 ppm	6 8 5 6	SP	15-15.8': Lt bn SAND, fine to med, well sorted, moist.	722.9 / 15



EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
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SSA - Solid Stem Auger
HA - Hand Auger
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GP - Geoprobe
HP - Hydro Punch
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ST - Shelby Tube
WS - Wash Sample

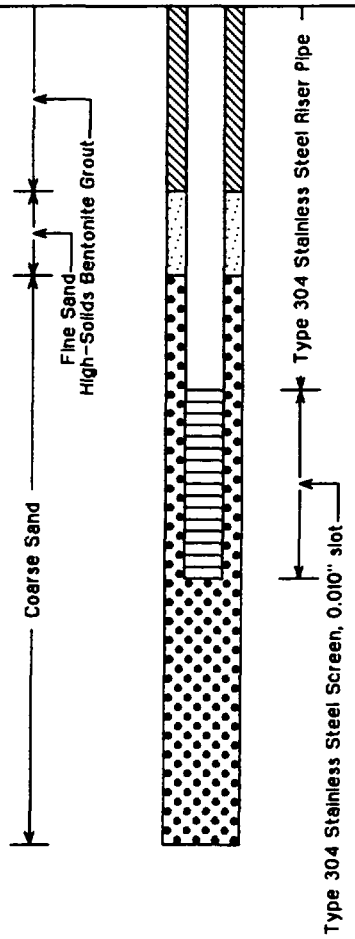
OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-140

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0 ppm	9 7 10 12	SP	20-21': Lt bn SAND, fine to med,; there is one 2.5mm-thick mod bn clayey silt layer @ 20.8'; above 20.8' the sand is saturated, but dry below.	712.9 / 25
SS	0 ppm	5 5 7 11	SP	25-25.8': Lt. bn SAND, fine to med, saturated.	707.9 / 30
SS	0 ppm	7 8 6 13	SP	30-30.9': Lt. bn SAND, med; a few lt bn silty clay clots (not layers); tr granules.	702.9 / 35
SS	0 ppm	7 7 9 13	SP	35-36': Lt bn SAND, med to coarse, trace granules & pebbles, saturated.	697.9 / 40
SS	0 ppm	7 12 13 20	SP	40-41.3': Lt bn SAND, med (ranges from coarse to fine); 4% small to med subrdd pebbles; bedding visible @ 15% angle to horizontal; saturated.	
				Bottom of Boring @ 42 feet.	692.9 / 45; 687.9 / 50; 682.9 / 55



CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

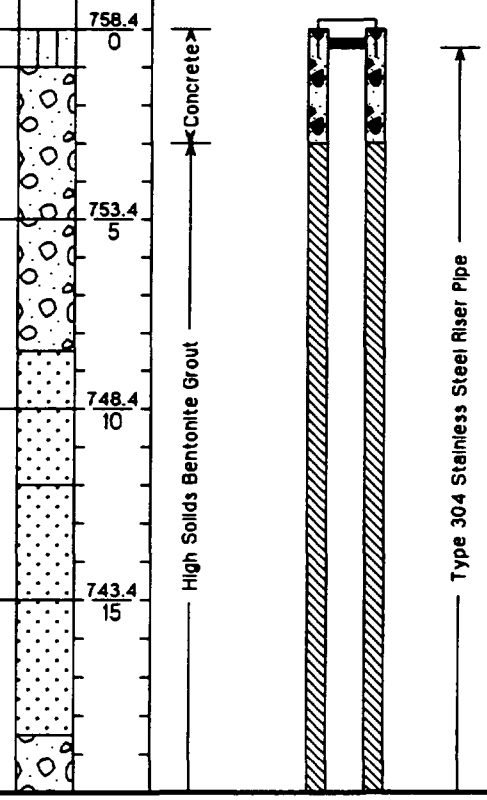
MONITORING WELL DETAIL

MW-141

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Air lift using nitrogen & surge block
Top of Riser Elevation: 758.06 Ft.
Total Depth: 52 Ft.
Field Screening Instrument: HNU & OVM
Logged By: Michael Nugent

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-31-93 End 09-01-93
Drillers: Paul Dickinson & Mike Nelson
Development Date: Start 10-11-93 End 10-11-93
Surface Elevation: 758.4 Ft.
Depth To Initial Water Level (GS): ~38 Ft.
Well Coordinates:
N: 2031908.715 E: 2596997.420

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
			ML	Topsoil	758.4 / 0
SS	0.0	18 20 23 19	SW	Lt gy (2.5Y 7/2) gravelly SAND, w/some yel bn (10YR 5/8) silty layers. Sand is poorly sorted and subangular to subrounded; gravel is subangular to subrounded & up to 3 cm; unsaturated.	753.4 / 5
SS	8.0	26 40 36 43	SW	Same as @ 5-7', except no silty layers present.	748.4 / 10
SS	1.0	8 17 20 26	SW	Same as @ 5-7'.	743.4 / 15
			SW		



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GP - Geoprobe
HP - Hydro Punch
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ST - Shelby Tube
WS - Wash Sample

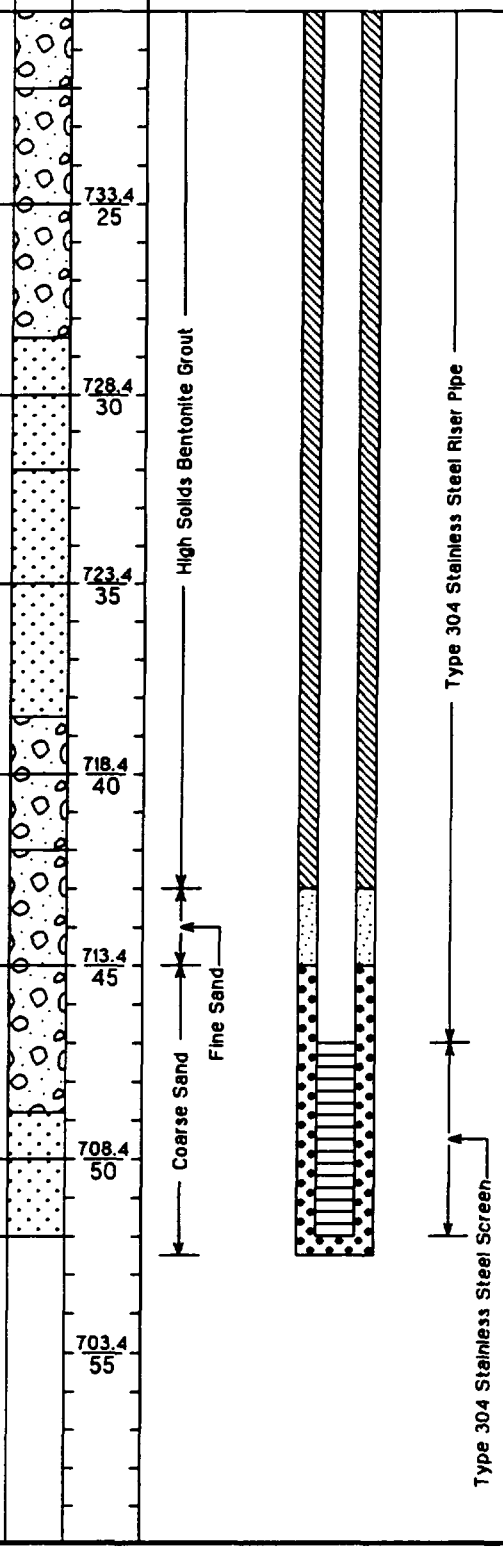
OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-141

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. DEPTH
SS	0.0	12 15 16 16	SW	Lt gy (2.5Y 7/2) to dk yel bn (10YR 3/6) gravelly sand, coarse to fine; poorly sorted; some silty layers; gravel up to 5 cm thick; moist.	
SS	0.0	12 12 17 18	SW	Lt yel bn (10YR 6/4) gravelly sand, med to fine; poorly sorted; less gravel than @ 20-22'; moist.	733.4 / 25
SS	0.0	11 14 16 18	SW	Yel bn (10YR 5/4) sand, fine to medium; some gravel & coarse sand; moderate sorting; moist.	728.4 / 30
SS	1.0	17 17 17 17	SP	Yel bn (10YR 5/6) fine sand, well sorted; moist.	723.4 / 35
SS	0.0	40 46 38 36	SW	Yel (10YR 7/8) to yel red (5YR 5/8) silty sand w/some gravel & cobbles; poorly sorted; sand & gravel are subangular to subrounded.	718.4 / 40
SS	0.0	17 16 15 23	SW	Yel bn (10YR 5/6) gravelly sand, poorly sorted; sand & gravel are subangular to subrounded.	713.4 / 45
SS	0.0	10 13 16 20	SW-ML	Lt yel bn (10YR 6/4) sand w/little gravel in top 5"; bottom 7" is bn yel (10YR 6/6) med to fine sand in layers alternating w/two silty clay layers, each one inch thick.	708.4 / 50
				Bottom of Boring @ 52.5 feet.	703.4 / 55



CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

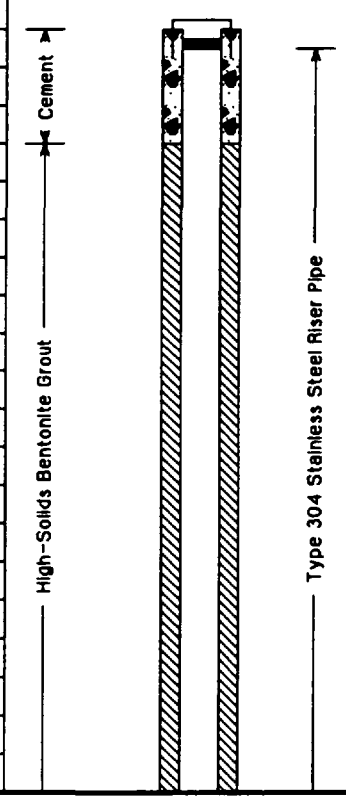
MW-142

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/BK81
Development Method: Bailing & surge block
Top of Riser Elevation: 758.73 Ft.
Total Depth: 54 Ft.
Field Screening Instrument: OVM
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-07-93 End 09-07-93
Drillers: Paul Dickinson, Mike Nelson
Development Date: Start 10-14-93 End 10-14-93
Surface Elevation: 759.1 Ft.
Depth To Initial Water Level (GS): ~37.5 Ft.
Well Coordinates:
N: 2031501.414 E: 2597255.734

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	GRAPHIC LOG	ELEV. DEPTH
			ML	Topsoil		759.1 / 0
						754.1 / 5
SS	0 ppm	12 18 15 11		Tan to reddish brown, med to coarse sand & gravel; dry; gravel is primarily dolomite.		749.1 / 10
						744.1 / 15
SS	0 ppm	8 11		Tan to reddish brown, med to coarse sand and		

WELL CONSTRUCTION DETAIL



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GP - Geoprobe
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ST - Shelby Tube
WS - Wash Sample

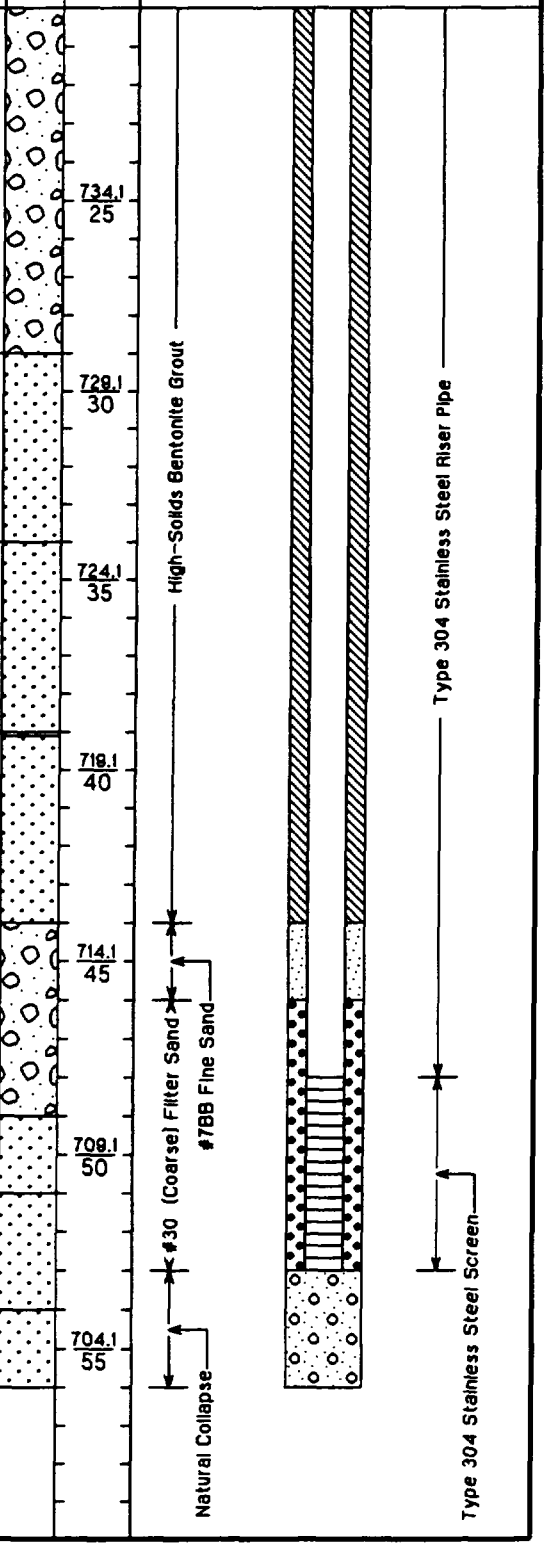
OTHER:
BGS - Below Ground Surface

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

MONITORING WELL DETAIL

MW-142

SAMPLE TYPE	FIELD INSTRU. READING	BLOWS PER 6 INCH	USCS CLASS.	MATERIAL DESCRIPTION	ELEV. / DEPTH
SS	0 ppm	13 12		gravel; dry; gravel is tan & dark grey dolomite, mostly angular to subangular.	734.1 / 25
SS	0 ppm	13 13 13 15		Brown, fine to med sand, well sorted; dry; very fine sand in lowermost 1" of sample.	729.1 / 30
SS	0 ppm	9 11 13 13		Tan, well sorted med sand; dry; rare gravel in places; bedding visible; rare fine sand layers (<.5" thick).	724.1 / 35
SS	0 ppm	8 9 8 10		Brown, well sorted med sand, saturated. Top 1" of sample is gravelly.	719.1 / 40
SS	0 ppm	8 8 11 14		Brown, gravelly coarse sand, saturated.	714.1 / 45
SS	0 ppm	15 13 13 10		Brown, well sorted med sand, saturated.	709.1 / 50
SS	0 ppm	8 10 14 14		Brown, well sorted med sand; saturated.	704.1 / 55
				Bottom of Boring @ 56 feet.	



CAMP DRESSER & McKEE
CDM
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Chicago, Illinois 60606-5306

BOREHOLE LOG
SB02-01

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: ~705 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-30-93 End 06-30-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 22 Ft.
Depth To Initial Water Level (GS): ~18 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			705 / 0				ML	Topsoil
							ML	
SS		2.0' /2.0'	700 / 5	0/0 ppm	8 2 4 3		ML / SP	5-5.4': Dk bn topsoil; 5.4-7.0': mod bn sand, coarse to fine, moist.
SS		2.0' /2.0'	695 / 10	0/0 ppm	9 2 4 7		SP	10-12': Mod-lt bn SAND, coarse to med, tr (3%) pebbles, moist.
SS	SB02-01C	2.0' /2.0'	690 / 15	0/0 ppm	1 1 2 4		SP	15-17': Mod lt bn SAND, coarse, w/~8% subrounded pebbles, moist.
								Note: Water @ 18'.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB02-01

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.4' /2.0'		0/0 ppm	3 7 9 10		SP-SW	Mod gy bn sand, tr silt/clay, ~8% pebbles, saturated.
								Bottom of Boring @ 22 feet.
			680/25					
			675/30					
			670/35					
			665/40					
			660/45					
			655/50					
			650/55					

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BOREHOLE LOG
SB02-02

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: ~705 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-30-93 End 06-30-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 22 Ft.
Depth To Initial Water Level (GS): ~18 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			705 / 0				ML	Topsoil
							ML	
SS		2.0' /2.0'	700 / 5	0/0 ppm	5 2 4 5		ML / SP	5.0-5.5': Dk bn sandy loam (topsoil), moist; 5.5-7.0: mod bn SAND, coarse to med, moist, loose.
SS		1.5' /2.0'	695 / 10	0/0 ppm	1 1 2 3		SP	Mod-lt bn SAND, coarse, moist.
SS	SB02-02C	1.6' /2.0'	690 / 15	0/0 ppm	2 2 2 4		SP	Mod-lt bn SAND, coarse, w/few pebbles (~5%) & loc silty/clayey zones; moist.
							SP	

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB02-02

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.5' /2.0'		0/0 ppm	1 1 1 6		SP	Lt mod bn SAND, coarse to med, saturated; tr gravel (<2%).
								Bottom of Boring @ 22 feet.
			680/25					
			675/30					
			670/35					
			665/40					
			660/45					
			655/50					
			650/55					

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BOREHOLE LOG
SB02-03

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: ~705 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-30-93 End 06-30-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 19 Ft.
Depth To Initial Water Level (GS): ~17 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			705 / 0				ML	Topsoil
							ML	
			700 / 5					
SS		2.0' /2.0'		0/0 ppm	4 3 5 7		ML / SP	5-6.4': Dk bn loam (topsoil); 6.4-7.0': mod bn SAND, med-coarse, w/~10% subrounded pebbles; moist.
			695 / 10					
SS		1.4' /2.0'		0/0 ppm	1 1 2 8		SP	Mod-lt bn SAND, coarse, w/a few brown silty/clayey beds; moist.
			690 / 15					
SS		1.8' /2.0'		0/0 ppm	5 4 5 6		SP	Same as @ 10-12'.
SS	SB02-03D	2.0' /2.0'		0/0 ppm	3 6 11 9		SP	Lt bn SAND, coarse, saturated, ~5% subrounded pebbles.
								Bottom of Boring @ 19 feet.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
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FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB04-01

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~735 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-28-93 End 06-28-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 37 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0					Asphalt
							ML	
SS		2.0' /2.0'	730 / 5	0/0 ppm	7 6 9 13		SM-SP	5-5.7': Dk bn gray loam (topsoil); 5.7-7': mod bn to lt bn SAND, moist to nearly dry, fine to med.
SS		2.0' /2.0'	725 / 10	0/0 ppm	3 3 6 18		SM / SP	10-10.2': Mod bn silty sand; 10.2-12': Lt bn SAND, fine to med, dry.
SS		2.0' /2.0'	720 / 15	0/0 ppm	6 7 7 11		SP	15-17': Lt bn SAND, fine to med, nearly dry, loose.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
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JET - Jetting
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DTC - Drill Through Casing

SAMPLING TYPES:
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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB04-01

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB04-01D	2.0' /2.0'		0/0 ppm	1 1 4 15		SP	20-22': SAND as in 15-17'.
			710 / 25					
SS		2.0' /2.0'		1.8 /0.5	2 3 7 7		SP	25-25.8': SAND, fine-med, lt bn. 25.8-26.3': SAND, bn, v fine, moist to wet. 26.3-27': SAND as in 15-17'.
			705 / 30					
SS	SB04-01F	2.0' /2.0'		80 /50	4 4 4 5		SP	SAND, med-coarse w/few (4%) pebbles; gray & w/ solvent-like odor; saturated.
			700 / 35					
SS		2.0' /2.0'		75 /34	1 6 8 8		SP	SAND as in 30-32' sample. Odor.
			695 / 40					*Bottom of Boring @ 37 feet.*
			690 / 45					
			685 / 50					
			680 / 55					

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BOREHOLE LOG
SB04-02

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~735 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-29-93 End 06-29-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 37 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0					Asphalt
							SP	
			730 / 5					
SS	SB04-02A	2.0' /2.0'		3/0 ppm	1 1 3 9		SP / ML	Mod lt bn SAND, medium, w/a clayey sandy silt @ 6.5-6.6', moist; SAND is nearly dry & loose.
							SP	
			725 / 10					
SS		1.8' /2.0'		0/0 ppm	4 9 8 5		SP	SAND, lt bn to mod bn, fine to coarse, the 10.5-11.3 zone being coarse, moist to dry.
			720 / 15					
SS		1.9' /2.0'		0/0 ppm	5 5 10 9		SP	Lt bn SAND, fine to med, sl moist, loose.
							SP	

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB04-02

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB04-02D	1.8' /2.0'		0.2 /0 ppm	11 10 12 13		SP	SAND as above, but with a thin gray clayey interbed of <1mm @ 20.5'.
			710 / 25					
SS		1.8' /2.0'		0/0 ppm	5 4 7 6		SP	Lt bn SAND, med but ranging from coarse to fine; nearly dry; loose.
			705 / 30					
SS		1.7' /2.0'		0/0 ppm	10 7 7 11		SP	SAND as above but saturated. Note it is not stained gray like the saturated odoriferous samples @ SB04-01.
			700 / 35					
SS		2.0' /2.0'		not taken	12 16 33 50		SP	SAND as above.
			695 / 40					*Bottom of Boring @ 37 feet.*
			690 / 45					
			685 / 50					
			680 / 55					

CAMP DRESSER & McKEE
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BOREHOLE LOG
SB04-03

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~735 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-29-93 End 06-29-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 32 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0					Asphalt
							Fill	
SS		2.0' /2.0'	730 / 5	0/0 ppm	10 11 9 13		SP	Lt-mod bn SAND, med to fine, moist to dry, loose; 5.0-5.4' is mainly asphalt, brick, stone & sand fill.
SS		1.8' /2.0'	725 / 10	0/0 ppm	4 7 9 7		SP	Lt bn SAND, med-fine, moist to dry, loose.
SS		2.0' /2.0'	720 / 15	0/0 ppm	4 4 3 5		SP	Lt bn SAND, fine to med, dry, loose.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB04-03

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.7' /2.0'		0/0 ppm	10 10 11 15		SP	Lt bn SAND, med to fine, moist to dry, loose.
			710 / 25					
SS	SB04-03E	1.9' /2.0'		0/0 ppm	7 1 5 7		SP	Lt bn SAND, med, dry to moist, loose.
			705 / 30					
SS		1.9' /2.0'		0/0 ppm	5 6 13 17		SP	Lt bn SAND, coarse to med, saturated, loose.
								Bottom of Boring @ 32 feet.
			700 / 35					
			695 / 40					
			690 / 45					
			685 / 50					
			680 / 55					

CAMP DRESSER & McKEE
CDM
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BOREHOLE LOG
SB04-04

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~735 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-29-93 End 06-29-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 32 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0					Asphalt
SS		2.0' /2.0'	730 / 5	0/0 ppm	5 5 7 7		ML / SP	5-5.5': Black silty topsoil; 5.5-7': mod-lt bn SAND, moist to dry, coarse to med, loose.
SS		2.0' /2.0'	725 / 10	0/0 ppm	10 6 8 11		SP	10-12': Lt bn SAND, med to fine, dry to moist, loose.
SS		2.0' /2.0'	720 / 15	0/0 ppm	7 11 11 7		SP	15-17': Lt bn SAND, fine to med, moist, loose.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
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DTR - Dual Tube Rotary
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JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
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CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE

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BOREHOLE LOG
SB04-04

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.8' /2.0'		0/0 ppm	3 10 4 9		SP	20-22': Mod-lt bn SAND, med to fine, moist to dry, loose; contains a <1mm silty sand zone @ 20.5'.
			710 / 25					
SS	SB04-04E	2.0' /2.0'		0/0 ppm	7 8 7 7		SP	Lt bn SAND, med to fine, moist to dry, loose.
			705 / 30					
SS		2.0' /2.0'		0/0 ppm	6 4 6 11		SP	Lt bn SAND, saturated; 30-31' is med to fine; 31-32' is coarse to med w/trace (2%) sm pebbles.
								Bottom of Boring @ 32 feet.
			700 / 35					
			695 / 40					
			690 / 45					
			685 / 50					
			680 / 55					

CAMP DRESSER & McKEE
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BOREHOLE LOG
SB04-05

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~735 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-29-93 End 06-29-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 37 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0					Asphalt
							ML	
SS		2.0' /2.0'	730 / 5	0/0 ppm	2 2 4 11		ML / SP	5.0-5.7': Dk bn silty clayey loam (topsoil); 5.7-7.0': lt-mod bn SAND, med-fine, dry, loose.
			725 / 10					
SS		1.9' /2.0'		0/0 ppm	4 6 8 8		SP	SAND as in 5.7-7.0'.
			720 / 15					
SS		1.9' /2.0'		0/0 ppm	6 4 7 6		SP	Same as in 5.7-7.0', but w/color lt bn & w/some mod bn & heavy mineral laminae @ ~25 degrees to horizontal.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE
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BOREHOLE LOG
SB04-05

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'		0/0 ppm	3 6 22 21		SP	20-22': Lt-mod bn SAND, med to fine, moist, loose.
			710 / 25					
SS	SB04-05E	1.6' /2.0'		0 /0.5	8 6 8 9		SP	SAND as in 20-22', but moist to dry.
			705 / 30					
SS	SB04-05F	2.0' /2.0'		44 /34	6 7 8 6		SP	Mod bn to mod gy SAND, med to coarse & saturated; 30-30.6' is brown & has a sewer-like odor; 30.6-32' is gray & has a solvent-like odor; the gradation @ 30.6' is gradual.
			700 / 35					
SS		2.0' /2.0'		70 /53	8 4 22 16		SP	35-36.8': Mod gy bn SAND, coarse to med & w/~5% sm chert pebbles; HNU scan on this interval: 25ppm; 36.8-37': SAND as above exc for color (gray) & HNU scan (70 ppm).
			695 / 40					*Bottom of Boring @ 37 feet.*
			690 / 45					
			685 / 50					
			680 / 55					

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BOREHOLE LOG
SB04-06

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~735 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & Bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 10-14-93 End 10-14-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 42 Ft.
Depth To Initial Water Level (GS): ~24 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0					Asphalt
								1-25': Sand, based on drilling action & cuttings.
			730 / 5					
			725 / 10					
			720 / 15					

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB04-06

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0 /0.8'	710 / 25	0/0.5	6 12 10 10		SP	25-25.8': Yel bn (10 YR 5/4) to olive yel (2.5 Y 6/6) SAND, med in the 25.0-25.6' zone (yel bn zone) & fine @ 25.6-25.8' (olive yel zone); the latter zone has a sewer-like odor; saturated. Subhorizontal bedding present.
SS		2.0 /0.9'	705 / 30	95.5 /91.4	7 11 13 18		SP-SW	30-30.9': Grayish bn to lt olive bn (2.5 Y 5/2-5/3) SAND, med to coarse, solvent odor, saturated.
SS		2.0 /1.2'	700 / 35	60.5 /42.2	8 12 14 16		SP-SW	35-36.2': Black (2.5 Y 2.5/1) @ 35.1-35.4, grading to gy bn (2.5 Y 5/2) @ 35.4-35.8, grading to lt yel bn (10 YR 6/4) SAND, coarse (med to vcoarse) w/~5% subrdd to subangular sm pebbles. Strong solvent odor; saturated. VOC readings are highest in the black & gy bn zones, 20-60 ppm; 5-20 ppm in the lt yel bn (bottom) zone.
SS		2.0 /1.0'	695 / 40	4.2 /0.5	7 8 12 10		SP-SW	40.0-41.0': Pale bn to lt yel bn (10 YR 6/3-6/4) SAND, slight odor @ top & none near base; 40-40.3' has VOC concentrations of 2-4 ppm; 40.3-40.5' has ~0.5 to 2 ppm, & 40.5-41.0' has <0.5 ppm VOC's; sand is med to coarse; ~8% gravel as sm subrdd to subangular pebbles. Saturated throughout.
			690 / 45					*Bottom of Boring @ 42 feet.*
			685 / 50					
			680 / 55					

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BOREHOLE LOG
SB07-01

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 805.52 Ft.
Field Screening Instrument: HNU (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-21-93 End 06-21-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 27 Ft.
Depth To Initial Water Level (GS): ~15.5 Ft.
Borehole Coordinates:
N: 2028360.02 E: 2602553.98

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			805.5 / 0					
SS		2.0' /2.0'		0 ppm	1 1 1 1		ML	0-2.0': Dark brown loam w/ 2 small sand seams.
			800.5 / 5					
SS		2.0' /2.0'		0 ppm	5 3 6 9			5-7': Not recorded
			795.5 / 10					
SS		2.0' /2.0'		0 ppm	4 4 7 9		SW	10-12': Light brown silty sand w/ some gravel.
			790.5 / 15					
SS		2.0' /2.0'		0 ppm	12 20 28 16		SW-GM	15-17': Brown sand and gravel (~40% gravel), silty @ top. Wet @ 15.5'.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG

SB07-01

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB07-02E	2.0' /2.0'		50 ppm	12 12 18 22		SW-GW	20-22': Light brown sand & gravel, wet.
			780.5 / 25					
SS	SB07-02F	2.0' /2.0'		18 ppm	8 12 12 19		SW-GW	25-27': Light brownish gray sand & gravel (~15% gravel), wet.
								Bottom of Boring @ 27 feet.
			775.5 / 30					
			770.5 / 35					
			765.5 / 40					
			760.5 / 45					
			755.5 / 50					
			750.5 / 55					

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BOREHOLE LOG
SB07-02

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 798.26 Ft.
Field Screening Instrument: HNU (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-21-93 End 06-21-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 27 Ft.
Depth To Initial Water Level (GS): ~23 Ft.
Borehole Coordinates:
N: 2028664.26 E: 2602540.02

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			798.3 / 0					
SS		2.0' /2.0'		0 ppm	2 4 2 6		ML	0-0.5': Black loam w/roots; 0.5-2.0': black loam
			793.3 / 5					
SS		2.0' /2.0'		0 ppm	4 3 8 3		ML / SM	5-5.5': Black loam; 5.5-5.7': Brn silty sand, coarse. Water @ 5.5'
			788.3 / 10					
SS		2.0' /2.0'		7 ppm	3 4 7 3		ML	Gray sandy silt w/trace of clay, moist.
			783.3 / 15				SP	
SS	SB07-02D	2.0' /2.0'		11 ppm	11 11 8 15		SP	15-16.5' Brn coarse sand w/gravel; 16.5-17': sandy silt, gray.
							ML	

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-02

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'		3 ppm	6 15 18 16		SM ML SP	20-20.5': Gray silty sand, wet; 20.5-21.6': lt brown clayey sandy silt; 21.6-22.0': sand & gravel, moist.
							SP	
			773.3 25				ML	
SS	SB07-02F	1.0' /2.0'		0 ppm	11 12 24 18		ML	Brown to gray sandy clayey silt w/ gravel.
								Bottom of Boring @ 27 feet.
			768.3 30					
			763.3 35					
			758.3 40					
			753.3 45					
			748.3 50					
			743.3 55					

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BOREHOLE LOG
SB07-03

Client: IEPA
Project Name: Southeast Rockford
Project Number: 1681-007
Project Location: Rockford, IL
Drilling Contractor: WTD Environmental Drilling
Drilling Date: Start 06-22-93 End 06-22-93
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Drillers: Rick O'Gorman, Mark Thorson
Surface Elevation: 806.76 Ft.
Total Depth: 32 Ft.
Field Screening Instrument: HNU (headspace)
Depth To Initial Water Level (GS): ~23 Ft.
Abandonment Method: Backfilled cuttings & bentonite chips
Borehole Coordinates:
Logged By: Mark Sorensen
N: 2028482.79 E: 2602664.25

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.8' /2.0'	806.8 0	0 ppm	1 2 3 2		ML SM	0-0.8': Dk bn topsoil. 0.8-1.8': Lt bn silty sand.
SS		1.4' /2.0'	801.8 5	0 ppm	6 20 22 25		SM	Lt bn, v fine silty sand, moist but not wet.
SS		2.0' /2.0'	796.8 10	0 ppm	4 16 24 40		SP ML	10-11.6': Lt bn, v fine sand, locally wet. 11.6-12.0': Lt bn clayey sandy silt
SS		0.8' /2.0'	791.8 15	0 ppm	18 50 /0.3'		SM	15-15.8': Mod bn silty sand w/gravel; limestone cobble @ base

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-03

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'		6 ppm	19 20 22 25		SP	20-21': Mod brown sand; 21-22': Mod grayish brown sandy clayey silt w/ ~8% gravel.
							ML	
							SP	
			781.8 / 25					
SS	SB07-03F	1.0' /2.0'		10.5 ppm	23 22 25 38		SP	25-25.5: Mod bn SAND, well-sorted, med grained; 25.5-26: same as above but fine-grained; wet.
			776.8 / 30					
SS	SB07-03G	0.9 /2.0'		0.1 ppm	10 18 20		SP-SC	30-30.1: Sandy clay, gray. 30.1-30.8': Bn sand w/ gravel (30% gravel @ top, tr @ bottom); wet.
								Bottom of Boring @ 32 feet.
			771.8 / 35					
			766.8 / 40					
			761.8 / 45					
			756.8 / 50					
			751.8 / 55					

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BOREHOLE LOG
SB07-04

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 802.65 Ft.
Field Screening Instrument: HNU (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-22-93 End 06-22-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 37 Ft.
Depth To Initial Water Level (GS): ~10 Ft.
Borehole Coordinates:
N: 2028457.71 E: 2602461.92

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'	802.7 0	0.1 ppm	1 1 2 4		ML / ML	0-1.5': Dk bn topsoil; 1.5-2.0' is sandy gravelly silt, moist.
SS		1.9' /2.0'	797.7 5	9 ppm	1 2 5 6		ML	Dk bn fill, loc wet, mixed w/med sand
SS		2.0' /2.0'	792.7 10	35 ppm	7 7 11 12		SM	Gy to bn silty sand w/some gravel; wet.
SS		0.6' /2.0'	787.7 15	30 ppm	10 8 20 25		ML	Clayey sandy silt w/~5% sm gravel; lt gy bn; wet.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE

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BOREHOLE LOG
SB07-04

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB07-04E	1.0' /2.0'		52 ppm	12 30 35 18		ML SP	20-20.5': Lt bn gy sandy clayey silt w/8% gravel; 20.5-21.0': bn gy sand & gravel (20% gvl).
			777.7 25					
SS		1.1' /2.0'		8 ppm	10 18 29 15		SP	Mod bn sand & gravel (~30% gravel, including lg chunks).
			772.7 30					
SS		2.0' /2.0'		6 ppm	12 13 18 23		SP ML	30-30.5': Med bn sand w/fine gravel; 30.5-32': grey stiff silt.
			767.7 35					
SS	SB07-04H	1.5' /2.0'		0 ppm	6 8 17 19		ML	35-35.5': Grey stiff silt; 35.5-36.5': bn sand & gravel.
								Bottom of Boring @ 37 feet.
			762.7 40					
			757.7 45					
			752.7 50					
			747.7 55					

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BOREHOLE LOG
SB07-05

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 806.39 Ft.
Field Screening Instrument: HNU (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-22-93 End 06-22-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 37 Ft.
Depth To Initial Water Level (GS): ~16 Ft.
Borehole Coordinates:
N: 2028379.85 E: 2602668.27

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'	806.4 0	0 ppm	1 1 2 9		ML	Black topsoil grading to black silty sand.
SS	SB07-05B	2.0' /2.0'	801.4 5	0 ppm	2 4 6 8		ML	5.0-5.2': Mod bn SAND w/some (8%) gravel, moist; 5.2-7': Lt bn sandy clayey SILT w/few pebbles; moist to wet.
SS		2.0' /2.0'	796.4 10	8 ppm	2 4 7 10		ML	10-12': Bn gy to gy bn sandy clayey SILT w/few pebbles; moist to wet.
SS		2.0' /2.0'	791.4 15	90 ppm	5 18 20 12		ML	15-17': Mod bn gy sandy clayey SILT w/var amounts of gravel; a sandy gravel @ 16.2-16.3' is wet & has slight odor.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-05

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB07-05E	1.0' /2.0'		90 ppm	8 8 30 25		SP-GP	20-21': Mod bn gy sand and gravel, saturated.
			781.4 / 25					
SS		2.0' /2.0'		30 ppm	11 15 22 19		SP-GP	25-26.5': Coarse SAND & gravel, v coarse @ base; 26.5-27': fine SAND w/few sm pebbles; wet; mod gy.
			776.4 / 30					No recovery due to blow-in
			771.4 / 35					No recovery due to blow-in
								Bottom of Boring @ 37 feet.
			766.4 / 40					
			761.4 / 45					
			756.4 / 50					
			751.4 / 55					

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BOREHOLE LOG
SB07-06

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 807.24 Ft.
Field Screening Instrument: HNU (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-22-93 End 06-22-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 37 Ft.
Depth To Initial Water Level (GS): ~16 Ft.
Borehole Coordinates:
N: 2028284.54 E: 2602678.54

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'	807.2 0	0 ppm	1 1 2 2		ML	0-1.5': Dk bn loam (topsoil); 1.5-2.0': Mod bn sandy clayey silt.
							ML	
SS		2.0' /2.0'	802.2 5	0 ppm	8 10 15 18		SM	Mod or bn silty fine SAND; wet.
SS		2.0' /2.0'	797.2 10	0 ppm	10 9 22 14		ML	10-12': Lt bn sandy gravelly SILT; moist but not wet.
SS		1.6' /2.0'	792.2 15	0 ppm	4 15 27 10		SM	15-16': Mod bn silty SAND w/ 10% gravel; 16.0-16.6': Mod gy bn sandy gravelly SILT, moist; SAND is wet.
							ML	

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
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DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE

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BOREHOLE LOG
SB07-06

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.0' /2.0'		2 ppm	9 9 18 23		SP-GP ML	20.0-20.4': Mod bn sand & gravel; 20.4-21.0': mod gray sandy gravelly SILT w/some clay.
			782.2 / 25					
SS	SB07-06F	1.2' /2.0'		3 ppm	6 12 12 14		ML	Mod bn gy sandy clayey SILT w/~10% gravel; moist.
			777.2 / 30					
SS		0.7' /0.9'		0.5 ppm	25 100 /0.4'		SP-GP	Mod or bn sand & gravel (40% subrdd gravel); wet.
			772.2 / 35					
SS	SB07-06H	1.4' /2.0'		0.2 ppm	8 15 22 16		SP-GP	Mod or bn sand & gravel; wet.
								Bottom of Boring @ 37 feet.
			767.2 / 40					
			762.2 / 45					
			757.2 / 50					
			752.2 / 55					

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BOREHOLE LOG
SB07-07

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 809.99 Ft.
Field Screening Instrument: HNU (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-23-93 End 06-23-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 47 Ft.
Depth To Initial Water Level (GS): ~6.5 Ft.
Borehole Coordinates:
N: 2028185.47 E: 2602672.02

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.8' /2.0'	810 / 0	0 ppm	1 1 2 4		ML / SP	Dk bn loam (topsoil) grading to fine bn sand.
SS		1.4' /2.0'	805 / 5	0 ppm	3 3 5 8		SP	Mod or bn SAND, fine, loose, moist; wet @ 6.5'.
SS		2.0' /2.0'	800 / 10	0 ppm	6 10 18 14		SP / ML	10-11.5': SAND as above, wet; 11.5-12': Sandy clayey SILT w/~10% gravel; moist.
SS		1.5' /2.0'	795 / 15	40 ppm	15 19 30 18		SP-SM	Mod bn to dk gy SAND, medium, w/ var amounts gravel & clay. Odor.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-07

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'		10 ppm	23 30 19 20		SP	Dk gy SAND, medium, well-sorted, wet, slight odor; sandy clayey SILT @ base (21.8-22.0').
							ML	
SS	SB07-07F	2.0' /2.0'	785 / 25	55 ppm	10 13 21 28		ML	25-26.2': Mod bn gy clayey SILT w/~10% gravel; 26.2-27': sand & gravel.
							SP	
SS		2.0' /2.0'	780 / 30	11 ppm	5 13 22 25		ML	30-30.4': Lt gy bn clayey sandy SILT w/10% gravel; 30.4-32': sand & gravel, mod bn to gray-stained.
							SP	
SS		0.8' /2.0'	775 / 35	7.5 ppm	7 18 13 15		ML SP-GP	35-35.3': Gy bn clayey sandy SILT (last 4 samples have been wet); 35.3-35.8': gy bn sand & gravel.
SS	SB07-07I	1.1' /2.0'	770 / 40	8 ppm	18 30 22 17		SP-GP	Bn to gy sand & gravel, wet. Note: The SILTS @ 30 & 35' may be sluff.
SS		1.0' /2.0'	765 / 45	not taken	23 30 16 28		SP ?	Sample is sand w/some gravel but may be blow-in.
			760 / 50					*Bottom of Boring @ 47 feet.*
			755 / 55					

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BOREHOLE LOG
SB07-08

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 811.54 Ft.
Field Screening Instrument: HNU (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-23-93 End 06-23-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 47 Ft.
Depth To Initial Water Level (GS): ~13 Ft.
Borehole Coordinates:
N: 2028137.60 E: 2602622.14

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.6' /2.0'	811.5 0	0.3 ppm	3 5 4 3		ML	Dk bn clayey loam (topsoil), moist.
SS		2.0' /2.0'	806.5 5	1 ppm	3 7 6 5		ML SP	5.0-5.5': Topsoil; 5.5-7.0': mod or bn sand, med, loose, moist.
SS		2.0' /2.0'	801.5 10	66 ppm	7 9 14 17		SP	Mod to lt bn sand, fine to med, moist to wet; some gravel (~4%).
SS	SB07-08D	2.0' /2.0'	796.5 15	130 ppm	7 19 22 18		SP-GP	Sand and gravel w/strong odor; saturated.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-08

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'		110 ppm	12 11 15 5		SP-GP ML	20-20.2': Sand & gravel; 20.2-22': lt by bn clayey sandy SILT.
			786.5 / 25					
SS		2.0' /2.0'		60 ppm	6 10 14 17		SP-GP	Sand & gravel, wet, w/odor; ~20% gravel.
			781.5 / 30					
SS		1.4' /2.0'		58 ppm	9 13 16 5		SM-GP	Sand & gravel, wet, w/solvent odor, loc silty.
			776.5 / 35					
SS		1.0' /2.0'		30 ppm	7 14 16 9		SP-GP	Sand & gravel, mod gray, w/solvent odor. ~15% gravel.
			771.5 / 40					
			766.5 / 45					
SS	SB07-08I	0.5' /2.0'		11 ppm	9 16 16 35		SP-GP	45-45.5': Lt gy bn sand & gravel.
			761.5 / 50					*Bottom of Boring @ 47 feet.*
			756.5 / 55					

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BOREHOLE LOG
SB07-09

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 814.88 Ft.
Field Screening Instrument: HNU (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-23-93 End 06-23-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 47 Ft.
Depth To Initial Water Level (GS): ~15.5 Ft.
Borehole Coordinates:
N: 2028077.80 E: 2602775.29

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.6' /2.0'	814.9 0	0 ppm	4 4 2 2		ML	Mod to dk bn clayey loam (topsoil).
SS		0.0' /2.0'	809.9 5	N/A	6 7 17 17		?	*No recovery (8" cobble in the way)*
SS		1.6' /2.0'	804.9 10	0.5 ppm	9 19 14 10		SP	Mod to lt bn SAND, med to fine, loose, moist, w/2 narrow silty zones.
SS		1.6' /2.0'	799.9 15	10 ppm	5 10 15 10		SP	Mod bn sand w/20% gravel, wet @ 15.5'.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-09

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB07-09E	1.0' /2.0'		150 ppm	10 6 18 27		ML	Mod gy bn sandy silt w/some clay & ~7% gravel, wet; odor.
			789.9 25					
SS		0.6' /2.0'		18 ppm	25 35 / /		SP-GP	Gy-stained sand & gravel w/odor; tr clay & silt
			784.9 30					
SS		1.0' /2.0'		17 ppm	5 10 30 10		SP-GP	30-30.5': Gy sand & gravel, not as darkly stained as above.
			779.9 35					
SS		1.2' /2.0'		1 ppm	1 6 9 8		ML	Mod bn clayey sandy silt w/some (~8%) gravel.
			774.9 40					
SS		1.1' /2.0'		9 ppm	7 9 10 12		SP-GP ML	40-40.5': Mod bn sand & gravel; 40.5-41.5': bn to gy clayey SILT w/~7% gravel, probably a till: gy below 40.7'; loc. sandy zones.
			769.9 45					
SS	SB07-09J	1.4' /2.0'		1 ppm	9 17 22 13		ML	Mod bn to gy clayey SILT w/~8% gravel; a sandy interval @ 46-46.1' & w/sl HNU kick (0.3 ppm); bg HNU on SILT.
			764.9 50					*Bottom of Boring @ 47 feet.*
			759.9 55					

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BOREHOLE LOG
SB07-10

Client: IEPA
Project Name: Southeast Rockford
Project Number: 1681-007
Project Location: Rockford, IL
Drilling Contractor: WTD Environmental Drilling
Drilling Date: Start 06-23-93 End 06-23-93
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Drillers: Rick O'Gorman, Mark Thorson
Surface Elevation: 817.41 Ft.
Total Depth: 42 Ft.
Field Screening Instrument: HNU (headspace)
Depth To Initial Water Level (GS): ~20.8 Ft.
Abandonment Method: Backfilled cuttings & bentonite chips
Borehole Coordinates:
Logged By: Mark Sorensen
N: 2027988.03 E: 2602677.46

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			817.4 / 0				ML	Topsoil
			812.4 / 5					
SS	SB07-10A	1.5' /2.0'		45 ppm	1 2 3 4		SP	Blk-stained sand, med, v strong odor.
			807.4 / 10					
SS		1.8' /2.0'		60 ppm	6 12 18 18		ML / SP	10-10.8': Olive bn sandy SILT w/some clay; moist; 10.8-11.8' bn SAND, loose, moist.
			802.4 / 15					
SS		1.5' /2.0'		65 ppm	9 14 18 22		ML / SP	15.0-15.5': Lt bn sandy SILT, moist. 15.5-16.5': Lt bn SAND, loose, moist.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG

SB07-10

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'		45 ppm	6 12 18 22		SP / SP-GP	20-20.8': Or bn SAND, med, loose, moist. 20.8-22.0': Lt bn sand & gravel, wet; HNU scan of sample peaks out at 160 ppm.
			792.4 / 25					
SS		1.0' /2.0'		30 ppm	5 13 32 22		ML	Lt gy bn sandy SILT w/~8% gravel; HNU scan 15 ppm. Wet.
			787.4 / 30					
SS		1.4' /2.0'		16 ppm	5 10 15 18		ML	Same as above but bn gy to gy bn; HNU scan 3 ppm. Moist to wet.
			782.4 / 35					
SS		1.0' /2.0'		28 ppm	8 15 25 10		ML	Same as above but HNU scan 9.5 ppm.
			777.4 / 40					
SS		1.0' /2.0'		15 ppm	1 8 12 22		SP-GP	Sand & gravel, mod bn, wet, loc silty/clayey zones
								Bottom of Boring @ 42 feet.
			772.4 / 45					
			767.4 / 50					
			762.4 / 55					

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BOREHOLE LOG
SB07-11

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 820.64 Ft.
Field Screening Instrument: HNU (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-24-93 End 06-24-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 32 Ft.
Depth To Initial Water Level (GS): ~20.5 Ft.
Borehole Coordinates:
N: 2028071.17 E: 2602873.91

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			820.6 / 0				ML	Topsoil
SS		2.0' /2.0'	815.6 / 5	0 ppm	2 11 17 22		ML SP-GP	5-5.3' Dk loam (topsoil); 5.3-7': Lt-mod bn sand & gravel; sand is med to coarse.
SS		1.1' /2.0'	810.6 / 10	0 ppm	10 30 22 10		SM	Silty sand w/~15% gravel; moist & not wet.
SS		2.0' /2.0'	805.6 / 15	0.5 ppm	6 22 22 28		ML SP	15-15.6': Mod bn clayey sandy SILT. 15.6-17': Lt bn to or bn SAND, coarse, moist, loose.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
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DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-11

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB07-11D	1.5' /2.0'		0.5 ppm	5 15 18 10		SP	Lt bn to or bn SAND, med-grained, wet @ 20.5'; loose.
			795.6 / 25					
SS		1.7' /2.0'		0.5 ppm	10 17 28 19		SP / SP-GP	25-25.8': Lt bn SAND, med, wet; 25.8-26.7': Or bn SAND & gravel, silty @ 26.4' & dry below that.
			790.6 / 30					
SS		1.4' /2.0'		0.2 ppm	10 16 20 15		SP	Mod or bn sand, med to coarse w/some sm pebbles, wet; several lg pebbles @ base.
			785.6 / 35					*Bottom of Boring @ 32 feet.*
			780.6 / 40					
			775.6 / 45					
			770.6 / 50					
			765.6 / 55					

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BOREHOLE LOG
SB07-12

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 818.12 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-24-93 End 06-24-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 32 Ft.
Depth To Initial Water Level (GS): ~16.5 Ft.
Borehole Coordinates:
N: 2028090.23 E: 2602523.40

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			818.1 / 0				ML	Topsoil
			813.1 / 5					
SS		1.6' /2.0'		0/0	4 4 8 8		SP	Mod-lt bn SAND, loose, nearly dry.
			808.1 / 10					
SS		1.8' /2.0'		not working /0	15 20 24 15		SP	Mod or bn to lt bn SAND, loose, nearly dry; a silt layer, moist, @ 10.4-10.42'.
			803.1 / 15					
SS		2.0' /2.0'		not working /0	8 20 30 15		SP	Mod-lt or bn SAND, med, moist to wet @ 16.5'; silty & gravelly (~10% gravel) @ 16-17'.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-12

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB07-12D	1.0' /2.0'		not working /0	28 33 / /		SP ML	20-20.5': Mod bn sand, wet, med-coarse; 20.5-21.0': Mod bn gravelly SILT, moist to dry.
			793.1 25					
SS		1.3' /2.0'		0/0.3	3 8 23 27		SP-GP ML	25-25.7': Mod bn sand, med, wet; 25.7-26': sand & gravel, wet; 26-26.3': gravelly SILT, sl clayey, wet.
			788.1 30					
SS		1.3' /2.0'		0/0.2	9 20 27 19		SP ML-CL ML-CL	30-30.1': Bn sand & gravel, wet; 30.1-31.3': clayey SILT to silty CLAY, w/~10% subangular pebbles & granules; moist & not wet; tough.
								Bottom of Boring @ 32 feet.
			783.1 35					
			778.1 40					
			773.1 45					
			768.1 50					
			763.1 55					

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BOREHOLE LOG
SB07-13

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 823.80 Ft.
Field Screening Instrument: HNU (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-24-93 End 06-24-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 27 Ft.
Depth To Initial Water Level (GS): ~23 Ft.
Borehole Coordinates:
N: 2027887.43 E: 2602576.65

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			823.8 / 0				ML	Topsoil
SS		2.0' /2.0'	818.8 / 5	0 ppm	1 2 3 15		ML / SP	5-6.6': Clayey SILT, moist; color grades from dk bn gy @ 5' to mod bn @ 6.6'; 6.6-7.0' is lt bn sand, med, dry.
SS		2.0' /2.0'	813.8 / 10	0 ppm	5 7 17 8		ML / SP	10-10.2': Clayey to sandy SILT, moist; 10.2-12': or bn to lt bn SAND, medium, loose, nearly dry.
SS		2.0' /2.0'	808.8 / 15	0.2 ppm	3 6 13 15		ML	15-16.5': Clayey sandy SILT, moist to wet, w/~10% subang gravel. 16.5-17': Clayey SILT to silty clay, laminated like varves, moist.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
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DTC - Drill Through Casing

SAMPLING TYPES:
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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-13

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.6' /2.0'		0.2 ppm	10 17 30 20		ML SP	20-21': Clayey to sandy SILT, moist to wet, several subhoriz layers. 21-21.6': Or bn SAND, med, loose, moist.
			798.8 / 25					
SS	SB07-13E	1.3' /2.0'		0.1 ppm	11 17 20 12		SM SP	25-25.6': Mod yel bn silty v fine sand w/few pebbles, saturated. 25.6-26.3': Mod yel bn wet SAND, w/~15% gravel, subrounded.
								Bottom of Boring @ 28 feet.
			793.8 / 30					
			788.8 / 35					
			783.8 / 40					
			778.8 / 45					
			773.8 / 50					
			768.8 / 55					

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BOREHOLE LOG
SB07-14

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 826.87 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-29-93 End 06-29-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 22 Ft.
Depth To Initial Water Level (GS): ~14 Ft.
Borehole Coordinates:
N: 2027783.56 E: 2602635.76

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			826.9 / 0				ML	Topsoil & fill
SS		2.0' /2.0'	821.9 / 5	0.4 /0	3 4 2 9		ML / ML	5-5.5': Dk bn silty clayey loam, moist & w/some string/yarn fill; 5.5-7.0': tan to olive bn v fine sandy SILT w/few (~10%) subang pebbles; moist to wet.
SS		1.4' /2.0'	816.9 / 10	0/0 ppm	38 51 41 23		SW	10-11.4': Lt-mod bn SAND, poorly sorted, ranging from v coarse to med, & w/~15% subrdd pebbles including a weathered diorite; moist to dry.
SS	SB07-14C	2.0' /2.0'	811.9 / 15	2/4 ppm	12 18 28 11		ML / SP / ML	15-15.5': Mod bn v fine sandy silt, wet; 15.5-16.9': mod bn SAND, med, wet; 16.9-17': silt as in 15.0-15.5', wet.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-14

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB07-14D	-		15 /32	N/A		SP-SW	Auger cuttings @ about 20-22' are greenish-gray SAND, fine to med, wet, solvent-like odor; somewhat cohesive due to solvent, or may have trace silt/clay.
								Bottom of Boring @ 22 feet.
			801.9 / 25					
			796.9 / 30					
			791.9 / 35					
			786.9 / 40					
			781.9 / 45					
			776.9 / 50					
			771.9 / 55					

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BOREHOLE LOG
SB07-15

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/BK81
Surface Elevation: 803.97 Ft.
Field Screening Instrument: OVM (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-23-93 End 09-23-93
Drillers: Paul Dickinson, Mike Nelson
Total Depth: 26 Ft.
Depth To Initial Water Level (GS): ~14.5 Ft.
Borehole Coordinates:
N: 2028687.19 E: 2602759.36

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			804 / 0				ML	Topsoil
SS		18" /24"	799 / 5	0 ppm	4 5 5 10		SM-GM	Brown, gravelly & silty med sand; dry.
SS		18" /24"	794 / 10	0 ppm	2 10 8 8		SM-GM, CH, SM	Top 12" is brown, gravelly & silty fine to med sand, bottom 6" is brown, plastic clay containing a 1" thick gravelly $ silty fine to med sand layer; entire sample is dry.
SS		18" /24"	789 / 15	0 ppm	3 10 11 13		SP	Top 4" is brown, gravelly & silty med sand that is dry; next 5" is tan, silty fine sand w/color laminations; next 6" is tan, mod well sorted coarse sand; lowermost 3" is tan fine sand. Bottom 14" is moist. Saturated zone appears to be ~14.5' below grade.
SS		22" /24"		0 ppm	4 14		SP	Interbedded brown/tan, fine and med sand; gravelly in places;

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
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FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG

SB07-15

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		22" /24"		0 ppm	24 67		SP	sand is generally well sorted. Tan "till" in nose of spoon.
							SP-ML	
SS	SB7-15A	24" /24"	779 / 25	0 ppm	21 28 33 45		SP	Tan, well sorted med sand.
								Bottom of Boring @ 26 feet.
			774 / 30					
			769 / 35					
			764 / 40					
			759 / 45					
			754 / 50					
			749 / 55					

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BOREHOLE LOG
SB07-16

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/BK81
Surface Elevation: 802.86 Ft.
Field Screening Instrument: OVM (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-23-93 End 09-23-93
Drillers: Paul Dickinson, Mike Nelson
Total Depth: 36 Ft.
Depth To Initial Water Level (GS): ~23 Ft.
Borehole Coordinates:
N: 2028682.12 E: 2602658.20

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			802.8 / 0				ML	Topsoil
SS		18" /24"	797.8 / 5	0 ppm	2 4 4 3		SM-GM	Lt Brown/tan, gravelly & silty fine sand. Dry.
SS		23" /24"	792.8 / 10	0 ppm	2 7 8 12		SM-GM	Brown, gravelly & silty fine sand; dry.
SS		24" /24"	787.8 / 15	0 ppm	6 14 13 15		SM-GM	Brown, gravelly & silty fine sand; dry. Reddish brown oxide (?) stain present in most of the sample. Dry.
SS		17" /24"		0 ppm	2 6		SM-GM	Top 8" is brown, gravelly & silty fine sand grading

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
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FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-16

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		17" /24"		0 ppm	9 14		SM-GM	downward to gray, gravelly & silty fine sand. Not saturated, but slightly moist.
SS		14" /24"	777.9 / 25	0 ppm	5 11 17 13		SP	Tan/brown, well sorted fine sand; saturated. Have gravel clasts, broken up from pounding spoon, in upper 8", lower 6" is fine sand, saturated.
SS		8" /24"	772.9 / 30	0 ppm	6 9 15 19		SP	Brown, well sorted fine sand.
SS		9" /24"	767.9 / 35	0 ppm	4 6 7 7		SP	Brown, well sorted, med sand.
			762.9 / 40					*Bottom of Boring @ 36 feet.*
			757.9 / 45					
			752.9 / 50					
			747.9 / 55					

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BOREHOLE LOG
SB07-17

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/BK81
Surface Elevation: 805.04 Ft.
Field Screening Instrument: OVM (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-23-93 End 09-23-93
Drillers: Paul Dickinson, Mike Nelson
Total Depth: 31 Ft.
Depth To Initial Water Level (GS): ~14.5 Ft.
Borehole Coordinates:
N: 2028582.97 E: 2602664.25

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			805 / 0				ML	Topsoil
SS		15" /24"	800 / 5	0 ppm	2 2 2 3		SM-GM	Top 1" is dk brown topsoil; bottom 14" is brown, gravelly & silty fine sand. Dry.
SS		21" /24"	795 / 10	0 ppm	4 6 7 7		SC-CL	Interbedded clayey fine sand and brown, plastic clay. Sand is brown. Dry.
SS		20" /24"	790 / 15	0 ppm	3 2 2 3		SC-SP	Brown, clayey fine sand in upper 6"; lower 14" is brown to reddish brown, fine sand, saturated. Clayey sand is dry.
SS		15" /24"		0 ppm	2 4		SM	Brown, silty fine sand; rare gravel.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-17

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		15" /24"		0 ppm	5 5		SM	
SS		12" /24"	780 / 25	0 ppm	3 5 5 8		SP	Brown, fine sand.
SS	SB7-17A	14" /24"	775 / 30	0 ppm	2 8 10 12		SP / CL	Top 3" is brown, fine to med sand, well sorted; bottom 11" is brown, gravelly & sandy clay. Sample SB7-17A collected. VOC's primarily from sandy portion; metals and semi-VOC's primarily from clay-rich portion of spoon.
			770 / 35					*Bottom of Boring @ 31 feet.*
			765 / 40					
			760 / 45					
			755 / 50					
			750 / 55					

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BOREHOLE LOG
SB07-18

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 795.98 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 10-12-93 End 10-12-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 22 Ft.
Depth To Initial Water Level (GS): ~13 Ft.
Borehole Coordinates:
N: 2028671.59 E: 2602401.42

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			796 / 0				ML	Topsoil
SS		2.0' /2.0'	791 / 5	0/0	1 2 4 2		ML-SM	5.0-5.2': Dk bn gy loam (soil); 5.2-5.5': Lt bn gy (10 YR 6/2) sandy gravelly clay; 5.5-7.0': Yel bn (10 YR 5/6) sandy gravelly silt, moist.
SS		1.0' /2.0'	786 / 10	0/0	4 5 9 8		ML	10-10.7': Bn yel (10 YR 6/6) SILT, w/few granules & sm pebbles, partly laminated; saturated. 10.7-11.0': Bn yel (10 YR 6/6) v fine sandy silt, moist & not wet.
SS		2.0' /2.0'	781 / 15	0/3.0	4 2 6 7		SP	15-15.4': Bn yel fine SAND, wet; 15.4-17.0': Lt yel bn (10 YR 6/4) to bn (10 YR 5/3) sand, coarse to med, wet.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
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FR - Foam Rotary
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CT - Cable Tool
JET - Jetting
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SAMPLING TYPES:
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BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE

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BOREHOLE LOG

SB07-18

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'		0/0.6	12 13 9 15			20-22': Sample is stuff, & contains bn yel (10 YR 6/6) SAND, med, some coarse; wet.
								Bottom of Boring @ 22 feet.
			771 / 25					
			766 / 30					
			761 / 35					
			756 / 40					
			751 / 45					
			746 / 50					
			741 / 55					

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BOREHOLE LOG
SB07-19

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 798.81 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 10-12-93 End 10-12-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 27 Ft.
Depth To Initial Water Level (GS): ~8 Ft.
Borehole Coordinates:
N: 2028586.86 E: 2602340.48

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			798.8 / 0					Topsoil
SS		2.0' /2.0'	793.8 / 5	74 /88.8	4 9 7 9		SW / ML-SW / SP	5.0-5.2': Dk bn gy loam (soil); 5.2-5.5': V pale bn (10 YR 7/4) sand, gravelly (15%), med; 5.5-6.0': Bn yel (10 YR 6/8) silt, loc laminated, w/v fine SAND; 6.0-6.9': lt bn gray (10 YR 6/2) SILT & v fine SAND & has the 74 ppm scan; organic vapor peak above 6.0' is 0.5 ppm. 6.9-7.0': V pale bn SAND, med.
SS	SB7-19B	2.0' /2.0'	788.8 / 10	199 /139.2	5 10 10 10		SP	10-12': Olive gray to olive (5 Y 4/2 - 5 Y 4/4) SAND, med to coarse, wet, strong odor (solvent-type).
SS		2.0' /2.0'	783.8 / 15	283 /274	5 12 20 12		SP / SM-GM	15-15.4': Olive gy (5 Y 4/2) SAND, med; 15.4-17.0': Olive gy (5 Y 5/2) SAND, v fine to fine, silty & gravelly (~15% each), wet, strong odor.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
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SAMPLING TYPES:
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WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE

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BOREHOLE LOG
SB07-19

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'		187 /269	2 13 17 21		SP SP-GP	20-20.9': Lt olive bn (2.5 Y 5/3) SAND, med. 20.9-22.0': Olive (5 Y 4/3 to 5/3) gravelly sand to sandy gravel; wet; both zones have strong odor.
			773.8 / 25					
SS		1.1' /2.0'		194 /256	10 18 13 26		SW	25-25.4': Olive SAND, coarse to med, wet, odor. 25.4-26.1': Lt olive bn SAND, v fine to fine, silty & gravelly (~15% each) wet & w/ strong odor.
								Bottom of Boring @ 27 feet.
			768.8 / 30					
			763.8 / 35					
			758.8 / 40					
			753.8 / 45					
			748.8 / 50					
			743.8 / 55					

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BOREHOLE LOG
SB07-20

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 803.55 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 10-13-93 End 10-13-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 27 Ft.
Depth To Initial Water Level (GS): 16.5 Ft.
Borehole Coordinates:
N: 2028525.48 E: 2602279.06

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			803.5 / 0					Topsoil
SS		2.0' /2.0'	798.5 / 5	0/0	2 6 10 9		CL / ML	5.0-5.4': Yel bn (10 YR 5/4) silty clay w/ ~4% granules & sm pebbles; moist, plastic. 5.4-7.0': Bn yel v fine sandy SILT, moist.
SS		1.4' /2.0'	793.5 / 10	2.9 /0.5	6 12 16 21		SP	10-11.4': Yel (10 YR 7/6 - 8/6) SAND, med, nearly dry.
SS		2.0' /2.0'	788.5 / 15	0.5 /0.1	6 18 20 10		SP / SM	15-17': Yel (10 YR 7/6) to bn yel (10 YR 6/8) SAND, med to coarse; silty v fine sand interbeds @ 15.4-16.5' Wet below 16.5, moist above. Also a clay lens @ 15.35'.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-20

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.3' /2.0'		13.3 18.2	15 10 19 13		SW-SM ML	20-20.8': Yel (10 YR 8/6 - 7/6) SAND, med, sl silty (~10%), saturated. 20.8-21.3': vpale bn (10 YR 7/4) sandy gravelly SILT w/ trace (~8%) clay, moist; gravel is subangular sm pebbles randomly distributed & oriented in sample; looks like a till. 20.8-21.3' zone has the highest organic vapor concentrations.
			778.5 / 25					
SS		0.9' /2.0'		0.1 /7.2	18 13 21 17		SW ML	25-25.4': Yel (10 YR 7/6) SAND, med to fine, sl silty (to 15% locally, avg <10%), trace granules (~4%), wet; 25.4-25.9': Lt yel bn (10 YR 6/4) sandy clayey SILT, moist; sand is v fine to coarse; poorly sorted & no bedding.
								Bottom of Boring @ 27 feet.
			773.5 / 30					
			768.5 / 35					
			763.5 / 40					
			758.5 / 45					
			753.5 / 50					
			748.5 / 55					

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BOREHOLE LOG
SB07-21

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: 808.64 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 10-13-93 End 10-13-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 17 Ft.
Depth To Initial Water Level (GS): not encountered
Borehole Coordinates:
N: 2028228.27 E: 2602622.27

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			808.6 / 0				ML	Topsoil
			803.6 / 5					
SS		1.2' /2.0'		2.2 /13.7	8 10 12 10		SW	5.0-6.2': Yel bn (10 YR 5/6) gravelly SAND, coarse, moist; gravel is subrounded granules to med pebbles & ~20%.
			798.6 / 10					
SS		1.8' /2.0'		188 /170	18 19 26 17		ML	10.0-11.8': Lt yel bn (2.5 YR 6/3-6/4) to olive (5 Y 5/3) sandy gravelly clayey silt, moist, hard; sand & gravel sizes vary widely; gravel (~15%) is subangular and, like sand, is randomly distributed throughout sample & randomly oriented. Looks like till.
			793.6 / 15					
SS		2.0' /2.0'		256 /123	12 14 16 12		SM	15-17': Gy bn (2.5 Y 5/2) to black (2.5 Y 2.5/1) silty gravelly SAND, moist, w/ solvent odor; sand is v fine to coarse; gravel (~15%) is granules to med pebbles; unsorted & no bedding; some lenses or spheres of med to coarse sand are present.
								Bottom of Boring @ 17 feet.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-22

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: 809.62 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 10-13-93 End 10-13-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 23.5 Ft.
Depth To Initial Water Level (GS): ~9 Ft.
Borehole Coordinates:
N: 2028171.05 E: 2602574.18

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			809.6 / 0				ML	Topsoil
SS		2.0' /2.0'	804.6 / 5	0 /1.3	2 3 2 4		ML SP SW	5.0-5.3': Dk bn gy loam (soil); 5.3-6.3': bn yel (10 YR 6/6) SAND, fine @ top grading to v fine @ base; moist. 6.3-7.0': Bn yel (10 YR 6/6 to 6/8) SAND, med to coarse, moist, loc silty.
SS		1.3' /2.0'	799.6 / 10	6.8 /14.7	8 10 12 17		SW ML	10-11.1': Bn yel (10 YR 6/6) to lt olive bn (2.5 Y 5/4) SAND, wet, fine to v coarse, bedded, loc silty & loc gravelly (up to 15%, each in different zones); 11.1-11.3': bn yel (10 YR 6/6) sandy gravelly SILT, w/trace clay; not bedded, moist.
SS		1.3' /2.0'	794.6 / 15	10.6 /3	22 38 50 /0.3'		SP ML	15.0-15.3': Lt yel bn (10 YR 6/4) SAND, med to coarse; gravelly @ top 0.1'; wet. 15.3-16.3': Lt yel bn (2.5 Y 6/4-6/3) sandy clayey SILT w/~8% gravel as subangular sm pebbles which are randomly distributed & oriented (i.e. not having preferred orientation) in sample; sand is v fine to v coarse; poorly sorted, moist.

EXPLANATION OF ABBREVIATIONS

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SAMPLING TYPES:
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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-22

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB07-22D	0.8' /2.0'		132 /201	18 50 /0.3'		ML-SW	20-20.5': Lt olive bn (2.5 Y 5/3-5/4) sandy gravelly silt w/trace (~10% estimated) clay. 20.5-20.6': Olive bn (2.5 Y 4/3) gravelly SAND, wet, med to coarse. 20.6-20.8': Lt olive bn sandy gravelly silt as @ 20.0-20.5'.
								Bottom of Boring @ 23.5 feet.

784.6 / 25
779.6 / 30
774.6 / 35
769.6 / 40
764.6 / 45
759.6 / 50
754.6 / 55

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BOREHOLE LOG
SB07-23

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: 812.28 Ft.
Field Screening Instrument: OVM
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 10-14-93 End 10-14-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 42 Ft.
Depth To Initial Water Level (GS): ~10.5 Ft.
Borehole Coordinates:
N: 2028133.48 E: 2602722.35

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			812.3 / 0				ML	Topsoil
			807.3 / 5					
SS		1.3' /2.0'		0/2.4	15 9 12 13		SW	5.0-6.3': Yel (10 YR 7/8) sand, v coarse to med @ 5.0-5.5' & med @ 5.5-6.3'; moist.
			802.3 / 10					
SS		1.3' /2.0'		0.5 /3.7	15 15 20 17		SM-ML	10-10.2': Bn yel (10 YR 6/6) SAND, moist, med to coarse. 10.2-10.5': Bn yel (10 YR 6/8) sandy gravelly SILT, moist; gravel is subangular; not bedded. 10.5-11.3': Bn yel (10 YR 6/6) SAND, coarse @ 10.5-10.6', med @ 10.6-11.1' & grading to a silty v fine sand @ 11.1-11.3; the latter zone is ~50-50% silt-sand.
								Note: wet @ 10.5' & below.
			797.3 / 15					
SS		1.2' /2.0'		222 /167	20 38 50 /0.2'		ML	15-16.2': Lt bn gy to lt olive bn (2.5 Y 6/2-5/6) sandy silt w/some (~8%) gravel & clay (<10%). Sand is v fine to v coarse; poorly sorted; gravel is granules to med pebbles & subangular; moist; a fracture @ 15.8 has the highest organic vapor concentrations; 10-100 ppm organic vapors elsewhere.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
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BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-23

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		0.8' /2.0'		195 /144	48 50 /0.2'		ML ML	20-20.8': Lt olive bn (2.5 Y 5/4-5/6) sandy gravelly SILT as in 15-17' sample but gravel ~15%; probably a till.
			787.3 / 25					
SS		2.0' /2.0'		13.3 /60.5	4 3 8 8		ML GW	25-27': Gy bn (2.5 Y 5/2) to olive bn (2.5 Y 5/3) sandy clayey gravelly silt (~25,25,15,35%); sand is v fine to v coarse; gravel is granules to sm pebbles, subangular & multilithologic (carbonate, chert, igneous); organic vapor concentrations roughly constant; moist to wet.
			782.3 / 30					
SS		1.5' /2.0'		63.3 /34.2	15 23 22 28		GW-SW	30-31.5': Olive to olive gray (5 Y 4/3) sandy gravel (30.0-30.9) to gravelly sand (30.9-31.5'), saturated, strong odor. Gravel is med pebbles to granules & is subangular to subrounded; 60% gravel in top (30-30.9), 25% below 30.9; sand v coarse to med in upper zone, coarse in lower zone.
			777.3 / 35					
SS		1.5' /2.0'		22.5 /14.4	15 15 22 13		SW-GW	35-36.5': Lt olive bn to olive yel (2.5 Y 5/3-6/6) gravelly sand to sandy gravel; sand is med to v coarse; saturated; slight odor; gravel is rounded to subangular granules to med pebbles, & is 5-50% of sample (avg 25%); highest VOC's are in 35.0-35.8 & 36.4-36.5' zones.
			772.3 / 40					
SS	SB7-23G	1.6' /2.0'		9.9 /4.4	15 20 22 25		SW	40-41.6': Lt yel bn gravelly SAND (2.5 Y 6/4); sand is v coarse to med, avg coarse; gravel is rounded to subangular granules to med pebbles. Saturated; v slight odor @ top.
								Note: 9.9 ppm organic vapors only @ 40.0-40.3'; below 40.3 concentrations are 0.0-2.2, most below 1.5 ppm
								Bottom of Boring @ 42 feet.
			767.3 / 45					
			762.3 / 50					
			757.3 / 55					

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BOREHOLE LOG
SB07-24

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/BK81
Surface Elevation: 791.23 Ft.
Field Screening Instrument: OVM (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: S. S. Bhagat

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-24-93 End 09-24-93
Drillers: Paul Dickinson, Mike Nelson
Total Depth: 26 Ft.
Depth To Initial Water Level (GS): ~4 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			791.2 / 0					Upper 4' is black muck with strong solvent-like odor.
SS	SB7-24A	20" /24"	786.2 / 5	22 ppm	2 1 3 4		SM-GM	Brown, gravelly & silty fine sand; appears saturated. Water observed in bore hole @~3' depth.
SS		20" /24"	781.2 / 10	18 ppm	4 4 4 5		SM-GM	Brown, gravelly & silty fine sand. Odor is still present.
SS		18" /24"	776.2 / 15	2 ppm	6 8 8 8		SM-GM	Brown, gravelly & silty fine sand.
SS		16" /24"		0.2 ppm	6 10		SP	Top 2" is brown, well sorted fine to med sand;

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
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MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB07-24

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		16" /24"		0.2 ppm	11 13		ML	Bottom 14" is gray, gravelly silt. Appears dry to slightly moist.
SS	SB7-24B (silt zone)	19" /24"	766.2 / 25	BG & 5 ppm	10 10 14 17		SM-ML	Upper 12" is brown, gravelly and silty fine sand; lower 7" is gray silt. Brown sand & silt headspace measured separately. Silt is essentially dry & sand is moist. Silt headspace=BG; Sand headspace=5ppm.
								Bottom of Boring @ 26 feet.

761.2 / 30
756.2 / 35
751.2 / 40
746.2 / 45
741.2 / 50
736.2 / 55

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BOREHOLE LOG
SB11-01

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-25-93 End 08-25-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 52 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
			725 / 5					
SS		1.0' /2.0'		0 ppm	5 5 7 12		SP	Brown fine to med sand; dry.
			720 / 10					
SS		1.0' /2.0'		0 ppm	5 5 7 15		SP	Brown fine to med sand; dry.
			715 / 15					
SS		1.5' /2.0'		0 ppm	9 18 25 13		SP	Brown fine to med sand; dry.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
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SAMPLING TYPES:
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BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB11-01

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.5' /2.0'		0 ppm	5 9 12 15		SP	Brown fine to med sand; dry.
			705 / 25					
SS		1.5' /2.0'		4.2 /0.4	7 9 12 16		SP	Grey med to coarse sand; moist; odor.
			700 / 30					
SS		1.1' /2.0'		3.3 /0.9	6 10 17 18		SP	30.0-30.4': Grey SAND, fine; 30.4-31.1: grey sand, med to coarse; saturated.
			695 / 35					
SS	SB11-01G	1.1' /2.0'		90.5 /134.4	10 11 12 10		SP	Mod-dk gray sand, sticky & odoriferous, coarse-med, wet. Some gravel (~20%).
			690 / 40					
SS		1.2' /2.0'		26.7 /16.6	10 12 16 15		SP-GP	Mod-dk gy SAND, gravelly, similar odor but not as intense as 35' sample; gravel ~25% & is subrdd pebbles; saturated.
			685 / 45					
SS		1.4' /2.0'		13.3 /0.4	7 8 18 10		SP-GP	Sand, gravelly, as above but less odor than @ 40'.
			680 / 50					
SS	SB11-01J	1.2' /2.0'		0/0	10 11 16 23		SP	Mod grayish bn SAND, ~8% gvl (subrdd), coarse-med; no odor; wet.
			675 / 55					*Bottom of Boring @ 52 feet.*

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BOREHOLE LOG
SB11-02

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-25-93 End 08-25-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 32 Ft.
Depth To Initial Water Level (GS): ~24 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
SS		1.2' /2.0'	725 / 5	0/0 ppm	4 5 9 11		SW	5.0-5.4': Dk bn SAND, med-coarse, sl silty; 5.4-6.2': Mod-lt bn SAND, med-coarse, dry.
SS		1.3' /2.0'	720 / 10	0/0 ppm	3 6 12 10		SP	Lt yel bn SAND, slightly moist, med to fine.
SS		1.3' /2.0'	715 / 15	0/0 ppm	12 28 25 19		SP	Lt yel bn SAND, fine to med, moist to dry.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
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BX - 1.6" Rock Core
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HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB11-02

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB11-02D	1.1' /2.0'		0/0 ppm	7 10 12 17		SP	Lt yel bn SAND, med to fine, moist to dry.
			705 / 25					
SS		1.0' /2.0'		0/0 ppm	7 8 10 12		SP	Mod yel bn SAND, med, tr subang pebbles, saturated & "flowing". No odor.
			700 / 30					
SS		0.9' /2.0'		0/0 ppm	8 9 15 10		SP	Lt gy bn SAND, coarse to v coarse, w/~8% subrounded-subang gravel mainly in 15 degree (angle to horizontal) interbeds w/gravel-free sand. Wet.
								Bottom of Boring @ 32 feet.
			695 / 35					
			690 / 40					
			685 / 45					
			680 / 50					
			675 / 55					

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BOREHOLE LOG
SB11-03

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-26-93 End 08-26-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 32 Ft.
Depth To Initial Water Level (GS): ~20 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
SS		1.2' /2.0'	725 / 5	0/0 ppm	3 6 4 9		SP	Mod-lt bn SAND, coarse to med, nearly dry.
SS		0.9' /2.0'	720 / 10	0/0 ppm	7 9 10 13		SP	Lt yel bn SAND, med, w/ 1-2mm orange-bn laminations @ ~15 degree angle to horizontal; nearly dry.
SS		1.1' /2.0'	715 / 15	0/0 ppm	7 8 10 15		SP	15.0-15.5': Mod yel bn SAND, med-fine, moist. 15.5-16.1': Lt yel bn SAND, med-coarse, tr (~2%) subrdd pebbles, dry.

EXPLANATION OF ABBREVIATIONS

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SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG

SB11-03

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB11-03D	1.0' /2.0'		0/0 ppm	7 10 16 13		SP-SW	Mod yel bn SAND, tr bn silt; coarse to med, exc. 20.7-21.0' which is med-fine. Wet.
			705 / 25					
SS		1.0' /2.0'		0/0 ppm	6 10 20 8		SP	Mod yel bn SAND, med to coarse; flows easily, due to high water content.
			700 / 30					
SS		1.2' /2.0'		0/0 ppm	5 8 6 18			Mod gy bn to yel bn SAND, coarse & ranging from med to v coarse; bedded; ~3% granules & sm pebbles, subrdd.
			695 / 35					*Bottom of Boring @ 32 feet.*
			690 / 40					
			685 / 45					
			680 / 50					
			675 / 55					

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BOREHOLE LOG
SB11-04

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-26-93 End 08-26-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 62 Ft.
Depth To Initial Water Level (GS): ~22 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
SS		1.3' /2.0'	725 / 5	0/0	3 3 6 10		SP	Lt yel bn SAND, coarse to med, nearly dry.
SS		1.1' /2.0'	720 / 10	0/0	4 8 13 6		SP	Lt yel bn SAND, med, v well sorted, nearly dry.
SS		1.0' /2.0'	715 / 15	0/0	10 12 16 9		SP	Mod-lt yel bn, SAND, med, nearly dry; contains fine bedding laminations <= 1mm thick.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB11-04

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.3' /2.0'		0/0	12 18 20 5		SP-GP	Mod-lt yel bn gravelly SAND, w/sand being med to coarse; gravel is sm-med pebbles & granules which are rounded to subangular. One cm fine-v fine sand layer @ 21.1'; it has rusty-colored margins top & bottom. Moist but not saturated.
			705 25					
SS		1.5' /2.0'		0/0	7 18 22 13		SP	Brown med to fine sand w/small gravel in top .5' of sample; saturated.
			700 30					
SS		1.5' /2.0'		20 /45	8 10 19 13		SP	Brown med to fine sand, solvent odor; saturated.
			695 35					
SS	SB11-04G	2.0' /2.0'		223 /247	8 14 22 13		SP	Brown med to fine sand and coarse gravel in top .5' of sample. Strong solvent odor; saturated.
			690 40					
SS		1.5' /2.0'		40 /57	9 18 12 15		SP	Grey sand, med to fine, w/sm gravel mostly quartz; solvent odor not strong; saturated.
			685 45					
SS		2.0' /2.0'		8 /34	6 14 30 22		SP	Brown grey coarse sand w/ med gravel & rocks; no odor; saturated.
			680 50					
SS		2.0' /2.0'		8 /27	12 14 16 16		SP	Brown fine to med sand; no odor; saturated.
			675 55					
SS		2.0' /2.0'		0/7	12 14 18 18		SP	Brown fine to med sand w/sm gravel; no odor; saturated.
							SP	

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BOREHOLE LOG
SB11-04

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB11-04L	2.0' /2.0'		0/1.5	6 9 19 12		SP	Brown fine sand; no gravel; no odor.
								Bottom of boring @ 62 feet.
			665 / 65					
			660 / 70					
			655 / 75					
			650 / 80					
			645 / 85					
			640 / 90					
			635 / 95					

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BOREHOLE LOG
SB11-05

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-26-93 End 08-26-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 57 Ft.
Depth To Initial Water Level (GS): ~15 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
SS		0.8' /2.0'	725 / 5	0/0 ppm	3 6 4 10		SP	Mod-lt yel bn SAND, med, tr pebbles, sm & subrdd, nearly dry.
SS		0.7' /2.0'	720 / 10	0/0 ppm	4 4 5 8		SP	Lt yel bn SAND, coarse to med, tr sm subrdd pebbles, nearly dry.
SS		1.4' /2.0'	715 / 15	14.3 /3.2	6 10 9 11		SP	Mod yel bn to mod gray SAND, v fine to coarse, w/ moderate solvent/oil odor; the brown is clean, but the gray (sharp color gradation w/gray below 15.5') is the VOC-bearing zone. 15.0-15.3' is fine yel bn SAND, 15.3-15.5' is v fine yel bn SAND, 15.5-16.2' is v fine gray SAND, laminated & VOC-bearing, 16.2-16.4' is med-coarse lt-mod gy SAND, VOC-bearing. Saturated w/ product, water below 15.5'; apparently water-saturated above that.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB11-05

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		0.8' /2.0'		1.8 /4.6	8 12 18 15		SP	Mod bn gy SAND, med to coarse; contains 3 subhoriz dk gy zones that register the higher VOC values, each 1-3 mm thick. Wet.
			705 / 25					
SS		1.1' /2.0'		3.6 /9.2	9 14 18 10		SP	Mod bn gy SAND, med to coarse, wet w/water & some product.
			700 / 30					
SS		1.3' /2.0'		16.6 7.4	11 18 10 14		SP-SW	Mod bn gy to mod by SAND, coarse & ranging from v coarse (mainly @ 31.0-31.3') to med. Wet. Highest VOC's are @ 30.7-31.3'.
			695 / 35					
SS		1.4' /2.0'		102 /86.8	8 9 14 11		SP	Mod gray SAND, fine to coarse, ~5% sm pebbles. VOC's throughout; wet.
			690 / 40					
SS	SB11-05H	1.3' /2.0'		120 /87.5	12 14 10 13		SP-SW	Mod gy SAND, v coarse to med, w/~10% gravel as subrounded to subang granules to med pebbles. Highest VOC's are 40.4-41.3', esp. 40.8-41.3' which has sticky & silty interstices & is med-grained (the finest zone).
			685 / 45					
SS		1.4' /2.0'		1.8 /9.2	10 14 18 13		SP	Mod gy SAND, v coarse to med; a granule & sm pebb zone (subang) @ 45.2-45.4' has ~1 ppm VOC's; 45.4-45.7' has 1.8 ppm, & the zones above 45.2 & below 45.7' have < 0.5 ppm, even though odor is mod stong & color is mod gray, particular in lower zone (upper zone is bn gy).
			680 / 50					
SS		1.1' /2.0'		0.4 /2.3	14 18 19 13		SP	Mod bn gy to mod gy SAND, v coarse to med. The 50.0-50.2' zone is mod gy bn SAND, coarse; 50.2-50.3' is granules & sm pebbles, subang-subrdd; 50.3-51.1' is mod bn gy SAND, v coarse to med & contains the 0.4 ppm hit. Also has ~10% subrdd med-sm pebbles.
			675 / 55					
SS	SB11-05K	1.4' /2.0'		0.9 /2.7	10 30 25 20		SP	Mod bn gy SAND, med to v coarse, ~2% pebbles; wet & has slight odor.
								Bottom of Boring @ 57 feet.

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BOREHOLE LOG
SB11-06

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-30-93 End 08-31-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 47 Ft.
Depth To Initial Water Level (GS): ~19 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
SS		1.0' /2.0'	725 / 5	0/0	2 3 3 5		SP	Lt yel bn SAND, med to coarse, dry.
SS		1.1' /2.0'	720 / 10	0/0	3 4 6 8		SP	Mod-lt yel bn SAND, med, nearly dry; contains some rusty-colored spots, each ~1-3mm.
SS		1.5' /2.0'	715 / 15	0/0	7 16 21 28		SP	Mod-lt yel bn SAND, med-coarse @ 15.0-15.6' & med-fine @15.6-16.5'. Subhoriz. laminations visible; moist.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG

SB11-06

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.5' /2.0'		0/0	10 13 17 32		SP	Mod-lt bn SAND, med-coarse; saturated; tr subrounded pebbles (~2%), med-sm.
			705 / 25					
SS		1.2' /2.0'		0/0	5 14 15 19		SP	Mod-lt bn SAND, coarse-med; moist but not saturated; tr sm pebbles, subrdd (~2%).
			700 / 30					
SS		1.2' /2.0'		0 /3.2	5 10 14 15		SP	Mod-lt yel bn SAND, med to coarse, ~5% subrdd sm pebbles w/ subhorizontal orientation; saturated.
			695 / 35					
SS	SB11-06G	1.0' /2.0'		79.8 /40.2	7 7 10 17		SP	Mod gy to mod yel bn SAND, v coarse to coarse @ 35.0-35.4' & med @ 35.4-36.0'. The grey zone (35.2-36.0') is from product, & emits odor & has the VOC hits. Highest hit @ 35.3' where there's a clayey v coarse sand. Elsewhere up to 11.2 ppm.
			690 / 40					
SS		1.5' /2.0'		20.8 /33.1	8 11 12 18		SP	Mod gy sand w/ some (10%) gravel; sand is v coarse to coarse; tr (~5%) gray silt/clay; gravel is subrdd to subang sm-med pebbles; saturated.
			685 / 45					
SS	SB11-06I	1.4' /2.0'		0 /0.4	9 12 16 20		SP	Mod yel bn SAND, coarse to med, some zones of v coarse sand & granules as subhoriz layers; gravel trace (~7%) as subrounded sm-med pebbles; saturated.
			680 / 50					*Bottom of Boring @ 47 feet.*
			675 / 55					

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BOREHOLE LOG
SB11-07

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: OVM (scan/head space)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-31-93 End 09-01-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 57 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
			725 / 5					
SS		1.3' /2.0'		0/0	2 4 6 7		SP	Lt yel bn SAND, coarse to med. Dry.
			720 / 10					
SS		1.3' /2.0'		0/0	3 3 5 6		SP	Lt yel bn SAND, coarse to med. Dry.
			715 / 15					
SS		1.2' /2.0'		0/0	9 11 24 28		SP	Lt yel bn SAND, med, nearly dry; low angle bedding (~15%) visible.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
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FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
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BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB11-07

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.2' /2.0'		0/0	10 11 17 23		SP	Lt to mod yel bn SAND, med, moist.
			705 / 25					
SS		1.2' /2.0'		0/-	8 12 15 17		SP	Lt yel bn SAND, med from 25-25.8' & coarse from 25.8-26.2'. Med zone is moist to wet; coarse zone is dry. Trace subrdd pebbles (~5%) in med zone. The 25.8' transition from med to coarse is sharp & horizontal.
			700 / 30					
SS		1.3' /2.0'		3.2/330	10 12 19 25		SP	Lt gy bn SAND, coarse to v coarse, wet; ~5% subrdd sm to med pebbles.
			695 / 35					
SS	SB11-7G	1.5' /2.0'		>1000 />1000	8 8 14 20		SP	Gy bn SAND, coarse to v coarse, ~10% gravel as granules to med pebbles; strong odor.
			690 / 40					
SS		1.6' /2.0'		>1000 />1000	11 17 22 29		SW	Mod gy SAND, gravelly (subrdd med to sm pebbles ~15%); sand is coarse & not well sorted, ranging from med to v coarse; strong odor.
			685 / 45					
SS		1.5' /2.0'		20.8 /79.9	8 10 14 18		SW	Mod gy gravelly SAND, coarse & ranging from med to v coarse sand; gravel is ~20% & is subrdd med to sm pebbles; odor; saturated.
			680 / 50					
SS		1.6' /2.0'		43.5 /91.9	9 13 15 22		SP	Mod gy SAND w/~10% gravel as subrdd sm pebbles & granules; sand is coarse, ranging med to v coarse. Wet.
			675 / 55					
SS	SB11-7K	1.3' /2.0'		8.0 /53.3	14 26 37 41		SP	Mod bn gy SAND, coarse to v coarse @ 55.0-55.4'; med @ 55.4-55.8'; med to coarse @ 55.8-56.3'. Wet.
								Bottom of Boring @ 57 feet.

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BOREHOLE LOG
SB11-08

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-30-93 End 08-30-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 47 Ft.
Depth To Initial Water Level (GS): ~24 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
SS		0.9' /2.0'	725 / 5	0/0	3 3 4 7		SP	Lt yel bn SAND, med-coarse, nearly dry.
SS		0.9' /2.0'	720 / 10	0/0	4 5 4 7		SP	Lt yel bn SAND, med, nearly dry; contains mod yel bn laminations @ 20 degree angle to horizontal; each ~2mm thick.
SS		1.0' /2.0'	715 / 15	0/0	8 13 24 26		SP	Sand as in 10-12' sample but laminations are subhorizontal; moist.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
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HA - Hand Auger
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JET - Jetting
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DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
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BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB11-08

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.2' /2.0'		0/0	8 10 14 20		SP	Lt yel bn SAND, med @ 20.0-20.5' & coarse @ 20.5-21.2'; moist. Tr pebbles, <2%.
			705 / 25					
SS		1.2' /2.0'		0/0	8 13 18 21		SP	Lt bn SAND, coarse to med, tr gravel as granules & sm pebbles (~2%); saturated.
			700 / 30					
SS		1.3' /2.0'		0 /11.2	5 9 12 17		SP	Mod gy bn SAND, gravelly (~15%) w/ med pebbles to granules, subrounded to subang; sand coarse, ranging from med to v coarse; saturated.
			695 / 35					
SS	SB11-08G	1.4' /2.0'		2509 /394	9 15 17 18		SP-GP	35-36.2': Mod-dk grey, gravelly SAND; sand is coarse to v coarse & gravel is subrdd to subang med-sm pebbles. 36.2-36.4' is med-coarse sand, lt bn & w/OVM readings of ~175 ppm. The zone 35.4-36.2' has readings of up tp 2509 ppm & slight odor, but not the diesel-type odor noted @ borings SB11-01 & SB11-05. In head-space reading, this high-VOC zone is diluted by lower-VOC zones. Saturated.
			690 / 40					
SS		1.6' /2.0'		30.6 /3.2	10 15 17 19		SP	Lt bn SAND, coarse, ranging from v coarse to med; ~8% subrdd gravel as med to sm pebbles. Saturated.
			685 / 45					
SS	SB11-08I	1.4' /2.0'		1.6 /9.6	9 14 15 15		SP	Lt bn-mod bn SAND, med-coarse, tr gravel as sm pebbles, saturated. Local zones only have elevated VOC's.
			680 / 50					*Bottom of Boring @ 47 feet.*
			675 / 55					

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BOREHOLE LOG
SB11-09

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: OVM (scan/head space)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 08-31-93 End 08-31-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 42 Ft.
Depth To Initial Water Level (GS): ~24 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
SS		1.3' /2.0'	725 / 5	0/0	3 5 6 8		SP	Lt yel bn SAND, med to coarse, dry; subhorizontal layering.
SS		1.0' /2.0'	720 / 10	0/0.4	2 5 8 13		SP	Lt yel bn SAND, med, nearly dry.
SS		1.2' /2.0'	715 / 15	0/0.8	5 10 12 16		SP	Lt yel bn SAND, med, trace (~2%) subrdd sm to med pebbles; moist.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
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FR - Foam Rotary
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DTC - Drill Through Casing

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CS - California Sampler
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NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB11-09

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.1' /2.0'		0/0.4	6 8 11 18		SP	Lt yel bn SAND, med to fine, bedding @ 25 degrees to horizontal; dry.
			705 / 25					
SS		1.2' /2.0'		0/0.4	5 7 12 14		SP	Lt-mod yel bn SAND, med, w/heavy mineral concentrations in laminae @ 20 degrees to horizontal; saturated.
			700 / 30					
SS		1.2' /2.0'		0/1.3	11 11 15 21		SP	Lt-mod gy bn SAND, med @ 30.0-30.7' & coarse to v coarse @ 30.7-31.2'; few subrdd pebbles @ 30.7-31.2'; saturated. Pebbles also subangular as well as subrdd.
			695 / 35					
SS	SB11-9G	1.2' /2.0'		0/4.4	9 14 15 11		SP	Lt-mod gy bn SAND, some gravel (10%) as subrdd granules to med pebbles; sand is coarse & ranges from v coarse to med. Wet.
			690 / 40					
SS		1.4' /2.0'		0/4.4	6 8 13 14		SP	SAND as above; Saturated.
			685 / 45					*Bottom of Boring @ 42 feet.*
			680 / 50					
			675 / 55					

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BOREHOLE LOG
SB11-10

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 09-01-93 End 09-01-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 52 Ft.
Depth To Initial Water Level (GS): ~28 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
SS		1.0' /2.0'	725 / 5	0/0	2 5 6 6		SP	Bn Med SAND, sm gravel; dry.
SS		1.0' /2.0'	720 / 10	0/0	4 10 11 13		SP	Bn med well sorted sand; dry.
SS		2.0' /2.0'	715 / 15	0.7 /0.1	7 10 13 15		SP	15-15.4': Mod yel bn SAND, v fine, wet. 15.4-16': mod to dk gray v fine SAND, wet to moist; 16-17': Lt bn med SAND, moist to dry.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB11-10

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.2' /2.0'		3.2 /0.1	5 8 16 18		SP	Lt yel bn SAND, med, nearly dry.
			705 / 25					
SS		1.1' /2.0'		5.0 /0.4	6 11 11 13		SP	Lt bn gy SAND, med to coarse; moist; odor.
			700 / 30					
SS		1.2' /2.0'		13.0 /5.6	7 9 15 24		SP	Mod bn gy SAND, coarse but ranging from v coarse to med; ~8% subrdd sm pebbles & granules; wet & has odor.
			695 / 35					
SS	SB11-10G	1.4' /2.0'		500 /320	9 10 13 17		SP	Mod bn gy gravelly SAND, coarse to v coarse; gravel is ~20% & is subrdd med to sm pebbles. Strong diesel-like odor.
			690 / 40					
SS		1.2' /2.0'		450 /280	8 10 17 24		SP	Mod bn gray SAND, coarse to med; gravel is ~10% & is subrdd pebbles, sm to med. Strong odor. Wet.
			685 / 45					
SS		1.3' /2.0'		20 /11	10 12 19 23		SP-SW	Mod bn gy gravelly SAND; gravel is subrdd to rounded sm to med pebbles & granules, & is 40% of sample. Sand is coarse to v coarse. Wet. Odor.
			680 / 50					
SS	SB11-10J	1.0' /2.0'		1.5 /18	8 12 16 21		SP	Mod gy bn SAND, coarse to v coarse, w/~8% subrdd gravel as granules to sm pebbles; slight odor; wet.
			675 / 55					*Bottom of Boring @ 52 feet.*

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BOREHOLE LOG
SB12-01

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: 735 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 12-01-93 End 12-01-93
Drillers: Scott Buttke, Chad Willemsen
Total Depth: 47 Ft.
Depth To Initial Water Level (GS): ~33 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0				GC	Gravel (parking lot)
			730 / 5					
SS		1.5' /2.0'		4.3 /6.0	1 1 2 3		CL-SC	Mod-dk bn silty sandy clay, moist, w/some coal & cinders
			725 / 10					
SS		1.8' /2.0'		38.4 /30.0	1 1 1 1		SP	Mod bn SAND, med to fine, wet but not saturated.
			720 / 15					
SS		1.7' /2.0'		44.0 /7.0	4 5 6 6		SP	Lt yel bn SAND, nearly dry, med to fine; organic vapor hits are in the interval of 15.0-16.5'.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
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FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB12-01

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB12-01D	1.8' /2.0'		158 /73.0	3 7 14 23		SP-SM	Mod to lt bn SAND, med to fine & w/a silty vfine sand @ 20.4-20.8 that is wet; elsewhere moist.
			710 / 25					
SS		1.8' /2.0'		54.5 /62.0	3 11 18 24		SP-SM	25.0-25.2': Silty vfine yel bn SAND, wet. 25.2-26.8': Lt yel bn SAND, med., moist.
			705 / 30					
SS		1.5' /2.0'		29.3 /16.0	11 24 30 26		SP	Lt yel bn SAND, med to fine, sl moist.
			700 / 35					
SS		1.5' /2.0'		58.0 /115	7 13 14 18		SP	Mod to lt yel bn SAND, med to fine, saturated throughout.
			695 / 40					
SS	SB12-01H	2.0' /2.0'		10.4 /8.0	1 1 7 8		SP	Mod grayish bn SAND, coarse to med, trace (~2%) sm subangular to subrounded pebbles; saturated.
			690 / 45					No sample collected due to 7' of heave in hole.
								Bottom of Boring @ 47 feet.
			685 / 50					
			680 / 55					

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BOREHOLE LOG
SB12-02

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: 735 Ft.
Field Screening Instrument: OVM (headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 12-01-93 End 12-01-93
Drillers: Scott Buttke, Chad Willemsen
Total Depth: 42 Ft.
Depth To Initial Water Level (GS): ~33 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0				ML	Topsoil
SS		1.2' /2.0'	730 / 5	0.0	1 2 2 2		SC	Mod bn clayey silty sand, moist.
SS	SB12-02B	1.4' /2.0'	725 / 10	0.0	3 4 6 6		SP	Lt yel bn fine to med sand; nearly dry.
SS		1.5' /2.0'	720 / 15	0.0	3 4 4 5		SP	Lt yel bn med to fine sand; moist.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB12-02

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.6' /2.0'		0.0	3 5 7 10		SP	Lt yel bn med sand, moist.
			710 / 25					
SS		1.6' /2.0'		0.0	5 13 14 25		SP	Lt yel bn SAND, med to fine, moist.
			705 / 30					
SS		1.7' /2.0'		1.0	7 12 18 21		SP	Lt yel bn SAND, med to fine, sl moist; no silt or clay observed here or in any samples @10' & below
			700 / 35					
SS		1.8' /2.0'		8.0	9 11 13 10		SP	Mod to lt yel bn SAND, med to fine, saturated.
			695 / 40					
SS	SB12-02H	1.6' /2.0'		22.0	5 3 7 13		SP	Mod to lt yel bn SAND, coarse (ranges from vcoarse to med); ~5% subrounded gravel as med to sm pebbles; saturated. No odor or discoloration.
								Bottom of Boring @ 42 feet.
			690 / 45					
			685 / 50					
			680 / 55					

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BOREHOLE LOG
SB12-03

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: 735 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 12-01-93 End 12-01-93
Drillers: Scott Buttke, Chad Willemsen
Total Depth: 42 Ft.
Depth To Initial Water Level (GS): ~33 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0				GC	Gravel (parking lot)
SS		1.7' /2.0'	730 / 5	203 /108	3 3 4 6		CL-SM	Dk grayish bn silty sandy clay, moist.
SS	SB12-03B	2.0' /2.0'	725 / 10	438 /178	2 3 4 5		SP	Mod-dark bn gray SAND, med; has strong solvent odor, discoloration & sticky consistency, especially @ 11.5-12.0'
SS		1.8' /2.0'	720 / 15	308 /188	3 2 3 4		SP	Dark to mod bn gray SAND, med to fine, w/solvent odor & consistency but OVM readings mostly <75ppm (considerably less than at 10-12' throughout length of sample)

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB12-03

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.5' /2.0'		15.4 /24	3 2 3 4		SP-SM	20.0-20.3': Yel bn saturated silty v fine sand, contains VOC concentrations of 1.0-15.4ppm. 20.3-21.5': Lt yel bn SAND med to fine, sl moist; contains VOC's at 0-1.8ppm.
			710 / 25					
SS		1.6' /2.0'		5.1 /5.1	7 11 13 14		SP	Lt yel bn SAND, med to fine, sl moist.
			705 / 30					
SS		1.7' /2.0'		17.7 /12.9	8 13 15 21		SP	Lt yel bn SAND, med to fine, w/several v thin (<=1mm) mod bn v fine sand laminae, subhorizontal. Moist.
			700 / 35					
SS		1.7' /2.0'		30.9 /-	3 3 5 7		SP	Mod yel bn SAND, med w/~3% subrounded med-sized pebbles; saturated.
			695 / 40					
SS	SB12-03H	1.5' /2.0'		34.4 /-	5 7 8 13		SP	Mod grayish bn SAND, med to coarse, ~7% med subrounded pebbles; saturated.
			690 / 45					*Bottom of Boring @ 42 feet.*
			685 / 50					
			680 / 55					

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BOREHOLE LOG
SB12-04

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~735 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 12-02-93 End 12-02-93
Drillers: Scott Buttke, Chad Willemsen
Total Depth: 42 Ft.
Depth To Initial Water Level (GS): ~33 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0				GC	Gravel (parking lot)
SS		0.2' /2.0'	730 / 5	0/0	4 3 3 4		ML	Dk gray bn silty sandy clay soil, moist.
SS		1.5' /2.0'	725 / 10	0/0	4 6 8 8		SP	Lt yel bn SAND, med to fine, nearly dry.
SS		1.8' /2.0'	720 / 15	0/0	3 4 6 8		SP	Lt yel bn SAND, med, loose, nearly dry.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB12-04

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.6' /2.0'		3.0 /8.0	5 7 8 10		SP-SM	Lt yel bn SAND, med to fine, moist loose, w/several layers of 5-30mm each of silty, v fine sand, wet, and a 2mm silty clay, also wet.
			710 / 25					
SS		1.8' /2.0'		17.4 /10.0	5 8 14 18		SP-SM	Lt yel bn SAND, med to fine, moist; a silty v fine sand, wet, @ 25.2-25.3'.
			705 / 30					
SS	SB12-04F	1.6' /2.0'		11.3 /0.0	9 15 21 24		SP	Lt yel bn SAND, med to fine, nearly dry.
			700 / 35					
SS		1.8' /2.0'		10.0 /40.4	4 3 5 9		SP	Mod yel bn SAND, med grained & ranging from coarse to fine, saturated.
			695 / 40					
SS	SB12-04H	1.4' /2.0'		7.2 /33.0	3 5 6 9		SP	Mod yel bn SAND, med to coarse, w/~4% gravel as sm to med subrounded pebbles.
			690 / 45					*Bottom of Boring @ 42 feet.*
			685 / 50					
			680 / 55					

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BOREHOLE LOG
SB12-05

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~735 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 12-02-93 End 12-02-93
Drillers: Scott Buttke, Chad Willemsen
Total Depth: 42 Ft.
Depth To Initial Water Level (GS): 35.3 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0				ML	Topsoil
			730 / 5					
SS		1.6' /2.0'		0.0 /0.0	4 5 6 11		ML-SM	Dk gy bn clayey sandy silt, slightly moist; soil.
			725 / 10					
SS		2.0' /2.0'		0.0 /0.0	4 3 4 5		SP	Mod yel bn sand, med @ 10.0-10.8' & med to fine @10.8-12.0; moist.
			720 / 15					
SS		2.0' /2.0'		0.0 /5.0	2 1 1 1		SP	Dk gray bn SAND, med to fine, wet w/dk gray slightly sticky material that gives no response on OVM, so may be degraded organic peat/muck.
							SP-SM	

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
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HA - Hand Auger
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DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
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JET - Jetting
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SAMPLING TYPES:
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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG
SB12-05

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS	SB12-05D	1.4' /2.0'		1.4 /9.0	1 2 3 3		SP-SM SM SP SP	20-20.5': Greenish-gray sand, sticky & wet; 20.5-20.9': Mod grayish bn silty vfine sand, wet. 20.9-21.4': Lt yel bn sand, moist.
			710 / 25					
SS		1.4' /2.0'		0.0 /0.0	2 4 6 9		SP	Lt yel bn SAND, med to fine, nearly dry.
			705 / 30					
SS	SB12-05F	1.5' /2.0'		0.0 /0.0	5 8 16 14		SP	Lt yel bn SAND, med to fine, sl moist, loose.
			700 / 35					
SS		1.6' /2.0'		5.5 /68.0	3 4 5 9		SP	Mod yel bn SAND, med; trace (~3%) sm pebbles; saturated @35.3'.
			695 / 40					
SS		1.5' /2.0'		3.2 /53.0	5 7 9 14		SP	Mod yel bn SAND, med to coarse; ~8% sm subrounded pebbles; saturated.
			690 / 45					*Bottom of Boring @ 42 feet.*
			685 / 50					
			680 / 55					

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BOREHOLE LOG
SB12-06

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~735 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 12-02-93 End 12-02-93
Drillers: Scott Buttke, Chad Willemsen
Total Depth: 42 Ft.
Depth To Initial Water Level (GS): ~33 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0				ML	Topsoil
			730 / 5				SC-SM	5.0-5.4': Dk bn clayey silty sand, moist;
SS		1.5' /2.0'		0.0 /0.0	3 2 3 4		SP	5.4-6.5': Mod bn sand, med, loose, sl moist.
			725 / 10					
SS		1.3' /2.0'		0.0 /0.0	3 4 7 9		SP	Lt yel bn sand, med to fine, loose, nearly dry.
			720 / 15					
SS		1.8' /2.0'		0.0 /0.0	4 3 4 6		SP	Lt yel bn sand, med to fine, loose, nearly dry.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
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DTC - Drill Through Casing

SAMPLING TYPES:
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BX - 1.6" Rock Core
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GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

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BOREHOLE LOG

SB12-06

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		1.6' /2.0'		0.0 /0.6	5 5 5 6			Lt yel bn sand, med to fine, loose, nearly dry.
			710 / 25					
SS		1.5' /2.0'		0.0 /0.2	4 5 7 6		SP	Lt yel bn SAND, med, loose, nearly dry.
			705 / 30					
SS	SB12-06F	1.5' /2.0'		0.0 /2.2	4 5 7 18		SP	Lt yel bn sand, med to coarse, loose, sl moist.
			700 / 35					
SS		1.8' /2.0'		2.2 /13.3	5 7 9 14		SP-SM SP	35-35.5': Fine (35.0-35.3') to silty vfine (35.3-35.5) SAND, saturated. 35.5-36.8': Mod yel bn SAND, coarse to vcoarse & w/trace granules. Wet.
			695 / 40					
SS	SB12-06H	0.7' /2.0'		0.2 /5.5	6 10 11 14		SP	Mod bn SAND, coarse to med, saturated.
			690 / 45					*Bottom of Boring @ 42 feet.*
			685 / 50					
			680 / 55					

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Chicago, Illinois 60606-5306

BOREHOLE LOG
SB12-07

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Mud Rotary/Diedrich 50
Surface Elevation: ~735 Ft.
Field Screening Instrument: OVM (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 12-03-93 End 12-03-93
Drillers: Scott Buttke, Chad Willemsen
Total Depth: 42 Ft.
Depth To Initial Water Level (GS): ~33 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			735 / 0				ML	Topsoil
			730 / 5					
SS		1.9' /2.0'		0.0 /0.0	3 5 6 6		ML SP	5.0-6.2': Black to bn clayey sandy silt topsoil. 6.2-6.9': Mod bn SAND, med to fine, moist, loose.
			725 / 10					
SS		1.4' /2.0'		0.0 /0.0	2 1 1 2		SW-SC SP SW-SC	10-10.5' & 10.9-11.4': Mod bn SAND, fine to med, slightly clayey, moist. 10.5-10.9': Lt yel bn SAND, med, sl moist.
							SP	
			720 / 15					[No recovery]

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

BOREHOLE LOG
SB12-07

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		0.8' /2.0'		1.0 /0.0	7 5 11 12		SP	Lt yel bn SAND, med to fine, moist.
			710 / 25					
SS		1.5' /2.0'		0.0 /0.0	6 11 13 16		SP	Lt yel bn SAND, med, loose, sl moist.
			705 / 30					
SS	SB12-07F	1.4' /2.0'		0.0 /0.0	5 7 11 9		SP	Lt yel bn SAND, med to fine, loose, slightly moist.
			700 / 35					
SS		2.0' /2.0'		0.0 /0.0	5		SP	Lt yel bn SAND, med to coarse, w/~3% subrounded pebbles which are mainly @ 36.2-36.4'; saturated.
			695 / 40					
SS	SB12-07H	2.0' /2.0'		0.0 /0.2	5 10 15 17		SP	Lt to mod yel bn SAND, coarse, w/~12% gravel as sm to med pebbles which are subrounded & concentrated in certain beds; saturated.
			690 / 45					*Bottom of Boring @ 42 feet.*
			685 / 50					
			680 / 55					

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BOREHOLE LOG
SB14-01

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-25-93 End 06-25-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 37 Ft.
Depth To Initial Water Level (GS): ~33 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0					Asphalt
SS		2.0' /2.0'	725 / 5	0/0 ppm	5 10 4 11		Fill SP	5-5.6': Blk topsoil w/brick frags; 5.6-7.0': Or bn to lt bn sand, med, loose, moist.
SS		2.0' /2.0'	720 / 10	0/0 ppm	3 5 8 16		SP	10-12': Or bn to lt bn SAND, fine to med, moist esp @ 10-10.5', loose, w/horizontal laminae
SS		2.0' /2.0'	715 / 15	0/0 ppm	15 7 9 14		SP	15-17': Lt bn SAND, med grained, moist, w/mod bn narrow bands @ 25 degree angle.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE

CDM

233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

BOREHOLE LOG

SB14-01

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
SS		2.0' /2.0'		0/0 ppm	15 11 14 10		SP	20-22': Lt bn SAND, med to coarse, moist but not wet.
			705 / 25					
SS		2.0' /2.0'		0/0 ppm	13 9 12 20		SP	25-27': SAND as above.
			700 / 30					
SS		2.0' /2.0'		0/0 ppm	10 11 8 22		SP	30-32': SAND as above.
			695 / 35					
SS	SB14-01G	2.0' /2.0'		0/0 ppm	6 6 6 5		SP	35-37': SAND as above, but a few cobbles up to 2" diameter; saturated.
								Bottom of Boring @ 37 feet.
			690 / 40					
			685 / 45					
			680 / 50					
			675 / 55					

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Chicago, Illinois 60606-5306

BOREHOLE LOG
SB14-02

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-25-93 End 06-28-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 52 Ft.
Depth To Initial Water Level (GS): ~33 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Asphalt
SS		2.0' /2.0'	725 / 5	0/0 ppm	21 4 6 10		SP	Mod-lt bn SAND, fine to med, loose, nearly dry.
SS		2.0' /2.0'	720 / 10	0/0 ppm	6 3 5 8		SP	10-12': SAND as above.
SS		2.0' /2.0'	715 / 15	0/0 ppm	40 10 10 14		SP	SAND as above, fine @ 15-15.5' & medium @ 15.5-17'.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE

CDM

233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

BOREHOLE LOG

SB14-02

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			705 / 25					
SS		2.0' /2.0'		0.5 /-	6 2 4 16		SP	SAND as @ 5-7'.
			700 / 30					
SS	SB14-02E	2.0' /2.0'		1/0	2 2 6 16		SP	SAND as @ 5-7'.
			695 / 35					
SS		2.0' /2.0'		2 /15	4 4 6 13		SP	SAND as @ 5-7', but gray & w/an odor; saturated.
			690 / 40					
SS		2.0' /2.0'		2 /2	7 10 12 8		SP	SAND as @ 5-7', w/odor & containing a few (5%) pebbles.
			685 / 45					
SS		2.0' /2.0'		not working /3	16 23 19 28		SP	SAND as @ 5-7', sl odor; med to coarse; lt to med gray.
			680 / 50					
SS								Sample not collected because of leakage of sand into hole along joints of augers.
			675 / 55					*Bottom of Boring @ 52 feet.*

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BOREHOLE LOG
SB14-03

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-28-93 End 06-28-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 17 Ft.
Depth To Initial Water Level (GS): Not encountered
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0					Asphalt
SS	SB14-03A		725 / 5	1/1.5	16 24 18 30		SM SP	Black oil-saturated silty sand @ 5-6.2'; sharp transition there to a moist to wet bn sand, med to fine.
SS			720 / 10	0.2/0	9 6 8 11		SP	Lt bn sand, fine to med, nearly dry, exc moist @ top.
SS	SB14-03C		715 / 15	0/0	21 13 11 12		SP	Lt bn sand, med to fine, nearly dry.
								Bottom of Boring @ 17 feet.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

BOREHOLE LOG
SB14-04

Client: IEPA
Project Number: 1681-007
Drilling Contractor: WTD Environmental Drilling
Drilling Method/Rig: Hollow-stem auger/Diedrich 50
Surface Elevation: ~730 Ft.
Field Screening Instrument: HNU (scan/headspace)
Abandonment Method: Backfilled cuttings & bentonite chips
Logged By: Mark Sorensen

Project Name: Southeast Rockford
Project Location: Rockford, IL
Drilling Date: Start 06-28-93 End 06-28-93
Drillers: Rick O'Gorman, Mark Thorson
Total Depth: 37 Ft.
Depth To Initial Water Level (GS): ~33 Ft.
Borehole Coordinates:
N: E: [none]

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			730 / 0				ML	Topsoil
			725 / 5					
SS				0/0 ppm	20 4 3 10		SP-SM	Mod-lt bn SAND, moist, w/several dk bn gy silty loam layers (subhorizontal).
			720 / 10					
SS				0/0 ppm	12 4 3 6		ML / SP	10-10.5': Dk bn sandy clayey SILT, w/several sand layers; 10.5-11.5': mod bn SAND, fine, moist; 11.5-12.0': lt bn SAND, coarse-med, nearly dry.
			715 / 15					
SS				0/0 ppm	4 3 4 8		SP	15-17': Lt bn SAND, med-coarse, nearly dry, some bedding visible @ ~15 degree angle to horizontal.

EXPLANATION OF ABBREVIATIONS

DRILLING METHODS:
HSA - Hollow Stem Auger
SSA - Solid Stem Auger
HA - Hand Auger
AR - Air Rotary
DTR - Dual Tube Rotary
FR - Foam Rotary
MR - Mud Rotary
RC - Reverse Circulation
CT - Cable Tool
JET - Jetting
D - Driving
DTC - Drill Through Casing

SAMPLING TYPES:
AS - Auger/Grab Sample
CS - California Sampler
BX - 1.6" Rock Core
NX - 2.1" Rock Core
GP - Geoprobe
HP - Hydro Punch
SS - Split Spoon
ST - Shelby Tube
WS - Wash Sample

OTHER:
AGS - Above Ground Surface

CAMP DRESSER & McKEE
CDM
233 South Wacker Drive, Suite 450
Chicago, Illinois 60606-5306

BOREHOLE LOG
SB14-04

SAMPLE TYPE	SAMPLE NUMBER	SAMPLE RECOVERY	ELEV. / DEPTH	FIELD INSTRU. READING	BLOWS PER 6 INCH	GRAPHIC LOG	USCS CLASS.	MATERIAL DESCRIPTION
			705 / 25					
SS				0/0 ppm	3 2 5 8		SP	SAND as @ 15-17', but moist & nearly saturated. 2 very thin, fine interbeds.
			700 / 30					
SS				0/0 ppm	9 7 13 20		SP	30-32': SAND as @ 15-17', moist, w/numerous interbeds of sl finer & darker grains (heavy minis).
			695 / 35					
SS	SB14-04F			0/0 ppm	6 4 12 15		SP	SAND as @ 15-17', saturated.
			690 / 40					*Bottom of Boring @ 37 feet.*
			685 / 45					
			680 / 50					
			675 / 55					

Appendix B

APPENDIX B
PARTICLE SIZE ANALYSIS

RIVER VALLEY TESTING CORP.

1302 Cleveland Avenue
Wausau, WI 54401
715/848-1225

REPORT OF LABORATORY ANALYSIS OF SOIL

Project: SE ROCKFORD WATERSHED STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD, Inc
Attn: Mr Ron Thalacker
PO Box 109
Schofield, WI 54476-0109

Date: September 8, 1993

RVT File No: W93-286

GENERAL:

Scope of Work: Conduct flexible wall hydraulic conductivity and determine the gradation for the submitted undisturbed thinwall tube sample.

Date of Test: 8-24-93 through 9-3-93
Lab Technician: A Barker/M Lindner
Sample Location: See Below
Material Source: Soil Borings
Submitted By: WTD, Inc
Date Sampled: 8-24-93, 8-25-93
Sample Description: 2) SILT, with Sand, grey (ML)
3) LEAN CLAY, with layers of Sand, grey and yellowish brown (CL)

RESULTS:

Test Method:
ASTM D2488-90 Classification of Soils for Engineering Purposes
ASTM D422-63 Percent Clay Passing 0.002 mm by Hydrometer Method
ASTM D1140-54 Percent Material Finer than the No 200 Sieve
ASTM D2488-91 Classification of Soils by Visual-Manual Methods

RVT Sample Number Boring Number Sample Depth	2 OT114A 47' - 49'	3 MW133 45' - 47'			Specifications
USCS Classification	ML	CL			
% Passing No 200 % Passing 0.005 mm % Passing 0.002 mm	78 11 7.9	81 48 34			
Liquid Limit (LL) Plastic Limit (PL) Plasticity Index (PI)	-- -- --	-- -- --			
Moisture Content (%) Dry Density (pcf)	* *	17.8 110.0			
Hydraulic Conductivity (cm/sec)	*	1.7×10^{-5}			

REMARKS:

A portion of the sample will be held for 30 days after the date of this report and then will be discarded unless notified otherwise. The results for Sample #2 represent the soil classification of the bottom 1" of sample. The upper 17" of material in the thin-wall tube was a greyish brown, medium to fine grain Sand with Silt (SP-SM).

* No test possible because only bottom 1" of sample was clay/silt.

Respectfully submitted,
River Valley Testing Corp.

Alex E. Baker

501B (12/92)

RIVER VALLEY TESTING CORP.

GRAPH OF MECHANICAL ANALYSIS OF SOIL

Project: SE ROCKFORD WATERSHED STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD, Inc
Attn: Mr Ron Thalacker

RVT File No: W93-286

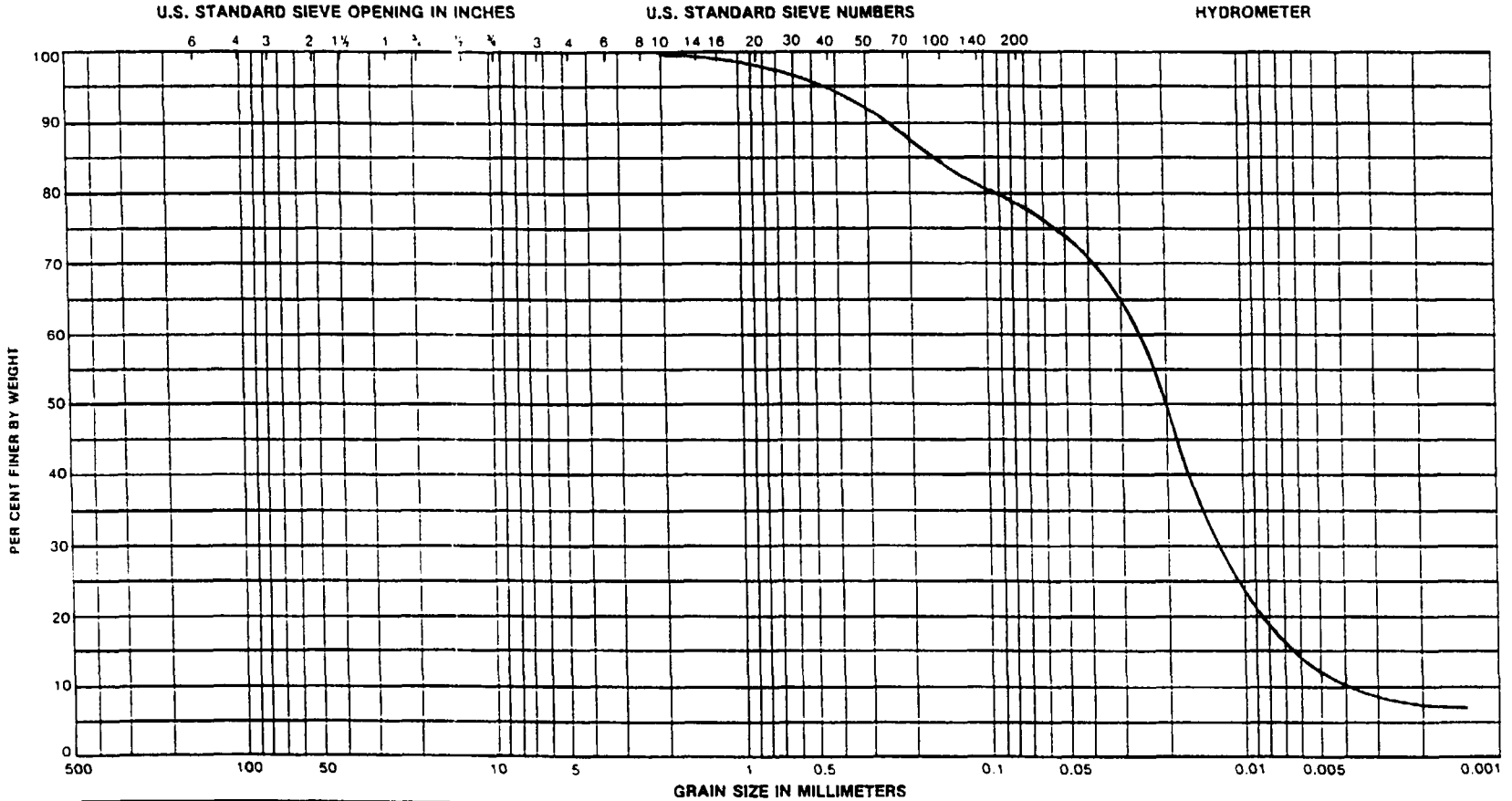
Date: September 7, 1993

GENERAL:

Sample Number: 2
Sample Location: OT114A
47'-49'

USCS Classification: SILT, with Sand, grey (ML)
Sample Source: Soil Borings

RESULTS:



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Rev 5/14/90

RIVER VALLEY TESTING CORP.

GRAPH OF MECHANICAL ANALYSIS OF SOIL

Project: SE ROCKFORD WATERSHED STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD, Inc
Attn: Mr Ron Thalacker

RVT File No: W93-286

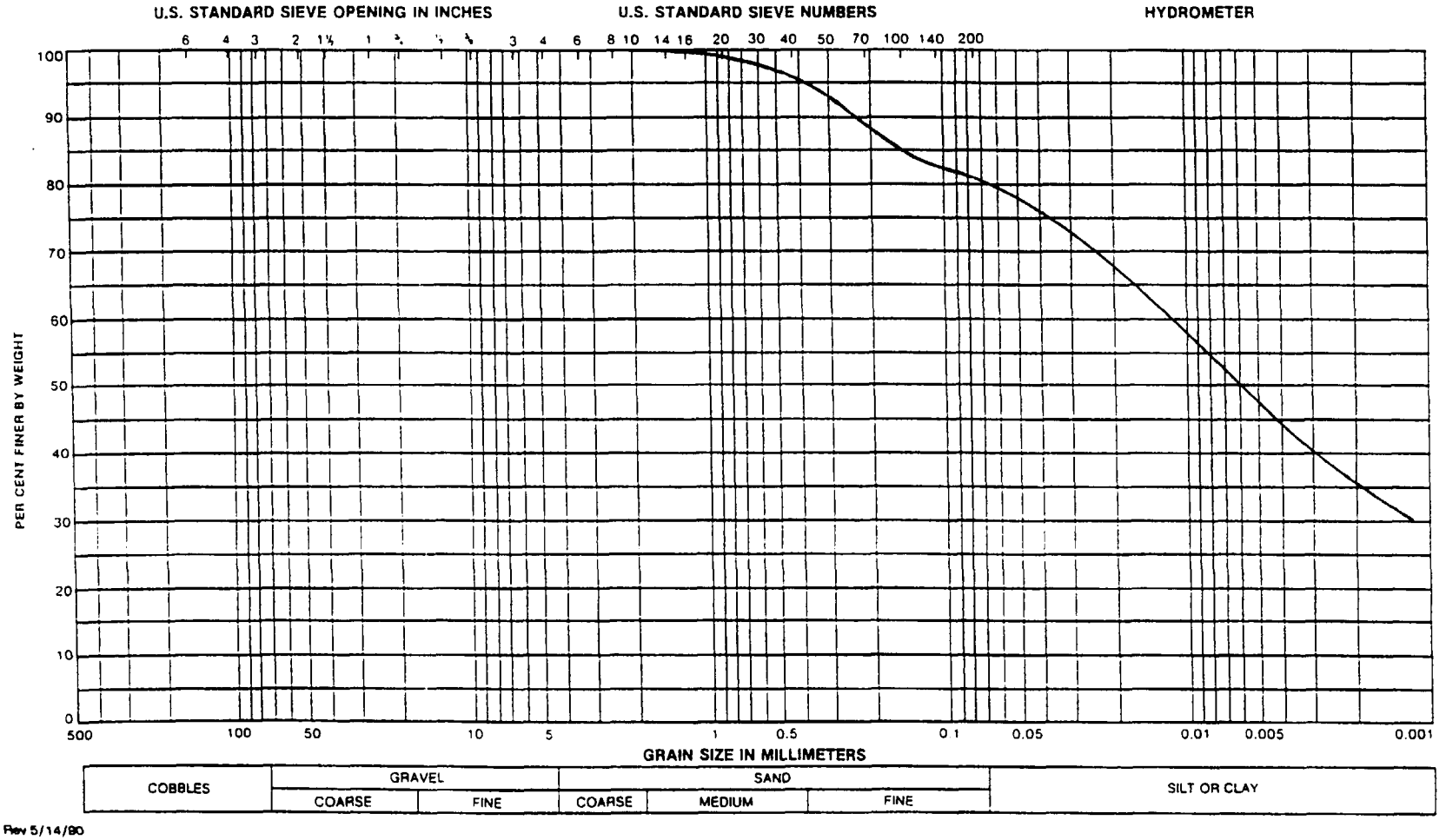
Date: September 7, 1993

GENERAL:

Sample Number: 3
Sample Location: MW133
45'-47'

USCS Classification: LEAN CLAY, with Sand, grey (CL)
Sample Source: Soil Borings

RESULTS:



Rev 5/14/90

RIVER VALLEY TESTING CORP.

1302 Cleveland Avenue
Wausau, WI 54401
715/848-1225

REPORT OF MECHANICAL ANALYSIS OF SOIL

Project: SE ROCKFORD WATER STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD Environmental Drilling
Attn: Mr Ron Thalacker
PO Box 109
Schofield, WI 54476

Date: August 20, 1993

RVT File No: W93-286

GENERAL:

Scope of Work: For this report, only a Mechanical Analysis test was performed.

Date of Test: August 18, 1993
Sampled By: WTD Environmental Personnel

Lab Technician: Skruch
Date Submitted: August 18, 1993

RESULTS:

Test Method: ASTM C117 & C136

Boring Number: Sample Depth:	OT114B 4'							
USCS Classification:	SP-SM							
Sieve Size	% Passing							
#4	---							
#10	---							
#40	100							
#100	57							
#200	7.9							

REMARKS:

A portion of the sample will be held for 30 days after the date of this report and then will be discarded unless we are notified to do otherwise.

Respectfully Submitted,
River Valley Testing Corp.

505B (7/93)

RIVER VALLEY TESTING CORP.

GRAPH OF MECHANICAL ANALYSIS OF SOIL

Project: **SE ROCKFORD WATER STUDY**
ROCKFORD, ILLINOIS

Copies:

Client: WTD Environmental Drilling

RVT File No: W93-286

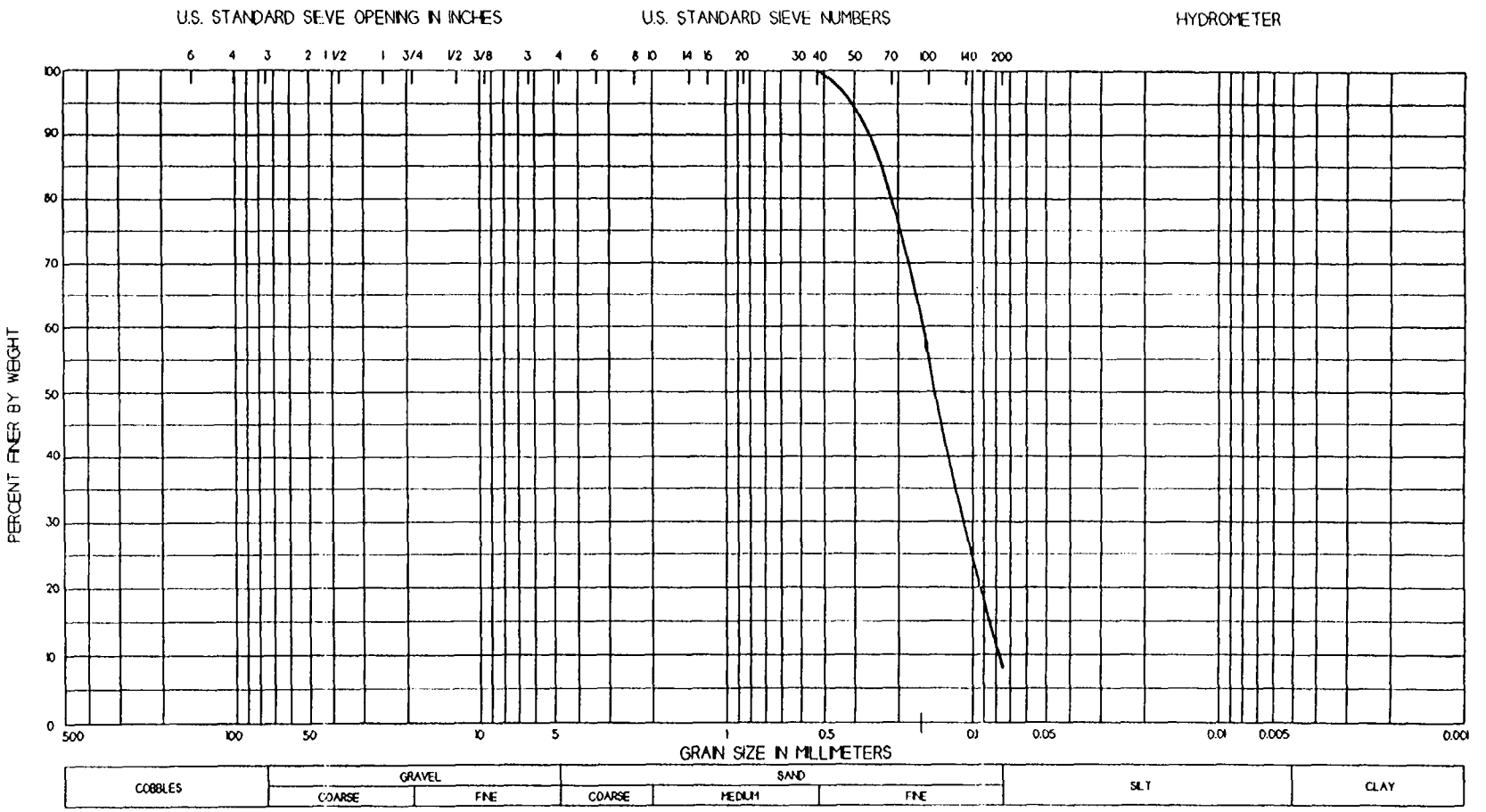
Date: August 25, 1993

GENERAL:

Sample Number: OT114B
Sample Location: Not Indicated
Sample Source: Soil Boring

USCS Classifications: SAND, with silt, fine grained, brown (SP-SM)

RESULTS:



509 (4/93)

RIVER VALLEY TESTING CORP.

1302 Cleveland Avenue
Wausau, WI 54401
715/848-1225

REPORT OF MECHANICAL ANALYSIS OF SOIL

Project: SE ROCKFORD WATER STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD Environmental Drilling
Attn: Mr Ron Thalacker
PO Box 109
Schofield, WI 54476

Date: August 20, 1993

RVT File No: W93-286

GENERAL:

Scope of Work: For this report, only a Mechanical Analysis test was performed.

Date of Test: August 18, 1993
Sampled By: WTD Environmental Personnel

Lab Technician: Skruch
Date Submitted: August 18, 1993

RESULTS:

Test Method: ASTM C117 & C136

Boring Number: Sample Depth:	OT114B 4'							
USCS Classification:	SP-SM							
Sieve Size	% Passing							
#4	---							
#10	---							
#40	100							
#100	57							
#200	7.9							

REMARKS:

A portion of the sample will be held for 30 days after the date of this report and then will be discarded unless we are notified to do otherwise.

Respectfully Submitted,
River Valley Testing Corp.

505B (7/93)

RIVER VALLEY TESTING CORP.

GRAPH OF MECHANICAL ANALYSIS OF SOIL

Project: **SE ROCKFORD WATER STUDY**
ROCKFORD, ILLINOIS

Copies:

Client: WTD Environmental Drilling

RVT File No: W93-286

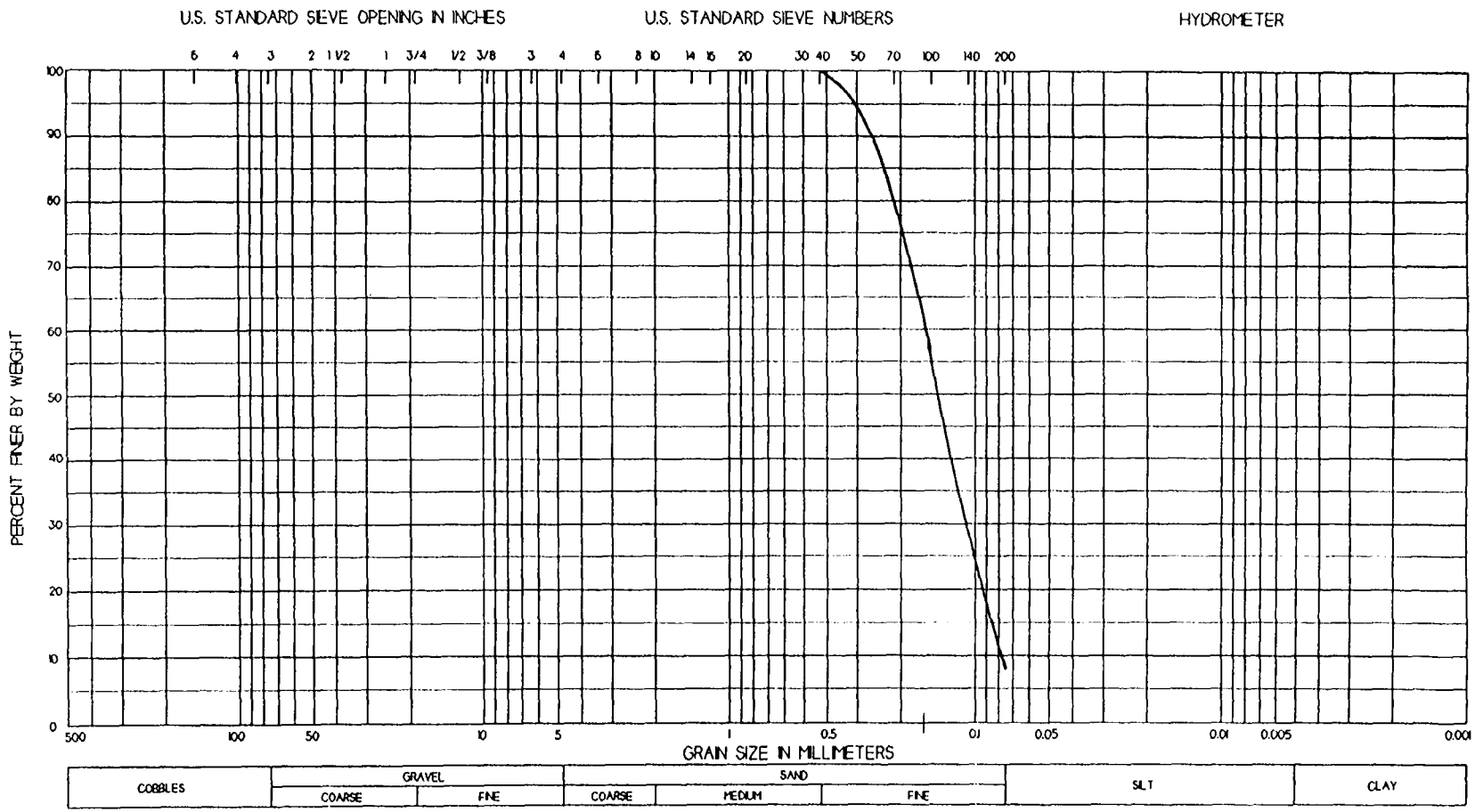
Date: August 25, 1993

GENERAL:

Sample Number: OT114B
Sample Location: Not Indicated
Sample Source: Soil Boring

USCS Classifications: SAND, with silt, fine grained, brown (SP-SM)

RESULTS:



509 (4/93)

RIVER VALLEY TESTING CORP.

1302 Cleveland Avenue
Wausau, WI 54401
715/848-1225

REPORT OF LABORATORY ANALYSIS OF SOIL

Project: SE ROCKFORD WATERSHED STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD, Inc
Attn: Mr Ron Thalacker
PO Box 109
Schofield, WI 54476-0109

Date: October 8, 1993

RVT File No: W93-286

GENERAL:

Scope of Work: Conduct flexible wall hydraulic conductivity and determine the gradation for the submitted undisturbed thinwall tube sample.

Date of Test: 9-22-93 through 10-7-93
Sample Location: See Below
Submitted By: WTD, Inc
Sample Description: 4) SANDY LEAN CLAY, grey (CL)

Lab Technician: A Barker/M Lindner
Material Source: Soil Borings
Date Sampled: 9-13-93

RESULTS:

Test Method:
ASTM D2488-90 Classification of Soils for Engineering Purposes
ASTM D422-63 Percent Clay Passing 0.002 mm by Hydrometer Method
ASTM D1140-54 Percent Material Finer than the No 200 Sieve
ASTM D2488-91 Classification of Soils by Visual-Manual Methods

RVT Sample Number Boring Number Sample Depth	4 MW 122 142'-144'				Specifications
USCS Classification	CL				
% Passing No 200 % Passing 0.005 mm % Passing 0.002 mm	56 26 20				
Liquid Limit (LL) Plastic Limit (PL) Plasticity Index (PI)	-- -- --				
Moisture Content (%) Dry Density (pcf)	14.2 123.1				
Hydraulic Conductivity (cm/sec)	3.9×10^{-8}				

REMARKS:
A portion of the sample will be held for 30 days after the date of this report and then will be discarded unless notified otherwise. The results for Sample #4 represent the soil classification of the entire sample length.

Respectfully submitted,
River Valley Testing Corp.

Alex S. Barker

OT-30
MW122
OT-101A
OT-114A
OT-114B
MW-33
OT-126-30B

501B (12/92)

RIVER VALLEY TESTING CORP.

GRAPH OF MECHANICAL ANALYSIS OF SOIL

Project: SE ROCKFORD WATERSHED STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD, Inc
Attn: Mr Ron Thalacker

RVT File No: W93-286

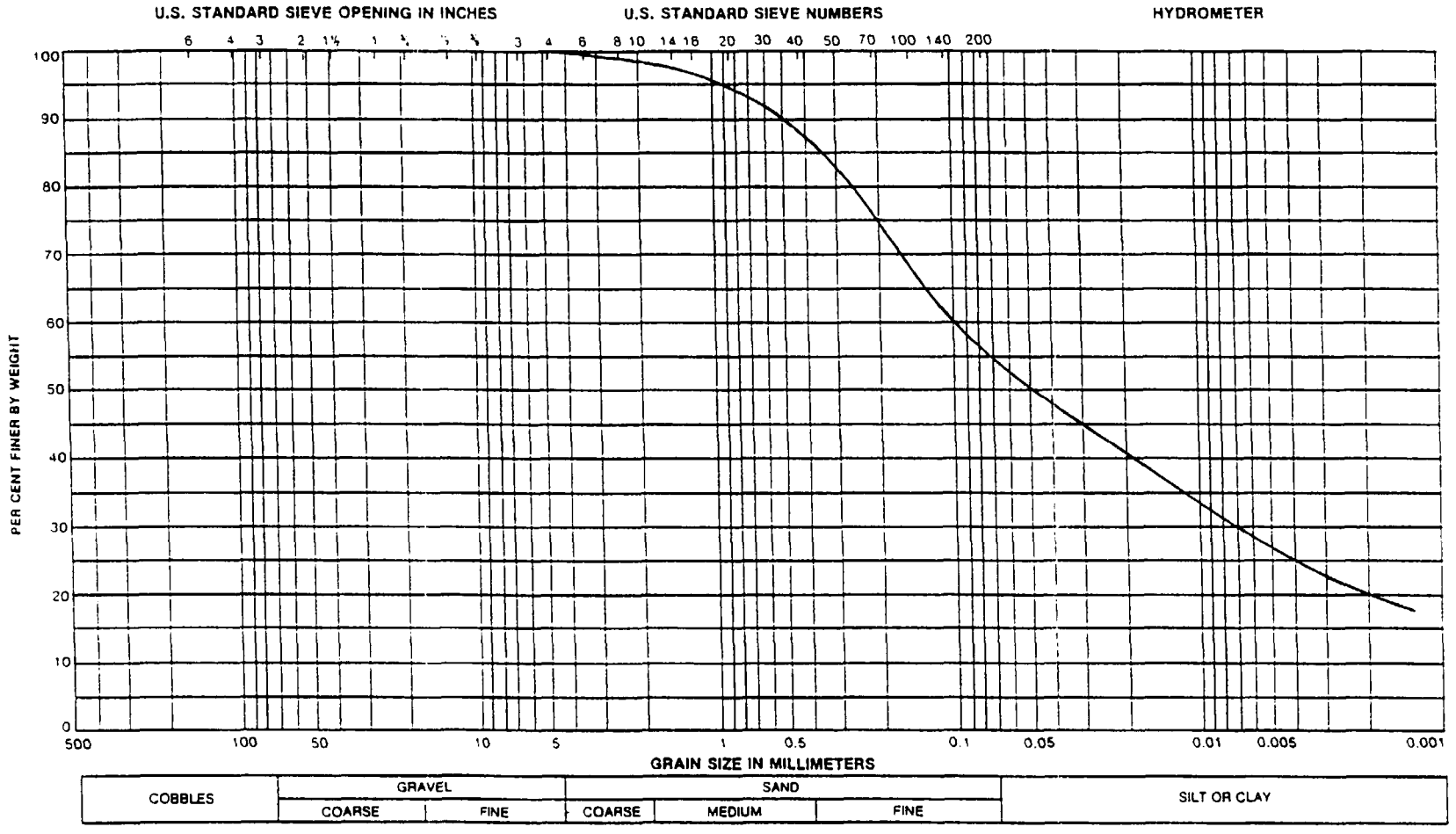
Date: October 8, 1993

GENERAL:

Sample Number: 4
Sample Location: Boring MW 122
Depth: 142'-144'

USCS Classification: SANDY LEAN CLAY, grey (CL)
Sample Source: Soil Borings

RESULTS:



Rev 5/14/90

RIVER VALLEY TESTING CORP.

1302 Cleveland Avenue
Wausau, WI 54401
715/848-1225

REPORT OF MECHANICAL ANALYSIS OF SOIL

Project: SE ROCKFORD WATER STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD Environmental Drilling
Attn: Mr Ron Thalacker
PO Box 109
Schofield, WI 54476-0109

Date: August 3, 1993

RVT File No: W93-286

GENERAL:

Scope of Work: For this report, only a Mechanical Analysis Including #200 Sieve was performed.

Date of Test: August 2, 1993
Sampled By: WTD Environmental Personnel
USCS Description: Sand, fine grained, light brown (SP)

Lab Technician: A Skruch
Date Submitted: July 26, 1993

RESULTS:

Test Method: ASTM C117-90 & C136-84a

Boring Number: Sample Number: Sample Depth:	OT126A 1 45'-47'	OT126B 2 85'-87'	0T130G 3 35-37'					
USCS Description:	SP	SP	SP					
Sieve Size	% Passing							
1/2"	100	100	100					
3/8"	100	100	98					
#4	100	99	97					
#10	97	94	95					
#40	35	76	67					
#100	1.7	5.6	3.1					
#200	0.4	1.2	0.7					

REMARKS:

A portion of the sample will be held for 30 days after the date of the geotechnical exploration report and then will be discarded unless we are notified to ship them to a given address.

Respectfully Submitted,
River Valley Testing Corp.

RIVER VALLEY TESTING CORP.

1302 Cleveland Avenue
Wausau, WI 54401
715/848-1225

REPORT OF LABORATORY ANALYSIS OF SOIL

Project: NE ROCKFORD WATERSHED STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD, Inc
Attn: Mr Ron Thalacker
PO Box 109
Schofield, WI 54476-0109

Date: August 13, 1993

RVT File No: W93-286

GENERAL:

Scope of Work: Conduct flexible wall hydraulic conductivity and determine the gradation for the submitted undisturbed thinwall tube sample.

Date of Test: 8-4-93 through 8-12-93
Sample Location: See Below
Submitted By: WTD, Inc
Sample Description: LEAN CLAY to SILT, grey (CL-ML)

Lab Technician: A Barker/M Lindner
Material Source: Native Soil
Date Sampled: Unknown

RESULTS:

Test Method:
ASTM D2488-90 Classification of Soils for Engineering Purposes
ASTM D422-63 Percent Clay Passing 0.002 mm by Hydrometer Method
ASTM D1140-54 Percent Material Finer than the No 200 Sieve
ASTM D5084-90 Hydraulic Conductivity using a Flexible Wall Permeameter

RVT Sample Number Boring Number Sample Depth	1 OT101A 57' - 59'				Specifications
USCS Classification	CL/ML				
% Passing No 200 % Passing 0.005 mm % Passing 0.002 mm	93 20 14				
Liquid Limit (LL) Plastic Limit (PL) Plasticity Index (PI)	-- -- --				
Moisture Content (%) Dry Density (pcf)	19.5* 110.0*				
Hydraulic Conductivity (cm/sec)	1.4×10^{-7}				

*As determined at the completion of testing.

REMARKS:
A portion of the sample will be held for 30 days after the date of this report and then will be discarded unless notified otherwise. Of the approximate 7½" of sample in the tube, the top 2" was grey clay, then 2½" of grey silt, then 3" of grey to brown silty sand.

Respectfully submitted,
River Valley Testing Corp.

Alex E. Baker

501B (12/92)

RIVER VALLEY TESTING CORP.

GRAPH OF MECHANICAL ANALYSIS OF SOIL

Project: NE ROCKFORD WATERSHED STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD, Inc
Attn: Mr Ron Thalacker

RVT File No: W93-286

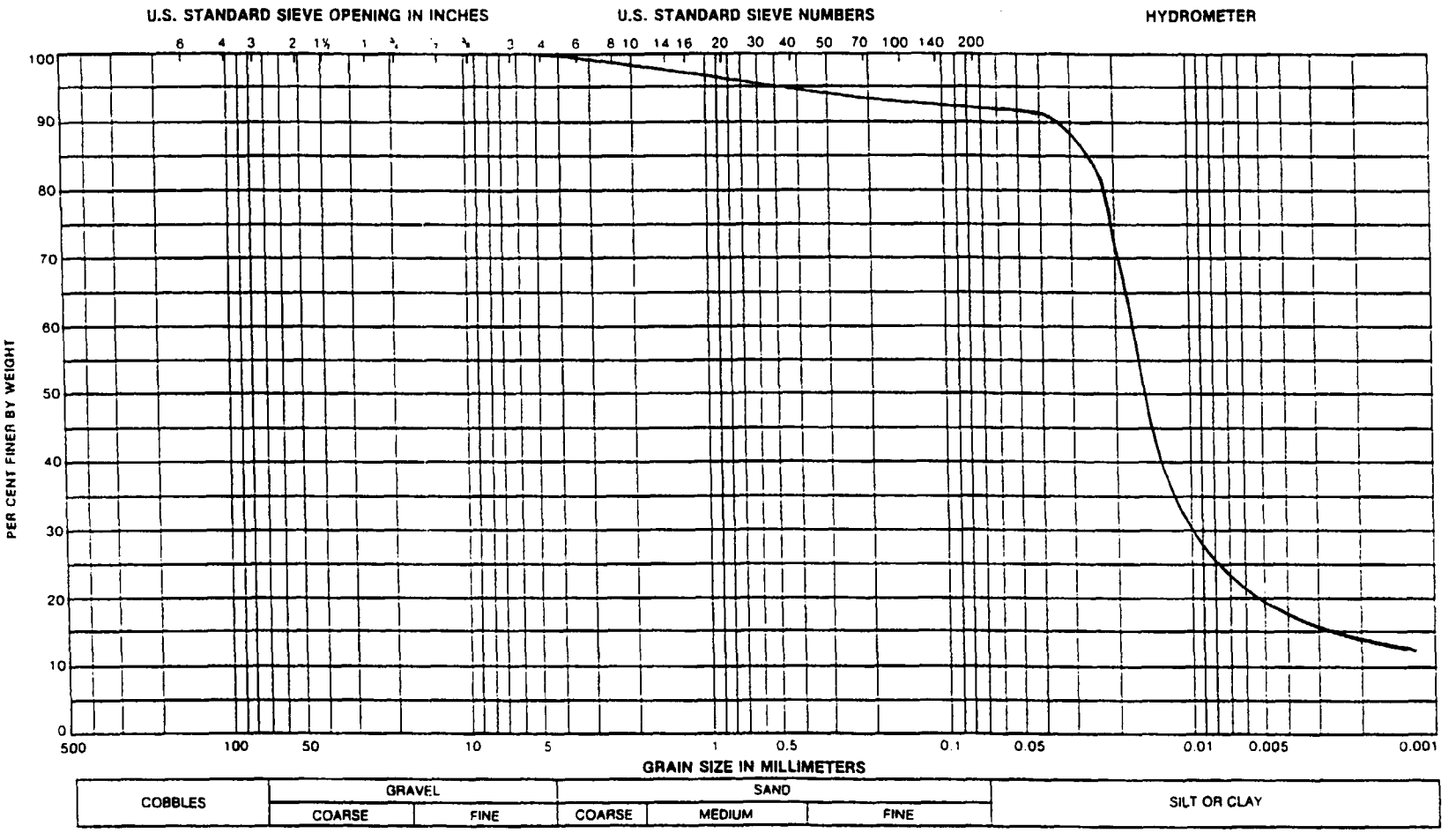
Date: August 13, 1993

GENERAL:

Sample Number: RVT #1
Sample Location: Boring OT101A
Depth = 57' - 59'

USCS Classification: LEAN CLAY to SILT, grey (CL/ML)
Sample Source: Native Soil

RESULTS:



Rev 5/14/90

RIVER VALLEY TESTING CORP.

GRAPH OF MECHANICAL ANALYSIS OF SOIL

Project: SE ROCKFORD WATERSHED STUDY
ROCKFORD, ILLINOIS

Copies:

Client: WTD, Inc
Attn: Mr Ron Thalacker

RVT File No: W93-286

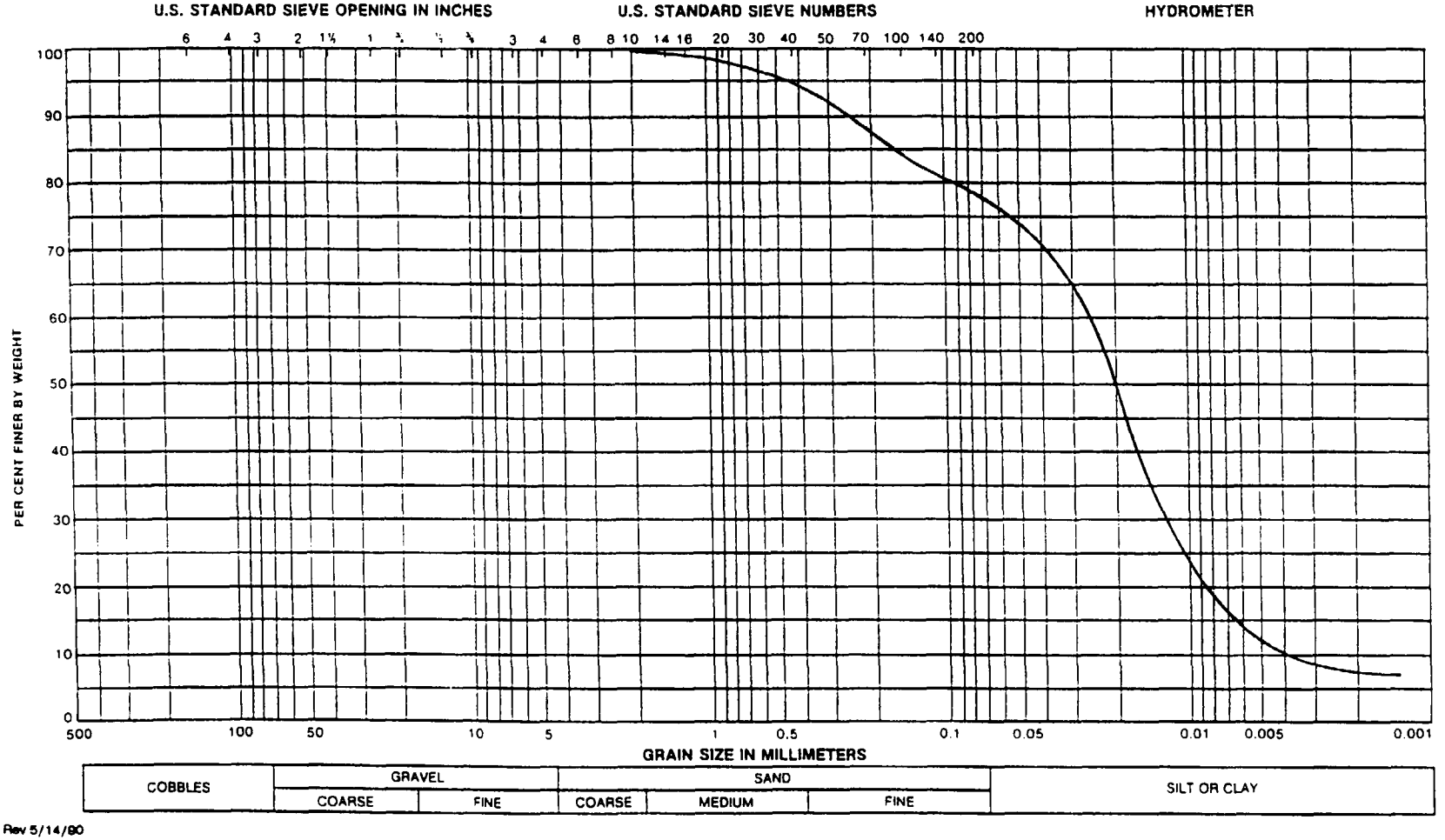
Date: September 7, 1993

GENERAL:

Sample Number: 2
Sample Location: OT114A
47'-49'

USCS Classification: SILT, with Sand, grey (ML)
Sample Source: Soil Borings

RESULTS:



Rev 5/14/90

Appendix C

APPENDIX C
HYDRAULIC CONDUCTIVITY

HYDRAULIC CONDUCTIVITY AND VELOCITY RESULTS
SOUTHEAST ROCKFORD GROUNDWATER STUDY

LOCATION	Bouwer & Rice (1976) units in ft/sec				Arithmetic Mean (ft/sec)	Standard Deviation	Coeff. Var.	Arith. Mean (gpd/ft/ft)	Arith. Mean (ft/day)
	Test 1	Test 2	Test 3	Test 4					
					UNCONSOLIDATED AQUIFER EAST				
MW102A	1.39E-06	1.69E-06	3.28E-06	NM	2.12E-06	1.02E-06	48%	1	0.2
MW102B	8.00E-04	7.80E-04	7.71E-04	NM	7.84E-04	1.48E-05	2%	505	67.7
MW103A	1.96E-06	1.64E-07	2.20E-06	1.59E-06	1.48E-06	9.12E-07	62%	1	0.1
MW104A	5.38E-06	5.54E-06	5.54E-06	NM	5.49E-06	9.24E-08	2%	4	0.5
MW105A	5.85E-05	5.08E-05	4.93E-05	NM	5.29E-05	4.94E-06	9%	34	4.6
MW105B	6.92E-05	7.42E-05	7.20E-05	NM	7.18E-05	2.51E-06	3%	46	6.2
MW105C	5.26E-04	5.61E-04	6.20E-04	NM	5.69E-04	4.75E-05	8%	367.0	49.2
MW106A	7.87E-05	6.94E-05	7.11E-05	NM	7.31E-05	4.95E-06	7%	47	6.3
MW107A	5.33E-04	8.03E-04	9.56E-04	NM	7.64E-04	2.14E-04	28%	493	66.0
MW107B	9.94E-05	6.46E-04	9.06E-05	NM	2.79E-04	3.18E-04	114%	180	24.1
MW108A	4.27E-05	3.39E-05	4.12E-05	NM	3.93E-05	4.71E-06	12%	25	3.4
MW108B	6.16E-04	3.19E-04	3.56E-04	NM	4.30E-04	1.62E-04	38%	278	37.2
MW109A	8.66E-05	1.29E-04	1.40E-04	NM	1.19E-04	2.82E-05	24%	76	10.2
MW110A	5.61E-06	5.98E-06	5.60E-06	NM	5.73E-06	2.17E-07	4%	4	0.5
MW111B	1.06E-05	2.61E-05	1.83E-05	NM	1.83E-05	7.75E-06	42%	12	1.6
MW112A	5.17E-06	1.01E-05	7.09E-06	NM	7.45E-06	2.49E-06	33%	5	0.6
MW122A	4.36E-05	5.15E-05	5.02E-05	NM	4.84E-05	4.24E-06	9%	31	4.2
MW122B	4.70E-07	4.01E-07	2.93E-07	NM	3.88E-07	8.92E-08	23%	0.25	0.03
MW133A	3.67E-05	7.45E-05	7.61E-05	NM	6.24E-05	2.23E-05	36%	40	5.4
MW133B	6.56E-05	6.65E-05	5.31E-05	NM	6.17E-05	7.49E-06	12%	40	5.3
MW134A	1.93E-05	2.12E-05	2.09E-05	NM	2.05E-05	1.02E-06	5%	13	1.8
MW134B	2.75E-04	2.17E-04	2.19E-04	1.92E-04	2.26E-04	3.51E-05	16%	146	19.5
MW134C	2.23E-05	2.23E-05	2.41E-05	NM	2.29E-05	1.04E-06	5%	15	2.0
					UNCONSOLIDATED AQUIFER WEST				
MW101A	7.16E-04	6.73E-04	6.86E-04	NM	6.92E-04	2.21E-05	3%	446	59.8
MW114A	1.27E-06	1.49E-06	2.03E-06	NM	1.60E-06	3.91E-07	24%	1.0	0.1
MW116A	1.64E-05	1.55E-05	1.55E-05	NM	1.58E-05	5.20E-07	3%	10.2	1.4
MW116B	3.38E-05	1.17E-05	1.15E-05	NM	1.90E-05	1.28E-05	67%	12.3	1.6
MW117A	8.11E-04	1.12E-03	9.19E-04	NM	9.50E-04	1.57E-04	17%	612.8	82.1
MW117B	1.73E-06	4.68E-06	4.81E-06	NM	3.74E-06	1.74E-06	47%	2.4	0.3
MW117C	2.30E-05	1.52E-05	1.13E-05	NM	1.65E-05	5.96E-06	36%	10.6	1.4
MW118	1.84E-05	1.95E-05	2.53E-05	NM	2.11E-05	3.71E-06	18%	13.6	1.8
MW119	1.04E-03	9.39E-04	7.00E-04	NM	8.93E-04	1.75E-04	20%	576.0	77.2
MW121	8.64E-04	8.99E-04	1.11E-03	NM	9.58E-04	1.33E-04	14%	617.7	82.7
MW126B	2.30E-05	2.17E-05	2.17E-05	NM	2.21E-05	7.51E-07	3%	14.3	1.9
MW127	1.92E-05	1.98E-05	2.62E-05	NM	2.17E-05	3.88E-06	18%	14.0	1.9
MW130	5.95E-06	4.58E-06	4.53E-06	3.53E-06	4.65E-06	9.94E-07	21%	3.0	0.4
MW140	1.39E-05	2.47E-05	3.11E-05	NM	2.32E-05	8.69E-06	37%	15.0	2.0
					DOLOMITE AQUIFER				
MW101B	6.62E-05	4.04E-05	6.59E-05	NM	5.75E-05	1.48E-05	26%	37.1	5.0
MW101C	1.74E-04	1.62E-04	1.30E-04	NM	1.55E-04	2.27E-05	15%	100.2	13.4
MW101D	1.13E-04	1.35E-04	2.75E-04	NM	1.74E-04	8.79E-05	50%	112.4	15.1
MW102C	5.81E-05	5.99E-05	6.97E-05	NM	6.26E-05	6.24E-06	10%	40.4	5.4
MW103B	1.62E-05	1.62E-05	1.68E-05	NM	1.64E-05	3.46E-07	2%	10.6	1.4
MW103C	4.98E-05	1.69E-05	1.71E-05	NM	2.79E-05	1.89E-05	68%	18.0	2.4
MW103D	2.11E-04	2.54E-04	2.46E-04	NM	2.37E-04	2.29E-05	10%	152.9	20.5
MW104B	1.26E-04	1.32E-04	1.13E-04	NM	1.24E-04	9.71E-06	8%	79.8	10.7
MW104C	8.99E-05	6.88E-05	5.45E-05	NM	7.94E-05	1.78E-05	22%	51.2	6.9
MW105D	2.30E-06	3.86E-06	3.71E-06	NM	3.29E-06	8.61E-07	26%	2.1	0.3

NM Not Measured

HYDRAULIC CONDUCTIVITY AND VELOCITY RESULTS
SOUTHEAST ROCKFORD GROUNDWATER STUDY

	Bouwer & Rice (1976) units in ft/sec				Arithmetic	Standard	Coeff.	Arith. Mean	Arith. Mean
LOCATION	Test 1	Test 2	Test 3	Test 4	Mean (ft/sec)	Deviation	Var.	(gpd/ft/ft)	(ft/day)
MW106B	3.99E-05	3.97E-05	3.85E-05	NM	3.94E-05	7.57E-07	2%	**25.4**	**3.4**
MW106C	1.52E-05	1.48E-05	NM	NM	1.50E-05	2.83E-07	2%	**9.7**	**1.3**
MW107C	7.03E-06	6.70E-06	6.60E-06	NM	6.78E-06	2.25E-07	3%	**4.4**	**0.6**
MW108C	5.92E-05	7.65E-05	7.04E-05	NM	6.87E-05	8.77E-06	13%	**44.3**	**5.9**
MW109B	2.80E-06	2.83E-06	2.94E-06	NM	2.86E-06	7.37E-08	3%	**1.8**	**0.2**
MW109C	1.34E-05	1.18E-05	1.23E-05	NM	1.25E-05	8.19E-07	7%	**8.1**	**1.1**
MW109D	4.56E-05	4.51E-05	4.85E-05	NM	4.64E-05	1.84E-06	4%	**29.9**	**4.0**
MW110C	1.17E-05	1.12E-05	NM	NM	1.15E-05	3.54E-07	3%	**7.4**	**1.0**
MW111C	1.63E-05	1.60E-05	1.50E-05	NM	1.58E-05	6.81E-07	4%	**10.2**	**1.4**
MW112B	2.85E-05	2.90E-05	2.85E-05	NM	2.87E-05	2.89E-07	1%	**18.5**	**2.5**
MW113B	1.38E-05	1.83E-05	1.67E-05	NM	1.63E-05	2.28E-06	14%	**10.5**	**1.4**
MW133C	1.83E-05	1.91E-05	1.80E-05	NM	1.85E-05	5.69E-07	3%	**11.9**	**1.6**
			SANDSTONE AQUIFER						
MW112C	8.28E-05	8.51E-05	8.57E-05	8.64E-05	8.50E-05	1.56E-06	2%	**54.8**	**7.3**
MW114B	1.30E-04	1.30E-04	1.32E-04	NM	1.31E-04	1.15E-06	1%	**84.3**	**11.3**

NM Not Measured

AQUIFER CONDUCTIVITIES

	gpd/ft/ft	ft/day	n
Geometric Mean of Unconsolidated=	25.35	3.40	37
Geometric Mean of Unconsolidated East =	25.51	3.42	23
Geometric Mean of Unconsolidated West =	25.09	3.36	14
Geometric Mean of Dolomite =	19.12	2.56	22
Geometric Mean of Sandstone=	67.98	9.11	2
Total			61

	gpd/ft/ft	ft/day
Arithmatic Max. Uncon.	617.70	82.74
Arithmatic Min. Uncon.	0.25	0.03
Arithmatic Max. Uncon. East	505.47	67.71
Arithmatic Min. Uncon. East	0.25	0.03
Arithmatic Max. Uncon. West	617.70	82.74
Arithmatic Min. Uncon. West	1.03	0.14
Arithmatic Max. Dolomite	152.87	20.48
Arithmatic Min. Dolomite	1.84	0.25

GROUNDWATER VELOCITIES (ft/day)	V	Uncertainty*	K	i**	n***
Maximum Unconsolidated	2.48	0.87	82.74	0.006	20%
Minimum Unconsolidated	1.01E-03	3.52E-04	0.03	0.006	20%
Mean	0.10	0.04	3.40	0.006	20%
Maximum Unconsolidated East	4.06	1.42	67.71	0.012	20%
Minimum Unconsolidated East	2.01E-03	7.04E-04	0.03	0.012	20%
Mean	0.21	0.07	3.42	0.012	20%
Maximum Unconsolidated West	1.24	0.43	82.74	0.003	20%
Minimum Unconsolidated West	2.07E-03	7.24E-04	0.14	0.003	20%
Mean	0.05	0.02	3.36	0.003	20%
Maximum Dolomite	1.37	0.48	20.48	0.01	15%
Mininmum Dolomite	0.02	5.76E-03	0.25	0.01	15%
Mean	0.17	0.06	2.56	0.01	15%

*20% uncertainty assumed for each variable in equation resulting in 35% uncertainty for V using standard propagation of error.

**East gradient is groundwater gradient 20th St. to S. Mulford Road. West gradient is average gradient from 20th St. to the Rock River. Undifferentiated gradient is average of unconsolidated aqufer gradient over the study area.

*** Porosity values based on mid-range values for similar aquifer types (Freeze and Cherry, 1979).

NM Not Measured

COOPER METHOD OF SLUG TEST ANALYSIS AS DESCRIBED IN:
KRUSEMAN, G.P. AND de RIDDER, N.A., 1991 ANALYSIS AND EVALUATION OF PUMPING TEST DATA SECOND EDITION (COMPLETELY REVISED) ILRI PUBLICATION 47, INTERNATIONAL INSTITUTE FOR LAND RECLAMATION IMPROVEMENT, WAGENINGEN, THE NETHERLANDS, 377p.

WELL MW-102C TEST 1

AQUIFER WAS CONSIDERED TO BE FULLY PENETRATED AND VERTICAL FLOW COMPONENTS WERE CONSIDERED TO BE NEGLIGIBLE

r_c = RADIUS OF THE UNSCREENED PART OF WELL WHERE THE HEAD IS RISING.

FROM SLUG TEST DATA

1. h_t/h_0 WAS CALCULATED FROM DIFFERENT VALUES OF TIME (t)
2. THE VALUES OF h_t/h_0 WERE PLOTTED AGAINST TIME (t) WITH THE TIME VALUES PLOTTED ON THE X-AXIS IN LOGARITHMIC SCALE.
3. A FAMILY OF TYPE CURVES WAS ALSO PLOTTED ON A SIMILAR SCALE $F(a, \beta)$ VS. β.
4. CURVES OF h_t/h_0 VS. t AND $F(a, \beta)$ VS. β WERE SUPERIMPOSED AND MATCHED.
5. THE VALUES β AND t WERE READ FROM THE GRAPH MATCH POINTS.

$r_c = 0.0833$

$\left.\begin{array}{l} \beta = 1.0 \\ t = 2.0 \end{array}\right\}$ SEE GRAPHS AND MATCH POINTS

$$\beta = \frac{KDt}{r_c^2}$$

$$KD = \frac{\beta r_c^2}{t}$$

$$KD = \frac{(1.0)(0.0833\,ft)^2}{(2.0)\,sec}$$

$$KD = 3.47 \times 10^{-3}\ ft^2/sec$$

D = AQUIFER THICKNESS (SCREENED PORTION OF WELL)

$$D = 10\ ft.$$

$$K = \frac{3.47 \times 10^{-3}\ ft^2/sec}{10\ ft}$$

$$\boxed{K = 3.47 \times 10^{-4}\ ft/sec}$$

$$K = (3.47 \times 10^{-4}\ ft/sec)(60\ sec/min)$$

$$\boxed{K = 2.08 \times 10^{-2}\ ft/min}$$

$$K = (2.08 \times 10^{-2}\ ft/min)\left(\frac{60\ min}{hr}\right)\left(\frac{24\ hr}{1\ day}\right)$$

$$\boxed{K = 3.00 \times 10^{1}\ ft/day}$$

* REMARK

THE METHOD COULD NOT BE USED TO DETERMINE STORATIVITY S BECAUSE THE EFFECTIVE RADIUS (r_{ew}) OF THE SCREENED PART OF THE WELL IS UNKNOWN.

CAMP DRESSER & McKEE

CLIENT IEPA | JOB NO. 1681-7-RI- | COMPUTED BY M.E.N.

PROJECT S.E. ROCKFORD | DATE CHECKED | DATE 12-6-93

DETAIL SLUG TEST HAND CALCULATION | CHECKED BY | PAGE NO. 1 OF 4

BOUWER & RICE METHOD OF SLUG TEST ANALYSIS AS DESCRIBED IN:
KRUSEMAN, G.P. AND de RIDDER, N.A., 1991 ANALYSIS AND EVALUATION OF PUMPING TEST DATA SECOND EDITION (COMPLETELY REVISED) ILRI PUBLICATION 47, INTERNATIONAL INSTITUTE FOR LAND RECLAMATION IMPROVEMENT, WAGENINGEN, THE NETHERLANDS, 377pp.

WELL MW-102A TEST 1 (PARTIALLY PENETRATING)

SHOWN IN FIGURE 16.5

r_c = RADIUS OF THE UNSCREENED PART OF THE WELL WHERE HEAD IS RISING (ft.)

r_w = HORIZONTAL DISTANCE FROM WELL CENTER TO UNDISTURBED AQUIFER (ft.)

d = LENGTH OF SCREEN OR OPEN SECTION OF WELL (ft.)

S = LENGTH OF SCREEN BELOW THE WATER TABLE (ft.)

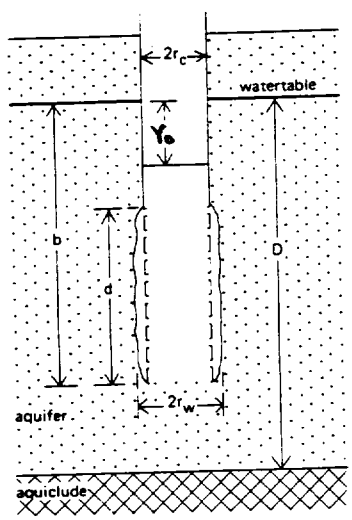


Figure 16.5 An unconfined aquifer, partially penetrated by a large-diameter well from which a slug of water has been removed

r_c = 0.0833 (ft.) (0.08 ON SPREADSHEET)

r_w = 0.3450 (ft) (0.35 ON SPREAD SHEET)

d = 10.00 (ft.)

S = 10.00 (ft.)

$$d/r_w = 10.00(ft)/0.3450(ft.) = 28.99$$

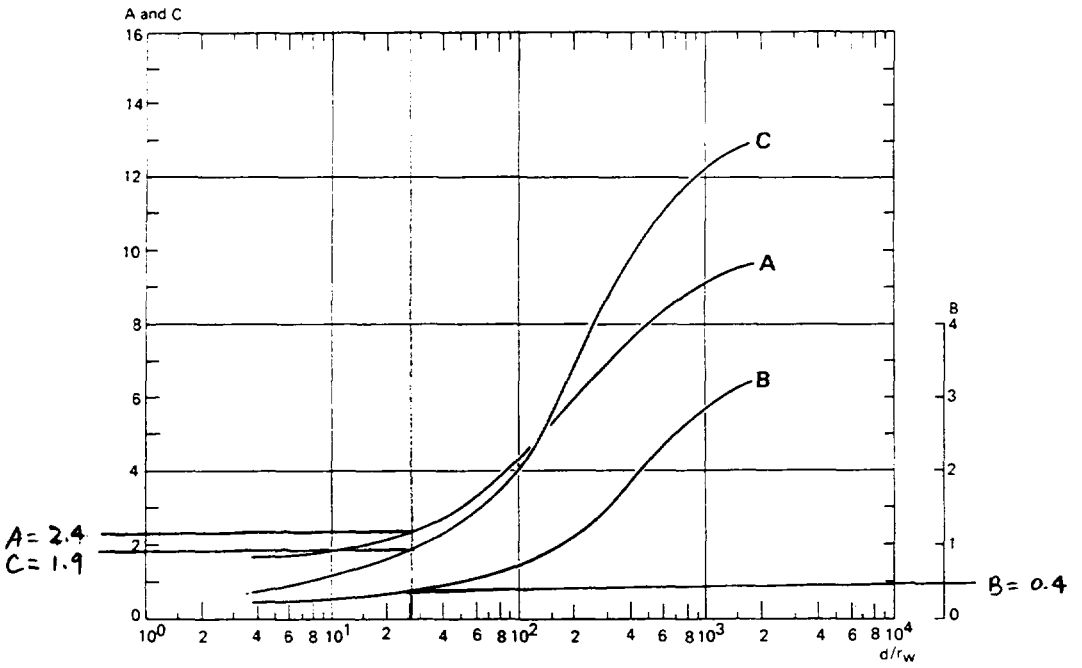


Figure 16.6 The Bouwer and Rice curves showing the relation between the parameters A, B, C, and d/r_w

BASED ON $d/r_w = 28.99$ AND READ FROM GRAPH ABOVE

$A = 2.4$

$B = 0.35$ (0.4 ON SPREADSHEET)

$C = 1.9$

SHOWN IN FIGURE 16.5

b = DEPTH FROM WATER TABLE TO BOTTOM OF WELL (ft.)

D = DEPTH FROM WATER TABLE TO IMPERMEABLE LAYER (ft.)

b = 26.21 (ft.)

D = 1000 (ft.)

THE WELL IS PARTIALLY PENETRATING THE AQUIFER

FOR PARTIALLY PENETRATING WELLS

$$\ln \frac{R_e}{r_w} = \left[\frac{1.1}{\ln(b/r_w)} + \frac{A + B \ln[(D-b)/r_w]}{d/r_w} \right]^{-1}$$

WHERE A AND B ARE DIMENSIONLESS PARAMETERS WHICH ARE FUNCTIONS OF d/r_w AND ARE READ FROM THE GRAPH ABOVE.

$$\ln \frac{R_e}{r_w} = \left[\frac{1.1}{\ln(14.51(ft)/0.345(ft))} + \frac{2.4 + 0.35 \ln[(33.51(ft) - 14.51(ft.)/0.345(ft.)]}{28.99} \right]^{-1}$$

REMARK –

BOUWER & RICE SHOWED THAT IF $D >> b$ AN INCREASE IN D HAS LITTLE EFFECT ON THE FLOW SYSTEM AND HENCE NO EFFECT ON R_e. THE EFFECTIVE UPPER LIMIT OF $\ln[(D-b)/r_w]$ IN THE EQUATION ABOVE WAS FOUND TO BE 6. THUS IF D IS CONSIDERED INFINITE OR D-b IS SO LARGE THAT $\ln[(D-b)/r_w] > 6$ A VALUE OF 6 SHOULD STILL BE USED FOR THIS TERM IN THE EQUATION ABOVE. (NOT THE CASE IN THIS EXAMPLE)

$$\ln \frac{R_e}{r_w} = \left[\frac{1.1}{\ln(42.06)} + \frac{2.4 + 0.4(4.0)}{28.99} \right]^{-1}$$

$$\ln \frac{R_e}{r_w} = 2.35 \quad \text{UNITLESS}$$

R_e = RADIAL DISTANCE OVER WHICH THE DIFFERENCE IN HEAD Y_0 IS DISSIPATED IN THE FLOW SYSTEM OF THE AQUIFER.

$$\ln \frac{R_e}{r_w} = \ln R_e - \ln r_w$$

$$2.35 = \ln R_e - \ln(0.3450(ft))$$

$$\ln R_e = 1.286$$

$$R_e = e^{1.286}(ft)$$

$$R_e = 3.62\ (ft.)$$

<u>READ FROM STRAIGHT LINE PORTION OF DRAWDOWN VS. TIME GRAPH</u>

Y_0 = DRAWDOWN IN WELL AT $t_0 = 0$ (ft.)
Y_t = DRAWDOWN IN WELL AT $t > t_0$ (ft.)
t = TIME INTERVAL BETWEEN Y_0 AND Y_t (sec.)

$Y_0 = 1.70$ (ft.)
$Y_t = 1.24$ (ft.)
$t = 175.0$ (sec.)

$$K = \frac{r_c^2 \ln(R_e/r_w)}{2d} \frac{1}{t} \ln \frac{Y_o}{Y_t}$$

$$K = \frac{(0.0833\,(ft.))^2\,(2.35)}{2\,(10.00\,(ft.))} \frac{1}{(175\ sec.)} \ln \frac{(1.70\,(ft.))}{(1.24\,(ft.))}$$

$$\boxed{K = 1.47 \times 10^{-6}\ ft/sec.}$$

$$K = (1.47 \times 10^{-6}\ ft/sec.)(60\ sec/min)$$

$$\boxed{K = 8.82 \times 10^{-5}\ ft/min}$$

$$K = (8.82 \times 10^{-5}\ ft/min)(60\ min/hr)(24\ hr/day)$$

$$\boxed{K = 1.27 \times 10^{-1}\ ft/day}$$

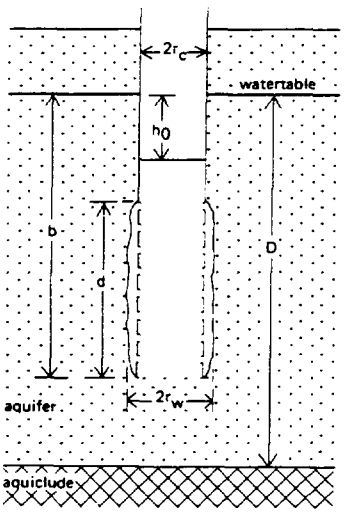
CAMP DRESSER & McKEE

CLIENT IEPA | JOB NO. 1681-7-RI- | COMPUTED BY M.E.N.
PROJECT S.E. ROCKFORD | DATE CHECKED | DATE 12-7-93
DETAIL SLUG TEST HAND CALCULATION | CHECKED BY | PAGE NO. 1 OF 4

BOUWER & RICE METHOD OF SLUG TEST ANALYSIS AS DESCRIBED IN: KRUSEMAN, G. P. AND de RIDDER, N. A., 1991 ANALYSIS AND EVALUATION OF PUMPING TEST DATA SECOND EDITION (COMPLETELY REVISED) ILRI PUBLICATION 47, INTERNATIONAL INSTITUTE FOR LAND RECLAMATION IMPROVEMENT, WAGENINGEN, THE NETHERLANDS, 377pp.

WELL MW-108C TEST 1 (FULLY PENETRATING)
SHOWN IN FIGURE 16.5

r_c = RADIUS OF THE UNSCREENED PART OF THE WELL WHERE HEAD IS RISING (ft.)
r_w = HORIZONTAL DISTANCE FROM WELL CENTER TO UNDISTURBED AQUIFER (ft.)
d = LENGTH OF SCREEN OR OPEN SECTION OF WELL (ft.)
S = LENGTH OF SCREEN BELOW THE WATER TABLE (ft.)



FULLY PENETRATING
$D = b$

Figure 16.5 An unconfined aquifer, partially penetrated by a large-diameter well from which a slug of water has been removed

$r_c = 0.0833$ (ft.)
$r_w = 0.25$ (ft.)
$d = 10.00$ (ft.)
$S = 10.00$ (ft.)

$d/r_w = 10.00\,(ft.)/0.25\,(ft.) = 40.00$

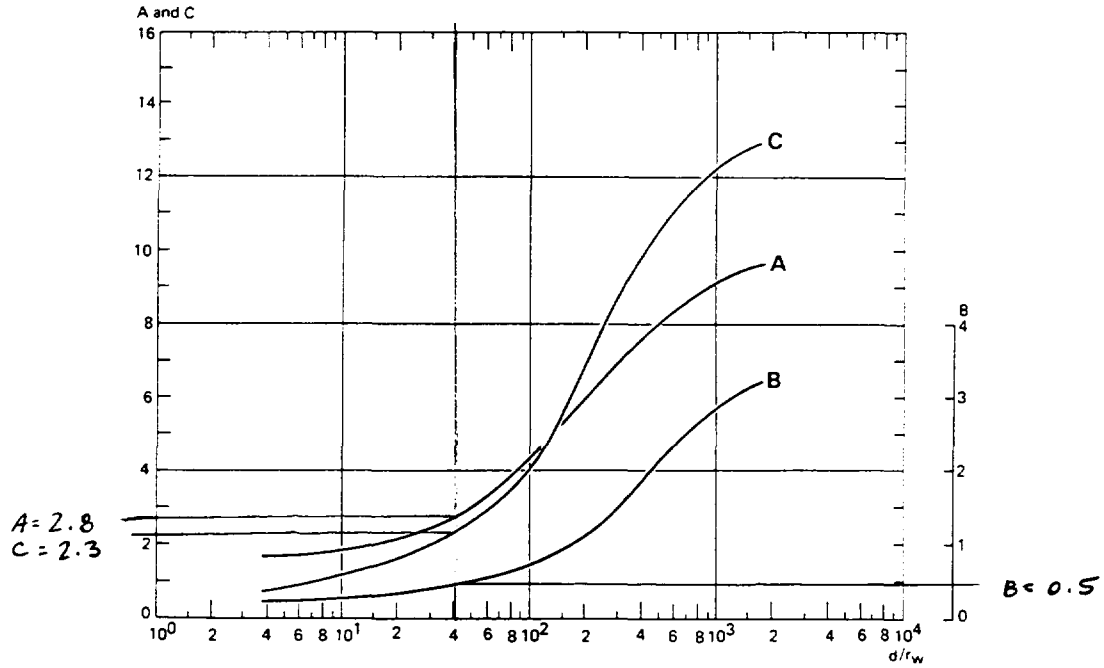


Figure 16.6 The Bouwer and Rice curves showing the relation between the parameters A, B, C, and d/r_w

BASED ON $d/r_w = 40.00$ AND READ FROM GRAPH ABOVE

$A = 2.8$

$B = 0.45$ (0.5 ON SPREADSHEET)

$C = 2.3$

SHOWN IN FIGURE 16.5

$D = b$ (FULLY PENETRATING)

b = DEPTH FROM WATER TABLE TO BOTTOM OF WELL (ft.)
D = DEPTH FROM WATER TABLE TO IMPERMEABLE LAYER (ft.)

$b = 112.96$ (ft.)

$D = 112.96$ (ft.)

THE WELL IS FULLY PENETRATING THE AQUIFER

FOR FULLY PENETRATING WELLS

$$\ln \frac{R_e}{r_w} = \left[\frac{1.1}{\ln(b/r_w)} + \frac{C}{d/r_w} \right]^{-1}$$

WHERE C IS A DIMENSIONLESS PARAMETER, WHICH IS A FUNCTION OF d/r_w.

$$\ln \frac{R_e}{r_w} = \left[\frac{1.1}{\ln\left(112.96(ft.)/(0.25(ft.))\right)} + \frac{2.3}{40.00} \right]^{-1}$$

$$\ln \frac{R_e}{r_w} = 4.21 \quad \text{UNITLESS}$$

R_e = RADIAL DISTANCE OVER WHICH THE DIFFERENCE IN HEAD Y_0 IS DISSIPATED IN THE FLOW SYSTEM OF THE AQUIFER.

$$\ln \frac{R_e}{r_w} = \ln R_e - \ln r_w$$

$$4.21 = \ln R_e - \ln(0.25(ft.))$$

$$\ln R_e = 2.83$$

$$R_e = e^{2.83} \ (ft.)$$

$$R_e = 16.9 \ (ft.)$$

READ FROM STRAIGHT LINE PORTION OF DRAWDOWN VS. TIME GRAPH

Y_0 = DRAWDOWN IN WELL AT $t_0 = 0$ (ft.)

Y_t = DRAWDOWN IN WELL AT $t > t_0$ (ft.)

t = TIME INTERVAL BETWEEN Y_0 AND Y_t (SEC.)

$Y_0 = 4.50$ (ft.)

$Y_t = 0.30$ (ft.)

$t = 50.0$ (SEC.)

$$K = \frac{r_c^2 \ln(R_e/r_w)}{2d} \frac{1}{t} \ln \frac{Y_0}{Y_t}$$

$$K = \frac{(0.0833(ft.))^2 (4.21)}{2(10.00(ft.))} \frac{1}{(50.0(SEC))} \ln \frac{4.50(ft.)}{0.30(ft.)}$$

CAMP DRESSER & McKEE

CLIENT IEPA
PROJECT S.E. ROCKFORD
DETAIL SLUG TEST HAND CALCULATION

JOB NO. 1681-07-RI-
DATE CHECKED
CHECKED BY

COMPUTED BY M.E.N.
DATE 12-7-93
PAGE NO. 4 OF 4

$$K = 7.91 \times 10^{-5} \text{ ft/sec.}$$

$$K = (7.91 \times 10^{-5} \text{ ft/sec})(60 \text{ sec/min})$$

$$K = 4.75 \times 10^{-3} \text{ ft./min}$$

$$K = (4.75 \times 10^{-3} \text{ ft/min})(60 \text{ min/hr})(24 \text{ hr/day})$$

$$K = 6.84 \text{ ft/day}$$

	WELL DESCRIPTION			
	MW-112C Test 1	MW-112C Test 2	MW-112C Test 3	MW-112C Test 4
rc = radius of the unscreened part of well where the head is changing (ft.)	0.0833	0.0833	0.0833	0.0833
B = match point from graph of F(a,B) vs. B	1	1	1	1
t = time match point from graph of ht/ho vs. t (sec.)	2.0	1.8	1.8	1.8
KD = transmissivity of the screened portion of the aquifer (sq.ft./sec)	3.47E-03	3.85E-03	3.85E-03	3.85E-03
D = aquifer thickness (screened portion of the aquifer) (ft.)	10.00	10.00	10.00	10.00
K = hydraulic conductivity of the screened portion of the aquifer (ft./sec)	3.47E-04	3.85E-04	3.85E-04	3.85E-04
K = hydraulic conductivity of the screened portion of the aquifer (ft./min.)	2.08E-02	2.31E-02	2.31E-02	2.31E-02
K = hydraulic conductivity of the screened portion of the aquifer (ft./day)	3.00E+01	3.33E+01	3.33E+01	3.33E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well	MW-112C	Test 1
Date		10/26/93
Time		12:45
Reference		0.000
Scale factor		10.020
Offset		0.000
Delay mSEC		50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)	ht/ho
1	0.0000	0.000	-4.21	
2	0.0033	0.198	6.16	
3	0.0066	0.396	12.08	
4	0.0099	0.594	15.63	
5	0.0133	0.798	18.11	
6	0.0166	0.996	19.37	
7	0.0200	1.200	19.54	1.00
8	0.0233	1.398	19.43	0.99
9	0.0266	1.596	19.52	1.00
10	0.0300	1.800	19.48	1.00
11	0.0333	1.998	19.48	1.00
12	0.0500	3.000	18.16	0.93
13	0.0666	3.996	16.67	0.85
14	0.0833	4.998	15.35	0.79
15	0.1000	6.000	14.15	0.72
16	0.1166	6.996	13.05	0.67
17	0.1333	7.998	12.06	0.62
18	0.1500	9.000	11.14	0.57
19	0.1666	9.996	10.31	0.53
20	0.1833	10.998	9.51	0.49
21	0.2000	12.000	8.81	0.45
22	0.2166	12.996	8.17	0.42
23	0.2333	13.998	7.57	0.39
24	0.2500	15.000	7.03	0.36
25	0.2666	15.996	6.52	0.33
26	0.2833	16.998	6.05	0.31
27	0.3000	18.000	5.62	0.29
28	0.3166	18.996	5.22	0.27
29	0.3333	19.998	4.84	0.25
30	0.4167	25.002	3.34	0.17
31	0.5000	30.000	2.32	0.12
32	0.5833	34.998	1.62	0.08
33	0.6667	40.002	1.14	0.06
34	0.7500	45.000	0.81	0.04
35	0.8333	49.998	0.58	0.03
36	0.9167	55.002	0.41	0.02
37	1.0000	60.000	0.30	0.02
38	1.0833	64.998	0.23	0.01
39	1.1667	70.002	0.17	0.01
40	1.2500	75.000	0.12	0.01
41	1.3333	79.998	0.10	0.01
42	1.4166	84.996	0.07	0.00
43	1.5000	90.000	0.06	0.00
44	1.5833	94.998	0.05	0.00
45	1.6667	100.002	0.04	0.00
46	1.7500	105.000	0.03	0.00
47	1.8333	109.998	0.02	0.00
48	1.9167	115.002	0.02	0.00
49	2.0000	120.000	0.02	0.00
50	2.5000	150.000	0.00	0.00
51	3.0000	180.000	0.00	0.00
52	3.5000	210.000	0.00	0.00
53	4.0000	240.000	0.00	0.00
54	4.5000	270.000	0.00	0.00
55	5.0000	300.000	0.00	0.00
56	5.5000	330.000	0.00	0.00
57	6.0000	360.000	0.00	0.00
58	6.5000	390.000	0.00	0.00
59	7.0000	420.000	0.00	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112C	Test 2
Date	10/26/93
Time	12:58
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)	ht/ho
1	0.0000	0.000	6.67	
2	0.0033	0.198	11.62	
3	0.0066	0.396	14.24	
4	0.0099	0.594	15.17	1.00
5	0.0133	0.798	14.91	0.98
6	0.0166	0.996	14.68	0.97
7	0.0200	1.200	14.53	0.96
8	0.0233	1.398	14.20	0.94
9	0.0266	1.596	14.02	0.92
10	0.0300	1.800	13.73	0.91
11	0.0333	1.998	13.49	0.89
12	0.0500	3.000	12.34	0.81
13	0.0666	3.996	11.31	0.75
14	0.0833	4.998	10.39	0.68
15	0.1000	6.000	9.52	0.63
16	0.1166	6.996	8.78	0.58
17	0.1333	7.998	8.10	0.53
18	0.1500	9.000	7.48	0.49
19	0.1666	9.996	6.92	0.46
20	0.1833	10.998	6.40	0.42
21	0.2000	12.000	5.92	0.39
22	0.2166	12.996	5.48	0.36
23	0.2333	13.998	5.07	0.33
24	0.2500	15.000	4.70	0.31
25	0.2666	15.996	4.35	0.29
26	0.2833	16.998	4.03	0.27
27	0.3000	18.000	3.74	0.25
28	0.3166	18.996	3.47	0.23
29	0.3333	19.998	3.21	0.21
30	0.4167	25.002	2.20	0.15
31	0.5000	30.000	1.52	0.10
32	0.5833	34.998	1.06	0.07
33	0.6667	40.002	0.74	0.05
34	0.7500	45.000	0.52	0.03
35	0.8333	49.998	0.37	0.02
36	0.9167	55.002	0.26	0.02
37	1.0000	60.000	0.19	0.01
38	1.0833	64.998	0.14	0.01
39	1.1667	70.002	0.10	0.01
40	1.2500	75.000	0.08	0.01
41	1.3333	79.998	0.06	0.00
42	1.4166	84.996	0.05	0.00
43	1.5000	90.000	0.04	0.00
44	1.5833	94.998	0.03	0.00
45	1.6667	100.002	0.02	0.00
46	1.7500	105.000	0.02	0.00
47	1.8333	109.998	0.01	0.00
48	1.9167	115.002	0.01	0.00
49	2.0000	120.000	0.01	0.00
50	2.5000	150.000	0.00	0.00
51	3.0000	180.000	0.00	0.00
52	3.5000	210.000	0.00	0.00
53	4.0000	240.000	0.00	0.00
54	4.5000	270.000	0.00	0.00
55	5.0000	300.000	0.00	0.00
56	5.5000	330.000	0.00	0.00
57	6.0000	360.000	0.00	0.00
58	6.5000	390.000	0.00	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112C	Test 3
Date	10/26/93
Time	13:09
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)	ht/ho
1	0.0000	0.000	6.66	
2	0.0033	0.198	10.76	
3	0.0066	0.396	12.55	
4	0.0099	0.594	12.67	1.00
5	0.0133	0.798	12.37	0.98
6	0.0166	0.996	12.37	0.98
7	0.0200	1.200	12.08	0.95
8	0.0233	1.398	11.93	0.94
9	0.0266	1.596	11.73	0.93
10	0.0300	1.800	11.49	0.91
11	0.0333	1.998	11.33	0.89
12	0.0500	3.000	10.35	0.82
13	0.0666	3.996	9.45	0.75
14	0.0833	4.998	8.68	0.69
15	0.1000	6.000	8.00	0.63
16	0.1166	6.996	7.38	0.58
17	0.1333	7.998	6.81	0.54
18	0.1500	9.000	6.29	0.50
19	0.1666	9.996	5.81	0.46
20	0.1833	10.998	5.37	0.42
21	0.2000	12.000	4.97	0.39
22	0.2166	12.996	4.59	0.36
23	0.2333	13.998	4.25	0.34
24	0.2500	15.000	3.94	0.31
25	0.2666	15.996	3.65	0.29
26	0.2833	16.998	3.38	0.27
27	0.3000	18.000	3.13	0.25
28	0.3166	18.996	2.90	0.23
29	0.3333	19.998	2.69	0.21
30	0.4167	25.002	1.84	0.15
31	0.5000	30.000	1.27	0.10
32	0.5833	34.998	0.89	0.07
33	0.6667	40.002	0.62	0.05
34	0.7500	45.000	0.43	0.03
35	0.8333	49.998	0.31	0.02
36	0.9167	55.002	0.22	0.02
37	1.0000	60.000	0.16	0.01
38	1.0833	64.998	0.11	0.01
39	1.1667	70.002	0.08	0.01
40	1.2500	75.000	0.06	0.00
41	1.3333	79.998	0.05	0.00
42	1.4166	84.996	0.03	0.00
43	1.5000	90.000	0.02	0.00
44	1.5833	94.998	0.02	0.00
45	1.6667	100.002	0.01	0.00
46	1.7500	105.000	0.01	0.00
47	1.8333	109.998	0.01	0.00
48	1.9167	115.002	0.00	0.00
49	2.0000	120.000	0.00	0.00
50	2.5000	150.000	0.00	0.00
51	3.0000	180.000	0.00	0.00
52	3.5000	210.000	0.00	0.00
53	4.0000	240.000	0.00	0.00
54	4.5000	270.000	0.00	0.00
55	5.0000	300.000	0.00	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112C	Test 4
Date	10/26/93
Time	13:17
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)	ht/ho
1	0.0000	0.000	5.17	
2	0.0033	0.198	10.00	
3	0.0066	0.396	12.27	
4	0.0099	0.594	12.98	1.00
5	0.0133	0.798	12.65	0.97
6	0.0166	0.996	12.58	0.97
7	0.0200	1.200	12.43	0.96
8	0.0233	1.398	12.16	0.94
9	0.0266	1.596	12.04	0.93
10	0.0300	1.800	11.76	0.91
11	0.0333	1.998	11.59	0.89
12	0.0500	3.000	10.58	0.82
13	0.0666	3.996	9.66	0.74
14	0.0833	4.998	8.87	0.68
15	0.1000	6.000	8.16	0.63
16	0.1166	6.996	7.52	0.58
17	0.1333	7.998	6.94	0.53
18	0.1500	9.000	6.41	0.49
19	0.1666	9.996	5.92	0.46
20	0.1833	10.998	5.47	0.42
21	0.2000	12.000	5.06	0.39
22	0.2166	12.996	4.68	0.36
23	0.2333	13.998	4.33	0.33
24	0.2500	15.000	4.01	0.31
25	0.2666	15.996	3.71	0.29
26	0.2833	16.998	3.44	0.27
27	0.3000	18.000	3.19	0.25
28	0.3166	18.996	2.95	0.23
29	0.3333	19.998	2.73	0.21
30	0.4167	25.002	1.88	0.14
31	0.5000	30.000	1.30	0.10
32	0.5833	34.998	0.90	0.07
33	0.6667	40.002	0.63	0.05
34	0.7500	45.000	0.44	0.03
35	0.8333	49.998	0.31	0.02
36	0.9167	55.002	0.22	0.02
37	1.0000	60.000	0.16	0.01
38	1.0833	64.998	0.12	0.01
39	1.1667	70.002	0.08	0.01
40	1.2500	75.000	0.06	0.00
41	1.3333	79.998	0.05	0.00
42	1.4166	84.996	0.04	0.00
43	1.5000	90.000	0.03	0.00
44	1.5833	94.998	0.02	0.00
45	1.6667	100.002	0.01	0.00
46	1.7500	105.000	0.01	0.00
47	1.8333	109.998	0.01	0.00
48	1.9167	115.002	0.01	0.00
49	2.0000	120.000	0.00	0.00
50	2.5000	150.000	0.00	0.00
51	3.0000	180.000	0.00	0.00
52	3.5000	210.000	0.00	0.00
53	4.0000	240.000	0.00	0.00
54	4.5000	270.000	0.00	0.00
55	5.0000	300.000	0.00	0.00
56	5.5000	330.000	0.00	0.00
57	6.0000	360.000	0.00	0.00
58	6.5000	390.000	0.00	0.00
59	7.0000	420.000	0.00	0.00

	WELL DESCRIPTION		
	MW-114B Test 1	MW-114B Test 2	MW-114B Test 3
rc = radius of the unscreened part of well where the head is changing (ft.)	0.0833	0.0833	0.0833
B = match point from graph of F(a,B) vs. B	1	1	1
t = time match point from graph of ht/ho vs. t (sec.)	1.4	1.3	1.3
KD = transmissivity of the screened portion of the aquifer (sq.ft./sec)	4.96E-03	5.34E-03	5.34E-03
D = aquifer thickness (screened portion of the aquifer) (ft.)	10.00	10.00	10.00
K = hydraulic conductivity of the screened portion of the aquifer (ft./sec)	4.96E-04	5.34E-04	5.34E-04
K = hydraulic conductivity of the screened portion of the aquifer (ft./min.)	2.97E-02	3.20E-02	3.20E-02
K = hydraulic conductivity of the screened portion of the aquifer (ft./day)	4.28E+01	4.61E+01	4.61E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-114B	Test 1
Date	9/16/93
Time	13:32
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)	ht/ho
1	0.0000	0.000	12.58	1.00
2	0.0033	0.198	12.40	0.99
3	0.0066	0.396	12.36	0.98
4	0.0099	0.594	12.36	0.98
5	0.0133	0.798	12.38	0.98
6	0.0166	0.996	12.39	0.98
7	0.0200	1.200	12.39	0.98
8	0.0233	1.398	12.39	0.98
9	0.0266	1.596	12.39	0.98
10	0.0300	1.800	12.39	0.98
11	0.0333	1.998	12.39	0.98
12	0.0500	3.000	11.43	0.91
13	0.0666	3.996	10.05	0.80
14	0.0833	4.998	8.89	0.71
15	0.1000	6.000	7.89	0.63
16	0.1166	6.996	7.03	0.56
17	0.1333	7.998	6.28	0.50
18	0.1500	9.000	5.62	0.45
19	0.1666	9.996	5.03	0.40
20	0.1833	10.998	4.51	0.36
21	0.2000	12.000	4.02	0.32
22	0.2166	12.996	3.58	0.28
23	0.2333	13.998	3.18	0.25
24	0.2500	15.000	2.83	0.22
25	0.2666	15.996	2.52	0.20
26	0.2833	16.998	2.26	0.18
27	0.3000	18.000	2.01	0.16
28	0.3166	18.996	1.81	0.14
29	0.3333	19.998	1.62	0.13
30	0.4167	25.002	0.92	0.07
31	0.5000	30.000	0.55	0.04
32	0.5833	34.998	0.33	0.03
33	0.6667	40.002	0.21	0.02
34	0.7500	45.000	0.13	0.01
35	0.8333	49.998	0.09	0.01
36	0.9167	55.002	0.07	0.01
37	1.0000	60.000	0.05	0.00
38	1.0833	64.998	0.04	0.00
39	1.1667	70.002	0.03	0.00
40	1.2500	75.000	0.03	0.00
41	1.3333	79.998	0.02	0.00
42	1.4166	84.996	0.02	0.00
43	1.5000	90.000	0.02	0.00
44	1.5833	94.998	0.02	0.00
45	1.6667	100.002	0.02	0.00
46	1.7500	105.000	0.01	0.00
47	1.8333	109.998	0.01	0.00
48	1.9167	115.002	0.01	0.00
49	2.0000	120.000	0.01	0.00
50	2.5000	150.000	0.01	0.00
51	3.0000	180.000	0.01	0.00
52	3.5000	210.000	0.01	0.00
53	4.0000	240.000	0.01	0.00
54	4.5000	270.000	0.00	0.00
55	5.0000	300.000	0.00	0.00
56	5.5000	330.000	0.00	0.00
57	6.0000	360.000	0.00	0.00
58	6.5000	390.000	0.00	0.00
59	7.0000	420.000	0.00	0.00
60	7.5000	450.000	0.00	0.00
61	8.0000	480.000	0.00	0.00
62	8.5000	510.000	0.00	0.00
63	9.0000	540.000	0.00	0.00
64	9.5000	570.000	0.00	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)	ht/ho
65	10.0000	600.000	0.00	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-114B	Test 2
Date	9/16/93
Time	13:51
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)	ht/ho
1	0.0000	0.000	10.90	1.00
2	0.0033	0.198	10.78	0.99
3	0.0066	0.396	10.70	0.98
4	0.0099	0.594	10.54	0.97
5	0.0133	0.798	10.30	0.94
6	0.0166	0.996	10.06	0.92
7	0.0200	1.200	9.82	0.90
8	0.0233	1.398	9.58	0.88
9	0.0266	1.596	9.33	0.86
10	0.0300	1.800	9.08	0.83
11	0.0333	1.998	8.85	0.81
12	0.0500	3.000	7.76	0.71
13	0.0666	3.996	6.83	0.63
14	0.0833	4.998	6.04	0.55
15	0.1000	6.000	5.36	0.49
16	0.1166	6.996	4.76	0.44
17	0.1333	7.998	4.23	0.39
18	0.1500	9.000	3.77	0.35
19	0.1666	9.996	3.32	0.30
20	0.1833	10.998	2.95	0.27
21	0.2000	12.000	2.62	0.24
22	0.2166	12.996	2.34	0.21
23	0.2333	13.998	2.08	0.19
24	0.2500	15.000	1.86	0.17
25	0.2666	15.996	1.66	0.15
26	0.2833	16.998	1.49	0.14
27	0.3000	18.000	1.32	0.12
28	0.3166	18.996	1.19	0.11
29	0.3333	19.998	1.07	0.10
30	0.4167	25.002	0.62	0.06
31	0.5000	30.000	0.37	0.03
32	0.5833	34.998	0.22	0.02
33	0.6667	40.002	0.14	0.01
34	0.7500	45.000	0.09	0.01
35	0.8333	49.998	0.06	0.01
36	0.9167	55.002	0.04	0.00
37	1.0000	60.000	0.03	0.00
38	1.0833	64.998	0.02	0.00
39	1.1667	70.002	0.02	0.00
40	1.2500	75.000	0.01	0.00
41	1.3333	79.998	0.01	0.00
42	1.4166	84.996	0.01	0.00
43	1.5000	90.000	0.00	0.00
44	1.5833	94.998	0.00	0.00
45	1.6667	100.002	0.00	0.00
46	1.7500	105.000	0.00	0.00
47	1.8333	109.998	0.00	0.00
48	1.9167	115.002	0.00	0.00
49	2.0000	120.000	0.00	0.00
50	2.5000	150.000	0.00	0.00
51	3.0000	180.000	0.00	0.00
52	3.5000	210.000	0.00	0.00
53	4.0000	240.000	0.00	0.00
54	4.5000	270.000	0.00	0.00
55	5.0000	300.000	0.00	0.00
56	5.5000	330.000	0.00	0.00
57	6.0000	360.000	0.00	0.00
58	6.5000	390.000	0.00	0.00
59	7.0000	420.000	0.00	0.00
60	7.5000	450.000	0.00	0.00
61	8.0000	480.000	0.00	0.00
62	8.5000	510.000	0.00	0.00
63	9.0000	540.000	0.00	0.00
64	9.5000	570.000	0.00	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)	ht/ho
65	10.0000	600.000	0.00	0.00
66	12.0000	720.000	0.00	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-114B	Test 3
Date	9/16/93
Time	14:08
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)	ht/ho
1	0.0000	0.000	7.82	
2	0.0033	0.198	7.97	1.00
3	0.0066	0.396	7.81	0.98
4	0.0099	0.594	7.79	0.98
5	0.0133	0.798	7.78	0.98
6	0.0166	0.996	7.68	0.96
7	0.0200	1.200	7.54	0.95
8	0.0233	1.398	7.38	0.93
9	0.0266	1.596	7.22	0.91
10	0.0300	1.800	7.05	0.88
11	0.0333	1.998	6.88	0.86
12	0.0500	3.000	6.01	0.75
13	0.0666	3.996	5.27	0.66
14	0.0833	4.998	4.63	0.58
15	0.1000	6.000	4.09	0.51
16	0.1166	6.996	3.62	0.45
17	0.1333	7.998	3.16	0.40
18	0.1500	9.000	2.80	0.35
19	0.1666	9.996	2.50	0.31
20	0.1833	10.998	2.22	0.28
21	0.2000	12.000	1.97	0.25
22	0.2166	12.996	1.76	0.22
23	0.2333	13.998	1.57	0.20
24	0.2500	15.000	1.40	0.18
25	0.2666	15.996	1.25	0.16
26	0.2833	16.998	1.11	0.14
27	0.3000	18.000	1.00	0.13
28	0.3166	18.996	0.89	0.11
29	0.3333	19.998	0.80	0.10
30	0.4167	25.002	0.46	0.06
31	0.5000	30.000	0.27	0.03
32	0.5833	34.998	0.16	0.02
33	0.6667	40.002	0.09	0.01
34	0.7500	45.000	0.05	0.01
35	0.8333	49.998	0.03	0.00
36	0.9167	55.002	0.02	0.00
37	1.0000	60.000	0.01	0.00
38	1.0833	64.998	0.00	0.00
39	1.1667	70.002	0.00	0.00
40	1.2500	75.000	0.00	0.00
41	1.3333	79.998	0.00	0.00
42	1.4166	84.996	0.00	0.00
43	1.5000	90.000	0.00	0.00
44	1.5833	94.998	0.00	0.00
45	1.6667	100.002	0.00	0.00
46	1.7500	105.000	0.00	0.00
47	1.8333	109.998	0.00	0.00
48	1.9167	115.002	0.00	0.00
49	2.0000	120.000	0.00	0.00
50	2.5000	150.000	0.00	0.00
51	3.0000	180.000	0.00	0.00
52	3.5000	210.000	-0.01	0.00
53	4.0000	240.000	-0.01	0.00
54	4.5000	270.000	-0.01	0.00
55	5.0000	300.000	-0.01	0.00
56	5.5000	330.000	-0.01	0.00
57	6.0000	360.000	-0.01	0.00
58	6.5000	390.000	-0.01	0.00
59	7.0000	420.000	-0.01	0.00
60	7.5000	450.000	-0.01	0.00
61	8.0000	480.000	-0.01	0.00
62	8.5000	510.000	-0.01	0.00
63	9.0000	540.000	-0.01	0.00
64	9.5000	570.000	-0.01	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)	ht/ho
65	10.0000	600.000	-0.01	0.00

	WELL DESCRIPTION		
	MW-101A Test 1	MW101A TEST 2	MW101A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	49.49	49.49	49.49
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.65E+00	2.65E+00	2.65E+00
Re = effective radius (ft.)	4.90E+00	4.90E+00	4.90E+00
Yo = Drawdown in well at t0 = 0 (ft.)	19.05	14.07	13.74
Yt = Drawdown in well at t > t0 (ft.)	4.02	7.84	6.52
t = time interval between Yo and Yt (sec.)	2.0	0.8	1.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	7.16E-04	6.73E-04	6.86E-04
K = hydraulic conductivity (ft./min.)	4.30E-02	4.04E-02	4.12E-02
K = hydraulic conductivity (ft./day)	6.19E+01	5.82E+01	5.93E+01

~ 19%

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101A	Test 1
Date	9/14/93
Time	11:52
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.94
2	0.0033	0.198	18.04
3	0.0066	0.396	19.29
4	0.0099	0.594	19.39
5	0.0133	0.798	19.63
6	0.0166	0.996	19.05
7	0.0200	1.200	17.26
8	0.0233	1.398	14.89
9	0.0266	1.596	12.69
10	0.0300	1.800	10.71
11	0.0333	1.998	9.29
12	0.0500	3.000	4.02
13	0.0666	3.996	1.30
14	0.0833	4.998	0.04
15	0.1000	6.000	-0.28
16	0.1166	6.996	-0.15
17	0.1333	7.998	0.05
18	0.1500	9.000	0.17
19	0.1666	9.996	0.18
20	0.1833	10.998	0.14
21	0.2000	12.000	0.08
22	0.2166	12.996	0.05
23	0.2333	13.998	0.04
24	0.2500	15.000	0.04
25	0.2666	15.996	0.04
26	0.2833	16.998	0.04
27	0.3000	18.000	0.04
28	0.3166	18.996	0.04
29	0.3333	19.998	0.03
30	0.4167	25.002	0.02
31	0.5000	30.000	0.02
32	0.5833	34.998	0.01
33	0.6667	40.002	0.01
34	0.7500	45.000	0.01
35	0.8333	49.998	0.01
36	0.9167	55.002	0.01
37	1.0000	60.000	0.01
38	1.0833	64.998	0.01
39	1.1667	70.002	0.01
40	1.2500	75.000	0.01
41	1.3333	79.998	0.01
42	1.4166	84.996	0.01
43	1.5000	90.000	0.01
44	1.5833	94.998	0.01
45	1.6667	100.002	0.01
46	1.7500	105.000	0.01
47	1.8333	109.998	0.01
48	1.9167	115.002	0.01
49	2.0000	120.000	0.01
50	2.5000	150.000	0.01
51	3.0000	180.000	0.01
52	3.5000	210.000	0.01
53	4.0000	240.000	0.01
54	4.5000	270.000	0.01
55	5.0000	300.000	0.01
56	5.5000	330.000	0.01
57	6.0000	360.000	0.01
58	6.5000	390.000	0.01
59	7.0000	420.000	0.01
60	7.5000	450.000	0.01
61	8.0000	480.000	0.01
62	8.5000	510.000	0.01
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101A	Test 2
Date	9/14/93
Time	12:11
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	10.96
2	0.0033	0.198	17.28
3	0.0066	0.396	19.39
4	0.0099	0.594	19.85
5	0.0133	0.798	19.00
6	0.0166	0.996	17.02
7	0.0200	1.200	14.70
8	0.0233	1.398	12.77
9	0.0266	1.596	10.85
10	0.0300	1.800	9.24
11	0.0333	1.998	7.84
12	0.0500	3.000	3.17
13	0.0666	3.996	0.80
14	0.0833	4.998	-0.20
15	0.1000	6.000	-0.38
16	0.1166	6.996	-0.17
17	0.1333	7.998	0.05
18	0.1500	9.000	0.15
19	0.1666	9.996	0.15
20	0.1833	10.998	0.10
21	0.2000	12.000	0.05
22	0.2166	12.996	0.03
23	0.2333	13.998	0.02
24	0.2500	15.000	0.02
25	0.2666	15.996	0.03
26	0.2833	16.998	0.03
27	0.3000	18.000	0.03
28	0.3166	18.996	0.03
29	0.3333	19.998	0.03
30	0.4167	25.002	0.02
31	0.5000	30.000	0.02
32	0.5833	34.998	0.02
33	0.6667	40.002	0.02
34	0.7500	45.000	0.02
35	0.8333	49.998	0.02
36	0.9167	55.002	0.02
37	1.0000	60.000	0.02
38	1.0833	64.998	0.02
39	1.1667	70.002	0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well	MW-101A	Test 3
Date		9/14/93
Time		12:22
Reference		0.000
Scale factor		10.020
Offset		0.000
Delay mSEC		50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.14
2	0.0033	0.198	19.01
3	0.0066	0.396	18.44
4	0.0099	0.594	17.08
5	0.0133	0.798	15.63
6	0.0166	0.996	13.74
7	0.0200	1.200	12.12
8	0.0233	1.398	10.51
9	0.0266	1.596	8.88
10	0.0300	1.800	7.66
11	0.0333	1.998	6.52
12	0.0500	3.000	2.52
13	0.0666	3.996	0.48
14	0.0833	4.998	-0.30
15	0.1000	6.000	-0.36
16	0.1166	6.996	-0.11
17	0.1333	7.998	0.08
18	0.1500	9.000	0.16
19	0.1666	9.996	0.14
20	0.1833	10.998	0.09
21	0.2000	12.000	0.04
22	0.2166	12.996	0.02
23	0.2333	13.998	0.01
24	0.2500	15.000	0.02
25	0.2666	15.996	0.02
26	0.2833	16.998	0.02
27	0.3000	18.000	0.02
28	0.3166	18.996	0.02
29	0.3333	19.998	0.02
30	0.4167	25.002	0.01
31	0.5000	30.000	0.01
32	0.5833	34.998	0.01
33	0.6667	40.002	0.01
34	0.7500	45.000	0.00
35	0.8333	49.998	0.01
36	0.9167	55.002	0.01
37	1.0000	60.000	0.01
38	1.0833	64.998	0.01
39	1.1667	70.002	0.01
40	1.2500	75.000	0.01
41	1.3333	79.998	0.01
42	1.4166	84.996	0.00
43	1.5000	90.000	0.01
44	1.5833	94.998	0.01
45	1.6667	100.002	0.01
46	1.7500	105.000	0.01
47	1.8333	109.998	0.01
48	1.9167	115.002	0.01
49	2.0000	120.000	0.01
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.01

	WELL DESCRIPTION		
	MW-101B Test 1	MW101B TEST 2	MW101B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	111.38	111.38	111.38
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.15E+00	3.15E+00	3.15E+00
Re = effective radius (ft.)	5.81E+00	5.81E+00	5.81E+00
Yo = Drawdown in well at t0 = 0 (ft.)	4.06	10.07	5.12
Yt = Drawdown in well at t > t0 (ft.)	0.70	5.78	1.95
t = time interval between Yo and Yt (sec.)	29.0	15.0	16.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	6.62E-05	4.04E-05	6.59E-05
K = hydraulic conductivity (ft./min.)	3.97E-03	2.42E-03	3.95E-03
K = hydraulic conductivity (ft./day)	5.72E+00	3.49E+00	5.69E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101B	Test 1
Date	9/14/93
Time	12:38
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.70
2	0.0033	0.198	6.01
3	0.0066	0.396	6.10
4	0.0099	0.594	6.05
5	0.0133	0.798	5.94
6	0.0166	0.996	5.83
7	0.0200	1.200	5.72
8	0.0233	1.398	5.63
9	0.0266	1.596	5.53
10	0.0300	1.800	5.45
11	0.0333	1.998	5.37
12	0.0500	3.000	5.00
13	0.0666	3.996	4.65
14	0.0833	4.998	4.35
15	0.1000	6.000	4.06
16	0.1166	6.996	3.81
17	0.1333	7.998	3.57
18	0.1500	9.000	3.35
19	0.1666	9.996	3.15
20	0.1833	10.998	2.96
21	0.2000	12.000	2.79
22	0.2166	12.996	2.63
23	0.2333	13.998	2.48
24	0.2500	15.000	2.35
25	0.2666	15.996	2.22
26	0.2833	16.998	2.10
27	0.3000	18.000	1.99
28	0.3166	18.996	1.88
29	0.3333	19.998	1.77
30	0.4167	25.002	1.36
31	0.5000	30.000	1.11
32	0.5833	34.998	0.91
33	0.6667	40.002	0.77
34	0.7500	45.000	0.66
35	0.8333	49.998	0.58
36	0.9167	55.002	0.51
37	1.0000	60.000	0.45
38	1.0833	64.998	0.41
39	1.1667	70.002	0.36
40	1.2500	75.000	0.33
41	1.3333	79.998	0.30
42	1.4166	84.996	0.28
43	1.5000	90.000	0.25
44	1.5833	94.998	0.23
45	1.6667	100.002	0.22
46	1.7500	105.000	0.20
47	1.8333	109.998	0.19
48	1.9167	115.002	0.17
49	2.0000	120.000	0.17
50	2.5000	150.000	0.11
51	3.0000	180.000	0.08
52	3.5000	210.000	0.07
53	4.0000	240.000	0.05
54	4.5000	270.000	0.05
55	5.0000	300.000	0.04
56	5.5000	330.000	0.04
57	6.0000	360.000	0.03
58	6.5000	390.000	0.03
59	7.0000	420.000	0.03
60	7.5000	450.000	0.03
61	8.0000	480.000	0.03
62	8.5000	510.000	0.02
63	9.0000	540.000	0.02
64	9.5000	570.000	0.02
65	10.0000	600.000	0.02
66	12.0000	720.000	0.02
67	14.0000	840.000	0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101B	Test 2
Date	9/14/93
Time	13:01
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	14.51
2	0.0033	0.198	14.32
3	0.0066	0.396	14.13
4	0.0099	0.594	13.96
5	0.0133	0.798	13.81
6	0.0166	0.996	13.66
7	0.0200	1.200	13.51
8	0.0233	1.398	13.36
9	0.0266	1.596	13.22
10	0.0300	1.800	13.08
11	0.0333	1.998	12.94
12	0.0500	3.000	12.29
13	0.0666	3.956	11.65
14	0.0833	4.998	11.07
15	0.1000	6.000	10.56
16	0.1166	6.996	10.07
17	0.1333	7.998	9.62
18	0.1500	9.000	9.19
19	0.1666	9.996	8.79
20	0.1833	10.998	8.40
21	0.2000	12.000	8.04
22	0.2166	12.996	7.70
23	0.2333	13.998	7.38
24	0.2500	15.000	7.08
25	0.2666	15.996	6.79
26	0.2833	16.998	6.52
27	0.3000	18.000	6.26
28	0.3166	18.996	6.01
29	0.3333	19.998	5.78
30	0.4167	25.002	4.77
31	0.5000	30.000	4.00
32	0.5833	34.998	3.39
33	0.6667	40.002	2.91
34	0.7500	45.000	2.53
35	0.8333	49.998	2.22
36	0.9167	55.002	1.96
37	1.0000	60.000	1.72
38	1.0833	64.998	1.52
39	1.1667	70.002	1.37
40	1.2500	75.000	1.25
41	1.3333	79.998	1.14
42	1.4166	84.996	1.04
43	1.5000	90.000	0.96
44	1.5833	94.998	0.88
45	1.6667	100.002	0.82
46	1.7500	105.000	0.76
47	1.8333	109.998	0.70
48	1.9167	115.002	0.65
49	2.0000	120.000	0.61
50	2.5000	150.000	0.41
51	3.0000	180.000	0.29
52	3.5000	210.000	0.21
53	4.0000	240.000	0.16
54	4.5000	270.000	0.13
55	5.0000	300.000	0.11
56	5.5000	330.000	0.09
57	6.0000	360.000	0.08
58	6.5000	390.000	0.06
59	7.0000	420.000	0.06
60	7.5000	450.000	0.05
61	8.0000	480.000	0.05
62	8.5000	510.000	0.05
63	9.0000	540.000	0.04
64	9.5000	570.000	0.04
65	10.0000	600.000	0.04
66	12.0000	720.000	0.03

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101B	Test 3
Date	9/14/93
Time	13:15
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.61
2	0.0033	0.198	6.40
3	0.0066	0.396	6.61
4	0.0099	0.594	6.60
5	0.0133	0.798	6.51
6	0.0166	0.996	6.41
7	0.0200	1.200	6.30
8	0.0233	1.398	6.20
9	0.0266	1.596	6.10
10	0.0300	1.800	6.01
11	0.0333	1.998	5.92
12	0.0500	3.000	5.50
13	0.0666	3.996	5.12
14	0.0833	4.998	4.78
15	0.1000	6.000	4.46
16	0.1166	6.996	4.18
17	0.1333	7.998	3.91
18	0.1500	9.000	3.67
19	0.1666	9.996	3.45
20	0.1833	10.998	3.24
21	0.2000	12.000	3.04
22	0.2166	12.996	2.87
23	0.2333	13.998	2.71
24	0.2500	15.000	2.56
25	0.2666	15.996	2.41
26	0.2833	16.998	2.28
27	0.3000	18.000	2.16
28	0.3166	18.996	2.05
29	0.3333	19.998	1.95
30	0.4167	25.002	1.47
31	0.5000	30.000	1.18
32	0.5833	34.998	0.97
33	0.6667	40.002	0.81
34	0.7500	45.000	0.69
35	0.8333	49.998	0.60
36	0.9167	55.002	0.53
37	1.0000	60.000	0.46
38	1.0833	64.998	0.41
39	1.1667	70.002	0.37
40	1.2500	75.000	0.33
41	1.3333	79.998	0.30
42	1.4166	84.996	0.27
43	1.5000	90.000	0.24
44	1.5833	94.998	0.22
45	1.6667	100.002	0.20
46	1.7500	105.000	0.18
47	1.8333	109.998	0.17
48	1.9167	115.002	0.16
49	2.0000	120.000	0.14
50	2.5000	150.000	0.09
51	3.0000	180.000	0.06
52	3.5000	210.000	0.04
53	4.0000	240.000	0.02
54	4.5000	270.000	0.01
55	5.0000	300.000	0.01
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	-0.01
62	8.5000	510.000	-0.01
63	9.0000	540.000	-0.01
64	9.5000	570.000	-0.02

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.02

	WELL DESCRIPTION		
	MW-102A Test 1	MW102A TEST 2	MW102A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	14.51	14.51	14.51
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.23E+00	2.23E+00	2.23E+00
Re = effective radius (ft.)	3.19E+00	3.19E+00	3.19E+00
Yo = Drawdown in well at t0 = 0 (ft.)	1.70	1.17	1.25
Yt = Drawdown in well at t > t0 (ft.)	1.24	0.92	0.89
t = time interval between Yo and Yt (sec.)	175.0	110.0	80.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.39E-06	1.69E-06	3.28E-06
K = hydraulic conductivity (ft./min.)	8.35E-05	1.01E-04	1.97E-04
K = hydraulic conductivity (ft./day)	1.20E-01	1.46E-01	2.83E-01

Adj +6%

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-102A	Test 1
Date	9/08/93
Time	14:01
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-14.47
2	0.0033	0.198	-9.46
3	0.0066	0.396	7.48
4	0.0099	0.594	4.04
5	0.0133	0.798	2.17
6	0.0166	0.996	2.74
7	0.0200	1.200	2.35
8	0.0233	1.398	2.34
9	0.0266	1.596	2.28
10	0.0300	1.800	2.24
11	0.0333	1.998	2.20
12	0.0500	3.000	2.08
13	0.0666	3.996	2.01
14	0.0833	4.998	1.96
15	0.1000	6.000	1.92
16	0.1166	6.996	1.89
17	0.1333	7.998	1.87
18	0.1500	9.000	1.84
19	0.1666	9.996	1.82
20	0.1833	10.998	1.81
21	0.2000	12.000	1.79
22	0.2166	12.996	1.78
23	0.2333	13.998	1.76
24	0.2500	15.000	1.75
25	0.2666	15.996	1.74
26	0.2833	16.998	1.73
27	0.3000	18.000	1.72
28	0.3166	18.996	1.71
29	0.3333	19.998	1.70
30	0.4167	25.002	1.67
31	0.5000	30.000	1.64
32	0.5833	34.998	1.62
33	0.6667	40.002	1.60
34	0.7500	45.000	1.58
35	0.8333	49.998	1.56
36	0.9167	55.002	1.54
37	1.0000	60.000	1.53
38	1.0833	64.998	1.51
39	1.1667	70.002	1.50
40	1.2500	75.000	1.48
41	1.3333	79.998	1.47
42	1.4166	84.996	1.46
43	1.5000	90.000	1.44
44	1.5833	94.998	1.43
45	1.6667	100.002	1.42
46	1.7500	105.000	1.41
47	1.8333	109.998	1.39
48	1.9167	115.002	1.38
49	2.0000	120.000	1.37
50	2.5000	150.000	1.30
51	3.0000	180.000	1.24
52	3.5000	210.000	1.18
53	4.0000	240.000	1.13
54	4.5000	270.000	1.07
55	5.0000	300.000	1.03
56	5.5000	330.000	0.99
57	6.0000	360.000	0.94
58	6.5000	390.000	0.90
59	7.0000	420.000	0.86
60	7.5000	450.000	0.82
61	8.0000	480.000	0.79
62	8.5000	510.000	0.76
63	9.0000	540.000	0.73
64	9.5000	570.000	0.70

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.67
66	12.0000	720.000	0.57
67	14.0000	840.000	0.49
68	16.0000	960.000	0.42
69	18.0000	1080.000	0.36
70	20.0000	1200.000	0.32
71	22.0000	1320.000	0.28
72	24.0000	1440.000	0.25
73	26.0000	1560.000	0.22
74	28.0000	1680.000	0.19
75	30.0000	1800.000	0.17
76	32.0000	1920.000	0.14
77	34.0000	2040.000	0.12
78	36.0000	2160.000	0.10
79	38.0000	2280.000	0.09
80	40.0000	2400.000	0.08
81	42.0000	2520.000	0.07
82	44.0000	2640.000	0.06
83	46.0000	2760.000	0.05

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-102A	Test 2
Date	9/09/93
Time	12:04
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-14.10
2	0.0033	0.198	8.62
3	0.0066	0.396	3.87
4	0.0099	0.594	1.45
5	0.0133	0.798	2.76
6	0.0166	0.996	1.98
7	0.0200	1.200	2.09
8	0.0233	1.398	2.00
9	0.0266	1.596	1.94
10	0.0300	1.800	1.91
11	0.0333	1.998	1.87
12	0.0500	3.000	1.74
13	0.0666	3.996	1.66
14	0.0833	4.998	1.60
15	0.1000	6.000	1.55
16	0.1166	6.996	1.50
17	0.1333	7.998	1.47
18	0.1500	9.000	1.44
19	0.1666	9.996	1.42
20	0.1833	10.998	1.40
21	0.2000	12.000	1.38
22	0.2166	12.996	1.36
23	0.2333	13.998	1.35
24	0.2500	15.000	1.33
25	0.2666	15.996	1.32
26	0.2833	16.998	1.31
27	0.3000	18.000	1.30
28	0.3166	18.996	1.29
29	0.3333	19.998	1.28
30	0.4167	25.002	1.24
31	0.5000	30.000	1.21
32	0.5833	34.998	1.19
33	0.6667	40.002	1.17
34	0.7500	45.000	1.15
35	0.8333	49.998	1.13
36	0.9167	55.002	1.12
37	1.0000	60.000	1.10
38	1.0833	64.998	1.09
39	1.1667	70.002	1.07
40	1.2500	75.000	1.06
41	1.3333	79.998	1.05
42	1.4166	84.996	1.04
43	1.5000	90.000	1.03
44	1.5833	94.998	1.02
45	1.6667	100.002	1.01
46	1.7500	105.000	1.00
47	1.8333	109.998	0.99
48	1.9167	115.002	0.98
49	2.0000	120.000	0.97
50	2.5000	150.000	0.92
51	3.0000	180.000	0.87
52	3.5000	210.000	0.83
53	4.0000	240.000	0.79
54	4.5000	270.000	0.76
55	5.0000	300.000	0.73
56	5.5000	330.000	0.70
57	6.0000	360.000	0.67
58	6.5000	390.000	0.65
59	7.0000	420.000	0.62
60	7.5000	450.000	0.59
61	8.0000	480.000	0.58
62	8.5000	510.000	0.56
63	9.0000	540.000	0.54
64	9.5000	570.000	0.53

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.51
66	12.0000	720.000	0.46
67	14.0000	840.000	0.41
68	16.0000	960.000	0.37
69	18.0000	1080.000	0.34
70	20.0000	1200.000	0.31
71	22.0000	1320.000	0.29
72	24.0000	1440.000	0.27
73	26.0000	1560.000	0.25
74	28.0000	1680.000	0.24
75	30.0000	1800.000	0.23
76	32.0000	1920.000	0.22
77	34.0000	2040.000	0.21
78	36.0000	2160.000	0.20
79	38.0000	2280.000	0.19
80	40.0000	2400.000	0.18
81	42.0000	2520.000	0.18
82	44.0000	2640.000	0.17
83	46.0000	2760.000	0.17
84	48.0000	2880.000	0.16
85	50.0000	3000.000	0.16
86	52.0000	3120.000	0.16
87	54.0000	3240.000	0.15
88	56.0000	3360.000	0.15

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-102A	Test 3
Date	9/09/93
Time	13:10
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.14
2	0.0033	0.198	8.97
3	0.0066	0.396	0.89
4	0.0099	0.594	2.97
5	0.0133	0.798	2.27
6	0.0166	0.996	2.23
7	0.0200	1.200	2.23
8	0.0233	1.398	2.13
9	0.0266	1.596	2.12
10	0.0300	1.800	2.07
11	0.0333	1.998	2.04
12	0.0500	3.000	1.92
13	0.0666	3.996	1.84
14	0.0833	4.998	1.79
15	0.1000	6.000	1.74
16	0.1166	6.996	1.70
17	0.1333	7.998	1.66
18	0.1500	9.000	1.63
19	0.1666	9.996	1.60
20	0.1833	10.998	1.58
21	0.2000	12.000	1.56
22	0.2166	12.996	1.54
23	0.2333	13.998	1.52
24	0.2500	15.000	1.51
25	0.2666	15.996	1.49
26	0.2833	16.998	1.48
27	0.3000	18.000	1.46
28	0.3166	18.996	1.45
29	0.3333	19.998	1.44
30	0.4167	25.002	1.38
31	0.5000	30.000	1.33
32	0.5833	34.998	1.29
33	0.6667	40.002	1.25
34	0.7500	45.000	1.22
35	0.8333	49.998	1.19
36	0.9167	55.002	1.15
37	1.0000	60.000	1.13
38	1.0833	64.998	1.10
39	1.1667	70.002	1.07
40	1.2500	75.000	1.05
41	1.3333	79.998	1.03
42	1.4166	84.996	1.01
43	1.5000	90.000	0.99
44	1.5833	94.998	0.97
45	1.6667	100.002	0.95
46	1.7500	105.000	0.94
47	1.8333	109.998	0.92
48	1.9167	115.002	0.90
49	2.0000	120.000	0.89
50	2.5000	150.000	0.80
51	3.0000	180.000	0.72
52	3.5000	210.000	0.66
53	4.0000	240.000	0.61
54	4.5000	270.000	0.56
55	5.0000	300.000	0.52
56	5.5000	330.000	0.47
57	6.0000	360.000	0.44
58	6.5000	390.000	0.40
59	7.0000	420.000	0.37
60	7.5000	450.000	0.35
61	8.0000	480.000	0.32
62	8.5000	510.000	0.29
63	9.0000	540.000	0.27
64	9.5000	570.000	0.25

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.23
66	12.0000	720.000	0.16
67	14.0000	840.000	0.11
68	16.0000	960.000	0.08
69	18.0000	1080.000	0.05
70	20.0000	1200.000	0.03
71	22.0000	1320.000	0.01
72	24.0000	1440.000	0.00
73	26.0000	1560.000	0.00
74	28.0000	1680.000	0.01

	WELL DESCRIPTION		
	MW-102B Test 1	MW102B TEST 2	MW102B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	64.22	64.22	64.22
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.73E+00	2.73E+00	2.73E+00
Re = effective radius (ft.)	5.31E+00	5.31E+00	5.31E+00
Yo = Drawdown in well at t0 = 0 (ft.)	13.73	11.94	13.70
Yt = Drawdown in well at t > t0 (ft.)	5.91	7.29	6.08
t = time interval between Yo and Yt (sec.)	1.0	0.6	1.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	8.00E-04	7.80E-04	7.71E-04
K = hydraulic conductivity (ft./min.)	4.80E-02	4.68E-02	4.62E-02
K = hydraulic conductivity (ft./day)	6.91E+01	6.74E+01	6.66E+01

+ 33%

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-102B	Test 1
Date	9/09/93
Time	13:57
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	15.91
2	0.0033	0.198	15.88
3	0.0066	0.396	15.90
4	0.0099	0.594	15.93
5	0.0133	0.798	15.79
6	0.0166	0.996	13.73
7	0.0200	1.200	11.31
8	0.0233	1.398	10.18
9	0.0266	1.596	8.39
10	0.0300	1.800	7.09
11	0.0333	1.998	5.91
12	0.0500	3.000	1.61
13	0.0666	3.996	-0.16
14	0.0833	4.998	-0.59
15	0.1000	6.000	-0.22
16	0.1166	6.996	0.34
17	0.1333	7.998	0.77
18	0.1500	9.000	0.87
19	0.1666	9.996	0.70
20	0.1833	10.998	0.43
21	0.2000	12.000	0.21
22	0.2166	12.996	0.11
23	0.2333	13.998	0.14
24	0.2500	15.000	0.19
25	0.2666	15.996	0.26
26	0.2833	16.998	0.29
27	0.3000	18.000	0.29
28	0.3166	18.996	0.26
29	0.3333	19.998	0.22
30	0.4167	25.002	0.20
31	0.5000	30.000	0.17
32	0.5833	34.998	0.17
33	0.6667	40.002	0.16
34	0.7500	45.000	0.16
35	0.8333	49.998	0.15
36	0.9167	55.002	0.14
37	1.0000	60.000	0.10
38	1.0833	64.998	0.15
39	1.1667	70.002	0.13
40	1.2500	75.000	0.13
41	1.3333	79.998	0.13
42	1.4166	84.996	0.13
43	1.5000	90.000	0.12
44	1.5833	94.998	0.13
45	1.6667	100.002	0.13
46	1.7500	105.000	0.12
47	1.8333	109.998	0.16
48	1.9167	115.002	0.13
49	2.0000	120.000	0.12
50	2.5000	150.000	0.11
51	3.0000	180.000	0.11
52	3.5000	210.000	0.11
53	4.0000	240.000	0.11
54	4.5000	270.000	0.11
55	5.0000	300.000	0.11
56	5.5000	330.000	0.10
57	6.0000	360.000	0.10
58	6.5000	390.000	0.10
59	7.0000	420.000	0.10
60	7.5000	450.000	0.10
61	8.0000	480.000	0.10
62	8.5000	510.000	0.10
63	9.0000	540.000	0.10
64	9.5000	570.000	0.10
65	10.0000	600.000	0.10
66	12.0000	720.000	0.10
67	14.0000	840.000	0.10

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-102B	Test 2
Date	9/09/93
Time	14:18
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	15.83
2	0.0033	0.198	15.79
3	0.0066	0.396	15.80
4	0.0099	0.594	15.82
5	0.0133	0.798	15.91
6	0.0166	0.996	13.55
7	0.0200	1.200	11.94
8	0.0233	1.398	10.41
9	0.0266	1.596	8.77
10	0.0300	1.800	7.29
11	0.0333	1.998	6.16
12	0.0500	3.000	1.77
13	0.0666	3.996	-0.21
14	0.0833	4.998	-0.75
15	0.1000	6.000	-0.44
16	0.1166	6.996	0.16
17	0.1333	7.998	0.65
18	0.1500	9.000	0.80
19	0.1666	9.996	0.66
20	0.1833	10.998	0.39
21	0.2000	12.000	0.15
22	0.2166	12.996	0.03
23	0.2333	13.998	0.03
24	0.2500	15.000	0.10
25	0.2666	15.996	0.18
26	0.2833	16.998	0.22
27	0.3000	18.000	0.22
28	0.3166	18.996	0.19
29	0.3333	19.998	0.15
30	0.4167	25.002	0.12
31	0.5000	30.000	0.10
32	0.5833	34.998	0.09
33	0.6667	40.002	0.08
34	0.7500	45.000	0.08
35	0.8333	49.998	0.07
36	0.9167	55.002	0.07
37	1.0000	60.000	0.06
38	1.0833	64.998	0.06
39	1.1667	70.002	0.06
40	1.2500	75.000	0.05
41	1.3333	79.998	0.05
42	1.4166	84.996	0.05
43	1.5000	90.000	0.05
44	1.5833	94.998	0.05
45	1.6667	100.002	0.05
46	1.7500	105.000	0.04
47	1.8333	109.998	0.03
48	1.9167	115.002	0.05
49	2.0000	120.000	0.04
50	2.5000	150.000	0.04
51	3.0000	180.000	0.03
52	3.5000	210.000	0.03
53	4.0000	240.000	0.03
54	4.5000	270.000	0.03
55	5.0000	300.000	0.03
56	5.5000	330.000	0.02
57	6.0000	360.000	0.01
58	6.5000	390.000	0.02
59	7.0000	420.000	0.02
60	7.5000	450.000	0.02
61	8.0000	480.000	0.01
62	8.5000	510.000	0.02
63	9.0000	540.000	0.02
64	9.5000	570.000	0.02

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-102B	Test 3
Date	9/09/93
Time	14:36
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	14.43
2	0.0033	0.198	15.82
3	0.0066	0.396	15.83
4	0.0099	0.594	15.82
5	0.0133	0.798	15.62
6	0.0166	0.996	13.70
7	0.0200	1.200	11.91
8	0.0233	1.398	10.10
9	0.0266	1.596	8.63
10	0.0300	1.800	7.19
11	0.0333	1.998	6.08
12	0.0500	3.000	1.68
13	0.0666	3.996	-0.31
14	0.0833	4.998	-0.86
15	0.1000	6.000	-0.54
16	0.1166	6.996	0.10
17	0.1333	7.998	0.61
18	0.1500	9.000	0.79
19	0.1666	9.996	0.65
20	0.1833	10.998	0.38
21	0.2000	12.000	0.13
22	0.2166	12.996	0.01
23	0.2333	13.998	0.01
24	0.2500	15.000	0.08
25	0.2666	15.996	0.17
26	0.2833	16.998	0.22
27	0.3000	18.000	0.22
28	0.3166	18.996	0.18
29	0.3333	19.998	0.14
30	0.4167	25.002	0.12
31	0.5000	30.000	0.10
32	0.5833	34.998	0.09
33	0.6667	40.002	0.09
34	0.7500	45.000	0.08
35	0.8333	49.998	0.08
36	0.9167	55.002	0.08
37	1.0000	60.000	0.07
38	1.0833	64.998	0.07
39	1.1667	70.002	0.07
40	1.2500	75.000	0.06
41	1.3333	79.998	0.06
42	1.4166	84.996	0.06
43	1.5000	90.000	0.06
44	1.5833	94.998	0.06
45	1.6667	100.002	0.06
46	1.7500	105.000	0.05
47	1.8333	109.998	0.06
48	1.9167	115.002	0.06
49	2.0000	120.000	0.05
50	2.5000	150.000	0.05
51	3.0000	180.000	0.05
52	3.5000	210.000	0.05
53	4.0000	240.000	0.04
54	4.5000	270.000	0.04
55	5.0000	300.000	0.03
56	5.5000	330.000	0.04
57	6.0000	360.000	0.02
58	6.5000	390.000	0.04
59	7.0000	420.000	0.04
60	7.5000	450.000	0.05
61	8.0000	480.000	0.04
62	8.5000	510.000	0.04
63	9.0000	540.000	0.04
64	9.5000	570.000	0.04
65	10.0000	600.000	0.04
66	12.0000	720.000	0.04

	WELL DESCRIPTION		
	MW-102C Test 1	MW102C TEST 2	MW102C TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	147.32	147.32	147.32
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.23E+00	3.23E+00	3.23E+00
Re = effective radius (ft.)	6.30E+00	6.30E+00	6.30E+00
Yo = Drawdown in well at t0 = 0 (ft.)	6.59	6.63	4.69
Yt = Drawdown in well at t > t0 (ft.)	0.08	0.07	0.06
t = time interval between Yo and Yt (sec.)	85.0	85.0	70.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	5.81E-05	5.99E-05	6.97E-05
K = hydraulic conductivity (ft./min.)	3.49E-03	3.60E-03	4.18E-03
K = hydraulic conductivity (ft./day)	5.02E+00	5.18E+00	6.02E+00

+ 35%

	WELL DESCRIPTION		
	MW-102C Test 1	MW102C TEST 2	MW102C TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	147.32	147.32	147.32
D = depth from water table to impermeable layer (ft.)	147.32	147.32	147.32
fully or partially penetrating well?	fully	fully	fully
ln Re/rw (unitless)	4.35E+00	4.35E+00	4.35E+00
Re = effective radius (ft.)	1.93E+01	1.93E+01	1.93E+01
Yo = Drawdown in well at t0 = 0 (ft.)	6.59	6.63	4.69
Yt = Drawdown in well at t > t0 (ft.)	0.08	0.07	0.06
t = time interval between Yo and Yt (sec.)	85.0	85.0	70.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	7.83E-05	8.08E-05	9.40E-05
K = hydraulic conductivity (ft./min.)	4.70E-03	4.85E-03	5.64E-03
K = hydraulic conductivity (ft./day)	6.77E+00	6.98E+00	8.12E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-102C	Test 1
Date	9/09/93
Time	14:59
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	8.47
2	0.0033	0.198	8.39
3	0.0066	0.396	8.39
4	0.0099	0.594	8.30
5	0.0133	0.798	8.17
6	0.0166	0.996	8.07
7	0.0200	1.200	7.98
8	0.0233	1.398	7.90
9	0.0266	1.596	7.81
10	0.0300	1.800	7.73
11	0.0333	1.998	7.64
12	0.0500	3.000	7.24
13	0.0666	3.996	6.91
14	0.0833	4.998	6.59
15	0.1000	6.000	6.28
16	0.1166	6.996	5.99
17	0.1333	7.998	5.71
18	0.1500	9.000	5.43
19	0.1666	9.996	5.18
20	0.1833	10.998	4.93
21	0.2000	12.000	4.69
22	0.2166	12.996	4.46
23	0.2333	13.998	4.24
24	0.2500	15.000	4.03
25	0.2666	15.996	3.83
26	0.2833	16.998	3.64
27	0.3000	18.000	3.45
28	0.3166	18.996	3.28
29	0.3333	19.998	3.12
30	0.4167	25.002	2.37
31	0.5000	30.000	1.81
32	0.5833	34.998	1.37
33	0.6667	40.002	1.03
34	0.7500	45.000	0.77
35	0.8333	49.998	0.59
36	0.9167	55.002	0.45
37	1.0000	60.000	0.34
38	1.0833	64.998	0.26
39	1.1667	70.002	0.20
40	1.2500	75.000	0.16
41	1.3333	79.998	0.12
42	1.4166	84.996	0.10
43	1.5000	90.000	0.08
44	1.5833	94.998	0.06
45	1.6667	100.002	0.05
46	1.7500	105.000	0.04
47	1.8333	109.998	0.03
48	1.9167	115.002	0.03
49	2.0000	120.000	0.02
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-102C	Test 2
Date	9/09/93
Time	15:16
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	8.61
2	0.0033	0.198	8.49
3	0.0066	0.396	8.48
4	0.0099	0.594	8.39
5	0.0133	0.798	8.28
6	0.0166	0.996	8.19
7	0.0200	1.200	8.10
8	0.0233	1.398	8.02
9	0.0266	1.596	7.95
10	0.0300	1.800	7.85
11	0.0333	1.998	7.76
12	0.0500	3.000	7.32
13	0.0666	3.996	6.96
14	0.0833	4.998	6.63
15	0.1000	6.000	6.30
16	0.1166	6.996	5.99
17	0.1333	7.998	5.69
18	0.1500	9.000	5.40
19	0.1666	9.996	5.13
20	0.1833	10.998	4.87
21	0.2000	12.000	4.62
22	0.2166	12.996	4.38
23	0.2333	13.998	4.16
24	0.2500	15.000	3.94
25	0.2666	15.996	3.73
26	0.2833	16.998	3.53
27	0.3000	18.000	3.34
28	0.3166	18.996	3.16
29	0.3333	19.998	2.99
30	0.4167	25.002	2.25
31	0.5000	30.000	1.68
32	0.5833	34.998	1.25
33	0.6667	40.002	0.93
34	0.7500	45.000	0.69
35	0.8333	49.998	0.51
36	0.9167	55.002	0.38
37	1.0000	60.000	0.29
38	1.0833	64.998	0.22
39	1.1667	70.002	0.17
40	1.2500	75.000	0.13
41	1.3333	79.998	0.11
42	1.4166	84.996	0.08
43	1.5000	90.000	0.07
44	1.5833	94.998	0.05
45	1.6667	100.002	0.05
46	1.7500	105.000	0.04
47	1.8333	109.998	0.03
48	1.9167	115.002	0.03
49	2.0000	120.000	0.02
50	2.5000	150.000	0.01
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	-0.01
58	6.5000	390.000	-0.01
59	7.0000	420.000	-0.01
60	7.5000	450.000	-0.01
61	8.0000	480.000	-0.01
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.00
66	12.0000	720.000	-0.01
67	14.0000	840.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-102C	Test 3
Date	9/09/93
Time	15:38
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.34
2	0.0033	0.198	5.83
3	0.0066	0.396	5.91
4	0.0099	0.594	5.95
5	0.0133	0.798	6.01
6	0.0166	0.996	5.96
7	0.0200	1.200	5.89
8	0.0233	1.398	5.82
9	0.0266	1.596	5.74
10	0.0300	1.800	5.66
11	0.0333	1.998	5.59
12	0.0500	3.000	5.27
13	0.0666	3.996	4.97
14	0.0833	4.998	4.69
15	0.1000	6.000	4.42
16	0.1166	6.996	4.16
17	0.1333	7.998	3.93
18	0.1500	9.000	3.70
19	0.1666	9.996	3.48
20	0.1833	10.998	3.28
21	0.2000	12.000	3.09
22	0.2166	12.996	2.90
23	0.2333	13.998	2.73
24	0.2500	15.000	2.56
25	0.2666	15.996	2.41
26	0.2833	16.998	2.26
27	0.3000	18.000	2.12
28	0.3166	18.996	1.99
29	0.3333	19.998	1.87
30	0.4167	25.002	1.35
31	0.5000	30.000	0.97
32	0.5833	34.998	0.70
33	0.6667	40.002	0.50
34	0.7500	45.000	0.36
35	0.8333	49.998	0.27
36	0.9167	55.002	0.20
37	1.0000	60.000	0.15
38	1.0833	64.998	0.11
39	1.1667	70.002	0.09
40	1.2500	75.000	0.06
41	1.3333	79.998	0.05
42	1.4166	84.996	0.04
43	1.5000	90.000	0.03
44	1.5833	94.998	0.03
45	1.6667	100.002	0.02
46	1.7500	105.000	0.02
47	1.8333	109.998	0.01
48	1.9167	115.002	0.01
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.00
66	12.0000	720.000	0.00

	WELL DESCRIPTION		
	MW-105A Test 1	MW105A TEST 2	MW105A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	21.08	21.08	21.08
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.37E+00	2.37E+00	2.37E+00
Re = effective radius (ft.)	3.67E+00	3.67E+00	3.67E+00
Yo = Drawdown in well at t0 = 0 (ft.)	9.90	5.45	5.59
Yt = Drawdown in well at t > t0 (ft.)	2.38	1.58	2.27
t = time interval between Yo and Yt (sec.)	20.0	20.0	15.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	5.85E-05	5.08E-05	4.93E-05
K = hydraulic conductivity (ft./min.)	3.51E-03	3.05E-03	2.96E-03
K = hydraulic conductivity (ft./day)	5.05E+00	4.39E+00	4.26E+00

+12%

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105A	Test 1
Date	9/16/93
Time	15:28
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	6.26
2	0.0033	0.198	13.83
3	0.0066	0.396	10.23
4	0.0099	0.594	8.47
5	0.0133	0.798	8.39
6	0.0166	0.996	8.30
7	0.0200	1.200	8.12
8	0.0233	1.398	7.95
9	0.0266	1.596	7.80
10	0.0300	1.800	7.65
11	0.0333	1.998	7.51
12	0.0500	3.000	6.90
13	0.0666	3.996	6.38
14	0.0833	4.998	5.93
15	0.1000	6.000	5.53
16	0.1166	6.996	5.16
17	0.1333	7.998	4.83
18	0.1500	9.000	4.53
19	0.1666	9.996	4.26
20	0.1833	10.998	4.00
21	0.2000	12.000	3.76
22	0.2166	12.996	3.55
23	0.2333	13.998	3.34
24	0.2500	15.000	3.15
25	0.2666	15.996	2.98
26	0.2833	16.998	2.81
27	0.3000	18.000	2.66
28	0.3166	18.996	2.52
29	0.3333	19.998	2.38
30	0.4167	25.002	1.83
31	0.5000	30.000	1.41
32	0.5833	34.998	1.06
33	0.6667	40.002	0.83
34	0.7500	45.000	0.66
35	0.8333	49.998	0.53
36	0.9167	55.002	0.43
37	1.0000	60.000	0.35
38	1.0833	64.998	0.29
39	1.1667	70.002	0.24
40	1.2500	75.000	0.20
41	1.3333	79.998	0.17
42	1.4166	84.996	0.14
43	1.5000	90.000	0.11
44	1.5833	94.998	0.10
45	1.6667	100.002	0.08
46	1.7500	105.000	0.07
47	1.8333	109.998	0.05
48	1.9167	115.002	0.05
49	2.0000	120.000	0.04
50	2.5000	150.000	0.01
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105A	Test 2
Date	9/16/93
Time	15:45
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.71
2	0.0033	0.198	15.31
3	0.0066	0.396	10.42
4	0.0099	0.594	7.91
5	0.0133	0.798	7.79
6	0.0166	0.996	7.80
7	0.0200	1.200	7.64
8	0.0233	1.398	7.45
9	0.0266	1.596	7.29
10	0.0300	1.800	7.14
11	0.0333	1.998	7.01
12	0.0500	3.000	6.39
13	0.0666	3.996	5.89
14	0.0833	4.998	5.45
15	0.1000	6.000	5.06
16	0.1166	6.996	4.71
17	0.1333	7.998	4.39
18	0.1500	9.000	4.10
19	0.1666	9.996	3.84
20	0.1833	10.998	3.59
21	0.2000	12.000	3.37
22	0.2166	12.996	3.17
23	0.2333	13.998	2.98
24	0.2500	15.000	2.80
25	0.2666	15.996	2.64
26	0.2833	16.998	2.49
27	0.3000	18.000	2.35
28	0.3166	18.996	2.21
29	0.3333	19.998	2.09
30	0.4167	25.002	1.58
31	0.5000	30.000	1.17
32	0.5833	34.998	0.88
33	0.6667	40.002	0.68
34	0.7500	45.000	0.54
35	0.8333	49.998	0.43
36	0.9167	55.002	0.34
37	1.0000	60.000	0.27
38	1.0833	64.998	0.22
39	1.1667	70.002	0.18
40	1.2500	75.000	0.15
41	1.3333	79.998	0.12
42	1.4166	84.996	0.10
43	1.5000	90.000	0.08
44	1.5833	94.998	0.07
45	1.6667	100.002	0.06
46	1.7500	105.000	0.05
47	1.8333	109.998	0.04
48	1.9167	115.002	0.04
49	2.0000	120.000	0.03
50	2.5000	150.000	0.01
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105A	Test 3
Date	9/16/93
Time	16:02
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.17
2	0.0033	0.198	8.42
3	0.0066	0.396	8.05
4	0.0099	0.594	8.10
5	0.0133	0.798	7.96
6	0.0166	0.996	7.77
7	0.0200	1.200	7.61
8	0.0233	1.398	7.46
9	0.0266	1.596	7.32
10	0.0300	1.800	7.19
11	0.0333	1.998	7.06
12	0.0500	3.000	6.49
13	0.0666	3.996	6.01
14	0.0833	4.998	5.59
15	0.1000	6.000	5.21
16	0.1166	6.996	4.88
17	0.1333	7.998	4.57
18	0.1500	9.000	4.28
19	0.1666	9.996	4.03
20	0.1833	10.998	3.79
21	0.2000	12.000	3.57
22	0.2166	12.996	3.36
23	0.2333	13.998	3.17
24	0.2500	15.000	2.99
25	0.2666	15.996	2.83
26	0.2833	16.998	2.67
27	0.3000	18.000	2.53
28	0.3166	18.996	2.40
29	0.3333	19.998	2.27
30	0.4167	25.002	1.75
31	0.5000	30.000	1.35
32	0.5833	34.998	1.02
33	0.6667	40.002	0.79
34	0.7500	45.000	0.63
35	0.8333	49.998	0.51
36	0.9167	55.002	0.41
37	1.0000	60.000	0.34
38	1.0833	64.998	0.28
39	1.1667	70.002	0.23
40	1.2500	75.000	0.19
41	1.3333	79.998	0.16
42	1.4166	84.996	0.13
43	1.5000	90.000	0.11
44	1.5833	94.998	0.09
45	1.6667	100.002	0.08
46	1.7500	105.000	0.07
47	1.8333	109.998	0.06
48	1.9167	115.002	0.05
49	2.0000	120.000	0.04
50	2.5000	150.000	0.01
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

	WELL DESCRIPTION		
	MW-105C Test 1	MW105C TEST 2	MW105C TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	94.32	94.32	94.32
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.85E+00	2.85E+00	2.85E+00
Re = effective radius (ft.)	5.95E+00	5.95E+00	5.95E+00
Yo = Drawdown in well at t0 = 0 (ft.)	13.05	17.01	20.00
Yt = Drawdown in well at t > t0 (ft.)	7.66	9.64	10.68
t = time interval between Yo and Yt (sec.)	1.0	1.0	1.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	5.26E-04	5.61E-04	6.20E-04
K = hydraulic conductivity (ft./min.)	3.16E-02	3.37E-02	3.72E-02
K = hydraulic conductivity (ft./day)	4.55E+01	4.85E+01	5.35E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105C	Test 1
Date	9/16/93
Time	16:19
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	17.11
2	0.0033	0.198	16.37
3	0.0066	0.396	15.19
4	0.0099	0.594	14.23
5	0.0133	0.798	13.05
6	0.0166	0.996	11.94
7	0.0200	1.200	10.76
8	0.0233	1.398	9.70
9	0.0266	1.596	8.66
10	0.0300	1.800	7.66
11	0.0333	1.998	6.73
12	0.0500	3.000	2.71
13	0.0666	3.996	0.33
14	0.0833	4.998	-0.99
15	0.1000	6.000	-1.45
16	0.1166	6.996	-1.01
17	0.1333	7.998	-0.47
18	0.1500	9.000	0.06
19	0.1666	9.996	0.47
20	0.1833	10.998	0.64
21	0.2000	12.000	0.61
22	0.2166	12.996	0.44
23	0.2333	13.998	0.22
24	0.2500	15.000	0.03
25	0.2666	15.996	-0.09
26	0.2833	16.998	-0.12
27	0.3000	18.000	-0.09
28	0.3166	18.996	-0.02
29	0.3333	19.998	0.05
30	0.4167	25.002	0.11
31	0.5000	30.000	0.05
32	0.5833	34.998	0.08
33	0.6667	40.002	0.06
34	0.7500	45.000	0.06
35	0.8333	49.998	0.06
36	0.9167	55.002	0.06
37	1.0000	60.000	0.06
38	1.0833	64.998	0.06
39	1.1667	70.002	0.06
40	1.2500	75.000	0.06
41	1.3333	79.998	0.06
42	1.4166	84.996	0.06
43	1.5000	90.000	0.06
44	1.5833	94.998	0.06
45	1.6667	100.002	0.06
46	1.7500	105.000	0.06
47	1.8333	109.998	0.06
48	1.9167	115.002	0.06
49	2.0000	120.000	0.05
50	2.5000	150.000	0.05
51	3.0000	180.000	0.05
52	3.5000	210.000	0.05
53	4.0000	240.000	0.05
54	4.5000	270.000	0.05
55	5.0000	300.000	0.05
56	5.5000	330.000	0.05
57	6.0000	360.000	0.05
58	6.5000	390.000	0.05
59	7.0000	420.000	0.05
60	7.5000	450.000	0.05
61	8.0000	480.000	0.05
62	8.5000	510.000	0.05
63	9.0000	540.000	0.05
64	9.5000	570.000	0.05

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.05

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105C	Test 2
Date	9/16/93
Time	16:35
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	20.78
2	0.0033	0.198	20.76
3	0.0066	0.396	20.75
4	0.0099	0.594	20.36
5	0.0133	0.798	18.51
6	0.0166	0.996	17.01
7	0.0200	1.200	14.90
8	0.0233	1.398	13.60
9	0.0266	1.596	12.20
10	0.0300	1.800	10.82
11	0.0333	1.998	9.64
12	0.0500	3.000	4.96
13	0.0666	3.996	1.87
14	0.0833	4.998	0.14
15	0.1000	6.000	-0.68
16	0.1166	6.996	-0.87
17	0.1333	7.998	-0.65
18	0.1500	9.000	-0.27
19	0.1666	9.996	0.10
20	0.1833	10.998	0.38
21	0.2000	12.000	0.51
22	0.2166	12.996	0.49
23	0.2333	13.998	0.37
24	0.2500	15.000	0.22
25	0.2666	15.996	0.08
26	0.2833	16.998	0.00
27	0.3000	18.000	-0.02
28	0.3166	18.996	0.00
29	0.3333	19.998	0.04
30	0.4167	25.002	0.14
31	0.5000	30.000	0.07
32	0.5833	34.998	0.10
33	0.6667	40.002	0.08
34	0.7500	45.000	0.08
35	0.8333	49.998	0.08
36	0.9167	55.002	0.08
37	1.0000	60.000	0.08
38	1.0833	64.998	0.07
39	1.1667	70.002	0.07
40	1.2500	75.000	0.07
41	1.3333	79.998	0.07
42	1.4166	84.996	0.07
43	1.5000	90.000	0.07
44	1.5833	94.998	0.07
45	1.6667	100.002	0.07
46	1.7500	105.000	0.06
47	1.8333	109.998	0.06
48	1.9167	115.002	0.06
49	2.0000	120.000	0.06
50	2.5000	150.000	0.06
51	3.0000	180.000	0.06
52	3.5000	210.000	0.05
53	4.0000	240.000	0.05
54	4.5000	270.000	0.05
55	5.0000	300.000	0.05
56	5.5000	330.000	0.05
57	6.0000	360.000	0.04
58	6.5000	390.000	0.04
59	7.0000	420.000	0.04
60	7.5000	450.000	0.04
61	8.0000	480.000	0.04
62	8.5000	510.000	0.04
63	9.0000	540.000	0.03
64	9.5000	570.000	0.03

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.03

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105C	Test 3
Date	9/16/93
Time	16:51
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	20.71
2	0.0033	0.198	20.21
3	0.0066	0.396	18.88
4	0.0099	0.594	17.61
5	0.0133	0.798	16.19
6	0.0166	0.996	14.64
7	0.0200	1.200	13.17
8	0.0233	1.398	11.87
9	0.0266	1.596	10.68
10	0.0300	1.800	9.52
11	0.0333	1.998	8.37
12	0.0500	3.000	3.98
13	0.0666	3.996	1.22
14	0.0833	4.998	-0.29
15	0.1000	6.000	-0.94
16	0.1166	6.996	-0.96
17	0.1333	7.998	-0.63
18	0.1500	9.000	-0.17
19	0.1666	9.996	0.24
20	0.1833	10.998	0.51
21	0.2000	12.000	0.58
22	0.2166	12.996	0.51
23	0.2333	13.998	0.35
24	0.2500	15.000	0.17
25	0.2666	15.996	0.04
26	0.2833	16.998	-0.03
27	0.3000	18.000	-0.04
28	0.3166	18.996	0.00
29	0.3333	19.998	0.05
30	0.4167	25.002	0.15
31	0.5000	30.000	0.08
32	0.5833	34.998	0.10
33	0.6667	40.002	0.09
34	0.7500	45.000	0.09
35	0.8333	49.998	0.09
36	0.9167	55.002	0.09
37	1.0000	60.000	0.08
38	1.0833	64.998	0.08
39	1.1667	70.002	0.08
40	1.2500	75.000	0.08
41	1.3333	79.998	0.08
42	1.4166	84.996	0.08
43	1.5000	90.000	0.08
44	1.5833	94.998	0.08
45	1.6667	100.002	0.08
46	1.7500	105.000	0.07
47	1.8333	109.998	0.07
48	1.9167	115.002	0.07
49	2.0000	120.000	0.07
50	2.5000	150.000	0.07
51	3.0000	180.000	0.07
52	3.5000	210.000	0.06
53	4.0000	240.000	0.06
54	4.5000	270.000	0.06
55	5.0000	300.000	0.05
56	5.5000	330.000	0.05
57	6.0000	360.000	0.05
58	6.5000	390.000	0.05
59	7.0000	420.000	0.05
60	7.5000	450.000	0.05
61	8.0000	480.000	0.05
62	8.5000	510.000	0.04
63	9.0000	540.000	0.04
64	9.5000	570.000	0.04
65	10.0000	600.000	0.04
66	12.0000	720.000	0.04

	WELL DESCRIPTION		
	MW-107A Test 1	MW107A TEST 2	MW107A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	26.67	26.67	26.67
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.45E+00	2.45E+00	2.45E+00
Re = effective radius (ft.)	4.00E+00	4.00E+00	4.00E+00
Yo = Drawdown in well at t0 = 0 (ft.)	9.00	8.00	7.00
Yt = Drawdown in well at t > t0 (ft.)	4.24	3.11	0.30
t = time interval between Yo and Yt (sec.)	1.2	1.0	2.8
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	5.33E-04	8.03E-04	9.56E-04
K = hydraulic conductivity (ft./min.)	3.20E-02	4.82E-02	5.74E-02
K = hydraulic conductivity (ft./day)	4.61E+01	6.94E+01	8.26E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-107A	Test 1
Date	9/10/93
Time	11:07
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	4.92
2	0.0033	0.198	8.73
3	0.0066	0.396	9.48
4	0.0099	0.594	9.09
5	0.0133	0.798	8.24
6	0.0166	0.996	7.32
7	0.0200	1.200	6.37
8	0.0233	1.398	5.57
9	0.0266	1.596	4.85
10	0.0300	1.800	4.24
11	0.0333	1.998	3.70
12	0.0500	3.000	1.90
13	0.0666	3.996	0.93
14	0.0833	4.998	0.42
15	0.1000	6.000	0.17
16	0.1166	6.996	0.07
17	0.1333	7.998	0.02
18	0.1500	9.000	0.00
19	0.1666	9.996	0.00
20	0.1833	10.998	0.01
21	0.2000	12.000	0.01
22	0.2166	12.996	0.01
23	0.2333	13.998	0.01
24	0.2500	15.000	0.00
25	0.2666	15.996	0.01
26	0.2833	16.998	0.01
27	0.3000	18.000	0.01
28	0.3166	18.996	0.00
29	0.3333	19.998	0.00
30	0.4167	25.002	0.00
31	0.5000	30.000	0.00
32	0.5833	34.998	0.00
33	0.6667	40.002	0.00
34	0.7500	45.000	0.00
35	0.8333	49.998	0.00
36	0.9167	55.002	0.00
37	1.0000	60.000	0.00
38	1.0833	64.998	0.00
39	1.1667	70.002	0.00
40	1.2500	75.000	0.00
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00
66	12.0000	720.000	0.00
67	14.0000	840.000	0.11
68	16.0000	960.000	0.08
69	18.0000	1080.000	0.05
70	20.0000	1200.000	0.03
71	22.0000	1320.000	0.01
72	24.0000	1440.000	0.00
73	26.0000	1560.000	0.00
74	28.0000	1680.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-107A	Test 2
Date	9/10/93
Time	11:26
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.72
2	0.0033	0.198	6.07
3	0.0066	0.396	5.69
4	0.0099	0.594	5.14
5	0.0133	0.798	4.44
6	0.0166	0.996	3.74
7	0.0200	1.200	3.11
8	0.0233	1.398	2.56
9	0.0266	1.596	2.08
10	0.0300	1.800	1.67
11	0.0333	1.998	1.32
12	0.0500	3.000	0.32
13	0.0666	3.996	0.00
14	0.0833	4.998	-0.02
15	0.1000	6.000	0.00
16	0.1166	6.996	0.02
17	0.1333	7.998	0.02
18	0.1500	9.000	0.01
19	0.1666	9.996	0.00
20	0.1833	10.998	0.00
21	0.2000	12.000	0.00
22	0.2166	12.996	0.00
23	0.2333	13.998	0.00
24	0.2500	15.000	0.00
25	0.2666	15.996	0.00
26	0.2833	16.998	0.00
27	0.3000	18.000	0.00
28	0.3166	18.996	0.00
29	0.3333	19.998	0.00
30	0.4167	25.002	0.00
31	0.5000	30.000	0.00
32	0.5833	34.998	0.00
33	0.6667	40.002	0.00
34	0.7500	45.000	0.00
35	0.8333	49.998	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-107A	Test 3
Date	9/10/93
Time	11:44
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	4.90
2	0.0033	0.198	5.45
3	0.0066	0.396	5.32
4	0.0099	0.594	4.82
5	0.0133	0.798	4.22
6	0.0166	0.996	3.56
7	0.0200	1.200	2.95
8	0.0233	1.398	2.41
9	0.0266	1.596	1.94
10	0.0300	1.800	1.52
11	0.0333	1.998	1.17
12	0.0500	3.000	0.17
13	0.0666	3.996	-0.06
14	0.0833	4.998	-0.04
15	0.1000	6.000	0.02
16	0.1166	6.996	0.05
17	0.1333	7.998	0.03
18	0.1500	9.000	0.01
19	0.1666	9.996	0.00
20	0.1833	10.998	0.00
21	0.2000	12.000	0.00
22	0.2166	12.996	0.00
23	0.2333	13.998	0.00
24	0.2500	15.000	0.00
25	0.2666	15.996	0.00
26	0.2833	16.998	0.00
27	0.3000	18.000	0.00
28	0.3166	18.996	0.00
29	0.3333	19.998	0.00
30	0.4167	25.002	0.00
31	0.5000	30.000	0.00
32	0.5833	34.998	0.00
33	0.6667	40.002	0.00
34	0.7500	45.000	0.00
35	0.8333	49.998	0.00
36	0.9167	55.002	0.00
37	1.0000	60.000	0.00
38	1.0833	64.998	0.00
39	1.1667	70.002	0.00
40	1.2500	75.000	0.00
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00

	WELL DESCRIPTION		
	MW-107B Test 1	MW107B TEST 2	MW107B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	54.80	54.80	54.80
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.69E+00	2.69E+00	2.69E+00
Re = effective radius (ft.)	5.06E+00	5.06E+00	5.06E+00
Yo = Drawdown in well at t0 = 0 (ft.)	8.00	4.00	8.90
Yt = Drawdown in well at t > t0 (ft.)	2.00	1.00	2.07
t = time interval between Yo and Yt (sec.)	13.0	2.0	15.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	9.94E-05	6.46E-04	9.06E-05
K = hydraulic conductivity (ft./min.)	5.96E-03	3.88E-02	5.44E-03
K = hydraulic conductivity (ft./day)	8.59E+00	5.58E+01	7.83E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-107B	Test 1
Date	9/10/93
Time	12:06
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	15.46
2	0.0033	0.198	15.07
3	0.0066	0.396	14.60
4	0.0099	0.594	13.81
5	0.0133	0.798	13.23
6	0.0166	0.996	12.35
7	0.0200	1.200	11.32
8	0.0233	1.398	10.25
9	0.0266	1.596	9.40
10	0.0300	1.800	8.87
11	0.0333	1.998	8.49
12	0.0500	3.000	7.52
13	0.0666	3.996	6.75
14	0.0833	4.998	6.10
15	0.1000	6.000	5.53
16	0.1166	6.996	5.01
17	0.1333	7.998	4.54
18	0.1500	9.000	4.06
19	0.1666	9.996	3.67
20	0.1833	10.998	3.32
21	0.2000	12.000	3.00
22	0.2166	12.996	2.71
23	0.2333	13.998	2.44
24	0.2500	15.000	2.20
25	0.2666	15.996	1.98
26	0.2833	16.998	1.78
27	0.3000	18.000	1.60
28	0.3166	18.996	1.43
29	0.3333	19.998	1.28
30	0.4167	25.002	0.74
31	0.5000	30.000	0.45
32	0.5833	34.998	0.30
33	0.6667	40.002	0.24
34	0.7500	45.000	0.22
35	0.8333	49.998	0.20
36	0.9167	55.002	0.20
37	1.0000	60.000	0.19
38	1.0833	64.998	0.19
39	1.1667	70.002	0.19
40	1.2500	75.000	0.18
41	1.3333	79.998	0.18
42	1.4166	84.996	0.18
43	1.5000	90.000	0.18
44	1.5833	94.998	0.18
45	1.6667	100.002	0.18
46	1.7500	105.000	0.18
47	1.8333	109.998	0.17
48	1.9167	115.002	0.17
49	2.0000	120.000	0.17
50	2.5000	150.000	0.17
51	3.0000	180.000	0.16
52	3.5000	210.000	0.16
53	4.0000	240.000	0.16
54	4.5000	270.000	0.16
55	5.0000	300.000	0.15
56	5.5000	330.000	0.16
57	6.0000	360.000	0.15
58	6.5000	390.000	0.15
59	7.0000	420.000	0.15
60	7.5000	450.000	0.15
61	8.0000	480.000	0.14
62	8.5000	510.000	0.15
63	9.0000	540.000	0.14
64	9.5000	570.000	0.14
65	10.0000	600.000	0.14
66	12.0000	720.000	0.13

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-107B	Test 2
Date	9/10/93
Time	12:26
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.21
2	0.0033	0.198	5.06
3	0.0066	0.396	4.85
4	0.0099	0.594	4.57
5	0.0133	0.798	4.25
6	0.0166	0.996	3.87
7	0.0200	1.200	3.51
8	0.0233	1.398	3.15
9	0.0266	1.596	2.77
10	0.0300	1.800	2.38
11	0.0333	1.998	2.03
12	0.0500	3.000	0.99
13	0.0666	3.996	0.57
14	0.0833	4.998	0.39
15	0.1000	6.000	0.30
16	0.1166	6.996	0.25
17	0.1333	7.998	0.23
18	0.1500	9.000	0.21
19	0.1666	9.996	0.20
20	0.1833	10.998	0.19
21	0.2000	12.000	0.18
22	0.2166	12.996	0.17
23	0.2333	13.998	0.21
24	0.2500	15.000	0.17
25	0.2666	15.996	0.16
26	0.2833	16.998	0.16
27	0.3000	18.000	0.15
28	0.3166	18.996	0.15
29	0.3333	19.998	0.15
30	0.4167	25.002	0.13
31	0.5000	30.000	0.13
32	0.5833	34.998	0.12
33	0.6667	40.002	0.12
34	0.7500	45.000	0.12
35	0.8333	49.998	0.12
36	0.9167	55.002	0.12
37	1.0000	60.000	0.11
38	1.0833	64.998	0.11
39	1.1667	70.002	0.11
40	1.2500	75.000	0.11
41	1.3333	79.998	0.11
42	1.4166	84.996	0.11
43	1.5000	90.000	0.11
44	1.5833	94.998	0.10
45	1.6667	100.002	0.10
46	1.7500	105.000	0.10
47	1.8333	109.998	0.10
48	1.9167	115.002	0.10
49	2.0000	120.000	0.10
50	2.5000	150.000	0.09
51	3.0000	180.000	0.08
52	3.5000	210.000	0.08
53	4.0000	240.000	0.07
54	4.5000	270.000	0.06
55	5.0000	300.000	0.06
56	5.5000	330.000	0.06
57	6.0000	360.000	0.06
58	6.5000	390.000	0.05
59	7.0000	420.000	0.05
60	7.5000	450.000	0.05
61	8.0000	480.000	0.05
62	8.5000	510.000	0.05
63	9.0000	540.000	0.04
64	9.5000	570.000	0.04

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.04
66	12.0000	720.000	0.03
67	14.0000	840.000	0.03
68	16.0000	960.000	0.02
69	18.0000	########	0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-107B	Test 3
Date	9/10/93
Time	12:52
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	20.13
2	0.0033	0.198	19.24
3	0.0066	0.396	18.17
4	0.0099	0.594	17.36
5	0.0133	0.798	16.66
6	0.0166	0.996	15.86
7	0.0200	1.200	14.52
8	0.0233	1.398	13.02
9	0.0266	1.596	12.03
10	0.0300	1.800	11.42
11	0.0333	1.998	11.03
12	0.0500	3.000	9.84
13	0.0666	3.996	8.90
14	0.0833	4.998	8.09
15	0.1000	6.000	7.37
16	0.1166	6.996	6.71
17	0.1333	7.998	6.12
18	0.1500	9.000	5.58
19	0.1666	9.996	5.08
20	0.1833	10.998	4.62
21	0.2000	12.000	4.19
22	0.2166	12.996	3.75
23	0.2333	13.998	3.40
24	0.2500	15.000	3.09
25	0.2666	15.996	2.79
26	0.2833	16.998	2.53
27	0.3000	18.000	2.29
28	0.3166	18.996	2.07
29	0.3333	19.998	1.87
30	0.4167	25.002	1.13
31	0.5000	30.000	0.70
32	0.5833	34.998	0.48
33	0.6667	40.002	0.38
34	0.7500	45.000	0.34
35	0.8333	49.998	0.33
36	0.9167	55.002	0.32
37	1.0000	60.000	0.32
38	1.0833	64.998	0.32
39	1.1667	70.002	0.31
40	1.2500	75.000	0.31
41	1.3333	79.998	0.31
42	1.4166	84.996	0.31
43	1.5000	90.000	0.31
44	1.5833	94.998	0.30
45	1.6667	100.002	0.30
46	1.7500	105.000	0.30
47	1.8333	109.998	0.30
48	1.9167	115.002	0.30
49	2.0000	120.000	0.29
50	2.5000	150.000	0.29
51	3.0000	180.000	0.28
52	3.5000	210.000	0.28
53	4.0000	240.000	0.28
54	4.5000	270.000	0.27
55	5.0000	300.000	0.26
56	5.5000	330.000	0.26
57	6.0000	360.000	0.26
58	6.5000	390.000	0.25
59	7.0000	420.000	0.25
60	7.5000	450.000	0.25
61	8.0000	480.000	0.24
62	8.5000	510.000	0.24
63	9.0000	540.000	0.23
64	9.5000	570.000	0.24
65	10.0000	600.000	0.23
66	12.0000	720.000	0.22
67	14.0000	840.000	0.22

	WELL DESCRIPTION		
	MW-107C Test 1	MW107C TEST 2	MW107C TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	129.11	129.11	129.11
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.19E+00	3.19E+00	3.19E+00
Re = effective radius (ft.)	6.07E+00	6.07E+00	6.07E+00
Yo = Drawdown in well at t0 = 0 (ft.)	2.19	1.93	1.54
Yt = Drawdown in well at t > t0 (ft.)	0.90	0.40	0.44
t = time interval between Yo and Yt (sec.)	140.0	260.0	210.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	7.03E-06	6.70E-06	6.60E-06
K = hydraulic conductivity (ft./min.)	4.22E-04	4.02E-04	3.96E-04
K = hydraulic conductivity (ft./day)	6.07E-01	5.79E-01	5.70E-01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-107C	Test 1
Date	9/10/93
Time	13:53
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.54
2	0.0033	0.198	3.45
3	0.0066	0.396	3.40
4	0.0099	0.594	3.37
5	0.0133	0.798	3.34
6	0.0166	0.996	3.32
7	0.0200	1.200	3.30
8	0.0233	1.398	3.29
9	0.0266	1.596	3.27
10	0.0300	1.800	3.26
11	0.0333	1.998	3.24
12	0.0500	3.000	3.18
13	0.0666	3.996	3.12
14	0.0833	4.998	3.07
15	0.1000	6.000	3.02
16	0.1166	6.996	2.98
17	0.1333	7.998	2.94
18	0.1500	9.000	2.91
19	0.1666	9.996	2.87
20	0.1833	10.998	2.84
21	0.2000	12.000	2.81
22	0.2166	12.996	2.78
23	0.2333	13.998	2.75
24	0.2500	15.000	2.72
25	0.2666	15.996	2.69
26	0.2833	16.998	2.67
27	0.3000	18.000	2.64
28	0.3166	18.996	2.62
29	0.3333	19.998	2.59
30	0.4167	25.002	2.47
31	0.5000	30.000	2.37
32	0.5833	34.998	2.27
33	0.6667	40.002	2.19
34	0.7500	45.000	2.10
35	0.8333	49.998	2.03
36	0.9167	55.002	1.96
37	1.0000	60.000	1.89
38	1.0833	64.998	1.83
39	1.1667	70.002	1.77
40	1.2500	75.000	1.71
41	1.3333	79.998	1.66
42	1.4166	84.996	1.60
43	1.5000	90.000	1.56
44	1.5833	94.998	1.51
45	1.6667	100.002	1.46
46	1.7500	105.000	1.42
47	1.8333	109.998	1.38
48	1.9167	115.002	1.34
49	2.0000	120.000	1.30
50	2.5000	150.000	1.09
51	3.0000	180.000	0.93
52	3.5000	210.000	0.79
53	4.0000	240.000	0.68
54	4.5000	270.000	0.58
55	5.0000	300.000	0.50
56	5.5000	330.000	0.43
57	6.0000	360.000	0.37
58	6.5000	390.000	0.32
59	7.0000	420.000	0.28
60	7.5000	450.000	0.24
61	8.0000	480.000	0.21
62	8.5000	510.000	0.17
63	9.0000	540.000	0.15
64	9.5000	570.000	0.13

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.12
66	12.0000	720.000	0.06
67	14.0000	840.000	0.03
68	16.0000	960.000	0.02
69	18.0000	1080.000	0.01
70	20.0000	1200.000	0.00
71	22.0000	1320.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-107C	Test 2
Date	9/10/93
Time	14:20
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.94
2	0.0033	0.198	3.59
3	0.0066	0.396	3.50
4	0.0099	0.594	3.45
5	0.0133	0.798	3.43
6	0.0166	0.996	3.40
7	0.0200	1.200	3.38
8	0.0233	1.398	3.36
9	0.0266	1.596	3.35
10	0.0300	1.800	3.33
11	0.0333	1.998	3.32
12	0.0500	3.000	3.25
13	0.0666	3.996	3.19
14	0.0833	4.998	3.14
15	0.1000	6.000	3.09
16	0.1166	6.996	3.05
17	0.1333	7.998	3.01
18	0.1500	9.000	2.97
19	0.1666	9.996	2.94
20	0.1833	10.998	2.91
21	0.2000	12.000	2.87
22	0.2166	12.996	2.84
23	0.2333	13.998	2.81
24	0.2500	15.000	2.78
25	0.2666	15.996	2.75
26	0.2833	16.998	2.72
27	0.3000	18.000	2.70
28	0.3166	18.996	2.67
29	0.3333	19.998	2.64
30	0.4167	25.002	2.53
31	0.5000	30.000	2.42
32	0.5833	34.998	2.32
33	0.6667	40.002	2.23
34	0.7500	45.000	2.15
35	0.8333	49.998	2.08
36	0.9167	55.002	2.00
37	1.0000	60.000	1.93
38	1.0833	64.998	1.87
39	1.1667	70.002	1.80
40	1.2500	75.000	1.75
41	1.3333	79.998	1.69
42	1.4166	84.996	1.64
43	1.5000	90.000	1.59
44	1.5833	94.998	1.54
45	1.6667	100.002	1.49
46	1.7500	105.000	1.45
47	1.8333	109.998	1.41
48	1.9167	115.002	1.36
49	2.0000	120.000	1.33
50	2.5000	150.000	1.12
51	3.0000	180.000	0.94
52	3.5000	210.000	0.80
53	4.0000	240.000	0.68
54	4.5000	270.000	0.59
55	5.0000	300.000	0.50
56	5.5000	330.000	0.43
57	6.0000	360.000	0.37
58	6.5000	390.000	0.32
59	7.0000	420.000	0.28
60	7.5000	450.000	0.24
61	8.0000	480.000	0.20
62	8.5000	510.000	0.18
63	9.0000	540.000	0.16
64	9.5000	570.000	0.14

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.11
66	12.0000	720.000	0.06
67	14.0000	840.000	0.03
68	16.0000	960.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-107C	Test 3
Date	9/10/93
Time	14:50
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.84
2	0.0033	0.198	2.51
3	0.0066	0.396	2.32
4	0.0099	0.594	2.29
5	0.0133	0.798	2.27
6	0.0166	0.996	2.24
7	0.0200	1.200	2.23
8	0.0233	1.398	2.21
9	0.0266	1.596	2.19
10	0.0300	1.800	2.18
11	0.0333	1.998	2.17
12	0.0500	3.000	2.11
13	0.0666	3.996	2.07
14	0.0833	4.998	2.03
15	0.1000	6.000	2.00
16	0.1166	6.996	1.96
17	0.1333	7.998	1.94
18	0.1500	9.000	1.91
19	0.1666	9.996	1.88
20	0.1833	10.998	1.86
21	0.2000	12.000	1.84
22	0.2166	12.996	1.82
23	0.2333	13.998	1.80
24	0.2500	15.000	1.78
25	0.2666	15.996	1.76
26	0.2833	16.998	1.74
27	0.3000	18.000	1.72
28	0.3166	18.996	1.71
29	0.3333	19.998	1.69
30	0.4167	25.002	1.61
31	0.5000	30.000	1.54
32	0.5833	34.998	1.48
33	0.6667	40.002	1.42
34	0.7500	45.000	1.37
35	0.8333	49.998	1.32
36	0.9167	55.002	1.27
37	1.0000	60.000	1.23
38	1.0833	64.998	1.19
39	1.1667	70.002	1.15
40	1.2500	75.000	1.11
41	1.3333	79.998	1.08
42	1.4166	84.996	1.04
43	1.5000	90.000	1.01
44	1.5833	94.998	0.98
45	1.6667	100.002	0.95
46	1.7500	105.000	0.92
47	1.8333	109.998	0.89
48	1.9167	115.002	0.87
49	2.0000	120.000	0.85
50	2.5000	150.000	0.71
51	3.0000	180.000	0.60
52	3.5000	210.000	0.51
53	4.0000	240.000	0.44
54	4.5000	270.000	0.38
55	5.0000	300.000	0.33
56	5.5000	330.000	0.28
57	6.0000	360.000	0.24
58	6.5000	390.000	0.20
59	7.0000	420.000	0.18
60	7.5000	450.000	0.16
61	8.0000	480.000	0.14
62	8.5000	510.000	0.12
63	9.0000	540.000	0.10
64	9.5000	570.000	0.09
65	10.0000	600.000	0.08
66	12.0000	720.000	0.04
67	14.0000	840.000	0.02
68	16.0000	960.000	0.01

	WELL DESCRIPTION		
	MW-101C Test 1	MW101C TEST 2	MW101C TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	133.20	133.20	133.20
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.20E+00	3.20E+00	3.20E+00
Re = effective radius (ft.)	6.12E+00	6.12E+00	6.12E+00
Yo = Drawdown in well at t0 = 0 (ft.)	9.00	10.00	8.00
Yt = Drawdown in well at t > t0 (ft.)	3.00	2.00	5.00
t = time interval between Yo and Yt (sec.)	7.0	11.0	4.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.74E-04	1.62E-04	1.30E-04
K = hydraulic conductivity (ft./min.)	1.04E-02	9.74E-03	7.82E-03
K = hydraulic conductivity (ft./day)	1.50E+01	1.40E+01	1.13E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101C	Test 1
Date	9/07/93
Time	13:06
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.61
2	0.0033	0.198	12.89
3	0.0066	0.396	12.98
4	0.0099	0.594	12.99
5	0.0133	0.798	12.97
6	0.0166	0.996	12.97
7	0.0200	1.200	12.97
8	0.0233	1.398	12.97
9	0.0266	1.596	12.97
10	0.0300	1.800	12.98
11	0.0333	1.998	12.98
12	0.0500	3.000	11.60
13	0.0666	3.996	9.82
14	0.0833	4.998	8.57
15	0.1000	6.000	7.40
16	0.1166	6.996	6.42
17	0.1333	7.998	5.53
18	0.1500	9.000	4.72
19	0.1666	9.996	3.99
20	0.1833	10.998	3.33
21	0.2000	12.000	2.73
22	0.2166	12.996	2.21
23	0.2333	13.998	1.75
24	0.2500	15.000	1.36
25	0.2666	15.996	1.02
26	0.2833	16.998	0.73
27	0.3000	18.000	0.51
28	0.3166	18.996	0.33
29	0.3333	19.998	0.19
30	0.4167	25.002	0.01
31	0.5000	30.000	0.11
32	0.5833	34.998	0.05
33	0.6667	40.002	0.02
34	0.7500	45.000	0.05
35	0.8333	49.998	0.03
36	0.9167	55.002	0.02
37	1.0000	60.000	0.02
38	1.0833	64.998	0.02
39	1.1667	70.002	0.02
40	1.2500	75.000	0.02
41	1.3333	79.998	0.02
42	1.4166	84.996	0.02
43	1.5000	90.000	0.02
44	1.5833	94.998	0.02
45	1.6667	100.002	0.01
46	1.7500	105.000	0.01
47	1.8333	109.998	0.02
48	1.9167	115.002	0.01
49	2.0000	120.000	0.01
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	-0.01
62	8.5000	510.000	-0.01
63	9.0000	540.000	-0.01
64	9.5000	570.000	-0.02

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101C	Test 2
Date	9/07/93
Time	15:41
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	7.44
2	0.0033	0.198	12.68
3	0.0066	0.396	12.89
4	0.0099	0.594	12.96
5	0.0133	0.798	12.98
6	0.0166	0.996	12.97
7	0.0200	1.200	12.96
8	0.0233	1.398	12.96
9	0.0266	1.596	12.96
10	0.0300	1.800	12.97
11	0.0333	1.998	12.98
12	0.0500	3.000	12.31
13	0.0666	3.996	10.42
14	0.0833	4.998	9.17
15	0.1000	6.000	8.12
16	0.1166	6.996	7.06
17	0.1333	7.998	6.18
18	0.1500	9.000	5.36
19	0.1666	9.996	4.63
20	0.1833	10.998	3.95
21	0.2000	12.000	3.34
22	0.2166	12.996	2.79
23	0.2333	13.998	2.30
24	0.2500	15.000	1.87
25	0.2666	15.996	1.49
26	0.2833	16.998	1.16
27	0.3000	18.000	0.88
28	0.3166	18.996	0.65
29	0.3333	19.998	0.47
30	0.4167	25.002	0.06
31	0.5000	30.000	0.13
32	0.5833	34.998	0.13
33	0.6667	40.002	0.07
34	0.7500	45.000	0.09
35	0.8333	49.998	0.09
36	0.9167	55.002	0.07
37	1.0000	60.000	0.08
38	1.0833	64.998	0.08
39	1.1667	70.002	0.07
40	1.2500	75.000	0.07
41	1.3333	79.998	0.07
42	1.4166	84.996	0.07
43	1.5000	90.000	0.07
44	1.5833	94.998	0.07
45	1.6667	100.002	0.07
46	1.7500	105.000	0.07
47	1.8333	109.998	0.07
48	1.9167	115.002	0.07
49	2.0000	120.000	0.06
50	2.5000	150.000	0.06
51	3.0000	180.000	0.06
52	3.5000	210.000	0.05
53	4.0000	240.000	0.06
54	4.5000	270.000	0.06
55	5.0000	300.000	0.05
56	5.5000	330.000	0.05
57	6.0000	360.000	0.05
58	6.5000	390.000	0.05
59	7.0000	420.000	0.05
60	7.5000	450.000	0.05
61	8.0000	480.000	0.04
62	8.5000	510.000	0.04
63	9.0000	540.000	0.04
64	9.5000	570.000	0.04
65	10.0000	600.000	0.05
66	12.0000	720.000	0.05

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101C	Test 3
Date	9/07/93
Time	16:01
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	4.44
2	0.0033	0.198	11.79
3	0.0066	0.396	12.94
4	0.0099	0.594	12.95
5	0.0133	0.798	12.92
6	0.0166	0.996	12.91
7	0.0200	1.200	12.91
8	0.0233	1.398	12.91
9	0.0266	1.596	12.91
10	0.0300	1.800	12.92
11	0.0333	1.998	12.93
12	0.0500	3.000	12.94
13	0.0666	3.996	11.66
14	0.0833	4.998	10.36
15	0.1000	6.000	9.21
16	0.1166	6.996	8.15
17	0.1333	7.998	7.11
18	0.1500	9.000	6.22
19	0.1666	9.996	5.41
20	0.1833	10.998	4.67
21	0.2000	12.000	3.99
22	0.2166	12.996	3.38
23	0.2333	13.998	2.82
24	0.2500	15.000	2.32
25	0.2666	15.996	1.89
26	0.2833	16.998	1.50
27	0.3000	18.000	1.17
28	0.3166	18.996	0.88
29	0.3333	19.998	0.64
30	0.4167	25.002	0.05
31	0.5000	30.000	0.06
32	0.5833	34.998	0.09
33	0.6667	40.002	0.04
34	0.7500	45.000	0.04
35	0.8333	49.998	0.05
36	0.9167	55.002	0.03
37	1.0000	60.000	0.03
38	1.0833	64.998	0.03
39	1.1667	70.002	0.03
40	1.2500	75.000	0.03
41	1.3333	79.998	0.03
42	1.4166	84.996	0.02
43	1.5000	90.000	0.02
44	1.5833	94.998	0.02
45	1.6667	100.002	0.02
46	1.7500	105.000	0.02
47	1.8333	109.998	0.02
48	1.9167	115.002	0.02
49	2.0000	120.000	0.02
50	2.5000	150.000	0.02
51	3.0000	180.000	0.02
52	3.5000	210.000	0.02
53	4.0000	240.000	0.02
54	4.5000	270.000	0.02
55	5.0000	300.000	0.02
56	5.5000	330.000	0.02
57	6.0000	360.000	0.02
58	6.5000	390.000	0.02
59	7.0000	420.000	0.02
60	7.5000	450.000	0.02
61	8.0000	480.000	0.02
62	8.5000	510.000	0.02
63	9.0000	540.000	0.02
64	9.5000	570.000	0.02

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.02

	WELL DESCRIPTION		
	MW-101D Test 1	MW101D TEST 2	MW101D TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	170.02	170.02	170.02
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.27E+00	3.27E+00	3.27E+00
Re = effective radius (ft.)	6.55E+00	6.55E+00	6.55E+00
Yo = Drawdown in well at t0 = 0 (ft.)	13.20	8.75	10.95
Yt = Drawdown in well at t > t0 (ft.)	0.40	3.00	2.00
t = time interval between Yo and Yt (sec.)	35.0	9.0	7.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.13E-04	1.35E-04	2.75E-04
K = hydraulic conductivity (ft./min.)	6.79E-03	8.09E-03	1.65E-02
K = hydraulic conductivity (ft./day)	9.78E+00	1.16E+01	2.38E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101D	Test 1
Date	10/21/93
Time	14:22
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	19.40
2	0.0033	0.198	19.83
3	0.0066	0.396	19.83
4	0.0099	0.594	19.84
5	0.0133	0.798	19.86
6	0.0166	0.996	19.89
7	0.0200	1.200	19.90
8	0.0233	1.398	19.91
9	0.0266	1.596	19.92
10	0.0300	1.800	19.93
11	0.0333	1.998	19.93
12	0.0500	3.000	19.95
13	0.0666	3.996	19.95
14	0.0833	4.998	19.95
15	0.1000	6.000	18.45
16	0.1166	6.996	16.93
17	0.1333	7.998	15.61
18	0.1500	9.000	14.37
19	0.1666	9.996	13.20
20	0.1833	10.998	12.09
21	0.2000	12.000	11.06
22	0.2166	12.996	10.07
23	0.2333	13.998	9.16
24	0.2500	15.000	8.28
25	0.2666	15.996	7.39
26	0.2833	16.998	6.63
27	0.3000	18.000	5.91
28	0.3166	18.996	5.25
29	0.3333	19.998	4.63
30	0.4167	25.002	2.20
31	0.5000	30.000	0.80
32	0.5833	34.998	0.22
33	0.6667	40.002	0.14
34	0.7500	45.000	0.17
35	0.8333	49.998	0.14
36	0.9167	55.002	0.13
37	1.0000	60.000	0.13
38	1.0833	64.998	0.12
39	1.1667	70.002	0.12
40	1.2500	75.000	0.12
41	1.3333	79.998	0.12
42	1.4166	84.996	0.12
43	1.5000	90.000	0.11
44	1.5833	94.998	0.11
45	1.6667	100.002	0.11
46	1.7500	105.000	0.11
47	1.8333	109.998	0.11
48	1.9167	115.002	0.11
49	2.0000	120.000	0.10
50	2.5000	150.000	0.10
51	3.0000	180.000	0.10
52	3.5000	210.000	0.10
53	4.0000	240.000	0.08
54	4.5000	270.000	0.10
55	5.0000	300.000	0.08
56	5.5000	330.000	0.08
57	6.0000	360.000	0.08
58	6.5000	390.000	0.07
59	7.0000	420.000	0.07
60	7.5000	450.000	0.07
61	8.0000	480.000	0.07
62	8.5000	510.000	0.06
63	9.0000	540.000	0.05
64	9.5000	570.000	0.05

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.05
66	12.0000	720.000	0.04
67	14.0000	840.000	0.02
68	16.0000	960.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101D	Test 2
Date	10/21/93
Time	14:47
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	19.39
2	0.0033	0.198	19.90
3	0.0066	0.396	19.94
4	0.0099	0.594	19.90
5	0.0133	0.798	19.89
6	0.0166	0.996	19.90
7	0.0200	1.200	19.91
8	0.0233	1.398	19.93
9	0.0266	1.596	19.86
10	0.0300	1.800	19.06
11	0.0333	1.998	18.40
12	0.0500	3.000	16.27
13	0.0666	3.996	14.90
14	0.0833	4.998	13.68
15	0.1000	6.000	12.56
16	0.1166	6.996	11.52
17	0.1333	7.998	10.53
18	0.1500	9.000	9.62
19	0.1666	9.996	8.75
20	0.1833	10.998	7.90
21	0.2000	12.000	7.10
22	0.2166	12.996	6.38
23	0.2333	13.998	5.71
24	0.2500	15.000	5.08
25	0.2666	15.996	4.49
26	0.2833	16.998	3.95
27	0.3000	18.000	3.45
28	0.3166	18.996	2.98
29	0.3333	19.998	2.56
30	0.4167	25.002	0.98
31	0.5000	30.000	0.22
32	0.5833	34.998	0.03
33	0.6667	40.002	0.05
34	0.7500	45.000	0.04
35	0.8333	49.998	0.01
36	0.9167	55.002	0.02
37	1.0000	60.000	0.02
38	1.0833	64.998	0.01
39	1.1667	70.002	0.01
40	1.2500	75.000	0.01
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	-0.01
54	4.5000	270.000	-0.01
55	5.0000	300.000	-0.02
56	5.5000	330.000	-0.02
57	6.0000	360.000	-0.02
58	6.5000	390.000	-0.03
59	7.0000	420.000	-0.02
60	7.5000	450.000	-0.02
61	8.0000	480.000	-0.02
62	8.5000	510.000	-0.02
63	9.0000	540.000	-0.05
64	9.5000	570.000	-0.02

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.03
66	12.0000	720.000	-0.03
67	14.0000	840.000	-0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-101D	Test 3
Date	10/21/93
Time	15:08
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.70
2	0.0033	0.198	12.63
3	0.0066	0.396	12.20
4	0.0099	0.594	11.79
5	0.0133	0.798	11.44
6	0.0166	0.996	10.95
7	0.0200	1.200	10.38
8	0.0233	1.398	9.89
9	0.0266	1.596	9.32
10	0.0300	1.800	8.75
11	0.0333	1.998	8.21
12	0.0500	3.000	5.53
13	0.0666	3.996	3.57
14	0.0833	4.998	2.18
15	0.1000	6.000	1.30
16	0.1166	6.996	0.72
17	0.1333	7.998	0.34
18	0.1500	9.000	0.08
19	0.1666	9.996	-0.06
20	0.1833	10.998	-0.13
21	0.2000	12.000	-0.14
22	0.2166	12.996	-0.11
23	0.2333	13.998	-0.04
24	0.2500	15.000	0.03
25	0.2666	15.996	0.10
26	0.2833	16.998	0.15
27	0.3000	18.000	0.18
28	0.3166	18.996	0.19
29	0.3333	19.998	0.17
30	0.4167	25.002	-0.01
31	0.5000	30.000	0.01
32	0.5833	34.998	0.05
33	0.6667	40.002	0.00
34	0.7500	45.000	0.01
35	0.8333	49.998	0.02
36	0.9167	55.002	0.01
37	1.0000	60.000	0.01
38	1.0833	64.998	0.01
39	1.1667	70.002	0.01
40	1.2500	75.000	0.01
41	1.3333	79.998	0.01
42	1.4166	84.996	0.01
43	1.5000	90.000	0.01
44	1.5833	94.998	0.01
45	1.6667	100.002	0.01
46	1.7500	105.000	0.01
47	1.8333	109.998	0.01
48	1.9167	115.002	0.00
49	2.0000	120.000	0.01
50	2.5000	150.000	0.01
51	3.0000	180.000	0.00
52	3.5000	210.000	0.01
53	4.0000	240.000	0.01
54	4.5000	270.000	0.01
55	5.0000	300.000	0.00
56	5.5000	330.000	0.01
57	6.0000	360.000	0.01
58	6.5000	390.000	0.01
59	7.0000	420.000	0.01
60	7.5000	450.000	0.01
61	8.0000	480.000	0.02
62	8.5000	510.000	0.01
63	9.0000	540.000	0.02
64	9.5000	570.000	0.02

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.01
66	12.0000	720.000	0.02

	WELL DESCRIPTION		
	MW-103D Test 1	MW103D TEST 2	MW103D TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	16.27	16.27	16.27
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.49E+00	2.49E+00	2.49E+00
Re = effective radius (ft.)	3.03E+00	3.03E+00	3.03E+00
Yo = Drawdown in well at t0 = 0 (ft.)	11.00	15.56	15.63
Yt = Drawdown in well at t > t0 (ft.)	2.00	2.00	1.00
t = time interval between Yo and Yt (sec.)	21.0	21.0	29.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	0.14	0.14	0.14
K = hydraulic conductivity (ft./sec.)	2.11E-04	2.54E-04	2.46E-04
K = hydraulic conductivity (ft./min.)	1.27E-02	1.52E-02	1.48E-02
K = hydraulic conductivity (ft./day)	1.82E+01	2.19E+01	2.13E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-103D	Test 1
Date	9/07/93
Time	16:46
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	0.43
2	0.0033	0.198	16.96
3	0.0066	0.396	24.03
4	0.0099	0.594	23.84
5	0.0133	0.798	23.46
6	0.0166	0.996	22.99
7	0.0200	1.200	22.48
8	0.0233	1.398	21.98
9	0.0266	1.596	21.47
10	0.0300	1.800	20.99
11	0.0333	1.998	20.52
12	0.0500	3.000	18.50
13	0.0666	3.996	16.71
14	0.0833	4.998	15.22
15	0.1000	6.000	13.87
16	0.1166	6.996	12.62
17	0.1333	7.998	11.46
18	0.1500	9.000	10.39
19	0.1666	9.996	9.40
20	0.1833	10.998	8.47
21	0.2000	12.000	7.58
22	0.2166	12.996	6.77
23	0.2333	13.998	6.05
24	0.2500	15.000	5.39
25	0.2666	15.996	4.80
26	0.2833	16.998	4.26
27	0.3000	18.000	3.78
28	0.3166	18.996	3.34
29	0.3333	19.998	2.97
30	0.4167	25.002	1.71
31	0.5000	30.000	1.19
32	0.5833	34.998	1.01
33	0.6667	40.002	0.94
34	0.7500	45.000	0.90
35	0.8333	49.998	0.87
36	0.9167	55.002	0.85
37	1.0000	60.000	0.84
38	1.0833	64.998	0.83
39	1.1667	70.002	0.82
40	1.2500	75.000	0.81
41	1.3333	79.998	0.81
42	1.4166	84.996	0.80
43	1.5000	90.000	0.80
44	1.5833	94.998	0.79
45	1.6667	100.002	0.79
46	1.7500	105.000	0.79
47	1.8333	109.998	0.79
48	1.9167	115.002	0.78
49	2.0000	120.000	0.78
50	2.5000	150.000	0.77
51	3.0000	180.000	0.77
52	3.5000	210.000	0.77
53	4.0000	240.000	0.77
54	4.5000	270.000	0.77
55	5.0000	300.000	0.77
56	5.5000	330.000	0.76
57	6.0000	360.000	0.76
58	6.5000	390.000	0.76
59	7.0000	420.000	0.76
60	7.5000	450.000	0.76
61	8.0000	480.000	0.76
62	8.5000	510.000	0.76
63	9.0000	540.000	0.75
64	9.5000	570.000	0.75
65	10.0000	600.000	0.75
66	12.0000	720.000	0.75
67	14.0000	840.000	0.75
68	16.0000	960.000	0.74
69	18.0000	1080.000	0.74
70	20.0000	1200.000	0.74

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-103D	Test 2
Date	9/07/93
Time	17:12
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	9.38
2	0.0033	0.198	21.23
3	0.0066	0.396	23.85
4	0.0099	0.594	23.82
5	0.0133	0.798	23.54
6	0.0166	0.996	22.95
7	0.0200	1.200	22.41
8	0.0233	1.398	21.87
9	0.0266	1.596	21.37
10	0.0300	1.800	20.90
11	0.0333	1.998	20.46
12	0.0500	3.000	18.59
13	0.0666	3.996	16.99
14	0.0833	4.998	15.56
15	0.1000	6.000	14.29
16	0.1166	6.996	13.10
17	0.1333	7.998	12.00
18	0.1500	9.000	10.97
19	0.1666	9.996	10.00
20	0.1833	10.998	9.08
21	0.2000	12.000	8.22
22	0.2166	12.996	7.42
23	0.2333	13.998	6.60
24	0.2500	15.000	5.91
25	0.2666	15.996	5.27
26	0.2833	16.998	4.67
27	0.3000	18.000	4.13
28	0.3166	18.996	3.63
29	0.3333	19.998	3.18
30	0.4167	25.002	1.54
31	0.5000	30.000	0.71
32	0.5833	34.998	0.37
33	0.6667	40.002	0.25
34	0.7500	45.000	0.19
35	0.8333	49.998	0.16
36	0.9167	55.002	0.13
37	1.0000	60.000	0.12
38	1.0833	64.998	0.11
39	1.1667	70.002	0.10
40	1.2500	75.000	0.09
41	1.3333	79.998	0.09
42	1.4166	84.996	0.08
43	1.5000	90.000	0.08
44	1.5833	94.998	0.07
45	1.6667	100.002	0.07
46	1.7500	105.000	0.07
47	1.8333	109.998	0.06
48	1.9167	115.002	0.06
49	2.0000	120.000	0.06
50	2.5000	150.000	0.05
51	3.0000	180.000	0.05
52	3.5000	210.000	0.05
53	4.0000	240.000	0.05
54	4.5000	270.000	0.04
55	5.0000	300.000	0.04
56	5.5000	330.000	0.04
57	6.0000	360.000	0.04
58	6.5000	390.000	0.04
59	7.0000	420.000	0.04
60	7.5000	450.000	0.04
61	8.0000	480.000	0.03
62	8.5000	510.000	0.03
63	9.0000	540.000	0.03
64	9.5000	570.000	0.03

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.03

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-103D	Test 3
Date	9/07/93
Time	17:31
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	18.19
2	0.0033	0.198	23.70
3	0.0066	0.396	23.70
4	0.0099	0.594	23.71
5	0.0133	0.798	23.73
6	0.0166	0.996	23.74
7	0.0200	1.200	23.75
8	0.0233	1.398	23.21
9	0.0266	1.596	22.73
10	0.0300	1.800	22.27
11	0.0333	1.998	21.84
12	0.0500	3.000	20.01
13	0.0666	3.996	18.44
14	0.0833	4.998	16.98
15	0.1000	6.000	15.63
16	0.1166	6.996	14.41
17	0.1333	7.998	13.27
18	0.1500	9.000	12.19
19	0.1666	9.996	11.19
20	0.1833	10.998	10.23
21	0.2000	12.000	9.34
22	0.2166	12.996	8.49
23	0.2333	13.998	7.69
24	0.2500	15.000	6.93
25	0.2666	15.996	6.18
26	0.2833	16.998	5.54
27	0.3000	18.000	4.95
28	0.3166	18.996	4.40
29	0.3333	19.998	3.90
30	0.4167	25.002	2.01
31	0.5000	30.000	0.97
32	0.5833	34.998	0.50
33	0.6667	40.002	0.32
34	0.7500	45.000	0.24
35	0.8333	49.998	0.20
36	0.9167	55.002	0.17
37	1.0000	60.000	0.15
38	1.0833	64.998	0.14
39	1.1667	70.002	0.12
40	1.2500	75.000	0.11
41	1.3333	79.998	0.11
42	1.4166	84.996	0.10
43	1.5000	90.000	0.10
44	1.5833	94.998	0.09
45	1.6667	100.002	0.09
46	1.7500	105.000	0.08
47	1.8333	109.998	0.08
48	1.9167	115.002	0.08
49	2.0000	120.000	0.08
50	2.5000	150.000	0.07
51	3.0000	180.000	0.06
52	3.5000	210.000	0.06
53	4.0000	240.000	0.05
54	4.5000	270.000	0.05
55	5.0000	300.000	0.05
56	5.5000	330.000	0.05
57	6.0000	360.000	0.05
58	6.5000	390.000	0.05
59	7.0000	420.000	0.05
60	7.5000	450.000	0.05
61	8.0000	480.000	0.05
62	8.5000	510.000	0.04
63	9.0000	540.000	0.04
64	9.5000	570.000	0.04
65	10.0000	600.000	0.04
66	12.0000	720.000	0.04

	WELL DESCRIPTION		
	MW-105B Test 1	MW105B TEST 2	MW105B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	54.45	54.45	54.45
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.68E+00	2.68E+00	2.68E+00
Re = effective radius (ft.)	5.05E+00	5.05E+00	5.05E+00
Yo = Drawdown in well at t0 = 0 (ft.)	5.00	6.00	6.00
Yt = Drawdown in well at t > t0 (ft.)	0.40	0.40	0.20
t = time interval between Yo and Yt (sec.)	34.0	34.0	44.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	6.92E-05	7.42E-05	7.20E-05
K = hydraulic conductivity (ft./min.)	4.15E-03	4.45E-03	4.32E-03
K = hydraulic conductivity (ft./day)	5.98E+00	6.41E+00	6.22E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105B	Test 1
Date	10/28/93
Time	11:43
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	10.98
2	0.0033	0.198	10.98
3	0.0066	0.396	10.96
4	0.0099	0.594	11.10
5	0.0133	0.798	11.10
6	0.0166	0.996	10.80
7	0.0200	1.200	10.12
8	0.0233	1.398	9.26
9	0.0266	1.596	8.48
10	0.0300	1.800	7.98
11	0.0333	1.998	7.68
12	0.0500	3.000	6.88
13	0.0666	3.996	6.29
14	0.0833	4.998	5.79
15	0.1000	6.000	5.34
16	0.1166	6.996	4.94
17	0.1333	7.998	4.53
18	0.1500	9.000	4.22
19	0.1666	9.996	3.93
20	0.1833	10.998	3.66
21	0.2000	12.000	3.41
22	0.2166	12.996	3.19
23	0.2333	13.998	2.98
24	0.2500	15.000	2.78
25	0.2666	15.996	2.60
26	0.2833	16.998	2.43
27	0.3000	18.000	2.26
28	0.3166	18.996	2.12
29	0.3333	19.998	1.98
30	0.4167	25.002	1.42
31	0.5000	30.000	1.02
32	0.5833	34.998	0.75
33	0.6667	40.002	0.55
34	0.7500	45.000	0.41
35	0.8333	49.998	0.32
36	0.9167	55.002	0.25
37	1.0000	60.000	0.20
38	1.0833	64.998	0.17
39	1.1667	70.002	0.16
40	1.2500	75.000	0.14
41	1.3333	79.998	0.13
42	1.4166	84.996	0.12
43	1.5000	90.000	0.11
44	1.5833	94.998	0.11
45	1.6667	100.002	0.11
46	1.7500	105.000	0.11
47	1.8333	109.998	0.11
48	1.9167	115.002	0.10
49	2.0000	120.000	0.10
50	2.5000	150.000	0.10
51	3.0000	180.000	0.09
52	3.5000	210.000	0.09
53	4.0000	240.000	0.08
54	4.5000	270.000	0.08
55	5.0000	300.000	0.08
56	5.5000	330.000	0.08
57	6.0000	360.000	0.08
58	6.5000	390.000	0.08
59	7.0000	420.000	0.08
60	7.5000	450.000	0.07
61	8.0000	480.000	0.07
62	8.5000	510.000	0.07
63	9.0000	540.000	0.07
64	9.5000	570.000	0.07
65	10.0000	600.000	0.07
66	12.0000	720.000	0.07

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105B	Test 2
Date	10/28/93
Time	11:57
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	11.20
2	0.0033	0.198	11.34
3	0.0066	0.396	11.38
4	0.0099	0.594	11.53
5	0.0133	0.798	11.54
6	0.0166	0.996	11.25
7	0.0200	1.200	10.49
8	0.0233	1.398	9.58
9	0.0266	1.596	8.78
10	0.0300	1.800	8.28
11	0.0333	1.998	7.99
12	0.0500	3.000	7.13
13	0.0666	3.996	6.48
14	0.0833	4.998	5.95
15	0.1000	6.000	5.48
16	0.1166	6.996	5.07
17	0.1333	7.998	4.64
18	0.1500	9.000	4.27
19	0.1666	9.996	3.97
20	0.1833	10.998	3.68
21	0.2000	12.000	3.41
22	0.2166	12.996	3.17
23	0.2333	13.998	2.94
24	0.2500	15.000	2.73
25	0.2666	15.996	2.54
26	0.2833	16.998	2.36
27	0.3000	18.000	2.19
28	0.3166	18.996	2.03
29	0.3333	19.998	1.89
30	0.4167	25.002	1.32
31	0.5000	30.000	0.93
32	0.5833	34.998	0.66
33	0.6667	40.002	0.48
34	0.7500	45.000	0.36
35	0.8333	49.998	0.28
36	0.9167	55.002	0.23
37	1.0000	60.000	0.19
38	1.0833	64.998	0.17
39	1.1667	70.002	0.14
40	1.2500	75.000	0.12
41	1.3333	79.998	0.11
42	1.4166	84.996	0.11
43	1.5000	90.000	0.10
44	1.5833	94.998	0.10
45	1.6667	100.002	0.10
46	1.7500	105.000	0.10
47	1.8333	109.998	0.09
48	1.9167	115.002	0.09
49	2.0000	120.000	0.09
50	2.5000	150.000	0.08
51	3.0000	180.000	0.08
52	3.5000	210.000	0.07
53	4.0000	240.000	0.07
54	4.5000	270.000	0.07
55	5.0000	300.000	0.07
56	5.5000	330.000	0.06
57	6.0000	360.000	0.06
58	6.5000	390.000	0.06
59	7.0000	420.000	0.06
60	7.5000	450.000	0.06
61	8.0000	480.000	0.05
62	8.5000	510.000	0.05
63	9.0000	540.000	0.05
64	9.5000	570.000	0.05

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.05

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105B	Test 3
Date	10/28/93
Time	12:09
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.09
2	0.0033	0.198	11.96
3	0.0066	0.396	12.10
4	0.0099	0.594	12.15
5	0.0133	0.798	11.91
6	0.0166	0.996	11.25
7	0.0200	1.200	10.32
8	0.0233	1.398	9.49
9	0.0266	1.596	8.93
10	0.0300	1.800	8.56
11	0.0333	1.998	8.32
12	0.0500	3.000	7.47
13	0.0666	3.996	6.80
14	0.0833	4.998	6.24
15	0.1000	6.000	5.75
16	0.1166	6.996	5.32
17	0.1333	7.998	4.93
18	0.1500	9.000	4.52
19	0.1666	9.996	4.18
20	0.1833	10.998	3.88
21	0.2000	12.000	3.61
22	0.2166	12.996	3.36
23	0.2333	13.998	3.12
24	0.2500	15.000	2.91
25	0.2666	15.996	2.70
26	0.2833	16.998	2.51
27	0.3000	18.000	2.34
28	0.3166	18.996	2.18
29	0.3333	19.998	2.03
30	0.4167	25.002	1.42
31	0.5000	30.000	1.01
32	0.5833	34.998	0.72
33	0.6667	40.002	0.53
34	0.7500	45.000	0.40
35	0.8333	49.998	0.31
36	0.9167	55.002	0.24
37	1.0000	60.000	0.20
38	1.0833	64.998	0.17
39	1.1667	70.002	0.15
40	1.2500	75.000	0.13
41	1.3333	79.998	0.12
42	1.4166	84.996	0.11
43	1.5000	90.000	0.11
44	1.5833	94.998	0.10
45	1.6667	100.002	0.10
46	1.7500	105.000	0.09
47	1.8333	109.998	0.09
48	1.9167	115.002	0.08
49	2.0000	120.000	0.08
50	2.5000	150.000	0.08
51	3.0000	180.000	0.07
52	3.5000	210.000	0.06
53	4.0000	240.000	0.06
54	4.5000	270.000	0.05
55	5.0000	300.000	0.05
56	5.5000	330.000	0.05
57	6.0000	360.000	0.05
58	6.5000	390.000	0.05
59	7.0000	420.000	0.05
60	7.5000	450.000	0.05
61	8.0000	480.000	0.04
62	8.5000	510.000	0.04
63	9.0000	540.000	0.04
64	9.5000	570.000	0.04

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.04

	WELL DESCRIPTION		
	MW-105D Test 1	MW105D TEST 2	MW105D TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	155.60	155.60	155.60
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.24E+00	3.24E+00	3.24E+00
Re = effective radius (ft.)	6.39E+00	6.39E+00	6.39E+00
Yo = Drawdown in well at t0 = 0 (ft.)	0.32	0.90	1.14
Yt = Drawdown in well at t > t0 (ft.)	0.20	0.30	0.50
t = time interval between Yo and Yt (sec.)	230.0	320.0	250.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	2.30E-06	3.86E-06	3.71E-06
K = hydraulic conductivity (ft./min.)	1.38E-04	2.32E-04	2.22E-04
K = hydraulic conductivity (ft./day)	1.99E-01	3.34E-01	3.20E-01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105D	Test 1
Date	10/28/93
Time	10:21
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-0.17
2	0.0033	0.198	0.52
3	0.0066	0.396	0.37
4	0.0099	0.594	0.45
5	0.0133	0.798	0.41
6	0.0166	0.996	0.41
7	0.0200	1.200	0.40
8	0.0233	1.398	0.40
9	0.0266	1.596	0.40
10	0.0300	1.800	0.40
11	0.0333	1.998	0.40
12	0.0500	3.000	0.39
13	0.0666	3.996	0.39
14	0.0833	4.998	0.38
15	0.1000	6.000	0.38
16	0.1166	6.996	0.37
17	0.1333	7.998	0.37
18	0.1500	9.000	0.37
19	0.1666	9.996	0.36
20	0.1833	10.998	0.36
21	0.2000	12.000	0.36
22	0.2166	12.996	0.36
23	0.2333	13.998	0.35
24	0.2500	15.000	0.35
25	0.2666	15.996	0.35
26	0.2833	16.998	0.35
27	0.3000	18.000	0.35
28	0.3166	18.996	0.35
29	0.3333	19.998	0.35
30	0.4167	25.002	0.34
31	0.5000	30.000	0.33
32	0.5833	34.998	0.33
33	0.6667	40.002	0.32
34	0.7500	45.000	0.31
35	0.8333	49.998	0.31
36	0.9167	55.002	0.31
37	1.0000	60.000	0.30
38	1.0833	64.998	0.30
39	1.1667	70.002	0.29
40	1.2500	75.000	0.29
41	1.3333	79.998	0.29
42	1.4166	84.996	0.29
43	1.5000	90.000	0.29
44	1.5833	94.998	0.28
45	1.6667	100.002	0.28
46	1.7500	105.000	0.28
47	1.8333	109.998	0.27
48	1.9167	115.002	0.27
49	2.0000	120.000	0.27
50	2.5000	150.000	0.26
51	3.0000	180.000	0.24
52	3.5000	210.000	0.24
53	4.0000	240.000	0.23
54	4.5000	270.000	0.22
55	5.0000	300.000	0.22
56	5.5000	330.000	0.21
57	6.0000	360.000	0.20
58	6.5000	390.000	0.20
59	7.0000	420.000	0.19
60	7.5000	450.000	0.19
61	8.0000	480.000	0.19
62	8.5000	510.000	0.18
63	9.0000	540.000	0.18
64	9.5000	570.000	0.17

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.17
66	12.0000	720.000	0.16
67	14.0000	840.000	0.15
68	16.0000	960.000	0.15
69	18.0000	1080.000	0.14
70	20.0000	1200.000	0.14
71	22.0000	1320.000	0.13
72	24.0000	1440.000	0.13
73	26.0000	1560.000	0.13

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105D	Test 2
Date	10/28/93
Time	10:49
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.32
2	0.0033	0.198	1.24
3	0.0066	0.396	1.20
4	0.0099	0.594	1.19
5	0.0133	0.798	1.18
6	0.0166	0.996	1.18
7	0.0200	1.200	1.18
8	0.0233	1.398	1.18
9	0.0266	1.596	1.17
10	0.0300	1.800	1.17
11	0.0333	1.998	1.17
12	0.0500	3.000	1.15
13	0.0666	3.996	1.15
14	0.0833	4.998	1.14
15	0.1000	6.000	1.13
16	0.1166	6.996	1.12
17	0.1333	7.998	1.11
18	0.1500	9.000	1.11
19	0.1666	9.996	1.10
20	0.1833	10.998	1.10
21	0.2000	12.000	1.09
22	0.2166	12.996	1.08
23	0.2333	13.998	1.08
24	0.2500	15.000	1.07
25	0.2666	15.996	1.07
26	0.2833	16.998	1.06
27	0.3000	18.000	1.06
28	0.3166	18.996	1.05
29	0.3333	19.998	1.05
30	0.4167	25.002	1.03
31	0.5000	30.000	1.01
32	0.5833	34.998	0.99
33	0.6667	40.002	0.97
34	0.7500	45.000	0.95
35	0.8333	49.998	0.94
36	0.9167	55.002	0.93
37	1.0000	60.000	0.91
38	1.0833	64.998	0.90
39	1.1667	70.002	0.88
40	1.2500	75.000	0.87
41	1.3333	79.998	0.86
42	1.4166	84.996	0.84
43	1.5000	90.000	0.83
44	1.5833	94.998	0.82
45	1.6667	100.002	0.81
46	1.7500	105.000	0.80
47	1.8333	109.998	0.79
48	1.9167	115.002	0.78
49	2.0000	120.000	0.77
50	2.5000	150.000	0.72
51	3.0000	180.000	0.66
52	3.5000	210.000	0.62
53	4.0000	240.000	0.58
54	4.5000	270.000	0.54
55	5.0000	300.000	0.51
56	5.5000	330.000	0.47
57	6.0000	360.000	0.45
58	6.5000	390.000	0.42
59	7.0000	420.000	0.39
60	7.5000	450.000	0.37
61	8.0000	480.000	0.35
62	8.5000	510.000	0.33
63	9.0000	540.000	0.31
64	9.5000	570.000	0.29

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.27
66	12.0000	720.000	0.21
67	14.0000	840.000	0.16
68	16.0000	960.000	0.13
69	18.0000	1080.000	0.10
70	20.0000	1200.000	0.08
71	22.0000	1320.000	0.06
72	24.0000	1440.000	0.05
73	26.0000	1560.000	0.04

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-105D	Test 3
Date	10/28/93
Time	11:17
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.82
2	0.0033	0.198	1.80
3	0.0066	0.396	1.68
4	0.0099	0.594	1.66
5	0.0133	0.798	1.66
6	0.0166	0.996	1.66
7	0.0200	1.200	1.66
8	0.0233	1.398	1.66
9	0.0266	1.596	1.65
10	0.0300	1.800	1.65
11	0.0333	1.998	1.65
12	0.0500	3.000	1.63
13	0.0666	3.996	1.62
14	0.0833	4.998	1.61
15	0.1000	6.000	1.60
16	0.1166	6.996	1.59
17	0.1333	7.998	1.58
18	0.1500	9.000	1.58
19	0.1666	9.996	1.57
20	0.1833	10.998	1.56
21	0.2000	12.000	1.55
22	0.2166	12.996	1.54
23	0.2333	13.998	1.54
24	0.2500	15.000	1.53
25	0.2666	15.996	1.53
26	0.2833	16.998	1.52
27	0.3000	18.000	1.51
28	0.3166	18.996	1.51
29	0.3333	19.998	1.50
30	0.4167	25.002	1.47
31	0.5000	30.000	1.44
32	0.5833	34.998	1.42
33	0.6667	40.002	1.40
34	0.7500	45.000	1.37
35	0.8333	49.998	1.35
36	0.9167	55.002	1.33
37	1.0000	60.000	1.31
38	1.0833	64.998	1.29
39	1.1667	70.002	1.27
40	1.2500	75.000	1.25
41	1.3333	79.998	1.24
42	1.4166	84.996	1.22
43	1.5000	90.000	1.20
44	1.5833	94.998	1.19
45	1.6667	100.002	1.17
46	1.7500	105.000	1.16
47	1.8333	109.998	1.14
48	1.9167	115.002	1.13
49	2.0000	120.000	1.11
50	2.5000	150.000	1.03
51	3.0000	180.000	0.96
52	3.5000	210.000	0.89
53	4.0000	240.000	0.83
54	4.5000	270.000	0.78
55	5.0000	300.000	0.73
56	5.5000	330.000	0.68
57	6.0000	360.000	0.64
58	6.5000	390.000	0.60
59	7.0000	420.000	0.56
60	7.5000	450.000	0.53
61	8.0000	480.000	0.49
62	8.5000	510.000	0.46
63	9.0000	540.000	0.43
64	9.5000	570.000	0.40

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.38
66	12.0000	720.000	0.29
67	14.0000	840.000	0.22
68	16.0000	960.000	0.17
69	18.0000	1080.000	0.12
70	20.0000	1200.000	0.09
71	22.0000	1320.000	0.06

	WELL DESCRIPTION		
	MW-109D Test 1	MW109D TEST 2	MW109D TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	16.27	16.27	16.27
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.49E+00	2.49E+00	2.49E+00
Re = effective radius (ft.)	3.03E+00	3.03E+00	3.03E+00
Yo = Drawdown in well at t0 = 0 (ft.)	2.08	2.00	2.00
Yt = Drawdown in well at t > t0 (ft.)	0.04	0.04	0.03
t = time interval between Yo and Yt (sec.)	75.0	75.0	75.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	4.56E-05	4.51E-05	4.85E-05
K = hydraulic conductivity (ft./min.)	2.74E-03	2.71E-03	2.91E-03
K = hydraulic conductivity (ft./day)	3.94E+00	3.90E+00	4.19E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109D	Test 1
Date	10/21/93
Time	15:51
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.32
2	0.0033	0.198	5.22
3	0.0066	0.396	3.21
4	0.0099	0.594	3.91
5	0.0133	0.798	3.59
6	0.0166	0.996	3.57
7	0.0200	1.200	3.55
8	0.0233	1.398	3.46
9	0.0266	1.596	3.46
10	0.0300	1.800	3.37
11	0.0333	1.998	3.36
12	0.0500	3.000	3.14
13	0.0666	3.996	2.96
14	0.0833	4.998	2.79
15	0.1000	6.000	2.63
16	0.1166	6.996	2.48
17	0.1333	7.998	2.33
18	0.1500	9.000	2.20
19	0.1666	9.996	2.08
20	0.1833	10.998	1.97
21	0.2000	12.000	1.86
22	0.2166	12.996	1.76
23	0.2333	13.998	1.67
24	0.2500	15.000	1.58
25	0.2666	15.996	1.49
26	0.2833	16.998	1.42
27	0.3000	18.000	1.35
28	0.3166	18.996	1.28
29	0.3333	19.998	1.22
30	0.4167	25.002	0.95
31	0.5000	30.000	0.75
32	0.5833	34.998	0.59
33	0.6667	40.002	0.47
34	0.7500	45.000	0.39
35	0.8333	49.998	0.31
36	0.9167	55.002	0.25
37	1.0000	60.000	0.20
38	1.0833	64.998	0.16
39	1.1667	70.002	0.13
40	1.2500	75.000	0.11
41	1.3333	79.998	0.09
42	1.4166	84.996	0.07
43	1.5000	90.000	0.06
44	1.5833	94.998	0.05
45	1.6667	100.002	0.04
46	1.7500	105.000	0.03
47	1.8333	109.998	0.02
48	1.9167	115.002	0.02
49	2.0000	120.000	0.01
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.00
66	12.0000	720.000	0.00
67	14.0000	840.000	0.00
68	16.0000	960.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109D	Test 2
Date	10/21/93
Time	16:08
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.70
2	0.0033	0.198	4.75
3	0.0066	0.396	3.12
4	0.0099	0.594	4.06
5	0.0133	0.798	3.40
6	0.0166	0.996	3.60
7	0.0200	1.200	3.43
8	0.0233	1.398	3.43
9	0.0266	1.596	3.35
10	0.0300	1.800	3.32
11	0.0333	1.998	3.27
12	0.0500	3.000	3.06
13	0.0666	3.996	2.88
14	0.0833	4.998	2.72
15	0.1000	6.000	2.57
16	0.1166	6.996	2.42
17	0.1333	7.998	2.28
18	0.1500	9.000	2.15
19	0.1666	9.996	2.04
20	0.1833	10.998	1.93
21	0.2000	12.000	1.82
22	0.2166	12.996	1.72
23	0.2333	13.998	1.63
24	0.2500	15.000	1.55
25	0.2666	15.996	1.47
26	0.2833	16.998	1.39
27	0.3000	18.000	1.32
28	0.3166	18.996	1.25
29	0.3333	19.998	1.19
30	0.4167	25.002	0.93
31	0.5000	30.000	0.73
32	0.5833	34.998	0.57
33	0.6667	40.002	0.45
34	0.7500	45.000	0.36
35	0.8333	49.998	0.29
36	0.9167	55.002	0.23
37	1.0000	60.000	0.18
38	1.0833	64.998	0.14
39	1.1667	70.002	0.11
40	1.2500	75.000	0.10
41	1.3333	79.998	0.08
42	1.4166	84.996	0.07
43	1.5000	90.000	0.07
44	1.5833	94.998	0.04
45	1.6667	100.002	0.04
46	1.7500	105.000	0.04
47	1.8333	109.998	0.03
48	1.9167	115.002	0.03
49	2.0000	120.000	0.02
50	2.5000	150.000	0.01
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109D	Test 3
Date	10/21/93
Time	16:15
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	7.07
2	0.0033	0.198	1.79
3	0.0066	0.396	3.58
4	0.0099	0.594	2.74
5	0.0133	0.798	2.91
6	0.0166	0.996	2.76
7	0.0200	1.200	2.71
8	0.0233	1.398	2.67
9	0.0266	1.596	2.60
10	0.0300	1.800	2.58
11	0.0333	1.998	2.52
12	0.0500	3.000	2.34
13	0.0666	3.996	2.19
14	0.0833	4.998	2.06
15	0.1000	6.000	1.94
16	0.1166	6.996	1.82
17	0.1333	7.998	1.71
18	0.1500	9.000	1.61
19	0.1666	9.996	1.51
20	0.1833	10.998	1.42
21	0.2000	12.000	1.34
22	0.2166	12.996	1.27
23	0.2333	13.998	1.20
24	0.2500	15.000	1.13
25	0.2666	15.996	1.07
26	0.2833	16.998	1.01
27	0.3000	18.000	0.95
28	0.3166	18.996	0.90
29	0.3333	19.998	0.85
30	0.4167	25.002	0.65
31	0.5000	30.000	0.50
32	0.5833	34.998	0.38
33	0.6667	40.002	0.29
34	0.7500	45.000	0.22
35	0.8333	49.998	0.17
36	0.9167	55.002	0.13
37	1.0000	60.000	0.10
38	1.0833	64.998	0.08
39	1.1667	70.002	0.06
40	1.2500	75.000	0.05
41	1.3333	79.998	0.04
42	1.4166	84.996	0.03
43	1.5000	90.000	0.03
44	1.5833	94.998	0.02
45	1.6667	100.002	0.01
46	1.7500	105.000	0.01
47	1.8333	109.998	0.01
48	1.9167	115.002	0.01
49	2.0000	120.000	0.01
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.01

	WELL DESCRIPTION		
	MW-112A Test 1	MW112A TEST 2	MW112A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	29.28	29.28	29.28
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.48E+00	2.48E+00	2.48E+00
Re = effective radius (ft.)	4.13E+00	4.13E+00	4.13E+00
Yo = Drawdown in well at t0 = 0 (ft.)	5.47	2.90	2.15
Yt = Drawdown in well at t > t0 (ft.)	3.00	0.90	0.80
t = time interval between Yo and Yt (sec.)	100.0	100.0	120.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	5.17E-06	1.01E-05	7.09E-06
K = hydraulic conductivity (ft./min.)	3.10E-04	6.05E-04	4.26E-04
K = hydraulic conductivity (ft./day)	4.47E-01	8.71E-01	6.13E-01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112A	Test 1
Date	10/25/93
Time	09:41
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-4.48
2	0.0033	0.198	12.44
3	0.0066	0.396	18.39
4	0.0099	0.594	7.48
5	0.0133	0.798	0.17
6	0.0166	0.996	8.75
7	0.0200	1.200	12.29
8	0.0233	1.398	6.92
9	0.0266	1.596	4.29
10	0.0300	1.800	8.36
11	0.0333	1.998	9.35
12	0.0500	3.000	6.53
13	0.0666	3.996	7.12
14	0.0833	4.998	6.96
15	0.1000	6.000	6.80
16	0.1166	6.996	6.73
17	0.1333	7.998	6.66
18	0.1500	9.000	6.57
19	0.1666	9.996	6.51
20	0.1833	10.998	6.43
21	0.2000	12.000	6.36
22	0.2166	12.996	6.29
23	0.2333	13.998	6.22
24	0.2500	15.000	6.19
25	0.2666	15.996	6.11
26	0.2833	16.998	6.05
27	0.3000	18.000	6.00
28	0.3166	18.996	5.95
29	0.3333	19.998	5.91
30	0.4167	25.002	5.67
31	0.5000	30.000	5.47
32	0.5833	34.998	5.26
33	0.6667	40.002	5.08
34	0.7500	45.000	4.91
35	0.8333	49.998	4.74
36	0.9167	55.002	4.58
37	1.0000	60.000	4.44
38	1.0833	64.998	4.30
39	1.1667	70.002	4.17
40	1.2500	75.000	4.04
41	1.3333	79.998	3.93
42	1.4166	84.996	3.81
43	1.5000	90.000	3.70
44	1.5833	94.998	3.61
45	1.6667	100.002	3.51
46	1.7500	105.000	3.41
47	1.8333	109.998	3.32
48	1.9167	115.002	3.23
49	2.0000	120.000	3.15
50	2.5000	150.000	2.70
51	3.0000	180.000	2.33
52	3.5000	210.000	2.02
53	4.0000	240.000	1.76
54	4.5000	270.000	1.54
55	5.0000	300.000	1.35
56	5.5000	330.000	1.19
57	6.0000	360.000	1.05
58	6.5000	390.000	0.94
59	7.0000	420.000	0.84
60	7.5000	450.000	0.76
61	8.0000	480.000	0.68
62	8.5000	510.000	0.62
63	9.0000	540.000	0.57
64	9.5000	570.000	0.52

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.47
66	12.0000	720.000	0.35
67	14.0000	840.000	0.27
68	16.0000	960.000	0.21
69	18.0000	1080.000	0.17
70	20.0000	1200.000	0.15
71	22.0000	1320.000	0.12
72	24.0000	1440.000	0.11
73	26.0000	1560.000	0.10
74	28.0000	1680.000	0.09
75	30.0000	1800.000	0.09
76	32.0000	1920.000	0.09
77	34.0000	2040.000	0.08
78	36.0000	2160.000	0.08
79	38.0000	2280.000	0.08
80	40.0000	2400.000	0.07
81	42.0000	2520.000	0.07
82	44.0000	2640.000	0.07
83	46.0000	2760.000	0.07

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112A	Test 2
Date	10/25/93
Time	10:35
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.81
2	0.0033	0.198	3.18
3	0.0066	0.396	-0.83
4	0.0099	0.594	5.39
5	0.0133	0.798	8.18
6	0.0166	0.996	4.78
7	0.0200	1.200	2.13
8	0.0233	1.398	4.35
9	0.0266	1.596	5.95
10	0.0300	1.800	4.55
11	0.0333	1.998	3.37
12	0.0500	3.000	4.25
13	0.0666	3.996	4.24
14	0.0833	4.998	4.03
15	0.1000	6.000	3.95
16	0.1166	6.996	3.90
17	0.1333	7.998	3.82
18	0.1500	9.000	3.75
19	0.1666	9.996	3.70
20	0.1833	10.998	3.64
21	0.2000	12.000	3.58
22	0.2166	12.996	3.54
23	0.2333	13.998	3.50
24	0.2500	15.000	3.45
25	0.2666	15.996	3.40
26	0.2833	16.998	3.36
27	0.3000	18.000	3.32
28	0.3166	18.996	3.28
29	0.3333	19.998	3.24
30	0.4167	25.002	3.07
31	0.5000	30.000	2.90
32	0.5833	34.998	2.76
33	0.6667	40.002	2.63
34	0.7500	45.000	2.52
35	0.8333	49.998	2.41
36	0.9167	55.002	2.30
37	1.0000	60.000	2.21
38	1.0833	64.998	2.12
39	1.1667	70.002	2.03
40	1.2500	75.000	1.96
41	1.3333	79.998	1.88
42	1.4166	84.996	1.81
43	1.5000	90.000	1.74
44	1.5833	94.998	1.68
45	1.6667	100.002	1.62
46	1.7500	105.000	1.56
47	1.8333	109.998	1.51
48	1.9167	115.002	1.45
49	2.0000	120.000	1.41
50	2.5000	150.000	1.15
51	3.0000	180.000	0.96
52	3.5000	210.000	0.80
53	4.0000	240.000	0.68
54	4.5000	270.000	0.59
55	5.0000	300.000	0.51
56	5.5000	330.000	0.44
57	6.0000	360.000	0.39
58	6.5000	390.000	0.35
59	7.0000	420.000	0.31
60	7.5000	450.000	0.28
61	8.0000	480.000	0.24
62	8.5000	510.000	0.22
63	9.0000	540.000	0.20
64	9.5000	570.000	0.18

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.16
66	12.0000	720.000	0.11
67	14.0000	840.000	0.08
68	16.0000	960.000	0.05
69	18.0000	1080.000	0.04

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112A	Test 3
Date	10/25/93
Time	10:56
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	9.48
2	0.0033	0.198	13.19
3	0.0066	0.396	4.53
4	0.0099	0.594	-1.66
5	0.0133	0.798	3.25
6	0.0166	0.996	7.52
7	0.0200	1.200	5.36
8	0.0233	1.398	1.89
9	0.0266	1.596	2.95
10	0.0300	1.800	5.17
11	0.0333	1.998	4.56
12	0.0500	3.000	3.39
13	0.0666	3.996	3.55
14	0.0833	4.998	3.54
15	0.1000	6.000	3.44
16	0.1166	6.996	3.35
17	0.1333	7.998	3.29
18	0.1500	9.000	3.22
19	0.1666	9.996	3.17
20	0.1833	10.998	3.12
21	0.2000	12.000	3.07
22	0.2166	12.996	3.02
23	0.2333	13.998	2.97
24	0.2500	15.000	2.93
25	0.2666	15.996	2.89
26	0.2833	16.998	2.85
27	0.3000	18.000	2.81
28	0.3166	18.996	2.77
29	0.3333	19.998	2.73
30	0.4167	25.002	2.56
31	0.5000	30.000	2.41
32	0.5833	34.998	2.27
33	0.6667	40.002	2.15
34	0.7500	45.000	2.04
35	0.8333	49.998	1.94
36	0.9167	55.002	1.84
37	1.0000	60.000	1.76
38	1.0833	64.998	1.67
39	1.1667	70.002	1.60
40	1.2500	75.000	1.53
41	1.3333	79.998	1.47
42	1.4166	84.996	1.40
43	1.5000	90.000	1.35
44	1.5833	94.998	1.29
45	1.6667	100.002	1.24
46	1.7500	105.000	1.19
47	1.8333	109.998	1.15
48	1.9167	115.002	1.11
49	2.0000	120.000	1.07
50	2.5000	150.000	0.86
51	3.0000	180.000	0.71
52	3.5000	210.000	0.59
53	4.0000	240.000	0.49
54	4.5000	270.000	0.42
55	5.0000	300.000	0.37
56	5.5000	330.000	0.31
57	6.0000	360.000	0.27
58	6.5000	390.000	0.24
59	7.0000	420.000	0.21
60	7.5000	450.000	0.18
61	8.0000	480.000	0.16
62	8.5000	510.000	0.15
63	9.0000	540.000	0.13
64	9.5000	570.000	0.11

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.10
66	12.0000	720.000	0.05
67	14.0000	840.000	0.03
68	16.0000	960.000	0.01

	WELL DESCRIPTION		
	MW-112B Test 1	MW112B TEST 2	MW112B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	91.29	91.29	91.29
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.09E+00	3.09E+00	3.09E+00
Re = effective radius (ft.)	5.48E+00	5.48E+00	5.48E+00
Yo = Drawdown in well at t0 = 0 (ft.)	6.00	2.66	3.00
Yt = Drawdown in well at t > t0 (ft.)	0.05	0.06	0.16
t = time interval between Yo and Yt (sec.)	180.0	140.0	110.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	2.85E-05	2.90E-05	2.85E-05
K = hydraulic conductivity (ft./min.)	1.71E-03	1.74E-03	1.71E-03
K = hydraulic conductivity (ft./day)	2.46E+00	2.51E+00	2.47E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well	MW-112B	Test 1
Date		10/26/93
Time		11:27
Reference		0.000
Scale factor		10.020
Offset		0.000
Delay mSEC		50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	8.25
2	0.0033	0.198	8.08
3	0.0066	0.396	8.01
4	0.0099	0.594	7.95
5	0.0133	0.798	7.91
6	0.0166	0.996	7.86
7	0.0200	1.200	7.81
8	0.0233	1.398	7.76
9	0.0266	1.596	7.72
10	0.0300	1.800	7.68
11	0.0333	1.998	7.63
12	0.0500	3.000	7.43
13	0.0666	3.996	7.24
14	0.0833	4.998	7.05
15	0.1000	6.000	6.86
16	0.1166	6.996	6.68
17	0.1333	7.998	6.51
18	0.1500	9.000	6.34
19	0.1666	9.996	6.18
20	0.1833	10.998	6.02
21	0.2000	12.000	5.86
22	0.2166	12.996	5.71
23	0.2333	13.998	5.56
24	0.2500	15.000	5.42
25	0.2666	15.996	5.28
26	0.2833	16.998	5.14
27	0.3000	18.000	5.01
28	0.3166	18.996	4.88
29	0.3333	19.998	4.75
30	0.4167	25.002	4.16
31	0.5000	30.000	3.65
32	0.5833	34.998	3.20
33	0.6667	40.002	2.80
34	0.7500	45.000	2.45
35	0.8333	49.998	2.15
36	0.9167	55.002	1.88
37	1.0000	60.000	1.65
38	1.0833	64.998	1.44
39	1.1667	70.002	1.25
40	1.2500	75.000	1.07
41	1.3333	79.998	0.93
42	1.4166	84.996	0.82
43	1.5000	90.000	0.71
44	1.5833	94.998	0.63
45	1.6667	100.002	0.55
46	1.7500	105.000	0.48
47	1.8333	109.998	0.42
48	1.9167	115.002	0.37
49	2.0000	120.000	0.32
50	2.5000	150.000	0.14
51	3.0000	180.000	0.06
52	3.5000	210.000	0.02
53	4.0000	240.000	0.01
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112B	Test 2
Date	10/26/93
Time	11:45
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	6.13
2	0.0033	0.198	6.10
3	0.0066	0.396	5.46
4	0.0099	0.594	5.82
5	0.0133	0.798	5.77
6	0.0166	0.996	5.74
7	0.0200	1.200	5.69
8	0.0233	1.398	5.65
9	0.0266	1.596	5.62
10	0.0300	1.800	5.58
11	0.0333	1.998	5.55
12	0.0500	3.000	5.40
13	0.0666	3.996	5.25
14	0.0833	4.998	5.12
15	0.1000	6.000	4.98
16	0.1166	6.996	4.85
17	0.1333	7.998	4.73
18	0.1500	9.000	4.60
19	0.1666	9.996	4.48
20	0.1833	10.998	4.37
21	0.2000	12.000	4.26
22	0.2166	12.996	4.15
23	0.2333	13.998	4.04
24	0.2500	15.000	3.93
25	0.2666	15.996	3.83
26	0.2833	16.998	3.74
27	0.3000	18.000	3.64
28	0.3166	18.996	3.55
29	0.3333	19.998	3.45
30	0.4167	25.002	3.03
31	0.5000	30.000	2.66
32	0.5833	34.998	2.33
33	0.6667	40.002	2.04
34	0.7500	45.000	1.79
35	0.8333	49.998	1.57
36	0.9167	55.002	1.38
37	1.0000	60.000	1.18
38	1.0833	64.998	1.02
39	1.1667	70.002	0.89
40	1.2500	75.000	0.79
41	1.3333	79.998	0.69
42	1.4166	84.996	0.60
43	1.5000	90.000	0.53
44	1.5833	94.998	0.47
45	1.6667	100.002	0.41
46	1.7500	105.000	0.36
47	1.8333	109.998	0.31
48	1.9167	115.002	0.28
49	2.0000	120.000	0.24
50	2.5000	150.000	0.11
51	3.0000	180.000	0.05
52	3.5000	210.000	0.02
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112B	Test 3
Date	10/26/93
Time	11:56
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	4.11
2	0.0033	0.198	4.05
3	0.0066	0.396	3.93
4	0.0099	0.594	3.89
5	0.0133	0.798	3.85
6	0.0166	0.996	3.82
7	0.0200	1.200	3.79
8	0.0233	1.398	3.76
9	0.0266	1.596	3.74
10	0.0300	1.800	3.71
11	0.0333	1.998	3.69
12	0.0500	3.000	3.58
13	0.0666	3.996	3.48
14	0.0833	4.998	3.39
15	0.1000	6.000	3.30
16	0.1166	6.996	3.21
17	0.1333	7.998	3.13
18	0.1500	9.000	3.05
19	0.1666	9.996	2.97
20	0.1833	10.998	2.89
21	0.2000	12.000	2.81
22	0.2166	12.996	2.74
23	0.2333	13.998	2.67
24	0.2500	15.000	2.60
25	0.2666	15.996	2.53
26	0.2833	16.998	2.46
27	0.3000	18.000	2.40
28	0.3166	18.996	2.34
29	0.3333	19.998	2.27
30	0.4167	25.002	1.99
31	0.5000	30.000	1.75
32	0.5833	34.998	1.53
33	0.6667	40.002	1.34
34	0.7500	45.000	1.15
35	0.8333	49.998	0.99
36	0.9167	55.002	0.87
37	1.0000	60.000	0.77
38	1.0833	64.998	0.67
39	1.1667	70.002	0.59
40	1.2500	75.000	0.52
41	1.3333	79.998	0.45
42	1.4166	84.996	0.40
43	1.5000	90.000	0.35
44	1.5833	94.998	0.30
45	1.6667	100.002	0.27
46	1.7500	105.000	0.23
47	1.8333	109.998	0.20
48	1.9167	115.002	0.18
49	2.0000	120.000	0.16
50	2.5000	150.000	0.07
51	3.0000	180.000	0.03
52	3.5000	210.000	0.01
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00

	WELL DESCRIPTION			
	MW-112C Test 1	MW112C TEST 2	MW112C TEST 3	MW112C TEST 4
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	189.68	189.68	189.68	189.68
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially	partially
ln Re/rw (unitless)	3.30E+00	3.30E+00	3.30E+00	3.30E+00
Re = effective radius (ft.)	6.75E+00	6.75E+00	6.75E+00	6.75E+00
Yo = Drawdown in well at t0 = 0 (ft.)	10.00	10.00	6.00	9.00
Yt = Drawdown in well at t > t0 (ft.)	1.14	0.74	0.30	0.30
t = time interval between Yo and Yt (sec.)	30.0	35.0	40.0	45.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	8.28E-05	8.51E-05	8.57E-05	8.64E-05
K = hydraulic conductivity (ft./min.)	4.97E-03	5.10E-03	5.14E-03	5.19E-03
K = hydraulic conductivity (ft./day)	7.15E+00	7.35E+00	7.40E+00	7.47E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112C	Test 1
Date	10/26/93
Time	12:45
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-4.21
2	0.0033	0.198	6.16
3	0.0066	0.396	12.08
4	0.0099	0.594	15.63
5	0.0133	0.798	18.11
6	0.0166	0.996	19.37
7	0.0200	1.200	19.54
8	0.0233	1.398	19.43
9	0.0266	1.596	19.52
10	0.0300	1.800	19.48
11	0.0333	1.998	19.48
12	0.0500	3.000	18.16
13	0.0666	3.996	16.67
14	0.0833	4.998	15.35
15	0.1000	6.000	14.15
16	0.1166	6.996	13.05
17	0.1333	7.998	12.06
18	0.1500	9.000	11.14
19	0.1666	9.996	10.31
20	0.1833	10.998	9.51
21	0.2000	12.000	8.81
22	0.2166	12.996	8.17
23	0.2333	13.998	7.57
24	0.2500	15.000	7.03
25	0.2666	15.996	6.52
26	0.2833	16.998	6.05
27	0.3000	18.000	5.62
28	0.3166	18.996	5.22
29	0.3333	19.998	4.84
30	0.4167	25.002	3.34
31	0.5000	30.000	2.32
32	0.5833	34.998	1.62
33	0.6667	40.002	1.14
34	0.7500	45.000	0.81
35	0.8333	49.998	0.58
36	0.9167	55.002	0.41
37	1.0000	60.000	0.30
38	1.0833	64.998	0.23
39	1.1667	70.002	0.17
40	1.2500	75.000	0.12
41	1.3333	79.998	0.10
42	1.4166	84.996	0.07
43	1.5000	90.000	0.06
44	1.5833	94.998	0.05
45	1.6667	100.002	0.04
46	1.7500	105.000	0.03
47	1.8333	109.998	0.02
48	1.9167	115.002	0.02
49	2.0000	120.000	0.02
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112C	Test 2
Date	10/26/93
Time	12:58
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	6.67
2	0.0033	0.198	11.62
3	0.0066	0.396	14.24
4	0.0099	0.594	15.17
5	0.0133	0.798	14.91
6	0.0166	0.996	14.68
7	0.0200	1.200	14.53
8	0.0233	1.398	14.20
9	0.0266	1.596	14.02
10	0.0300	1.800	13.73
11	0.0333	1.998	13.49
12	0.0500	3.000	12.34
13	0.0666	3.996	11.31
14	0.0833	4.998	10.39
15	0.1000	6.000	9.52
16	0.1166	6.996	8.78
17	0.1333	7.998	8.10
18	0.1500	9.000	7.48
19	0.1666	9.996	6.92
20	0.1833	10.998	6.40
21	0.2000	12.000	5.92
22	0.2166	12.996	5.48
23	0.2333	13.998	5.07
24	0.2500	15.000	4.70
25	0.2666	15.996	4.35
26	0.2833	16.998	4.03
27	0.3000	18.000	3.74
28	0.3166	18.996	3.47
29	0.3333	19.998	3.21
30	0.4167	25.002	2.20
31	0.5000	30.000	1.52
32	0.5833	34.998	1.06
33	0.6667	40.002	0.74
34	0.7500	45.000	0.52
35	0.8333	49.998	0.37
36	0.9167	55.002	0.26
37	1.0000	60.000	0.19
38	1.0833	64.998	0.14
39	1.1667	70.002	0.10
40	1.2500	75.000	0.08
41	1.3333	79.998	0.06
42	1.4166	84.996	0.05
43	1.5000	90.000	0.04
44	1.5833	94.998	0.03
45	1.6667	100.002	0.02
46	1.7500	105.000	0.02
47	1.8333	109.998	0.01
48	1.9167	115.002	0.01
49	2.0000	120.000	0.01
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112C	Test 3
Date	10/26/93
Time	13:09
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	6.66
2	0.0033	0.198	10.76
3	0.0066	0.396	12.55
4	0.0099	0.594	12.67
5	0.0133	0.798	12.37
6	0.0166	0.996	12.37
7	0.0200	1.200	12.08
8	0.0233	1.398	11.93
9	0.0266	1.596	11.73
10	0.0300	1.800	11.49
11	0.0333	1.998	11.33
12	0.0500	3.000	10.35
13	0.0666	3.996	9.45
14	0.0833	4.998	8.68
15	0.1000	6.000	8.00
16	0.1166	6.996	7.38
17	0.1333	7.998	6.81
18	0.1500	9.000	6.29
19	0.1666	9.996	5.81
20	0.1833	10.998	5.37
21	0.2000	12.000	4.97
22	0.2166	12.996	4.59
23	0.2333	13.998	4.25
24	0.2500	15.000	3.94
25	0.2666	15.996	3.65
26	0.2833	16.998	3.38
27	0.3000	18.000	3.13
28	0.3166	18.996	2.90
29	0.3333	19.998	2.69
30	0.4167	25.002	1.84
31	0.5000	30.000	1.27
32	0.5833	34.998	0.89
33	0.6667	40.002	0.62
34	0.7500	45.000	0.43
35	0.8333	49.998	0.31
36	0.9167	55.002	0.22
37	1.0000	60.000	0.16
38	1.0833	64.998	0.11
39	1.1667	70.002	0.08
40	1.2500	75.000	0.06
41	1.3333	79.998	0.05
42	1.4166	84.996	0.03
43	1.5000	90.000	0.02
44	1.5833	94.998	0.02
45	1.6667	100.002	0.01
46	1.7500	105.000	0.01
47	1.8333	109.998	0.01
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-112C	Test 4
Date	10/26/93
Time	13:17
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.17
2	0.0033	0.198	10.00
3	0.0066	0.396	12.27
4	0.0099	0.594	12.98
5	0.0133	0.798	12.65
6	0.0166	0.996	12.58
7	0.0200	1.200	12.43
8	0.0233	1.398	12.16
9	0.0266	1.596	12.04
10	0.0300	1.800	11.76
11	0.0333	1.998	11.59
12	0.0500	3.000	10.58
13	0.0666	3.996	9.66
14	0.0833	4.998	8.87
15	0.1000	6.000	8.16
16	0.1166	6.996	7.52
17	0.1333	7.998	6.94
18	0.1500	9.000	6.41
19	0.1666	9.996	5.92
20	0.1833	10.998	5.47
21	0.2000	12.000	5.06
22	0.2166	12.996	4.68
23	0.2333	13.998	4.33
24	0.2500	15.000	4.01
25	0.2666	15.996	3.71
26	0.2833	16.998	3.44
27	0.3000	18.000	3.19
28	0.3166	18.996	2.95
29	0.3333	19.998	2.73
30	0.4167	25.002	1.88
31	0.5000	30.000	1.30
32	0.5833	34.998	0.90
33	0.6667	40.002	0.63
34	0.7500	45.000	0.44
35	0.8333	49.998	0.31
36	0.9167	55.002	0.22
37	1.0000	60.000	0.16
38	1.0833	64.998	0.12
39	1.1667	70.002	0.08
40	1.2500	75.000	0.06
41	1.3333	79.998	0.05
42	1.4166	84.996	0.04
43	1.5000	90.000	0.03
44	1.5833	94.998	0.02
45	1.6667	100.002	0.01
46	1.7500	105.000	0.01
47	1.8333	109.998	0.01
48	1.9167	115.002	0.01
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00

	WELL DESCRIPTION		
	MW-113B Test 1	MW113B TEST 2	MW113B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	99.80	99.80	99.80
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.11E+00	3.11E+00	3.11E+00
Re = effective radius (ft.)	5.63E+00	5.63E+00	5.63E+00
Yo = Drawdown in well at t0 = 0 (ft.)	1.89	2.48	3.00
Yt = Drawdown in well at t > t0 (ft.)	1.00	0.10	0.08
t = time interval between Yo and Yt (sec.)	50.0	190.0	235.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.38E-05	1.83E-05	1.67E-05
K = hydraulic conductivity (ft./min.)	8.25E-04	1.10E-03	1.00E-03
K = hydraulic conductivity (ft./day)	1.19E+00	1.58E+00	1.44E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-113B	Test 1
Date	10/27/93
Time	15:09
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	0.30
2	0.0033	0.198	5.35
3	0.0066	0.396	4.85
4	0.0099	0.594	4.76
5	0.0133	0.798	4.77
6	0.0166	0.996	4.76
7	0.0200	1.200	4.74
8	0.0233	1.398	4.72
9	0.0266	1.596	4.70
10	0.0300	1.800	4.67
11	0.0333	1.998	4.66
12	0.0500	3.000	4.57
13	0.0666	3.996	4.50
14	0.0833	4.998	4.42
15	0.1000	6.000	4.35
16	0.1166	6.996	4.29
17	0.1333	7.998	4.23
18	0.1500	9.000	4.17
19	0.1666	9.996	4.11
20	0.1833	10.998	4.06
21	0.2000	12.000	4.01
22	0.2166	12.996	3.96
23	0.2333	13.998	3.91
24	0.2500	15.000	3.86
25	0.2666	15.996	3.81
26	0.2833	16.998	3.76
27	0.3000	18.000	3.71
28	0.3166	18.996	3.66
29	0.3333	19.998	3.62
30	0.4167	25.002	3.39
31	0.5000	30.000	3.18
32	0.5833	34.998	2.98
33	0.6667	40.002	2.80
34	0.7500	45.000	2.62
35	0.8333	49.998	2.46
36	0.9167	55.002	2.31
37	1.0000	60.000	2.16
38	1.0833	64.998	2.02
39	1.1667	70.002	1.89
40	1.2500	75.000	1.77
41	1.3333	79.998	1.65
42	1.4166	84.996	1.54
43	1.5000	90.000	1.43
44	1.5833	94.998	1.33
45	1.6667	100.002	1.24
46	1.7500	105.000	1.16
47	1.8333	109.998	1.07
48	1.9167	115.002	1.00
49	2.0000	120.000	0.93
50	2.5000	150.000	0.58
51	3.0000	180.000	0.35
52	3.5000	210.000	0.22
53	4.0000	240.000	0.12
54	4.5000	270.000	0.07
55	5.0000	300.000	0.04
56	5.5000	330.000	0.03
57	6.0000	360.000	0.01
58	6.5000	390.000	0.01
59	7.0000	420.000	0.01
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-113B	Test 2
Date	10/27/93
Time	15:23
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	0.59
2	0.0033	0.198	3.34
3	0.0066	0.396	2.92
4	0.0099	0.594	2.77
5	0.0133	0.798	2.77
6	0.0166	0.996	2.74
7	0.0200	1.200	2.72
8	0.0233	1.398	2.71
9	0.0266	1.596	2.69
10	0.0300	1.800	2.67
11	0.0333	1.998	2.67
12	0.0500	3.000	2.60
13	0.0666	3.996	2.54
14	0.0833	4.998	2.48
15	0.1000	6.000	2.43
16	0.1166	6.996	2.39
17	0.1333	7.998	2.34
18	0.1500	9.000	2.30
19	0.1666	9.996	2.26
20	0.1833	10.998	2.22
21	0.2000	12.000	2.19
22	0.2166	12.996	2.15
23	0.2333	13.998	2.12
24	0.2500	15.000	2.08
25	0.2666	15.996	2.05
26	0.2833	16.998	2.02
27	0.3000	18.000	1.99
28	0.3166	18.996	1.96
29	0.3333	19.998	1.92
30	0.4167	25.002	1.78
31	0.5000	30.000	1.64
32	0.5833	34.998	1.52
33	0.6667	40.002	1.40
34	0.7500	45.000	1.30
35	0.8333	49.998	1.20
36	0.9167	55.002	1.11
37	1.0000	60.000	1.02
38	1.0833	64.998	0.94
39	1.1667	70.002	0.87
40	1.2500	75.000	0.80
41	1.3333	79.998	0.74
42	1.4166	84.996	0.68
43	1.5000	90.000	0.62
44	1.5833	94.998	0.57
45	1.6667	100.002	0.53
46	1.7500	105.000	0.48
47	1.8333	109.998	0.44
48	1.9167	115.002	0.40
49	2.0000	120.000	0.37
50	2.5000	150.000	0.21
51	3.0000	180.000	0.11
52	3.5000	210.000	0.05
53	4.0000	240.000	0.03
54	4.5000	270.000	0.01
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-113B	Test 3
Date	10/27/93
Time	15:35
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-3.23
2	0.0033	0.198	4.04
3	0.0066	0.396	3.86
4	0.0099	0.594	3.67
5	0.0133	0.798	3.73
6	0.0166	0.996	3.71
7	0.0200	1.200	3.68
8	0.0233	1.398	3.65
9	0.0266	1.596	3.62
10	0.0300	1.800	3.60
11	0.0333	1.998	3.59
12	0.0500	3.000	3.50
13	0.0666	3.996	3.43
14	0.0833	4.998	3.36
15	0.1000	6.000	3.29
16	0.1166	6.996	3.23
17	0.1333	7.998	3.17
18	0.1500	9.000	3.13
19	0.1666	9.996	3.07
20	0.1833	10.998	3.03
21	0.2000	12.000	2.97
22	0.2166	12.996	2.93
23	0.2333	13.998	2.88
24	0.2500	15.000	2.84
25	0.2666	15.996	2.79
26	0.2833	16.998	2.75
27	0.3000	18.000	2.71
28	0.3166	18.996	2.67
29	0.3333	19.998	2.63
30	0.4167	25.002	2.44
31	0.5000	30.000	2.26
32	0.5833	34.998	2.10
33	0.6667	40.002	1.95
34	0.7500	45.000	1.81
35	0.8333	49.998	1.68
36	0.9167	55.002	1.55
37	1.0000	60.000	1.44
38	1.0833	64.998	1.33
39	1.1667	70.002	1.23
40	1.2500	75.000	1.14
41	1.3333	79.998	1.05
42	1.4166	84.996	0.97
43	1.5000	90.000	0.89
44	1.5833	94.998	0.82
45	1.6667	100.002	0.75
46	1.7500	105.000	0.69
47	1.8333	109.998	0.64
48	1.9167	115.002	0.58
49	2.0000	120.000	0.53
50	2.5000	150.000	0.31
51	3.0000	180.000	0.17
52	3.5000	210.000	0.08
53	4.0000	240.000	0.04
54	4.5000	270.000	0.01
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00

	WELL DESCRIPTION		
	MW-114A Test 1	MW114A TEST 2	MW114A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	71.24	71.24	71.24
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.01E+00	3.01E+00	3.01E+00
Re = effective radius (ft.)	5.08E+00	5.08E+00	5.08E+00
Yo = Drawdown in well at t0 = 0 (ft.)	1.78	1.71	1.14
Yt = Drawdown in well at t > t0 (ft.)	1.00	1.00	0.50
t = time interval between Yo and Yt (sec.)	475.0	375.0	425.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.27E-06	1.49E-06	2.03E-06
K = hydraulic conductivity (ft./min.)	7.61E-05	8.97E-05	1.22E-04
K = hydraulic conductivity (ft./day)	1.10E-01	1.29E-01	1.75E-01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-114A	Test 1
Date	9/16/93
Time	11:22
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.91
2	0.0033	0.198	2.97
3	0.0066	0.396	2.94
4	0.0099	0.594	2.96
5	0.0133	0.798	3.29
6	0.0166	0.996	2.95
7	0.0200	1.200	2.11
8	0.0233	1.398	2.01
9	0.0266	1.596	2.12
10	0.0300	1.800	2.14
11	0.0333	1.998	2.09
12	0.0500	3.000	2.07
13	0.0666	3.996	2.04
14	0.0833	4.998	2.02
15	0.1000	6.000	2.01
16	0.1166	6.996	1.99
17	0.1333	7.998	1.98
18	0.1500	9.000	1.96
19	0.1666	9.996	1.96
20	0.1833	10.998	1.95
21	0.2000	12.000	1.94
22	0.2166	12.996	1.93
23	0.2333	13.998	1.92
24	0.2500	15.000	1.92
25	0.2666	15.996	1.91
26	0.2833	16.998	1.91
27	0.3000	18.000	1.90
28	0.3166	18.996	1.90
29	0.3333	19.998	1.89
30	0.4167	25.002	1.87
31	0.5000	30.000	1.85
32	0.5833	34.998	1.83
33	0.6667	40.002	1.82
34	0.7500	45.000	1.80
35	0.8333	49.998	1.78
36	0.9167	55.002	1.77
37	1.0000	60.000	1.76
38	1.0833	64.998	1.74
39	1.1667	70.002	1.73
40	1.2500	75.000	1.72
41	1.3333	79.998	1.71
42	1.4166	84.996	1.70
43	1.5000	90.000	1.68
44	1.5833	94.998	1.67
45	1.6667	100.002	1.66
46	1.7500	105.000	1.65
47	1.8333	109.998	1.64
48	1.9167	115.002	1.63
49	2.0000	120.000	1.62
50	2.5000	150.000	1.56
51	3.0000	180.000	1.50
52	3.5000	210.000	1.45
53	4.0000	240.000	1.39
54	4.5000	270.000	1.35
55	5.0000	300.000	1.30
56	5.5000	330.000	1.25
57	6.0000	360.000	1.21
58	6.5000	390.000	1.17
59	7.0000	420.000	1.13
60	7.5000	450.000	1.09
61	8.0000	480.000	1.05
62	8.5000	510.000	1.01
63	9.0000	540.000	0.97
64	9.5000	570.000	0.94

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.90
66	12.0000	720.000	0.77
67	14.0000	840.000	0.66
68	16.0000	960.000	0.57
69	18.0000	1080.000	0.48
70	20.0000	1200.000	0.40
71	22.0000	1320.000	0.34
72	24.0000	1440.000	0.28
73	26.0000	1560.000	0.22
74	28.0000	1680.000	0.17
75	30.0000	1800.000	0.13
76	32.0000	1920.000	0.10
77	34.0000	2040.000	0.07
78	36.0000	2160.000	0.04
79	38.0000	2280.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-114A	Test 2
Date	9/16/93
Time	12:08
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.72
2	0.0033	0.198	2.82
3	0.0066	0.396	2.77
4	0.0099	0.594	2.83
5	0.0133	0.798	3.12
6	0.0166	0.996	2.61
7	0.0200	1.200	1.87
8	0.0233	1.398	1.77
9	0.0266	1.596	1.89
10	0.0300	1.800	1.95
11	0.0333	1.998	1.88
12	0.0500	3.000	1.86
13	0.0666	3.996	1.83
14	0.0833	4.998	1.82
15	0.1000	6.000	1.80
16	0.1166	6.996	1.79
17	0.1333	7.998	1.78
18	0.1500	9.000	1.77
19	0.1666	9.996	1.76
20	0.1833	10.998	1.76
21	0.2000	12.000	1.75
22	0.2166	12.996	1.74
23	0.2333	13.998	1.74
24	0.2500	15.000	1.73
25	0.2666	15.996	1.73
26	0.2833	16.998	1.72
27	0.3000	18.000	1.72
28	0.3166	18.996	1.71
29	0.3333	19.998	1.71
30	0.4167	25.002	1.69
31	0.5000	30.000	1.67
32	0.5833	34.998	1.65
33	0.6667	40.002	1.64
34	0.7500	45.000	1.62
35	0.8333	49.998	1.61
36	0.9167	55.002	1.60
37	1.0000	60.000	1.58
38	1.0833	64.998	1.57
39	1.1667	70.002	1.56
40	1.2500	75.000	1.54
41	1.3333	79.998	1.53
42	1.4166	84.996	1.52
43	1.5000	90.000	1.51
44	1.5833	94.998	1.50
45	1.6667	100.002	1.49
46	1.7500	105.000	1.48
47	1.8333	109.998	1.47
48	1.9167	115.002	1.46
49	2.0000	120.000	1.45
50	2.5000	150.000	1.39
51	3.0000	180.000	1.33
52	3.5000	210.000	1.28
53	4.0000	240.000	1.23
54	4.5000	270.000	1.18
55	5.0000	300.000	1.13
56	5.5000	330.000	1.09
57	6.0000	360.000	1.05
58	6.5000	390.000	1.01
59	7.0000	420.000	0.97
60	7.5000	450.000	0.93
61	8.0000	480.000	0.90
62	8.5000	510.000	0.86
63	9.0000	540.000	0.83
64	9.5000	570.000	0.80

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.77
66	12.0000	720.000	0.65
67	14.0000	840.000	0.55
68	16.0000	960.000	0.47
69	18.0000	1080.000	0.39
70	20.0000	1200.000	0.33
71	22.0000	1320.000	0.27
72	24.0000	1440.000	0.22
73	26.0000	1560.000	0.17
74	28.0000	1680.000	0.14
75	30.0000	1800.000	0.11
76	32.0000	1920.000	0.07
77	34.0000	2040.000	0.05
78	36.0000	2160.000	0.03
79	38.0000	2280.000	0.00
80	40.0000	2400.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-114A	Test 3
Date	9/16/93
Time	12:55
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.23
2	0.0033	0.198	2.26
3	0.0066	0.396	2.25
4	0.0099	0.594	2.24
5	0.0133	0.798	2.32
6	0.0166	0.996	2.11
7	0.0200	1.200	1.53
8	0.0233	1.398	1.32
9	0.0266	1.596	1.33
10	0.0300	1.800	1.42
11	0.0333	1.998	1.45
12	0.0500	3.000	1.37
13	0.0666	3.996	1.35
14	0.0833	4.998	1.34
15	0.1000	6.000	1.32
16	0.1166	6.996	1.31
17	0.1333	7.998	1.30
18	0.1500	9.000	1.30
19	0.1666	9.996	1.29
20	0.1833	10.998	1.28
21	0.2000	12.000	1.27
22	0.2166	12.996	1.27
23	0.2333	13.998	1.26
24	0.2500	15.000	1.26
25	0.2666	15.996	1.25
26	0.2833	16.998	1.25
27	0.3000	18.000	1.24
28	0.3166	18.996	1.24
29	0.3333	19.998	1.24
30	0.4167	25.002	1.22
31	0.5000	30.000	1.20
32	0.5833	34.998	1.18
33	0.6667	40.002	1.17
34	0.7500	45.000	1.15
35	0.8333	49.998	1.14
36	0.9167	55.002	1.13
37	1.0000	60.000	1.12
38	1.0833	64.998	1.10
39	1.1667	70.002	1.09
40	1.2500	75.000	1.08
41	1.3333	79.998	1.07
42	1.4166	84.996	1.06
43	1.5000	90.000	1.05
44	1.5833	94.998	1.03
45	1.6667	100.002	1.02
46	1.7500	105.000	1.01
47	1.8333	109.998	1.01
48	1.9167	115.002	1.00
49	2.0000	120.000	0.98
50	2.5000	150.000	0.93
51	3.0000	180.000	0.87
52	3.5000	210.000	0.83
53	4.0000	240.000	0.78
54	4.5000	270.000	0.74
55	5.0000	300.000	0.70
56	5.5000	330.000	0.66
57	6.0000	360.000	0.62
58	6.5000	390.000	0.59
59	7.0000	420.000	0.56
60	7.5000	450.000	0.53
61	8.0000	480.000	0.50
62	8.5000	510.000	0.47
63	9.0000	540.000	0.44
64	9.5000	570.000	0.42

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.40
66	12.0000	720.000	0.31
67	14.0000	840.000	0.24
68	16.0000	960.000	0.18
69	18.0000	1080.000	0.13
70	20.0000	1200.000	0.10
71	22.0000	1320.000	0.06
72	24.0000	1440.000	0.04
73	26.0000	1560.000	0.01
74	28.0000	1680.000	0.00

	WELL DESCRIPTION		
	MW-114B Test 1	MW114B TEST 2	MW114B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	190.99	190.99	190.99
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.30E+00	3.30E+00	3.30E+00
Re = effective radius (ft.)	6.77E+00	6.77E+00	6.77E+00
Yo = Drawdown in well at t0 = 0 (ft.)	10.05	6.00	4.63
Yt = Drawdown in well at t > t0 (ft.)	0.03	0.20	0.46
t = time interval between Yo and Yt (sec.)	51.0	30.0	20.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.30E-04	1.30E-04	1.32E-04
K = hydraulic conductivity (ft./min.)	7.83E-03	7.78E-03	7.93E-03
K = hydraulic conductivity (ft./day)	1.13E+01	1.12E+01	1.14E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-114B	Test 1
Date	9/16/93
Time	13:32
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.58
2	0.0033	0.198	12.40
3	0.0066	0.396	12.36
4	0.0099	0.594	12.36
5	0.0133	0.798	12.38
6	0.0166	0.996	12.39
7	0.0200	1.200	12.39
8	0.0233	1.398	12.39
9	0.0266	1.596	12.39
10	0.0300	1.800	12.39
11	0.0333	1.998	12.39
12	0.0500	3.000	11.43
13	0.0666	3.996	10.05
14	0.0833	4.998	8.89
15	0.1000	6.000	7.89
16	0.1166	6.996	7.03
17	0.1333	7.998	6.28
18	0.1500	9.000	5.62
19	0.1666	9.996	5.03
20	0.1833	10.998	4.51
21	0.2000	12.000	4.02
22	0.2166	12.996	3.58
23	0.2333	13.998	3.18
24	0.2500	15.000	2.83
25	0.2666	15.996	2.52
26	0.2833	16.998	2.26
27	0.3000	18.000	2.01
28	0.3166	18.996	1.81
29	0.3333	19.998	1.62
30	0.4167	25.002	0.92
31	0.5000	30.000	0.55
32	0.5833	34.998	0.33
33	0.6667	40.002	0.21
34	0.7500	45.000	0.13
35	0.8333	49.998	0.09
36	0.9167	55.002	0.07
37	1.0000	60.000	0.05
38	1.0833	64.998	0.04
39	1.1667	70.002	0.03
40	1.2500	75.000	0.03
41	1.3333	79.998	0.02
42	1.4166	84.996	0.02
43	1.5000	90.000	0.02
44	1.5833	94.998	0.02
45	1.6667	100.002	0.02
46	1.7500	105.000	0.01
47	1.8333	109.998	0.01
48	1.9167	115.002	0.01
49	2.0000	120.000	0.01
50	2.5000	150.000	0.01
51	3.0000	180.000	0.01
52	3.5000	210.000	0.01
53	4.0000	240.000	0.01
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-114B	Test 2
Date	9/16/93
Time	13:51
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	10.90
2	0.0033	0.198	10.78
3	0.0066	0.396	10.70
4	0.0099	0.594	10.54
5	0.0133	0.798	10.30
6	0.0166	0.996	10.06
7	0.0200	1.200	9.82
8	0.0233	1.398	9.58
9	0.0266	1.596	9.33
10	0.0300	1.800	9.08
11	0.0333	1.998	8.85
12	0.0500	3.000	7.76
13	0.0666	3.996	6.83
14	0.0833	4.998	6.04
15	0.1000	6.000	5.36
16	0.1166	6.996	4.76
17	0.1333	7.998	4.23
18	0.1500	9.000	3.77
19	0.1666	9.996	3.32
20	0.1833	10.998	2.95
21	0.2000	12.000	2.62
22	0.2166	12.996	2.34
23	0.2333	13.998	2.08
24	0.2500	15.000	1.86
25	0.2666	15.996	1.66
26	0.2833	16.998	1.49
27	0.3000	18.000	1.32
28	0.3166	18.996	1.19
29	0.3333	19.998	1.07
30	0.4167	25.002	0.62
31	0.5000	30.000	0.37
32	0.5833	34.998	0.22
33	0.6667	40.002	0.14
34	0.7500	45.000	0.09
35	0.8333	49.998	0.06
36	0.9167	55.002	0.04
37	1.0000	60.000	0.03
38	1.0833	64.998	0.02
39	1.1667	70.002	0.02
40	1.2500	75.000	0.01
41	1.3333	79.998	0.01
42	1.4166	84.996	0.01
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.00
66	12.0000	720.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-114B	Test 3
Date	9/16/93
Time	14:08
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	7.82
2	0.0033	0.198	7.97
3	0.0066	0.396	7.81
4	0.0099	0.594	7.79
5	0.0133	0.798	7.78
6	0.0166	0.996	7.68
7	0.0200	1.200	7.54
8	0.0233	1.398	7.38
9	0.0266	1.596	7.22
10	0.0300	1.800	7.05
11	0.0333	1.998	6.88
12	0.0500	3.000	6.01
13	0.0666	3.996	5.27
14	0.0833	4.998	4.63
15	0.1000	6.000	4.09
16	0.1166	6.996	3.62
17	0.1333	7.998	3.16
18	0.1500	9.000	2.80
19	0.1666	9.996	2.50
20	0.1833	10.998	2.22
21	0.2000	12.000	1.97
22	0.2166	12.996	1.76
23	0.2333	13.998	1.57
24	0.2500	15.000	1.40
25	0.2666	15.996	1.25
26	0.2833	16.998	1.11
27	0.3000	18.000	1.00
28	0.3166	18.996	0.89
29	0.3333	19.998	0.80
30	0.4167	25.002	0.46
31	0.5000	30.000	0.27
32	0.5833	34.998	0.16
33	0.6667	40.002	0.09
34	0.7500	45.000	0.05
35	0.8333	49.998	0.03
36	0.9167	55.002	0.02
37	1.0000	60.000	0.01
38	1.0833	64.998	0.00
39	1.1667	70.002	0.00
40	1.2500	75.000	0.00
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	-0.01
53	4.0000	240.000	-0.01
54	4.5000	270.000	-0.01
55	5.0000	300.000	-0.01
56	5.5000	330.000	-0.01
57	6.0000	360.000	-0.01
58	6.5000	390.000	-0.01
59	7.0000	420.000	-0.01
60	7.5000	450.000	-0.01
61	8.0000	480.000	-0.01
62	8.5000	510.000	-0.01
63	9.0000	540.000	-0.01
64	9.5000	570.000	-0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.01

	WELL DESCRIPTION		
	MW-116A Test 1	MW116A TEST 2	MW116A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	42.54	42.54	42.54
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.84E+00	2.84E+00	2.84E+00
Re = effective radius (ft.)	4.30E+00	4.30E+00	4.30E+00
Yo = Drawdown in well at t0 = 0 (ft.)	1.68	1.16	1.06
Yt = Drawdown in well at t > t0 (ft.)	0.06	0.08	0.10
t = time interval between Yo and Yt (sec.)	200.0	170.0	150.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.64E-05	1.55E-05	1.55E-05
K = hydraulic conductivity (ft./min.)	9.86E-04	9.31E-04	9.32E-04
K = hydraulic conductivity (ft./day)	1.42E+00	1.34E+00	1.34E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-116A	Test 1
Date	9/15/93
Time	10:02
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.99
2	0.0033	0.198	2.06
3	0.0066	0.396	2.16
4	0.0099	0.594	2.12
5	0.0133	0.798	2.08
6	0.0166	0.996	2.07
7	0.0200	1.200	2.06
8	0.0233	1.398	2.04
9	0.0266	1.596	2.03
10	0.0300	1.800	2.01
11	0.0333	1.998	2.00
12	0.0500	3.000	1.95
13	0.0666	3.996	1.90
14	0.0833	4.998	1.86
15	0.1000	6.000	1.83
16	0.1166	6.996	1.78
17	0.1333	7.998	1.75
18	0.1500	9.000	1.72
19	0.1666	9.996	1.68
20	0.1833	10.998	1.65
21	0.2000	12.000	1.61
22	0.2166	12.996	1.59
23	0.2333	13.998	1.56
24	0.2500	15.000	1.53
25	0.2666	15.996	1.50
26	0.2833	16.998	1.48
27	0.3000	18.000	1.45
28	0.3166	18.996	1.43
29	0.3333	19.998	1.40
30	0.4167	25.002	1.28
31	0.5000	30.000	1.19
32	0.5833	34.998	1.09
33	0.6667	40.002	1.00
34	0.7500	45.000	0.92
35	0.8333	49.998	0.85
36	0.9167	55.002	0.79
37	1.0000	60.000	0.72
38	1.0833	64.998	0.67
39	1.1667	70.002	0.61
40	1.2500	75.000	0.56
41	1.3333	79.998	0.52
42	1.4166	84.996	0.48
43	1.5000	90.000	0.44
44	1.5833	94.998	0.41
45	1.6667	100.002	0.38
46	1.7500	105.000	0.35
47	1.8333	109.998	0.33
48	1.9167	115.002	0.30
49	2.0000	120.000	0.27
50	2.5000	150.000	0.17
51	3.0000	180.000	0.11
52	3.5000	210.000	0.07
53	4.0000	240.000	0.04
54	4.5000	270.000	0.03
55	5.0000	300.000	0.01
56	5.5000	330.000	0.01
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.00
66	12.0000	720.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-116A	Test 2
Date	9/15/93
Time	10:21
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.79
2	0.0033	0.198	2.45
3	0.0066	0.396	1.40
4	0.0099	0.594	1.52
5	0.0133	0.798	1.49
6	0.0166	0.996	1.46
7	0.0200	1.200	1.44
8	0.0233	1.398	1.43
9	0.0266	1.596	1.42
10	0.0300	1.800	1.41
11	0.0333	1.998	1.40
12	0.0500	3.000	1.36
13	0.0666	3.996	1.33
14	0.0833	4.998	1.29
15	0.1000	6.000	1.26
16	0.1166	6.996	1.24
17	0.1333	7.998	1.21
18	0.1500	9.000	1.19
19	0.1666	9.996	1.16
20	0.1833	10.998	1.14
21	0.2000	12.000	1.12
22	0.2166	12.996	1.10
23	0.2333	13.998	1.08
24	0.2500	15.000	1.07
25	0.2666	15.996	1.05
26	0.2833	16.998	1.03
27	0.3000	18.000	1.01
28	0.3166	18.996	0.99
29	0.3333	19.998	0.97
30	0.4167	25.002	0.90
31	0.5000	30.000	0.82
32	0.5833	34.998	0.76
33	0.6667	40.002	0.70
34	0.7500	45.000	0.65
35	0.8333	49.998	0.59
36	0.9167	55.002	0.55
37	1.0000	60.000	0.51
38	1.0833	64.998	0.48
39	1.1667	70.002	0.44
40	1.2500	75.000	0.41
41	1.3333	79.998	0.37
42	1.4166	84.996	0.35
43	1.5000	90.000	0.32
44	1.5833	94.998	0.29
45	1.6667	100.002	0.28
46	1.7500	105.000	0.25
47	1.8333	109.998	0.23
48	1.9167	115.002	0.22
49	2.0000	120.000	0.20
50	2.5000	150.000	0.13
51	3.0000	180.000	0.09
52	3.5000	210.000	0.05
53	4.0000	240.000	0.04
54	4.5000	270.000	0.03
55	5.0000	300.000	0.01
56	5.5000	330.000	0.01
57	6.0000	360.000	0.01
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-116A	Test 3
Date	9/15/93
Time	10:38
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-1.15
2	0.0033	0.198	2.57
3	0.0066	0.396	1.62
4	0.0099	0.594	1.41
5	0.0133	0.798	1.39
6	0.0166	0.996	1.35
7	0.0200	1.200	1.34
8	0.0233	1.398	1.33
9	0.0266	1.596	1.31
10	0.0300	1.800	1.30
11	0.0333	1.998	1.30
12	0.0500	3.000	1.25
13	0.0666	3.996	1.21
14	0.0833	4.998	1.18
15	0.1000	6.000	1.15
16	0.1166	6.996	1.13
17	0.1333	7.998	1.10
18	0.1500	9.000	1.08
19	0.1666	9.996	1.06
20	0.1833	10.998	1.03
21	0.2000	12.000	1.02
22	0.2166	12.996	1.00
23	0.2333	13.998	0.98
24	0.2500	15.000	0.96
25	0.2666	15.996	0.94
26	0.2833	16.998	0.93
27	0.3000	18.000	0.91
28	0.3166	18.996	0.90
29	0.3333	19.998	0.88
30	0.4167	25.002	0.81
31	0.5000	30.000	0.75
32	0.5833	34.998	0.68
33	0.6667	40.002	0.63
34	0.7500	45.000	0.58
35	0.8333	49.998	0.54
36	0.9167	55.002	0.50
37	1.0000	60.000	0.46
38	1.0833	64.998	0.43
39	1.1667	70.002	0.40
40	1.2500	75.000	0.37
41	1.3333	79.998	0.34
42	1.4166	84.996	0.32
43	1.5000	90.000	0.29
44	1.5833	94.998	0.27
45	1.6667	100.002	0.25
46	1.7500	105.000	0.24
47	1.8333	109.998	0.22
48	1.9167	115.002	0.20
49	2.0000	120.000	0.19
50	2.5000	150.000	0.12
51	3.0000	180.000	0.08
52	3.5000	210.000	0.05
53	4.0000	240.000	0.04
54	4.5000	270.000	0.02
55	5.0000	300.000	0.02
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

	WELL DESCRIPTION		
	MW-116B Test 1	MW116B TEST 2	MW116B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	127.42	127.42	127.42
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.19E+00	3.19E+00	3.19E+00
Re = effective radius (ft.)	6.04E+00	6.04E+00	6.04E+00
Yo = Drawdown in well at t0 = 0 (ft.)	2.38	3.10	2.43
Yt = Drawdown in well at t > t0 (ft.)	0.60	0.70	1.00
t = time interval between Yo and Yt (sec.)	45.0	140.0	85.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	3.38E-05	1.17E-05	1.15E-05
K = hydraulic conductivity (ft./min.)	2.03E-03	7.05E-04	6.93E-04
K = hydraulic conductivity (ft./day)	2.92E+00	1.01E+00	9.97E-01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-1116B	Test 1
Date	10/20/93
Time	17:14
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.01
2	0.0033	0.198	3.49
3	0.0066	0.396	3.80
4	0.0099	0.594	3.71
5	0.0133	0.798	3.08
6	0.0166	0.996	2.82
7	0.0200	1.200	2.71
8	0.0233	1.398	2.71
9	0.0266	1.596	2.70
10	0.0300	1.800	2.68
11	0.0333	1.998	2.55
12	0.0500	3.000	2.45
13	0.0666	3.996	2.45
14	0.0833	4.998	2.38
15	0.1000	6.000	2.25
16	0.1166	6.996	2.21
17	0.1333	7.998	2.05
18	0.1500	9.000	2.12
19	0.1666	9.996	2.05
20	0.1833	10.998	1.89
21	0.2000	12.000	1.69
22	0.2166	12.996	1.60
23	0.2333	13.998	1.57
24	0.2500	15.000	1.54
25	0.2666	15.996	1.50
26	0.2833	16.998	1.47
27	0.3000	18.000	1.44
28	0.3166	18.996	1.41
29	0.3333	19.998	1.37
30	0.4167	25.002	1.22
31	0.5000	30.000	1.08
32	0.5833	34.998	0.95
33	0.6667	40.002	0.83
34	0.7500	45.000	0.71
35	0.8333	49.998	0.60
36	0.9167	55.002	0.49
37	1.0000	60.000	0.40
38	1.0833	64.998	0.31
39	1.1667	70.002	0.22
40	1.2500	75.000	0.14
41	1.3333	79.998	0.06
42	1.4166	84.996	-0.01
43	1.5000	90.000	-0.07
44	1.5833	94.998	-0.14
45	1.6667	100.002	-0.20
46	1.7500	105.000	-0.26
47	1.8333	109.998	-0.32
48	1.9167	115.002	-0.37
49	2.0000	120.000	-0.42
50	2.5000	150.000	-0.66
51	3.0000	180.000	-0.84
52	3.5000	210.000	-0.91
53	4.0000	240.000	-0.91
54	4.5000	270.000	-0.91
55	5.0000	300.000	-0.91
56	5.5000	330.000	-0.91
57	6.0000	360.000	-0.91
58	6.5000	390.000	-0.91
59	7.0000	420.000	-0.91
60	7.5000	450.000	-0.91
61	8.0000	480.000	-0.91
62	8.5000	510.000	-0.91
63	9.0000	540.000	-0.91
64	9.5000	570.000	-0.91
65	10.0000	600.000	-0.91
66	12.0000	720.000	-0.91
67	14.0000	840.000	-0.91
68	16.0000	960.000	-0.91

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-1116B	Test 2
Date	10/21/93
Time	13:06
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.53
2	0.0033	0.198	3.89
3	0.0066	0.396	4.65
4	0.0099	0.594	4.87
5	0.0133	0.798	4.37
6	0.0166	0.996	3.71
7	0.0200	1.200	3.39
8	0.0233	1.398	3.31
9	0.0266	1.596	3.33
10	0.0300	1.800	3.33
11	0.0333	1.998	3.31
12	0.0500	3.000	3.22
13	0.0666	3.996	3.16
14	0.0833	4.998	3.10
15	0.1000	6.000	3.05
16	0.1166	6.996	3.01
17	0.1333	7.998	2.96
18	0.1500	9.000	2.92
19	0.1666	9.996	2.89
20	0.1833	10.998	2.85
21	0.2000	12.000	2.81
22	0.2166	12.996	2.78
23	0.2333	13.998	2.74
24	0.2500	15.000	2.71
25	0.2666	15.996	2.69
26	0.2833	16.998	2.66
27	0.3000	18.000	2.62
28	0.3166	18.996	2.58
29	0.3333	19.998	2.56
30	0.4167	25.002	2.41
31	0.5000	30.000	2.29
32	0.5833	34.998	2.17
33	0.6667	40.002	2.07
34	0.7500	45.000	1.96
35	0.8333	49.998	1.86
36	0.9167	55.002	1.77
37	1.0000	60.000	1.68
38	1.0833	64.998	1.60
39	1.1667	70.002	1.52
40	1.2500	75.000	1.44
41	1.3333	79.998	1.36
42	1.4166	84.996	1.31
43	1.5000	90.000	1.23
44	1.5833	94.998	1.17
45	1.6667	100.002	1.11
46	1.7500	105.000	1.06
47	1.8333	109.998	1.00
48	1.9167	115.002	0.95
49	2.0000	120.000	0.90
50	2.5000	150.000	0.66
51	3.0000	180.000	0.45
52	3.5000	210.000	0.31
53	4.0000	240.000	0.20
54	4.5000	270.000	0.13
55	5.0000	300.000	0.05
56	5.5000	330.000	0.01
57	6.0000	360.000	-0.01
58	6.5000	390.000	-0.04
59	7.0000	420.000	-0.05
60	7.5000	450.000	-0.07
61	8.0000	480.000	-0.08
62	8.5000	510.000	-0.09
63	9.0000	540.000	-0.09
64	9.5000	570.000	-0.11

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.11

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-1116B	Test 3
Date	10/21/93
Time	13:35
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-2.09
2	0.0033	0.198	2.88
3	0.0066	0.396	3.76
4	0.0099	0.594	4.07
5	0.0133	0.798	3.89
6	0.0166	0.996	3.22
7	0.0200	1.200	2.81
8	0.0233	1.398	2.64
9	0.0266	1.596	2.61
10	0.0300	1.800	2.62
11	0.0333	1.998	2.61
12	0.0500	3.000	2.53
13	0.0666	3.996	2.47
14	0.0833	4.998	2.43
15	0.1000	6.000	2.38
16	0.1166	6.996	2.34
17	0.1333	7.998	2.31
18	0.1500	9.000	2.27
19	0.1666	9.996	2.25
20	0.1833	10.998	2.21
21	0.2000	12.000	2.18
22	0.2166	12.996	2.15
23	0.2333	13.998	2.13
24	0.2500	15.000	2.10
25	0.2666	15.996	2.08
26	0.2833	16.998	2.06
27	0.3000	18.000	2.03
28	0.3166	18.996	2.00
29	0.3333	19.998	1.98
30	0.4167	25.002	1.88
31	0.5000	30.000	1.78
32	0.5833	34.998	1.68
33	0.6667	40.002	1.60
34	0.7500	45.000	1.53
35	0.8333	49.998	1.44
36	0.9167	55.002	1.37
37	1.0000	60.000	1.31
38	1.0833	64.998	1.24
39	1.1667	70.002	1.19
40	1.2500	75.000	1.12
41	1.3333	79.998	1.07
42	1.4166	84.996	1.02
43	1.5000	90.000	0.97
44	1.5833	94.998	0.92
45	1.6667	100.002	0.89
46	1.7500	105.000	0.84
47	1.8333	109.998	0.81
48	1.9167	115.002	0.77
49	2.0000	120.000	0.73
50	2.5000	150.000	0.55
51	3.0000	180.000	0.42
52	3.5000	210.000	0.32
53	4.0000	240.000	0.24
54	4.5000	270.000	0.19
55	5.0000	300.000	0.13
56	5.5000	330.000	0.11
57	6.0000	360.000	0.08
58	6.5000	390.000	0.06
59	7.0000	420.000	0.04
60	7.5000	450.000	0.05
61	8.0000	480.000	0.03
62	8.5000	510.000	0.02
63	9.0000	540.000	0.01
64	9.5000	570.000	0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.01
66	12.0000	720.000	0.01
67	14.0000	840.000	0.00
68	16.0000	960.000	0.00

	WELL DESCRIPTION		
	MW-117A Test 1	MW117A TEST 2	MW117A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	33.74	33.74	33.74
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.53E+00	2.53E+00	2.53E+00
Re = effective radius (ft.)	4.33E+00	4.33E+00	4.33E+00
Yo = Drawdown in well at t0 = 0 (ft.)	20.00	3.47	10.00
Yt = Drawdown in well at t > t0 (ft.)	5.00	0.40	0.90
t = time interval between Yo and Yt (sec.)	1.5	1.7	2.3
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	8.11E-04	1.12E-03	9.19E-04
K = hydraulic conductivity (ft./min.)	4.87E-02	6.69E-02	5.51E-02
K = hydraulic conductivity (ft./day)	7.01E+01	9.64E+01	7.94E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-117A	Test 1
Date	10/22/93
Time	15:17
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.08
2	0.0033	0.198	12.47
3	0.0066	0.396	13.17
4	0.0099	0.594	12.66
5	0.0133	0.798	10.73
6	0.0166	0.996	8.46
7	0.0200	1.200	7.03
8	0.0233	1.398	5.49
9	0.0266	1.596	4.22
10	0.0300	1.800	3.10
11	0.0333	1.998	2.17
12	0.0500	3.000	-0.31
13	0.0666	3.996	-0.77
14	0.0833	4.998	-0.29
15	0.1000	6.000	0.32
16	0.1166	6.996	0.49
17	0.1333	7.998	0.22
18	0.1500	9.000	-0.06
19	0.1666	9.996	-0.13
20	0.1833	10.998	-0.01
21	0.2000	12.000	0.11
22	0.2166	12.996	0.13
23	0.2333	13.998	0.07
24	0.2500	15.000	0.00
25	0.2666	15.996	0.00
26	0.2833	16.998	0.02
27	0.3000	18.000	0.05
28	0.3166	18.996	0.05
29	0.3333	19.998	0.04
30	0.4167	25.002	0.03
31	0.5000	30.000	0.03
32	0.5833	34.998	0.03
33	0.6667	40.002	0.03
34	0.7500	45.000	0.03
35	0.8333	49.998	0.03
36	0.9167	55.002	0.03
37	1.0000	60.000	0.03
38	1.0833	64.998	0.03
39	1.1667	70.002	0.03
40	1.2500	75.000	0.03
41	1.3333	79.998	0.03
42	1.4166	84.996	0.03
43	1.5000	90.000	0.03
44	1.5833	94.998	0.03
45	1.6667	100.002	0.03
46	1.7500	105.000	0.03
47	1.8333	109.998	0.03
48	1.9167	115.002	0.03
49	2.0000	120.000	0.03
50	2.5000	150.000	0.03
51	3.0000	180.000	0.03
52	3.5000	210.000	0.03
53	4.0000	240.000	0.03
54	4.5000	270.000	0.03
55	5.0000	300.000	0.03
56	5.5000	330.000	0.03
57	6.0000	360.000	0.03
58	6.5000	390.000	0.03
59	7.0000	420.000	0.02
60	7.5000	450.000	0.02
61	8.0000	480.000	0.02
62	8.5000	510.000	0.02
63	9.0000	540.000	0.02
64	9.5000	570.000	0.02

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-117A	Test 2
Date	10/22/93
Time	15:29
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	10.91
2	0.0033	0.198	10.31
3	0.0066	0.396	8.75
4	0.0099	0.594	7.16
5	0.0133	0.798	5.92
6	0.0166	0.996	4.56
7	0.0200	1.200	3.47
8	0.0233	1.398	2.56
9	0.0266	1.596	1.68
10	0.0300	1.800	1.03
11	0.0333	1.998	0.50
12	0.0500	3.000	-0.73
13	0.0666	3.996	-0.62
14	0.0833	4.998	0.01
15	0.1000	6.000	0.45
16	0.1166	6.996	0.35
17	0.1333	7.998	0.02
18	0.1500	9.000	-0.15
19	0.1666	9.996	-0.10
20	0.1833	10.998	0.03
21	0.2000	12.000	0.11
22	0.2166	12.996	0.08
23	0.2333	13.998	0.01
24	0.2500	15.000	-0.02
25	0.2666	15.996	0.00
26	0.2833	16.998	0.02
27	0.3000	18.000	0.03
28	0.3166	18.996	0.03
29	0.3333	19.998	0.01
30	0.4167	25.002	0.01
31	0.5000	30.000	0.01
32	0.5833	34.998	0.01
33	0.6667	40.002	0.01
34	0.7500	45.000	0.01
35	0.8333	49.998	0.01
36	0.9167	55.002	0.01
37	1.0000	60.000	0.01
38	1.0833	64.998	0.01
39	1.1667	70.002	0.01
40	1.2500	75.000	0.01
41	1.3333	79.998	0.01
42	1.4166	84.996	0.01
43	1.5000	90.000	0.01
44	1.5833	94.998	0.00
45	1.6667	100.002	0.01
46	1.7500	105.000	0.01
47	1.8333	109.998	0.01
48	1.9167	115.002	0.01
49	2.0000	120.000	0.01
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.01
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-117A	Test 3
Date	10/22/93
Time	15:41
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.27
2	0.0033	0.198	11.71
3	0.0066	0.396	10.18
4	0.0099	0.594	8.34
5	0.0133	0.798	7.23
6	0.0166	0.996	5.71
7	0.0200	1.200	4.40
8	0.0233	1.398	3.34
9	0.0266	1.596	2.31
10	0.0300	1.800	1.51
11	0.0333	1.998	0.85
12	0.0500	3.000	-0.66
13	0.0666	3.996	-0.70
14	0.0833	4.998	-0.08
15	0.1000	6.000	0.41
16	0.1166	6.996	0.39
17	0.1333	7.998	0.06
18	0.1500	9.000	-0.14
19	0.1666	9.996	-0.13
20	0.1833	10.998	0.00
21	0.2000	12.000	0.09
22	0.2166	12.996	0.08
23	0.2333	13.998	0.01
24	0.2500	15.000	-0.02
25	0.2666	15.996	-0.02
26	0.2833	16.998	0.00
27	0.3000	18.000	0.02
28	0.3166	18.996	0.02
29	0.3333	19.998	0.00
30	0.4167	25.002	0.01
31	0.5000	30.000	0.00
32	0.5833	34.998	0.00
33	0.6667	40.002	0.00
34	0.7500	45.000	0.00
35	0.8333	49.998	0.00
36	0.9167	55.002	0.00
37	1.0000	60.000	0.00
38	1.0833	64.998	0.00
39	1.1667	70.002	0.00
40	1.2500	75.000	0.00
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

	WELL DESCRIPTION		
	MW-117B Test 1	MW117B TEST 2	MW117B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	83.73	83.73	83.73
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.06E+00	3.06E+00	3.06E+00
Re = effective radius (ft.)	5.34E+00	5.34E+00	5.34E+00
Yo = Drawdown in well at t0 = 0 (ft.)	6.86	0.82	0.71
Yt = Drawdown in well at t > t0 (ft.)	0.70	0.20	0.20
t = time interval between Yo and Yt (sec.)	1400.0	320.0	280.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.73E-06	4.68E-06	4.81E-06
K = hydraulic conductivity (ft./min.)	1.04E-04	2.81E-04	2.88E-04
K = hydraulic conductivity (ft./day)	1.50E-01	4.05E-01	4.15E-01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-117B	Test 1
Date	10/22/93
Time	13:09
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.19
2	0.0033	0.198	8.12
3	0.0066	0.396	8.25
4	0.0099	0.594	8.78
5	0.0133	0.798	11.52
6	0.0166	0.996	8.48
7	0.0200	1.200	7.67
8	0.0233	1.398	7.88
9	0.0266	1.596	7.82
10	0.0300	1.800	7.80
11	0.0333	1.998	7.79
12	0.0500	3.000	7.72
13	0.0666	3.996	7.67
14	0.0833	4.998	7.62
15	0.1000	6.000	7.57
16	0.1166	6.996	7.53
17	0.1333	7.998	7.50
18	0.1500	9.000	7.46
19	0.1666	9.996	7.43
20	0.1833	10.998	7.40
21	0.2000	12.000	7.37
22	0.2166	12.996	7.34
23	0.2333	13.998	7.32
24	0.2500	15.000	7.29
25	0.2666	15.996	7.27
26	0.2833	16.998	7.26
27	0.3000	18.000	7.23
28	0.3166	18.996	7.21
29	0.3333	19.998	7.19
30	0.4167	25.002	7.09
31	0.5000	30.000	7.01
32	0.5833	34.998	6.93
33	0.6667	40.002	6.86
34	0.7500	45.000	6.79
35	0.8333	49.998	6.73
36	0.9167	55.002	6.67
37	1.0000	60.000	6.61
38	1.0833	64.998	6.55
39	1.1667	70.002	6.49
40	1.2500	75.000	6.44
41	1.3333	79.998	6.38
42	1.4166	84.996	6.33
43	1.5000	90.000	6.28
44	1.5833	94.998	6.23
45	1.6667	100.002	6.18
46	1.7500	105.000	6.13
47	1.8333	109.998	6.08
48	1.9167	115.002	6.03
49	2.0000	120.000	5.98
50	2.5000	150.000	5.71
51	3.0000	180.000	5.44
52	3.5000	210.000	5.19
53	4.0000	240.000	4.95
54	4.5000	270.000	4.72
55	5.0000	300.000	4.50
56	5.5000	330.000	4.26
57	6.0000	360.000	4.06
58	6.5000	390.000	3.87
59	7.0000	420.000	3.69
60	7.5000	450.000	3.52
61	8.0000	480.000	3.35
62	8.5000	510.000	3.20
63	9.0000	540.000	3.05
64	9.5000	570.000	2.91

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	2.77
66	12.0000	720.000	2.25
67	14.0000	840.000	1.85
68	16.0000	960.000	1.52
69	18.0000	1080.000	1.24
70	20.0000	1200.000	1.01
71	22.0000	1320.000	0.82
72	24.0000	1440.000	0.67
73	26.0000	1560.000	0.55
74	28.0000	1680.000	0.45
75	30.0000	1800.000	0.37

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-117B	Test 2
Date	10/22/93
Time	13:41
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	0.11
2	0.0033	0.198	1.90
3	0.0066	0.396	1.96
4	0.0099	0.594	2.05
5	0.0133	0.798	2.27
6	0.0166	0.996	2.65
7	0.0200	1.200	2.46
8	0.0233	1.398	1.40
9	0.0266	1.596	1.17
10	0.0300	1.800	1.16
11	0.0333	1.998	1.26
12	0.0500	3.000	1.25
13	0.0666	3.996	1.22
14	0.0833	4.998	1.21
15	0.1000	6.000	1.19
16	0.1166	6.996	1.18
17	0.1333	7.998	1.16
18	0.1500	9.000	1.15
19	0.1666	9.996	1.14
20	0.1833	10.998	1.13
21	0.2000	12.000	1.12
22	0.2166	12.996	1.11
23	0.2333	13.998	1.10
24	0.2500	15.000	1.10
25	0.2666	15.996	1.09
26	0.2833	16.998	1.08
27	0.3000	18.000	1.07
28	0.3166	18.996	1.07
29	0.3333	19.998	1.06
30	0.4167	25.002	1.03
31	0.5000	30.000	1.00
32	0.5833	34.998	0.98
33	0.6667	40.002	0.95
34	0.7500	45.000	0.94
35	0.8333	49.998	0.91
36	0.9167	55.002	0.89
37	1.0000	60.000	0.88
38	1.0833	64.998	0.86
39	1.1667	70.002	0.84
40	1.2500	75.000	0.83
41	1.3333	79.998	0.82
42	1.4166	84.996	0.80
43	1.5000	90.000	0.79
44	1.5833	94.998	0.77
45	1.6667	100.002	0.76
46	1.7500	105.000	0.75
47	1.8333	109.998	0.73
48	1.9167	115.002	0.72
49	2.0000	120.000	0.71
50	2.5000	150.000	0.64
51	3.0000	180.000	0.58
52	3.5000	210.000	0.53
53	4.0000	240.000	0.48
54	4.5000	270.000	0.43
55	5.0000	300.000	0.39
56	5.5000	330.000	0.35
57	6.0000	360.000	0.31
58	6.5000	390.000	0.27
59	7.0000	420.000	0.24
60	7.5000	450.000	0.20
61	8.0000	480.000	0.17
62	8.5000	510.000	0.15
63	9.0000	540.000	0.12
64	9.5000	570.000	0.10

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.07
66	12.0000	720.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-117B	Test 3
Date	10/22/93
Time	13:55
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.90
2	0.0033	0.198	1.84
3	0.0066	0.396	2.04
4	0.0099	0.594	2.40
5	0.0133	0.798	2.74
6	0.0166	0.996	1.88
7	0.0200	1.200	1.23
8	0.0233	1.398	1.12
9	0.0266	1.596	1.16
10	0.0300	1.800	1.26
11	0.0333	1.998	1.30
12	0.0500	3.000	1.22
13	0.0666	3.996	1.19
14	0.0833	4.998	1.18
15	0.1000	6.000	1.16
16	0.1166	6.996	1.15
17	0.1333	7.998	1.14
18	0.1500	9.000	1.13
19	0.1666	9.996	1.12
20	0.1833	10.998	1.11
21	0.2000	12.000	1.10
22	0.2166	12.996	1.10
23	0.2333	13.998	1.09
24	0.2500	15.000	1.08
25	0.2666	15.996	1.07
26	0.2833	16.998	1.07
27	0.3000	18.000	1.06
28	0.3166	18.996	1.06
29	0.3333	19.998	1.05
30	0.4167	25.002	1.02
31	0.5000	30.000	1.00
32	0.5833	34.998	0.97
33	0.6667	40.002	0.95
34	0.7500	45.000	0.93
35	0.8333	49.998	0.91
36	0.9167	55.002	0.89
37	1.0000	60.000	0.87
38	1.0833	64.998	0.86
39	1.1667	70.002	0.84
40	1.2500	75.000	0.83
41	1.3333	79.998	0.81
42	1.4166	84.996	0.80
43	1.5000	90.000	0.78
44	1.5833	94.998	0.77
45	1.6667	100.002	0.75
46	1.7500	105.000	0.74
47	1.8333	109.998	0.73
48	1.9167	115.002	0.72
49	2.0000	120.000	0.71
50	2.5000	150.000	0.64
51	3.0000	180.000	0.58
52	3.5000	210.000	0.53
53	4.0000	240.000	0.48
54	4.5000	270.000	0.44
55	5.0000	300.000	0.40
56	5.5000	330.000	0.35
57	6.0000	360.000	0.32
58	6.5000	390.000	0.28
59	7.0000	420.000	0.25
60	7.5000	450.000	0.22
61	8.0000	480.000	0.19
62	8.5000	510.000	0.17
63	9.0000	540.000	0.14
64	9.5000	570.000	0.11
65	10.0000	600.000	0.09
66	12.0000	720.000	0.01

	WELL DESCRIPTION		
	MW-117C Test 1	MW117C TEST 2	MW117C TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	154.31	154.31	154.31
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.24E+00	3.24E+00	3.24E+00
Re = effective radius (ft.)	6.38E+00	6.38E+00	6.38E+00
Yo = Drawdown in well at t0 = 0 (ft.)	5.14	5.09	3.58
Yt = Drawdown in well at t > t0 (ft.)	1.00	1.00	0.26
t = time interval between Yo and Yt (sec.)	80.0	120.0	260.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	2.30E-05	1.52E-05	1.13E-05
K = hydraulic conductivity (ft./min.)	1.38E-03	9.14E-04	6.80E-04
K = hydraulic conductivity (ft./day)	1.99E+00	1.32E+00	9.79E-01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-117C	Test 1
Date	10/22/93
Time	14:21
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	18.03
2	0.0033	0.198	17.58
3	0.0066	0.396	17.37
4	0.0099	0.594	17.51
5	0.0133	0.798	17.14
6	0.0166	0.996	16.39
7	0.0200	1.200	16.02
8	0.0233	1.398	15.91
9	0.0266	1.596	15.84
10	0.0300	1.800	15.76
11	0.0333	1.998	15.70
12	0.0500	3.000	15.38
13	0.0666	3.996	15.06
14	0.0833	4.998	14.76
15	0.1000	6.000	14.48
16	0.1166	6.996	14.22
17	0.1333	7.998	13.96
18	0.1500	9.000	13.70
19	0.1666	9.996	13.46
20	0.1833	10.998	13.21
21	0.2000	12.000	12.97
22	0.2166	12.996	12.74
23	0.2333	13.998	12.50
24	0.2500	15.000	12.28
25	0.2666	15.996	12.05
26	0.2833	16.998	11.84
27	0.3000	18.000	11.62
28	0.3166	18.996	11.41
29	0.3333	19.998	11.20
30	0.4167	25.002	10.20
31	0.5000	30.000	9.29
32	0.5833	34.998	8.44
33	0.6667	40.002	7.67
34	0.7500	45.000	6.95
35	0.8333	49.998	6.30
36	0.9167	55.002	5.70
37	1.0000	60.000	5.14
38	1.0833	64.998	4.62
39	1.1667	70.002	4.17
40	1.2500	75.000	3.77
41	1.3333	79.998	3.39
42	1.4166	84.996	3.05
43	1.5000	90.000	2.75
44	1.5833	94.998	2.47
45	1.6667	100.002	2.22
46	1.7500	105.000	2.00
47	1.8333	109.998	1.79
48	1.9167	115.002	1.61
49	2.0000	120.000	1.44
50	2.5000	150.000	0.75
51	3.0000	180.000	0.41
52	3.5000	210.000	0.22
53	4.0000	240.000	0.12
54	4.5000	270.000	0.07
55	5.0000	300.000	0.05
56	5.5000	330.000	0.03
57	6.0000	360.000	0.02
58	6.5000	390.000	0.02
59	7.0000	420.000	0.01
60	7.5000	450.000	0.01
61	8.0000	480.000	0.01
62	8.5000	510.000	0.01
63	9.0000	540.000	0.00
64	9.5000	570.000	0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-117C	Test 2
Date	10/22/93
Time	14:36
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	9.11
2	0.0033	0.198	8.92
3	0.0066	0.396	8.61
4	0.0099	0.594	8.40
5	0.0133	0.798	8.45
6	0.0166	0.996	8.74
7	0.0200	1.200	8.71
8	0.0233	1.398	8.12
9	0.0266	1.596	7.45
10	0.0300	1.800	7.11
11	0.0333	1.998	6.96
12	0.0500	3.000	6.71
13	0.0666	3.996	6.52
14	0.0833	4.998	6.40
15	0.1000	6.000	6.28
16	0.1166	6.996	6.18
17	0.1333	7.998	6.07
18	0.1500	9.000	5.98
19	0.1666	9.996	5.89
20	0.1833	10.998	5.80
21	0.2000	12.000	5.72
22	0.2166	12.996	5.64
23	0.2333	13.998	5.56
24	0.2500	15.000	5.47
25	0.2666	15.996	5.40
26	0.2833	16.998	5.32
27	0.3000	18.000	5.25
28	0.3166	18.996	5.17
29	0.3333	19.998	5.09
30	0.4167	25.002	4.73
31	0.5000	30.000	4.41
32	0.5833	34.998	4.12
33	0.6667	40.002	3.86
34	0.7500	45.000	3.60
35	0.8333	49.998	3.36
36	0.9167	55.002	3.14
37	1.0000	60.000	2.93
38	1.0833	64.998	2.74
39	1.1667	70.002	2.56
40	1.2500	75.000	2.39
41	1.3333	79.998	2.20
42	1.4166	84.996	2.08
43	1.5000	90.000	1.94
44	1.5833	94.998	1.80
45	1.6667	100.002	1.68
46	1.7500	105.000	1.57
47	1.8333	109.998	1.46
48	1.9167	115.002	1.36
49	2.0000	120.000	1.27
50	2.5000	150.000	0.83
51	3.0000	180.000	0.54
52	3.5000	210.000	0.36
53	4.0000	240.000	0.24
54	4.5000	270.000	0.16
55	5.0000	300.000	0.11
56	5.5000	330.000	0.08
57	6.0000	360.000	0.06
58	6.5000	390.000	0.04
59	7.0000	420.000	0.03
60	7.5000	450.000	0.02
61	8.0000	480.000	0.02
62	8.5000	510.000	0.01
63	9.0000	540.000	0.01
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-117C	Test 3
Date	10/22/93
Time	14:48
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	6.47
2	0.0033	0.198	6.34
3	0.0066	0.396	6.15
4	0.0099	0.594	6.00
5	0.0133	0.798	5.91
6	0.0166	0.996	6.05
7	0.0200	1.200	6.28
8	0.0233	1.398	6.09
9	0.0266	1.596	5.40
10	0.0300	1.800	4.83
11	0.0333	1.998	4.58
12	0.0500	3.000	4.33
13	0.0666	3.996	4.16
14	0.0833	4.998	4.04
15	0.1000	6.000	3.91
16	0.1166	6.996	3.81
17	0.1333	7.998	3.73
18	0.1500	9.000	3.65
19	0.1666	9.996	3.58
20	0.1833	10.998	3.53
21	0.2000	12.000	3.48
22	0.2166	12.996	3.43
23	0.2333	13.998	3.39
24	0.2500	15.000	3.35
25	0.2666	15.996	3.31
26	0.2833	16.998	3.27
27	0.3000	18.000	3.23
28	0.3166	18.996	3.20
29	0.3333	19.998	3.16
30	0.4167	25.002	2.99
31	0.5000	30.000	2.84
32	0.5833	34.998	2.70
33	0.6667	40.002	2.56
34	0.7500	45.000	2.44
35	0.8333	49.998	2.32
36	0.9167	55.002	2.20
37	1.0000	60.000	2.10
38	1.0833	64.998	1.99
39	1.1667	70.002	1.90
40	1.2500	75.000	1.80
41	1.3333	79.998	1.71
42	1.4166	84.996	1.63
43	1.5000	90.000	1.55
44	1.5833	94.998	1.47
45	1.6667	100.002	1.40
46	1.7500	105.000	1.33
47	1.8333	109.998	1.27
48	1.9167	115.002	1.20
49	2.0000	120.000	1.15
50	2.5000	150.000	0.85
51	3.0000	180.000	0.63
52	3.5000	210.000	0.47
53	4.0000	240.000	0.35
54	4.5000	270.000	0.26
55	5.0000	300.000	0.20
56	5.5000	330.000	0.15
57	6.0000	360.000	0.11
58	6.5000	390.000	0.08
59	7.0000	420.000	0.06
60	7.5000	450.000	0.05
61	8.0000	480.000	0.03
62	8.5000	510.000	0.02
63	9.0000	540.000	0.02
64	9.5000	570.000	0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.01
66	10.0000	600.000	0.00

	WELL DESCRIPTION		
	MW-118 Test 1	MW118 TEST 2	MW118 TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	74.38	74.38	74.38
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.02E+00	3.02E+00	3.02E+00
Re = effective radius (ft.)	5.15E+00	5.15E+00	5.15E+00
Yo = Drawdown in well at t0 = 0 (ft.)	1.11	1.63	3.09
Yt = Drawdown in well at t > t0 (ft.)	0.08	0.10	0.04
t = time interval between Yo and Yt (sec.)	150.0	150.0	180.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.84E-05	1.95E-05	2.53E-05
K = hydraulic conductivity (ft./min.)	1.10E-03	1.17E-03	1.52E-03
K = hydraulic conductivity (ft./day)	1.59E+00	1.69E+00	2.19E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-118	Test 1
Date	9/15/93
Time	16:13
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.79
2	0.0033	0.198	4.20
3	0.0066	0.396	5.02
4	0.0099	0.594	4.91
5	0.0133	0.798	4.21
6	0.0166	0.996	3.62
7	0.0200	1.200	3.36
8	0.0233	1.398	3.27
9	0.0266	1.596	3.22
10	0.0300	1.800	3.18
11	0.0333	1.998	3.14
12	0.0500	3.000	2.97
13	0.0666	3.996	2.84
14	0.0833	4.998	2.72
15	0.1000	6.000	2.60
16	0.1166	6.996	2.51
17	0.1333	7.998	2.42
18	0.1500	9.000	2.35
19	0.1666	9.996	2.28
20	0.1833	10.998	2.22
21	0.2000	12.000	2.16
22	0.2166	12.996	2.11
23	0.2333	13.998	2.06
24	0.2500	15.000	2.01
25	0.2666	15.996	1.96
26	0.2833	16.998	1.91
27	0.3000	18.000	1.87
28	0.3166	18.996	1.82
29	0.3333	19.998	1.78
30	0.4167	25.002	1.54
31	0.5000	30.000	1.36
32	0.5833	34.998	1.22
33	0.6667	40.002	1.11
34	0.7500	45.000	1.01
35	0.8333	49.998	0.92
36	0.9167	55.002	0.84
37	1.0000	60.000	0.77
38	1.0833	64.998	0.71
39	1.1667	70.002	0.65
40	1.2500	75.000	0.60
41	1.3333	79.998	0.55
42	1.4166	84.996	0.51
43	1.5000	90.000	0.47
44	1.5833	94.998	0.43
45	1.6667	100.002	0.39
46	1.7500	105.000	0.36
47	1.8333	109.998	0.33
48	1.9167	115.002	0.31
49	2.0000	120.000	0.28
50	2.5000	150.000	0.17
51	3.0000	180.000	0.11
52	3.5000	210.000	0.07
53	4.0000	240.000	0.04
54	4.5000	270.000	0.02
55	5.0000	300.000	0.01
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-118	Test 2
Date	9/15/93
Time	16:29
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.58
2	0.0033	0.198	4.76
3	0.0066	0.396	5.32
4	0.0099	0.594	5.04
5	0.0133	0.798	4.28
6	0.0166	0.996	3.78
7	0.0200	1.200	3.59
8	0.0233	1.398	3.54
9	0.0266	1.596	3.50
10	0.0300	1.800	3.45
11	0.0333	1.998	3.41
12	0.0500	3.000	3.25
13	0.0666	3.996	3.12
14	0.0833	4.998	3.01
15	0.1000	6.000	2.91
16	0.1166	6.996	2.82
17	0.1333	7.998	2.74
18	0.1500	9.000	2.67
19	0.1666	9.996	2.59
20	0.1833	10.998	2.53
21	0.2000	12.000	2.46
22	0.2166	12.996	2.41
23	0.2333	13.998	2.35
24	0.2500	15.000	2.29
25	0.2666	15.996	2.24
26	0.2833	16.998	2.19
27	0.3000	18.000	2.14
28	0.3166	18.996	2.09
29	0.3333	19.998	2.04
30	0.4167	25.002	1.82
31	0.5000	30.000	1.63
32	0.5833	34.998	1.46
33	0.6667	40.002	1.32
34	0.7500	45.000	1.19
35	0.8333	49.998	1.08
36	0.9167	55.002	0.98
37	1.0000	60.000	0.89
38	1.0833	64.998	0.81
39	1.1667	70.002	0.74
40	1.2500	75.000	0.67
41	1.3333	79.998	0.61
42	1.4166	84.996	0.56
43	1.5000	90.000	0.51
44	1.5833	94.998	0.47
45	1.6667	100.002	0.42
46	1.7500	105.000	0.39
47	1.8333	109.998	0.35
48	1.9167	115.002	0.32
49	2.0000	120.000	0.29
50	2.5000	150.000	0.17
51	3.0000	180.000	0.10
52	3.5000	210.000	0.05
53	4.0000	240.000	0.03
54	4.5000	270.000	0.02
55	5.0000	300.000	0.01
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	-0.01
64	9.5000	570.000	-0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-118	Test 3
Date	9/15/93
Time	16:48
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	6.94
2	0.0033	0.198	7.46
3	0.0066	0.396	6.89
4	0.0099	0.594	6.15
5	0.0133	0.798	5.80
6	0.0166	0.996	5.69
7	0.0200	1.200	5.62
8	0.0233	1.398	5.56
9	0.0266	1.596	5.49
10	0.0300	1.800	5.44
11	0.0333	1.998	5.39
12	0.0500	3.000	5.15
13	0.0666	3.996	4.95
14	0.0833	4.998	4.77
15	0.1000	6.000	4.61
16	0.1166	6.996	4.46
17	0.1333	7.998	4.32
18	0.1500	9.000	4.19
19	0.1666	9.996	4.06
20	0.1833	10.998	3.94
21	0.2000	12.000	3.83
22	0.2166	12.996	3.73
23	0.2333	13.998	3.62
24	0.2500	15.000	3.52
25	0.2666	15.996	3.43
26	0.2833	16.998	3.34
27	0.3000	18.000	3.25
28	0.3166	18.996	3.17
29	0.3333	19.998	3.09
30	0.4167	25.002	2.71
31	0.5000	30.000	2.38
32	0.5833	34.998	2.10
33	0.6667	40.002	1.86
34	0.7500	45.000	1.65
35	0.8333	49.998	1.46
36	0.9167	55.002	1.30
37	1.0000	60.000	1.15
38	1.0833	64.998	1.02
39	1.1667	70.002	0.91
40	1.2500	75.000	0.81
41	1.3333	79.998	0.71
42	1.4166	84.996	0.64
43	1.5000	90.000	0.56
44	1.5833	94.998	0.50
45	1.6667	100.002	0.45
46	1.7500	105.000	0.39
47	1.8333	109.998	0.35
48	1.9167	115.002	0.31
49	2.0000	120.000	0.27
50	2.5000	150.000	0.13
51	3.0000	180.000	0.05
52	3.5000	210.000	0.01
53	4.0000	240.000	0.00
54	4.5000	270.000	-0.02
55	5.0000	300.000	-0.02
56	5.5000	330.000	-0.03
57	6.0000	360.000	-0.03
58	6.5000	390.000	-0.03
59	7.0000	420.000	-0.03
60	7.5000	450.000	-0.03
61	8.0000	480.000	-0.04
62	8.5000	510.000	-0.04
63	9.0000	540.000	-0.04
64	9.5000	570.000	-0.04

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.04

	WELL DESCRIPTION		
	MW-119 Test 1	MW119 TEST 2	MW119 TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	36.43	36.43	36.43
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.56E+00	2.56E+00	2.56E+00
Re = effective radius (ft.)	4.44E+00	4.44E+00	4.44E+00
Yo = Drawdown in well at t0 = 0 (ft.)	10.67	16.34	10.00
Yt = Drawdown in well at t > t0 (ft.)	4.17	3.00	0.80
t = time interval between Yo and Yt (sec.)	0.8	1.6	3.2
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.04E-03	9.39E-04	7.00E-04
K = hydraulic conductivity (ft./min.)	6.25E-02	5.64E-02	4.20E-02
K = hydraulic conductivity (ft./day)	9.00E+01	8.12E+01	6.05E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-119	Test 1
Date	9/14/93
Time	09:23
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	13.63
2	0.0033	0.198	15.84
3	0.0066	0.396	15.47
4	0.0099	0.594	12.95
5	0.0133	0.798	10.67
6	0.0166	0.996	8.54
7	0.0200	1.200	7.00
8	0.0233	1.398	5.41
9	0.0266	1.596	4.17
10	0.0300	1.800	3.07
11	0.0333	1.998	2.20
12	0.0500	3.000	-0.70
13	0.0666	3.996	-1.15
14	0.0833	4.998	-0.61
15	0.1000	6.000	0.09
16	0.1166	6.996	0.37
17	0.1333	7.998	0.23
18	0.1500	9.000	-0.01
19	0.1666	9.996	-0.14
20	0.1833	10.998	-0.11
21	0.2000	12.000	-0.03
22	0.2166	12.996	0.04
23	0.2333	13.998	0.04
24	0.2500	15.000	0.02
25	0.2666	15.996	0.00
26	0.2833	16.998	-0.01
27	0.3000	18.000	0.00
28	0.3166	18.996	0.01
29	0.3333	19.998	0.01
30	0.4167	25.002	0.00
31	0.5000	30.000	0.00
32	0.5833	34.998	0.00
33	0.6667	40.002	0.00
34	0.7500	45.000	0.00
35	0.8333	49.998	0.00
36	0.9167	55.002	0.00
37	1.0000	60.000	0.00
38	1.0833	64.998	0.00
39	1.1667	70.002	0.00
40	1.2500	75.000	0.00
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00
66	12.0000	720.000	0.00
67	14.0000	840.000	0.00
68	16.0000	960.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-119	Test 2
Date	9/14/93
Time	09:54
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	14.76
2	0.0033	0.198	15.87
3	0.0066	0.396	16.34
4	0.0099	0.594	13.24
5	0.0133	0.798	10.68
6	0.0166	0.996	8.68
7	0.0200	1.200	7.03
8	0.0233	1.398	5.78
9	0.0266	1.596	4.21
10	0.0300	1.800	2.86
11	0.0333	1.998	2.03
12	0.0500	3.000	-0.78
13	0.0666	3.996	-1.25
14	0.0833	4.998	-0.63
15	0.1000	6.000	0.09
16	0.1166	6.996	0.38
17	0.1333	7.998	0.23
18	0.1500	9.000	-0.02
19	0.1666	9.996	-0.15
20	0.1833	10.998	-0.12
21	0.2000	12.000	-0.02
22	0.2166	12.996	0.04
23	0.2333	13.998	0.05
24	0.2500	15.000	0.02
25	0.2666	15.996	0.00
26	0.2833	16.998	0.00
27	0.3000	18.000	0.00
28	0.3166	18.996	0.01
29	0.3333	19.998	0.01
30	0.4167	25.002	0.01
31	0.5000	30.000	0.00
32	0.5833	34.998	0.00
33	0.6667	40.002	0.00
34	0.7500	45.000	0.00
35	0.8333	49.998	0.00
36	0.9167	55.002	0.00
37	1.0000	60.000	0.00
38	1.0833	64.998	0.00
39	1.1667	70.002	0.00
40	1.2500	75.000	0.00
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-119	Test 3
Date	9/14/93
Time	10:17
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.81
2	0.0033	0.198	11.77
3	0.0066	0.396	15.01
4	0.0099	0.594	13.97
5	0.0133	0.798	13.13
6	0.0166	0.996	11.96
7	0.0200	1.200	10.16
8	0.0233	1.398	8.28
9	0.0266	1.596	7.37
10	0.0300	1.800	5.99
11	0.0333	1.998	4.52
12	0.0500	3.000	0.62
13	0.0666	3.996	-0.87
14	0.0833	4.998	-0.88
15	0.1000	6.000	-0.41
16	0.1166	6.996	0.07
17	0.1333	7.998	0.15
18	0.1500	9.000	0.01
19	0.1666	9.996	-0.09
20	0.1833	10.998	-0.12
21	0.2000	12.000	-0.07
22	0.2166	12.996	0.00
23	0.2333	13.998	0.01
24	0.2500	15.000	0.02
25	0.2666	15.996	0.00
26	0.2833	16.998	0.00
27	0.3000	18.000	0.00
28	0.3166	18.996	0.00
29	0.3333	19.998	0.01
30	0.4167	25.002	0.00
31	0.5000	30.000	0.00
32	0.5833	34.998	0.00
33	0.6667	40.002	0.00
34	0.7500	45.000	0.00
35	0.8333	49.998	0.00
36	0.9167	55.002	0.00
37	1.0000	60.000	0.00
38	1.0833	64.998	0.00
39	1.1667	70.002	0.00
40	1.2500	75.000	0.00
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.00
66	12.0000	720.000	0.00

	WELL DESCRIPTION		
	MW-121 Test 1	MW121 TEST 2	MW121 TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	44.60	44.60	44.60
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.62E+00	2.62E+00	2.62E+00
Re = effective radius (ft.)	4.75E+00	4.75E+00	4.75E+00
Yo = Drawdown in well at t0 = 0 (ft.)	15.17	9.37	9.43
Yt = Drawdown in well at t > t0 (ft.)	0.60	7.69	2.77
t = time interval between Yo and Yt (sec.)	3.4	0.2	1.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	8.64E-04	8.99E-04	1.11E-03
K = hydraulic conductivity (ft./min.)	5.18E-02	5.39E-02	6.68E-02
K = hydraulic conductivity (ft./day)	7.47E+01	7.76E+01	9.63E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-121	Test 1
Date	9/15/93
Time	12:46
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	19.18
2	0.0033	0.198	19.75
3	0.0066	0.396	21.22
4	0.0099	0.594	18.01
5	0.0133	0.798	15.17
6	0.0166	0.996	12.48
7	0.0200	1.200	9.94
8	0.0233	1.398	8.31
9	0.0266	1.596	6.30
10	0.0300	1.800	5.52
11	0.0333	1.998	3.95
12	0.0500	3.000	0.18
13	0.0666	3.996	-1.18
14	0.0833	4.998	-1.13
15	0.1000	6.000	-0.43
16	0.1166	6.996	0.23
17	0.1333	7.998	0.48
18	0.1500	9.000	0.34
19	0.1666	9.996	0.07
20	0.1833	10.998	-0.10
21	0.2000	12.000	-0.14
22	0.2166	12.996	-0.06
23	0.2333	13.998	0.02
24	0.2500	15.000	0.07
25	0.2666	15.996	0.06
26	0.2833	16.998	0.03
27	0.3000	18.000	0.00
28	0.3166	18.996	0.00
29	0.3333	19.998	0.00
30	0.4167	25.002	0.01
31	0.5000	30.000	0.01
32	0.5833	34.998	0.00
33	0.6667	40.002	0.01
34	0.7500	45.000	0.01
35	0.8333	49.998	0.01
36	0.9167	55.002	0.01
37	1.0000	60.000	0.00
38	1.0833	64.998	0.01
39	1.1667	70.002	0.01
40	1.2500	75.000	0.00
41	1.3333	79.998	0.01
42	1.4166	84.996	0.02
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.01
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.01
49	2.0000	120.000	0.02
50	2.5000	150.000	0.00
51	3.0000	180.000	0.01
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.01
55	5.0000	300.000	0.01
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.01
59	7.0000	420.000	0.00
60	7.5000	450.000	0.01
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.01
66	12.0000	720.000	0.00
67	14.0000	840.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-121	Test 2
Date	9/15/93
Time	13:08
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	19.85
2	0.0033	0.198	18.96
3	0.0066	0.396	16.46
4	0.0099	0.594	13.89
5	0.0133	0.798	11.69
6	0.0166	0.996	9.37
7	0.0200	1.200	7.69
8	0.0233	1.398	6.28
9	0.0266	1.596	4.87
10	0.0300	1.800	3.80
11	0.0333	1.998	2.67
12	0.0500	3.000	-0.33
13	0.0666	3.996	-1.26
14	0.0833	4.998	-0.99
15	0.1000	6.000	-0.24
16	0.1166	6.996	0.33
17	0.1333	7.998	0.47
18	0.1500	9.000	0.28
19	0.1666	9.996	0.02
20	0.1833	10.998	-0.13
21	0.2000	12.000	-0.13
22	0.2166	12.996	-0.05
23	0.2333	13.998	0.03
24	0.2500	15.000	0.07
25	0.2666	15.996	0.05
26	0.2833	16.998	0.01
27	0.3000	18.000	0.00
28	0.3166	18.996	-0.01
29	0.3333	19.998	0.00
30	0.4167	25.002	0.00
31	0.5000	30.000	0.01
32	0.5833	34.998	0.01
33	0.6667	40.002	0.01
34	0.7500	45.000	0.01
35	0.8333	49.998	0.02
36	0.9167	55.002	0.00
37	1.0000	60.000	0.00
38	1.0833	64.998	0.00
39	1.1667	70.002	0.01
40	1.2500	75.000	0.01
41	1.3333	79.998	0.01
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.02
45	1.6667	100.002	0.01
46	1.7500	105.000	0.01
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.01
51	3.0000	180.000	0.01
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.01
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.01
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.01
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.01
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.01
66	12.0000	720.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-121	Test 3
Date	9/15/93
Time	13:25
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	19.74
2	0.0033	0.198	17.96
3	0.0066	0.396	15.38
4	0.0099	0.594	13.35
5	0.0133	0.798	11.52
6	0.0166	0.996	9.43
7	0.0200	1.200	7.88
8	0.0233	1.398	6.69
9	0.0266	1.596	4.93
10	0.0300	1.800	3.80
11	0.0333	1.998	2.77
12	0.0500	3.000	-0.29
13	0.0666	3.996	-0.13
14	0.0833	4.998	-1.02
15	0.1000	6.000	-0.03
16	0.1166	6.996	0.30
17	0.1333	7.998	0.45
18	0.1500	9.000	0.28
19	0.1666	9.996	0.01
20	0.1833	10.998	-0.14
21	0.2000	12.000	-0.15
22	0.2166	12.996	-0.07
23	0.2333	13.998	0.02
24	0.2500	15.000	0.05
25	0.2666	15.996	0.05
26	0.2833	16.998	0.01
27	0.3000	18.000	-0.01
28	0.3166	18.996	-0.02
29	0.3333	19.998	-0.01
30	0.4167	25.002	0.00
31	0.5000	30.000	0.00
32	0.5833	34.998	0.00
33	0.6667	40.002	0.00
34	0.7500	45.000	0.00
35	0.8333	49.998	0.00
36	0.9167	55.002	0.00
37	1.0000	60.000	0.00
38	1.0833	64.998	0.00
39	1.1667	70.002	0.00
40	1.2500	75.000	0.00
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	-0.01
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

	WELL DESCRIPTION		
	MW-122A Test 1	MW122A TEST 2	MW122A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	44.33	44.33	44.33
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.86E+00	2.86E+00	2.86E+00
Re = effective radius (ft.)	4.36E+00	4.36E+00	4.36E+00
Yo = Drawdown in well at t0 = 0 (ft.)	3.26	0.40	1.91
Yt = Drawdown in well at t > t0 (ft.)	0.04	0.05	0.02
t = time interval between Yo and Yt (sec.)	100.0	40.0	90.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	4.36E-05	5.15E-05	5.02E-05
K = hydraulic conductivity (ft./min.)	2.62E-03	3.09E-03	3.01E-03
K = hydraulic conductivity (ft./day)	3.77E+00	4.45E+00	4.34E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-122A	Test 1
Date	10/27/93
Time	16:11
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-0.25
2	0.0033	0.198	6.61
3	0.0066	0.396	9.13
4	0.0099	0.594	12.36
5	0.0133	0.798	8.81
6	0.0166	0.996	7.34
7	0.0200	1.200	7.29
8	0.0233	1.398	7.19
9	0.0266	1.596	7.09
10	0.0300	1.800	7.00
11	0.0333	1.998	6.91
12	0.0500	3.000	6.55
13	0.0666	3.996	6.25
14	0.0833	4.998	5.99
15	0.1000	6.000	5.73
16	0.1166	6.996	5.49
17	0.1333	7.998	5.27
18	0.1500	9.000	5.06
19	0.1666	9.996	4.87
20	0.1833	10.998	4.68
21	0.2000	12.000	4.47
22	0.2166	12.996	4.28
23	0.2333	13.998	4.11
24	0.2500	15.000	3.96
25	0.2666	15.996	3.81
26	0.2833	16.998	3.66
27	0.3000	18.000	3.52
28	0.3166	18.996	3.39
29	0.3333	19.998	3.26
30	0.4167	25.002	2.67
31	0.5000	30.000	2.17
32	0.5833	34.998	1.76
33	0.6667	40.002	1.42
34	0.7500	45.000	1.14
35	0.8333	49.998	0.91
36	0.9167	55.002	0.72
37	1.0000	60.000	0.57
38	1.0833	64.998	0.45
39	1.1667	70.002	0.35
40	1.2500	75.000	0.28
41	1.3333	79.998	0.22
42	1.4166	84.996	0.17
43	1.5000	90.000	0.14
44	1.5833	94.998	0.11
45	1.6667	100.002	0.09
46	1.7500	105.000	0.07
47	1.8333	109.998	0.06
48	1.9167	115.002	0.05
49	2.0000	120.000	0.04
50	2.5000	150.000	0.02
51	3.0000	180.000	0.01
52	3.5000	210.000	0.01
53	4.0000	240.000	0.01
54	4.5000	270.000	0.01
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.01
60	7.5000	450.000	0.01
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-122A	Test 2
Date	10/27/93
Time	16:26
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.51
2	0.0033	0.198	5.85
3	0.0066	0.396	6.99
4	0.0099	0.594	4.39
5	0.0133	0.798	3.17
6	0.0166	0.996	3.05
7	0.0200	1.200	3.02
8	0.0233	1.398	2.95
9	0.0266	1.596	2.90
10	0.0300	1.800	2.85
11	0.0333	1.998	2.82
12	0.0500	3.000	2.64
13	0.0666	3.996	2.50
14	0.0833	4.998	2.37
15	0.1000	6.000	2.25
16	0.1166	6.996	2.14
17	0.1333	7.998	2.03
18	0.1500	9.000	1.93
19	0.1666	9.996	1.84
20	0.1833	10.998	1.75
21	0.2000	12.000	1.66
22	0.2166	12.996	1.58
23	0.2333	13.998	1.50
24	0.2500	15.000	1.43
25	0.2666	15.996	1.36
26	0.2833	16.998	1.29
27	0.3000	18.000	1.23
28	0.3166	18.996	1.17
29	0.3333	19.998	1.11
30	0.4167	25.002	0.86
31	0.5000	30.000	0.67
32	0.5833	34.998	0.51
33	0.6667	40.002	0.40
34	0.7500	45.000	0.31
35	0.8333	49.998	0.23
36	0.9167	55.002	0.18
37	1.0000	60.000	0.14
38	1.0833	64.998	0.11
39	1.1667	70.002	0.08
40	1.2500	75.000	0.06
41	1.3333	79.998	0.05
42	1.4166	84.996	0.04
43	1.5000	90.000	0.03
44	1.5833	94.998	0.02
45	1.6667	100.002	0.02
46	1.7500	105.000	0.01
47	1.8333	109.998	0.01
48	1.9167	115.002	0.01
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-122A	Test 3
Date	10/27/93
Time	16:34
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.01
2	0.0033	0.198	3.57
3	0.0066	0.396	5.95
4	0.0099	0.594	6.05
5	0.0133	0.798	3.37
6	0.0166	0.996	2.57
7	0.0200	1.200	2.54
8	0.0233	1.398	2.52
9	0.0266	1.596	2.47
10	0.0300	1.800	2.41
11	0.0333	1.998	2.37
12	0.0500	3.000	2.19
13	0.0666	3.996	2.04
14	0.0833	4.998	1.91
15	0.1000	6.000	1.80
16	0.1166	6.996	1.70
17	0.1333	7.998	1.61
18	0.1500	9.000	1.52
19	0.1666	9.996	1.44
20	0.1833	10.998	1.37
21	0.2000	12.000	1.30
22	0.2166	12.996	1.23
23	0.2333	13.998	1.17
24	0.2500	15.000	1.11
25	0.2666	15.996	1.06
26	0.2833	16.998	1.01
27	0.3000	18.000	0.95
28	0.3166	18.996	0.91
29	0.3333	19.998	0.86
30	0.4167	25.002	0.67
31	0.5000	30.000	0.52
32	0.5833	34.998	0.41
33	0.6667	40.002	0.32
34	0.7500	45.000	0.25
35	0.8333	49.998	0.19
36	0.9167	55.002	0.15
37	1.0000	60.000	0.12
38	1.0833	64.998	0.10
39	1.1667	70.002	0.07
40	1.2500	75.000	0.06
41	1.3333	79.998	0.05
42	1.4166	84.996	0.04
43	1.5000	90.000	0.03
44	1.5833	94.998	0.03
45	1.6667	100.002	0.02
46	1.7500	105.000	0.02
47	1.8333	109.998	0.01
48	1.9167	115.002	0.01
49	2.0000	120.000	0.01
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00

	WELL DESCRIPTION		
	MW-122B Test 1	MW122B TEST 2	MW122B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	114.08	114.08	114.08
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.15E+00	3.15E+00	3.15E+00
Re = effective radius (ft.)	5.85E+00	5.85E+00	5.85E+00
Yo = Drawdown in well at t0 = 0 (ft.)	12.03	11.08	10.78
Yt = Drawdown in well at t > t0 (ft.)	10.00	10.00	10.00
t = time interval between Yo and Yt (sec.)	430.0	280.0	280.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	4.70E-07	4.01E-07	2.93E-07
K = hydraulic conductivity (ft./min.)	2.82E-05	2.40E-05	1.76E-05
K = hydraulic conductivity (ft./day)	4.06E-02	3.46E-02	2.54E-02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-122B	Test 1
Date	10/27/93
Time	16:54
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.34
2	0.0033	0.198	12.21
3	0.0066	0.396	17.33
4	0.0099	0.594	12.36
5	0.0133	0.798	12.29
6	0.0166	0.996	12.29
7	0.0200	1.200	12.28
8	0.0233	1.398	12.27
9	0.0266	1.596	12.27
10	0.0300	1.800	12.26
11	0.0333	1.998	12.26
12	0.0500	3.000	12.24
13	0.0666	3.996	12.22
14	0.0833	4.998	12.20
15	0.1000	6.000	12.19
16	0.1166	6.996	12.17
17	0.1333	7.998	12.16
18	0.1500	9.000	12.15
19	0.1666	9.996	12.14
20	0.1833	10.998	12.12
21	0.2000	12.000	12.11
22	0.2166	12.996	12.10
23	0.2333	13.998	12.09
24	0.2500	15.000	12.08
25	0.2666	15.996	12.07
26	0.2833	16.998	12.06
27	0.3000	18.000	12.05
28	0.3166	18.996	12.04
29	0.3333	19.998	12.03
30	0.4167	25.002	11.98
31	0.5000	30.000	11.93
32	0.5833	34.998	11.89
33	0.6667	40.002	11.85
34	0.7500	45.000	11.82
35	0.8333	49.998	11.78
36	0.9167	55.002	11.74
37	1.0000	60.000	11.71
38	1.0833	64.998	11.68
39	1.1667	70.002	11.65
40	1.2500	75.000	11.61
41	1.3333	79.998	11.58
42	1.4166	84.996	11.55
43	1.5000	90.000	11.52
44	1.5833	94.998	11.49
45	1.6667	100.002	11.46
46	1.7500	105.000	11.43
47	1.8333	109.998	11.40
48	1.9167	115.002	11.37
49	2.0000	120.000	11.34
50	2.5000	150.000	11.16
51	3.0000	180.000	10.99
52	3.5000	210.000	10.83
53	4.0000	240.000	10.67
54	4.5000	270.000	10.51
55	5.0000	300.000	10.36
56	5.5000	330.000	10.22
57	6.0000	360.000	10.07
58	6.5000	390.000	9.93
59	7.0000	420.000	9.79
60	7.5000	450.000	9.66
61	8.0000	480.000	9.52
62	8.5000	510.000	9.40
63	9.0000	540.000	9.27
64	9.5000	570.000	9.15
65	10.0000	600.000	9.02
66	12.0000	720.000	8.55
67	14.0000	840.000	8.07
68	16.0000	960.000	7.64
69	18.0000	1080.000	7.22
70	20.0000	1200.000	6.81
71	22.0000	1320.000	6.44
72	24.0000	1440.000	6.08
73	26.0000	1560.000	5.73
74	28.0000	1680.000	5.40
75	30.0000	1800.000	5.09
76	32.0000	1920.000	4.79
77	34.0000	2040.000	4.47
78	36.0000	2160.000	4.19
79	38.0000	2280.000	3.95
80	40.0000	2400.000	3.73

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-122B	Test 2
Date	10/28/93
Time	09:17
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	9.89
2	0.0033	0.198	11.15
3	0.0066	0.396	11.10
4	0.0099	0.594	11.78
5	0.0133	0.798	10.88
6	0.0166	0.996	11.32
7	0.0200	1.200	11.30
8	0.0233	1.398	11.29
9	0.0266	1.596	11.28
10	0.0300	1.800	11.27
11	0.0333	1.998	11.27
12	0.0500	3.000	11.25
13	0.0666	3.996	11.23
14	0.0833	4.998	11.22
15	0.1000	6.000	11.20
16	0.1166	6.996	11.19
17	0.1333	7.998	11.18
18	0.1500	9.000	11.17
19	0.1666	9.996	11.16
20	0.1833	10.998	11.15
21	0.2000	12.000	11.14
22	0.2166	12.996	11.13
23	0.2333	13.998	11.13
24	0.2500	15.000	11.12
25	0.2666	15.996	11.11
26	0.2833	16.998	11.10
27	0.3000	18.000	11.09
28	0.3166	18.996	11.09
29	0.3333	19.998	11.08
30	0.4167	25.002	11.04
31	0.5000	30.000	11.01
32	0.5833	34.998	10.98
33	0.6667	40.002	10.95
34	0.7500	45.000	10.91
35	0.8333	49.998	10.88
36	0.9167	55.002	10.85
37	1.0000	60.000	10.83
38	1.0833	64.998	10.79
39	1.1667	70.002	10.77
40	1.2500	75.000	10.74
41	1.3333	79.998	10.71
42	1.4166	84.996	10.69
43	1.5000	90.000	10.66
44	1.5833	94.998	10.63
45	1.6667	100.002	10.61
46	1.7500	105.000	10.58
47	1.8333	109.998	10.56
48	1.9167	115.002	10.53
49	2.0000	120.000	10.50
50	2.5000	150.000	10.36
51	3.0000	180.000	10.22
52	3.5000	210.000	10.08
53	4.0000	240.000	9.95
54	4.5000	270.000	9.82
55	5.0000	300.000	9.69
56	5.5000	330.000	9.57
57	6.0000	360.000	9.45
58	6.5000	390.000	9.33
59	7.0000	420.000	9.22
60	7.5000	450.000	9.11
61	8.0000	480.000	8.99
62	8.5000	510.000	8.89
63	9.0000	540.000	8.79
64	9.5000	570.000	8.68
65	10.0000	600.000	8.58
66	12.0000	720.000	8.19
67	14.0000	840.000	7.83
68	16.0000	960.000	7.51
69	18.0000	1080.000	7.19
70	20.0000	1200.000	6.90
71	22.0000	1320.000	6.63

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-122B	Test 3
Date	10/28/93
Time	12:41
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	4.78
2	0.0033	0.198	11.49
3	0.0066	0.396	11.19
4	0.0099	0.594	11.03
5	0.0133	0.798	14.55
6	0.0166	0.996	10.95
7	0.0200	1.200	11.00
8	0.0233	1.398	10.97
9	0.0266	1.596	10.96
10	0.0300	1.800	10.95
11	0.0333	1.998	10.95
12	0.0500	3.000	10.93
13	0.0666	3.996	10.92
14	0.0833	4.998	10.90
15	0.1000	6.000	10.89
16	0.1166	6.996	10.88
17	0.1333	7.998	10.87
18	0.1500	9.000	10.86
19	0.1666	9.996	10.85
20	0.1833	10.998	10.84
21	0.2000	12.000	10.84
22	0.2166	12.996	10.83
23	0.2333	13.998	10.82
24	0.2500	15.000	10.81
25	0.2666	15.996	10.80
26	0.2833	16.998	10.80
27	0.3000	18.000	10.79
28	0.3166	18.996	10.79
29	0.3333	19.998	10.78
30	0.4167	25.002	10.75
31	0.5000	30.000	10.72
32	0.5833	34.998	10.70
33	0.6667	40.002	10.67
34	0.7500	45.000	10.65
35	0.8333	49.998	10.62
36	0.9167	55.002	10.60
37	1.0000	60.000	10.58
38	1.0833	64.998	10.55
39	1.1667	70.002	10.54
40	1.2500	75.000	10.50
41	1.3333	79.998	10.48
42	1.4166	84.996	10.46
43	1.5000	90.000	10.44
44	1.5833	94.998	10.42
45	1.6667	100.002	10.40
46	1.7500	105.000	10.38
47	1.8333	109.998	10.37
48	1.9167	115.002	10.35
49	2.0000	120.000	10.32
50	2.5000	150.000	10.21
51	3.0000	180.000	10.10
52	3.5000	210.000	10.00
53	4.0000	240.000	9.90
54	4.5000	270.000	9.80
55	5.0000	300.000	9.71
56	5.5000	330.000	9.62
57	6.0000	360.000	9.53
58	6.5000	390.000	9.45
59	7.0000	420.000	9.37
60	7.5000	450.000	9.29
61	8.0000	480.000	9.21
62	8.5000	510.000	9.14
63	9.0000	540.000	9.06
64	9.5000	570.000	8.99

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	8.91
66	12.0000	720.000	8.64
67	14.0000	840.000	8.37
68	16.0000	960.000	8.11
69	18.0000	1080.000	7.87
70	20.0000	1200.000	7.64

	WELL DESCRIPTION		
	MW-126B Test 1	MW126B TEST 2	MW126B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	5.00	5.00	5.00
S=length of screen below the water table (ft.)	5.00	5.00	5.00
d/rw (unitless) if d > S, S/rw is used	20.00	20.00	20.00
A = read from the Bouwer and Rice curves and based on d/rw	2.2	2.2	2.2
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.6	1.6	1.6
b = depth from water table to bottom of well (ft.)	53.62	53.62	53.62
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.38E+00	2.38E+00	2.38E+00
Re = effective radius (ft.)	2.71E+00	2.71E+00	2.71E+00
Yo = Drawdown in well at t0 = 0 (ft.)	2.39	1.17	2.30
Yt = Drawdown in well at t > t0 (ft.)	0.39	0.05	0.30
t = time interval between Yo and Yt (sec.)	130.0	240.0	155.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	2.30E-05	2.17E-05	2.17E-05
K = hydraulic conductivity (ft./min.)	1.38E-03	1.30E-03	1.30E-03
K = hydraulic conductivity (ft./day)	1.99E+00	1.88E+00	1.88E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-126B	Test 1
Date	10/25/93
Time	13:00
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	6.02
2	0.0033	0.198	8.91
3	0.0066	0.396	7.46
4	0.0099	0.594	7.17
5	0.0133	0.798	7.17
6	0.0166	0.996	7.11
7	0.0200	1.200	7.07
8	0.0233	1.398	7.03
9	0.0266	1.596	7.00
10	0.0300	1.800	6.97
11	0.0333	1.998	6.95
12	0.0500	3.000	6.81
13	0.0666	3.996	6.69
14	0.0833	4.998	6.59
15	0.1000	6.000	6.48
16	0.1166	6.996	6.38
17	0.1333	7.998	6.29
18	0.1500	9.000	6.19
19	0.1666	9.996	6.11
20	0.1833	10.998	6.02
21	0.2000	12.000	5.94
22	0.2166	12.996	5.86
23	0.2333	13.998	5.77
24	0.2500	15.000	5.70
25	0.2666	15.996	5.62
26	0.2833	16.998	5.53
27	0.3000	18.000	5.47
28	0.3166	18.996	5.39
29	0.3333	19.998	5.32
30	0.4167	25.002	4.97
31	0.5000	30.000	4.65
32	0.5833	34.998	4.35
33	0.6667	40.002	4.08
34	0.7500	45.000	3.81
35	0.8333	49.998	3.57
36	0.9167	55.002	3.33
37	1.0000	60.000	3.13
38	1.0833	64.998	2.92
39	1.1667	70.002	2.72
40	1.2500	75.000	2.56
41	1.3333	79.998	2.39
42	1.4166	84.996	2.24
43	1.5000	90.000	2.09
44	1.5833	94.998	1.95
45	1.6667	100.002	1.82
46	1.7500	105.000	1.70
47	1.8333	109.998	1.59
48	1.9167	115.002	1.48
49	2.0000	120.000	1.39
50	2.5000	150.000	0.92
51	3.0000	180.000	0.60
52	3.5000	210.000	0.39
53	4.0000	240.000	0.25
54	4.5000	270.000	0.17
55	5.0000	300.000	0.10
56	5.5000	330.000	0.06
57	6.0000	360.000	0.04
58	6.5000	390.000	0.03
59	7.0000	420.000	0.01
60	7.5000	450.000	0.01
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.00
66	12.0000	720.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-126B	Test 2
Date	10/25/93
Time	13:14
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	4.40
2	0.0033	0.198	4.38
3	0.0066	0.396	4.38
4	0.0099	0.594	4.32
5	0.0133	0.798	4.30
6	0.0166	0.996	4.27
7	0.0200	1.200	4.25
8	0.0233	1.398	4.23
9	0.0266	1.596	4.21
10	0.0300	1.800	4.20
11	0.0333	1.998	4.17
12	0.0500	3.000	4.08
13	0.0666	3.996	4.01
14	0.0833	4.998	3.94
15	0.1000	6.000	3.87
16	0.1166	6.996	3.81
17	0.1333	7.998	3.75
18	0.1500	9.000	3.70
19	0.1666	9.996	3.64
20	0.1833	10.998	3.59
21	0.2000	12.000	3.54
22	0.2166	12.996	3.49
23	0.2333	13.998	3.45
24	0.2500	15.000	3.40
25	0.2666	15.996	3.36
26	0.2833	16.998	3.31
27	0.3000	18.000	3.26
28	0.3166	18.996	3.21
29	0.3333	19.998	3.18
30	0.4167	25.002	2.97
31	0.5000	30.000	2.78
32	0.5833	34.998	2.61
33	0.6667	40.002	2.45
34	0.7500	45.000	2.30
35	0.8333	49.998	2.15
36	0.9167	55.002	2.02
37	1.0000	60.000	1.90
38	1.0833	64.998	1.79
39	1.1667	70.002	1.68
40	1.2500	75.000	1.58
41	1.3333	79.998	1.48
42	1.4166	84.996	1.40
43	1.5000	90.000	1.31
44	1.5833	94.998	1.23
45	1.6667	100.002	1.17
46	1.7500	105.000	1.09
47	1.8333	109.998	1.02
48	1.9167	115.002	0.96
49	2.0000	120.000	0.90
50	2.5000	150.000	0.63
51	3.0000	180.000	0.43
52	3.5000	210.000	0.29
53	4.0000	240.000	0.21
54	4.5000	270.000	0.14
55	5.0000	300.000	0.10
56	5.5000	330.000	0.07
57	6.0000	360.000	0.05
58	6.5000	390.000	0.03
59	7.0000	420.000	0.02
60	7.5000	450.000	0.01
61	8.0000	480.000	0.01
62	8.5000	510.000	0.01
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-126B	Test 3
Date	10/25/93
Time	13:26
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.50
2	0.0033	0.198	5.46
3	0.0066	0.396	5.41
4	0.0099	0.594	5.39
5	0.0133	0.798	5.35
6	0.0166	0.996	5.32
7	0.0200	1.200	5.30
8	0.0233	1.398	5.27
9	0.0266	1.596	5.24
10	0.0300	1.800	5.23
11	0.0333	1.998	5.21
12	0.0500	3.000	5.10
13	0.0666	3.996	5.01
14	0.0833	4.998	4.93
15	0.1000	6.000	4.86
16	0.1166	6.996	4.78
17	0.1333	7.998	4.71
18	0.1500	9.000	4.64
19	0.1666	9.996	4.58
20	0.1833	10.998	4.51
21	0.2000	12.000	4.45
22	0.2166	12.996	4.39
23	0.2333	13.998	4.33
24	0.2500	15.000	4.28
25	0.2666	15.996	4.22
26	0.2833	16.998	4.16
27	0.3000	18.000	4.10
28	0.3166	18.996	4.05
29	0.3333	19.998	4.01
30	0.4167	25.002	3.75
31	0.5000	30.000	3.52
32	0.5833	34.998	3.31
33	0.6667	40.002	3.11
34	0.7500	45.000	2.93
35	0.8333	49.998	2.76
36	0.9167	55.002	2.60
37	1.0000	60.000	2.44
38	1.0833	64.998	2.30
39	1.1667	70.002	2.16
40	1.2500	75.000	2.03
41	1.3333	79.998	1.92
42	1.4166	84.996	1.80
43	1.5000	90.000	1.70
44	1.5833	94.998	1.60
45	1.6667	100.002	1.51
46	1.7500	105.000	1.43
47	1.8333	109.998	1.33
48	1.9167	115.002	1.25
49	2.0000	120.000	1.18
50	2.5000	150.000	0.81
51	3.0000	180.000	0.56
52	3.5000	210.000	0.37
53	4.0000	240.000	0.26
54	4.5000	270.000	0.17
55	5.0000	300.000	0.11
56	5.5000	330.000	0.08
57	6.0000	360.000	0.05
58	6.5000	390.000	0.03
59	7.0000	420.000	0.02
60	7.5000	450.000	0.01
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.01

	WELL DESCRIPTION		
	MW-127 Test 1	MW127 TEST 2	MW127 TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	13.72	13.72	13.72
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.43E+00	2.43E+00	2.43E+00
Re = effective radius (ft.)	2.83E+00	2.83E+00	2.83E+00
Yo = Drawdown in well at t0 = 0 (ft.)	0.49	1.48	2.28
Yt = Drawdown in well at t > t0 (ft.)	0.05	0.07	0.04
t = time interval between Yo and Yt (sec.)	100.0	130.0	130.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.92E-05	1.98E-05	2.62E-05
K = hydraulic conductivity (ft./min.)	1.15E-03	1.19E-03	1.57E-03
K = hydraulic conductivity (ft./day)	1.66E+00	1.71E+00	2.26E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-127	Test 1
Date	9/16/93
Time	08:57
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.75
2	0.0033	0.198	1.63
3	0.0066	0.396	2.29
4	0.0099	0.594	2.14
5	0.0133	0.798	2.10
6	0.0166	0.996	2.08
7	0.0200	1.200	2.05
8	0.0233	1.398	2.03
9	0.0266	1.596	2.01
10	0.0300	1.800	1.99
11	0.0333	1.998	1.97
12	0.0500	3.000	1.88
13	0.0666	3.996	1.81
14	0.0833	4.998	1.75
15	0.1000	6.000	1.69
16	0.1166	6.996	1.64
17	0.1333	7.998	1.59
18	0.1500	9.000	1.54
19	0.1666	9.996	1.50
20	0.1833	10.998	1.46
21	0.2000	12.000	1.42
22	0.2166	12.996	1.38
23	0.2333	13.998	1.35
24	0.2500	15.000	1.31
25	0.2666	15.996	1.28
26	0.2833	16.998	1.25
27	0.3000	18.000	1.22
28	0.3166	18.996	1.19
29	0.3333	19.998	1.17
30	0.4167	25.002	1.04
31	0.5000	30.000	0.93
32	0.5833	34.998	0.84
33	0.6667	40.002	0.75
34	0.7500	45.000	0.68
35	0.8333	49.998	0.61
36	0.9167	55.002	0.54
37	1.0000	60.000	0.49
38	1.0833	64.998	0.44
39	1.1667	70.002	0.39
40	1.2500	75.000	0.35
41	1.3333	79.998	0.32
42	1.4166	84.996	0.28
43	1.5000	90.000	0.25
44	1.5833	94.998	0.23
45	1.6667	100.002	0.20
46	1.7500	105.000	0.18
47	1.8333	109.998	0.16
48	1.9167	115.002	0.14
49	2.0000	120.000	0.12
50	2.5000	150.000	0.05
51	3.0000	180.000	0.02
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	-0.01
55	5.0000	300.000	-0.02
56	5.5000	330.000	-0.02
57	6.0000	360.000	-0.02
58	6.5000	390.000	-0.02
59	7.0000	420.000	-0.03
60	7.5000	450.000	-0.03
61	8.0000	480.000	-0.03
62	8.5000	510.000	-0.03
63	9.0000	540.000	-0.03
64	9.5000	570.000	-0.03
65	10.0000	600.000	-0.03

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-127	Test 2
Date	9/16/93
Time	09:14
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	6.07
2	0.0033	0.198	1.58
3	0.0066	0.396	2.35
4	0.0099	0.594	2.16
5	0.0133	0.798	2.13
6	0.0166	0.996	2.10
7	0.0200	1.200	2.07
8	0.0233	1.398	2.05
9	0.0266	1.596	2.03
10	0.0300	1.800	2.00
11	0.0333	1.998	1.98
12	0.0500	3.000	1.89
13	0.0666	3.996	1.82
14	0.0833	4.998	1.75
15	0.1000	6.000	1.69
16	0.1166	6.996	1.63
17	0.1333	7.998	1.58
18	0.1500	9.000	1.53
19	0.1666	9.996	1.48
20	0.1833	10.998	1.44
21	0.2000	12.000	1.40
22	0.2166	12.996	1.36
23	0.2333	13.998	1.32
24	0.2500	15.000	1.28
25	0.2666	15.996	1.25
26	0.2833	16.998	1.22
27	0.3000	18.000	1.19
28	0.3166	18.996	1.15
29	0.3333	19.998	1.13
30	0.4167	25.002	0.99
31	0.5000	30.000	0.87
32	0.5833	34.998	0.77
33	0.6667	40.002	0.69
34	0.7500	45.000	0.61
35	0.8333	49.998	0.54
36	0.9167	55.002	0.48
37	1.0000	60.000	0.43
38	1.0833	64.998	0.38
39	1.1667	70.002	0.34
40	1.2500	75.000	0.30
41	1.3333	79.998	0.27
42	1.4166	84.996	0.24
43	1.5000	90.000	0.22
44	1.5833	94.998	0.20
45	1.6667	100.002	0.18
46	1.7500	105.000	0.16
47	1.8333	109.998	0.14
48	1.9167	115.002	0.13
49	2.0000	120.000	0.11
50	2.5000	150.000	0.06
51	3.0000	180.000	0.03
52	3.5000	210.000	0.02
53	4.0000	240.000	0.01
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-127	Test 3
Date	9/16/93
Time	09:32
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.78
2	0.0033	0.198	3.49
3	0.0066	0.396	3.67
4	0.0099	0.594	3.47
5	0.0133	0.798	3.38
6	0.0166	0.996	3.35
7	0.0200	1.200	3.29
8	0.0233	1.398	3.26
9	0.0266	1.596	3.22
10	0.0300	1.800	3.18
11	0.0333	1.998	3.15
12	0.0500	3.000	3.00
13	0.0666	3.996	2.88
14	0.0833	4.998	2.76
15	0.1000	6.000	2.65
16	0.1166	6.996	2.55
17	0.1333	7.998	2.46
18	0.1500	9.000	2.37
19	0.1666	9.996	2.28
20	0.1833	10.998	2.21
21	0.2000	12.000	2.13
22	0.2166	12.996	2.06
23	0.2333	13.998	1.99
24	0.2500	15.000	1.92
25	0.2666	15.996	1.86
26	0.2833	16.998	1.79
27	0.3000	18.000	1.74
28	0.3166	18.996	1.68
29	0.3333	19.998	1.63
30	0.4167	25.002	1.39
31	0.5000	30.000	1.19
32	0.5833	34.998	1.02
33	0.6667	40.002	0.87
34	0.7500	45.000	0.75
35	0.8333	49.998	0.65
36	0.9167	55.002	0.55
37	1.0000	60.000	0.47
38	1.0833	64.998	0.41
39	1.1667	70.002	0.35
40	1.2500	75.000	0.30
41	1.3333	79.998	0.26
42	1.4166	84.996	0.22
43	1.5000	90.000	0.19
44	1.5833	94.998	0.16
45	1.6667	100.002	0.14
46	1.7500	105.000	0.12
47	1.8333	109.998	0.10
48	1.9167	115.002	0.09
49	2.0000	120.000	0.07
50	2.5000	150.000	0.02
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	-0.01
54	4.5000	270.000	-0.01
55	5.0000	300.000	-0.01
56	5.5000	330.000	-0.01
57	6.0000	360.000	-0.01
58	6.5000	390.000	-0.01
59	7.0000	420.000	-0.01
60	7.5000	450.000	-0.01
61	8.0000	480.000	-0.01
62	8.5000	510.000	-0.01
63	9.0000	540.000	-0.01
64	9.5000	570.000	-0.01
65	10.0000	600.000	-0.01

	WELL DESCRIPTION			
	MW-130 Test 1	MW130 TEST 2	MW130 TEST 3	MW130 TEST 4
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	14.06	14.06	14.06	14.06
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially	partially
ln Re/rw (unitless)	2.44E+00	2.44E+00	2.44E+00	2.44E+00
Re = effective radius (ft.)	2.86E+00	2.86E+00	2.86E+00	2.86E+00
Yo = Drawdown in well at t0 = 0 (ft.)	0.71	0.62	0.55	0.87
Yt = Drawdown in well at t > t0 (ft.)	0.08	0.16	0.08	0.30
t = time interval between Yo and Yt (sec.)	310.0	250.0	360.0	255.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	5.95E-06	4.58E-06	4.53E-06	3.53E-06
K = hydraulic conductivity (ft./min.)	3.57E-04	2.75E-04	2.72E-04	2.12E-04
K = hydraulic conductivity (ft./day)	5.14E-01	3.96E-01	3.91E-01	3.05E-01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-130	Test 1
Date	10/26/93
Time	09:33
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	7.30
2	0.0033	0.198	0.98
3	0.0066	0.396	1.52
4	0.0099	0.594	1.30
5	0.0133	0.798	1.31
6	0.0166	0.996	1.28
7	0.0200	1.200	1.27
8	0.0233	1.398	1.25
9	0.0266	1.596	1.24
10	0.0300	1.800	1.23
11	0.0333	1.998	1.21
12	0.0500	3.000	1.16
13	0.0666	3.996	1.13
14	0.0833	4.998	1.09
15	0.1000	6.000	1.07
16	0.1166	6.996	1.04
17	0.1333	7.998	1.02
18	0.1500	9.000	1.00
19	0.1666	9.996	0.98
20	0.1833	10.998	0.96
21	0.2000	12.000	0.95
22	0.2166	12.996	0.94
23	0.2333	13.998	0.92
24	0.2500	15.000	0.91
25	0.2666	15.996	0.90
26	0.2833	16.998	0.89
27	0.3000	18.000	0.88
28	0.3166	18.996	0.87
29	0.3333	19.998	0.86
30	0.4167	25.002	0.81
31	0.5000	30.000	0.77
32	0.5833	34.998	0.74
33	0.6667	40.002	0.71
34	0.7500	45.000	0.68
35	0.8333	49.998	0.65
36	0.9167	55.002	0.63
37	1.0000	60.000	0.61
38	1.0833	64.998	0.59
39	1.1667	70.002	0.57
40	1.2500	75.000	0.54
41	1.3333	79.998	0.53
42	1.4166	84.996	0.51
43	1.5000	90.000	0.49
44	1.5833	94.998	0.47
45	1.6667	100.002	0.46
46	1.7500	105.000	0.45
47	1.8333	109.998	0.43
48	1.9167	115.002	0.42
49	2.0000	120.000	0.40
50	2.5000	150.000	0.33
51	3.0000	180.000	0.27
52	3.5000	210.000	0.22
53	4.0000	240.000	0.18
54	4.5000	270.000	0.15
55	5.0000	300.000	0.12
56	5.5000	330.000	0.10
57	6.0000	360.000	0.08
58	6.5000	390.000	0.06
59	7.0000	420.000	0.05
60	7.5000	450.000	0.05
61	8.0000	480.000	0.03
62	8.5000	510.000	0.03
63	9.0000	540.000	0.02
64	9.5000	570.000	0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-130	Test 2
Date	10/26/93
Time	09:51
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	7.66
2	0.0033	0.198	0.91
3	0.0066	0.396	1.42
4	0.0099	0.594	1.24
5	0.0133	0.798	1.21
6	0.0166	0.996	1.19
7	0.0200	1.200	1.17
8	0.0233	1.398	1.15
9	0.0266	1.596	1.13
10	0.0300	1.800	1.12
11	0.0333	1.998	1.11
12	0.0500	3.000	1.06
13	0.0666	3.996	1.02
14	0.0833	4.998	0.99
15	0.1000	6.000	0.96
16	0.1166	6.996	0.94
17	0.1333	7.998	0.92
18	0.1500	9.000	0.90
19	0.1666	9.996	0.89
20	0.1833	10.998	0.87
21	0.2000	12.000	0.86
22	0.2166	12.996	0.85
23	0.2333	13.998	0.84
24	0.2500	15.000	0.83
25	0.2666	15.996	0.82
26	0.2833	16.998	0.81
27	0.3000	18.000	0.80
28	0.3166	18.996	0.79
29	0.3333	19.998	0.78
30	0.4167	25.002	0.75
31	0.5000	30.000	0.71
32	0.5833	34.998	0.68
33	0.6667	40.002	0.66
34	0.7500	45.000	0.64
35	0.8333	49.998	0.62
36	0.9167	55.002	0.60
37	1.0000	60.000	0.58
38	1.0833	64.998	0.56
39	1.1667	70.002	0.54
40	1.2500	75.000	0.53
41	1.3333	79.998	0.52
42	1.4166	84.996	0.50
43	1.5000	90.000	0.49
44	1.5833	94.998	0.47
45	1.6667	100.002	0.46
46	1.7500	105.000	0.45
47	1.8333	109.998	0.44
48	1.9167	115.002	0.43
49	2.0000	120.000	0.41
50	2.5000	150.000	0.35
51	3.0000	180.000	0.30
52	3.5000	210.000	0.26
53	4.0000	240.000	0.22
54	4.5000	270.000	0.19
55	5.0000	300.000	0.16
56	5.5000	330.000	0.14
57	6.0000	360.000	0.12
58	6.5000	390.000	0.10
59	7.0000	420.000	0.08
60	7.5000	450.000	0.07
61	8.0000	480.000	0.06
62	8.5000	510.000	0.05
63	9.0000	540.000	0.05
64	9.5000	570.000	0.03

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.03
66	12.0000	720.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-130	Test 3
Date	10/26/93
Time	10:05
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.21
2	0.0033	0.198	1.04
3	0.0066	0.396	0.97
4	0.0099	0.594	1.00
5	0.0133	0.798	0.96
6	0.0166	0.996	0.94
7	0.0200	1.200	0.92
8	0.0233	1.398	0.91
9	0.0266	1.596	0.90
10	0.0300	1.800	0.89
11	0.0333	1.998	0.88
12	0.0500	3.000	0.83
13	0.0666	3.996	0.80
14	0.0833	4.998	0.77
15	0.1000	6.000	0.76
16	0.1166	6.996	0.73
17	0.1333	7.998	0.72
18	0.1500	9.000	0.71
19	0.1666	9.996	0.69
20	0.1833	10.998	0.68
21	0.2000	12.000	0.67
22	0.2166	12.996	0.66
23	0.2333	13.998	0.65
24	0.2500	15.000	0.65
25	0.2666	15.996	0.64
26	0.2833	16.998	0.63
27	0.3000	18.000	0.62
28	0.3166	18.996	0.61
29	0.3333	19.998	0.61
30	0.4167	25.002	0.58
31	0.5000	30.000	0.55
32	0.5833	34.998	0.53
33	0.6667	40.002	0.51
34	0.7500	45.000	0.49
35	0.8333	49.998	0.47
36	0.9167	55.002	0.46
37	1.0000	60.000	0.45
38	1.0833	64.998	0.43
39	1.1667	70.002	0.42
40	1.2500	75.000	0.41
41	1.3333	79.998	0.40
42	1.4166	84.996	0.39
43	1.5000	90.000	0.37
44	1.5833	94.998	0.37
45	1.6667	100.002	0.36
46	1.7500	105.000	0.35
47	1.8333	109.998	0.34
48	1.9167	115.002	0.33
49	2.0000	120.000	0.32
50	2.5000	150.000	0.28
51	3.0000	180.000	0.24
52	3.5000	210.000	0.21
53	4.0000	240.000	0.18
54	4.5000	270.000	0.15
55	5.0000	300.000	0.13
56	5.5000	330.000	0.11
57	6.0000	360.000	0.10
58	6.5000	390.000	0.08
59	7.0000	420.000	0.07
60	7.5000	450.000	0.06
61	8.0000	480.000	0.05
62	8.5000	510.000	0.04
63	9.0000	540.000	0.03
64	9.5000	570.000	0.03
65	10.0000	600.000	0.02
66	12.0000	720.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-130	Test 4
Date	10/26/93
Time	10:33
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	7.73
2	0.0033	0.198	1.43
3	0.0066	0.396	1.89
4	0.0099	0.594	1.76
5	0.0133	0.798	1.71
6	0.0166	0.996	1.67
7	0.0200	1.200	1.64
8	0.0233	1.398	1.62
9	0.0266	1.596	1.60
10	0.0300	1.800	1.58
11	0.0333	1.998	1.56
12	0.0500	3.000	1.49
13	0.0666	3.996	1.44
14	0.0833	4.998	1.40
15	0.1000	6.000	1.37
16	0.1166	6.996	1.34
17	0.1333	7.998	1.31
18	0.1500	9.000	1.29
19	0.1666	9.996	1.27
20	0.1833	10.998	1.25
21	0.2000	12.000	1.24
22	0.2166	12.996	1.22
23	0.2333	13.998	1.20
24	0.2500	15.000	1.19
25	0.2666	15.996	1.17
26	0.2833	16.998	1.16
27	0.3000	18.000	1.15
28	0.3166	18.996	1.13
29	0.3333	19.998	1.13
30	0.4167	25.002	1.07
31	0.5000	30.000	1.03
32	0.5833	34.998	0.99
33	0.6667	40.002	0.95
34	0.7500	45.000	0.93
35	0.8333	49.998	0.89
36	0.9167	55.002	0.87
37	1.0000	60.000	0.84
38	1.0833	64.998	0.82
39	1.1667	70.002	0.80
40	1.2500	75.000	0.77
41	1.3333	79.998	0.76
42	1.4166	84.996	0.73
43	1.5000	90.000	0.71
44	1.5833	94.998	0.70
45	1.6667	100.002	0.68
46	1.7500	105.000	0.66
47	1.8333	109.998	0.65
48	1.9167	115.002	0.63
49	2.0000	120.000	0.61
50	2.5000	150.000	0.54
51	3.0000	180.000	0.47
52	3.5000	210.000	0.42
53	4.0000	240.000	0.38
54	4.5000	270.000	0.34
55	5.0000	300.000	0.30
56	5.5000	330.000	0.27
57	6.0000	360.000	0.23
58	6.5000	390.000	0.21
59	7.0000	420.000	0.19
60	7.5000	450.000	0.17
61	8.0000	480.000	0.15
62	8.5000	510.000	0.13
63	9.0000	540.000	0.12
64	9.5000	570.000	0.10

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.10
66	12.0000	720.000	0.06
67	14.0000	840.000	0.04
68	16.0000	960.000	0.02
69	18.0000	1080.000	0.01
70	20.0000	1200.000	0.01
71	22.0000	1320.000	0.00

	WELL DESCRIPTION		
	MW-133A Test 1	MW133A TEST 2	MW133A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	12.99	12.99	12.99
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.40E+00	2.40E+00	2.40E+00
Re = effective radius (ft.)	2.77E+00	2.77E+00	2.77E+00
Yo = Drawdown in well at t0 = 0 (ft.)	1.89	2.91	2.98
Yt = Drawdown in well at t > t0 (ft.)	0.07	0.04	0.40
t = time interval between Yo and Yt (sec.)	75.0	48.0	22.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	3.67E-05	7.45E-05	7.61E-05
K = hydraulic conductivity (ft./min.)	2.20E-03	4.47E-03	4.57E-03
K = hydraulic conductivity (ft./day)	3.17E+00	6.44E+00	6.58E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-133A	Test 1
Date	10/27/93
Time	14:02
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.52
2	0.0033	0.198	1.52
3	0.0066	0.396	3.14
4	0.0099	0.594	2.95
5	0.0133	0.798	2.43
6	0.0166	0.996	2.58
7	0.0200	1.200	2.50
8	0.0233	1.398	2.40
9	0.0266	1.596	2.39
10	0.0300	1.800	2.34
11	0.0333	1.998	2.27
12	0.0500	3.000	2.13
13	0.0666	3.996	1.97
14	0.0833	4.998	1.89
15	0.1000	6.000	1.80
16	0.1166	6.996	1.73
17	0.1333	7.998	1.66
18	0.1500	9.000	1.61
19	0.1666	9.996	1.55
20	0.1833	10.998	1.51
21	0.2000	12.000	1.46
22	0.2166	12.996	1.41
23	0.2333	13.998	1.36
24	0.2500	15.000	1.31
25	0.2666	15.996	1.25
26	0.2833	16.998	1.18
27	0.3000	18.000	1.10
28	0.3166	18.996	1.04
29	0.3333	19.998	0.98
30	0.4167	25.002	0.77
31	0.5000	30.000	0.62
32	0.5833	34.998	0.53
33	0.6667	40.002	0.46
34	0.7500	45.000	0.41
35	0.8333	49.998	0.36
36	0.9167	55.002	0.32
37	1.0000	60.000	0.29
38	1.0833	64.998	0.26
39	1.1667	70.002	0.24
40	1.2500	75.000	0.22
41	1.3333	79.998	0.20
42	1.4166	84.996	0.18
43	1.5000	90.000	0.17
44	1.5833	94.998	0.16
45	1.6667	100.002	0.15
46	1.7500	105.000	0.14
47	1.8333	109.998	0.13
48	1.9167	115.002	0.12
49	2.0000	120.000	0.11
50	2.5000	150.000	0.07
51	3.0000	180.000	0.05
52	3.5000	210.000	0.04
53	4.0000	240.000	0.03
54	4.5000	270.000	0.02
55	5.0000	300.000	0.01
56	5.5000	330.000	0.01
57	6.0000	360.000	0.01
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-133A	Test 2
Date	10/27/93
Time	14:16
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-1.39
2	0.0033	0.198	10.66
3	0.0066	0.396	10.78
4	0.0099	0.594	10.48
5	0.0133	0.798	9.77
6	0.0166	0.996	9.39
7	0.0200	1.200	9.06
8	0.0233	1.398	8.75
9	0.0266	1.596	8.45
10	0.0300	1.800	8.18
11	0.0333	1.998	7.92
12	0.0500	3.000	6.87
13	0.0666	3.996	6.01
14	0.0833	4.998	5.32
15	0.1000	6.000	4.75
16	0.1166	6.996	4.23
17	0.1333	7.998	3.81
18	0.1500	9.000	3.50
19	0.1666	9.996	3.28
20	0.1833	10.998	3.09
21	0.2000	12.000	2.91
22	0.2166	12.996	2.59
23	0.2333	13.998	2.33
24	0.2500	15.000	2.12
25	0.2666	15.996	1.93
26	0.2833	16.998	1.76
27	0.3000	18.000	1.62
28	0.3166	18.996	1.49
29	0.3333	19.998	1.38
30	0.4167	25.002	0.98
31	0.5000	30.000	0.72
32	0.5833	34.998	0.53
33	0.6667	40.002	0.37
34	0.7500	45.000	0.27
35	0.8333	49.998	0.20
36	0.9167	55.002	0.15
37	1.0000	60.000	0.12
38	1.0833	64.998	0.09
39	1.1667	70.002	0.07
40	1.2500	75.000	0.06
41	1.3333	79.998	0.05
42	1.4166	84.996	0.04
43	1.5000	90.000	0.04
44	1.5833	94.998	0.03
45	1.6667	100.002	0.03
46	1.7500	105.000	0.02
47	1.8333	109.998	0.02
48	1.9167	115.002	0.02
49	2.0000	120.000	0.01
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-133A	Test 3
Date	10/27/93
Time	14:26
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-12.43
2	0.0033	0.198	-12.43
3	0.0066	0.396	-12.25
4	0.0099	0.594	-12.07
5	0.0133	0.798	-11.91
6	0.0166	0.996	-11.74
7	0.0200	1.200	-11.58
8	0.0233	1.398	-11.42
9	0.0266	1.596	6.40
10	0.0300	1.800	10.77
11	0.0333	1.998	10.34
12	0.0500	3.000	8.34
13	0.0666	3.996	7.15
14	0.0833	4.998	6.23
15	0.1000	6.000	5.47
16	0.1166	6.996	4.88
17	0.1333	7.998	4.35
18	0.1500	9.000	3.91
19	0.1666	9.996	3.58
20	0.1833	10.998	3.35
21	0.2000	12.000	3.16
22	0.2166	12.996	2.98
23	0.2333	13.998	2.71
24	0.2500	15.000	2.44
25	0.2666	15.996	2.21
26	0.2833	16.998	2.02
27	0.3000	18.000	1.86
28	0.3166	18.996	1.72
29	0.3333	19.998	1.60
30	0.4167	25.002	1.15
31	0.5000	30.000	0.84
32	0.5833	34.998	0.60
33	0.6667	40.002	0.45
34	0.7500	45.000	0.35
35	0.8333	49.998	0.29
36	0.9167	55.002	0.24
37	1.0000	60.000	0.21
38	1.0833	64.998	0.18
39	1.1667	70.002	0.16
40	1.2500	75.000	0.14
41	1.3333	79.998	0.13
42	1.4166	84.996	0.11
43	1.5000	90.000	0.10
44	1.5833	94.998	0.09
45	1.6667	100.002	0.08
46	1.7500	105.000	0.08
47	1.8333	109.998	0.07
48	1.9167	115.002	0.06
49	2.0000	120.000	0.05
50	2.5000	150.000	0.03
51	3.0000	180.000	0.01
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00

	WELL DESCRIPTION		
	MW-133B Test 1	MW133B TEST 2	MW133B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	37.12	37.12	37.12
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.80E+00	2.80E+00	2.80E+00
Re = effective radius (ft.)	4.10E+00	4.10E+00	4.10E+00
Yo = Drawdown in well at t0 = 0 (ft.)	7.24	4.28	5.01
Yt = Drawdown in well at t > t0 (ft.)	0.68	0.07	0.70
t = time interval between Yo and Yt (sec.)	35.0	60.0	36.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	6.56E-05	6.65E-05	5.31E-05
K = hydraulic conductivity (ft./min.)	3.94E-03	3.99E-03	3.18E-03
K = hydraulic conductivity (ft./day)	5.67E+00	5.75E+00	4.58E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-133B	Test 1
Date	10/27/93
Time	10:47
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-0.62
2	0.0033	0.198	13.81
3	0.0066	0.396	14.99
4	0.0099	0.594	13.56
5	0.0133	0.798	13.27
6	0.0166	0.996	13.04
7	0.0200	1.200	12.79
8	0.0233	1.398	12.59
9	0.0266	1.596	12.39
10	0.0300	1.800	12.19
11	0.0333	1.998	12.01
12	0.0500	3.000	11.22
13	0.0666	3.996	10.52
14	0.0833	4.998	9.88
15	0.1000	6.000	9.29
16	0.1166	6.996	8.74
17	0.1333	7.998	8.21
18	0.1500	9.000	7.73
19	0.1666	9.996	7.24
20	0.1833	10.998	6.79
21	0.2000	12.000	6.38
22	0.2166	12.996	6.01
23	0.2333	13.998	5.65
24	0.2500	15.000	5.30
25	0.2666	15.996	4.98
26	0.2833	16.998	4.68
27	0.3000	18.000	4.39
28	0.3166	18.996	4.12
29	0.3333	19.998	3.87
30	0.4167	25.002	2.79
31	0.5000	30.000	1.99
32	0.5833	34.998	1.41
33	0.6667	40.002	0.98
34	0.7500	45.000	0.68
35	0.8333	49.998	0.46
36	0.9167	55.002	0.31
37	1.0000	60.000	0.21
38	1.0833	64.998	0.14
39	1.1667	70.002	0.10
40	1.2500	75.000	0.08
41	1.3333	79.998	0.06
42	1.4166	84.996	0.05
43	1.5000	90.000	0.04
44	1.5833	94.998	0.04
45	1.6667	100.002	0.03
46	1.7500	105.000	0.03
47	1.8333	109.998	0.03
48	1.9167	115.002	0.03
49	2.0000	120.000	0.03
50	2.5000	150.000	0.02
51	3.0000	180.000	0.03
52	3.5000	210.000	0.03
53	4.0000	240.000	0.04
54	4.5000	270.000	0.04
55	5.0000	300.000	0.04
56	5.5000	330.000	0.04
57	6.0000	360.000	0.04
58	6.5000	390.000	0.04
59	7.0000	420.000	0.04
60	7.5000	450.000	0.04
61	8.0000	480.000	0.05
62	8.5000	510.000	0.04
63	9.0000	540.000	0.04
64	9.5000	570.000	0.05
65	10.0000	600.000	0.04
66	12.0000	720.000	0.04
67	14.0000	840.000	0.04
68	16.0000	960.000	0.04
69	18.0000	1080.000	0.04

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-133B	Test 2
Date	10/27/93
Time	11:07
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-5.91
2	0.0033	0.198	5.34
3	0.0066	0.396	10.06
4	0.0099	0.594	9.43
5	0.0133	0.798	8.25
6	0.0166	0.996	7.96
7	0.0200	1.200	7.82
8	0.0233	1.398	7.69
9	0.0266	1.596	7.54
10	0.0300	1.800	7.37
11	0.0333	1.998	7.31
12	0.0500	3.000	6.76
13	0.0666	3.996	6.33
14	0.0833	4.998	5.92
15	0.1000	6.000	5.55
16	0.1166	6.996	5.21
17	0.1333	7.998	4.88
18	0.1500	9.000	4.57
19	0.1666	9.996	4.28
20	0.1833	10.998	4.01
21	0.2000	12.000	3.75
22	0.2166	12.996	3.51
23	0.2333	13.998	3.28
24	0.2500	15.000	3.07
25	0.2666	15.996	2.87
26	0.2833	16.998	2.68
27	0.3000	18.000	2.50
28	0.3166	18.996	2.34
29	0.3333	19.998	2.18
30	0.4167	25.002	1.53
31	0.5000	30.000	1.05
32	0.5833	34.998	0.71
33	0.6667	40.002	0.48
34	0.7500	45.000	0.32
35	0.8333	49.998	0.21
36	0.9167	55.002	0.14
37	1.0000	60.000	0.10
38	1.0833	64.998	0.06
39	1.1667	70.002	0.05
40	1.2500	75.000	0.04
41	1.3333	79.998	0.03
42	1.4166	84.996	0.02
43	1.5000	90.000	0.02
44	1.5833	94.998	0.02
45	1.6667	100.002	0.02
46	1.7500	105.000	0.02
47	1.8333	109.998	0.02
48	1.9167	115.002	0.02
49	2.0000	120.000	0.02
50	2.5000	150.000	0.02
51	3.0000	180.000	0.02
52	3.5000	210.000	0.03
53	4.0000	240.000	0.03
54	4.5000	270.000	0.03
55	5.0000	300.000	0.03
56	5.5000	330.000	0.03
57	6.0000	360.000	0.04
58	6.5000	390.000	0.03
59	7.0000	420.000	0.04
60	7.5000	450.000	0.03
61	8.0000	480.000	0.03
62	8.5000	510.000	0.03
63	9.0000	540.000	0.03
64	9.5000	570.000	0.03
65	10.0000	600.000	0.03

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-133B	Test 3
Date	10/27/93
Time	11:20
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.18
2	0.0033	0.198	8.43
3	0.0066	0.396	7.60
4	0.0099	0.594	6.49
5	0.0133	0.798	6.24
6	0.0166	0.996	6.15
7	0.0200	1.200	6.02
8	0.0233	1.398	5.90
9	0.0266	1.596	5.80
10	0.0300	1.800	5.73
11	0.0333	1.998	5.64
12	0.0500	3.000	5.30
13	0.0666	3.996	5.01
14	0.0833	4.998	4.74
15	0.1000	6.000	4.51
16	0.1166	6.996	4.28
17	0.1333	7.998	4.07
18	0.1500	9.000	3.87
19	0.1666	9.996	3.68
20	0.1833	10.998	3.49
21	0.2000	12.000	3.28
22	0.2166	12.996	3.12
23	0.2333	13.998	2.97
24	0.2500	15.000	2.79
25	0.2666	15.996	2.65
26	0.2833	16.998	2.50
27	0.3000	18.000	2.36
28	0.3166	18.996	2.22
29	0.3333	19.998	2.08
30	0.4167	25.002	1.52
31	0.5000	30.000	1.09
32	0.5833	34.998	0.77
33	0.6667	40.002	0.53
34	0.7500	45.000	0.36
35	0.8333	49.998	0.23
36	0.9167	55.002	0.14
37	1.0000	60.000	0.09
38	1.0833	64.998	0.05
39	1.1667	70.002	0.02
40	1.2500	75.000	0.01
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

	WELL DESCRIPTION		
	MW-133C Test 1	MW133C TEST 2	MW133C TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	79.11	79.11	79.11
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.04E+00	3.04E+00	3.04E+00
Re = effective radius (ft.)	5.24E+00	5.24E+00	5.24E+00
Yo = Drawdown in well at t0 = 0 (ft.)	5.07	2.12	3.38
Yt = Drawdown in well at t > t0 (ft.)	0.08	0.04	0.08
t = time interval between Yo and Yt (sec.)	240.0	220.0	220.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.83E-05	1.91E-05	1.80E-05
K = hydraulic conductivity (ft./min.)	1.10E-03	1.14E-03	1.08E-03
K = hydraulic conductivity (ft./day)	1.58E+00	1.65E+00	1.55E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-133C	Test 1
Date	10/27/93
Time	13:16
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-6.61
2	0.0033	0.198	0.41
3	0.0066	0.396	6.64
4	0.0099	0.594	6.33
5	0.0133	0.798	6.25
6	0.0166	0.996	6.22
7	0.0200	1.200	6.19
8	0.0233	1.398	6.14
9	0.0266	1.596	6.10
10	0.0300	1.800	6.07
11	0.0333	1.998	6.04
12	0.0500	3.000	5.89
13	0.0666	3.996	5.75
14	0.0833	4.998	5.62
15	0.1000	6.000	5.50
16	0.1166	6.996	5.39
17	0.1333	7.998	5.28
18	0.1500	9.000	5.17
19	0.1666	9.996	5.07
20	0.1833	10.998	4.97
21	0.2000	12.000	4.88
22	0.2166	12.996	4.78
23	0.2333	13.998	4.69
24	0.2500	15.000	4.60
25	0.2666	15.996	4.52
26	0.2833	16.998	4.43
27	0.3000	18.000	4.35
28	0.3166	18.996	4.28
29	0.3333	19.998	4.20
30	0.4167	25.002	3.83
31	0.5000	30.000	3.51
32	0.5833	34.998	3.21
33	0.6667	40.002	2.95
34	0.7500	45.000	2.70
35	0.8333	49.998	2.48
36	0.9167	55.002	2.28
37	1.0000	60.000	2.09
38	1.0833	64.998	1.92
39	1.1667	70.002	1.77
40	1.2500	75.000	1.63
41	1.3333	79.998	1.50
42	1.4166	84.996	1.38
43	1.5000	90.000	1.27
44	1.5833	94.998	1.17
45	1.6667	100.002	1.08
46	1.7500	105.000	1.00
47	1.8333	109.998	0.92
48	1.9167	115.002	0.85
49	2.0000	120.000	0.78
50	2.5000	150.000	0.48
51	3.0000	180.000	0.30
52	3.5000	210.000	0.19
53	4.0000	240.000	0.12
54	4.5000	270.000	0.08
55	5.0000	300.000	0.05
56	5.5000	330.000	0.03
57	6.0000	360.000	0.02
58	6.5000	390.000	0.01
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-133C	Test 2
Date	10/27/93
Time	13:28
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.92
2	0.0033	0.198	3.03
3	0.0066	0.396	2.82
4	0.0099	0.594	2.77
5	0.0133	0.798	2.74
6	0.0166	0.996	2.71
7	0.0200	1.200	2.69
8	0.0233	1.398	2.67
9	0.0266	1.596	2.65
10	0.0300	1.800	2.63
11	0.0333	1.998	2.61
12	0.0500	3.000	2.53
13	0.0666	3.996	2.45
14	0.0833	4.998	2.39
15	0.1000	6.000	2.33
16	0.1166	6.996	2.27
17	0.1333	7.998	2.22
18	0.1500	9.000	2.17
19	0.1666	9.996	2.12
20	0.1833	10.998	2.08
21	0.2000	12.000	2.03
22	0.2166	12.996	1.99
23	0.2333	13.998	1.95
24	0.2500	15.000	1.90
25	0.2666	15.996	1.87
26	0.2833	16.998	1.83
27	0.3000	18.000	1.79
28	0.3166	18.996	1.76
29	0.3333	19.998	1.72
30	0.4167	25.002	1.56
31	0.5000	30.000	1.42
32	0.5833	34.998	1.29
33	0.6667	40.002	1.18
34	0.7500	45.000	1.07
35	0.8333	49.998	0.98
36	0.9167	55.002	0.89
37	1.0000	60.000	0.82
38	1.0833	64.998	0.75
39	1.1667	70.002	0.69
40	1.2500	75.000	0.63
41	1.3333	79.998	0.58
42	1.4166	84.996	0.53
43	1.5000	90.000	0.49
44	1.5833	94.998	0.45
45	1.6667	100.002	0.41
46	1.7500	105.000	0.38
47	1.8333	109.998	0.35
48	1.9167	115.002	0.32
49	2.0000	120.000	0.29
50	2.5000	150.000	0.18
51	3.0000	180.000	0.11
52	3.5000	210.000	0.06
53	4.0000	240.000	0.04
54	4.5000	270.000	0.02
55	5.0000	300.000	0.01
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-133C	Test 3
Date	10/27/93
Time	13:37
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-0.06
2	0.0033	0.198	5.48
3	0.0066	0.396	5.22
4	0.0099	0.594	5.12
5	0.0133	0.798	5.07
6	0.0166	0.996	5.04
7	0.0200	1.200	5.01
8	0.0233	1.398	4.98
9	0.0266	1.596	4.95
10	0.0300	1.800	4.93
11	0.0333	1.998	4.89
12	0.0500	3.000	4.77
13	0.0666	3.996	4.65
14	0.0833	4.998	4.55
15	0.1000	6.000	4.45
16	0.1166	6.996	4.35
17	0.1333	7.998	4.26
18	0.1500	9.000	4.17
19	0.1666	9.996	4.09
20	0.1833	10.998	4.00
21	0.2000	12.000	3.93
22	0.2166	12.996	3.85
23	0.2333	13.998	3.78
24	0.2500	15.000	3.71
25	0.2666	15.996	3.63
26	0.2833	16.998	3.57
27	0.3000	18.000	3.50
28	0.3166	18.996	3.44
29	0.3333	19.998	3.38
30	0.4167	25.002	3.08
31	0.5000	30.000	2.81
32	0.5833	34.998	2.57
33	0.6667	40.002	2.36
34	0.7500	45.000	2.16
35	0.8333	49.998	1.99
36	0.9167	55.002	1.83
37	1.0000	60.000	1.68
38	1.0833	64.998	1.54
39	1.1667	70.002	1.42
40	1.2500	75.000	1.31
41	1.3333	79.998	1.20
42	1.4166	84.996	1.11
43	1.5000	90.000	1.02
44	1.5833	94.998	0.94
45	1.6667	100.002	0.87
46	1.7500	105.000	0.80
47	1.8333	109.998	0.74
48	1.9167	115.002	0.68
49	2.0000	120.000	0.63
50	2.5000	150.000	0.39
51	3.0000	180.000	0.24
52	3.5000	210.000	0.15
53	4.0000	240.000	0.10
54	4.5000	270.000	0.06
55	5.0000	300.000	0.04
56	5.5000	330.000	0.02
57	6.0000	360.000	0.01
58	6.5000	390.000	0.00

	WELL DESCRIPTION		
	MW-134A Test 1	MW134A TEST 2	MW134A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	5.00	5.00	5.00
S=length of screen below the water table (ft.)	5.00	5.00	5.00
d/rw (unitless) if d > S, S/rw is used	14.50	14.50	14.50
A = read from the Bouwer and Rice curves and based on d/rw	2.0	2.0	2.0
B = read from the Bouwer and Rice curves and based on d/rw	0.3	0.3	0.3
C = read from the Bouwer and Rice curves and based on d/rw	1.4	1.4	1.4
b = depth from water table to bottom of well (ft.)	16.39	16.39	16.39
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	1.83E+00	1.83E+00	1.83E+00
Re = effective radius (ft.)	2.15E+00	2.15E+00	2.15E+00
Yo = Drawdown in well at t0 = 0 (ft.)	6.83	0.74	4.60
Yt = Drawdown in well at t > t0 (ft.)	0.70	0.10	0.20
t = time interval between Yo and Yt (sec.)	150.0	120.0	190.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.93E-05	2.12E-05	2.09E-05
K = hydraulic conductivity (ft./min.)	1.16E-03	1.27E-03	1.26E-03
K = hydraulic conductivity (ft./day)	1.66E+00	1.83E+00	1.81E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-134A	Test 1
Date	10/27/93
Time	09:38
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	9.41
2	0.0033	0.198	9.14
3	0.0066	0.396	8.97
4	0.0099	0.594	8.81
5	0.0133	0.798	8.73
6	0.0166	0.996	8.63
7	0.0200	1.200	8.54
8	0.0233	1.398	8.47
9	0.0266	1.596	8.41
10	0.0300	1.800	8.34
11	0.0333	1.998	8.28
12	0.0500	3.000	8.01
13	0.0666	3.996	7.80
14	0.0833	4.998	7.59
15	0.1000	6.000	7.42
16	0.1166	6.996	7.26
17	0.1333	7.998	7.10
18	0.1500	9.000	6.96
19	0.1666	9.996	6.83
20	0.1833	10.998	6.70
21	0.2000	12.000	6.58
22	0.2166	12.996	6.46
23	0.2333	13.998	6.35
24	0.2500	15.000	6.23
25	0.2666	15.996	6.13
26	0.2833	16.998	6.02
27	0.3000	18.000	5.92
28	0.3166	18.996	5.82
29	0.3333	19.998	5.73
30	0.4167	25.002	5.28
31	0.5000	30.000	4.88
32	0.5833	34.998	4.51
33	0.6667	40.002	4.18
34	0.7500	45.000	3.88
35	0.8333	49.998	3.61
36	0.9167	55.002	3.35
37	1.0000	60.000	3.12
38	1.0833	64.998	2.90
39	1.1667	70.002	2.70
40	1.2500	75.000	2.52
41	1.3333	79.998	2.34
42	1.4166	84.996	2.18
43	1.5000	90.000	2.04
44	1.5833	94.998	1.90
45	1.6667	100.002	1.76
46	1.7500	105.000	1.62
47	1.8333	109.998	1.50
48	1.9167	115.002	1.40
49	2.0000	120.000	1.30
50	2.5000	150.000	0.86
51	3.0000	180.000	0.56
52	3.5000	210.000	0.36
53	4.0000	240.000	0.23
54	4.5000	270.000	0.15
55	5.0000	300.000	0.09
56	5.5000	330.000	0.05
57	6.0000	360.000	0.02
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	-0.01
61	8.0000	480.000	-0.02
62	8.5000	510.000	-0.02
63	9.0000	540.000	-0.02
64	9.5000	570.000	-0.02

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-134A	Test 2
Date	10/27/93
Time	09:54
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	10.11
2	0.0033	0.198	9.69
3	0.0066	0.396	9.48
4	0.0099	0.594	9.33
5	0.0133	0.798	9.21
6	0.0166	0.996	9.10
7	0.0200	1.200	9.01
8	0.0233	1.398	8.94
9	0.0266	1.596	8.84
10	0.0300	1.800	8.76
11	0.0333	1.998	8.69
12	0.0500	3.000	8.36
13	0.0666	3.996	8.10
14	0.0833	4.998	7.87
15	0.1000	6.000	7.67
16	0.1166	6.996	7.48
17	0.1333	7.998	7.31
18	0.1500	9.000	7.15
19	0.1666	9.996	7.00
20	0.1833	10.998	6.85
21	0.2000	12.000	6.72
22	0.2166	12.996	6.58
23	0.2333	13.998	6.46
24	0.2500	15.000	6.33
25	0.2666	15.996	6.22
26	0.2833	16.998	6.10
27	0.3000	18.000	5.99
28	0.3166	18.996	5.89
29	0.3333	19.998	5.78
30	0.4167	25.002	5.29
31	0.5000	30.000	4.86
32	0.5833	34.998	4.47
33	0.6667	40.002	4.12
34	0.7500	45.000	3.81
35	0.8333	49.998	3.52
36	0.9167	55.002	3.26
37	1.0000	60.000	3.02
38	1.0833	64.998	2.80
39	1.1667	70.002	2.59
40	1.2500	75.000	2.40
41	1.3333	79.998	2.23
42	1.4166	84.996	2.06
43	1.5000	90.000	1.91
44	1.5833	94.998	1.76
45	1.6667	100.002	1.61
46	1.7500	105.000	1.48
47	1.8333	109.998	1.37
48	1.9167	115.002	1.27
49	2.0000	120.000	1.18
50	2.5000	150.000	0.74
51	3.0000	180.000	0.46
52	3.5000	210.000	0.29
53	4.0000	240.000	0.17
54	4.5000	270.000	0.10
55	5.0000	300.000	0.05
56	5.5000	330.000	0.02
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	-0.01
60	7.5000	450.000	-0.01
61	8.0000	480.000	-0.01
62	8.5000	510.000	-0.02
63	9.0000	540.000	-0.02
64	9.5000	570.000	-0.02
65	10.0000	600.000	-0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-134A	Test 3
Date	10/27/93
Time	10:08
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	16.21
2	0.0033	0.198	8.15
3	0.0066	0.396	7.94
4	0.0099	0.594	7.78
5	0.0133	0.798	7.67
6	0.0166	0.996	7.52
7	0.0200	1.200	7.45
8	0.0233	1.398	7.36
9	0.0266	1.596	7.30
10	0.0300	1.800	7.21
11	0.0333	1.998	7.14
12	0.0500	3.000	6.85
13	0.0666	3.996	6.61
14	0.0833	4.998	6.41
15	0.1000	6.000	6.22
16	0.1166	6.996	6.06
17	0.1333	7.998	5.91
18	0.1500	9.000	5.77
19	0.1666	9.996	5.64
20	0.1833	10.998	5.52
21	0.2000	12.000	5.40
22	0.2166	12.996	5.29
23	0.2333	13.998	5.18
24	0.2500	15.000	5.07
25	0.2666	15.996	4.97
26	0.2833	16.998	4.88
27	0.3000	18.000	4.78
28	0.3166	18.996	4.69
29	0.3333	19.998	4.60
30	0.4167	25.002	4.20
31	0.5000	30.000	3.84
32	0.5833	34.998	3.52
33	0.6667	40.002	3.24
34	0.7500	45.000	2.99
35	0.8333	49.998	2.75
36	0.9167	55.002	2.54
37	1.0000	60.000	2.35
38	1.0833	64.998	2.17
39	1.1667	70.002	2.01
40	1.2500	75.000	1.85
41	1.3333	79.998	1.69
42	1.4166	84.996	1.55
43	1.5000	90.000	1.44
44	1.5833	94.998	1.33
45	1.6667	100.002	1.23
46	1.7500	105.000	1.14
47	1.8333	109.998	1.06
48	1.9167	115.002	0.98
49	2.0000	120.000	0.91
50	2.5000	150.000	0.57
51	3.0000	180.000	0.36
52	3.5000	210.000	0.23
53	4.0000	240.000	0.14
54	4.5000	270.000	0.08
55	5.0000	300.000	0.04
56	5.5000	330.000	0.01
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	-0.01
60	7.5000	450.000	-0.01
61	8.0000	480.000	-0.01
62	8.5000	510.000	-0.01

	WELL DESCRIPTION			
	MW-134B Test 1	MW134B TEST 2	MW134B TEST 3	MW134B TEST 4
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	5.00	5.00	5.00	5.00
S=length of screen below the water table (ft.)	5.00	5.00	5.00	5.00
d/rw (unitless) if d > S, S/rw is used	14.50	14.50	14.50	14.50
A = read from the Bouwer and Rice curves and based on d/rw	2.0	2.0	2.0	2.0
B = read from the Bouwer and Rice curves and based on d/rw	0.3	0.3	0.3	0.3
C = read from the Bouwer and Rice curves and based on d/rw	1.4	1.4	1.4	1.4
b = depth from water table to bottom of well (ft.)	33.89	33.89	33.89	33.89
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially	partially
ln Re/rw (unitless)	1.99E+00	1.99E+00	1.99E+00	1.99E+00
Re = effective radius (ft.)	2.53E+00	2.53E+00	2.53E+00	2.53E+00
Yo = Drawdown in well at t0 = 0 (ft.)	4.00	12.16	11.19	13.57
Yt = Drawdown in well at t > t0 (ft.)	0.05	0.08	0.07	0.07
t = time interval between Yo and Yt (sec.)	22.0	32.0	32.0	38.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	2.75E-04	2.17E-04	2.19E-04	1.92E-04
K = hydraulic conductivity (ft./min.)	1.65E-02	1.30E-02	1.32E-02	1.15E-02
K = hydraulic conductivity (ft./day)	2.38E+01	1.88E+01	1.89E+01	1.66E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-134B	Test 1
Date	10/26/93
Time	16:53
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	18.40
2	0.0033	0.198	19.81
3	0.0066	0.396	18.63
4	0.0099	0.594	17.11
5	0.0133	0.798	16.17
6	0.0166	0.996	15.37
7	0.0200	1.200	14.71
8	0.0233	1.398	14.07
9	0.0266	1.596	13.50
10	0.0300	1.800	12.98
11	0.0333	1.998	12.45
12	0.0500	3.000	10.25
13	0.0666	3.996	8.45
14	0.0833	4.998	6.99
15	0.1000	6.000	5.78
16	0.1166	6.996	4.76
17	0.1333	7.998	3.91
18	0.1500	9.000	3.20
19	0.1666	9.996	2.61
20	0.1833	10.998	2.13
21	0.2000	12.000	1.73
22	0.2166	12.996	1.41
23	0.2333	13.998	1.14
24	0.2500	15.000	0.94
25	0.2666	15.996	0.77
26	0.2833	16.998	0.63
27	0.3000	18.000	0.53
28	0.3166	18.996	0.44
29	0.3333	19.998	0.38
30	0.4167	25.002	0.18
31	0.5000	30.000	0.11
32	0.5833	34.998	0.07
33	0.6667	40.002	0.05
34	0.7500	45.000	0.03
35	0.8333	49.998	0.02
36	0.9167	55.002	0.02
37	1.0000	60.000	0.01
38	1.0833	64.998	0.00
39	1.1667	70.002	0.00
40	1.2500	75.000	0.00
41	1.3333	79.998	0.00
42	1.4166	84.996	0.00
43	1.5000	90.000	0.00
44	1.5833	94.998	0.00
45	1.6667	100.002	0.00
46	1.7500	105.000	0.00
47	1.8333	109.998	0.00
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	-0.01
51	3.0000	180.000	-0.01
52	3.5000	210.000	-0.01
53	4.0000	240.000	-0.01
54	4.5000	270.000	-0.01
55	5.0000	300.000	-0.01
56	5.5000	330.000	-0.01
57	6.0000	360.000	-0.01
58	6.5000	390.000	-0.01
59	7.0000	420.000	-0.01
60	7.5000	450.000	-0.02
61	8.0000	480.000	-0.01
62	8.5000	510.000	-0.01
63	9.0000	540.000	-0.02
64	9.5000	570.000	-0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-134B	Test 2
Date	10/26/93
Time	17:11
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	16.58
2	0.0033	0.198	19.58
3	0.0066	0.396	19.46
4	0.0099	0.594	17.97
5	0.0133	0.798	17.20
6	0.0166	0.996	16.58
7	0.0200	1.200	16.01
8	0.0233	1.398	15.49
9	0.0266	1.596	15.00
10	0.0300	1.800	14.53
11	0.0333	1.998	14.09
12	0.0500	3.000	12.16
13	0.0666	3.996	10.53
14	0.0833	4.998	9.11
15	0.1000	6.000	7.87
16	0.1166	6.996	6.81
17	0.1333	7.998	5.86
18	0.1500	9.000	5.04
19	0.1666	9.996	4.31
20	0.1833	10.998	3.68
21	0.2000	12.000	3.13
22	0.2166	12.996	2.65
23	0.2333	13.998	2.25
24	0.2500	15.000	1.90
25	0.2666	15.996	1.60
26	0.2833	16.998	1.34
27	0.3000	18.000	1.13
28	0.3166	18.996	0.95
29	0.3333	19.998	0.81
30	0.4167	25.002	0.37
31	0.5000	30.000	0.20
32	0.5833	34.998	0.14
33	0.6667	40.002	0.10
34	0.7500	45.000	0.08
35	0.8333	49.998	0.07
36	0.9167	55.002	0.06
37	1.0000	60.000	0.05
38	1.0833	64.998	0.05
39	1.1667	70.002	0.04
40	1.2500	75.000	0.04
41	1.3333	79.998	0.03
42	1.4166	84.996	0.03
43	1.5000	90.000	0.03
44	1.5833	94.998	0.03
45	1.6667	100.002	0.03
46	1.7500	105.000	0.03
47	1.8333	109.998	0.03
48	1.9167	115.002	0.03
49	2.0000	120.000	0.03
50	2.5000	150.000	0.02
51	3.0000	180.000	0.02
52	3.5000	210.000	0.02
53	4.0000	240.000	0.02
54	4.5000	270.000	0.02
55	5.0000	300.000	0.02
56	5.5000	330.000	0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-134B	Test 3
Date	10/26/93
Time	17:22
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	17.34
2	0.0033	0.198	19.58
3	0.0066	0.396	19.56
4	0.0099	0.594	18.38
5	0.0133	0.798	17.61
6	0.0166	0.996	17.00
7	0.0200	1.200	16.42
8	0.0233	1.398	15.93
9	0.0266	1.596	15.45
10	0.0300	1.800	14.99
11	0.0333	1.998	14.58
12	0.0500	3.000	12.76
13	0.0666	3.996	11.19
14	0.0833	4.998	9.83
15	0.1000	6.000	8.61
16	0.1166	6.996	7.53
17	0.1333	7.998	6.57
18	0.1500	9.000	5.72
19	0.1666	9.996	4.96
20	0.1833	10.998	4.27
21	0.2000	12.000	3.66
22	0.2166	12.996	3.12
23	0.2333	13.998	2.64
24	0.2500	15.000	2.23
25	0.2666	15.996	1.87
26	0.2833	16.998	1.56
27	0.3000	18.000	1.30
28	0.3166	18.996	1.08
29	0.3333	19.998	0.89
30	0.4167	25.002	0.36
31	0.5000	30.000	0.20
32	0.5833	34.998	0.15
33	0.6667	40.002	0.11
34	0.7500	45.000	0.10
35	0.8333	49.998	0.08
36	0.9167	55.002	0.07
37	1.0000	60.000	0.07
38	1.0833	64.998	0.06
39	1.1667	70.002	0.06
40	1.2500	75.000	0.05
41	1.3333	79.998	0.05
42	1.4166	84.996	0.05
43	1.5000	90.000	0.04
44	1.5833	94.998	0.04
45	1.6667	100.002	0.04
46	1.7500	105.000	0.04
47	1.8333	109.998	0.04
48	1.9167	115.002	0.04
49	2.0000	120.000	0.04
50	2.5000	150.000	0.03
51	3.0000	180.000	0.03
52	3.5000	210.000	0.03
53	4.0000	240.000	0.03
54	4.5000	270.000	0.03
55	5.0000	300.000	0.03
56	5.5000	330.000	0.02
57	6.0000	360.000	0.02
58	6.5000	390.000	0.02
59	7.0000	420.000	0.02
60	7.5000	450.000	0.02
61	8.0000	480.000	0.02
62	8.5000	510.000	0.02
63	9.0000	540.000	0.02
64	9.5000	570.000	0.02
65	10.0000	600.000	0.02
66	12.0000	720.000	0.02
67	14.0000	840.000	0.01
68	16.0000	960.000	0.01
69	18.0000	1080.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-134B	Test 4
Date	10/26/93
Time	17:43
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	17.03
2	0.0033	0.198	19.54
3	0.0066	0.396	19.85
4	0.0099	0.594	18.73
5	0.0133	0.798	18.07
6	0.0166	0.996	17.50
7	0.0200	1.200	16.99
8	0.0233	1.398	16.53
9	0.0266	1.596	16.08
10	0.0300	1.800	15.68
11	0.0333	1.998	15.28
12	0.0500	3.000	13.57
13	0.0666	3.996	12.09
14	0.0833	4.998	10.76
15	0.1000	6.000	9.60
16	0.1166	6.996	8.49
17	0.1333	7.998	7.53
18	0.1500	9.000	6.66
19	0.1666	9.996	5.87
20	0.1833	10.998	5.14
21	0.2000	12.000	4.50
22	0.2166	12.996	3.90
23	0.2333	13.998	3.37
24	0.2500	15.000	2.89
25	0.2666	15.996	2.48
26	0.2833	16.998	2.11
27	0.3000	18.000	1.79
28	0.3166	18.996	1.50
29	0.3333	19.998	1.26
30	0.4167	25.002	0.52
31	0.5000	30.000	0.26
32	0.5833	34.998	0.17
33	0.6667	40.002	0.14
34	0.7500	45.000	0.11
35	0.8333	49.998	0.10
36	0.9167	55.002	0.09
37	1.0000	60.000	0.08
38	1.0833	64.998	0.07
39	1.1667	70.002	0.07
40	1.2500	75.000	0.06
41	1.3333	79.998	0.06
42	1.4166	84.996	0.06
43	1.5000	90.000	0.05
44	1.5833	94.998	0.05
45	1.6667	100.002	0.05
46	1.7500	105.000	0.05
47	1.8333	109.998	0.05
48	1.9167	115.002	0.05
49	2.0000	120.000	0.05
50	2.5000	150.000	0.04
51	3.0000	180.000	0.04
52	3.5000	210.000	0.04
53	4.0000	240.000	0.04
54	4.5000	270.000	0.04
55	5.0000	300.000	0.04
56	5.5000	330.000	0.04
57	6.0000	360.000	0.03
58	6.5000	390.000	0.03
59	7.0000	420.000	0.03
60	7.5000	450.000	0.03
61	8.0000	480.000	0.03
62	8.5000	510.000	0.03
63	9.0000	540.000	0.03
64	9.5000	570.000	0.03
65	10.0000	600.000	0.03
66	12.0000	720.000	0.03
67	14.0000	840.000	0.03
68	16.0000	960.000	0.03
69	18.0000	1080.000	0.02

	WELL DESCRIPTION		
	MW-134C Test 1	MW134C TEST 2	MW134C TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	5.00	5.00	5.00
S=length of screen below the water table (ft.)	5.00	5.00	5.00
d/rw (unitless) if d > S, S/rw is used	20.00	20.00	20.00
A = read from the Bouwer and Rice curves and based on d/rw	2.2	2.2	2.2
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.6	1.6	1.6
b = depth from water table to bottom of well (ft.)	49.29	49.29	49.29
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.36E+00	2.36E+00	2.36E+00
Re = effective radius (ft.)	2.66E+00	2.66E+00	2.66E+00
Yo = Drawdown in well at t0 = 0 (ft.)	2.00	1.33	1.01
Yt = Drawdown in well at t > t0 (ft.)	0.10	0.10	0.15
t = time interval between Yo and Yt (sec.)	220.0	190.0	130.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	2.23E-05	2.23E-05	2.41E-05
K = hydraulic conductivity (ft./min.)	1.34E-03	1.34E-03	1.44E-03
K = hydraulic conductivity (ft./day)	1.93E+00	1.93E+00	2.08E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-134C	Test 1
Date	10/26/93
Time	15:57
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.82
2	0.0033	0.198	3.50
3	0.0066	0.396	3.50
4	0.0099	0.594	3.45
5	0.0133	0.798	3.43
6	0.0166	0.996	3.41
7	0.0200	1.200	3.39
8	0.0233	1.398	3.37
9	0.0266	1.596	3.36
10	0.0300	1.800	3.34
11	0.0333	1.998	3.33
12	0.0500	3.000	3.27
13	0.0666	3.996	3.21
14	0.0833	4.998	3.16
15	0.1000	6.000	3.11
16	0.1166	6.996	3.07
17	0.1333	7.998	3.02
18	0.1500	9.000	2.98
19	0.1666	9.996	2.94
20	0.1833	10.998	2.90
21	0.2000	12.000	2.85
22	0.2166	12.996	2.81
23	0.2333	13.998	2.78
24	0.2500	15.000	2.73
25	0.2666	15.996	2.70
26	0.2833	16.998	2.66
27	0.3000	18.000	2.62
28	0.3166	18.996	2.59
29	0.3333	19.998	2.55
30	0.4167	25.002	2.38
31	0.5000	30.000	2.22
32	0.5833	34.998	2.08
33	0.6667	40.002	1.94
34	0.7500	45.000	1.82
35	0.8333	49.998	1.69
36	0.9167	55.002	1.58
37	1.0000	60.000	1.48
38	1.0833	64.998	1.38
39	1.1667	70.002	1.29
40	1.2500	75.000	1.21
41	1.3333	79.998	1.13
42	1.4166	84.996	1.06
43	1.5000	90.000	0.99
44	1.5833	94.998	0.92
45	1.6667	100.002	0.86
46	1.7500	105.000	0.81
47	1.8333	109.998	0.75
48	1.9167	115.002	0.70
49	2.0000	120.000	0.66
50	2.5000	150.000	0.44
51	3.0000	180.000	0.29
52	3.5000	210.000	0.20
53	4.0000	240.000	0.13
54	4.5000	270.000	0.09
55	5.0000	300.000	0.06
56	5.5000	330.000	0.04
57	6.0000	360.000	0.03
58	6.5000	390.000	0.02
59	7.0000	420.000	0.01
60	7.5000	450.000	0.01
61	8.0000	480.000	0.01
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00
66	12.0000	720.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-134C	Test 2
Date	10/26/93
Time	16:15
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-4.42
2	0.0033	0.198	2.54
3	0.0066	0.396	1.88
4	0.0099	0.594	1.87
5	0.0133	0.798	1.88
6	0.0166	0.996	1.85
7	0.0200	1.200	1.83
8	0.0233	1.398	1.82
9	0.0266	1.596	1.80
10	0.0300	1.800	1.79
11	0.0333	1.998	1.79
12	0.0500	3.000	1.75
13	0.0666	3.996	1.71
14	0.0833	4.998	1.68
15	0.1000	6.000	1.65
16	0.1166	6.996	1.62
17	0.1333	7.998	1.60
18	0.1500	9.000	1.57
19	0.1666	9.996	1.54
20	0.1833	10.998	1.52
21	0.2000	12.000	1.50
22	0.2166	12.996	1.48
23	0.2333	13.998	1.45
24	0.2500	15.000	1.43
25	0.2666	15.996	1.41
26	0.2833	16.998	1.39
27	0.3000	18.000	1.37
28	0.3166	18.996	1.35
29	0.3333	19.998	1.33
30	0.4167	25.002	1.24
31	0.5000	30.000	1.15
32	0.5833	34.998	1.07
33	0.6667	40.002	1.00
34	0.7500	45.000	0.93
35	0.8333	49.998	0.86
36	0.9167	55.002	0.81
37	1.0000	60.000	0.75
38	1.0833	64.998	0.70
39	1.1667	70.002	0.65
40	1.2500	75.000	0.61
41	1.3333	79.998	0.57
42	1.4166	84.996	0.53
43	1.5000	90.000	0.49
44	1.5833	94.998	0.46
45	1.6667	100.002	0.43
46	1.7500	105.000	0.40
47	1.8333	109.998	0.37
48	1.9167	115.002	0.35
49	2.0000	120.000	0.32
50	2.5000	150.000	0.22
51	3.0000	180.000	0.14
52	3.5000	210.000	0.10
53	4.0000	240.000	0.06
54	4.5000	270.000	0.05
55	5.0000	300.000	0.03
56	5.5000	330.000	0.02
57	6.0000	360.000	0.01
58	6.5000	390.000	0.01
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-134C	Test 3
Date	10/26/93
Time	16:27
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	-0.70
2	0.0033	0.198	2.11
3	0.0066	0.396	1.39
4	0.0099	0.594	1.42
5	0.0133	0.798	1.45
6	0.0166	0.996	1.43
7	0.0200	1.200	1.42
8	0.0233	1.398	1.40
9	0.0266	1.596	1.39
10	0.0300	1.800	1.38
11	0.0333	1.998	1.38
12	0.0500	3.000	1.34
13	0.0666	3.996	1.31
14	0.0833	4.998	1.29
15	0.1000	6.000	1.26
16	0.1166	6.996	1.24
17	0.1333	7.998	1.22
18	0.1500	9.000	1.20
19	0.1666	9.996	1.18
20	0.1833	10.998	1.16
21	0.2000	12.000	1.14
22	0.2166	12.996	1.12
23	0.2333	13.998	1.10
24	0.2500	15.000	1.09
25	0.2666	15.996	1.07
26	0.2833	16.998	1.05
27	0.3000	18.000	1.04
28	0.3166	18.996	1.02
29	0.3333	19.998	1.01
30	0.4167	25.002	0.93
31	0.5000	30.000	0.86
32	0.5833	34.998	0.80
33	0.6667	40.002	0.74
34	0.7500	45.000	0.69
35	0.8333	49.998	0.64
36	0.9167	55.002	0.59
37	1.0000	60.000	0.55
38	1.0833	64.998	0.51
39	1.1667	70.002	0.47
40	1.2500	75.000	0.44
41	1.3333	79.998	0.41
42	1.4166	84.996	0.38
43	1.5000	90.000	0.35
44	1.5833	94.998	0.33
45	1.6667	100.002	0.30
46	1.7500	105.000	0.28
47	1.8333	109.998	0.26
48	1.9167	115.002	0.24
49	2.0000	120.000	0.23
50	2.5000	150.000	0.15
51	3.0000	180.000	0.09
52	3.5000	210.000	0.06
53	4.0000	240.000	0.04
54	4.5000	270.000	0.02
55	5.0000	300.000	0.01
56	5.5000	330.000	0.01
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

	WELL DESCRIPTION		
	MW-140 Test 1	MW140 TEST 2	MW140 TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	5.00	5.00	5.00
S=length of screen below the water table (ft.)	5.00	5.00	5.00
d/rw (unitless) if d > S, S/rw is used	20.00	20.00	20.00
A = read from the Bouwer and Rice curves and based on d/rw	2.2	2.2	2.2
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.6	1.6	1.6
b = depth from water table to bottom of well (ft.)	5.50	5.50	5.50
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	1.75E+00	1.75E+00	1.75E+00
Re = effective radius (ft.)	1.44E+00	1.44E+00	1.44E+00
Yo = Drawdown in well at t0 = 0 (ft.)	2.11	1.33	1.00
Yt = Drawdown in well at t > t0 (ft.)	1.31	0.80	0.60
t = time interval between Yo and Yt (sec.)	125.0	75.0	60.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	0.14	0.14	0.14
K = hydraulic conductivity (ft./sec.)	1.39E-05	2.47E-05	3.11E-05
K = hydraulic conductivity (ft./min.)	8.35E-04	1.48E-03	1.86E-03
K = hydraulic conductivity (ft./day)	1.20E+00	2.14E+00	2.68E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-140	Test 1
Date	10/22/93
Time	10:05
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.44
2	0.0033	0.198	2.62
3	0.0066	0.396	2.48
4	0.0099	0.594	2.52
5	0.0133	0.798	2.50
6	0.0166	0.996	2.49
7	0.0200	1.200	2.49
8	0.0233	1.398	2.48
9	0.0266	1.596	2.48
10	0.0300	1.800	2.47
11	0.0333	1.998	2.46
12	0.0500	3.000	2.44
13	0.0666	3.996	2.42
14	0.0833	4.998	2.40
15	0.1000	6.000	2.38
16	0.1166	6.996	2.36
17	0.1333	7.998	2.34
18	0.1500	9.000	2.33
19	0.1666	9.996	2.31
20	0.1833	10.998	2.30
21	0.2000	12.000	2.28
22	0.2166	12.996	2.26
23	0.2333	13.998	2.25
24	0.2500	15.000	2.24
25	0.2666	15.996	2.22
26	0.2833	16.998	2.21
27	0.3000	18.000	2.20
28	0.3166	18.996	2.19
29	0.3333	19.998	2.17
30	0.4167	25.002	2.11
31	0.5000	30.000	2.05
32	0.5833	34.998	2.00
33	0.6667	40.002	1.96
34	0.7500	45.000	1.91
35	0.8333	49.998	1.87
36	0.9167	55.002	1.84
37	1.0000	60.000	1.80
38	1.0833	64.998	1.77
39	1.1667	70.002	1.73
40	1.2500	75.000	1.70
41	1.3333	79.998	1.66
42	1.4166	84.996	1.64
43	1.5000	90.000	1.61
44	1.5833	94.998	1.58
45	1.6667	100.002	1.55
46	1.7500	105.000	1.52
47	1.8333	109.998	1.50
48	1.9167	115.002	1.47
49	2.0000	120.000	1.45
50	2.5000	150.000	1.31
51	3.0000	180.000	1.19
52	3.5000	210.000	1.10
53	4.0000	240.000	1.01
54	4.5000	270.000	0.93
55	5.0000	300.000	0.86
56	5.5000	330.000	0.79
57	6.0000	360.000	0.73
58	6.5000	390.000	0.67
59	7.0000	420.000	0.63
60	7.5000	450.000	0.59
61	8.0000	480.000	0.54
62	8.5000	510.000	0.49
63	9.0000	540.000	0.45
64	9.5000	570.000	0.40

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.37
66	12.0000	720.000	0.24
67	14.0000	840.000	0.17
68	16.0000	960.000	0.12
69	18.0000	1080.000	0.08

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-140	Test 2
Date	10/22/93
Time	10:26
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.42
2	0.0033	0.198	1.43
3	0.0066	0.396	1.42
4	0.0099	0.594	1.41
5	0.0133	0.798	1.41
6	0.0166	0.996	1.40
7	0.0200	1.200	1.40
8	0.0233	1.398	1.39
9	0.0266	1.596	1.39
10	0.0300	1.800	1.38
11	0.0333	1.998	1.38
12	0.0500	3.000	1.36
13	0.0666	3.996	1.35
14	0.0833	4.998	1.33
15	0.1000	6.000	1.32
16	0.1166	6.996	1.31
17	0.1333	7.998	1.29
18	0.1500	9.000	1.28
19	0.1666	9.996	1.27
20	0.1833	10.998	1.26
21	0.2000	12.000	1.25
22	0.2166	12.996	1.24
23	0.2333	13.998	1.23
24	0.2500	15.000	1.22
25	0.2666	15.996	1.21
26	0.2833	16.998	1.20
27	0.3000	18.000	1.19
28	0.3166	18.996	1.19
29	0.3333	19.998	1.18
30	0.4167	25.002	1.14
31	0.5000	30.000	1.11
32	0.5833	34.998	1.08
33	0.6667	40.002	1.05
34	0.7500	45.000	1.02
35	0.8333	49.998	1.00
36	0.9167	55.002	0.98
37	1.0000	60.000	0.96
38	1.0833	64.998	0.94
39	1.1667	70.002	0.92
40	1.2500	75.000	0.90
41	1.3333	79.998	0.88
42	1.4166	84.996	0.86
43	1.5000	90.000	0.85
44	1.5833	94.998	0.83
45	1.6667	100.002	0.82
46	1.7500	105.000	0.80
47	1.8333	109.998	0.78
48	1.9167	115.002	0.77
49	2.0000	120.000	0.76
50	2.5000	150.000	0.68
51	3.0000	180.000	0.62
52	3.5000	210.000	0.56
53	4.0000	240.000	0.52
54	4.5000	270.000	0.47
55	5.0000	300.000	0.41
56	5.5000	330.000	0.36
57	6.0000	360.000	0.32
58	6.5000	390.000	0.28
59	7.0000	420.000	0.25
60	7.5000	450.000	0.22
61	8.0000	480.000	0.19
62	8.5000	510.000	0.17
63	9.0000	540.000	0.14
64	9.5000	570.000	0.12

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.11
66	12.0000	720.000	0.05

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-140	Test 3
Date	10/22/93
Time	10:41
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.35
2	0.0033	0.198	1.15
3	0.0066	0.396	1.09
4	0.0099	0.594	1.07
5	0.0133	0.798	1.09
6	0.0166	0.996	1.07
7	0.0200	1.200	1.07
8	0.0233	1.398	1.06
9	0.0266	1.596	1.06
10	0.0300	1.800	1.05
11	0.0333	1.998	1.05
12	0.0500	3.000	1.03
13	0.0666	3.996	1.01
14	0.0833	4.998	1.00
15	0.1000	6.000	0.99
16	0.1166	6.996	0.98
17	0.1333	7.998	0.96
18	0.1500	9.000	0.95
19	0.1666	9.996	0.95
20	0.1833	10.998	0.94
21	0.2000	12.000	0.93
22	0.2166	12.996	0.92
23	0.2333	13.998	0.91
24	0.2500	15.000	0.91
25	0.2666	15.996	0.90
26	0.2833	16.998	0.89
27	0.3000	18.000	0.89
28	0.3166	18.996	0.88
29	0.3333	19.998	0.88
30	0.4167	25.002	0.85
31	0.5000	30.000	0.83
32	0.5833	34.998	0.80
33	0.6667	40.002	0.78
34	0.7500	45.000	0.76
35	0.8333	49.998	0.74
36	0.9167	55.002	0.73
37	1.0000	60.000	0.71
38	1.0833	64.998	0.69
39	1.1667	70.002	0.68
40	1.2500	75.000	0.66
41	1.3333	79.998	0.65
42	1.4166	84.996	0.64
43	1.5000	90.000	0.63
44	1.5833	94.998	0.61
45	1.6667	100.002	0.60
46	1.7500	105.000	0.59
47	1.8333	109.998	0.58
48	1.9167	115.002	0.57
49	2.0000	120.000	0.56
50	2.5000	150.000	0.51
51	3.0000	180.000	0.46
52	3.5000	210.000	0.41
53	4.0000	240.000	0.36
54	4.5000	270.000	0.32
55	5.0000	300.000	0.28
56	5.5000	330.000	0.24
57	6.0000	360.000	0.21
58	6.5000	390.000	0.18
59	7.0000	420.000	0.16
60	7.5000	450.000	0.14
61	8.0000	480.000	0.11
62	8.5000	510.000	0.10
63	9.0000	540.000	0.08
64	9.5000	570.000	0.07
65	10.0000	600.000	0.06
66	12.0000	720.000	0.02
67	14.0000	840.000	0.00

	WELL DESCRIPTION		
	MW-108A Test 1	MW108A TEST 2	MW108A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	16.71	16.71	16.71
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.28E+00	2.28E+00	2.28E+00
Re = effective radius (ft.)	3.37E+00	3.37E+00	3.37E+00
Yo = Drawdown in well at t0 = 0 (ft.)	10.00	10.00	10.00
Yt = Drawdown in well at t > t0 (ft.)	0.30	0.40	0.20
t = time interval between Yo and Yt (sec.)	65.0	75.0	75.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	4.27E-05	3.39E-05	4.12E-05
K = hydraulic conductivity (ft./min.)	2.56E-03	2.04E-03	2.47E-03
K = hydraulic conductivity (ft./day)	3.69E+00	2.93E+00	3.56E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-108A	Test 1
Date	9/13/93
Time	15:17
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	0.14
2	0.0033	0.198	11.01
3	0.0066	0.396	15.08
4	0.0099	0.594	15.00
5	0.0133	0.798	13.77
6	0.0166	0.996	13.42
7	0.0200	1.200	13.27
8	0.0233	1.398	12.34
9	0.0266	1.596	12.83
10	0.0300	1.800	12.78
11	0.0333	1.998	12.18
12	0.0500	3.000	11.16
13	0.0666	3.996	10.42
14	0.0833	4.998	9.76
15	0.1000	6.000	9.18
16	0.1166	6.996	8.66
17	0.1333	7.998	8.16
18	0.1500	9.000	7.70
19	0.1666	9.996	7.27
20	0.1833	10.998	6.88
21	0.2000	12.000	6.54
22	0.2166	12.996	6.20
23	0.2333	13.998	5.90
24	0.2500	15.000	5.61
25	0.2666	15.996	5.34
26	0.2833	16.998	5.07
27	0.3000	18.000	4.82
28	0.3166	18.996	4.58
29	0.3333	19.998	4.35
30	0.4167	25.002	3.35
31	0.5000	30.000	2.57
32	0.5833	34.998	1.96
33	0.6667	40.002	1.48
34	0.7500	45.000	1.12
35	0.8333	49.998	0.84
36	0.9167	55.002	0.63
37	1.0000	60.000	0.47
38	1.0833	64.998	0.35
39	1.1667	70.002	0.26
40	1.2500	75.000	0.20
41	1.3333	79.998	0.15
42	1.4166	84.996	0.11
43	1.5000	90.000	0.08
44	1.5833	94.998	0.06
45	1.6667	100.002	0.04
46	1.7500	105.000	0.03
47	1.8333	109.998	0.02
48	1.9167	115.002	0.01
49	2.0000	120.000	0.01
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-108A	Test 2
Date	9/13/93
Time	15:35
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	15.22
2	0.0033	0.198	15.43
3	0.0066	0.396	14.27
4	0.0099	0.594	13.74
5	0.0133	0.798	13.63
6	0.0166	0.996	13.56
7	0.0200	1.200	13.03
8	0.0233	1.398	13.66
9	0.0266	1.596	13.67
10	0.0300	1.800	12.18
11	0.0333	1.998	12.51
12	0.0500	3.000	12.01
13	0.0666	3.996	11.22
14	0.0833	4.998	10.72
15	0.1000	6.000	10.24
16	0.1166	6.996	9.72
17	0.1333	7.998	9.33
18	0.1500	9.000	8.92
19	0.1666	9.996	8.51
20	0.1833	10.998	8.16
21	0.2000	12.000	7.81
22	0.2166	12.996	7.47
23	0.2333	13.998	7.14
24	0.2500	15.000	6.82
25	0.2666	15.996	6.53
26	0.2833	16.998	6.26
27	0.3000	18.000	6.01
28	0.3166	18.996	5.76
29	0.3333	19.998	5.52
30	0.4167	25.002	4.46
31	0.5000	30.000	3.58
32	0.5833	34.998	2.87
33	0.6667	40.002	2.28
34	0.7500	45.000	1.81
35	0.8333	49.998	1.43
36	0.9167	55.002	1.13
37	1.0000	60.000	0.89
38	1.0833	64.998	0.69
39	1.1667	70.002	0.54
40	1.2500	75.000	0.42
41	1.3333	79.998	0.33
42	1.4166	84.996	0.26
43	1.5000	90.000	0.20
44	1.5833	94.998	0.16
45	1.6667	100.002	0.12
46	1.7500	105.000	0.09
47	1.8333	109.998	0.07
48	1.9167	115.002	0.05
49	2.0000	120.000	0.04
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	0.00
63	9.0000	540.000	0.00
64	9.5000	570.000	0.00
65	10.0000	600.000	0.00
66	12.0000	720.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-108A	Test 3
Date	9/13/93
Time	15:54
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	10.61
2	0.0033	0.198	14.37
3	0.0066	0.396	14.97
4	0.0099	0.594	13.90
5	0.0133	0.798	13.53
6	0.0166	0.996	12.74
7	0.0200	1.200	12.71
8	0.0233	1.398	12.40
9	0.0266	1.596	12.59
10	0.0300	1.800	12.28
11	0.0333	1.998	11.93
12	0.0500	3.000	11.43
13	0.0666	3.996	10.49
14	0.0833	4.998	9.93
15	0.1000	6.000	9.38
16	0.1166	6.996	8.95
17	0.1333	7.998	8.53
18	0.1500	9.000	8.14
19	0.1666	9.996	7.76
20	0.1833	10.998	7.40
21	0.2000	12.000	7.06
22	0.2166	12.996	6.74
23	0.2333	13.998	6.46
24	0.2500	15.000	6.19
25	0.2666	15.996	5.94
26	0.2833	16.998	5.69
27	0.3000	18.000	5.46
28	0.3166	18.996	5.23
29	0.3333	19.998	5.01
30	0.4167	25.002	4.03
31	0.5000	30.000	3.22
32	0.5833	34.998	2.57
33	0.6667	40.002	2.04
34	0.7500	45.000	1.61
35	0.8333	49.998	1.27
36	0.9167	55.002	1.00
37	1.0000	60.000	0.78
38	1.0833	64.998	0.61
39	1.1667	70.002	0.48
40	1.2500	75.000	0.38
41	1.3333	79.998	0.29
42	1.4166	84.996	0.23
43	1.5000	90.000	0.18
44	1.5833	94.998	0.14
45	1.6667	100.002	0.11
46	1.7500	105.000	0.08
47	1.8333	109.998	0.06
48	1.9167	115.002	0.05
49	2.0000	120.000	0.04
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	-0.01
60	7.5000	450.000	-0.01
61	8.0000	480.000	-0.01
62	8.5000	510.000	-0.01
63	9.0000	540.000	-0.01
64	9.5000	570.000	-0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.01
66	12.0000	720.000	-0.01

	WELL DESCRIPTION		
	MW-108B Test 1	MW108B TEST 2	MW108B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	39.07	39.07	39.07
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.58E+00	2.58E+00	2.58E+00
Re = effective radius (ft.)	4.55E+00	4.55E+00	4.55E+00
Yo = Drawdown in well at t0 = 0 (ft.)	14.37	14.42	15.97
Yt = Drawdown in well at t > t0 (ft.)	0.40	3.00	3.00
t = time interval between Yo and Yt (sec.)	5.2	4.4	4.2
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	6.16E-04	3.19E-04	3.56E-04
K = hydraulic conductivity (ft./min.)	3.70E-02	1.92E-02	2.14E-02
K = hydraulic conductivity (ft./day)	5.32E+01	2.76E+01	3.08E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-108B	Test 1
Date	9/13/93
Time	16:19
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	11.04
2	0.0033	0.198	16.57
3	0.0066	0.396	17.26
4	0.0099	0.594	16.20
5	0.0133	0.798	14.37
6	0.0166	0.996	12.77
7	0.0200	1.200	10.74
8	0.0233	1.398	9.75
9	0.0266	1.596	8.36
10	0.0300	1.800	7.26
11	0.0333	1.998	6.25
12	0.0500	3.000	2.79
13	0.0666	3.996	1.20
14	0.0833	4.998	0.47
15	0.1000	6.000	0.21
16	0.1166	6.996	0.17
17	0.1333	7.998	0.21
18	0.1500	9.000	0.23
19	0.1666	9.996	0.21
20	0.1833	10.998	0.23
21	0.2000	12.000	0.22
22	0.2166	12.996	0.20
23	0.2333	13.998	0.20
24	0.2500	15.000	0.21
25	0.2666	15.996	0.23
26	0.2833	16.998	0.23
27	0.3000	18.000	0.23
28	0.3166	18.996	0.21
29	0.3333	19.998	0.20
30	0.4167	25.002	0.21
31	0.5000	30.000	0.21
32	0.5833	34.998	0.21
33	0.6667	40.002	0.21
34	0.7500	45.000	0.21
35	0.8333	49.998	0.21
36	0.9167	55.002	0.21
37	1.0000	60.000	0.21
38	1.0833	64.998	0.20
39	1.1667	70.002	0.20
40	1.2500	75.000	0.20
41	1.3333	79.998	0.20
42	1.4166	84.996	0.20
43	1.5000	90.000	0.20
44	1.5833	94.998	0.20
45	1.6667	100.002	0.20
46	1.7500	105.000	0.20
47	1.8333	109.998	0.20
48	1.9167	115.002	0.20
49	2.0000	120.000	0.20
50	2.5000	150.000	0.19
51	3.0000	180.000	0.18
52	3.5000	210.000	0.18
53	4.0000	240.000	0.17
54	4.5000	270.000	0.17
55	5.0000	300.000	0.17
56	5.5000	330.000	0.16
57	6.0000	360.000	0.16
58	6.5000	390.000	0.16
59	7.0000	420.000	0.15
60	7.5000	450.000	0.15
61	8.0000	480.000	0.15
62	8.5000	510.000	0.15
63	9.0000	540.000	0.15
64	9.5000	570.000	0.15

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.15
66	12.0000	720.000	0.14

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-108B	Test 2
Date	9/13/93
Time	16:39
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	14.74
2	0.0033	0.198	16.84
3	0.0066	0.396	16.86
4	0.0099	0.594	15.63
5	0.0133	0.798	14.42
6	0.0166	0.996	13.64
7	0.0200	1.200	12.68
8	0.0233	1.398	11.61
9	0.0266	1.596	10.96
10	0.0300	1.800	10.09
11	0.0333	1.998	9.33
12	0.0500	3.000	6.34
13	0.0666	3.996	4.25
14	0.0833	4.998	2.67
15	0.1000	6.000	1.36
16	0.1166	6.996	0.96
17	0.1333	7.998	0.61
18	0.1500	9.000	0.35
19	0.1666	9.996	0.24
20	0.1833	10.998	0.15
21	0.2000	12.000	0.15
22	0.2166	12.996	0.19
23	0.2333	13.998	0.17
24	0.2500	15.000	0.17
25	0.2666	15.996	0.17
26	0.2833	16.998	0.17
27	0.3000	18.000	0.17
28	0.3166	18.996	0.17
29	0.3333	19.998	0.17
30	0.4167	25.002	0.17
31	0.5000	30.000	0.17
32	0.5833	34.998	0.17
33	0.6667	40.002	0.17
34	0.7500	45.000	0.17
35	0.8333	49.998	0.17
36	0.9167	55.002	0.17
37	1.0000	60.000	0.17
38	1.0833	64.998	0.17
39	1.1667	70.002	0.17
40	1.2500	75.000	0.17
41	1.3333	79.998	0.16
42	1.4166	84.996	0.16
43	1.5000	90.000	0.16
44	1.5833	94.998	0.16
45	1.6667	100.002	0.16
46	1.7500	105.000	0.15
47	1.8333	109.998	0.15
48	1.9167	115.002	0.15
49	2.0000	120.000	0.15
50	2.5000	150.000	0.14
51	3.0000	180.000	0.13
52	3.5000	210.000	0.12
53	4.0000	240.000	0.11
54	4.5000	270.000	0.11
55	5.0000	300.000	0.11
56	5.5000	330.000	0.10
57	6.0000	360.000	0.10
58	6.5000	390.000	0.10
59	7.0000	420.000	0.09
60	7.5000	450.000	0.09
61	8.0000	480.000	0.09
62	8.5000	510.000	0.09
63	9.0000	540.000	0.08
64	9.5000	570.000	0.08

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.08

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-108B	Test 3
Date	9/13/93
Time	16:57
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	12.74
2	0.0033	0.198	16.55
3	0.0066	0.396	17.04
4	0.0099	0.594	17.06
5	0.0133	0.798	15.97
6	0.0166	0.996	14.72
7	0.0200	1.200	13.58
8	0.0233	1.398	12.47
9	0.0266	1.596	11.57
10	0.0300	1.800	10.71
11	0.0333	1.998	9.90
12	0.0500	3.000	6.89
13	0.0666	3.996	4.66
14	0.0833	4.998	3.06
15	0.1000	6.000	1.95
16	0.1166	6.996	1.23
17	0.1333	7.998	0.76
18	0.1500	9.000	0.48
19	0.1666	9.996	0.33
20	0.1833	10.998	0.24
21	0.2000	12.000	0.17
22	0.2166	12.996	0.15
23	0.2333	13.998	0.14
24	0.2500	15.000	0.14
25	0.2666	15.996	0.14
26	0.2833	16.998	0.15
27	0.3000	18.000	0.14
28	0.3166	18.996	0.14
29	0.3333	19.998	0.14
30	0.4167	25.002	0.14
31	0.5000	30.000	0.14
32	0.5833	34.998	0.14
33	0.6667	40.002	0.13
34	0.7500	45.000	0.13
35	0.8333	49.998	0.13
36	0.9167	55.002	0.13
37	1.0000	60.000	0.13
38	1.0833	64.998	0.12
39	1.1667	70.002	0.12
40	1.2500	75.000	0.12
41	1.3333	79.998	0.12
42	1.4166	84.996	0.12
43	1.5000	90.000	0.11
44	1.5833	94.998	0.11
45	1.6667	100.002	0.11
46	1.7500	105.000	0.11
47	1.8333	109.998	0.11
48	1.9167	115.002	0.11
49	2.0000	120.000	0.11
50	2.5000	150.000	0.09
51	3.0000	180.000	0.08
52	3.5000	210.000	0.07
53	4.0000	240.000	0.06
54	4.5000	270.000	0.06
55	5.0000	300.000	0.05
56	5.5000	330.000	0.05
57	6.0000	360.000	0.05
58	6.5000	390.000	0.05
59	7.0000	420.000	0.04
60	7.5000	450.000	0.04
61	8.0000	480.000	0.04
62	8.5000	510.000	0.04
63	9.0000	540.000	0.03
64	9.5000	570.000	0.03
65	10.0000	600.000	0.03

	WELL DESCRIPTION		
	MW-108C Test 1	MW108C TEST 2	MW108C TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	112.96	112.96	112.96
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	3.15E+00	3.15E+00	3.15E+00
Re = effective radius (ft.)	5.84E+00	5.84E+00	5.84E+00
Yo = Drawdown in well at t0 = 0 (ft.)	4.50	4.94	6.68
Yt = Drawdown in well at t > t0 (ft.)	0.30	0.30	0.70
t = time interval between Yo and Yt (sec.)	50.0	40.0	35.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	5.92E-05	7.65E-05	7.04E-05
K = hydraulic conductivity (ft./min.)	3.55E-03	4.59E-03	4.23E-03
K = hydraulic conductivity (ft./day)	5.11E+00	6.61E+00	6.09E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-108C	Test 1
Date	9/15/93
Time	14:41
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	9.39
2	0.0033	0.198	9.53
3	0.0066	0.396	9.76
4	0.0099	0.594	9.80
5	0.0133	0.798	9.70
6	0.0166	0.996	9.45
7	0.0200	1.200	9.20
8	0.0233	1.398	8.91
9	0.0266	1.596	8.68
10	0.0300	1.800	8.45
11	0.0333	1.998	8.26
12	0.0500	3.000	7.50
13	0.0666	3.996	6.90
14	0.0833	4.998	6.38
15	0.1000	6.000	5.92
16	0.1166	6.996	5.51
17	0.1333	7.998	5.15
18	0.1500	9.000	4.81
19	0.1666	9.996	4.50
20	0.1833	10.998	4.21
21	0.2000	12.000	3.95
22	0.2166	12.996	3.70
23	0.2333	13.998	3.45
24	0.2500	15.000	3.20
25	0.2666	15.996	2.99
26	0.2833	16.998	2.81
27	0.3000	18.000	2.64
28	0.3166	18.996	2.48
29	0.3333	19.998	2.33
30	0.4167	25.002	1.72
31	0.5000	30.000	1.27
32	0.5833	34.998	0.95
33	0.6667	40.002	0.70
34	0.7500	45.000	0.53
35	0.8333	49.998	0.39
36	0.9167	55.002	0.29
37	1.0000	60.000	0.23
38	1.0833	64.998	0.17
39	1.1667	70.002	0.13
40	1.2500	75.000	0.10
41	1.3333	79.998	0.08
42	1.4166	84.996	0.06
43	1.5000	90.000	0.05
44	1.5833	94.998	0.04
45	1.6667	100.002	0.03
46	1.7500	105.000	0.03
47	1.8333	109.998	0.02
48	1.9167	115.002	0.02
49	2.0000	120.000	0.02
50	2.5000	150.000	0.01
51	3.0000	180.000	0.01
52	3.5000	210.000	0.01
53	4.0000	240.000	0.02
54	4.5000	270.000	0.02
55	5.0000	300.000	0.02
56	5.5000	330.000	0.02
57	6.0000	360.000	0.02
58	6.5000	390.000	0.02
59	7.0000	420.000	0.02
60	7.5000	450.000	0.02
61	8.0000	480.000	0.03
62	8.5000	510.000	0.02
63	9.0000	540.000	0.02
64	9.5000	570.000	0.02

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.02

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-108C	Test 2
Date	9/15/93
Time	14:59
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	7.33
2	0.0033	0.198	7.65
3	0.0066	0.396	7.72
4	0.0099	0.594	7.79
5	0.0133	0.798	7.76
6	0.0166	0.996	7.57
7	0.0200	1.200	7.30
8	0.0233	1.398	7.04
9	0.0266	1.596	6.83
10	0.0300	1.800	6.64
11	0.0333	1.998	6.48
12	0.0500	3.000	5.85
13	0.0666	3.996	5.36
14	0.0833	4.998	4.94
15	0.1000	6.000	4.57
16	0.1166	6.996	4.23
17	0.1333	7.998	3.94
18	0.1500	9.000	3.67
19	0.1666	9.996	3.39
20	0.1833	10.998	3.13
21	0.2000	12.000	2.92
22	0.2166	12.996	2.73
23	0.2333	13.998	2.56
24	0.2500	15.000	2.40
25	0.2666	15.996	2.26
26	0.2833	16.998	2.21
27	0.3000	18.000	1.99
28	0.3166	18.996	1.87
29	0.3333	19.998	1.76
30	0.4167	25.002	1.30
31	0.5000	30.000	0.96
32	0.5833	34.998	0.72
33	0.6667	40.002	0.53
34	0.7500	45.000	0.40
35	0.8333	49.998	0.30
36	0.9167	55.002	0.22
37	1.0000	60.000	0.17
38	1.0833	64.998	0.12
39	1.1667	70.002	0.10
40	1.2500	75.000	0.07
41	1.3333	79.998	0.05
42	1.4166	84.996	0.04
43	1.5000	90.000	0.03
44	1.5833	94.998	0.02
45	1.6667	100.002	0.01
46	1.7500	105.000	0.01
47	1.8333	109.998	0.01
48	1.9167	115.002	0.00
49	2.0000	120.000	0.00
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	0.00
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.01
62	8.5000	510.000	0.01
63	9.0000	540.000	0.01
64	9.5000	570.000	0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-108C	Test 3
Date	9/15/93
Time	15:15
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	10.19
2	0.0033	0.198	10.24
3	0.0066	0.396	10.34
4	0.0099	0.594	10.23
5	0.0133	0.798	9.99
6	0.0166	0.996	9.71
7	0.0200	1.200	9.42
8	0.0233	1.398	9.17
9	0.0266	1.596	8.94
10	0.0300	1.800	8.74
11	0.0333	1.998	8.56
12	0.0500	3.000	7.82
13	0.0666	3.996	7.21
14	0.0833	4.998	6.68
15	0.1000	6.000	6.20
16	0.1166	6.996	5.77
17	0.1333	7.998	5.38
18	0.1500	9.000	5.03
19	0.1666	9.996	4.70
20	0.1833	10.998	4.40
21	0.2000	12.000	4.12
22	0.2166	12.996	3.87
23	0.2333	13.998	3.63
24	0.2500	15.000	3.38
25	0.2666	15.996	3.14
26	0.2833	16.998	2.94
27	0.3000	18.000	2.76
28	0.3166	18.996	2.60
29	0.3333	19.998	2.45
30	0.4167	25.002	1.82
31	0.5000	30.000	1.36
32	0.5833	34.998	1.02
33	0.6667	40.002	0.77
34	0.7500	45.000	0.58
35	0.8333	49.998	0.44
36	0.9167	55.002	0.33
37	1.0000	60.000	0.25
38	1.0833	64.998	0.19
39	1.1667	70.002	0.15
40	1.2500	75.000	0.11
41	1.3333	79.998	0.08
42	1.4166	84.996	0.06
43	1.5000	90.000	0.05
44	1.5833	94.998	0.04
45	1.6667	100.002	0.03
46	1.7500	105.000	0.02
47	1.8333	109.998	0.02
48	1.9167	115.002	0.01
49	2.0000	120.000	0.01
50	2.5000	150.000	0.00
51	3.0000	180.000	0.00
52	3.5000	210.000	0.00
53	4.0000	240.000	0.00
54	4.5000	270.000	0.00
55	5.0000	300.000	0.00
56	5.5000	330.000	0.00
57	6.0000	360.000	0.00
58	6.5000	390.000	-0.01
59	7.0000	420.000	0.00
60	7.5000	450.000	0.00
61	8.0000	480.000	0.00
62	8.5000	510.000	-0.01
63	9.0000	540.000	-0.01
64	9.5000	570.000	-0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	-0.01

	WELL DESCRIPTION		
	MW-109A Test 1	MW109A TEST 2	MW109A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	10.51	10.51	10.51
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.10E+00	2.10E+00	2.10E+00
Re = effective radius (ft.)	2.80E+00	2.80E+00	2.80E+00
Yo = Drawdown in well at t0 = 0 (ft.)	5.84	6.99	6.85
Yt = Drawdown in well at t > t0 (ft.)	4.00	3.00	4.01
t = time interval between Yo and Yt (sec.)	16.0	24.0	14.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	0.19	0.19	0.19
K = hydraulic conductivity (ft./sec.)	8.66E-05	1.29E-04	1.40E-04
K = hydraulic conductivity (ft./min.)	5.20E-03	7.75E-03	8.41E-03
K = hydraulic conductivity (ft./day)	7.49E+00	1.12E+01	1.21E+01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109A	Test 1
Date	9/08/93
Time	08:56
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	4.84
2	0.0033	0.198	8.65
3	0.0066	0.396	8.81
4	0.0099	0.594	8.85
5	0.0133	0.798	8.75
6	0.0166	0.996	8.93
7	0.0200	1.200	8.93
8	0.0233	1.398	8.94
9	0.0266	1.596	8.80
10	0.0300	1.800	8.51
11	0.0333	1.998	8.22
12	0.0500	3.000	7.84
13	0.0666	3.996	7.12
14	0.0833	4.998	6.45
15	0.1000	6.000	6.63
16	0.1166	6.996	6.20
17	0.1333	7.998	5.94
18	0.1500	9.000	6.03
19	0.1666	9.996	5.84
20	0.1833	10.998	5.77
21	0.2000	12.000	5.57
22	0.2166	12.996	5.44
23	0.2333	13.998	5.26
24	0.2500	15.000	5.17
25	0.2666	15.996	5.05
26	0.2833	16.998	4.96
27	0.3000	18.000	4.80
28	0.3166	18.996	4.63
29	0.3333	19.998	4.67
30	0.4167	25.002	4.17
31	0.5000	30.000	3.83
32	0.5833	34.998	3.54
33	0.6667	40.002	3.30
34	0.7500	45.000	3.06
35	0.8333	49.998	2.84
36	0.9167	55.002	2.63
37	1.0000	60.000	2.46
38	1.0833	64.998	2.32
39	1.1667	70.002	2.16
40	1.2500	75.000	2.02
41	1.3333	79.998	1.89
42	1.4166	84.996	1.78
43	1.5000	90.000	1.67
44	1.5833	94.998	1.58
45	1.6667	100.002	1.53
46	1.7500	105.000	1.45
47	1.8333	109.998	1.38
48	1.9167	115.002	1.30
49	2.0000	120.000	1.22
50	2.5000	150.000	0.87
51	3.0000	180.000	0.62
52	3.5000	210.000	0.47
53	4.0000	240.000	0.41
54	4.5000	270.000	0.37
55	5.0000	300.000	0.34
56	5.5000	330.000	0.30
57	6.0000	360.000	0.26
58	6.5000	390.000	0.23
59	7.0000	420.000	0.19
60	7.5000	450.000	0.15
61	8.0000	480.000	0.12
62	8.5000	510.000	0.09
63	9.0000	540.000	0.06
64	9.5000	570.000	0.03

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109A	Test 2
Date	9/08/93
Time	09:18
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.05
2	0.0033	0.198	8.55
3	0.0066	0.396	8.67
4	0.0099	0.594	8.55
5	0.0133	0.798	8.72
6	0.0166	0.996	8.68
7	0.0200	1.200	8.72
8	0.0233	1.398	8.68
9	0.0266	1.596	8.57
10	0.0300	1.800	8.45
11	0.0333	1.998	8.73
12	0.0500	3.000	7.39
13	0.0666	3.996	6.99
14	0.0833	4.998	6.66
15	0.1000	6.000	6.49
16	0.1166	6.996	5.99
17	0.1333	7.998	5.93
18	0.1500	9.000	5.57
19	0.1666	9.996	5.48
20	0.1833	10.998	5.34
21	0.2000	12.000	5.20
22	0.2166	12.996	5.09
23	0.2333	13.998	4.79
24	0.2500	15.000	4.74
25	0.2666	15.996	4.53
26	0.2833	16.998	4.53
27	0.3000	18.000	4.43
28	0.3166	18.996	4.34
29	0.3333	19.998	4.20
30	0.4167	25.002	3.63
31	0.5000	30.000	3.37
32	0.5833	34.998	3.02
33	0.6667	40.002	2.75
34	0.7500	45.000	2.54
35	0.8333	49.998	2.32
36	0.9167	55.002	2.17
37	1.0000	60.000	2.00
38	1.0833	64.998	1.86
39	1.1667	70.002	1.75
40	1.2500	75.000	1.65
41	1.3333	79.998	1.58
42	1.4166	84.996	1.49
43	1.5000	90.000	1.43
44	1.5833	94.998	1.35
45	1.6667	100.002	1.30
46	1.7500	105.000	1.23
47	1.8333	109.998	1.16
48	1.9167	115.002	1.11
49	2.0000	120.000	1.03
50	2.5000	150.000	0.72
51	3.0000	180.000	0.51
52	3.5000	210.000	0.37
53	4.0000	240.000	0.33
54	4.5000	270.000	0.30
55	5.0000	300.000	0.28
56	5.5000	330.000	0.25
57	6.0000	360.000	0.22
58	6.5000	390.000	0.19
59	7.0000	420.000	0.16
60	7.5000	450.000	0.13
61	8.0000	480.000	0.10
62	8.5000	510.000	0.07
63	9.0000	540.000	0.05
64	9.5000	570.000	0.02

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109A	Test 3
Date	9/08/93
Time	09:36
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.63
2	0.0033	0.198	8.57
3	0.0066	0.396	8.70
4	0.0099	0.594	8.69
5	0.0133	0.798	8.63
6	0.0166	0.996	8.64
7	0.0200	1.200	8.73
8	0.0233	1.398	8.64
9	0.0266	1.596	8.29
10	0.0300	1.800	8.28
11	0.0333	1.998	8.21
12	0.0500	3.000	7.20
13	0.0666	3.996	7.19
14	0.0833	4.998	6.85
15	0.1000	6.000	6.35
16	0.1166	6.996	5.97
17	0.1333	7.998	5.98
18	0.1500	9.000	5.88
19	0.1666	9.996	5.64
20	0.1833	10.998	5.16
21	0.2000	12.000	4.95
22	0.2166	12.996	4.80
23	0.2333	13.998	4.75
24	0.2500	15.000	4.54
25	0.2666	15.996	4.34
26	0.2833	16.998	4.33
27	0.3000	18.000	4.21
28	0.3166	18.996	4.01
29	0.3333	19.998	3.99
30	0.4167	25.002	3.44
31	0.5000	30.000	3.03
32	0.5833	34.998	2.74
33	0.6667	40.002	2.47
34	0.7500	45.000	2.26
35	0.8333	49.998	2.09
36	0.9167	55.002	1.93
37	1.0000	60.000	1.79
38	1.0833	64.998	1.66
39	1.1667	70.002	1.55
40	1.2500	75.000	1.48
41	1.3333	79.998	1.40
42	1.4166	84.996	1.31
43	1.5000	90.000	1.22
44	1.5833	94.998	1.14
45	1.6667	100.002	1.07
46	1.7500	105.000	1.01
47	1.8333	109.998	0.95
48	1.9167	115.002	0.89
49	2.0000	120.000	0.85
50	2.5000	150.000	0.63
51	3.0000	180.000	0.51
52	3.5000	210.000	0.49
53	4.0000	240.000	0.47
54	4.5000	270.000	0.45
55	5.0000	300.000	0.44
56	5.5000	330.000	0.42
57	6.0000	360.000	0.41
58	6.5000	390.000	0.38
59	7.0000	420.000	0.37
60	7.5000	450.000	0.35
61	8.0000	480.000	0.33
62	8.5000	510.000	0.31
63	9.0000	540.000	0.29
64	9.5000	570.000	0.29

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.27

	WELL DESCRIPTION		
	MW-109B Test 1	MW109B TEST 2	MW109B TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	38.50	38.50	38.50
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.57E+00	2.57E+00	2.57E+00
Re = effective radius (ft.)	4.52E+00	4.52E+00	4.52E+00
Yo = Drawdown in well at t0 = 0 (ft.)	1.85	0.37	1.00
Yt = Drawdown in well at t > t0 (ft.)	0.20	0.19	0.10
t = time interval between Yo and Yt (sec.)	710.0	210.0	700.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	2.80E-06	2.83E-06	2.94E-06
K = hydraulic conductivity (ft./min.)	1.68E-04	1.70E-04	1.76E-04
K = hydraulic conductivity (ft./day)	2.42E-01	2.45E-01	2.54E-01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109B	Test 1
Date	9/08/93
Time	10:09
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	6.54
2	0.0033	0.198	6.39
3	0.0066	0.396	6.51
4	0.0099	0.594	6.43
5	0.0133	0.798	6.42
6	0.0166	0.996	6.42
7	0.0200	1.200	6.40
8	0.0233	1.398	6.39
9	0.0266	1.596	6.38
10	0.0300	1.800	6.36
11	0.0333	1.998	6.36
12	0.0500	3.000	6.31
13	0.0666	3.996	6.27
14	0.0833	4.998	6.24
15	0.1000	6.000	6.20
16	0.1166	6.996	6.17
17	0.1333	7.998	6.14
18	0.1500	9.000	6.11
19	0.1666	9.996	6.08
20	0.1833	10.998	6.05
21	0.2000	12.000	6.03
22	0.2166	12.996	6.00
23	0.2333	13.998	5.98
24	0.2500	15.000	5.95
25	0.2666	15.996	5.92
26	0.2833	16.998	5.90
27	0.3000	18.000	5.88
28	0.3166	18.996	5.85
29	0.3333	19.998	5.83
30	0.4167	25.002	5.72
31	0.5000	30.000	5.62
32	0.5833	34.998	5.51
33	0.6667	40.002	5.42
34	0.7500	45.000	5.32
35	0.8333	49.998	5.23
36	0.9167	55.002	5.14
37	1.0000	60.000	5.06
38	1.0833	64.998	4.98
39	1.1667	70.002	4.90
40	1.2500	75.000	4.82
41	1.3333	79.998	4.74
42	1.4166	84.996	4.66
43	1.5000	90.000	4.59
44	1.5833	94.998	4.51
45	1.6667	100.002	4.44
46	1.7500	105.000	4.37
47	1.8333	109.998	4.30
48	1.9167	115.002	4.24
49	2.0000	120.000	4.17
50	2.5000	150.000	3.79
51	3.0000	180.000	3.46
52	3.5000	210.000	3.16
53	4.0000	240.000	2.88
54	4.5000	270.000	2.63
55	5.0000	300.000	2.41
56	5.5000	330.000	2.20
57	6.0000	360.000	2.02
58	6.5000	390.000	1.85
59	7.0000	420.000	1.69
60	7.5000	450.000	1.55
61	8.0000	480.000	1.42
62	8.5000	510.000	1.30
63	9.0000	540.000	1.19
64	9.5000	570.000	1.09

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	1.00
66	12.0000	720.000	0.71
67	14.0000	840.000	0.50
68	16.0000	960.000	0.36
69	18.0000	1080.000	0.26
70	20.0000	1200.000	0.19
71	22.0000	1320.000	0.13
72	24.0000	1440.000	0.10
73	26.0000	1560.000	0.07
74	28.0000	1680.000	0.05
75	30.0000	1800.000	0.03
76	32.0000	1920.000	0.02
77	34.0000	2040.000	0.02
78	36.0000	2160.000	0.01
79	38.0000	2280.000	0.01
80	40.0000	2400.000	0.01
81	42.0000	2520.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109B	Test 2
Date	9/08/93
Time	11:00
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.55
2	0.0033	0.198	1.47
3	0.0066	0.396	1.43
4	0.0099	0.594	1.41
5	0.0133	0.798	1.40
6	0.0166	0.996	1.39
7	0.0200	1.200	1.39
8	0.0233	1.398	1.38
9	0.0266	1.596	1.38
10	0.0300	1.800	1.37
11	0.0333	1.998	1.36
12	0.0500	3.000	1.34
13	0.0666	3.996	1.32
14	0.0833	4.998	1.31
15	0.1000	6.000	1.29
16	0.1166	6.996	1.27
17	0.1333	7.998	1.26
18	0.1500	9.000	1.25
19	0.1666	9.996	1.24
20	0.1833	10.998	1.23
21	0.2000	12.000	1.22
22	0.2166	12.996	1.21
23	0.2333	13.998	1.20
24	0.2500	15.000	1.20
25	0.2666	15.996	1.19
26	0.2833	16.998	1.18
27	0.3000	18.000	1.18
28	0.3166	18.996	1.17
29	0.3333	19.998	1.16
30	0.4167	25.002	1.17
31	0.5000	30.000	1.10
32	0.5833	34.998	1.08
33	0.6667	40.002	1.06
34	0.7500	45.000	1.03
35	0.8333	49.998	1.01
36	0.9167	55.002	0.99
37	1.0000	60.000	0.97
38	1.0833	64.998	0.96
39	1.1667	70.002	0.94
40	1.2500	75.000	0.92
41	1.3333	79.998	0.91
42	1.4166	84.996	0.89
43	1.5000	90.000	0.88
44	1.5833	94.998	0.86
45	1.6667	100.002	0.85
46	1.7500	105.000	0.83
47	1.8333	109.998	0.82
48	1.9167	115.002	0.80
49	2.0000	120.000	0.79
50	2.5000	150.000	0.72
51	3.0000	180.000	0.65
52	3.5000	210.000	0.59
53	4.0000	240.000	0.54
54	4.5000	270.000	0.49
55	5.0000	300.000	0.45
56	5.5000	330.000	0.41
57	6.0000	360.000	0.37
58	6.5000	390.000	0.34
59	7.0000	420.000	0.31
60	7.5000	450.000	0.28
61	8.0000	480.000	0.26
62	8.5000	510.000	0.23
63	9.0000	540.000	0.21
64	9.5000	570.000	0.19
65	10.0000	600.000	0.18
66	12.0000	720.000	0.12
67	14.0000	840.000	0.08
68	16.0000	960.000	0.05
69	18.0000	1080.000	0.04
70	20.0000	1200.000	0.02
71	22.0000	1320.000	0.02
72	24.0000	1440.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109B	Test 3
Date	9/08/93
Time	11:30
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	1.74
2	0.0033	0.198	1.62
3	0.0066	0.396	1.60
4	0.0099	0.594	1.60
5	0.0133	0.798	1.60
6	0.0166	0.996	1.60
7	0.0200	1.200	1.59
8	0.0233	1.398	1.58
9	0.0266	1.596	1.58
10	0.0300	1.800	1.57
11	0.0333	1.998	1.56
12	0.0500	3.000	1.54
13	0.0666	3.996	1.51
14	0.0833	4.998	1.49
15	0.1000	6.000	1.48
16	0.1166	6.996	1.46
17	0.1333	7.998	1.45
18	0.1500	9.000	1.44
19	0.1666	9.996	1.42
20	0.1833	10.998	1.42
21	0.2000	12.000	1.41
22	0.2166	12.996	1.40
23	0.2333	13.998	1.39
24	0.2500	15.000	1.38
25	0.2666	15.996	1.37
26	0.2833	16.998	1.36
27	0.3000	18.000	1.36
28	0.3166	18.996	1.35
29	0.3333	19.998	1.34
30	0.4167	25.002	1.31
31	0.5000	30.000	1.28
32	0.5833	34.998	1.25
33	0.6667	40.002	1.22
34	0.7500	45.000	1.20
35	0.8333	49.998	1.18
36	0.9167	55.002	1.15
37	1.0000	60.000	1.13
38	1.0833	64.998	1.11
39	1.1667	70.002	1.09
40	1.2500	75.000	1.07
41	1.3333	79.998	1.05
42	1.4166	84.996	1.03
43	1.5000	90.000	1.01
44	1.5833	94.998	1.00
45	1.6667	100.002	0.98
46	1.7500	105.000	0.96
47	1.8333	109.998	0.95
48	1.9167	115.002	0.93
49	2.0000	120.000	0.91
50	2.5000	150.000	0.83
51	3.0000	180.000	0.75
52	3.5000	210.000	0.68
53	4.0000	240.000	0.62
54	4.5000	270.000	0.56
55	5.0000	300.000	0.51
56	5.5000	330.000	0.46
57	6.0000	360.000	0.42
58	6.5000	390.000	0.38
59	7.0000	420.000	0.35
60	7.5000	450.000	0.32
61	8.0000	480.000	0.29
62	8.5000	510.000	0.26
63	9.0000	540.000	0.24
64	9.5000	570.000	0.22

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.19
66	12.0000	720.000	0.13
67	14.0000	840.000	0.08
68	16.0000	960.000	0.05
69	18.0000	1080.000	0.03
70	20.0000	1200.000	0.01
71	22.0000	1320.000	0.00

	WELL DESCRIPTION		
	MW-109C Test 1	MW109C TEST 2	MW109C TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.25	0.25	0.25
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	40.00	40.00	40.00
A = read from the Bouwer and Rice curves and based on d/rw	2.8	2.8	2.8
B = read from the Bouwer and Rice curves and based on d/rw	0.5	0.5	0.5
C = read from the Bouwer and Rice curves and based on d/rw	2.3	2.3	2.3
b = depth from water table to bottom of well (ft.)	63.49	63.49	63.49
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.97E+00	2.97E+00	2.97E+00
Re = effective radius (ft.)	4.90E+00	4.90E+00	4.90E+00
Yo = Drawdown in well at t0 = 0 (ft.)	3.12	2.24	3.29
Yt = Drawdown in well at t > t0 (ft.)	0.80	0.80	1.00
t = time interval between Yo and Yt (sec.)	105.0	90.0	100.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	1.34E-05	1.18E-05	1.23E-05
K = hydraulic conductivity (ft./min.)	8.03E-04	7.08E-04	7.37E-04
K = hydraulic conductivity (ft./day)	1.16E+00	1.02E+00	1.06E+00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109C	Test 1
Date	9/08/93
Time	12:15
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.64
2	0.0033	0.198	5.00
3	0.0066	0.396	4.92
4	0.0099	0.594	4.85
5	0.0133	0.798	4.82
6	0.0166	0.996	4.80
7	0.0200	1.200	4.77
8	0.0233	1.398	4.74
9	0.0266	1.596	4.72
10	0.0300	1.800	4.70
11	0.0333	1.998	4.67
12	0.0500	3.000	4.56
13	0.0666	3.996	4.47
14	0.0833	4.998	4.38
15	0.1000	6.000	4.29
16	0.1166	6.996	4.21
17	0.1333	7.998	4.14
18	0.1500	9.000	4.07
19	0.1666	9.996	4.00
20	0.1833	10.998	3.93
21	0.2000	12.000	3.87
22	0.2166	12.996	3.81
23	0.2333	13.998	3.75
24	0.2500	15.000	3.69
25	0.2666	15.996	3.63
26	0.2833	16.998	3.58
27	0.3000	18.000	3.51
28	0.3166	18.996	3.45
29	0.3333	19.998	3.39
30	0.4167	25.002	3.12
31	0.5000	30.000	2.89
32	0.5833	34.998	2.70
33	0.6667	40.002	2.52
34	0.7500	45.000	2.36
35	0.8333	49.998	2.21
36	0.9167	55.002	2.08
37	1.0000	60.000	1.95
38	1.0833	64.998	1.84
39	1.1667	70.002	1.72
40	1.2500	75.000	1.62
41	1.3333	79.998	1.53
42	1.4166	84.996	1.45
43	1.5000	90.000	1.36
44	1.5833	94.998	1.29
45	1.6667	100.002	1.22
46	1.7500	105.000	1.15
47	1.8333	109.998	1.09
48	1.9167	115.002	1.03
49	2.0000	120.000	0.98
50	2.5000	150.000	0.71
51	3.0000	180.000	0.53
52	3.5000	210.000	0.40
53	4.0000	240.000	0.31
54	4.5000	270.000	0.24
55	5.0000	300.000	0.18
56	5.5000	330.000	0.14
57	6.0000	360.000	0.11
58	6.5000	390.000	0.09
59	7.0000	420.000	0.07
60	7.5000	450.000	0.05
61	8.0000	480.000	0.05
62	8.5000	510.000	0.04
63	9.0000	540.000	0.03
64	9.5000	570.000	0.02
65	10.0000	600.000	0.02
66	12.0000	720.000	0.01
67	14.0000	840.000	0.01
68	16.0000	960.000	0.00
69	18.0000	1080.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109C	Test 2
Date	9/08/93
Time	12:42
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	4.52
2	0.0033	0.198	4.42
3	0.0066	0.396	4.38
4	0.0099	0.594	4.35
5	0.0133	0.798	4.33
6	0.0166	0.996	4.28
7	0.0200	1.200	4.26
8	0.0233	1.398	4.24
9	0.0266	1.596	4.22
10	0.0300	1.800	4.19
11	0.0333	1.998	4.17
12	0.0500	3.000	4.07
13	0.0666	3.996	3.98
14	0.0833	4.998	3.90
15	0.1000	6.000	3.82
16	0.1166	6.996	3.75
17	0.1333	7.998	3.68
18	0.1500	9.000	3.62
19	0.1666	9.996	3.56
20	0.1833	10.998	3.49
21	0.2000	12.000	3.42
22	0.2166	12.996	3.35
23	0.2333	13.998	3.29
24	0.2500	15.000	3.23
25	0.2666	15.996	3.17
26	0.2833	16.998	3.12
27	0.3000	18.000	3.06
28	0.3166	18.996	3.01
29	0.3333	19.998	2.97
30	0.4167	25.002	2.76
31	0.5000	30.000	2.57
32	0.5833	34.998	2.39
33	0.6667	40.002	2.24
34	0.7500	45.000	2.10
35	0.8333	49.998	1.96
36	0.9167	55.002	1.84
37	1.0000	60.000	1.73
38	1.0833	64.998	1.63
39	1.1667	70.002	1.54
40	1.2500	75.000	1.45
41	1.3333	79.998	1.36
42	1.4166	84.996	1.29
43	1.5000	90.000	1.21
44	1.5833	94.998	1.15
45	1.6667	100.002	1.09
46	1.7500	105.000	1.03
47	1.8333	109.998	0.97
48	1.9167	115.002	0.92
49	2.0000	120.000	0.87
50	2.5000	150.000	0.64
51	3.0000	180.000	0.47
52	3.5000	210.000	0.36
53	4.0000	240.000	0.27
54	4.5000	270.000	0.21
55	5.0000	300.000	0.16
56	5.5000	330.000	0.12
57	6.0000	360.000	0.09
58	6.5000	390.000	0.07
59	7.0000	420.000	0.05
60	7.5000	450.000	0.04
61	8.0000	480.000	0.03
62	8.5000	510.000	0.02
63	9.0000	540.000	0.02
64	9.5000	570.000	0.01

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-109C	Test 3
Date	9/08/93
Time	13:06
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	5.42
2	0.0033	0.198	5.54
3	0.0066	0.396	5.42
4	0.0099	0.594	5.35
5	0.0133	0.798	5.35
6	0.0166	0.996	5.32
7	0.0200	1.200	5.28
8	0.0233	1.398	5.25
9	0.0266	1.596	5.23
10	0.0300	1.800	5.20
11	0.0333	1.998	5.18
12	0.0500	3.000	5.07
13	0.0666	3.996	4.96
14	0.0833	4.998	4.87
15	0.1000	6.000	4.78
16	0.1166	6.996	4.70
17	0.1333	7.998	4.62
18	0.1500	9.000	4.54
19	0.1666	9.996	4.46
20	0.1833	10.998	4.39
21	0.2000	12.000	4.32
22	0.2166	12.996	4.26
23	0.2333	13.998	4.19
24	0.2500	15.000	4.13
25	0.2666	15.996	4.07
26	0.2833	16.998	4.01
27	0.3000	18.000	3.95
28	0.3166	18.996	3.89
29	0.3333	19.998	3.83
30	0.4167	25.002	3.57
31	0.5000	30.000	3.29
32	0.5833	34.998	3.04
33	0.6667	40.002	2.85
34	0.7500	45.000	2.67
35	0.8333	49.998	2.51
36	0.9167	55.002	2.36
37	1.0000	60.000	2.22
38	1.0833	64.998	2.09
39	1.1667	70.002	1.97
40	1.2500	75.000	1.85
41	1.3333	79.998	1.75
42	1.4166	84.996	1.65
43	1.5000	90.000	1.56
44	1.5833	94.998	1.48
45	1.6667	100.002	1.40
46	1.7500	105.000	1.32
47	1.8333	109.998	1.25
48	1.9167	115.002	1.19
49	2.0000	120.000	1.13
50	2.5000	150.000	0.83
51	3.0000	180.000	0.62
52	3.5000	210.000	0.47
53	4.0000	240.000	0.35
54	4.5000	270.000	0.27
55	5.0000	300.000	0.21
56	5.5000	330.000	0.16
57	6.0000	360.000	0.12
58	6.5000	390.000	0.10
59	7.0000	420.000	0.08
60	7.5000	450.000	0.06
61	8.0000	480.000	0.05
62	8.5000	510.000	0.04
63	9.0000	540.000	0.03
64	9.5000	570.000	0.03

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.02
66	12.0000	720.000	0.01

	WELL DESCRIPTION		
	MW-110A Test 1	MW110A TEST 2	MW110A TEST 3
rc = radius of the unscreened part of the well where the head is rising (ft.)	0.08	0.08	0.08
rw = horizontal distance from well center to undisturbed aquifer (ft.)	0.35	0.35	0.35
d = length of screen or open section of well (ft.)	10.00	10.00	10.00
S=length of screen below the water table (ft.)	10.00	10.00	10.00
d/rw (unitless) if d > S, S/rw is used	28.99	28.99	28.99
A = read from the Bouwer and Rice curves and based on d/rw	2.4	2.4	2.4
B = read from the Bouwer and Rice curves and based on d/rw	0.4	0.4	0.4
C = read from the Bouwer and Rice curves and based on d/rw	1.9	1.9	1.9
b = depth from water table to bottom of well (ft.)	23.39	23.39	23.39
D = depth from water table to impermeable layer (ft.)	1000.00	1000.00	1000.00
fully or partially penetrating well?	partially	partially	partially
ln Re/rw (unitless)	2.40E+00	2.40E+00	2.40E+00
Re = effective radius (ft.)	3.82E+00	3.82E+00	3.82E+00
Yo = Drawdown in well at t0 = 0 (ft.)	3.52	1.83	1.37
Yt = Drawdown in well at t > t0 (ft.)	0.70	0.72	0.50
t = time interval between Yo and Yt (sec.)	240.0	130.0	150.0
rc = if water is rising in the screened portion of well for greater than 50% of the drawdown in the interval used for the calculation of K	NA	NA	NA
K = hydraulic conductivity (ft./sec.)	5.61E-06	5.98E-06	5.60E-06
K = hydraulic conductivity (ft./min.)	3.37E-04	3.59E-04	3.36E-04
K = hydraulic conductivity (ft./day)	4.85E-01	5.17E-01	4.84E-01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-110A	Test 1
Date	9/09/93
Time	10:22
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	9.05
2	0.0033	0.198	5.14
3	0.0066	0.396	5.27
4	0.0099	0.594	5.19
5	0.0133	0.798	5.11
6	0.0166	0.996	5.05
7	0.0200	1.200	5.00
8	0.0233	1.398	4.96
9	0.0266	1.596	4.92
10	0.0300	1.800	4.89
11	0.0333	1.998	4.85
12	0.0500	3.000	4.72
13	0.0666	3.996	4.62
14	0.0833	4.998	4.53
15	0.1000	6.000	4.46
16	0.1166	6.996	4.39
17	0.1333	7.998	4.33
18	0.1500	9.000	4.28
19	0.1666	9.996	4.23
20	0.1833	10.998	4.17
21	0.2000	12.000	4.13
22	0.2166	12.996	4.09
23	0.2333	13.998	4.05
24	0.2500	15.000	4.00
25	0.2666	15.996	3.97
26	0.2833	16.998	3.93
27	0.3000	18.000	3.89
28	0.3166	18.996	3.86
29	0.3333	19.998	3.82
30	0.4167	25.002	3.66
31	0.5000	30.000	3.52
32	0.5833	34.998	3.38
33	0.6667	40.002	3.26
34	0.7500	45.000	3.13
35	0.8333	49.998	3.01
36	0.9167	55.002	2.88
37	1.0000	60.000	2.77
38	1.0833	64.998	2.65
39	1.1667	70.002	2.55
40	1.2500	75.000	2.45
41	1.3333	79.998	2.37
42	1.4166	84.996	2.29
43	1.5000	90.000	2.21
44	1.5833	94.998	2.14
45	1.6667	100.002	2.07
46	1.7500	105.000	2.00
47	1.8333	109.998	1.93
48	1.9167	115.002	1.87
49	2.0000	120.000	1.81
50	2.5000	150.000	1.49
51	3.0000	180.000	1.23
52	3.5000	210.000	1.03
53	4.0000	240.000	0.84
54	4.5000	270.000	0.70
55	5.0000	300.000	0.57
56	5.5000	330.000	0.47
57	6.0000	360.000	0.38
58	6.5000	390.000	0.31
59	7.0000	420.000	0.25
60	7.5000	450.000	0.21
61	8.0000	480.000	0.17
62	8.5000	510.000	0.13
63	9.0000	540.000	0.12
64	9.5000	570.000	0.09

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.07
66	12.0000	720.000	0.03
67	14.0000	840.000	0.00

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-110A	Test 2
Date	9/09/93
Time	10:43
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	3.40
2	0.0033	0.198	1.91
3	0.0066	0.396	2.69
4	0.0099	0.594	2.46
5	0.0133	0.798	2.42
6	0.0166	0.996	2.41
7	0.0200	1.200	2.38
8	0.0233	1.398	2.36
9	0.0266	1.596	2.34
10	0.0300	1.800	2.32
11	0.0333	1.998	2.31
12	0.0500	3.000	2.24
13	0.0666	3.996	2.19
14	0.0833	4.998	2.15
15	0.1000	6.000	2.12
16	0.1166	6.996	2.09
17	0.1333	7.998	2.06
18	0.1500	9.000	2.03
19	0.1666	9.996	2.01
20	0.1833	10.998	1.99
21	0.2000	12.000	1.97
22	0.2166	12.996	1.95
23	0.2333	13.998	1.93
24	0.2500	15.000	1.91
25	0.2666	15.996	1.89
26	0.2833	16.998	1.88
27	0.3000	18.000	1.86
28	0.3166	18.996	1.84
29	0.3333	19.998	1.83
30	0.4167	25.002	1.75
31	0.5000	30.000	1.68
32	0.5833	34.998	1.62
33	0.6667	40.002	1.56
34	0.7500	45.000	1.49
35	0.8333	49.998	1.44
36	0.9167	55.002	1.39
37	1.0000	60.000	1.34
38	1.0833	64.998	1.29
39	1.1667	70.002	1.25
40	1.2500	75.000	1.20
41	1.3333	79.998	1.16
42	1.4166	84.996	1.12
43	1.5000	90.000	1.08
44	1.5833	94.998	1.04
45	1.6667	100.002	1.01
46	1.7500	105.000	0.97
47	1.8333	109.998	0.94
48	1.9167	115.002	0.91
49	2.0000	120.000	0.88
50	2.5000	150.000	0.72
51	3.0000	180.000	0.59
52	3.5000	210.000	0.49
53	4.0000	240.000	0.40
54	4.5000	270.000	0.33
55	5.0000	300.000	0.28
56	5.5000	330.000	0.23
57	6.0000	360.000	0.20
58	6.5000	390.000	0.16
59	7.0000	420.000	0.14
60	7.5000	450.000	0.11
61	8.0000	480.000	0.10
62	8.5000	510.000	0.09
63	9.0000	540.000	0.08
64	9.5000	570.000	0.06

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
65	10.0000	600.000	0.05
66	12.0000	720.000	0.03
67	14.0000	840.000	0.02
68	16.0000	960.000	0.02
69	18.0000	1080.000	0.01

Slug Test Data
Southeast Rockford Groundwater Contamination Project
Rockford, Illinois

Well MW-110A	Test 3
Date	9/09/93
Time	11:06
Reference	0.000
Scale factor	10.020
Offset	0.000
Delay mSEC	50.000

Data Point	Elapsed Time (min.)	Elapsed Time (sec.)	Drawdown (ft.)
1	0.0000	0.000	2.92
2	0.0033	0.198	7.19
3	0.0066	0.396	1.71
4	0.0099	0.594	1.47
5	0.0133	0.798	2.15
6	0.0166	0.996	1.81
7	0.0200	1.200	1.83
8	0.0233	1.398	1.82
9	0.0266	1.596	1.79
10	0.0300	1.800	1.77
11	0.0333	1.998	1.76
12	0.0500	3.000	1.69
13	0.0666	3.996	1.65
14	0.0833	4.998	1.62
15	0.1000	6.000	1.59
16	0.1166	6.996	1.56
17	0.1333	7.998	1.54
18	0.1500	9.000	1.52
19	0.1666	9.996	1.50
20	0.1833	10.998	1.48
21	0.2000	12.000	1.47
22	0.2166	12.996	1.46
23	0.2333	13.998	1.45
24	0.2500	15.000	1.43
25	0.2666	15.996	1.42
26	0.2833	16.998	1.41
27	0.3000	18.000	1.40
28	0.3166	18.996	1.38
29	0.3333	19.998	1.37
30	0.4167	25.002	1.32
31	0.5000	30.000	1.27
32	0.5833	34.998	1.23
33	0.6667	40.002	1.18
34	0.7500	45.000	1.14
35	0.8333	49.998	1.10
36	0.9167	55.002	1.06
37	1.0000	60.000	1.03
38	1.0833	64.998	0.99
39	1.1667	70.002	0.96
40	1.2500	75.000	0.93
41	1.3333	79.998	0.91
42	1.4166	84.996	0.87
43	1.5000	90.000	0.84
44	1.5833	94.998	0.81
45	1.6667	100.002	0.79
46	1.7500	105.000	0.76
47	1.8333	109.998	0.74
48	1.9167	115.002	0.72
49	2.0000	120.000	0.70
50	2.5000	150.000	0.58
51	3.0000	180.000	0.49
52	3.5000	210.000	0.41
53	4.0000	240.000	0.35
54	4.5000	270.000	0.29
55	5.0000	300.000	0.25
56	5.5000	330.000	0.21
57	6.0000	360.000	0.18
58	6.5000	390.000	0.15
59	7.0000	420.000	0.14
60	7.5000	450.000	0.12
61	8.0000	480.000	0.11
62	8.5000	510.000	0.10
63	9.0000	540.000	0.09
64	9.5000	570.000	0.08
65	10.0000	600.000	0.07
66	12.0000	720.000	0.06
67	14.0000	840.000	0.04
68	16.0000	960.000	0.04
69	18.0000	1080.000	0.03
70	20.0000	1200.000	0.03

Appendix D

APPENDIX D
SURVEYING RESULTS

MONITORING WELL LOCATIONS -- AS OF 22 DECEMBER 1993; UPDATED 06 JAN. 94

THE FOLLOWING TABULATION CONTAINS MSA POINT NUMBER, NORTH COORDINATE, EAST COORDINATE, CASING ELEVATION, GROUND ELEVATION AND DESCRIPTION.

071,2032217.563,2589306.154,736.24,733.7,MW-116A
072,2032217.424,2589294.698,736.35,733.8,MW-116B
130,2030701.267,2594440.108,727.95,728.0,MW-130
131,2034470.960,2594407.030,736.95,734.4,MW-131
136,2027821.674,2603572.259,834.77,834.9,MW-136
140,2031858.145,2595405.195,739.71,737.9,MW-140
142,2031501.414,2597255.734,758.73,759.1,MW-142
401,2028676.820,2602291.372,799.09,799.1,MW-134A
402,2028674.166,2602294.015,798.80,798.9,MW-134B
403,2028674.267,2602289.057,799.11,799.2,MW-134C
400,2027883.103,2602492.753,835.19,832.8,MW-135
404,2028750.226,2602843.351,802.58,799.9,MW-112A
405,2028744.421,2602840.294,803.05,800.3,MW-112B
406,2028747.020,2602834.050,802.83,800.2,MW-112C
408,2029604.787,2603165.498,810.47,810.5,MW-122A
409,2029612.614,2603164.677,810.33,810.6,MW-122B
407,2028508.417,2600750.007,792.64,790.3,MW-103A
411,2028508.959,2600773.381,792.45,790.2,MW-103B
410,2028508.757,2600762.113,792.41,790.1,MW-103C
412,2028503.830,2600780.564,790.39,790.2,MW-103D
414,2028900.383,2600083.739,780.18,777.6,MW-133A
415,2028906.975,2600084.587,780.33,777.5,MW-133B
413,2028901.637,2600090.106,780.29,777.7,MW-133C
417,2029683.411,2598084.398,765.64,763.9,MW-101A
416,2029682.499,2598093.319,766.50,763.9,MW-101B
418,2029675.694,2598076.007,766.48,764.0,MW-101C
419,2029682.194,2598066.941,764.96,763.9,MW-101D
420,2031331.502,2598719.361,801.33,801.9,MW-115A
421,2031347.023,2598719.166,802.26,802.9,MW-115B
422,2031908.715,2596997.420,758.06,758.4,MW-141
423,2029869.641,2596096.439,766.54,767.0,MW-113A
424,2029873.559,2596088.180,766.65,766.4,MW-113B
425,2031218.192,2594839.717,734.74,732.5,G-101S
426,2031223.383,2594836.124,734.60,732.6,G-101D
428,2030016.183,2593333.104,726.89,724.9,MW-114A
427,2030023.507,2593338.004,727.42,725.2,MW-114B
429,2031300.815,2593097.852,728.40,728.8,MW-128
430,2031344.813,2593910.535,732.12,732.1,MW-129
431,2031962.469,2594148.912,734.79,732.3,MW-138
433,2033825.625,2594561.246,736.42,734.2,IW-1
434,2033952.180,2594583.014,737.64,735.2,IW-3
435,2033925.089,2594797.240,737.71,735.3,IW-4
074,2033905.360,2594797.240,737.81,735.5,IW-5
436,2033567.152,2593223.923,728.73,728.7,MW-132
438,2026864.945,2604583.599,850.90,848.4,MW-109A
437,2026870.541,2604591.858,850.46,848.4,MW-109B
439,2026845.605,2604576.013,850.46,848.2,MW-109C
440,2026849.601,2604568.541,850.65,848.0,MW-109D
442,2027957.849,2607806.729,829.69,830.2,MW-111A

```
443,2027956.697,2607813.078,829.79,830.2,MW-111B
441,2027960.577,2607788.855,829.82,830.4,MW-111C
444,2031361.511,2592021.970,728.59,726.2,MW-127
445,2030898.781,2587523.446,716.98,714.5,MW-121
446,2028580.339,2592071.628,717.59,717.9,MW-118
447,2030992.041,2590996.582,727.31,727.9,MW-125
448,2030750.547,2591003.188,727.62,727.9,MW-126A
449,2030742.648,2591003.420,727.60,727.9,MW-126B
450,2030300.319,2590224.674,731.30,729.0,MW-124
451,2027137.222,2589374.238,718.97,716.5,MW-119
454,2028106.575,2586529.157,696.19,696.4,MW-117A
452,2028092.927,2586515.638,696.26,696.4,MW-117B
453,2028099.948,2586522.277,696.11,696.4,MW-117C
454,2028372.904,2602366.193,805.80,803.5,MW-106A
455,2028392.335,2602349.011,805.59,803.4,MW-106B
456,2028381.440,2602358.649,805.46,803.4,MW-106C
457,2030827.585,2589855.903,729.52,729.9,MW-123•
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SOIL BORING LOCATIONS

THE FOLLOWING TABULATION CONTAINS MSA POINT NUMBERS, NORTH COORDINATE, EAST COORDINATE, ELEVATION AND DESCRIPTION.

069,2028284.30,2602669.83,0,P.K. in "X" 500N100E
501,2028525.48,2602279.06,803.55,sb7-20
502,2028671.59,2602401.42,795.98,sb7-18
503,2028457.71,2602461.92,802.65,sb7-4
504,2028664.26,2602540.02,798.26,sb7-2
505,2028687.19,2602759.36,803.97,sb7-15
506,2028682.12,2602658.20,802.86,sb7-16
507,2028582.97,2602664.25,805.04,sb7-17
508,2028482.79,2602664.25,806.76,sb7-3
509,2028379.85,2602668.27,806.39,sb7-5
510,2028360.02,2602553.98,805.52,sb7-1
511,2028284.54,2602678.54,807.24,sb7-6
512,2028228.27,2602622.27,808.64,sb7-21
513,2028185.47,2602672.02,809.99,sb7-7
514,2028171.05,2602574.18,809.62,sb7-22
515,2028137.60,2602622.14,811.54,sb7-8
516,2028133.48,2602722.35,812.28,sb7-23
517,2027988.03,2602677.46,817.41,sb7-10
518,2027887.43,2602576.65,823.80,sb7-13
520,2027783.56,2602635.76,826.87,sb7-14
523,2028077.80,2602775.29,814.88,sb7-9
524,2028071.17,2602873.91,820.64,sb7-11
525,2028090.23,2602523.40,818.12,sb7-12
526,2028586.86,2602340.48,798.81,sb7-19
527,~~2516563.82,2376716.11,~~791.23,sb7-24 ← Do not use coordinates for SB 7-24; elevation is OK
550,2028334.42,2602667.91,0,"X" 550N100E

Appendix E

APPENDIX E
USEABILITY OF CHEMICAL DATA

Appendix E
Useability of Chemical Data

E.1 General

This section describes the quality assurance/quality control measures applied to the chemical data and the effect of these measures on the overall useability of the data. Samples collected included groundwater, residential well water, subsurface soil, surface soil, test pit soils and air, and residential air samples.

E.1.1 Data Validation

Data reduction, validation, and recording were conducted in accordance with USEPA guidelines. Upon receipt of the analytical results from the CLP laboratory, CDM's validation staff reviewed the data. CDM validated 25 percent of the data in accordance with the procedures outlined in the QAPP. Each data package had 25 percent of the data validated. Samples chosen to be validated within each data package included samples that were critical to the investigation, background samples, anomalies from the Phase I investigation, and MS/MSD samples. If none of these samples were contained in a data package, then samples were chosen to cover the range of concentrations of contaminants detected in the samples from that particular data package.

E.1.2 Field Quality Control Samples

E.1.2.1 Introduction

Field quality control samples consisted of trip blanks, field blanks, and field duplicates, and a sample of water used for drilling from the City of Rockford Municipal Source which is the same source as the decontamination water. Trip blanks are used to determine whether sample contamination occurred during sample packaging or shipping. Field blanks serve to reveal possible sample contamination derived from sampling procedures, packaging, or shipping. Field duplicates help to assess the reproductibility of the sampling process and how well the sample represents the environment. The field quality control samples were collected as described in subsection 2.2.

E.1.2.2 Trip Blanks

Analyses of trip blanks for the groundwater show minimal contamination by volatiles. Methylene chloride was found in 8 of the 22 samples with a maximum concentration of 2 ppb and is considered a common laboratory contaminant. Acetone, another common laboratory contaminant, was detected in 15 of the 22 trip blanks. The concentration of acetone in the trip blanks ranged from 7 to 12 ppb. Neither methylene chloride or acetone are contaminants of concern at the site. Trichloroethene was found in 1 trip blank at a low concentration of 0.3J ppb. This blank contamination did not necessitate the qualification of any of the associated data. Toluene was found in 1 trip bank at a low level of 0.6J ppb. Toluene is not a contaminant of

concern and none of the data needed to be qualified based on this trip blank. Based on the low levels and small number of contaminants detected in the trip blanks, it is concluded that neither sample bottles nor methods of packaging or shipment contributed to contamination detected in groundwater samples. No groundwater data were qualified based on trip blank results.

Analysis of 2 trip blanks for residential well samples indicated minimal volatile contamination. Trichlorethene was the only contaminant found in either blank. It was found in both blanks at 0.55 and 0.45 ppb levels. This level is below the contract required detection limit and no residential well data was qualified in the basis of trip blank contamination.

E.1.2.3 Field Blanks

Analyses of groundwater field blanks show minimal contamination by volatiles. Volatile compounds detected in the 11 groundwater field blanks were toluene (up to 4 ppb) in 1 blank, methylene chloride (up to 22 ppb) in 9 blanks, chloroform (up to 29D ppb) in 9 blanks, bromodichloromethane (up to 3 ppb) in 9 blanks, acetone (up to 76 ppb) in 2 blanks, 2-butanone (up to 15 ppb) in 2 blanks, 1,1,1-tricholoroethane (up to 2 ppb) in 2 blanks, 4-methyl-2 pentanone (up to 4J ppb) in two blanks, benzene (1 ppb) in 1 blank, xylene (3 ppb) in 1 blank and dibromochloromethane (0.3J ppb) in 1 blank. Methylene chloride, acetone and 2-butanone are considered common laboratory contaminants. The samples associated with contaminated field blanks were reviewed and qualified where necessary. Detections of these constituents, that are not common laboratory contaminants, were qualified in the associated samples at values of 5 times the blank concentration or less and were flagged with a "J" to signify that the value detected in the sample may not be due entirely to site conditions. Common laboratory contaminants were flagged with a "J" if the concentration of the contaminant was 10 times or less the concentration found in the associated sample. Samples that had detections that were below the contract required detection limit and had blank contamination were reported as a non-detect at the contract required detection limit. The presence of bromodichloromethane and dibromochloromethane in the field blanks but not in the groundwater monitoring well samples may be due to their presence in the source water. The other constituents detected in the field blanks are either not contaminants of concern, or were present at concentrations considerably less than those present in groundwater samples. Overall, the results of field blank analyses show that field methods had minimal deleterious effect on the quality of Phase II groundwater sampling results and did not impact data useability.

Analysis of field blanks also show minimal contamination by volatiles for residential well samples. Volatile compounds detected in the 3 residential well field blanks were methylene chloride in 3 blanks (up to 2 ppb), chloroformin in 3 blanks (up to 32D ppb), and bromodichloride in 3 blanks (up to 4 ppb). Methylene chloride is considered a common laboratory contaminant and none of the compounds are contaminants of concern for the study. The samples associated with the contaminated field blanks were reviewed and qualified where necessary.

There were 2 field blanks analyzed of residential air samples. 1,1,1-trichlorethane was found in both blanks at 0.18 and 0.2 ppb. Also, trichloroethene was detected in both blanks at 0.51 and 0.59 ppb. Data was qualified as appropriate based on field blank contamination.

Test pit air volatile organic field blanks had significant detected contamination. Two field blanks were collected, one had only a minor amount of methylene chloride (8BJ ppb), a common laboratory contaminant, the other blank had significant contamination, 1,1-dichloroethene (310 ppb), 1, 2-dichloroethene (total)(290 ppb), 1,2-dichloroethane (290 ppb), 1,1,1-tricholoroethane (270 ppb), tirchloroethene (270), 1,1,2-trichloroethane (250 ppb), benzene (280 ppb), 4-methyl-2-pentanoe (200 ppb), tetrachloroethene (290 ppb), 1,1,2,2-tetrachloroethane (210B ppb), toluene (340 ppb), and xylene (total)(520B ppb). The corresponding data was either flagged as non-detected or as estimated "J" where appropriate.

E.1.2.4 Drilling Water Sample

One sample was collected of the water used for drilling from a fire hydrant on the southeast corner of Sandy Hollow Road and Southworth Street. The source of this water is the Rockford municipal water supply. Rockford municipal water was also used as the source of water for decontaminating sampling bailers and pumps. The cleaning and initial rinsing of sampling instruments was performed using tap water from a municipal source at the Ken-Rock Community Center near the location of the field trailer. The final rinse of all sampling instruments, except for the sampling pumps, was performed using deionized water; municipal supplied tap water was the final rinse for the interior of the sampling pumps.

The drilling water was not analyzed by a CLP laboratory and had a detection limit of 10 ppb for volatile organics. The only volatile organics detected in the drilling water sample were the trihalomethanes chloroform, bromodichloromethane, and dibromochloromethane at a total of 17 ppb (the Federal Maximum Contaminant Level [MCL] for total trihalomethanes is 100 ppb). Trihalomethanes are commonly found in such concentrations in municipal water supplies as a byproduct of disinfection procedures. Of the three trihalomethanes detected in the drilling water sample, bromodichloromethane and dibromochloromethane were detected at levels below the detection limit, at concentrations of 4 ppb and 1 ppb respectively. Chloroform was detected in the drilling water sample at 12 ppb, but is not considered a contaminant of concern at the Rockford site.

Of the other analytical scans of the drilling water, most detections noted were of constituents expected to be present in municipal water supplies, such as sodium, calcium, and potassium. Other detected constituents were either not detected in many groundwater monitoring well samples, or were detected at concentrations considerably below any applicable drinking water standards.

The analysis of the drilling water shows that the field drilling water source and probably the decontamination water source had minimal effect on groundwater sample quality.

E.1.2.5 Field Duplicates

To ascertain the reproductibility of the data, field duplicates were to be collected and analyzed at the rate of approximately 1 duplicate for every 10 investigative samples. This criteria was met for most samples matrices and parameters. However, there were a few sample groups where this criteria was not met. Only 1 duplicate was collected for the 4 air samples obtained from

residential basements. This occurred because of a limited number of sample canisters. The only other fraction that did not meet the 1 duplicate collected for every 10 investigative samples criteria was for subsurface soils samples collected during the drilling of soil borings and monitoring wells. For the volatile, semivolatile and pesticide/PCB fractions 116 investigative samples were collected and only 10 duplicate samples were taken. This occurred due to incomplete sample recoveries during this sampling. All other sample matrices and laboratory parameters met the 1 duplicate for every 10 investigative sample criteria. Field duplicates were collected at the same location and depth, and at the same time as the investigative samples. Care was taken to duplicate the sampling methods as exactly as possible from the original sample to the duplicate. Groundwater duplicates were collected by alternately filling a sample vial and then a duplicate vial until all of the sample containers were filled for a particular groundwater monitoring well or sampling location. Soil duplicates were collected by taking the samples out of the same split-spoon and again alternately filling a sample container and duplicate container until all of the sample was collected for the desired parameters. Air sample duplicates were collected by placing two canisters at the same location and starting and stopping the collection pump at the same time for both the sample and the corresponding duplicate.

To compare the samples and duplicates, the Relative Percent Difference (RPD) between each sample and its associated duplicate was calculated. The RPD is calculated as the absolute value of [(Sample -Duplicate)/(0.5 (Sample + Duplicate))] x 100. The results of RPD calculations for select parameters are provided in Appendix F.

RPDs less than or equal to 35 percent are generally acceptable, and higher RPDs are not uncommon for environmental sampling. RPDs for water samples are typically lower than they are for soil samples which tend to be less homogeneous than water samples. Duplicate analysis are discussed in detail in the overall data useability section for each type of analysis.

E.2 Organic Contaminants

E.2.1 Residential Wells

Residential well samples were analyzed using Contract Laboratory Program (CLP) Special Analytical Services (SAS) drinking water detection limit methods for volatile organic compounds. The analytical procedures for SAS CLP Laboratory analysis are specified in the SAS Client Request forms provided in the Phase II QAPP. Low concentration organics were analyzed using the SAS method based on USEPA CLP SOW OLCO1.0 (6/91). Samples were analyzed for VOCs at low detection levels to allow for comparison with drinking water standards.

Representativeness is a measure of the degree to which the data represents the actual site, and can serve as a measure of the actual risk at that site. The residential well data in this study is only being used to represent the actual house at which the sample was taken. Additionally, the samples collected are the water to which residents would have direct exposure. Therefore, the data is highly representative of the actual exposure occurring at the house. One way to measure representativeness is through blank contamination. Field blanks and trip blanks had positive results for a limited number of target compounds. Methylene chloride (2 ppb in 2 blanks),

bromodichloromethane (4 ppb in one blank), and chloroform (up to 32D ppb in 3 blanks) were detected in field blanks. Trichloroethene was detected in a trip blank at 0.5 ppb. Based on blank analysis, this data had acceptable representativeness and was qualified as required.

Precision is a measure of the agreement among separate measurements of the same sample. This can be assessed from the analysis of field and laboratory duplicates. There was no problem with the laboratory duplicate analysis samples. Two field duplicate samples were collected. In one set the compounds detected were identical. In the other sample, methylene chloride values had a RPD of 40% (0.2 ppb versus 0.3 ppb), but all other compounds differed by no more than 22%. In addition, trans-1,2-dichloroethene was detected in one sample at 0.2 ppb, but not in the other sample. It was assigned a "J" qualifier.

Accuracy is the degree of agreement of a data point with the true value. All data was analyzed according to approved SAS procedures, which included accuracy calculations derived from the percent recovery of spiked samples and the analysis of performance evaluation samples. This information was provided in the data packages received from the lab. The internal standard area for one sample, 7572-07 (1713 Harrison) was out of control limits. All compounds were flagged with a "J" for estimated. When the same sample was diluted all internal standard areas were acceptable. Internal standards were also out of control limits for 7572-20 (3021 9th Street). All positive results were qualified "J". Based on the data validation process it appeared there may have been a problem with instrument sensitivity. The data is considered usable as qualified.

E.2.2 Residential Air

Residential Air samples were analyzed using EPA method TO-14 for VOCs. The residential air sample parameters included only the contaminants of concern.

There were two problems with the residential air data. Holding times were not met for samples 8067E-23 and -24. These samples and the associated samples 8067E-21 through -28 were considered estimated and flagged with a "J". Also, field blank contamination was found in the field blank associated with samples 8245E-01 through -13. This blank contamination may produce a data useability problem for the data associated with this blank and therefore the data was qualified as appropriate. Overall the residential air sampling data is usable as flagged.

Holding time exceedance had a negative impact on the representativeness of these samples. Exceeding holding times can cause sample analysis to be biased low. In this case the holding times were exceeded by only a couple of days and most likely did not have a significant impact on the data. The field blank contamination associated with this analysis may have had a minor impact on representativeness of these samples. The percent recovery of spiked samples were within control limits and therefore the accuracy was acceptable for all of these samples.

Precision was measured by comparing the Relative Percent Difference (RPD) for each set of duplicate samples. One field duplicate sample was collected for the residential air sampling event and the RPD was under 35 percent for all analyzed constituents. The Laboratory duplicate

analysis sample was within the 35 percent control limits for each analyzed constituent. Therefore, based on the duplicate analysis, precision was good for the residential air sampling.

E.2.3 Test Pit

E.2.3.1 Air

Test pit air samples were analyzed according to EPA Method TO-1 for volatile organic compounds.

There were a number of minor problems with the test pit air sampling analysis. Because of the limited sample volume of one Tenax tube per sampling site, MS/MSDs could not be evaluated completely. MS/MSDs are not mandatory to evaluate the quality of the data. Laboratory blank contamination was limited to styrene; xylene; 1,1,2,2-tetrachloroethane; bromoform; 2-butanone; methylene chloride; acetone; DCE; and toluene. The compound, 2-chloroethyl vinyl ether was not analyzed in violation of the contract. This compound is not a contaminant of concern at this site and therefore is not considered to impact the completeness of the data.

The laboratory blank contamination associated with this analysis had a minor impact on representativeness. The highest concentration of laboratory blank contaminants were for methylene chloride, acetone and 2-butanone, which are considered common laboratory contaminants and are not contaminates of concern for this project. PCE was the only contaminant of concern that had any laboratory blank contamination which was at 6 ppb, a fairly low level. Samples that were affected by this laboratory blank contamination were appropriately qualified. Laboratory blank contamination was also found for styrene, xylene, 1,1,2,2-tetrachloroethane, and toluene. None of these constituents are contaminants of concern and all of them had contamination at 10 ppb or lower in the laboratory blank. Therefore, the method blank contamination did not have a major impact on the representativeness of the this data. The percent recovery of spiked samples were within control limits and therefore the accuracy was acceptable for all of these samples.

Field blank contamination for these analyses were significant and did affect the representativeness of this analysis. Two field blanks were collected, one had only a minor amount of methylene chloride (8BJ ppb), a common laboratory contaminant, the other blank had significant contamination, 1,1-dichloroethene (310 ppb); 1, 2-dichloroethene (total)(290 ppb); 1,2-dichloroethane (290 ppb); 1,1,1-tricholoroethane (270 ppb); tirchloroethene (270); 1,1,2-trichloroethane (250 ppb); benzene (280 ppb); 4-methyl-2-pentanoe (200 ppb); tetrachloroethene (290 ppb); 1,1,2,2-tetrachloroethane (210B ppb); toluene (340 ppb); and xylene (total)(520B ppb). The corresponding data was either flagged as non-detected or as estimated "J" were appropriate.

Precision was measured by comparing the Relative Percent Difference (RPD) for each set of duplicate samples. Two sets of field duplicate samples were collected for the residential air sampling event. The laboratory duplicate analysis sample was within the 35 percent limit. A few constituents in the field duplicate analysis had greater than a 35 percent RPD. Methylene chloride had a RPD of 66 percent and acetone had a RPD of 57.3 percent. Both of these constituents are considered common laboratory contaminants and are not contaminates of

concern for this study. Toluene (RPD of 40 percent) was the only other constituent that had a RPD of greater than 35 percent. The method of duplicate collection for these samples may have affected RPDs. Sample pumps were set next to each other, so it is possible that the air sampled differed in composition between two pumps. Therefore, based on the duplicate analysis, precision was acceptable for the residential air sampling.

E.2.3.2 Soil

Organics - CLP High-Concentration

High concentration organics for the test pit soil samples were analyzed in accordance with the CLP high concentration SOW.

Only minor problems were found to exist with the volatile data. The method blank contamination was limited to methylene chloride and acetone, which are considered common laboratory contaminants. There were no other problems with this data. Therefore representativeness and accuracy were acceptable for this data.

Precision was measured by comparing the RPD for each set of field and laboratory duplicate samples. One set of field duplicate samples were collected for the Test Pit organic soil sampling event. The Laboratory duplicate analysis sample was within the 35 percent. The only constituent in the field duplicate analysis that had greater than a 35 percent RPD was tetrachloroethene (152 RPD). The homogeniety of the sample and field duplicate may be contributing to this large difference. Therefore the precision of this constituent is questionable but no further action was taken by the CDM data validation team as per the data validation guidelines. Tetrachlorethene is a contaminant of concern. All of the other constituents were within the 35 percent RPD criteria.

There were no problems with the semivolatile test pit high concentration data. All of the RPDs were below the 35 percent criteria. The precision, accuracy, and representativeness were all good.

There were no problems with the pesticide/PCB test pit high concentration data. All of the RPDs were below the 35 percent criteria. The precision, accuracy, and representativeness were all good.

CLP TCLP Parameters

The TCLP parameters were intended to be extracted according to the SASs provided in the QAPP and the extract to be analyzed in accordance with the CLP SOWs for each type of analysis. The types of analyses conducted for the TCLP determination included volatile and semivolatile organics and inorganics.

The TCLP analysis had problems due to the laboratory not following the SAS instructions regarding sample extraction and analysis. This problem affected only the semivolatile data. The laboratory extracted 500 ml at a pH greater than 12 instead of extracting 1000 ml at this pH which is called for in the SAS. This may have affected the leachability of some of the

compounds. Therefore, the semivolatile data cannot be used as initially intended for RCRA waste characterization. This data however will be used as a preliminary screening tool to determine if it is likely that the material in the test pit is leaching and may have to be disposed of as a hazardous waste.

The extraction problem did affect the representativeness of the TCLP semivolatile analysis because the analysis did not represent the site condition as the TCLP method was originally intended. The TCLP volatile data was not affected by this problem. The accuracy of the data was good.

Precision was measured by comparing the Relative Percent Difference (RPD) for each set of duplicate samples. One field duplicate sample was collected for the Test Pit organic soil sampling event. None of the constituents fell above the 35 percent RPD criteria. Thus the precision was acceptable for the volatile fraction. There was also one set of field duplicates collected for the semivolatile test pit samples. There were no duplicate semivolatile constituents that fell above the 35 percent RPD criteria and thus this data had acceptable precision.

E.2.4 Soil Samples

Soil samples were analyzed using contract laboratory programs routine analytical services for volatile organics, semivolatile organics and pesticide/PCBs.

<u>VOCs</u>

There was general method blank contamination for the common laboratory contaminants, acetone, methylene chloride, and 2-butanone. Method blank contamination was also detected for 2-hexanone, toluene, bromomethane, chloromethane, chlorobenzene, ethylbenzene, styrene, xylene and benzene. No method blank contamination was detected for any of the contaminants of concern except in samples EXR 48 and 49 which are associated with method blank VBLK02. TCE and PCE were flagged as appropriate in these two samples. Continuing calibration criteria were not met for samples EXR 62, 64, 69, 71, and 71DL. No samples were flagged due to calibration problems and none of the contaminants of concern were affected. Surrogate recoveries were not within the control limits for samples EXR 78, 81, and 84. None of the contaminants of concern were affected by surrogate recovery problems. There were internal standard problems with samples EXS 04 and EXS 08. All results in these samples were flagged with a "J" or "UJ".

The contaminants of concern that had positive results in these two samples were 1,2-DCA in sample EXS 08 and 1,1-DCE; 1,2-DCE (total); 1,1,1-TCA and TCE. All of these results were flagged with a J, but are usable as reported.

Overall, the RAS volatile organic analysis for soils had only minor problems. The laboratory blank contamination associated with this analysis only had a minor impact on representativeness and did not affect the representativeness of any contaminants of concern except as noted above. The accuracy was good for all of these samples except for those associated with EXS04 and EXS 08 where the Internal Standard was outside of the control limits.

Precision was measured by comparing the Relative Percent Difference (RPD) for each set of duplicate samples. The Laboratory duplicate analysis samples all were within the 35 percent control limits. Many of the 10 sets of field duplicate samples analyzed for soil volatile samples were outside of the 35 percent control limit. Data is usually not flagged for out of control field duplicate RPDs unless the data validator judges the RPDs to be significantly large enough to call into question the validity of the data. RPDs of less than or equal to 35 percent are generally acceptable, and higher RPDs are not uncommon for environmental sampling especially soil samples which tend to be heterogeneous and hard to replicate. Large RPDs for these soil samples are partially the result of sampling procedures. Samples were obtained from split spoons and were not homogenized prior to putting them into containers. The field duplicate RPDs are not unexpectedly large for soil samples collected in this manner.

Semivolatiles

Method blank contamination was minor for semivolatile soil analysis. Blank contamination caused bis-2-ethylhexylphthalate and di-n-butylphthalate to be flagged in a limited number of samples. Intermittent initial calibration and continuing calibration problems caused the positive results of 3-nitroaniline; hexachlorocyclopentadiene; 2,4-dinitrophenol; 4-nitrophenol; carbazole; 2,4-dinitrophenol; di-n-octylphthalate; 2,2'-oxybis(1-chloropropane); 4,6-dinitro-2-methylphenol and 3,3'-dicholorobenzidine to be flagged in a limited number samples as estimated ("J"). The calibration problem did not affect any of the contaminants of concern.

The RAS semivolatile organic analysis for soils had only minor problems. The blank contamination associated with this analysis only had a minor impact on representativeness and did not affect the representativeness of any contaminants of concern. The calibration problem had a minor impact on accuracy for the six above mentioned constituents in the samples that were associated with the out of control calibration. These constituents are not contaminants of concern and the limited calibration problem did not affect the overall accuracy of the results from this analysis.

Precision was measured by comparing the Relative Percent Difference (RPD) for each set of duplicate samples. The Laboratory duplicate analysis samples were all within the 35 percent control limits. There were only a small number of positive detections for the soil semivolatile fraction and none of the RPDs were above 35 percent. This indicates a high degree of precision for these results.

Pesticides/PCBs

There were only minor problems with the soil pesticide/PCB data. All Endrin results were rejected in samples EXR 61 and EXR 62 because the endrin breakdown and the total DDT/endrin breakdown were not expectable for these samples. The second column precision was out of control limits for samples EXS 04, 08 and 09. Archolr 1260, dieldrin, DDE, endosul, endosulfan II and DDT were all estimated in these samples and were qualified with a "J". Surrogate recoveries were low for EXR 36 and EXR 46 all positive results for these samples were flagged with a "J". Blank contamination was limited to samples EXR 38, 42, and 46 for dieldrin, endrin and lindane. Samples associated with this blank contamination were flagged as appropriate.

The representativeness of these samples was good with only limited blank contamination associated with the pesticide/PCB samples as discussed. The accuracy was acceptable for all of these samples except for endrin in EXR 61 and EXR 62. The endrin in these samples was rejected. This did not significantly affect the completeness of this sample fraction because it only involved two samples and pesticides were not anticipated to be detected in soils.

One measure of precision is to compare the RPD for each set of duplicate samples. The Laboratory duplicate analysis samples were all within the 35 percent control limits. There were only a small number of positive detections for the soil pesticide/PCB fraction and none of the RPDs were above 35 percent. This indicates a high degree of precision for these results. There was however a second column precision problem for samples EXS 04, 08, and 09 as discussed above the appropriate constituents were qualified with a "J". The overall precision of the soil pesticide/PCB data was acceptable.

E.2.5 Groundwater Samples

Groundwater samples were analyzed using CLP routine analytical services for semivolatile organics and pesticides/PCBs. The volatile organic fraction were to be analyzed using the procedures outlined in the SAS for drinking water level analysis for volatile organics provided in the Phase II QAPP with dilution of samples if initial screening indicated concentrations outside of the calibration range. However, due to a mistake on the part of the Sample Management Office, some samples where the level of contamination exceeded the calibration range were analyzed using the CLP Low/Medium Concentration Organics SOW OLM.01.

<u>VOCs</u>

The overall quality of the drinking water level VOC analyses were very good. Only minor problems existed in a few areas. There were minor continuing calibration problems for 2-butanone, acetone, 2-hexanone and bromoform. In most cases these compounds were not detected in the samples associated with the continuing calibration problem and none of the compounds affected by this problem are contaminates of concern. There was also methylene chloride, acetone and 2-butanone method blank contamination for a limited number of analysis. These compounds are accepted as common laboratory contamination and do not affect the overall quality of the data and are not contaminants of concern.

All of the field and trip blanks associated with samples 7572-07, -07DL, -10, -14, -16, and -20 had contamination for the target compounds. The data was qualified on the basis of contamination associated with field and blank contamination. This contamination was at a low level compared to any detections noted in the associated investigative samples and therefore should not affect the overall useabilitiy of the data.

As previously mentioned, volatile organics in groundwater were to be analyzed using the SAS protocol for drinking water. This protocol specifies an initial sample screening to detect samples that may require dilution. Any samples requiring dilution were then to be analyzed using the SAS protocol. For unknown reasons, the Sample Management Office allowed the laboratory to analyze samples requiring dilution by the RAS OLM01. SOW, instead of as specified in the SAS.

This caused two major problems for data use and validation. The SAS protocol provided for quantifiation of cis and trans DCE and required a performance evaluation sample instead of a MS/MSD analysis. The RAS SOW quantified total DCE and specified MS/MSDs. Unfortunately no MS/MSDs were collected because field personnel followed the SAS procedures. The laboratory then claimed it could not complete the required QA/QC due to insufficient volume. Data comparability was affected as DCE was reported in the two different manners described. The data will be used as reported for evaluating nature and extent of contamination and as input for the groundwater model. This data set is not being used in the risk assessment but will be compared in general terms to applicable ARARs.

Precision was measured by comparing the Relative Percent Difference (RPD) for each set of duplicate samples. The Laboratory duplicate analysis samples all were within the 35 percent control limits. A limited number of the 12 sets of field duplicate samples analyzed for groundwater volatile samples were outside of the 35 percent control limit. Data is usually not flagged for out of control field duplicate RPDs unless the data validator judges the RPDs to be significantly large enough to call into question the validity of the data. RPDs of less than or equal to 35 percent are generally acceptable, and higher RPDs are not uncommon for environmental sampling. Overall, the RPDs, and hence the precision, were acceptable. MW102A had the highest RPDs with 70.59 percent for methylene chloride, 66.67 percent for 1,1-dicholoroethene and 40.00 percent for trichloroethene. MW105A had an RPD of 36.36 for 1,2-dicholorethane. This constituent also had a high RPD in MW103D of 40.00 percent. Trichloroethene was at 66.67 percent in MW114A and xylene had a RPD of 54.55 percent in MW126A. These were the only RPDs for volatile organic analysis in groundwater that were above 35 percent. The low frequency of high RPDs and the relative low values of the RPDs that were above 35 percent, indicate that the precision for this set of data is acceptable.

Completeness was affected as the laboratory lost two samples (MW101C and 101D) that were critical to the overall data set. To fill this data gap, CDM resampled the wells in January and had the samples analyzed by EPA Region V CRL. EPA also validated the data and it was all acceptable as reported.

Semivolatiles

The semivolatile groundwater analysis was conducted according to CLP RAS criteria. The results of this analysis were fairly free of problems. The major problem occurred with samples EXT 36 and EXT 36DL. Surrogate recoveries were low for fluorobiphenyl and terphenyl in these samples. Therefore, all positive results for base neutral semivolatile compounds were estimated and flagged with a "J" and all nondetections were rejected and flagged with an "R". The accuracy of the base neutral semivolatile compounds in samples EXT 36 and EXT 36DL were affected by an internal standard problem. The data was rejected and appropriately flagged. The only other minor problem was bis(2-ethylhexyl)phthalate blank contamination associated with samples EXT 04, 08, and 11. The data was flagged appropriately.

The representativeness of these samples was good with only limited blank contamination associated with bis-2-ethylhexyl phthalate in one set of samples. This compound is considered a common laboratory contaminant and is not a contaminant of concern. The data appropriately flagged.

As a check of precision, the Relative Percent Difference RPD for each set of duplicate samples were compared. The Laboratory duplicate analysis samples were all within the 35 percent control limits. There were only a small number of positive detections for the semivolatile fraction and none of the RPDs were above 35 percent. This indicates a high degree of precision for these results.

Pesticides/PCBs

Pesticides/PCBs analysis was performed according to CLP RAS criteria. Only minor problems exist with the Pesticides/PCBs data. The surrogate recovery was extremely low for EXT 36, all results were qualified with a "J" even though the surrogate recovery criteria are only advisory limits as per the data validation functional guidelines. Surrogate problems also existed for samples EXT 04, EXT 11, and EXT 37, but they were minor and no qualifications were necessary or required.

The representativeness of these samples was good with no blank contamination associated with the pesticide/PCB samples as discussed. The accuracy was acceptable for all of these samples except for EXT 36 where all of the data was flagged due to extremely low surrogate recovery associated with this sample.

Precision was measured by comparing the RPD for each set of duplicate samples. The Laboratory duplicate analysis samples all were within the 35 percent control limits. All of the 4 sets of field duplicate samples analyzed for groundwater Pesticide/PCB samples were within the 35 percent control limit.

E.3 Inorganics Contaminants

E.3.1 Soil Samples

Soil samples were analyzed using contract laboratory programs routine analytical services for the target analyte list (metals/cyanide).

Inorganics - CLP High-Concentration

High concentration inorganics for the test pit soil samples were analyzed in accordance with the CLP SAS client request form provided in the Phase II QAPP.

There was only one minor problem with this data. The laboratory control sample was outside of the control limits for sodium only. All sodium data for this analysis is considered estimated and flagged with a "J".

Precision was measured by comparing the Relative Percent Difference (RPD) for each set of duplicate samples. One set of field duplicate samples was collected for the Test Pit organic soil sampling event. Many of the constituents fell above the 35 percent RPD criteria. Because of the sampling technique required for sampling soils and the inherent heterogeneity of soil samples, higher RPDs are common. The following constitutes had field duplicate RPDs above the 35

percent criteria: arsenic (73.3), barium (135.2), beryllium (72.7), calcium (115.0), chromium (127.5), cobalt (52.6), copper (140.1), iron (75.3), lead (167.9), magnesium (64.0), manganese (100.8), nickel (86.3), and zinc (163.0). Although these duplicate RPDs are above the conventional criteria of 35 percent, they are not excessively high for soils. Also, none of these constituents are contaminants of concern at this site. Therefore, the lower precision associated with this analysis does not have a significant impact on the useability of this data.

TCLP Inorganic

The TCLP inorganic data had a couple of minor problems. The CRDL standard for lead was not within the control limits and therefore all lead results are considered estimated and flagged with a "J". The matrix spike sample analysis was above the control limits for cadmium in TPSS1-dup and below the control limits for lead in the same sample. Therefore, cadmium was flagged with a "J" and lead was flagged with a "UJ".

The representativeness was good for this set of sample results. The accuracy was marginally affected by the CRDL standard problem and the MS/MSD problem but is still acceptable as flagged.

Precision was measured by comparing the Relative Percent Difference (RPD) for each set of duplicate samples. One field duplicate sample was collected for the Test Pit inorganic soil sampling event. One of the constituents fell above the 35 percent RPD criteria. Barium had a RPD of 73.99 percent. Although this duplicate RPD is above the conventional criteria of 35 percent, it is not excessively high for soils. Also, this constituent is not a contaminant of concern at this site. Therefore, the lower precision associated with this analysis does not have a significant impact on the useability of this data.

<u>Metals/Cyanide</u>

There were a number of problems associated with the usability of the soil metals/cyanide data. There were serial dilution problems with samples MEWJ 04, 08, 12, 17, 20 affecting Al, Ba, Ca, Fe, Mg, and MN which were flagged with a "J", indicating an estimated value.

Many of the metal results were flagged as estimated ("J") due to laboratory duplicate and matrix spike problems. Specifically the following constituents were flagged in the following samples: Ca, Fe, Mg, Sn, Th in MEWJ 04, 08, 12, 17, and 20; Al, As, Ca, Fe, Mg, Mn, Hg, Se, Na, Th, and Zn in MEWJ 26; Al, An, Ba, Fe, Mn, Hg, and Ag in MEWJ 32, 36, 40, 44, and 47; Ca, and Mg in MWEK 57; Mn, Sn, Hg, Se, Ag, As, Se and Mg in MEWJ 58, 59, and 60; Sb and Mn in MEWJ 63 and 65; Mg in MEWJ 67, 73, and 75; Sb, Cd, and Cu in MEWJ 91, 94, 97, and 99; and Hg in MEWK 10. These data are considered useable as qualified.

Cyanide was rejected (qualified with a "R") in samples MEWJ 67, 68, 69, 70, 71, 72, 73, 74, 75 and 76 due to no recovery of the matrix spike.

Post digestion spike recoveries were out of control limits for the following: Tl and Se in MEWJ 49; Pb in MEWJ 52; Se in MEWJ 63 and 65; Tl, Pb, Se in MEWJ 80, 84, and 87; and Th and Se in

MEWK 29, 32, and 35. The digestion log was missing for Ca and Hg for samples MEWJ 80, 84, 87.

Holding times were exceeded for only a few samples. Hg was analyzed after the holding time had expired for samples MEWJ 32, 36, 40, 44, 47, Cyanide holding times were exceeded in samples MEWJ 80, 84, 87 and samples MEWJ 58, 59, 60. All of these samples were flagged with a "J" for the appropriate constituents. These data are usable as qualified.

In addition to the above problems there were very minor problems which included a serial dilution problem with Al, Ba, Ca, Fe, Mg, and Mn in samples MEWJ 04, 08, 12, 17, and 20. These constituents were flagged with a "J" in these samples. There was also an interference problem for Ba in samples MEWK 29, 32, and 35.

The representativeness of these samples was good with only limited blank contamination associated with the inorganic analysis as discussed. Holding times did have a minor impact on the representativeness of the samples that were outside of the specified holing times, but the impact was minimal because holding times were exceeded by only 2 to 4 days. The accuracy of these data were affected by matrix spike recoveries and post digestion spike recoveries. The data is usable as flagged and reported.

Precision is measured by comparing the RPD for a set of duplicate samples. The Laboratory duplicate analysis samples were all within the 35 percent control limits. There were only a small number of positive detections for the soil metals/cyanide fraction and none of the RPDs were above 35 percent. This indicates a high degree of precision for these results. There was however a second column precision problem for samples EXS 04, 08, and 09 as discussed above the appropriate constituents were qualified with a "J". The overall precision of the soil pesticide/PCB data was acceptable.

E.3.2 Groundwater Samples

Groundwater samples were analyzed using contract laboratory programs routine analytical services for Metals/Cyanide.

Metals/Cyanide

There were only a few minor problems with the groundwater metals/cyanide data. Post digestion spike recovery was low for thallium and selenium which affect samples MEWK 29, 32, and 35. Post digestion spike results were also low in sample MEWK 10 for mercury. All of these metals were considered estimated and flagged with a "J". There was also a barium interference problem in samples MEWK 29, 32, and 35. Barium was considered estimated in these samples and was flagged with a "J" where appropriate. None of these constituents are considered contaminants of concern for this study.

The spike recovery did have a negative impact on the representativeness of the thallium, selenium and mercury data for the above mentioned samples. The data was appropriately flagged and is considered usable as flagged. The interference problem with barium in the above mentioned samples does impact the accuracy for this metal in these samples. However, the data

is considered usable as flagged. None of these constituents are contaminants of concern for this project. Overall this data is acceptable as flagged.

One measure of precision is to compare the RPD for each set of duplicate samples. The Laboratory duplicate analysis samples were all within the 35 percent control limits. There were only a small number of RPDs which were above 35 percent for the groundwater metals/cyanide fraction for the 4 sets of duplicates collected and analyzed for this fraction. Aluminum (195.33 %) and Manganese (75.6 %) in sample MW122/duplicate were above the 35 percent criteria for RPDs. Copper (93.88 %) and iron (35.44 %) in sample MW133C were above the 35 percent criteria for RPDs. Sample MW126A\duplicate had zinc (43.48 %) above the RPD 35 percent criteria. Data is usually not flagged for out of control field duplicate RPDs unless the data validator judges the discrepancies between duplicates to be excessive. The precision for this fraction is acceptable.

E.4 General Water Quality Samples

General water quality parameters analysis were performed on a number of groundwater samples. A CLP SAS analysis was performed for TDS/TSS, for minerals (conductivity, alkalinity, fluoride, chloride, sulfate, and silica), and for nutrients (ammonia, COD, total Kjeldahl nitrogen, nitrate, nitrite, TOC, and total phosphorus).

There were a couple of minor problems with this data. The total phosphorus results for samples 7943-01, -09, -12, and -15 were qualified with a "J" due to poor spike recoveries. Samples 7943-01, -09, -12, and -15 were all flagged with a "J" due to poor CRDL standard results for all alkalinity, COD, TOC, and sulfate analyses associated with these samples.

The representativeness was good for all parameters except for total phosphorus. Total phosphorus had a low spike recovery which had a negative impact on representativeness. The data is usable as flagged. The accuracy was poor for alkalinity, COD, TOC, and sulfate parameters due to poor CRDL standard results. The data is usable as flagged.

Precision was measured by comparing the RPD for each set of duplicate samples. A limited number of the 7 sets of field duplicate samples analyzed for general groundwater parameter samples were outside of the 35 percent control limit. The RPD was 163 percent for silica for sample MW114A and its duplicate. Total Kjeldahl nitrogen had a RPD of 66 percent in MW133C/duplicate and 57 percent in MW126A/duplicate. Chloride had an RPD of 192 percent in MW118/duplicate. Finally, total suspended solids had an RPD of 66.7 percent in sample MW126A/duplicate. Data is usually not flagged for out of control field duplicate RPDs unless the data validator judges the RPDs to be significantly large enough to call into question the validity of the data. Even with these slightly elevated field duplicate RPDs, the precision of this data is judged to be acceptable.

Appendix F

APPENDIX F
BLANK AND DUPLICATE ANALYSIS WITH SELECTED DUPLICATE RELATIVE PERCENT DIFFERENCES

Appendix F: Blank and Duplicate Analysis (Soil Volatile Organics)

Date Sampled	6/22/93		6/22/93		6/24/93		6/24/93		6/24/93	
Sample Number	SB7-5E		SB7-5E(D)		SB7-12D		SB7-12D(D)		SB7-13E	
Organic Traffic Report Number	EXR13		EXR14		EXR26		EXR27		EXR28	
Volatile Organics (ug/kg)										
Chloromethane	1400	U	1400	U	12	U	11	U	11	U
Bromomethane	1400	U	1400	U	12	U	11	U	11	U
Vinyl Chloride	1400	U	1400	U	12	U	11	U	11	U
Chloroethane	1400	U	1400	U	12	U	11	U	11	U
Methylene Chloride	1400	UB	1400	UB	12	UB	11	UB	11	UB
Acetone	1400	U	1400	U	9	J	18		11	U
Carbon Disulfide	1400	U	1400	U	12	U	11	U	11	U
1,1-Dichloroethene	1400	U	1400	U	12	U	11	U	11	U
1,1-Dichloroethane	1400	U	240	J	12	U	11	U	11	U
1,2-Dichloroethene (total)	1700		8800		1	J	2	J	11	U
Chloroform	1400	U	1400	U	12	U	11	U	11	U
1,2-Dichloroethane	1400	U	1400	U	12	U	11	U	11	U
2-Butanone	1400	U	1400	U	12	U	11	U	11	U
1,1,1-Trichloroethane	5300		26000		21		32		11	U
Carbon Tetrachloride	1400	U	1400	U	12	U	11	U	11	U
Bromodichloromethane	1400	U	1400	U	12	U	11	U	11	U
1,2-Dichloropropane	1400	U	1400	U	12	U	11	U	11	U
cis-1,3-Dichloropropene	1400	U	1400	U	12	U	11	U	11	U
Tricloroethene	630	J	3000		3	J	4	J	11	U
Dibromochloromethane	1400	U	1400	U	12	U	11	U	11	U
1,1,2-Trichloroethane	1400	U	1400	U	12	U	11	U	11	U
Benzene	1400	U	1400	U	12	U	11	U	11	U
trans-1,3-Dichloropropene	1400	U	1400	U	12	U	11	U	11	U
Bromoform	1400	U	1400	U	12	U	11	U	11	U
4-Methyl-2-Pentanone	1400	U	1400	U	12	U	11	U	11	U
2-Hexanone	1400	U	1400	U	12	U	11	U	11	U
Tetrachloroethene	8400		24000		12		9	J	2	J
1,1,2,2-Tetrachloroethane	1400	U	1400	U	12	U	11	U	11	U
Toluene	320	J	1000	J	1	J	2	J	4	J
Chlorobenzene	1400	U	1400	U	12	U	11	U	11	U
Ethylbenzene	520	J	1300	J	12	U	11	U	11	U
Styrene	1400	U	1400	U	12	U	11	U	11	U
Xylene	3400		8900		12	U	11	U	11	U

Appendix F: Blank and Duplicate Analysis (Soil Volatile Organics)

Date Sampled	6/24/93		6/29/93		6/29/93		6/30/93		6/30/93	
Sample Number	SB7-13E(D)		SB4-3E		SB4-3E(D)		SB2-3D		SB2-3D(D)	
Organic Traffic Report Number	EXR29		EXR39		EXR40		EXR48		EXR49	
Volatile Organics (ug/kg)										
Chloromethane	11	U	10	U	10	U	12	UB	12	UB
Bromomethane	11	U	10	U	10	U	12	UB	12	UB
Vinyl Chloride	11	U	10	U	10	U	12	U	12	U
Chloroethane	11	U	10	U	10	U	12	U	12	U
Methylene Chloride	11	UB	10	U	10	U	12	U	12	U
Acetone	11	U	7	J	6	J	12	U	12	U
Carbon Disulfide	11	U	10	U	10	U	12	U	12	U
1,1-Dichloroethene	11	U	10	U	10	U	12	U	12	U
1,1-Dichloroethane	11	U	10	U	10	U	12	U	12	U
1,2-Dichloroethene (total)	11	J	10	U	10	U	4	J	12	U
Chloroform	11	U	10	U	10	U	12	U	12	U
1,2-Dichloroethane	11	U	10	U	10	U	12	U	12	U
2-Butanone	11	U	10	U	10	U	12	U	12	U
1,1,1-Trichloroethane	130		10	U	10	U	12	U	12	U
Carbon Tetrachloride	11	U	10	U	10	U	12	U	12	U
Bromodichloromethane	11	U	10	U	10	U	12	U	12	U
1,2-Dichloropropane	11	U	10	U	10	U	12	U	12	U
cis-1,3-Dichloropropene	11	U	10	U	10	U	12	U	12	U
Tricloroethene	8	J	10	U	10	U	12	UB	12	UB
Dibromochloromethane	11	U	10	U	10	U	12	U	12	U
1,1,2-Trichloroethane	11	U	10	U	10	U	12	U	12	U
Benzene	11	U	2	J	10	U	12	UB	12	UB
trans-1,3-Dichloropropene	11	U	10	U	10	U	12	U	12	U
Bromoform	11	U	10	U	10	U	12	U	12	U
4-Methyl-2-Pentanone	11	U	10	U	10	U	12	U	12	U
2-Hexanone	11	U	10	U	10	U	12	U	12	U
Tetrachloroethene	35		1	J	10	U	82	B	19	B
1,1,2,2-Tetrachloroethane	11	U	10	U	10	U	12	U	12	U
Toluene	2	J	41		26		12	UB	12	UB
Chlorobenzene	11	U	2	J	2	J	12	UB	12	UB
Ethylbenzene	11	U	10	U	10	U	12	U	12	U
Styrene	11	U	10	U	10	U	12	UB	12	UB
Xylene	11	U	10	U	10	U	12	UB	12	U

Appendix F: Blank and Duplicate Analysis (Soil Volatile Organics)

Date Sampled	7/13/93		7/13/93		8/25/93		8/25/93		8/30/93	
Sample Number	SB9-1F		SB9-1F(D)		SB11-1J		SB11-1J(D)		SB11-8I	
Organic Traffic Report Number	EXR56		EXR57		EXR77		EXR78		EXR86	
Volatile Organics (ug/kg)										
Chloromethane	10	U	10	U	12	U	11	U	1500	U
Bromomethane	10	U	10	U	12	U	11	U	1500	U
Vinyl Chloride	10	U	10	U	12	U	11	U	1500	U
Chloroethane	10	U	10	U	12	U	11	U	1500	U
Methylene Chloride	10	U	10	U	13		1	J	2100	
Acetone	10	UB	10	UB	44		11	UB	1500	U
Carbon Disulfide	10	U	10	U	12	U	11	U	1500	U
1,1-Dichloroethene	10	U	10	U	12	U	11	U	1500	U
1,1-Dichloroethane	10	U	10	U	12	U	11	U	1500	U
1,2-Dichloroethene (total)	10	U	10	U	12	U	11	U	1500	U
Chloroform	10	U	10	U	12	U	11	U	1500	U
1,2-Dichloroethane	10	U	10	U	12	U	11	U	1500	U
2-Butanone	10	U	10	U	12	U	11	U	1500	U
1,1,1-Trichloroethane	10	U	10	U	12	U	11	U	1500	U
Carbon Tetrachloride	10	U	10	U	12	U	11	U	1500	U
Bromodichloromethane	10	U	10	U	12	U	11	U	1500	U
1,2-Dichloropropane	10	U	10	U	12	U	11	U	1500	U
cis-1,3-Dichloropropene	10	U	10	U	12	U	11	U	1500	U
Tricloroethene	10	U	10	U	12	U	11	U	1500	U
Dibromochloromethane	10	U	10	U	12	U	11	U	1500	U
1,1,2-Trichloroethane	10	U	10	U	12	U	11	U	1500	U
Benzene	10	U	10	U	12	U	11	UB	1500	U
trans-1,3-Dichloropropene	10	U	10	U	12	U	11	U	1500	U
Bromoform	10	U	10	U	12	U	11	U	1500	U
4-Methyl-2-Pentanone	10	U	10	U	12	U	11	U	1500	U
2-Hexanone	10	U	10	U	12	U	11	U	1500	U
Tetrachloroethene	5	J	5	J	12	U	11	U	1500	U
1,1,2,2-Tetrachloroethane	10	U	10	U	12	U	11	U	1500	U
Toluene	10	U	10	U	130		11	UB	1500	U
Chlorobenzene	10	U	10	U	12	U	11	U	1500	U
Ethylbenzene	10	U	10	U	6	J	11	U	1500	U
Styrene	10	U	10	U	12	U	11	U	1500	U
Xylene	10	U	10	U	21		11	U	1500	U

Appendix F: Blank and Duplicate Analysis (Soil Volatile Organics)

Date Sampled	8/30/93		9/22/93		9/22/93		12/1/93		12/1/93	
Sample Number	SB11-8I(D)		SS7-1		SS7-1(D)		SB12-3B		SB12-3B(D)	
Organic Traffic Report Number	EXR87		EXR99		EXS01		EXT42		EXT43	
Volatile Organics (ug/kg)										
Chloromethane	1500	U	11	U	11	U	5200	U	1300	U
Bromomethane	1500	U	11	U	11	U	5200	U	1300	U
Vinyl Chloride	1500	U	11	U	11	U	5200	U	1300	U
Chloroethane	1500	U	11	U	11	U	5200	U	1300	U
Methylene Chloride	2900		13		31		5200	U	1300	U
Acetone	1500	U	10	J	28		13000		18000	
Carbon Disulfide	1500	U	11	U	11	U	5200	U	1300	U
1,1-Dichloroethene	1500	U	11	U	11	U	5200	U	1300	U
1,1-Dichloroethane	1500	U	11	U	11	U	5200	U	1300	U
1,2-Dichloroethene (total)	1500	U	11	U	11	U	5200	U	170	J
Chloroform	1500	U	11	U	11	U	5200	U	1300	U
1,2-Dichloroethane	1500	U	11	U	11	U	5200	U	1300	U
2-Butanone	1500	U	11	UJ	11	UB	5200	U	10000	
1,1,1-Trichloroethane	1500	U	11	U	11	U	880	J	1200	J
Carbon Tetrachloride	1500	U	11	U	11	U	5200	U	1300	U
Bromodichloromethane	1500	U	11	U	11	U	5200	U	1300	U
1,2-Dichloropropane	1500	U	11	U	11	U	5200	U	1300	U
cis-1,3-Dichloropropene	1500	U	11	U	11	U	5200	U	1300	U
Tricloroethene	1500	U	11	U	11	U	7200		4200	
Dibromochloromethane	1500	U	11	U	11	U	5200	U	1300	U
1,1,2-Trichloroethane	1500	U	11	U	11	U	5200	U	1300	U
Benzene	1500	U	11	U	11	U	5200	U	1300	U
trans-1,3-Dichloropropene	1500	U	11	U	11	U	5200	U	1300	U
Bromoform	1500	U	11	U	11	U	5200	U	1300	U
4-Methyl-2-Pentanone	1500	U	11	U	11	U	5200	U	1800	
2-Hexanone	1500	U	11	U	11	U	5200	U	1300	U
Tetrachloroethene	1500	U	11	U	11	U	82000		14000	
1,1,2,2-Tetrachloroethane	1500	U	11	U	11	U	5200	U	1300	U
Toluene	1500	U	11	U	11	U	12000		3300	
Chlorobenzene	1500	U	11	U	11	U	5200	U	1300	U
Ethylbenzene	1500	U	11	U	11	U	17000		2800	
Styrene	1500	U	11	U	11	U	5200	U	1300	U
Xylene	1500	U	11	U	11	U	94000		16000	

Appendix F: Blank and Duplicate Analysis (Soil Volatile Organics)

Date Sampled	12/2/93	12/2/93
Sample Number	SB12-5F	SB12-5F(D)
Organic Traffic Report Number	EXT48	EXT49

Volatile Organics (ug/kg)				
Chloromethane	10	U		
Bromomethane	10	U		
Vinyl Chloride	10	U		
Chloroethane	10	U		
Methylene Chloride	1	J		
Acetone	26			
Carbon Disulfide	10	U		
1,1-Dichloroethene	10	U		
1,1-Dichloroethane	10	U		
1,2-Dichloroethene (total)	10	U		
Chloroform	10	U		
1,2-Dichloroethane	10	U		
2-Butanone	10	U		
1,1,1-Trichloroethane	10	U		
Carbon Tetrachloride	10	U		
Bromodichloromethane	10	U		
1,2-Dichloropropane	10	U		
cis-1,3-Dichloropropene	10	U		
Tricloroethene	10	U		
Dibromochloromethane	10	U		
1,1,2-Trichloroethane	10	U		
Benzene	10	U		
trans-1,3-Dichloropropene	10	U		
Bromoform	10	U		
4-Methyl-2-Pentanone	10	U		
2-Hexanone	10	U		
Tetrachloroethene	9	J		
1,1,2,2-Tetrachloroethane	10	U		
Toluene	10	U		
Chlorobenzene	10	U		
Ethylbenzene	10	U		
Styrene	10	U		
Xylene	10	U		

Appendix F: Selected Duplicate Relative Percent Differences (Soil Organics)

Date Sampled	6/22/93		6/22/93			6/24/93		6/24/93		
Sample Number	SB7-5E		SB7-5E(D)		SB7-5E	SB7-12D		SB7-12D(D)		SB7-12D
Organic Traffic Report Number	EXR13		EXR14		RPD	EXR26		EXR27		RPD
Volatile Organics (ug/kg)										
Chloromethane	1400	U	1400	U	N/A	12	U	11	U	N/A
Bromomethane	1400	U	1400	U	N/A	12	U	11	U	N/A
Vinyl Chloride	1400	U	1400	U	N/A	12	U	11	U	N/A
Chloroethane	1400	U	1400	U	N/A	12	U	11	U	N/A
Methylene Chloride	1400	UB	1400	UB	N/A	12	UB	11	UB	N/A
Acetone	1400	U	1400	U	N/A	9	J	18		66.67
Carbon Disulfide	1400	U	1400	U	N/A	12	U	11	U	N/A
1,1-Dichloroethene	1400	U	1400	U	N/A	12	U	11	U	N/A
1,1-Dichloroethane	1400	U	240	J	N/A	12	U	11	U	N/A
1,2-Dichloroethene (total)	1700		8800		135.24	1	J	2	J	66.67
Chloroform	1400	U	1400	U	N/A	12	U	11	U	N/A
1,2-Dichloroethane	1400	U	1400	U	N/A	12	U	11	U	N/A
2-Butanone	1400	U	1400	U	N/A	12	U	11	U	N/A
1,1,1-Trichloroethane	5300		26000		132.27	21		32		41.51
Carbon Tetrachloride	1400	U	1400	U	N/A	12	U	11	U	N/A
Bromodichloromethane	1400	U	1400	U	N/A	12	U	11	U	N/A
1,2-Dichloropropane	1400	U	1400	U	N/A	12	U	11	U	N/A
cis-1,3-Dichloropropene	1400	U	1400	U	N/A	12	U	11	U	N/A
Tricloroethene	630	J	3000		130.58	3	J	4	J	28.57
Dibromochloromethane	1400	U	1400	U	N/A	12	U	11	U	N/A
1,1,2-Trichloroethane	1400	U	1400	U	N/A	12	U	11	U	N/A
Benzene	1400	U	1400	U	N/A	12	U	11	U	N/A
trans-1,3-Dichloropropene	1400	U	1400	U	N/A	12	U	11	U	N/A
Bromoform	1400	U	1400	U	N/A	12	U	11	U	N/A
4-Methyl-2-Pentanone	1400	U	1400	U	N/A	12	U	11	U	N/A
2-Hexanone	1400	U	1400	U	N/A	12	U	11	U	N/A
Tetrachloroethene	8400		24000		96.30	12		9	J	28.57
1,1,2,2-Tetrachloroethane	1400	U	1400	U	N/A	12	U	11	U	N/A
Toluene	320	J	1000	J	103.03	1	J	2	J	66.67
Chlorobenzene	1400	U	1400	U	N/A	12	U	11	U	N/A
Ethylbenzene	520	J	1300	J	85.71	12	U	11	U	N/A
Styrene	1400	U	1400	U	N/A	12	U	11	U	N/A
Xylene	3400		8900		89.43	12	U	11	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Soil Organics)

Date Sampled	6/24/93		6/24/93			6/29/93		6/29/93		
Sample Number	SB7-13E		SB7-13E(D)		SB7-13E	SB4-3E		SB4-3E(D)		SB4-3E
Organic Traffic Report Number	EXR28		EXR29		RPD	EXR39		EXR40		RPD
Volatile Organics (ug/kg)										
Chloromethane	11	U	11	U	N/A	10	U	10	U	N/A
Bromomethane	11	U	11	U	N/A	10	U	10	U	N/A
Vinyl Chloride	11	U	11	U	N/A	10	U	10	U	N/A
Chloroethane	11	U	11	U	N/A	10	U	10	U	N/A
Methylene Chloride	11	UB	11	UB	N/A	10	U	10	U	N/A
Acetone	11	U	11	U	N/A	7	J	6	J	15.38
Carbon Disulfide	11	U	11	U	N/A	10	U	10	U	N/A
1,1-Dichloroethene	11	U	11	U	N/A	10	U	10	U	N/A
1,1-Dichloroethane	11	U	11	U	N/A	10	U	10	U	N/A
1,2-Dichloroethene (total)	11	U	11	J	N/A	10	U	10	U	N/A
Chloroform	11	U	11	U	N/A	10	U	10	U	N/A
1,2-Dichloroethane	11	U	11	U	N/A	10	U	10	U	N/A
2-Butanone	11	U	11	U	N/A	10	U	10	U	N/A
1,1,1-Trichloroethane	11	U	130		N/A	10	U	10	U	N/A
Carbon Tetrachloride	11	U	11	U	N/A	10	U	10	U	N/A
Bromodichloromethane	11	U	11	U	N/A	10	U	10	U	N/A
1,2-Dichloropropane	11	U	11	U	N/A	10	U	10	U	N/A
cis-1,3-Dichloropropene	11	U	11	U	N/A	10	U	10	U	N/A
Tricloroethene	11	U	8	J	N/A	10	U	10	U	N/A
Dibromochloromethane	11	U	11	U	N/A	10	U	10	U	N/A
1,1,2-Trichloroethane	11	U	11	U	N/A	10	U	10	U	N/A
Benzene	11	U	11	U	N/A	2	J	10	U	N/A
trans-1,3-Dichloropropene	11	U	11	U	N/A	10	U	10	U	N/A
Bromoform	11	U	11	U	N/A	10	U	10	U	N/A
4-Methyl-2-Pentanone	11	U	11	U	N/A	10	U	10	U	N/A
2-Hexanone	11	U	11	U	N/A	10	U	10	U	N/A
Tetrachloroethene	2	J	35		178.38	1	J	10	U	N/A
1,1,2,2-Tetrachloroethane	11	U	11	U	N/A	10	U	10	U	N/A
Toluene	4	J	2	J	66.67	41		26		44.78
Chlorobenzene	11	U	11	U	N/A	2	J	2	J	0.00
Ethylbenzene	11	U	11	U	N/A	10	U	10	U	N/A
Styrene	11	U	11	U	N/A	10	U	10	U	N/A
Xylene	11	U	11	U	N/A	10	U	10	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Soil Organics)

Date Sampled	6/30/93		6/30/93			7/13/93		7/13/93		
Sample Number	SB2-3D		SB2-3D(D)		SB2-3D	SB9-1F		SB9-1F(D)		SB9-1F
Organic Traffic Report Number	EXR48		EXR49		RPD	EXR56		EXR57		RPD
Volatile Organics (ug/kg)										
Chloromethane	12	UB	12	UB	N/A	10	U	10	U	N/A
Bromomethane	12	UB	12	UB	N/A	10	U	10	U	N/A
Vinyl Chloride	12	U	12	U	N/A	10	U	10	U	N/A
Chloroethane	12	U	12	U	N/A	10	U	10	U	N/A
Methylene Chloride	12	U	12	U	N/A	10	U	10	U	N/A
Acetone	12	U	12	U	N/A	10	UB	10	UB	N/A
Carbon Disulfide	12	U	12	U	N/A	10	U	10	U	N/A
1,1-Dichloroethene	12	U	12	U	N/A	10	U	10	U	N/A
1,1-Dichloroethane	12	U	12	U	N/A	10	U	10	U	N/A
1,2-Dichloroethene (total)	4	J	12	U	N/A	10	U	10	U	N/A
Chloroform	12	U	12	U	N/A	10	U	10	U	N/A
1,2-Dichloroethane	12	U	12	U	N/A	10	U	10	U	N/A
2-Butanone	12	U	12	U	N/A	10	U	10	U	N/A
1,1,1-Trichloroethane	12	U	12	U	N/A	10	U	10	U	N/A
Carbon Tetrachloride	12	U	12	U	N/A	10	U	10	U	N/A
Bromodichloromethane	12	U	12	U	N/A	10	U	10	U	N/A
1,2-Dichloropropane	12	U	12	U	N/A	10	U	10	U	N/A
cis-1,3-Dichloropropene	12	U	12	U	N/A	10	U	10	U	N/A
Tricloroethene	12	UB	12	UB	N/A	10	U	10	U	N/A
Dibromochloromethane	12	U	12	U	N/A	10	U	10	U	N/A
1,1,2-Trichloroethane	12	U	12	U	N/A	10	U	10	U	N/A
Benzene	12	UB	12	UB	N/A	10	U	10	U	N/A
trans-1,3-Dichloropropene	12	U	12	U	N/A	10	U	10	U	N/A
Bromoform	12	U	12	U	N/A	10	U	10	U	N/A
4-Methyl-2-Pentanone	12	U	12	U	N/A	10	U	10	U	N/A
2-Hexanone	12	U	12	U	N/A	10	U	10	U	N/A
Tetrachloroethene	82	B	19	B	124.75	5	J	5	J	0.00
1,1,2,2-Tetrachloroethane	12	U	12	U	N/A	10	U	10	U	N/A
Toluene	12	UB	12	UB	N/A	10	U	10	U	N/A
Chlorobenzene	12	UB	12	UB	N/A	10	U	10	U	N/A
Ethylbenzene	12	U	12	U	N/A	10	U	10	U	N/A
Styrene	12	UB	12	UB	N/A	10	U	10	U	N/A
Xylene	12	UB	12	U	N/A	10	U	10	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Soil Organics)

Date Sampled	8/25/93		8/25/93			8/30/93		8/30/93		
Sample Number	SB11-1J		SB11-1J(D)		SB11-1J	SB11-8I		SB11-8I(D)		SB11-8I
Organic Traffic Report Number	EXR77		EXR78		RPD	EXR86		EXR87		RPD
Volatile Organics (ug/kg)										
Chloromethane	12	U	11	U	N/A	1500	U	1500	U	N/A
Bromomethane	12	U	11	U	N/A	1500	U	1500	U	N/A
Vinyl Chloride	12	U	11	U	N/A	1500	U	1500	U	N/A
Chloroethane	12	U	11	U	N/A	1500	U	1500	U	N/A
Methylene Chloride	13		1	J	171.43	2100		2900		32.00
Acetone	44		11	UB	N/A	1500	U	1500	U	N/A
Carbon Disulfide	12	U	11	U	N/A	1500	U	1500	U	N/A
1,1-Dichloroethene	12	U	11	U	N/A	1500	U	1500	U	N/A
1,1-Dichloroethane	12	U	11	U	N/A	1500	U	1500	U	N/A
1,2-Dichloroethene (total)	12	U	11	U	N/A	1500	U	1500	U	N/A
Chloroform	12	U	11	U	N/A	1500	U	1500	U	N/A
1,2-Dichloroethane	12	U	11	U	N/A	1500	U	1500	U	N/A
2-Butanone	12	U	11	U	N/A	1500	U	1500	U	N/A
1,1,1-Trichloroethane	12	U	11	U	N/A	1500	U	1500	U	N/A
Carbon Tetrachloride	12	U	11	U	N/A	1500	U	1500	U	N/A
Bromodichloromethane	12	U	11	U	N/A	1500	U	1500	U	N/A
1,2-Dichloropropane	12	U	11	U	N/A	1500	U	1500	U	N/A
cis-1,3-Dichloropropene	12	U	11	U	N/A	1500	U	1500	U	N/A
Tricloroethene	12	U	11	U	N/A	1500	U	1500	U	N/A
Dibromochloromethane	12	U	11	U	N/A	1500	U	1500	U	N/A
1,1,2-Trichloroethane	12	U	11	U	N/A	1500	U	1500	U	N/A
Benzene	12	U	11	UB	N/A	1500	U	1500	U	N/A
trans-1,3-Dichloropropene	12	U	11	U	N/A	1500	U	1500	U	N/A
Bromoform	12	U	11	U	N/A	1500	U	1500	U	N/A
4-Methyl-2-Pentanone	12	U	11	U	N/A	1500	U	1500	U	N/A
2-Hexanone	12	U	11	U	N/A	1500	U	1500	U	N/A
Tetrachloroethene	12	U	11	U	N/A	1500	U	1500	U	N/A
1,1,2,2-Tetrachloroethane	12	U	11	U	N/A	1500	U	1500	U	N/A
Toluene	130		11	UB	N/A	1500	U	1500	U	N/A
Chlorobenzene	12	U	11	U	N/A	1500	U	1500	U	N/A
Ethylbenzene	6	J	11	U	N/A	1500	U	1500	U	N/A
Styrene	12	U	11	U	N/A	1500	U	1500	U	N/A
Xylene	21		11	U	N/A	1500	U	1500	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Soil Organics)

Date Sampled	9/22/93		9/22/93			12/1/93		12/1/93		
Sample Number	SS7-1		SS7-1(D)		SS7-1	SB12-3B		SB12-3B(D)		SB12-3B
Organic Traffic Report Number	EXR99		EXS01		RPD	EXT42		EXT43		RPD
Volatile Organics (ug/kg)										
Chloromethane	11	U	11	U	N/A	5200	U	1300	U	N/A
Bromomethane	11	U	11	U	N/A	5200	U	1300	U	N/A
Vinyl Chloride	11	U	11	U	N/A	5200	U	1300	U	N/A
Chloroethane	11	U	11	U	N/A	5200	U	1300	U	N/A
Methylene Chloride	13		31		81.82	5200	U	1300	U	N/A
Acetone	10	J	28		94.74	13000		18000		32.26
Carbon Disulfide	11	U	11	U	N/A	5200	U	1300	U	N/A
1,1-Dichloroethene	11	U	11	U	N/A	5200	U	1300	U	N/A
1,1-Dichloroethane	11	U	11	U	N/A	5200	U	1300	U	N/A
1,2-Dichloroethene (total)	11	U	11	U	N/A	5200	U	170	J	N/A
Chloroform	11	U	11	U	N/A	5200	U	1300	U	N/A
1,2-Dichloroethane	11	U	11	U	N/A	5200	U	1300	U	N/A
2-Butanone	11	UJ	11	UB	N/A	5200	U	10000		N/A
1,1,1-Trichloroethane	11	U	11	U	N/A	880	J	1200	J	30.77
Carbon Tetrachloride	11	U	11	U	N/A	5200	U	1300	U	N/A
Bromodichloromethane	11	U	11	U	N/A	5200	U	1300	U	N/A
1,2-Dichloropropane	11	U	11	U	N/A	5200	U	1300	U	N/A
cis-1,3-Dichloropropene	11	U	11	U	N/A	5200	U	1300	U	N/A
Tricloroethene	11	U	11	U	N/A	7200		4200		52.63
Dibromochloromethane	11	U	11	U	N/A	5200	U	1300	U	N/A
1,1,2-Trichloroethane	11	U	11	U	N/A	5200	U	1300	U	N/A
Benzene	11	U	11	U	N/A	5200	U	1300	U	N/A
trans-1,3-Dichloropropene	11	U	11	U	N/A	5200	U	1300	U	N/A
Bromoform	11	U	11	U	N/A	5200	U	1300	U	N/A
4-Methyl-2-Pentanone	11	U	11	U	N/A	5200	U	1800		N/A
2-Hexanone	11	U	11	U	N/A	5200	U	1300	U	N/A
Tetrachloroethene	11	U	11	U	N/A	82000		14000		141.67
1,1,2,2-Tetrachloroethane	11	U	11	U	N/A	5200	U	1300	U	N/A
Toluene	11	U	11	U	N/A	12000		3300		113.73
Chlorobenzene	11	U	11	U	N/A	5200	U	1300	U	N/A
Ethylbenzene	11	U	11	U	N/A	17000		2800		143.43
Styrene	11	U	11	U	N/A	5200	U	1300	U	N/A
Xylene	11	U	11	U	N/A	94000		16000		141.82

Appendix F: Selected Duplicate Relative Percent Differences (Soil Organics)

Date Sampled	12/2/93		12/2/93		
Sample Number	SB12-5F		SB12-5F(D)		SB12-5F
Organic Traffic Report Number	EXT48		EXT49		RPD
Volatile Organics (ug/kg)					
Chloromethane	10	U			N/A
Bromomethane	10	U			N/A
Vinyl Chloride	10	U			N/A
Chloroethane	10	U			N/A
Methylene Chloride	1	J			N/A
Acetone	26				N/A
Carbon Disulfide	10	U			N/A
1,1-Dichloroethene	10	U			N/A
1,1-Dichloroethane	10	U			N/A
1,2-Dichloroethene (total)	10	U			N/A
Chloroform	10	U			N/A
1,2-Dichloroethane	10	U			N/A
2-Butanone	10	U			N/A
1,1,1-Trichloroethane	10	U			N/A
Carbon Tetrachloride	10	U			N/A
Bromodichloromethane	10	U			N/A
1,2-Dichloropropane	10	U			N/A
cis-1,3-Dichloropropene	10	U			N/A
Tricloroethene	10	U			N/A
Dibromochloromethane	10	U			N/A
1,1,2-Trichloroethane	10	U			N/A
Benzene	10	U			N/A
trans-1,3-Dichloropropene	10	U			N/A
Bromoform	10	U			N/A
4-Methyl-2-Pentanone	10	U			N/A
2-Hexanone	10	U			N/A
Tetrachloroethene	9	J			N/A
1,1,2,2-Tetrachloroethane	10	U			N/A
Toluene	10	U			N/A
Chlorobenzene	10	U			N/A
Ethylbenzene	10	U			N/A
Styrene	10	U			N/A
Xylene	10	U			N/A

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	6/22/93	6/22/93	6/24/93	6/24/93	6/24/93
Sample Number	SB7-5E	SB7-5E(D)	SB7-12D	SB7-12D(D)	SB7-13E
Organic Traffic Report Number	EXR13	EXR14	EXR26	EXR27	EXR28

Semivolatile Organics (ug/kg)

Phenol	12000	U	11000	U	380	U	370	U	370	U
bis(2-Chloroethyl)Ether	12000	U	11000	U	380	U	370	U	370	U
2-Chlorophenol	12000	U	11000	U	380	U	370	U	370	U
1,3-Dichlorobenzene	12000	U	11000	U	380	U	370	U	370	U
1,4-Dichlorobenzene	12000	U	11000	U	380	U	370	U	370	U
1,2-Dichlorobenzene	12000	U	11000	U	380	U	370	U	370	U
2-Methylphenol	12000	U	11000	U	380	U	370	U	370	U
2,2'-oxybis(1-Chloropropane)	12000	U	11000	U	380	U	370	U	370	U
4-Methylphenol	12000	U	11000	U	380	U	370	U	370	U
N-Nitroso-Di-n-Propylamine	12000	U	11000	U	380	U	370	U	370	U
Hexachloroethane	12000	U	11000	U	380	U	370	U	370	U
Nitrobenzene	12000	U	11000	U	380	U	370	U	370	U
Isophorone	12000	U	11000	U	380	U	370	U	370	U
2-Nitrophenol	12000	U	11000	U	380	U	370	U	370	U
2,4-Dimethylphenol	12000	U	11000	U	380	U	370	U	370	U
bis(2-Chloroethoxy)Methane	12000	U	11000	U	380	U	370	U	370	U
2,4-Dichlorophenol	12000	U	11000	U	380	U	370	U	370	U
1,2,4-Trichlorobenzene	12000	U	11000	U	380	U	370	U	370	U
Naphthalene	12000	U	11000	U	380	U	370	U	370	U
4-Chloroaniline	12000	U	11000	U	380	U	370	U	370	U
Hexachlorobutadiene	12000	U	11000	U	380	U	370	U	370	U
4-Chloro-3-Methylphenol	12000	U	11000	U	380	U	370	U	370	U
2-Methylnaphthalene	12000	U	11000	U	380	U	370	U	370	U
Hexachlorocyclopentadiene	12000	U	11000	U	380	U	370	U	370	U
2,4,6-Trichlorophenol	12000	U	11000	U	380	U	370	U	370	U
2,4,5-Trichlorophenol	29000	U	28000	U	930	U	910	U	910	U
2-Chloronaphthalene	12000	U	11000	U	380	U	370	U	370	U
2-Nitroaniline	29000	U	28000	U	930	U	910	U	910	U
Dimethylphthalate	12000	U	11000	U	380	U	370	U	370	U
Acenaphthylene	12000	U	11000	U	380	U	370	U	370	U
2,6-Dinitrotoluene	12000	U	11000	U	380	U	370	U	370	U

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	6/22/93		6/22/93		6/24/93		6/24/93		6/24/93	
Sample Number	SB7-5E		SB7-5E(D)		SB7-12D		SB7-12D(D)		SB7-13E	
Organic Traffic Report Number	EXR13		EXR14		EXR26		EXR27		EXR28	
3-Nitroaniline	29000	U	28000	U	930	U	910	U	910	U
Acenaphthene	12000	U	11000	U	380	U	370	U	370	U
2,4-Dinitrophenol	29000	U	28000	U	930	U	910	U	910	U
4-Nitrophenol	29000	U	28000	U	930	U	910	U	910	U
Dibenzofuran	12000	U	11000	U	380	U	370	U	370	U
2,4-Dinitrotoluene	12000	U	11000	U	380	U	370	U	370	U
Diethylphthalate	12000	U	11000	U	30	BJ	26	BJ	64	BJ
4-Chlorophenyl-phenylether	12000	U	11000	U	380	U	370	U	370	U
Fluorene	12000	U	11000	U	380	U	370	U	370	U
4-Nitroaniline	29000	U	28000	U	930	U	910	U	910	U
4,6-Dinitro-2-Methylphenol	29000	U	28000	U	930	U	910	U	910	U
N-Nitrosodiphenylamine (1)	12000	U	11000	U	380	U	370	U	370	U
4-Bromophenyl-phenylether	12000	U	11000	U	380	U	370	U	370	U
Hexachlorobenzene	12000	U	11000	U	380	U	370	U	370	U
Pentachlorophenol	29000	U	28000	U	930	U	910	U	910	U
Phenanthrene	12000	U	11000	U	380	U	370	U	370	U
Anthracene	12000	U	11000	U	380	U	370	U	370	U
Carbazole	12000	U	11000	U	380	U	370	U	370	U
Di-n-Butylphthalate	650	JH	790	JH	43	BJ	38	BJ	41	BJ
Fluoranthene	12000	U	11000	U	380	U	370	U	370	U
Pyrene	12000	U	11000	U	380	U	370	U	370	U
Butylbenzylphthalate	12000	U	11000	U	380	U	370	U	370	U
3,3'-Dichlorobenzidine	12000	U	11000	U	380	U	370	U	370	U
Benzo(a)anthracene	12000	U	11000	U	380	U	370	U	370	U
Chrysene	12000	U	11000	U	380	U	370	U	370	U
bis(2-Ethylhexyl)Phthalate	12000	U	630	JH	91	J	110	J	370	U
Di-n-Octyl Phthalate	12000	U	11000	U	22	J	29	J	370	U
Benzo (b) Fluoranthene	12000	U	11000	U	380	U	370	U	370	U
Benzo (k) Fluoranthene	12000	U	11000	U	380	U	370	U	370	U
Benzo (a) Pyrene	12000	U	11000	U	380	U	370	U	370	U
Ideno (1,2,3-cd) Pyrene	12000	U	11000	U	380	U	370	U	370	U
Dibenzo (a,h) Anthracene	12000	U	11000	U	380	U	370	U	370	U

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	6/22/93		6/22/93		6/24/93		6/24/93		6/24/93	
Sample Number	SB7-5E		SB7-5E(D)		SB7-12D		SB7-12D(D)		SB7-13E	
Organic Traffic Report Number	EXR13		EXR14		EXR26		EXR27		EXR28	
Benzo (g,h,i) Perylene	12000	U	11000	U	380	U	370	U	370	U
Pesticides & PCBs (ug/kg)										
alpha-BHC	2	U	1.9	U	2	U	1.9	U	1.9	U
beta-BHC	2	U	1.9	U	2	U	1.9	U	1.9	U
delta-BHC	2	U	1.9	U	2	U	1.9	U	1.9	U
gamma-BHC (Lindane)	2	U	1.9	U	2	U	1.9	U	1.9	U
Heptachlor	2	U	1.9	U	2	U	1.9	U	1.9	U
Aldrin	2	U	1.9	U	2	U	1.9	U	1.9	U
Heptachlor epoxide	2	U	1.9	U	2	U	1.9	U	1.9	U
Endosulfan I	2	U	1.9	U	2	U	1.9	U	1.9	U
Dieldrin	3.8	U	3.7	U	3.8	U	3.7	U	3.7	U
4,4'-DDE	3.8	U	3.7	U	3.8	U	3.7	U	3.7	U
Endrin	3.8	U	3.7	U	3.8	U	3.7	U	3.7	U
Endosulfan II	3.8	U	3.7	U	3.8	U	3.7	U	3.7	U
4,4'-DDD	3.8	U	3.7	U	3.8	U	3.7	U	3.7	U
Endosulfan sulfate	3.8	U	3.7	U	3.8	U	3.7	U	3.7	U
4,4'-DDT	3.8	U	3.7	U	3.8	U	3.7	U	3.7	U
Methoxychlor	20	U	19	U	20	U	19	U	19	U
Endrin ketone	3.8	U	3.7	U	3.8	U	3.7	U	3.7	U
Endrin aldehyde	3.8	U	3.7	U	3.8	U	3.7	U	3.7	U
alpha-Chlordane	2	U	1.9	U	2	U	1.9	U	1.9	U
gamma-Chlordane	2	U	1.9	U	2	U	1.9	U	1.9	U
Toxaphene	200	U	190	U	200	U	190	U	190	U
Aroclor-1016	38	U	37	U	38	U	37	U	37	U
Aroclor-1221	78	U	76	U	78	U	76	U	76	U
Aroclor-1232	38	U	37	U	38	U	37	U	37	U
Aroclor-1242	170		140		38	U	37	U	37	U
Aroclor-1248	38	U	37	U	38	U	37	U	37	U
Aroclor-1254	38	U	37	U	38	U	37	U	37	U
Aroclor-1260	38	U	37	U	38	U	37	U	37	U

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	6/24/93	6/29/93	6/29/93	6/30/93	6/30/93
Sample Number	SB7-13E(D)	SB4-3E	SB4-3E(D)	SB2-3D	SB2-3D(D)
Organic Traffic Report Number	EXR29	EXR39	EXR40	EXR48	EXR49
Semivolatile Organics (ug/kg)					
Phenol	370 U	340 U	340 U	390 U	390 U
bis(2-Chloroethyl)Ether	370 U	340 U	340 U	390 U	390 U
2-Chlorophenol	370 U	340 U	340 U	390 U	390 U
1,3-Dichlorobenzene	370 U	340 U	340 U	390 U	390 U
1,4-Dichlorobenzene	370 U	340 U	340 U	390 U	390 U
1,2-Dichlorobenzene	370 U	340 U	340 U	390 U	390 U
2-Methylphenol	370 U	340 U	340 U	390 U	390 U
2,2'-oxybis(1-Chloropropane)	370 U	340 U	340 U	390 U	390 U
4-Methylphenol	370 U	340 U	340 U	390 U	390 U
N-Nitroso-Di-n-Propylamine	370 U	340 U	340 U	390 U	390 U
Hexachloroethane	370 U	340 U	340 U	390 U	390 U
Nitrobenzene	370 U	340 U	340 U	390 U	390 U
Isophorone	370 U	340 U	340 U	390 U	390 U
2-Nitrophenol	370 U	340 U	340 U	390 U	390 U
2,4-Dimethylphenol	370 U	340 U	340 U	390 U	390 U
bis(2-Chloroethoxy)Methane	370 U	340 U	340 U	390 U	390 U
2,4-Dichlorophenol	370 U	340 U	340 U	390 U	390 U
1,2,4-Trichlorobenzene	370 U	340 U	340 U	390 U	390 U
Naphthalene	370 U	340 U	340 U	390 U	390 U
4-Chloroaniline	370 U	340 U	340 U	390 U	390 U
Hexachlorobutadiene	370 U	340 U	340 U	390 U	390 U
4-Chloro-3-Methylphenol	370 U	340 U	340 U	390 U	390 U
2-Methylnaphthalene	370 U	340 U	340 U	390 U	390 U
Hexachlorocyclopentadiene	370 U	340 U	340 U	390 U	390 U
2,4,6-Trichlorophenol	370 U	340 U	340 U	390 U	390 U
2,4,5-Trichlorophenol	910 U	820 U	820 U	940 U	940 U
2-Chloronaphthalene	370 U	340 U	340 U	390 U	390 U
2-Nitroaniline	910 U	820 U	820 U	940 U	940 U
Dimethylphthalate	370 U	340 U	340 U	390 U	390 U
Acenaphthylene	370 U	340 U	340 U	390 U	390 U
2,6-Dinitrotoluene	370 U	340 U	340 U	390 U	390 U

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	6/24/93		6/29/93		6/29/93		6/30/93		6/30/93	
Sample Number	SB7-13E(D)		SB4-3E		SB4-3E(D)		SB2-3D		SB2-3D(D)	
Organic Traffic Report Number	EXR29		EXR39		EXR40		EXR48		EXR49	
3-Nitroaniline	910	U	820	U	820	U	940	U	940	U
Acenaphthene	370	U	340	U	340	U	390	U	390	U
2,4-Dinitrophenol	910	U	820	U	820	U	940	U	940	U
4-Nitrophenol	910	U	820	U	820	U	940	U	940	U
Dibenzofuran	370	U	340	U	340	U	390	U	390	U
2,4-Dinitrotoluene	370	U	340	U	340	U	390	U	390	U
Diethylphthalate	370	U	340	U	340	U	390	U	390	U
4-Chlorophenyl-phenylether	370	U	340	U	340	U	390	U	390	U
Fluorene	370	U	340	U	340	U	390	U	390	U
4-Nitroaniline	910	U	820	U	820	U	940	U	940	U
4,6-Dinitro-2-Methylphenol	910	U	820	U	820	U	940	U	940	U
N-Nitrosodiphenylamine (1)	370	U	340	U	340	U	390	U	390	U
4-Bromophenyl-phenylether	370	U	340	U	340	U	390	U	390	U
Hexachlorobenzene	370	U	340	U	340	U	390	U	390	U
Pentachlorophenol	910	U	820	U	820	U	940	U	940	U
Phenanthrene	370	U	340	U	340	U	390	U	390	U
Anthracene	370	U	340	U	340	U	390	U	390	U
Carbazole	370	U	340	U	340	U	390	U	390	U
Di-n-Butylphthalate	44	BJ	340	U	340	U	390	U	390	U
Fluoranthene	370	U	340	U	340	U	390	U	390	U
Pyrene	370	U	340	U	340	U	390	U	390	U
Butylbenzylphthalate	370	U	340	U	340	U	390	U	390	U
3,3'-Dichlorobenzidine	370	U	340	U	340	U	390	U	390	U
Benzo(a)anthracene	370	U	340	U	340	U	390	U	390	U
Chrysene	370	U	340	U	340	U	390	U	390	U
bis(2-Ethylhexyl)Phthalate	370	U	340	U	340	U	390	U	390	U
Di-n-Octyl Phthalate	370	U	340	U	340	U	390	U	390	U
Benzo (b) Fluoranthene	370	U	340	U	340	U	390	U	390	U
Benzo (k) Fluoranthene	370	U	340	U	340	U	390	U	390	U
Benzo (a) Pyrene	370	U	340	U	340	U	390	U	390	U
Ideno (1,2,3-cd) Pyrene	370	U	340	U	340	U	390	U	390	U
Dibenzo (a,h) Anthracene	370	U	340	U	340	U	390	U	390	U

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	6/24/93		6/29/93		6/29/93		6/30/93		6/30/93	
Sample Number	SB7-13E(D)		SB4-3E		SB4-3E(D)		SB2-3D		SB2-3D(D)	
Organic Traffic Report Number	EXR29		EXR39		EXR40		EXR48		EXR49	
Benzo (g,h,i) Perylene	370	U	340	U	340	U	390	U	390	U
Pesticides & PCBs (ug/kg)										
alpha-BHC	1.9	U	1.8	U	1.7	U	2	U	0.13	JP
beta-BHC	1.9	U	1.8	U	1.7	U	2	U	2	U
delta-BHC	1.9	U	1.8	U	1.7	U	2	U	2	U
gamma-BHC (Lindane)	1.9	U	1.8	U	1.7	U	2	U	2	U
Heptachlor	1.9	U	1.8	U	1.7	U	2	U	2	U
Aldrin	1.9	U	1.8	U	1.7	U	2	U	2	U
Heptachlor epoxide	1.9	U	1.8	U	1.7	U	2	U	2	U
Endosulfan I	1.9	U	1.8	U	1.7	U	2	U	2	U
Dieldrin	3.7	U	3.4	U	3.4	U	2	UB	2	UB
4,4'-DDE	3.7	U	0.34	P	3.4	U	3.9	U	3.9	U
Endrin	3.7	U	3.4	U	3.4	U	3.9	U	3.9	U
Endosulfan II	3.7	U	3.4	U	3.4	UB	3.9	U	3.9	U
4,4'-DDD	3.7	U	3.4	U	3.4	U	3.9	U	3.9	U
Endosulfan sulfate	3.7	U	3.4	U	3.4	U	3.9	U	3.9	U
4,4'-DDT	3.7	U	3.4	U	3.4	U	3.9	U	3.9	U
Methoxychlor	19	U	18	U	17	U	20	U	20	U
Endrin ketone	3.7	U	3.4	U	3.4	U	3.9	U	3.9	U
Endrin aldehyde	3.7	U	3.4	U	3.4	U	3.9	U	3.9	U
alpha-Chlordane	1.9	U	1.8	U	1.7	U	2	U	2	U
gamma-Chlordane	1.9	U	1.8	U	1.7	U	2	U	2	U
Toxaphene	190	U	180	U	170	U	200	U	200	U
Aroclor-1016	37	U	34	U	34	U	39	U	39	U
Aroclor-1221	76	U	69	U	68	U	79	U	79	U
Aroclor-1232	37	U	34	U	34	U	39	U	39	U
Aroclor-1242	37	U	34	U	34	U	39	U	39	U
Aroclor-1248	37	U	34	U	34	U	39	U	39	U
Aroclor-1254	37	U	34	U	34	U	39	U	39	U
Aroclor-1260	37	U	34	U	34	U	39	U	39	U

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	7/13/93	7/13/93	8/25/93	8/25/93	8/30/93
Sample Number	SB9-1F	SB9-1F(D)	SB11-1J	SB11-1J(D)	SB11-8I
Organic Traffic Report Number	EXR56	EXR57	EXR77	EXR78	EXR86
Semivolatile Organics (ug/kg)					
Phenol	350 U	350 U	390 U	380 U	400 UB
bis(2-Chloroethyl)Ether	350 U	350 U	390 U	380 U	400 U
2-Chlorophenol	350 U	350 U	390 U	380 U	400 U
1,3-Dichlorobenzene	350 U	350 U	390 U	380 U	400 U
1,4-Dichlorobenzene	350 U	350 U	390 U	380 U	400 U
1,2-Dichlorobenzene	350 U	350 U	390 U	380 U	400 U
2-Methylphenol	350 U	350 U	390 U	380 U	400 U
2,2'-oxybis(1-Chloropropane)	350 U	350 U	390 U	380 U	400 U
4-Methylphenol	350 U	350 U	390 U	380 U	400 U
N-Nitroso-Di-n-Propylamine	350 U	350 U	390 U	380 U	400 U
Hexachloroethane	350 U	350 U	390 U	380 U	400 U
Nitrobenzene	350 U	350 U	390 U	380 U	400 U
Isophorone	350 U	350 U	390 U	380 U	400 U
2-Nitrophenol	350 U	350 U	390 U	380 U	400 U
2,4-Dimethylphenol	350 U	350 U	390 U	380 U	400 U
bis(2-Chloroethoxy)Methane	350 U	350 U	390 U	380 U	400 U
2,4-Dichlorophenol	350 U	350 U	390 U	380 U	400 U
1,2,4-Trichlorobenzene	350 U	350 U	390 U	380 U	400 U
Naphthalene	350 U	350 U	390 U	380 U	400 U
4-Chloroaniline	350 U	350 U	390 U	380 U	400 U
Hexachlorobutadiene	350 U	350 U	390 U	380 U	400 U
4-Chloro-3-Methylphenol	350 U	350 U	390 U	380 U	400 U
2-Methylnaphthalene	350 U	350 U	390 U	380 U	400 U
Hexachlorocyclopentadiene	350 U	350 U	390 U	380 U	400 U
2,4,6-Trichlorophenol	350 U	350 U	390 U	380 U	400 U
2,4,5-Trichlorophenol	840 U	840 U	950 U	910 U	960 U
2-Chloronaphthalene	350 U	350 U	390 U	380 U	400 U
2-Nitroaniline	840 U	840 U	950 U	910 U	960 U
Dimethylphthalate	350 U	350 U	390 U	380 U	400 U
Acenaphthylene	350 U	350 U	390 U	380 U	400 U
2,6-Dinitrotoluene	350 U	350 U	390 U	380 U	400 U

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	7/13/93		7/13/93		8/25/93		8/25/93		8/30/93	
Sample Number	SB9-1F		SB9-1F(D)		SB11-1J		SB11-1J(D)		SB11-8I	
Organic Traffic Report Number	EXR56		EXR57		EXR77		EXR78		EXR86	
3-Nitroaniline	840	U	840	U	950	U	910	U	960	U
Acenaphthene	350	U	350	U	390	U	380	U	400	U
2,4-Dinitrophenol	840	U	840	U	950	U	910	U	960	U
4-Nitrophenol	840	U	840	U	950	U	910	U	960	U
Dibenzofuran	350	U	350	U	390	U	380	U	400	U
2,4-Dinitrotoluene	350	U	350	U	390	U	380	U	400	U
Diethylphthalate	350	U	350	U	390	U	380	UB	400	U
4-Chlorophenyl-phenylether	350	U	350	U	390	U	380	U	400	U
Fluorene	350	U	350	U	390	U	380	U	400	U
4-Nitroaniline	840	U	840	U	950	U	910	U	960	U
4,6-Dinitro-2-Methylphenol	840	U	840	U	950	U	910	U	960	U
N-Nitrosodiphenylamine (1)	350	U	350	U	390	U	380	U	400	U
4-Bromophenyl-phenylether	350	U	350	U	390	U	380	U	400	U
Hexachlorobenzene	350	U	350	U	390	U	380	U	400	U
Pentachlorophenol	840	U	840	U	950	U	910	U	960	U
Phenanthrene	350	U	350	U	390	U	380	U	400	U
Anthracene	350	U	350	U	390	U	380	U	400	U
Carbazole	350	U	350	U	390	U	380	U	400	U
Di-n-Butylphthalate	350	UB	350	UB	390	U	380	U	400	UB
Fluoranthene	350	U	350	U	390	U	380	U	400	U
Pyrene	350	U	350	U	390	U	380	U	400	U
Butylbenzylphthalate	350	U	350	U	390	U	380	U	400	U
3,3'-Dichlorobenzidine	350	U	350	U	390	U	380	U	400	U
Benzo(a)anthracene	350	U	350	U	390	U	380	U	400	U
Chrysene	350	U	350	U	390	U	380	U	400	U
bis(2-Ethylhexyl)Phthalate	350	UB	350	UB	390	UB	380	UB	400	UB
Di-n-Octyl Phthalate	350	U	350	U	390	U	380	U	400	U
Benzo (b) Fluoranthene	350	U	350	U	390	U	380	U	400	U
Benzo (k) Fluoranthene	350	U	350	U	390	U	380	U	400	U
Benzo (a) Pyrene	350	U	350	U	390	U	380	U	400	U
Ideno (1,2,3-cd) Pyrene	350	U	350	U	390	U	380	U	400	U
Dibenzo (a,h) Anthracene	350	U	350	U	390	U	380	U	400	U

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	7/13/93		7/13/93		8/25/93		8/25/93		8/30/93	
Sample Number	SB9-1F		SB9-1F(D)		SB11-1J		SB11-1J(D)		SB11-8I	
Organic Traffic Report Number	EXR56		EXR57		EXR77		EXR78		EXR86	
Benzo (g,h,i) Perylene	350	U	350	U	390	U	380	U	400	U
Pesticides & PCBs (ug/kg)										
alpha-BHC	1.8	U	1.8	U	2	U	1.9	U	2	U
beta-BHC	1.8	U	1.8	U	2	U	1.9	U	2	U
delta-BHC	1.8	U	1.8	U	2	U	1.9	U	2	U
gamma-BHC (Lindane)	1.8	U	1.8	U	2	U	1.9	U	2	U
Heptachlor	1.8	U	1.8	U	2	U	1.9	U	2	U
Aldrin	1.8	U	1.8	U	2	U	1.9	U	2	U
Heptachlor epoxide	1.8	U	1.8	U	2	U	1.9	U	2	U
Endosulfan I	1.8	U	1.8	U	2	U	1.9	U	2	U
Dieldrin	3.5	U	3.5	U	3.9	U	3.8	U	4	U
4,4'-DDE	3.5	U	3.5	U	3.9	U	3.8	U	4	U
Endrin	3.5	U	3.5	U	3.9	U	3.8	U	4	U
Endosulfan II	3.5	U	3.5	U	3.9	U	3.8	U	4	U
4,4'-DDD	3.5	U	3.5	U	3.9	U	3.8	U	4	U
Endosulfan sulfate	3.5	U	3.5	U	3.9	U	3.8	U	4	U
4,4'-DDT	3.5	U	3.5	U	3.9	U	3.8	U	4	U
Methoxychlor	18	U	3.5	UB	20	U	19	U	20	U
Endrin ketone	3.5	U	3.5	U	3.9	U	3.8	U	4	U
Endrin aldehyde	3.5	U	3.5	U	3.9	U	3.8	U	4	U
alpha-Chlordane	1.8	U	1.8	U	2	U	1.9	U	2	U
gamma-Chlordane	1.8	U	1.8	U	2	U	1.9	U	2	U
Toxaphene	180	U	180	U	200	U	190	U	200	U
Aroclor-1016	35	U	35	U	39	U	38	U	40	UJ
Aroclor-1221	70	U	70	U	80	U	76	U	80	UJ
Aroclor-1232	35	U	35	U	39	U	38	U	40	UJ
Aroclor-1242	35	U	35	U	39	U	38	U	40	UJ
Aroclor-1248	35	U	35	U	39	U	38	U	40	UJ
Aroclor-1254	35	U	35	U	39	U	38	U	40	UJ
Aroclor-1260	35	U	35	U	39	U	38	U	40	UJ

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	8/30/93		9/22/93		9/22/93		12/1/93		12/1/93		
Sample Number	SB11-8I(D)		SS7-1		SS7-1(D)		SB12-3B		SB12-3B(D)		
Organic Traffic Report Number	EXR87		EXR99		EXS01		EXT42		EXT43		
Semivolatile Organics (ug/kg)											
Phenol	400	U	370	U	370	UJ					
bis(2-Chloroethyl)Ether	400	U	370	U	370	UJ					
2-Chlorophenol	400	U	370	U	370	U					
1,3-Dichlorobenzene	400	U	370	U	370	U					
1,4-Dichlorobenzene	400	U	370	U	370	UJ					
1,2-Dichlorobenzene	400	U	370	U	370	U					
2-Methylphenol	160	J	370	U	370	UJ					
2,2'-oxybis(1-Chloropropane)	400	U	370	U	370	UJ					
4-Methylphenol	400	U	370	U	370	UJ					
N-Nitroso-Di-n-Propylamine	400	U	370	U	370	UJ					
Hexachloroethane	400	U	370	U	370	UJ					
Nitrobenzene	400	U	370	U	370	U					
Isophorone	400	U	370	U	370	UJ					
2-Nitrophenol	400	U	370	U	370	UJ					
2,4-Dimethylphenol	400	U	370	U	370	U					
bis(2-Chloroethoxy)Methane	400	U	370	U	370	U					
2,4-Dichlorophenol	400	U	370	U	370	U					
1,2,4-Trichlorobenzene	400	U	370	U	370	UJ					
Naphthalene	400	U	370	U	370	U					
4-Chloroaniline	400	U	370	U	370	U					
Hexachlorobutadiene	400	U	370	U	370	U					
4-Chloro-3-Methylphenol	400	U	370	U	370	U					
2-Methylnaphthalene	400	U	370	U	370	U					
Hexachlorocyclopentadiene	400	U	370	U	370	U					
2,4,6-Trichlorophenol	400	U	370	U	370	U					
2,4,5-Trichlorophenol	960	U	900	U	910	U					
2-Chloronaphthalene	400	U	370	U	370	U					
2-Nitroaniline	960	U	900	U	910	U					
Dimethylphthalate	400	U	370	U	370	U					
Acenaphthylene	400	U	370	U	370	U					
2,6-Dinitrotoluene	400	U	370	U	370	U					

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	8/30/93		9/22/93		9/22/93		12/1/93		12/1/93		
Sample Number	SB11-8I(D)		SS7-1		SS7-1(D)		SB12-3B		SB12-3B(D)		
Organic Traffic Report Number	EXR87		EXR99		EXS01		EXT42		EXT43		
3-Nitroaniline	960	U	900	U	910	U					
Acenaphthene	400	U	370	U	370	U					
2,4-Dinitrophenol	960	U	900	U	910	U					
4-Nitrophenol	960	U	900	U	910	UJ					
Dibenzofuran	400	U	370	U	370	U					
2,4-Dinitrotoluene	400	U	370	U	370	U					
Diethylphthalate	400	U	370	U	370	U					
4-Chlorophenyl-phenylether	400	U	370	U	370	U					
Fluorene	400	U	370	U	370	U					
4-Nitroaniline	960	U	900	U	910	U					
4,6-Dinitro-2-Methylphenol	960	U	900	U	910	U					
N-Nitrosodiphenylamine (1)	400	U	370	U	370	U					
4-Bromophenyl-phenylether	400	U	370	U	370	U					
Hexachlorobenzene	400	U	370	U	370	U					
Pentachlorophenol	960	U	900	U	910	U					
Phenanthrene	400	U	370	U	370	U					
Anthracene	400	U	370	U	370	U					
Carbazole	400	U	370	U	370	U					
Di-n-Butylphthalate	510	BJ	370	UB	370	UB					
Fluoranthene	400	U	370	U	370	U					
Pyrene	400	U	370	U	370	U					
Butylbenzylphthalate	400	U	370	U	370	U					
3,3'-Dichlorobenzidine	400	U	370	U	370	U					
Benzo(a)anthracene	400	U	370	U	370	U					
Chrysene	400	U	370	U	370	U					
bis(2-Ethylhexyl)Phthalate	400	U	85	J	240	J					
Di-n-Octyl Phthalate	400	U	370	U	370	U					
Benzo (b) Fluoranthene	400	U	370	U	370	U					
Benzo (k) Fluoranthene	400	U	370	U	370	U					
Benzo (a) Pyrene	400	U	370	U	370	U					
Ideno (1,2,3-cd) Pyrene	400	U	370	U	370	U					
Dibenzo (a,h) Anthracene	400	U	370	U	370	U					

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	8/30/93		9/22/93		9/22/93		12/1/93		12/1/93	
Sample Number	SB11-8I(D)		SS7-1		SS7-1(D)		SB12-3B		SB12-3B(D)	
Organic Traffic Report Number	EXR87		EXR99		EXS01		EXT42		EXT43	
Benzo (g,h,i) Perylene	400	U	370	U	370	U				
Pesticides & PCBs (ug/kg)										
alpha-BHC	2	U	1.9	U	1.9	U				
beta-BHC	2	U	1.9	U	1.9	U				
delta-BHC	2	U	1.9	U	1.9	U				
gamma-BHC (Lindane)	2	U	1.9	U	1.9	U				
Heptachlor	2	U	1.9	U	1.9	U				
Aldrin	2	U	1.9	U	1.9	U				
Heptachlor epoxide	2	U	1.9	U	1.9	U				
Endosulfan I	2	U	1.9	U	1.9	U				
Dieldrin	4	U	3.7	U	3.7	U				
4,4'-DDE	4	U	3.7	U	3.7	U				
Endrin	4	U	3.7	U	3.7	U				
Endosulfan II	4	U	3.7	U	3.7	U				
4,4'-DDD	4	U	3.7	U	3.7	U				
Endosulfan sulfate	4	U	3.7	U	3.7	U				
4,4'-DDT	4	U	3.7	U	3.7	U				
Methoxychlor	20	U	19	U	19	U				
Endrin ketone	4	U	3.7	U	3.7	U				
Endrin aldehyde	4	U	3.7	U	3.7	U				
alpha-Chlordane	2	U	1.9	U	1.9	U				
gamma-Chlordane	2	U	1.9	U	1.9	U				
Toxaphene	200	U	190	U	190	U				
Aroclor-1016	40	UJ	37	U	37	U				
Aroclor-1221	81	UJ	76	U	76	U				
Aroclor-1232	40	UJ	37	U	37	U				
Aroclor-1242	40	UJ	37	U	37	U				
Aroclor-1248	40	UJ	37	U	37	U				
Aroclor-1254	40	UJ	37	U	37	U				
Aroclor-1260	40	UJ	37	U	37	U				

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	12/2/93	12/2/93
Sample Number	SB12-5F	SB12-5F(D)
Organic Traffic Report Number	EXT48	EXT49

Semivolatile Organics (ug/kg)				
Phenol	340	U	350	U
bis(2-Chloroethyl)Ether	340	U	350	U
2-Chlorophenol	340	U	350	U
1,3-Dichlorobenzene	340	U	350	U
1,4-Dichlorobenzene	340	U	350	U
1,2-Dichlorobenzene	340	U	350	U
2-Methylphenol	340	U	350	U
2,2'-oxybis(1-Chloropropane)	340	U	350	U
4-Methylphenol	340	U	350	U
N-Nitroso-Di-n-Propylamine	340	U	350	U
Hexachloroethane	340	U	350	U
Nitrobenzene	340	U	350	U
Isophorone	340	U	350	U
2-Nitrophenol	340	U	350	U
2,4-Dimethylphenol	340	U	350	U
bis(2-Chloroethoxy)Methane	340	U	350	U
2,4-Dichlorophenol	340	U	350	U
1,2,4-Trichlorobenzene	340	U	350	U
Naphthalene	340	U	350	U
4-Chloroaniline	340	U	350	U
Hexachlorobutadiene	340	U	350	U
4-Chloro-3-Methylphenol	340	U	350	U
2-Methylnaphthalene	340	U	350	U
Hexachlorocyclopentadiene	340	U	350	U
2,4,6-Trichlorophenol	340	U	350	U
2,4,5-Trichlorophenol	830	U	840	U
2-Chloronaphthalene	340	U	350	U
2-Nitroaniline	830	U	840	U
Dimethylphthalate	340	U	350	U
Acenaphthylene	340	U	350	U
2,6-Dinitrotoluene	340	U	350	U

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	12/2/93		12/2/93	
Sample Number	SB12-5F		SB12-5F(D)	
Organic Traffic Report Number	EXT48		EXT49	
3-Nitroaniline	830	U	840	U
Acenaphthene	340	U	350	U
2,4-Dinitrophenol	830	U	840	U
4-Nitrophenol	830	U	840	U
Dibenzofuran	340	U	350	U
2,4-Dinitrotoluene	340	U	350	U
Diethylphthalate	340	U	350	U
4-Chlorophenyl-phenylether	340	U	350	U
Fluorene	340	U	350	U
4-Nitroaniline	830	U	840	U
4,6-Dinitro-2-Methylphenol	830	U	840	U
N-Nitrosodiphenylamine (1)	340	U	350	U
4-Bromophenyl-phenylether	340	U	350	U
Hexachlorobenzene	340	U	350	U
Pentachlorophenol	830	U	840	U
Phenanthrene	340	U	350	U
Anthracene	340	U	350	U
Carbazole	340	U	350	U
Di-n-Butylphthalate	340	U	350	U
Fluoranthene	340	U	350	U
Pyrene	340	U	350	U
Butylbenzylphthalate	340	U	350	U
3,3'-Dichlorobenzidine	340	U	350	U
Benzo(a)anthracene	340	U	350	U
Chrysene	340	U	350	U
bis(2-Ethylhexyl)Phthalate	21	JB	30	JB
Di-n-Octyl Phthalate	23	J	35	J
Benzo (b) Fluoranthene	340	U	350	U
Benzo (k) Fluoranthene	340	U	350	U
Benzo (a) Pyrene	340	U	350	U
Ideno (1,2,3-cd) Pyrene	340	U	350	U
Dibenzo (a,h) Anthracene	340	U	350	U

Appendix F: Blank and Duplicate Analysis (Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	12/2/93		12/2/93	
Sample Number	SB12-5F		SB12-5F(D)	
Organic Traffic Report Number	EXT48		EXT49	
Benzo (g,h,i) Perylene	340	U	350	U
Pesticides & PCBs (ug/kg)				
alpha-BHC	1.8	U	1.8	U
beta-BHC	1.8	U	1.8	U
delta-BHC	1.8	U	1.8	U
gamma-BHC (Lindane)	1.8	U	1.8	U
Heptachlor	1.8	U	1.8	U
Aldrin	1.8	U	1.8	U
Heptachlor epoxide	1.8	U	1.8	U
Endosulfan I	1.8	U	1.8	U
Dieldrin	3.4	U	3.5	U
4,4'-DDE	3.4	U	3.5	U
Endrin	3.4	U	3.5	U
Endosulfan II	3.4	U	3.5	U
4,4'-DDD	3.4	U	3.5	U
Endosulfan sulfate	3.4	U	3.5	U
4,4'-DDT	3.4	U	3.5	U
Methoxychlor	18	U	18	U
Endrin ketone	3.4	U	3.5	U
Endrin aldehyde	3.4	U	3.5	U
alpha-Chlordane	1.8	U	1.8	U
gamma-Chlordane	1.8	U	1.8	U
Toxaphene	180	U	180	U
Aroclor-1016	34	U	35	U
Aroclor-1221	70	U	71	U
Aroclor-1232	34	U	35	U
Aroclor-1242	34	U	35	U
Aroclor-1248	34	U	35	U
Aroclor-1254	34	U	35	U
Aroclor-1260	34	U	35	U

Appendix F: Blank and Duplacate Analysis (Soil Inorganics)

Date Sampled	6/22/93	6/22/93	6/24/93	6/24/93	6/24/93
Sample Number	SB7-5E	SB7-5E(D)	SB7-12D	SB7-12D(D)	SB7-13E
Inorganic Traffic Report Number	MEWJ11	MEWJ12	MEWJ24	MEWJ25	MEWJ26

Inorganics (mg/kg)										
Aluminum	2310	EJ	2940	EJ	2480	EJ	2860	EJ	1250	EJ
Antimony	11	UJN	13.3	UJN	11.2	U	10.8	U	10.6	U
Arsenic	1.8	B	2		2.5	SNJ	1.2	BWNJ	1.1	BNJ
Barium	6.5	BEJ	9.6	BEJ	9.1	B	17.4	B	4.2	B
Beryllium	0.46	U	0.46	U	0.46	U	0.45	U	0.44	U
Cadmium	0.63	U	0.64	U	0.64	U	0.62	U	0.61	U
Calcium	60800	E*J	91000	E*J	45600	EJ	59200	EJ	48100	EJ
Chromium	6.8		8.1		6.4		5.7		3.4	
Cobalt	3.5	B	2.5	U	2.6	B	5.2	B	2.4	U
Copper	19.1		6.7		12.8		8.7		4.2	B
Iron	5940	E*J	6490	E*J	5210	EJ	5710	EJ	3860	EJ
Lead	1.9		3.7		9.3		8.5		6.2	
Magnesium	22100	E*J	44500	E*J	21500	EJ	28000	EJ	21600	EJ
Manganese	161	EJ	217	EJ	132	EN*J	211	EN*J	97.6	EN*J
Mercury	0.09	U	0.08		0.09	UNJ	0.08	UNJ	0.08	UNJ
Nickel	6.2	U	6.3	U	7.3	B	8.7		6	U
Potassium	318	B	615	B	326	B	507	B	206	B
Selenium	0.16	UWNR	0.19	BWNJ	0.16	UWNR	0.17	UWNR	0.17	UWNR
Silver	0.74	U	0.75	U	0.75	U	0.73	U	0.71	U
Sodium	873	B	738	B	404	BEJ	487	BEJ	521	BEJ
Thallium	0.2	UJWN	0.19	UJWN	3.1	SNJ	3.4	SNJ	3.7	BWNJ
Vanadium	10.5	B	11.9		9.7	B	11.4		7.7	B
Zinc	15.3		15.8		13.2	*J	16.5	*J	12.7	*J
Cyanide	2.8	U	2.6	U	2.7	U	2.6	U	2.8	U

Appendix F: Blank and Duplacate Analysis (Soil Inorganics)

Date Sampled	6/24/93		6/29/93		6/29/93		6/30/93		6/30/93	
Sample Number	SB7-13E(D)		SB4-3E		SB4-3E(D)		SB2-3D		SB2-3D(D)	
Inorganic Traffic Report Number	MEWJ27		MEWJ37		MEWJ38		MEWJ46		MEWJ47	
Inorganics (mg/kg)										
Aluminum	1570	EJ	1050	*J	1150	*J	2940	*J	1540	*J
Antimony	11.3	U	4.8	UNR	4.2	UNR	5.3	UNR	4.2	UNR
Arsenic	1.2	BWNJ	0.7	B	0.67	B	0.85	B	0.76	B
Barium	5.6	B	3.6	BEJ	3.8	BEJ	18.9	BEJ	13.7	BEJ
Beryllium	0.47	U	0.06	U	0.08	B	0.14	B	0.08	B
Cadmium	0.65	U	0.95	U	0.84	U	1.1	U	0.84	U
Calcium	47700	EJ	32900		32500		2790		647	B
Chromium	4.2		2.5		2.7		7.4		4.8	
Cobalt	3.8	B	1.1	B	1.4	B	3.2	B	2.5	B
Copper	4.5	B	2.1	B	2.8	B	3.5	B	3	B
Iron	4280	EJ	2410	*J	2460	*J	5920	*J	4170	*J
Lead	6.1	U	1.2		1.2		1.9		2.5	S
Magnesium	22300	EJ	14900		14800		2200		728	B
Manganese	85.1	EN*J	69.3	*J	67.8	*J	281	*J	194	*J
Mercury	0.09	UNJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ
Nickel	7.3	B	4	U	3.5	U	5.6	B	5	B
Potassium	313	B	137	U	121	U	151	U	156	B
Selenium	0.17	UWNR	0.18	B	0.12	U	0.12	U	0.14	U
Silver	0.76	U	0.58	UNR	0.51	UNR	0.64	UNR	0.51	UNR
Sodium	133	BEJ	83.9	B	88.4	B	89.2	B	45.7	B
Thallium	3	SNJ	0.22	U	0.19	U	0.19	U	0.21	U
Vanadium	8.8	B	5.4	B	5.5	B	8.6	B	5.7	B
Zinc	24.7	*J	5.5		5.3		14.3		12.5	
Cyanide	2.7	U	0.51	U	0.51	U	0.58	U	0.56	U

Appendix F: Blank and Duplacate Analysis (Soil Inorganics)

Date Sampled	7/11/93		7/11/93		8/25/93		8/25/93		8/30/93	
Sample Number	SB9-1F		SB9-1F(D)		SB11-1J		SB11-1J(D)		SB11-8I	
Inorganic Traffic Report Number	MEWJ53		MEWJ54		MEWJ69		MEWJ70		MEWJ78	
Inorganics (mg/kg)										
Aluminum	1130		872		917		760		866	
Antimony	7.7	U	7.7	U	3.9	U	3.9	U	3.8	U
Arsenic	1.4	B	0.96	BWJ	0.98	B	0.85	B	0.76	B
Barium	6.4	B	5.5	B	4.2	B	5.4	B	4.4	B
Beryllium	0.43	U	0.43	U	0.07	U	0.07	U	0.24	U
Cadmium	0.64	U	0.64	U	0.8	U	0.79	U	0.71	U
Calcium	31600		33600		42600	*	42900	*		
Chromium	5.5		2.2		2.6		2.6		3.6	
Cobalt	1.7	U	1.7	U	0.88	B	0.76	U	0.95	U
Copper	2.3	U	4.2	B	2.6	B	1.6	B	3.2	B
Iron	2710		2360		2740		2240		2480	
Lead	1.1	*J	1.2	W*J	1.9		2		1.7	WNJ
Magnesium	13600		14500		20000	*J	20800	*J	20400	
Manganese	76.8		74.4		80.4		110		78.5	NJ
Mercury	0.11	U	0.11	U	0.1	U	0.1	U	0.12	U
Nickel	2.6	U	4.4	B	1.4	U	1.4	U	3.5	U
Potassium	81	U	80.9	U	78.7	B	62.1	B	109	U
Selenium	4.3	U	0.43	UWJ	0.26	U	0.26	U	0.24	UWJ
Silver	1.3	U	1.3	U	0.54	U	0.53	U	0.95	U
Sodium	79.3	B	98.6	B	194	BE	245	BE	197	B
Thallium	0.43	UWJ	0.43	UWJ	0.26	U	0.26	U	0.24	UWNJ
Vanadium	6.1	B	6.3	B	5.8	B	4.7	B	4.3	B
Zinc	7.4		7.4		7.5		6.5		6.5	
Cyanide	1.1	U	1.1	U	0.12	UNR	0.12	UNR	0.59	UJ

Appendix F: Blank and Duplacate Analysis (Soil Inorganics)

Date Sampled	8/30/93		9/22/93		9/22/93	
Sample Number	SB11-8I(D)		SS7-1		SS7-1(D)	
Inorganic Traffic Report Number	MEWJ79		MEWJ90		MEWJ91	
Inorganics (mg/kg)						
Aluminum	926		12700		14000	
Antimony	6.3	B	11.6	BNJ	9.4	BNJ
Arsenic	0.68	B	4.9		4.9	
Barium	4.6	B	77.7		82	
Beryllium	0.24	U	0.36	B	0.33	B
Cadmium	0.71	U	0.46	UNJ	0.46	UNJ
Calcium			1960		2010	
Chromium	5		15.5		16	
Cobalt	0.94	U	6.2	B	5.8	B
Copper	4	B	16.3	*J	16.7	*J
Iron	2730		14200		14400	
Lead	2.1	WNJ	9.7		10	
Magnesium	22800		2360		2450	
Manganese	83.7	NJ	499		452	
Mercury	0.12	U	0.11	U	0.11	U
Nickel	3.5	U	12.7		13.3	
Potassium	108	U	979	B	1180	
Selenium	0.24	U	0.92	B	1	B
Silver	0.94	U	0.69	U	0.68	U
Sodium	202	B	117	B	124	B
Thallium	0.24	UWNJ	2.1	B	1.6	U
Vanadium	4.9	B	27.5		31.3	
Zinc	6.5		36.4		35.7	
Cyanide	1	J	0.57	U	0.57	U

Appendix F: Blank and Duplicate Analysis (Test Pit Soil TCLP Organics)

Date Sampled	6/16/93		6/16/93	
Sample Number	TP2-SS1		TP2-SS1(D)	
Organic Traffic Report Number	7939E02-01		7930E02-02	
Volatile Organics (ug/L)	CA		CA	
Vinyl Chloride	53	U	53	U
Methylene Chloride	61		70	
Carbon Disulfide	26	U	26	U
Acrylonitrile	250	U	250	U
1,1-Dichloroethene	26	U	26	U
Chloroform	29	U	29	U
1,2-Dichloroethane	25	U	25	U
Methyl Ethyl Ketone	54	U	54	U
1,1,1-Trichloroethane	1300	D	960	D
Carbon Tetrachloride	26	U	26	U
Tricloroethene	1100	D	940	D
1,1,2-Trichloroethane	25	U	25	U
Benzene	25	U	25	U
Tetrachloroethene	3200	D	3100	D
1,1,1,2-Tetrachloroethane	50	U	50	U
1,1,2,2-Tetrachloroethane	25	U	25	U
Toluene	260		230	
Chlorobenzene	25	U	25	U
Semivolatile Organics (ug/L)				
Pyridine	220	U	160	U
Phenol	39	U	27	U
bis(2-Chloroethyl)Ether	41	U	29	U
1,4-Dichlorobenzene	58	U	40	U
1,2-Dichlorobenzene	56	J	65	
o-Cresol	36	U	25	U
m,p-Cresol	36	U	25	U
Hexachloroethane	72	U	50	U
Nitrobenzene	35	U	24	U
Hexachlorobutadiene	72	U	50	U
2,4,6-Trichlorophenol	35	U	24	U
2,4,5-Trichlorophenol	170	U	120	U
2,4-Dinitrotoluene	43	U	30	U
Hexachlorobenzene	35	U	24	U
Pentachlorophenol	150	U	110	U

Appendix F: Selected Duplicate Relative Percent Differences (Test Pit Soil TCLP Organics)

Date Sampled	6/16/93		6/16/93		
Sample Number	TP2-SS1		TP2-SS1(D)		TP2-SS1
Organic Traffic Report Number	7939E02-01		7930E02-02		RPD
Volatile Organics (ug/L)					
Vinyl Chloride	53	U	53	U	N/A
Methylene Chloride	61		70		13.74
Carbon Disulfide	26	U	26	U	N/A
Acrylonitrile	250	U	250	U	N/A
1,1-Dichloroethene	26	U	26	U	N/A
Chloroform	29	U	29	U	N/A
1,2-Dichloroethane	25	U	25	U	N/A
Methyl Ethyl Ketone	54	U	54	U	N/A
1,1,1-Trichloroethane	1300	D	960	D	30.09
Carbon Tetrachloride	26	U	26	U	N/A
Tricloroethene	1100	D	940	D	15.69
1,1,2-Trichloroethane	25	U	25	U	N/A
Benzene	25	U	25	U	N/A
Tetrachloroethene	3200	D	3100	D	3.17
1,1,1,2-Tetrachloroethane	50	U	50	U	N/A
1,1,2,2-Tetrachloroethane	25	U	25	U	N/A
Toluene	260		230		12.24
Chlorobenzene	25	U	25	U	N/A

Appendix F: Blank and Duplicate Analysis (Test Pit Soil TCLP Inorganics)

Date Sampled	06-16-93	06-16-93
Sample Number	TP2-SS1	TP2-SS1(D)
Inorganic Traffic Report Number	7939E03-01	7939E03-02

TCLP Inorganics (ug/L)				
Arsenic	18.5	U	16.8	U
Barium	574	B	264	B
Cadmium	33.7	U	33.7	UN
Chromium	48.2	U	40.8	U
Lead	222	UJ	277	UJ
Mercury	1.8	U	1.7	U
Selenium	10.7	UW	11	UW
Silver	37.2	U	37.9	U

Appendix F: Blank and Duplicate Analysis (Test Pit Soil Volatile Organics)

Date Sampled	06-16-93	06-16-93
Sample Number	TP2-SS3	TP2-SS3(D)
Organic Traffic Report Number	7939E04-01	7939E04-02

Volatile Organics (ug/kg)				
Chloromethane	5	U	5	U
Bromomethane	5	U	5	U
Vinyl Chloride	5	U	5	U
Chloroethane	5	U	5	U
Methylene Chloride	10	UB	10	UB
Acetone	5	UB	4	JB
Carbon Disulfide	2.5	U	2.5	U
1,1-Dichloroethene	2.5	U	2.5	U
1,1-Dichloroethane	2.5	U	2.5	U
1,2-Dichloroethene (total)	2.5	U	2.5	U
Chloroform	2.5	U	2.5	U
1,2-Dichloroethane	2.5	U	2.5	U
2-Butanone	5	U	5	U
1,1,1-Trichloroethane	4		2.5	U
Carbon Tetrachloride	2.5	U	2.5	U
Vinyl Acetate	5	U	5	U
Bromodichloromethane	2.5	U	2.5	U
1,2-Dichloropropane	2.5	U	2.5	U
cis-1,3-Dichloropropene	2.5	U	2.5	U
Tricloroethene	3		2.5	U
Dibromochloromethane	2.5	U	2.5	U
1,1,2-Trichloroethane	2.5	U	2.5	U
Benzene	2.5	U	2.5	U
trans-1,3-Dichloropropene	2.5	U	2.5	U
Bromoform	2.5	U	2.5	U
4-Methyl-2-Pentanone	5	U	5	U
2-Hexanone	5	U	5	U
Tetrachloroethene	22		3	
1,1,2,2-Tetrachloroethane	2.5	U	2.5	U
Toluene	2.5	U	2.5	U
Chlorobenzene	2.5	U	2.5	U
Ethylbenzene	2.5	U	2.5	U
Styrene	2.5	U	2.5	U
Xylene	2.5	U	2.5	U

Appendix F: Selected Duplicate Relative Percent Differences (Test Pit Soil Organics)

Date Sampled	06-16-93		06-16-93		
Sample Number	TP2-SS3		TP2-SS3(D)		TP2-SS3
Organic Traffic Report Number	7939E04-01		7939E04-02		RPD
Volatile Organics (ug/kg)					
Chloromethane	5	U	5	U	N/A
Bromomethane	5	U	5	U	N/A
Vinyl Chloride	5	U	5	U	N/A
Chloroethane	5	U	5	U	N/A
Methylene Chloride	10	UB	10	UB	N/A
Acetone	5	UB	4	JB	N/A
Carbon Disulfide	2.5	U	2.5	U	N/A
1,1-Dichloroethene	2.5	U	2.5	U	N/A
1,1-Dichloroethane	2.5	U	2.5	U	N/A
1,2-Dichloroethene (total)	2.5	U	2.5	U	N/A
Chloroform	2.5	U	2.5	U	N/A
1,2-Dichloroethane	2.5	U	2.5	U	N/A
2-Butanone	5	U	5	U	N/A
1,1,1-Trichloroethane	4		2.5	U	N/A
Carbon Tetrachloride	2.5	U	2.5	U	N/A
Vinyl Acetate	5	U	5	U	N/A
Bromodichloromethane	2.5	U	2.5	U	N/A
1,2-Dichloropropane	2.5	U	2.5	U	N/A
cis-1,3-Dichloropropene	2.5	U	2.5	U	N/A
Tricloroethene	3		2.5	U	N/A
Dibromochloromethane	2.5	U	2.5	U	N/A
1,1,2-Trichloroethane	2.5	U	2.5	U	N/A
Benzene	2.5	U	2.5	U	N/A
trans-1,3-Dichloropropene	2.5	U	2.5	U	N/A
Bromoform	2.5	U	2.5	U	N/A
4-Methyl-2-Pentanone	5	U	5	U	N/A
2-Hexanone	5	U	5	U	N/A
Tetrachloroethene	22		3		152.00
1,1,2,2-Tetrachloroethane	2.5	U	2.5	U	N/A
Toluene	2.5	U	2.5	U	N/A
Chlorobenzene	2.5	U	2.5	U	N/A
Ethylbenzene	2.5	U	2.5	U	N/A
Styrene	2.5	U	2.5	U	N/A
Xylene	2.5	U	2.5	U	N/A

Appendix F: Blank and Duplicate Analysis (Test Pit Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	06-16-93	06-16-93
Sample Number	TP2-SS3	TP2-SS3(D)
Organic Traffic Report Number	7939E04-01	7939E04-02

Semivolatile Organics (ug/kg)				
Phenol	20	U	20	U
bis(2-Chloroethyl)Ether	20	U	20	U
2-Chlorophenol	20	U	20	U
1,3-Dichlorobenzene	20	U	20	U
1,4-Dichlorobenzene	20	U	20	U
Benzyl Alcohol	20	U	20	U
1,2-Dichlorobenzene	20	U	20	U
2-Methylphenol	20	U	20	U
bis(2-chloroisopropyl)ether	20	U	20	U
4-Methylphenol	20	U	20	U
N-Nitroso-di-n-propylamine	20	U	20	U
Hexachloroethane	20	U	20	U
Nitrobenzene	20	U	20	U
Isophorone	20	U	20	U
2-Nitrophenol	20	U	20	U
2,4-Dimethylphenol	20	U	20	U
Benzoic Acid	100	U	100	U
bis(2-Chloroethoxy)methane	20	U	20	U
2,4-Dichlorophenol	20	U	20	U
1,2,4-Trichlorobenzene	20	U	20	U
Naphthalene	20	U	20	U
4-Chloroaniline	20	U	20	U
Hexachlorobutadiene	20	U	20	U
4-Chloro-3-methylphenol	20	U	20	U
2-Methylnaphthalene	20	U	20	U
Hexachlorocyclopentadiene	20	U	20	U
2,4,6-Trichlorophenol	20	U	20	U
2,4,5-Trichlorophenol	100	U	100	U
2-Chloronaphthalene	20	U	20	U
2-Nitroaniline	100	U	100	U
Dimethylphthalate	20	U	20	U
Acenaphthylene	20	U	20	U

Appendix F: Blank and Duplicate Analysis (Test Pit Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	06-16-93		06-16-93	
Sample Number	TP2-SS3		TP2-SS3(D)	
Organic Traffic Report Number	7939E04-01		7939E04-02	
2,6-Dinitrotoluene	20	U	20	U
3-Nitroaniline	100	U	100	U
Acenaphthene	20	U	20	U
2,4-Dinitrophenol	100	U	100	U
4-Nitrophenol	100	U	100	U
Dibenzofuran	20	U	20	U
2,4-Dinitrotoluene	20	U	20	U
Diethylphthalate	20	U	20	U
4-Chlorophenyl-phenylether	20	U	20	U
Fluorene	20	U	20	U
4-Nitroaniline	100	U	100	U
4,6-Dinitro-2-methylphenol	100	U	100	U
N-Nitrosodiphenylamine (1)	20	U	20	U
4-Bromophenyl-phenylether	20	U	20	U
Alpha-BHC	20	U	20	U
Hexachlorobenzene	20	U	20	U
Beta-BHC	20	U	20	U
Pentachlorophenol	100	U	100	U
Gamma-BHC (Lindane)	20	U	20	U
Phenanthrene	20	U	20	U
Anthracene	20	U	20	U
Delta-BHC	20	U	20	U
Heptachlor	20	U	20	U
Aldrin	20	U	20	U
Di-n-Butylphthalate	20	U	20	U
Fluoranthene	20	U	20	U
Heptachlor Epoxide	20	U	20	U
Monochlorobiphenyl	100	U	100	U
Dichlorobiphenyl	100	U	100	U
Trichlorobiphenyl	100	U	100	U
Tetrachlorobiphenyl	100	U	100	U
Pyrene	20	U	20	U
Gamma Chlordane	20	U	20	U

Appendix F: Blank and Duplicate Analysis (Test Pit Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	06-16-93		06-16-93	
Sample Number	TP2-SS3		TP2-SS3(D)	
Organic Traffic Report Number	7939E04-01		7939E04-02	
Endosulfan I	20	U	20	U
Alpha-Chlordane	20	U	20	U
Pentachlorobiphenyl	100	U	100	U
4,4'-DDE	20	U	20	U
Dieldrin	20	U	20	U
Hexachlorobiphenyl	100	U	100	U
Endrin	20	U	20	U
Endosulfan II	20	U	20	U
4,4'-DDD	20	U	20	U
Heptachlorobiphenyl	100	U	100	U
Butylbenzylphthalate	20	U	20	U
Endosulfan Sulfate	20	U	20	U
4,4'-DDT	20	U	20	U
Endrin Ketone	20	U	20	U
Benzo(a)anthracene	20	U	20	U
Methoxychlor	20	U	20	U
Chrysene	20	U	20	U
Octachlorobiphenyl	200	U	200	U
3,3'-Dichlorobenzidine	40	U	40	U
bis(2-Ethylhexyl)Phthalate	2	J	20	U
Nonachlorobiphenyl	200	U	200	U
Decachlorobiphenyl	200	U	200	U
Di-n-Octyl Phthalate	20	U	20	U
Benzo (b) fluoranthene	20	U	20	U
Benzo (k) fluoranthene	20	U	20	U
Benzo (a) pyrene	20	U	20	U
Ideno (1,2,3-cd) pyrene	20	U	20	U
Dibenzo (a,h) anthracene	20	U	20	U
Benzo (g,h,i) perylene	20	U	20	U
Pesticides & PCBs (ug/Kg)				
Toxaphene	50	U	50	U
Aroclor-1016	10	U	10	U

Appendix F: Blank and Duplicate Analysis (Test Pit Soil Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	06-16-93	06-16-93
Sample Number	TP2-SS3	TP2-SS3(D)
Organic Traffic Report Number	7939E04-01	7939E04-02

Aroclor-1221	10	U	10	U
Aroclor-1232	10	U	10	U
Aroclor-1242	10	U	10	U
Aroclor-1248	10	U	10	U
Aroclor-1254	10	U	10	U
Aroclor-1260	10	U	10	U

Appendix F: Blank and Duplicate Analysis (Test Pit Soil Inorganics)

Date Sampled	06-16-93	06-16-93
Sample Number	TP2-SS3	TP2-SS3(D)
Inorganic Traffic Report Number	7939E05-01	7939E05-02

Inorganic Soils (mg/kg)				
Aluminum	7060		8660	
Antinomy	11.2	U	11.2	U
Arsenic	3.2	B	6.9	B
Barium	48.1	B	249	
Beryllium	0.42	B	0.9	B
Cadmium	1.6	U	1.6	U
Calcium	3290		12200	
Chromium	10.8		48.8	
Cobalt	4.2	B	7.2	B
Copper	12.4	B	70.4	
Iron	7840		17300	
Lead	20.3	B	233	
Magnesium	2200		4270	
Manganese	49.5		150	
Mercury	0.3	U	1.3	
Nickel	8.5	B	21.4	
Selenium	1.2	U	1.2	UW
Silver	2	U	2.2	B
Sodium	592	J	507	J
Thallium	2	U	2	U
Vanidium	18.5	B	19.7	B
Zinc	28.1		276	
Cyanide	1.2	U	1.2	U

Appendix F: Blank and Duplicate Analysis (Test Pit Air Volatile Organics)

Date Sampled	6-16-93		6-16-93		6-16-93		6-17-93		6-17-93	
Sample Number	TP2-178-02		TP2-403-02(D)		TP2-119-BL		TP1-150-02		TP1-105-02(D)	
Organic Traffic Report Number	7939E01-06		7939E01-07		7939E01-11		7939E01-17		7939E01-18	
Volatile Organics (ng/OC)										
Chloromethane	25	U	25	U	25	U	25	U	25	U
Bromomethane	25	U	25	U	25	U	25	U	25	U
Vinyl Chloride	25	U	25	U	25	U	25	U	25	U
Chloroethane	25	U	25	U	25	U	25	U	25	U
Methylene Chloride	25	UB	79	BJ	8	BJ	14	BJ	7	BJ
Acetone	25	UB	32	BJ	50	U	110	BJ	61	BJ
Carbon Disulfide	25	U	25	U	25	U	25	U	25	U
1,1-Dichloroethene	12	J	11	J	25	U	25	U	25	U
1,1-Dichloroethane	26	J	26	J	25	U	25	U	25	U
1,2-Dichloroethene (total)	380	J	390	J	25	U	25	U	25	U
Chloroform	25	U	25	U	25	U	25	U	25	U
1,2-Dichloroethane	25	U	25	U	25	U	25	U	25	U
2-Butanone	50	U	50	U	50	U	50	U	25	UB
1,1,1-Trichloroethane	2400	E	2300	E	25	U	25	U	25	U
Carbon Tetrachloride	4	J	5		25	U	25	U	5	J
Bromodichloromethane	25	U	25	U	25	U	25	U	25	U
1,2-Dichloropropane	25	U	25	U	25	U	25	U	25	U
Cis-1,3-Dichloropropene	25	U	25	U	25	U	25	U	25	U
Trichloroethene	1100	EJ	1200	EJ	25	U	25	U	25	U
Dibromochloromethane	25	U	25	U	25	U	25	U	25	U
1,1,2-Trichloroethane	25	U	25	U	25	U	25	U	25	U
Benzene	25	U	25	U	25	U	10	J	25	U
Trans-1,3-Dichloropropene	25	U	25	U	25	U	25	U	25	U
Bromoform	25	U	25	U	25	U	25	U	25	U
4-Methyl-2-Pentanone	50	U	50	U	50	U	50	U	50	U
2-Hexanone	50	U	50	U	50	U	50	U	50	U
Tetrachloroethene	2500	BE	2600	BE	25	UB	25	U	25	U
1,1,2,2-Tetrachloroethane	25	U	25	U	25	U	25	U	25	U
Toluene	97	BJ	1000	BJ	25	UB	25	U	25	U
Chlorobenzene	25	U	25	U	25	U	25	U	25	U
Ethylbenzene	47		48		25	U	25	U	25	U
Styrene	25	U	25	U	25	U	25	U	25	U
Xylene (total)	260	BJ	270	BJ	25	U	25	UB	25	UB

Appendix F: Blank and Duplicate Analysis (Test Pit Air Volatile Organics)

Date Sampled	34137
Sample Number	TP1-42-BL
Organic Traffic Report Number	7939E01-22

Volatile Organics (ng/OC)

Chloromethane	25	U
Bromomethane	25	U
Vinyl Chloride	25	U
Chloroethane	25	U
Methylene Chloride	25	UB
Acetone	25	UB
Carbon Disulfide	25	U
1,1-Dichloroethene	25	U
1,1-Dichloroethane	310	
1,2-Dichloroethene (total)	290	
Chloroform	25	U
1,2-Dichloroethane	290	
2-Butanone	50	U
1,1,1-Trichloroethane	270	
Carbon Tetrachloride	25	U
Bromodichloromethane	25	U
1,2-Dichloropropane	25	U
Cis-1,3-Dichloropropene	25	U
Trichloroethene	270	
Dibromochloromethane	25	U
1,1,2-Trichloroethane	250	
Benzene	280	
Trans-1,3-Dichloropropene	25	U
Bromoform	25	U
4-Methyl-2-Pentanone	200	
2-Hexanone	50	U
Tetrachloroethene	290	
1,1,2,2-Tetrachloroethane	210	B
Toluene	340	
Chlorobenzene	25	U
Ethylbenzene	25	U
Styrene	25	U
Xylene (total)	520	B

Appendix F: Selected Duplicate Relative Percent Differences (Test Pit Air Organics)

Date Sampled	6-16-93		6-16-93			6-17-93		6-17-93		
Sample Number	TP2-178-02		TP2-403-02(D)			TP1-150-02		TP1-105-02(D)		
Organic Traffic Report Number	7939E01-06		7939E01-07		RPD	7939E01-17		7939E01-18		RPD
Volatile Organics (ng/OC)										
Chloromethane	25	U	25	U	N/A	25	U	25	U	N/A
Bromomethane	25	U	25	U	N/A	25	U	25	U	N/A
Vinyl Chloride	25	U	25	U	N/A	25	U	25	U	N/A
Chloroethane	25	U	25	U	N/A	25	U	25	U	N/A
Methylene Chloride	25	UB	79	BJ	N/A	14	BJ	7	BJ	66.67
Acetone	25	UB	32	BJ	N/A	110	BJ	61	BJ	57.31
Carbon Disulfide	25	U	25	U	N/A	25	U	25	U	N/A
1,1-Dichloroethene	12	J	11	J	8.70	25	U	25	U	N/A
1,1-Dichloroethane	26	J	26	J	0.00	25	U	25	U	N/A
1,2-Dichloroethene (total)	380	J	390	J	2.60	25	U	25	U	N/A
Chloroform	25	U	25	U	N/A	25	U	25	U	N/A
1,2-Dichloroethane	25	U	25	U	N/A	25	U	25	U	N/A
2-Butanone	50	U	50	U	N/A	50	U	25	UB	N/A
1,1,1-Trichloroethane	2400	E	2300	E	4.26	25	U	25	U	N/A
Carbon Tetrachloride	4	J	5		22.22	25	U	5	J	N/A
Bromodichloromethane	25	U	25	U	N/A	25	U	25	U	N/A
1,2-Dichloropropane	25	U	25	U	N/A	25	U	25	U	N/A
Cis-1,3-Dichloropropene	25	U	25	U	N/A	25	U	25	U	N/A
Trichloroethene	1100	EJ	1200	EJ	8.70	25	U	25	U	N/A
Dibromochloromethane	25	U	25	U	N/A	25	U	25	U	N/A
1,1,2-Trichloroethane	25	U	25	U	N/A	25	U	25	U	N/A
Benzene	25	U	25	U	N/A	10	J	7	J	35.29
Trans-1,3-Dichloropropene	25	U	25	U	N/A	25	U	25	U	N/A
Bromoform	25	U	25	U	N/A	25	U	25	U	N/A
4-Methyl-2-Pentanone	50	U	50	U	N/A	50	U	50	U	N/A
2-Hexanone	50	U	50	U	N/A	50	U	50	U	N/A
Tetrachloroethene	2500	BE	2600	BE	3.92	25	U	25	U	N/A
1,1,2,2-Tetrachloroethane	25	U	25	U	N/A	25	U	25	U	N/A
Toluene	97	BJ	1000	BJ	164.63	25	U	25	U	N/A
Chlorobenzene	25	U	25	U	N/A	25	U	25	U	N/A
Ethylbenzene	47		48		2.11	25	U	25	U	N/A
Styrene	25	U	25	U	N/A	25	U	25	U	N/A
Xylene (total)	260	BJ	270	BJ	3.77	25	UB	25	UB	N/A

Appendix F: Blank and Duplicate Analysis (Residential Water Volatile Organics)

Date Sampled	06-08-93		06-08-93		06-08-93		06-09-93
Sample Number	1726 Pershing		1726 Pershing (D)		Field Blank		Field Blank
Organic Traffic Report Number	7572-01		7572-02		7572-09		7572-16
Volatile Organics (ug/L)							
Chloromethane	1	U	1	U	1	U	1 U
Bromomethane	1	U	1	U	1	U	1 U
Vinyl Chloride	1	U	1	U	1	U	1 U
Chloroethane	1	U	1	U	1	U	1 U
Methylene Chloride	2	U	2	U	2		2
Acetone	5	U	5	U	5	U	5 U
Carbon Disulfide	1	U	1	U	1	U	1 U
1,1-Dichloroethene	0.6	J	0.6	J	1	U	1 U
1,1-Dichloroethane	1		1		1	U	1 U
Cis-1,2-Dichloroethene	2		2		1	U	1 U
Trans-1,2-Dichloroethene	1	U	1	U	1	U	1 U
Chloroform	1	U	1	U	32	D	25 D
1,2-Dichloroethane	1	U	1	U	1	U	1 U
2-Butanone	5	U	5	U	5	U	5 U
Bromochloromethane	1	U	1	U	1	U	1 U
1,1,1-Trichloroethane	5		5		1	U	1 U
Carbon Tetrachloride	1	U	1	U	1	U	1 U
Bromodichloromethane	1	U	1	U	4		4
1,2-Dichloropropane	1	U	1	U	1	U	1 U
Cis-1,3-Dichloropropene	1	U	1	U	1	U	1 U
Trichloroethene	2	J	2	J	1	U	1 U
Dibromochloromethane	1	U	1	U	1	U	1 U
1,1,2-Trichloroethane	1	U	1	U	1	U	1 U
Benzene	1	U	1	U	1	U	1 U
Trans-1,3-Dichloropropene	1	U	1	U	1	U	1 U
Bromoform	1	U	1	U	1	U	1 U
4-Methyl-2-Pentanone	5	U	5	U	5	U	5 U
2-Hexanone	5	U	5	U	5	U	5 U
Tetrachloroethene	0.4	J	0.4	J	1	U	1 U
1,1,2,2-Tetrachloroethene	1	U	1	U	1	U	1 U
1,2-Dibromomethane	1	U	1	U	1	U	1 U
Toluene	1	U	1	U	1	U	1 U

Appendix F: Blank and Duplicate Analysis (Residential Water Volatile Organics)

Date Sampled	06-08-93		06-08-93		06-08-93		06-09-93	
Sample Number	1726 Pershing		1726 Pershing (D)		Field Blank		Field Blank	
Organic Traffic Report Number	7572-01		7572-02		7572-09		7572-16	
Chlorobenzene	1	U	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U
Total Xylenes	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Residential Water Volatile Organics)

Date Sampled	06-09-93		06-09-93		06-09-93		06-10-93	
Sample Number	Trip Blank		2131 Harrison		2131 Harrison (D)		Trip Blank	
Organic Traffic Report Number	7572-18		7572-21		7572-22		7572-27	
Volatile Organics (ug/L)								
Chloromethane	1	U	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U	1	U
Vinyl Chloride	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U
Methylene Chloride	2	U	1	U	1	U	2	U
Acetone	5	U	5	U	5	U	5	U
Carbon Disulfide	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	5		4		1	U
1,1-Dichloroethane	1	U	15		14		1	U
Cis-1,2-Dichloroethene	1	U	10		10		1	U
Trans-1,2-Dichloroethene	1	U	0.2	J	1	U	1	U
Chloroform	1	U	1	U	1	U	1	U
1,2-Dichloroethane	1	U	0.6	J	0.6	J	1	U
2-Butanone	5	U	5	U	5	U	5	U
Bromochloromethane	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	1	U	18		18		1	U
Carbon Tetrachloride	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U
Cis-1,3-Dichloropropene	1	U	1	U	1	U	1	U
Trichloroethene	0.5	J	8		7		0.4	J
Dibromochloromethane	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U
Trans-1,3-Dichloropropene	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U
4-Methyl-2-Pentanone	5	U	5	U	5	U	5	U
2-Hexanone	5	U	5	U	5	U	5	U
Tetrachloroethene	1	U	0.9	J	0.8	J	1	U
1,1,2,2-Tetrachloroethene	1	U	1	U	1	U	1	U
1,2-Dibromomethane	1	U	1	U	1	U	1	U
Toluene	1	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Residential Water Volatile Organics)

Date Sampled	06-09-93		06-09-93		06-09-93		06-10-93	
Sample Number	Trip Blank		2131 Harrison		2131 Harrison (D)		Trip Blank	
Organic Traffic Report Number	7572-18		7572-21		7572-22		7572-27	
Chlorobenzene	1	U	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U
Total Xylenes	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Residential Water Volatile Organics)

Date Sampled	06-10-93
Sample Number	Field Blank
Organic Traffic Report Number	7572-28

Volatile Organics (ug/L)		
Chloromethane	1	U
Bromomethane	1	U
Vinyl Chloride	1	U
Chloroethane	1	U
Methylene Chloride	2	
Acetone	5	U
Carbon Disulfide	1	U
1,1-Dichloroethene	1	U
1,1-Dichloroethane	1	U
Cis-1,2-Dichloroethene	1	U
Trans-1,2-Dichloroethene	1	U
Chloroform	22	D
1,2-Dichloroethane	1	U
2-Butanone	5	U
Bromochloromethane	1	U
1,1,1-Trichloroethane	1	U
Carbon Tetrachloride	1	U
Bromodichloromethane	3	
1,2-Dichloropropane	1	U
Cis-1,3-Dichloropropene	1	U
Trichloroethene	1	U
Dibromochloromethane	1	U
1,1,2-Trichloroethane	1	U
Benzene	1	U
Trans-1,3-Dichloropropene	1	U
Bromoform	1	U
4-Methyl-2-Pentanone	5	U
2-Hexanone	5	U
Tetrachloroethene	1	U
1,1,2,2-Tetrachloroethene	1	U
1,2-Dibromomethane	1	U
Toluene	1	U

Appendix F: Blank and Duplicate Analysis (Residential Water Volatile Organics)

Date Sampled	06-10-93
Sample Number	Field Blank
Organic Traffic Report Number	7572-28

Chlorobenzene	1	U
Ethylbenzene	1	U
Styrene	1	U
Total Xylenes	1	U
1,3-Dichlorobenzene	1	U
1,4-Dichlorobenzene	1	U
1,2-Dichlorobenzene	1	U
1,2-Dibromo-3-chloropropane	1	U

Appendix F: Selected Duplicate Relative Percent Differences (Residential Water Organics)

Date Sampled	06-08-93		06-08-93		1726	06-09-93		06-09-93		2131
Sample Number	1726 Pershing		1726 Pershing (D)		Pershing	2131 Harrison		2131 Harrison (D)		Harrison
Organic Traffic Report Number	7572-01		7572-02		RPD	7572-21		7572-22		RPD
Volatile Organics (ug/L)										
Chloromethane	1	U	1	U	N/A	1	U	1	U	N/A
Bromomethane	1	U	1	U	N/A	1	U	1	U	N/A
Vinyl Chloride	1	U	1	U	N/A	1	U	1	U	N/A
Chloroethane	1	U	1	U	N/A	1	U	1	U	N/A
Methylene Chloride	2	U	2	U	N/A	1	U	1	U	N/A
Acetone	5	U	5	U	N/A	5	U	5	U	N/A
Carbon Disulfide	1	U	1	U	N/A	1	U	1	U	N/A
1,1-Dichloroethene	0.6	J	0.6	J	0.00	5		4		22.22
1,1-Dichloroethane	1		1		0.00	15		14		6.90
Cis-1,2-Dichloroethene	2		2		0.00	10		10		0.00
Trans-1,2-Dichloroethene	1	U	1	U	N/A	0.2	J	1	U	N/A
Chloroform	1	U	1	U	N/A	1	U	1	U	N/A
1,2-Dichloroethane	1	U	1	U	N/A	0.6	J	0.6	J	0.00
2-Butanone	5	U	5	U	N/A	5	U	5	U	N/A
Bromochloromethane	1	U	1	U	N/A	1	U	1	U	N/A
1,1,1-Trichloroethane	5		5		0.00	18		18		0.00
Carbon Tetrachloride	1	U	1	U	N/A	1	U	1	U	N/A
Bromodichloromethane	1	U	1	U	N/A	1	U	1	U	N/A
1,2-Dichloropropane	1	U	1	U	N/A	1	U	1	U	N/A
Cis-1,3-Dichloropropene	1	U	1	U	N/A	1	U	1	U	N/A
Trichloroethene	2	J	2	J	0.00	8		7		13.33
Dibromochloromethane	1	U	1	U	N/A	1	U	1	U	N/A
1,1,2-Trichloroethane	1	U	1	U	N/A	1	U	1	U	N/A
Benzene	1	U	1	U	N/A	1	U	1	U	N/A
Trans-1,3-Dichloropropene	1	U	1	U	N/A	1	U	1	U	N/A
Bromoform	1	U	1	U	N/A	1	U	1	U	N/A
4-Methyl-2-Pentanone	5	U	5	U	N/A	5	U	5	U	N/A
2-Hexanone	5	U	5	U	N/A	5	U	5	U	N/A
Tetrachloroethene	0.4	J	0.4	J	0.00	0.9	J	0.8	J	11.76
1,1,2,2-Tetrachloroethene	1	U	1	U	N/A	1	U	1	U	N/A
1,2-Dibromomethane	1	U	1	U	N/A	1	U	1	U	N/A
Toluene	1	U	1	U	N/A	1	U	1	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Residential Water Organics)

Date Sampled	06-08-93		06-08-93		1726	06-09-93		06-09-93		2131
Sample Number	1726 Pershing		1726 Pershing (D)		Pershing	2131 Harrison		2131 Harrison (D)		Harrison
Organic Traffic Report Number	7572-01		7572-02		RPD	7572-21		7572-22		RPD
Chlorobenzene	1	U	1	U	N/A	1	U	1	U	N/A
Ethylbenzene	1	U	1	U	N/A	1	U	1	U	N/A
Styrene	1	U	1	U	N/A	1	U	1	U	N/A
Total Xylenes	1	U	1	U	N/A	1	U	1	U	N/A
1,3-Dichlorobenzene	1	U	1	U	N/A	1	U	1	U	N/A
1,4-Dichlorobenzene	1	U	1	U	N/A	1	U	1	U	N/A
1,2-Dichlorobenzene	1	U	1	U	N/A	1	U	1	U	N/A
1,2-Dibromo-3-chloropropane	1	U	1	U	N/A	1	U	1	U	N/A

Appendix F: Blank and Duplicate Analysis (Residential Air Organics)

Date Sampled	8/25/93		12/17/94		12/17/94	
Sample Number	Nitrogen Blank		Blank (1)		Blank (2)	
Organic Traffic Report Number	8067E-29		8245E-13		8245E-14	
Volatile Organics (ppbv)						
Vinyl Chloride	0.3	UJ	0.28	U	0.32	U
1,1-Dichloroethene	0.15	UJ	0.7	U	0.8	U
1,1-Dichloroethane	0.15	UJ	0.7	U	0.8	U
1,2-Dichloroethene (total)	0.15	UJ	0.7	U	0.8	U
1,1,1-Trichloroethane	0.15	UJ	0.18		0.2	
1,2-Dichloroethane	0.15	UJ	0.7	U	0.8	U
Trichloroethene	0.15	UJ	0.51		0.59	
Tetrachloroethene	0.15	UJ	0.14	U	0.16	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	9/28/93		9/28/93		9/28/93		9/28/93		9/28/93	
Sample Number	MW102A		MW102A(B)		MW102A(D)		T. BLANK		MW108A	
Organic Traffic Report Number	8018-01		8018-02		8018-03		8018-09		8018-10	
Volatile Organics (ug/L)										
Chloromethane	2	U	2	U	2	U	1	U	1	U
Bromomethane	2	U	2	U	2	U	1	U	1	U
Vinyl Chloride	2	U	2	U	2	U	1	U	1	U
Chloroethane	2	U	2	U	2	U	1	U	1	U
Methylene Chloride	23	BJ	10	BJ	11	BJ	4	UB	4	UB
Acetone	8	U	8	U	12	U	5	U	5	U
Carbon Disulfide	2	U	2	U	2	U	1	U	1	U
1,1-Dichloroethene	4		2	U	2	J	1	U	1	U
1,1-Dichloroethane	26	D	2	U	28		1	U	1	U
cis-1,2-Dichloroethene	32	D	2	U	32		1	U	1	U
trans-1,2-Dichloroethene	2		2	U	2	U	1	U	1	U
1,2-Dichloroethene (total)										
Chloroform	2	U	25		2	U	1	U	1	U
1,2-Dichloroethane	2	U	2	U	1	J	1	U	1	U
2-Butanone	8	U	8	U	12	U	5	U	5	U
Bromochloromethane	2	U	2	U	2	U	1	U	1	U
1,1,1-Trichloroethane	34	D	2	U	32		1	U	3	
Carbon Tetrachloride	2	U	2	U	2	U	1	U	1	U
Bromodichloromethane	2	U	3		2	U	1	U	1	U
1,2-Dichloropropane	2	U	2	U	2	U	1	U	1	U
cis-1,3-Dichloropropene	2	U	2	U	2	U	1	U	1	U
Trichloroethene	6		2	U	4		1	U	0.8	J
Dibromochloromethane	2	U	2	U	2	U	1	U	1	U
1,1,2-Trichloroethane	2	U	2	U	2	U	1	U	1	U
Benzene	2	U	2	U	2	U	1	U	1	U
trans-1,3-Dichloropropene	2	U	2	U	2	U	1	U	1	U
Bromoform	2	U	2	U	2	U	1	U	1	U
4-Methyl-2-Pentanone	8	U	8	U	12	U	5	U	5	U
2-Hexanone	8	U	8	U	12	U	5	U	5	U
Tetrachloroethene	2	U	2	U	2	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	9/28/93	9/28/93	9/28/93	9/28/93	9/28/93
Sample Number	MW102A	MW102A(B)	MW102A(D)	T. BLANK	MW108A
Organic Traffic Report Number	8018-01	8018-02	8018-03	8018-09	8018-10
1,1,2,2-Tetrachloroethane	2 U	2 U	2 U	1 U	1 U
1,2-Dibromoethane	2 U	2 U	2 U	1 U	1 U
Toluene	2 U	2 U	2 U	1 U	1 U
Chlorobenzene	2 U	2 U	2 U	1 U	1 U
Ethylbenzene	2 U	2 U	2 U	1 U	1 U
Styrene	2 U	2 U	2 U	1 U	1 U
Xylene	2 U	2 U	2 U	1 U	1 U
1,3-Dichlorobenzene	2 U	2 U	2 U	1 U	1 U
1,4-Dichlorobenzene	2 U	2 U	2 U	1 U	1 U
1,2-Dichlorobenzene	2 U	2 U	2 U	1 U	1 U
1,2-Dibromo-3-chloropropane	2 U	2 U	2 U	1 U	1 U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	9/28/93		9/28/93		9/28/93		9/29/93		9/30/93	
Sample Number	MW108A(D)		MW108A(B)		T. BLANK		T. BLANK		T. BLANK	
Organic Traffic Report Number	8018-11		8018-12		8018-13		8018-17		8018-25	
Volatile Organics (ug/L)										
Chloromethane	1	U	2	U	1	U	1	U	1	U
Bromomethane	1	U	2	U	1	U	1	U	1	U
Vinyl Chloride	1	U	2	U	1	U	1	U	1	U
Chloroethane	1	U	2	U	1	U	1	U	1	U
Methylene Chloride	7	UB	14	BJ	6	UB	3	UB	5	UB
Acetone	5	U	8	U	5	U	5	U	5	U
Carbon Disulfide	1	U	2	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	2	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	2	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	2	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	2	U	1	U	1	U	1	U
1,2-Dichloroethene (total)										
Chloroform	1	U	25		1	U	1	U	1	U
1,2-Dichloroethane	1	U	2	U	1	U	1	U	1	U
2-Butanone	5	U	8	U	5	U	5	U	5	U
Bromochloromethane	1	U	2	U	1	U	1	U	1	U
1,1,1-Trichloroethane	4		2	U	1	U	1	U	1	U
Carbon Tetrachloride	1	U	2	U	1	U	1	U	1	U
Bromodichloromethane	1	U	3		1	U	1	U	1	U
1,2-Dichloropropane	1	U	2	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	1	U	2	U	1	U	1	U	1	U
Trichloroethene	0.9	J	2	U	1	U	1	U	1	U
Dibromochloromethane	1	U	2	U	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	2	U	1	U	1	U	1	U
Benzene	1	U	2	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	1	U	2	U	1	U	1	U	1	U
Bromoform	1	U	2	U	1	U	1	U	1	U
4-Methyl-2-Pentanone	5	U	8	U	5	U	5	U	5	U
2-Hexanone	5	U	8	U	5	U	5	U	5	U
Tetrachloroethene	1	U	2	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	9/28/93		9/28/93		9/28/93		9/29/93		9/30/93	
Sample Number	MW108A(D)		MW108A(B)		T. BLANK		T. BLANK		T. BLANK	
Organic Traffic Report Number	8018-11		8018-12		8018-13		8018-17		8018-25	
1,1,2,2-Tetrachloroethane	1	U	2	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	2	U	1	U	1	U	1	U
Toluene	1	U	2	U	1	U	1	U	1	U
Chlorobenzene	1	U	2	U	1	U	1	U	1	U
Ethylbenzene	1	U	2	U	1	U	1	U	1	U
Styrene	1	U	2	U	1	U	1	U	1	U
Xylene	1	U	2	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	2	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	2	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	2	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	2	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/1/93		10/1/93		10/1/93		10/1/93		10/1/93	
Sample Number	T. BLANK		T. BLANK		MW105A(B)		MW105A		MW105A(D)	
Organic Traffic Report Number	8018-27		8018-34		8018-35		8018-36		8018-37	
Volatile Organics (ug/L)										
Chloromethane	1	U	1	U	2	U	6	U	6	U
Bromomethane	1	U	1	U	2	U	6	U	6	U
Vinyl Chloride	1	U	1	U	2	U	9		8	
Chloroethane	1	U	1	U	2	U	6	U	6	U
Methylene Chloride	2	UB	3	UB	2	UB	4	UB	5	UB
Acetone	10		9		8	U	31	U	28	U
Carbon Disulfide	1	U	1	U	2	U	6	U	6	U
1,1-Dichloroethene	1	U	1	U	2	U	4	J	4	J
1,1-Dichloroethane	1	U	1	U	2	U	85		79	
cis-1,2-Dichloroethene	1	U	1	U	2	U	120		110	
trans-1,2-Dichloroethene	1	U	1	U	2	U	5	J	4	J
1,2-Dichloroethene (total)										
Chloroform	1	U	1	U	23		6	U	6	U
1,2-Dichloroethane	1	U	1	U	2	U	13		9	
2-Butanone	5	U	5	U	8	U	31	U	28	U
Bromochloromethane	1	U	1	U	2	U	6	U	6	U
1,1,1-Trichloroethane	1	U	1	U	2	U	61		56	
Carbon Tetrachloride	1	U	1	U	2	U	6	U	6	U
Bromodichloromethane	1	U	1	U	3		6	U	6	U
1,2-Dichloropropane	1	U	1	U	2	U	6	U	6	U
cis-1,3-Dichloropropene	1	U	1	U	2	U	6	U	6	U
Trichloroethene	1	U	1	U	2	U	13		12	
Dibromochloromethane	1	U	1	U	2	U	6	U	6	U
1,1,2-Trichloroethane	1	U	1	U	2	U	6	U	6	U
Benzene	1	U	1	U	2	U	6	U	6	U
trans-1,3-Dichloropropene	1	U	1	U	2	U	6	U	6	U
Bromoform	1	U	1	U	2	U	6	U	6	U
4-Methyl-2-Pentanone	5	U	5	U	8	U	31	U	28	U
2-Hexanone	5	U	5	U	8	U	31	U	28	U
Tetrachloroethene	1	U	1	U	2	U	6	U	3	J

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/1/93		10/1/93		10/1/93		10/1/93		10/1/93	
Sample Number	T. BLANK		T. BLANK		MW105A(B)		MW105A		MW105A(D)	
Organic Traffic Report Number	8018-27		8018-34		8018-35		8018-36		8018-37	
1,1,2,2-Tetrachloroethane	1	U	1	U	2	U	6	U	6	U
1,2-Dibromoethane	1	U	1	U	2	U	6	U	6	U
Toluene	1	U	1	U	2	U	6	U	6	U
Chlorobenzene	1	U	1	U	2	U	6	U	6	U
Ethylbenzene	1	U	1	U	2	U	6	U	6	U
Styrene	1	U	1	U	2	U	6	U	6	U
Xylene	1	U	1	U	2	U	6	U	6	U
1,3-Dichlorobenzene	1	U	1	U	2	U	6	U	6	U
1,4-Dichlorobenzene	1	U	1	U	2	U	6	U	6	U
1,2-Dichlorobenzene	1	U	1	U	2	U	6	U	6	U
1,2-Dibromo-3-chloropropane	1	U	1	U	2	U	6	U	6	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/4/93		10/5/93		10/5/93		10/5/93		10/5/93	
Sample Number	T. BLANK		MW118A		MW118A(D)		MW118A(B)		MW114A	
Organic Traffic Report Number	8018-46		8018-51		8018-52		8018-53		8018-54	
Volatile Organics (ug/L)										
Chloromethane	1	U	1	U	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	2	U	2	U	2	U	2		2	U
Acetone	8	J	5	U	5	U	5	U	5	U
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	0.9	J	1	U	4	
1,1-Dichloroethane	1	U	2		2		1	U	2	
cis-1,2-Dichloroethene	1	U	2		2		1	U	5	
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethene (total)										
Chloroform	1	U	1	U	1	U	26	D	1	U
1,2-Dichloroethane	1	U	1	U	1	U	1	U	1	U
2-Butanone	5	U	5	U	5	U	5	U	5	U
Bromochloromethane	1	U	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	1	U	7		7		1	U	6	
Carbon Tetrachloride	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	3		1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	3		3		1	U	2	
Dibromochloromethane	1	U	1	U	1	U	0.3	J	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-Pentanone	5	U	5	U	5	U	5	U	5	U
2-Hexanone	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	1	U	0.5	J	0.5	J	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/4/93		10/5/93		10/5/93		10/5/93		10/5/93	
Sample Number	T. BLANK		MW118A		MW118A(D)		MW118A(B)		MW114A	
Organic Traffic Report Number	8018-46		8018-51		8018-52		8018-53		8018-54	
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Toluene	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Xylene	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/5/93		10/5/93		10/6/93		10/6/93		10/6/93	
Sample Number	MW114A(D)		MW114A(B)		MW103D		MW103D(D)		MW103D(B)	
Organic Traffic Report Number	8018-55		8018-56		8018-76		8018-77		8018-78	
Volatile Organics (ug/L)										
Chloromethane	1	U	1	U	1	U	2	U	1	U
Bromomethane	1	U	1	U	1	U	2	U	1	U
Vinyl Chloride	1	U	1	U	1		2	U	1	U
Chloroethane	1	U	1	U	1	U	2	U	1	U
Methylene Chloride	2	U	1	J	2	U	4	U	2	U
Acetone	5	U	5	U	5	U	10	U	5	U
Carbon Disulfide	1	U	1	U	1	U	2	U	1	U
1,1-Dichloroethene	3		1	U	3		4		1	U
1,1-Dichloroethane	2		1	U	42	D	44		1	U
cis-1,2-Dichloroethene	5		1	U	48	D	50	E	1	U
trans-1,2-Dichloroethene	1	U	1	U	1		1	J	1	U
1,2-Dichloroethene (total)										
Chloroform	1	U	29	D	1	U	2	U	26	D
1,2-Dichloroethane	1	U	1	U	2		3		1	U
2-Butanone	5	U	5	U	5	U	10	U	5	U
Bromochloromethane	1	U	1	U	1	U	2	U	1	U
1,1,1-Trichloroethane	6		1	U	19		21		1	U
Carbon Tetrachloride	1	U	1	U	1	U	2	U	1	U
Bromodichloromethane	1	U	3		1	U	2	U	3	
1,2-Dichloropropane	1	U	1	U	1	U	2	U	1	U
cis-1,3-Dichloropropene	1	U	1	U	1	U	2	U	1	U
Trichloroethene	1		1	U	8		10		1	U
Dibromochloromethane	1	U	1	U	1	U	2	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	2	U	1	U
Benzene	1	U	1	U	1	U	2	U	1	U
trans-1,3-Dichloropropene	1	U	1	U	1	U	2	U	1	U
Bromoform	1	U	1	U	1	U	2	U	1	U
4-Methyl-2-Pentanone	5	U	5	U	5	U	10	U	5	U
2-Hexanone	5	U	5	U	5	U	10	U	5	U
Tetrachloroethene	1	U	1	U	3		3		1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/5/93		10/5/93		10/6/93		10/6/93		10/6/93	
Sample Number	MW114A(D)		MW114A(B)		MW103D		MW103D(D)		MW103D(B)	
Organic Traffic Report Number	8018-55		8018-56		8018-76		8018-77		8018-78	
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	2	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	2	U	1	U
Toluene	1	U	1	U	1	U	2	U	1	U
Chlorobenzene	1	U	1	U	1	U	2	U	1	U
Ethylbenzene	1	U	1	U	1	U	2	U	1	U
Styrene	1	U	1	U	1	U	2	U	1	U
Xylene	1	U	1	U	1	U	2	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	2	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	2	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	2	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	2	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/6/93		10/7/93		10/7/93		10/7/93		10/7/93	
Sample Number	T. BLANK		T. BLANK		IW05		IW05(D)		IW05(B)	
Organic Traffic Report Number	8018-81		EXS24		EXS25		EXS26		EXS27	
Volatile Organics (ug/L)										
Chloromethane	1	U	1	U	370	U	50	U	1	U
Bromomethane	1	U	1	U	370	U	50	U	1	U
Vinyl Chloride	1	U	1	U	370	U	50	U	1	U
Chloroethane	1	U	1	U	370	U	50	U	1	U
Methylene Chloride	1	J	1	J	370	U	50	U	2	J
Acetone	7		8		370	U	50	U	7	U
Carbon Disulfide	1	U	1	U	370	U	50	U	1	U
1,1-Dichloroethene	1	U	1	U	370	U	50	U	1	U
1,1-Dichloroethane	1	U	1	U	390		430		1	U
cis-1,2-Dichloroethene	1	U	1	U					1	U
trans-1,2-Dichloroethene	1	U	1	U					1	U
1,2-Dichloroethene (total)					190	J	210			
Chloroform	1	U	1	U	370	U	50	U	27	
1,2-Dichloroethane	1	U	1	U	370	U	50	U	1	U
2-Butanone	5	U	5	U	370	U	50	U	7	U
Bromochloromethane	1	U	1	U					1	U
1,1,1-Trichloroethane	1	U	1	U	370	J	420		1	U
Carbon Tetrachloride	1	U	1	U	370	U	50	U	1	U
Bromodichloromethane	1	U	1	U	370	U	50	U	3	
1,2-Dichloropropane	1	U	1	U	370	U	18	J	1	U
cis-1,3-Dichloropropene	1	U	1	U	370	U	50	U	1	U
Trichloroethene	1	U	1	U	95	J	100		1	U
Dibromochloromethane	1	U	1	U	370	U	50	U	1	U
1,1,2-Trichloroethane	1	U	1	U	370	U	50	U	1	U
Benzene	1	U	1	U	370	U	6	J	1	U
trans-1,3-Dichloropropene	1	U	1	U	370	U	50	U	1	U
Bromoform	1	U	1	U	370	U	50	U	1	U
4-Methyl-2-Pentanone	5	U	5	U	370	U	50	U	7	U
2-Hexanone	5	U	5	U	370	U	50	U	7	U
Tetrachloroethene	1	U	1	U	260	J	310		1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/6/93		10/7/93		10/7/93		10/7/93		10/7/93	
Sample Number	T. BLANK		T. BLANK		IW05		IW05(D)		IW05(B)	
Organic Traffic Report Number	8018-81		EXS24		EXS25		EXS26		EXS27	
1,1,2,2-Tetrachloroethane	1	U	1	U	370	U	50	U	1	U
1,2-Dibromoethane	1	U	1	U					1	U
Toluene	1	U	1	U	6200		6400	D	1	U
Chlorobenzene	1	U	1	U	370	U	50	U	1	U
Ethylbenzene	1	U	1	U	2000		2100	D	1	U
Styrene	1	U	1	U	370	U	50	U	1	U
Xylene	1	U	1	U	9500		9700	D	1	U
1,3-Dichlorobenzene	1	U	1	U					1	U
1,4-Dichlorobenzene	1	U	1	U					1	U
1,2-Dichlorobenzene	1	U	1	U					1	U
1,2-Dibromo-3-chloropropane	1	U	1	U					1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/7/93		10/7/93		10/7/93		10/8/93		10/11/93	
Sample Number	IW11		IW11(D)		T. BLANK		T. BLANK		T. BLANK	
Organic Traffic Report Number	EXS28		EXS29		EXS35		EXS36		8018-83	
Volatile Organics (ug/L)										
Chloromethane	500	U	7100	U	1	U	1	U	1	U
Bromomethane	500	U	7100	U	1	U	1	U	1	U
Vinyl Chloride	500	U	7100	U	1	U	1	U	1	U
Chloroethane	500	U	7100	U	1	U	1	U	1	U
Methylene Chloride	500	U	7100	U	2	U	2	U	2	U
Acetone	500	U	7100	U	5	U	5	U	5	U
Carbon Disulfide	500	U	7100	U	1	U	1	U	1	U
1,1-Dichloroethene	500	U	7100	U	1	U	1	U	1	U
1,1-Dichloroethane	500	U	7100	U	1	U	1	U	1	U
cis-1,2-Dichloroethene					1	U	1	U	1	U
trans-1,2-Dichloroethene					1	U	1	U	1	U
1,2-Dichloroethene (total)	500	U	7100	U						
Chloroform	500	U	7100	U	1	U	1	U	1	U
1,2-Dichloroethane	500	U	7100	U	1	U	1	U	1	U
2-Butanone	500	U	7100	U	5	U	5	U	5	U
Bromochloromethane					1	U	1	U	1	U
1,1,1-Trichloroethane	860		7100	U	1	U	1	U	1	U
Carbon Tetrachloride	500	U	7100	U	1	U	1	U	1	U
Bromodichloromethane	500	U	7100	U	1	U	1	U	1	U
1,2-Dichloropropane	500	U	7100	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	500	U	7100	U	1	U	1	U	1	U
Trichloroethene	170	J	7100	U	1	U	1	U	0.3	J
Dibromochloromethane	500	U	7100	U	1	U	1	U	1	U
1,1,2-Trichloroethane	500	U	7100	U	1	U	1	U	1	U
Benzene	500	U	7100	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	500	U	7100	U	1	U	1	U	1	U
Bromoform	500	U	7100	U	1	U	1	U	1	U
4-Methyl-2-Pentanone	500	U	7100	U	5	U	5	U	5	U
2-Hexanone	500	U	7100	U	5	U	5	U	5	U
Tetrachloroethene	500	U	7100	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/7/93		10/7/93		10/7/93		10/8/93		10/11/93	
Sample Number	IW11		IW11(D)		T. BLANK		T. BLANK		T. BLANK	
Organic Traffic Report Number	EXS28		EXS29		EXS35		EXS36		8018-83	
1,1,2,2-Tetrachloroethane	500	U	7100	U	1	U	1	U	1	U
1,2-Dibromoethane					1	U	1	U	1	U
Toluene	140000	ED	140000		1	U	1	U	0.6	J
Chlorobenzene	500	U	7100	U	1	U	1	U	1	U
Ethylbenzene	1800		2000	J	1	U	1	U	1	U
Styrene	500	U	7100	U	1	U	1	U	1	U
Xylene	8000		9500		1	U	1	U	1	U
1,3-Dichlorobenzene					1	U	1	U	1	U
1,4-Dichlorobenzene					1	U	1	U	1	U
1,2-Dichlorobenzene					1	U	1	U	1	U
1,2-Dibromo-3-chloropropane					1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/11/93		10/11/93		10/11/93		10/12/93		10/14/93	
Sample Number	MW122A		MW122A(D)		MW122A(B)		T. BLANK		T. BLANK	
Organic Traffic Report Number	8018-86		8018-87		8018-88		8018-90		8018-100	
Volatile Organics (ug/L)										
Chloromethane	2	U	1	U	1	U	1	U	1	U
Bromomethane	2	U	1	U	1	U	1	U	1	U
Vinyl Chloride	2	U	1	U	1	U	1	U	1	U
Chloroethane	2	U	1	U	1	U	1	U	1	U
Methylene Chloride	3	U	2	U	2		1	J	2	U
Acetone	8	U	5	U	60		8		10	
Carbon Disulfide	2	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	2	U	0.7	J	1	U	1	U	1	U
1,1-Dichloroethane	11		15		1	U	1	U	1	U
cis-1,2-Dichloroethene	8		10		1	U	1	U	1	U
trans-1,2-Dichloroethene	2	U	1	U	1	U	1	U	1	U
1,2-Dichloroethene (total)										
Chloroform	2	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	2	U	1	U	1	U	1	U	1	U
2-Butanone	8	U	5	U	13		5	U	5	U
Bromochloromethane	2	U	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	20		23	D	2		1	U	1	U
Carbon Tetrachloride	2	U	1	U	1	U	1	U	1	U
Bromodichloromethane	2	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	2	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	2	U	1	U	1	U	1	U	1	U
Trichloroethene	5		7		1	U	1	U	1	U
Dibromochloromethane	2	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	2	U	1	U	1	U	1	U	1	U
Benzene	2	U	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	2	U	1	U	1	U	1	U	1	U
Bromoform	2	U	1	U	1	U	1	U	1	U
4-Methyl-2-Pentanone	8	U	5	U	3	J	5	U	5	U
2-Hexanone	8	U	5	U	5	U	5	U	5	U
Tetrachloroethene	2	U	1	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/11/93		10/11/93		10/11/93		10/12/93		10/14/93	
Sample Number	MW122A		MW122A(D)		MW122A(B)		T. BLANK		T. BLANK	
Organic Traffic Report Number	8018-86		8018-87		8018-88		8018-90		8018-100	
1,1,2,2-Tetrachloroethane	2	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	2	U	1	U	1	U	1	U	1	U
Toluene	2	U	1	U	1	U	1	U	1	U
Chlorobenzene	2	U	1	U	1	U	1	U	1	U
Ethylbenzene	2	U	1	U	1	U	1	U	1	U
Styrene	2	U	1	U	1	U	1	U	1	U
Xylene	2	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	2	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	2	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	2	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	2	U	1	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/14/93		10/15/93		10/18/93		10/18/93		10/18/93	
Sample Number	T. BLANK		T. BLANK		T. BLANK		MW142		MW142(D)	
Organic Traffic Report Number	8018-102		8018-107		8018-113		8018-115		8018-116	
Volatile Organics (ug/L)										
Chloromethane	1	U	1	U	1	U	17	U	17	U
Bromomethane	1	U	1	U	1	U	17	U	17	U
Vinyl Chloride	1	U	1	U	1	U	17	U	17	U
Chloroethane	1	U	1	U	1	U	17	U	17	U
Methylene Chloride	1	J	2	U	1	J	33	U	33	U
Acetone	10		8		10		83	U	83	U
Carbon Disulfide	1	U	1	U	1	U	17	U	17	U
1,1-Dichloroethene	1	U	1	U	1	U	17	U	17	U
1,1-Dichloroethane	1	U	1	U	1	U	17	U	17	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	17	U	17	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	17	U	17	U
1,2-Dichloroethene (total)										
Chloroform	1	U	1	U	1	U	17	U	17	U
1,2-Dichloroethane	1	U	1	U	1	U	17	U	17	U
2-Butanone	5	U	5	U	5	U	83	U	83	U
Bromochloromethane	1	U	1	U	1	U	17	U	17	U
1,1,1-Trichloroethane	1	U	1	U	1	U	17	U	17	U
Carbon Tetrachloride	1	U	1	U	1	U	17	U	17	U
Bromodichloromethane	1	U	1	U	1	U	17	U	17	U
1,2-Dichloropropane	1	U	1	U	1	U	17	U	17	U
cis-1,3-Dichloropropene	1	U	1	U	1	U	17	U	17	U
Trichloroethene	1	U	1	U	1	U	17	U	17	U
Dibromochloromethane	1	U	1	U	1	U	17	U	17	U
1,1,2-Trichloroethane	1	U	1	U	1	U	17	U	17	U
Benzene	1	U	1	U	1	U	17	U	17	U
trans-1,3-Dichloropropene	1	U	1	U	1	U	17	U	17	U
Bromoform	1	U	1	U	1	U	17	U	17	U
4-Methyl-2-Pentanone	5	U	5	U	5	U	83	U	83	U
2-Hexanone	5	U	5	U	5	U	83	U	83	U
Tetrachloroethene	1	U	1	U	1	U	17	U	17	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/14/93		10/15/93		10/18/93		10/18/93		10/18/93	
Sample Number	T. BLANK		T. BLANK		T. BLANK		MW142		MW142(D)	
Organic Traffic Report Number	8018-102		8018-107		8018-113		8018-115		8018-116	
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	17	U	17	U
1,2-Dibromoethane	1	U	1	U	1	U	17	U	17	U
Toluene	1	U	1	U	1	U	280		280	
Chlorobenzene	1	U	1	U	1	U	17	U	17	U
Ethylbenzene	1	U	1	U	1	U	17	U	17	U
Styrene	1	U	1	U	1	U	17	U	17	U
Xylene	1	U	1	U	1	U	17	U	17	U
1,3-Dichlorobenzene	1	U	1	U	1	U	17	U	17	U
1,4-Dichlorobenzene	1	U	1	U	1	U	17	U	17	U
1,2-Dichlorobenzene	1	U	1	U	1	U	17	U	17	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	17	U	17	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/18/93		10/18/93		10/19/93		10/19/93		10/20/93	
Sample Number	MW142(B)		T. BLANK		T. BLANK		T. BLANK		T. BLANK	
Organic Traffic Report Number	8018-117		8018-118		8018-121		8018-127		8018-134	
Volatile Organics (ug/L)										
Chloromethane	1	U	1	U	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U	1	U	1	U
Vinyl Chloride	1	U	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U	1	U
Methylene Chloride	2		2	U	2	U	2	J	2	
Acetone	76		12	B	11		12		7	
Carbon Disulfide	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethene (total)										
Chloroform	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	1	U	1	U	1	U	1	U	1	U
2-Butanone	15		5	U	5	U	5	U	5	U
Bromochloromethane	1	U	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	2		1	U	1	U	1	U	1	U
Carbon Tetrachloride	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U	1	U
Benzene	1		1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	1	U	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U	1	U
4-Methyl-2-Pentanone	4	J	5	U	5	U	5	U	5	U
2-Hexanone	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	1	U	1	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/18/93		10/18/93		10/19/93		10/19/93		10/20/93	
Sample Number	MW142(B)		T. BLANK		T. BLANK		T. BLANK		T. BLANK	
Organic Traffic Report Number	8018-117		8018-118		8018-121		8018-127		8018-134	
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U	1	U
Toluene	4		1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U	1	U
Xylene	3		1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/20/93		10/20/93		10/20/93		10/20/93		10/20/93	
Sample Number	MW133C		MW133C(D)		MW133C(B)		MW126A(B)		T. BLANK	
Organic Traffic Report Number	8018-135		8018-136		8018-137		8018-140		8018-141	
Volatile Organics (ug/L)										
Chloromethane	20	U	20	U	1	U	2	U	1	U
Bromomethane	20	U	20	U	1	U	2	U	1	U
Vinyl Chloride	20	U	20	U	1	U	2	U	1	U
Chloroethane	20	U	20	U	1	U	2	U	1	U
Methylene Chloride	20	U	20	U	2	J	8		2	
Acetone	20	U	20	U	7	U	8	U	6	J
Carbon Disulfide	20	U	20	U	1	U	2	U	1	U
1,1-Dichloroethene	75		71		1	U	2	U	1	U
1,1-Dichloroethane	76		72		1	U	2	U	1	U
cis-1,2-Dichloroethene					1	U	2	U	1	U
trans-1,2-Dichloroethene					1	U	2	U	1	U
1,2-Dichloroethene (total)	120		110							
Chloroform	20	U	20	U	27		30		1	U
1,2-Dichloroethane	20	U	20	U	1	U	2	U	1	U
2-Butanone	20	U	20	U	7	U	8	U	5	U
Bromochloromethane					1	U	2	U	1	U
1,1,1-Trichloroethane	340		320		1	U	2	U	1	U
Carbon Tetrachloride	20	U	20	U	1	U	2	U	1	U
Bromodichloromethane	20	U	20	U	3		3		1	U
1,2-Dichloropropane	20	U	20	U	1	U	2	U	1	U
cis-1,3-Dichloropropene	20	U	20	U	1	U	2	U	1	U
Trichloroethene	170		160		1	U	2	U	1	U
Dibromochloromethane	20	U	20	U	1	U	2	U	1	U
1,1,2-Trichloroethane	20	U	20	U	1	U	2	U	1	U
Benzene	20	U	20	U	1	U	2	U	1	U
trans-1,3-Dichloropropene	20	U	20	U	1	U	2	U	1	U
Bromoform	20	U	20	U	1	U	2	U	1	U
4-Methyl-2-Pentanone	20	U	20	U	7	U	8	U	5	U
2-Hexanone	20	U	20	U	7	U	8	U	5	U
Tetrachloroethene	44		42		1	U	2	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/20/93		10/20/93		10/20/93		10/20/93		10/20/93	
Sample Number	MW133C		MW133C(D)		MW133C(B)		MW126A(B)		T. BLANK	
Organic Traffic Report Number	8018-135		8018-136		8018-137		8018-140		8018-141	
1,1,2,2-Tetrachloroethane	20	U	20	U	1	U	2	U	1	U
1,2-Dibromoethane					1	U	2	U	1	U
Toluene	20	U	20	U	1	U	2	U	1	U
Chlorobenzene	20	U	20	U	1	U	2	U	1	U
Ethylbenzene	20	U	20	U	1	U	2	U	1	U
Styrene	20	U	20	U	1	U	2	U	1	U
Xylene	5	J	4	J	1	U	2	U	1	U
1,3-Dichlorobenzene					1	U	2	U	1	U
1,4-Dichlorobenzene					1	U	2	U	1	U
1,2-Dichlorobenzene					1	U	2	U	1	U
1,2-Dibromo-3-chloropropane					1	U	2	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/20/93		10/20/93	
Sample Number	MW126A		MW126A(D)	
Organic Traffic Report Number	8018-142		8018-143	
Volatile Organics (ug/L)				
Chloromethane	33	U	170	U
Bromomethane	33	U	170	U
Vinyl Chloride	33	U	170	U
Chloroethane	150		130	J
Methylene Chloride	33	U	170	U
Acetone	33	U	170	U
Carbon Disulfide	33	U	170	U
1,1-Dichloroethene	110		98	J
1,1-Dichloroethane	2100	D	2000	
cis-1,2-Dichloroethene				
trans-1,2-Dichloroethene				
1,2-Dichloroethene (total)	110		92	J
Chloroform	33	U	170	U
1,2-Dichloroethane	33	U	170	U
2-Butanone	33	U	170	U
Bromochloromethane				
1,1,1-Trichloroethane	610	D	580	
Carbon Tetrachloride	33	U	170	U
Bromodichloromethane	33	U	170	U
1,2-Dichloropropane	33	U	170	U
cis-1,3-Dichloropropene	33	U	170	U
Trichloroethene	19	J	16	J
Dibromochloromethane	33	U	170	U
1,1,2-Trichloroethane	33	U	170	U
Benzene	4	J	170	U
trans-1,3-Dichloropropene	33	U	170	U
Bromoform	33	U	170	U
4-Methyl-2-Pentanone	33	U	170	U
2-Hexanone	33	U	170	U
Tetrachloroethene	26	J	23	J

Appendix F: Blank and Duplicate Analysis (Groundwater Volatile Organics)

Date Sampled	10/20/93		10/20/93	
Sample Number	MW126A		MW126A(D)	
Organic Traffic Report Number	8018-142		8018-143	
1,1,2,2-Tetrachloroethane	33	U	170	U
1,2-Dibromoethane				
Toluene	46		52	J
Chlorobenzene	33	U	170	U
Ethylbenzene	33	U	170	U
Styrene	33	U	170	U
Xylene	16	J	28	J
1,3-Dichlorobenzene				
1,4-Dichlorobenzene				
1,2-Dichlorobenzene				
1,2-Dibromo-3-chloropropane				

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	9/28/93		9/28/93			9/28/93		9/28/93		
Sample Number	MW102A		MW102A(D)		MW102A	MW108A		MW108A(D)		MW108A
Organic Traffic Report Number	8018-01		8018-03		RPD	8018-10		8018-11		RPD
Volatile Organics (ug/kg)										
Chloromethane	2	U	2	U	N/A	1	U	1	U	N/A
Bromomethane	2	U	2	U	N/A	1	U	1	U	N/A
Vinyl Chloride	2	U	2	U	N/A	1	U	1	U	N/A
Chloroethane	2	U	2	U	N/A	1	U	1	U	N/A
Methylene Chloride	23	BJ	11	BJ	70.59	4	UB	7	UB	N/A
Acetone	8	U	12	U	N/A	5	U	5	U	N/A
Carbon Disulfide	2	U	2	U	N/A	1	U	1	U	N/A
1,1-Dichloroethene	4		2	J	66.67	1	U	1	U	N/A
1,1-Dichloroethane	26	D	28		7.41	1	U	1	U	N/A
cis-1,2-Dichloroethene	32	D	32		0.00	1	U	1	U	N/A
trans-1,2-Dichloroethene	2		2	U	N/A	1	U	1	U	N/A
1,2-Dichloroethene (total)					N/A					N/A
Chloroform	2	U	2	U	N/A	1	U	1	U	N/A
1,2-Dichloroethane	2	U	1	J	N/A	1	U	1	U	N/A
2-Butanone	8	U	12	U	N/A	5	U	5	U	N/A
Bromochloromethane	2	U	2	U	N/A	1	U	1	U	N/A
1,1,1-Trichloroethane	34	D	32		6.06	3		4		28.57
Carbon Tetrachloride	2	U	2	U	N/A	1	U	1	U	N/A
Bromodichloromethane	2	U	2	U	N/A	1	U	1	U	N/A
1,2-Dichloropropane	2	U	2	U	N/A	1	U	1	U	N/A
cis-1,3-Dichloropropene	2	U	2	U	N/A	1	U	1	U	N/A
Trichloroethene	6		4		40.00	0.8	J	0.9	J	11.76
Dibromochloromethane	2	U	2	U	N/A	1	U	1	U	N/A
1,1,2-Trichloroethane	2	U	2	U	N/A	1	U	1	U	N/A
Benzene	2	U	2	U	N/A	1	U	1	U	N/A
trans-1,3-Dichloropropene	2	U	2	U	N/A	1	U	1	U	N/A
Bromoform	2	U	2	U	N/A	1	U	1	U	N/A
4-Methyl-2-Pentanone	8	U	12	U	N/A	5	U	5	U	N/A
2-Hexanone	8	U	12	U	N/A	5	U	5	U	N/A
Tetrachloroethene	2	U	2	U	N/A	1	U	1	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	9/28/93		9/28/93			9/28/93		9/28/93		
Sample Number	MW102A		MW102A(D)		MW102A	MW108A		MW108A(D)		MW108A
Organic Traffic Report Number	8018-01		8018-03		RPD	8018-10		8018-11		RPD
1,1,2,2-Tetrachloroethane	2	U	2	U	N/A	1	U	1	U	N/A
1,2-Dibromoethane	2	U	2	U	N/A	1	U	1	U	N/A
Toluene	2	U	2	U	N/A	1	U	1	U	N/A
Chlorobenzene	2	U	2	U	N/A	1	U	1	U	N/A
Ethylbenzene	2	U	2	U	N/A	1	U	1	U	N/A
Styrene	2	U	2	U	N/A	1	U	1	U	N/A
Xylene	2	U	2	U	N/A	1	U	1	U	N/A
1,3-Dichlorobenzene	2	U	2	U	N/A	1	U	1	U	N/A
1,4-Dichlorobenzene	2	U	2	U	N/A	1	U	1	U	N/A
1,2-Dichlorobenzene	2	U	2	U	N/A	1	U	1	U	N/A
1,2-Dibromo-3-chloropropane	2	U	2	U	N/A	1	U	1	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	10/1/93		10/1/93			10/5/93		10/5/93		
Sample Number	MW105A		MW105A(D)		MW105A	MW118A		MW118A(D)		MW118A
Organic Traffic Report Number	8018-36		8018-37		RPD	8018-51		8018-52		RPD
Volatile Organics (ug/kg)										
Chloromethane	6	U	6	U	N/A	1	U	1	U	N/A
Bromomethane	6	U	6	U	N/A	1	U	1	U	N/A
Vinyl Chloride	9		8		11.76	1	U	1	U	N/A
Chloroethane	6	U	6	U	N/A	1	U	1	U	N/A
Methylene Chloride	4	UB	5	UB	N/A	2	U	2	U	N/A
Acetone	31	U	28	U	N/A	5	U	5	U	N/A
Carbon Disulfide	6	U	6	U	N/A	1	U	1	U	N/A
1,1-Dichloroethene	4	J	4	J	0.00	1	U	0.9	J	N/A
1,1-Dichloroethane	85		79		7.32	2		2		0.00
cis-1,2-Dichloroethene	120		110		8.70	2		2		0.00
trans-1,2-Dichloroethene	5	J	4	J	22.22	1	U	1	U	N/A
1,2-Dichloroethene (total)					N/A					N/A
Chloroform	6	U	6	U	N/A	1	U	1	U	N/A
1,2-Dichloroethane	13		9		36.36	1	U	1	U	N/A
2-Butanone	31	U	28	U	N/A	5	U	5	U	N/A
Bromochloromethane	6	U	6	U	N/A	1	U	1	U	N/A
1,1,1-Trichloroethane	61		56		8.55	7		7		0.00
Carbon Tetrachloride	6	U	6	U	N/A	1	U	1	U	N/A
Bromodichloromethane	6	U	6	U	N/A	1	U	1	U	N/A
1,2-Dichloropropane	6	U	6	U	N/A	1	U	1	U	N/A
cis-1,3-Dichloropropene	6	U	6	U	N/A	1	U	1	U	N/A
Trichloroethene	13		12		8.00	3		3		0.00
Dibromochloromethane	6	U	6	U	N/A	1	U	1	U	N/A
1,1,2-Trichloroethane	6	U	6	U	N/A	1	U	1	U	N/A
Benzene	6	U	6	U	N/A	1	U	1	U	N/A
trans-1,3-Dichloropropene	6	U	6	U	N/A	1	U	1	U	N/A
Bromoform	6	U	6	U	N/A	1	U	1	U	N/A
4-Methyl-2-Pentanone	31	U	28	U	N/A	5	U	5	U	N/A
2-Hexanone	31	U	28	U	N/A	5	U	5	U	N/A
Tetrachloroethene	6	U	3	J	N/A	0.5	J	0.5	J	0.00

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	10/1/93		10/1/93			10/5/93		10/5/93		
Sample Number	MW105A		MW105A(D)		MW105A	MW118A		MW118A(D)		MW118A
Organic Traffic Report Number	8018-36		8018-37		RPD	8018-51		8018-52		RPD
1,1,2,2-Tetrachloroethane	6	U	6	U	N/A	1	U	1	U	N/A
1,2-Dibromoethane	6	U	6	U	N/A	1	U	1	U	N/A
Toluene	6	U	6	U	N/A	1	U	1	U	N/A
Chlorobenzene	6	U	6	U	N/A	1	U	1	U	N/A
Ethylbenzene	6	U	6	U	N/A	1	U	1	U	N/A
Styrene	6	U	6	U	N/A	1	U	1	U	N/A
Xylene	6	U	6	U	N/A	1	U	1	U	N/A
1,3-Dichlorobenzene	6	U	6	U	N/A	1	U	1	U	N/A
1,4-Dichlorobenzene	6	U	6	U	N/A	1	U	1	U	N/A
1,2-Dichlorobenzene	6	U	6	U	N/A	1	U	1	U	N/A
1,2-Dibromo-3-chloropropane	6	U	6	U	N/A	1	U	1	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	10/5/93		10/5/93			10/6/93		10/6/93		
Sample Number	MW114A		MW114A(D)		MW114A	MW103D		MW103D(D)		MW103D
Organic Traffic Report Number	8018-54		8018-55		RPD	8018-76		8018-77		RPD
Volatile Organics (ug/kg)										
Chloromethane	1	U	1	U	N/A	1	U	2	U	N/A
Bromomethane	1	U	1	U	N/A	1	U	2	U	N/A
Vinyl Chloride	1	U	1	U	N/A	1		2	U	N/A
Chloroethane	1	U	1	U	N/A	1	U	2	U	N/A
Methylene Chloride	2	U	2	U	N/A	2	U	4	U	N/A
Acetone	5	U	5	U	N/A	5	U	10	U	N/A
Carbon Disulfide	1	U	1	U	N/A	1	U	2	U	N/A
1,1-Dichloroethene	4		3		28.57	3		4		28.57
1,1-Dichloroethane	2		2		0.00	42	D	44		4.65
cis-1,2-Dichloroethene	5		5		0.00	48	D	50	E	4.08
trans-1,2-Dichloroethene	1	U	1	U	N/A	1		1	J	0.00
1,2-Dichloroethene (total)					N/A					N/A
Chloroform	1	U	1	U	N/A	1	U	2	U	N/A
1,2-Dichloroethane	1	U	1	U	N/A	2		3		40.00
2-Butanone	5	U	5	U	N/A	5	U	10	U	N/A
Bromochloromethane	1	U	1	U	N/A	1	U	2	U	N/A
1,1,1-Trichloroethane	6		6		0.00	19		21		10.00
Carbon Tetrachloride	1	U	1	U	N/A	1	U	2	U	N/A
Bromodichloromethane	1	U	1	U	N/A	1	U	2	U	N/A
1,2-Dichloropropane	1	U	1	U	N/A	1	U	2	U	N/A
cis-1,3-Dichloropropene	1	U	1	U	N/A	1	U	2	U	N/A
Trichloroethene	2		1		66.67	8		10		22.22
Dibromochloromethane	1	U	1	U	N/A	1	U	2	U	N/A
1,1,2-Trichloroethane	1	U	1	U	N/A	1	U	2	U	N/A
Benzene	1	U	1	U	N/A	1	U	2	U	N/A
trans-1,3-Dichloropropene	1	U	1	U	N/A	1	U	2	U	N/A
Bromoform	1	U	1	U	N/A	1	U	2	U	N/A
4-Methyl-2-Pentanone	5	U	5	U	N/A	5	U	10	U	N/A
2-Hexanone	5	U	5	U	N/A	5	U	10	U	N/A
Tetrachloroethene	1	U	1	U	N/A	3		3		0.00

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	10/5/93		10/5/93			10/6/93		10/6/93		
Sample Number	MW114A		MW114A(D)		MW114A	MW103D		MW103D(D)		MW103D
Organic Traffic Report Number	8018-54		8018-55		RPD	8018-76		8018-77		RPD
1,1,2,2-Tetrachloroethane	1	U	1	U	N/A	1	U	2	U	N/A
1,2-Dibromoethane	1	U	1	U	N/A	1	U	2	U	N/A
Toluene	1	U	1	U	N/A	1	U	2	U	N/A
Chlorobenzene	1	U	1	U	N/A	1	U	2	U	N/A
Ethylbenzene	1	U	1	U	N/A	1	U	2	U	N/A
Styrene	1	U	1	U	N/A	1	U	2	U	N/A
Xylene	1	U	1	U	N/A	1	U	2	U	N/A
1,3-Dichlorobenzene	1	U	1	U	N/A	1	U	2	U	N/A
1,4-Dichlorobenzene	1	U	1	U	N/A	1	U	2	U	N/A
1,2-Dichlorobenzene	1	U	1	U	N/A	1	U	2	U	N/A
1,2-Dibromo-3-chloropropane	1	U	1	U	N/A	1	U	2	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	10/7/93		10/7/93			10/7/93		10/7/93		
Sample Number	IW05		IW05(D)		IW05	IW11		IW11(D)		IW11
Organic Traffic Report Number	EXS25		EXS26		RPD	EXS28		EXS29		RPD
Volatile Organics (ug/kg)										
Chloromethane	370	U	50	U	N/A	500	U	7100	U	N/A
Bromomethane	370	U	50	U	N/A	500	U	7100	U	N/A
Vinyl Chloride	370	U	50	U	N/A	500	U	7100	U	N/A
Chloroethane	370	U	50	U	N/A	500	U	7100	U	N/A
Methylene Chloride	370	U	50	U	N/A	500	U	7100	U	N/A
Acetone	370	U	50	U	N/A	500	U	7100	U	N/A
Carbon Disulfide	370	U	50	U	N/A	500	U	7100	U	N/A
1,1-Dichloroethene	370	U	50	U	N/A	500	U	7100	U	N/A
1,1-Dichloroethane	390		430		9.76	500	U	7100	U	N/A
cis-1,2-Dichloroethene					N/A					N/A
trans-1,2-Dichloroethene					N/A					N/A
1,2-Dichloroethene (total)	190	J	210		10.00	500	U	7100	U	N/A
Chloroform	370	U	50	U	N/A	500	U	7100	U	N/A
1,2-Dichloroethane	370	U	50	U	N/A	500	U	7100	U	N/A
2-Butanone	370	U	50	U	N/A	500	U	7100	U	N/A
Bromochloromethane					N/A					N/A
1,1,1-Trichloroethane	370	J	420		12.66	860		7100	U	N/A
Carbon Tetrachloride	370	U	50	U	N/A	500	U	7100	U	N/A
Bromodichloromethane	370	U	50	U	N/A	500	U	7100	U	N/A
1,2-Dichloropropane	370	U	18	J	N/A	500	U	7100	U	N/A
cis-1,3-Dichloropropene	370	U	50	U	N/A	500	U	7100	U	N/A
Trichloroethene	95	J	100		5.13	170	J	7100	U	N/A
Dibromochloromethane	370	U	50	U	N/A	500	U	7100	U	N/A
1,1,2-Trichloroethane	370	U	50	U	N/A	500	U	7100	U	N/A
Benzene	370	U	6	J	N/A	500	U	7100	U	N/A
trans-1,3-Dichloropropene	370	U	50	U	N/A	500	U	7100	U	N/A
Bromoform	370	U	50	U	N/A	500	U	7100	U	N/A
4-Methyl-2-Pentanone	370	U	50	U	N/A	500	U	7100	U	N/A
2-Hexanone	370	U	50	U	N/A	500	U	7100	U	N/A
Tetrachloroethene	260	J	310		17.54	500	U	7100	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	10/7/93		10/7/93			10/7/93		10/7/93		
Sample Number	IW05		IW05(D)		IW05	IW11		IW11(D)		IW11
Organic Traffic Report Number	EXS25		EXS26		RPD	EXS28		EXS29		RPD
1,1,2,2-Tetrachloroethane	370	U	50	U	N/A	500	U	7100	U	N/A
1,2-Dibromoethane					N/A					N/A
Toluene	6200		6400	D	3.17	140000	ED	140000		0.00
Chlorobenzene	370	U	50	U	N/A	500	U	7100	U	N/A
Ethylbenzene	2000		2100	D	4.88	1800		2000	J	10.53
Styrene	370	U	50	U	N/A	500	U	7100	U	N/A
Xylene	9500		9700	D	2.08	8000		9500		17.14
1,3-Dichlorobenzene					N/A					N/A
1,4-Dichlorobenzene					N/A					N/A
1,2-Dichlorobenzene					N/A					N/A
1,2-Dibromo-3-chloropropane					N/A					N/A

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	10/11/93		10/11/93			10/18/93		10/18/93		
Sample Number	MW122A		MW122A(D)		MW122A	MW142		MW142(D)		MW142
Organic Traffic Report Number	8018-86		8018-87		RPD	8018-115		8018-116		RPD
Volatile Organics (ug/kg)										
Chloromethane	2	U	1	U	N/A	17	U	17	U	N/A
Bromomethane	2	U	1	U	N/A	17	U	17	U	N/A
Vinyl Chloride	2	U	1	U	N/A	17	U	17	U	N/A
Chloroethane	2	U	1	U	N/A	17	U	17	U	N/A
Methylene Chloride	3	U	2	U	N/A	33	U	33	U	N/A
Acetone	8	U	5	U	N/A	83	U	83	U	N/A
Carbon Disulfide	2	U	1	U	N/A	17	U	17	U	N/A
1,1-Dichloroethene	2	U	0.7	J	N/A	17	U	17	U	N/A
1,1-Dichloroethane	11		15		30.77	17	U	17	U	N/A
cis-1,2-Dichloroethene	8		10		22.22	17	U	17	U	N/A
trans-1,2-Dichloroethene	2	U	1	U	N/A	17	U	17	U	N/A
1,2-Dichloroethene (total)					N/A					N/A
Chloroform	2	U	1	U	N/A	17	U	17	U	N/A
1,2-Dichloroethane	2	U	1	U	N/A	17	U	17	U	N/A
2-Butanone	8	U	5	U	N/A	83	U	83	U	N/A
Bromochloromethane	2	U	1	U	N/A	17	U	17	U	N/A
1,1,1-Trichloroethane	20		23	D	13.95	17	U	17	U	N/A
Carbon Tetrachloride	2	U	1	U	N/A	17	U	17	U	N/A
Bromodichloromethane	2	U	1	U	N/A	17	U	17	U	N/A
1,2-Dichloropropane	2	U	1	U	N/A	17	U	17	U	N/A
cis-1,3-Dichloropropene	2	U	1	U	N/A	17	U	17	U	N/A
Trichloroethene	5		7		33.33	17	U	17	U	N/A
Dibromochloromethane	2	U	1	U	N/A	17	U	17	U	N/A
1,1,2-Trichloroethane	2	U	1	U	N/A	17	U	17	U	N/A
Benzene	2	U	1	U	N/A	17	U	17	U	N/A
trans-1,3-Dichloropropene	2	U	1	U	N/A	17	U	17	U	N/A
Bromoform	2	U	1	U	N/A	17	U	17	U	N/A
4-Methyl-2-Pentanone	8	U	5	U	N/A	83	U	83	U	N/A
2-Hexanone	8	U	5	U	N/A	83	U	83	U	N/A
Tetrachloroethene	2	U	1	U	N/A	17	U	17	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	10/11/93		10/11/93			10/18/93		10/18/93		
Sample Number	MW122A		MW122A(D)		MW122A	MW142		MW142(D)		MW142
Organic Traffic Report Number	8018-86		8018-87		RPD	8018-115		8018-116		RPD
1,1,2,2-Tetrachloroethane	2	U	1	U	N/A	17	U	17	U	N/A
1,2-Dibromoethane	2	U	1	U	N/A	17	U	17	U	N/A
Toluene	2	U	1	U	N/A	280		280		0.00
Chlorobenzene	2	U	1	U	N/A	17	U	17	U	N/A
Ethylbenzene	2	U	1	U	N/A	17	U	17	U	N/A
Styrene	2	U	1	U	N/A	17	U	17	U	N/A
Xylene	2	U	1	U	N/A	17	U	17	U	N/A
1,3-Dichlorobenzene	2	U	1	U	N/A	17	U	17	U	N/A
1,4-Dichlorobenzene	2	U	1	U	N/A	17	U	17	U	N/A
1,2-Dichlorobenzene	2	U	1	U	N/A	17	U	17	U	N/A
1,2-Dibromo-3-chloropropane	2	U	1	U	N/A	17	U	17	U	N/A

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	10/20/93		10/20/93			10/20/93		10/20/93		
Sample Number	MW133C		MW133C(D)		MW133C	MW126A		MW126A(D)		MW126A
Organic Traffic Report Number	8018-135		8018-136		RPD	8018-142		8018-143		RPD
Volatile Organics (ug/kg)										
Chloromethane	20	U	20	U	N/A	33	U	170	U	N/A
Bromomethane	20	U	20	U	N/A	33	U	170	U	N/A
Vinyl Chloride	20	U	20	U	N/A	33	U	170	U	N/A
Chloroethane	20	U	20	U	N/A	150		130	J	14.29
Methylene Chloride	20	U	20	U	N/A	33	U	170	U	N/A
Acetone	20	U	20	U	N/A	33	U	170	U	N/A
Carbon Disulfide	20	U	20	U	N/A	33	U	170	U	N/A
1,1-Dichloroethene	75		71		5.48	110		98	J	11.54
1,1-Dichloroethane	76		72		5.41	2100	D	2000		4.88
cis-1,2-Dichloroethene					N/A					N/A
trans-1,2-Dichloroethene					N/A					N/A
1,2-Dichloroethene (total)	120		110		8.70	110		92	J	17.82
Chloroform	20	U	20	U	N/A	33	U	170	U	N/A
1,2-Dichloroethane	20	U	20	U	N/A	33	U	170	U	N/A
2-Butanone	20	U	20	U	N/A	33	U	170	U	N/A
Bromochloromethane					N/A					N/A
1,1,1-Trichloroethane	340		320		6.06	610	D	580		5.04
Carbon Tetrachloride	20	U	20	U	N/A	33	U	170	U	N/A
Bromodichloromethane	20	U	20	U	N/A	33	U	170	U	N/A
1,2-Dichloropropane	20	U	20	U	N/A	33	U	170	U	N/A
cis-1,3-Dichloropropene	20	U	20	U	N/A	33	U	170	U	N/A
Trichloroethene	170		160		6.06	19	J	16	J	17.14
Dibromochloromethane	20	U	20	U	N/A	33	U	170	U	N/A
1,1,2-Trichloroethane	20	U	20	U	N/A	33	U	170	U	N/A
Benzene	20	U	20	U	N/A	4	J	170	U	N/A
trans-1,3-Dichloropropene	20	U	20	U	N/A	33	U	170	U	N/A
Bromoform	20	U	20	U	N/A	33	U	170	U	N/A
4-Methyl-2-Pentanone	20	U	20	U	N/A	33	U	170	U	N/A
2-Hexanone	20	U	20	U	N/A	33	U	170	U	N/A
Tetrachloroethene	44		42		4.65	26	J	23	J	12.24

Appendix F: Selected Duplicate Relative Percent Differences (Groundwater Organics)

Date Sampled	10/20/93		10/20/93			10/20/93		10/20/93		
Sample Number	MW133C		MW133C(D)		MW133C	MW126A		MW126A(D)		MW126A
Organic Traffic Report Number	8018-135		8018-136		RPD	8018-142		8018-143		RPD
1,1,2,2-Tetrachloroethane	20	U	20	U	N/A	33	U	170	U	N/A
1,2-Dibromoethane					N/A					N/A
Toluene	20	U	20	U	N/A	46		52	J	12.24
Chlorobenzene	20	U	20	U	N/A	33	U	170	U	N/A
Ethylbenzene	20	U	20	U	N/A	33	U	170	U	N/A
Styrene	20	U	20	U	N/A	33	U	170	U	N/A
Xylene	5	J	4	J	22.22	16	J	28	J	54.55
1,3-Dichlorobenzene					N/A					N/A
1,4-Dichlorobenzene					N/A					N/A
1,2-Dichlorobenzene					N/A					N/A
1,2-Dibromo-3-chloropropane					N/A					N/A

Appendix F: Blank and Duplicate Analysis (Groundwater Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	10/11/93	10/11/93	10/11/93	10/18/93	10/18/93
Sample Number	MW122A	MW122A(D)	MW122A(B)	MW142(B)	MW142
Organic Traffic Report Number	EXT04	EXT05	EXT06	EXT15	EXT16
Semivolatile Organics (ug/L)					
Phenol	10 U	10 U	3 J	10 U	10 U
bis(2-Chloroethyl)Ether	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	3 J
2,2'-oxybis(1-Chloropropane)	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	3 J	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U

Appendix F: Blank and Duplicate Analysis (Groundwater Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	10/11/93	10/11/93	10/11/93	10/18/93	10/18/93
Sample Number	MW122A	MW122A(D)	MW122A(B)	MW142(B)	MW142
Organic Traffic Report Number	EXT04	EXT05	EXT06	EXT15	EXT16
3-Nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	1 J	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-Nitrosodiphenylamine (1)	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-Butylphthalate	10 U	10 U	0.5 J	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate	10 UB	10 UB	10 UB	13	190 DB
Di-n-Octyl Phthalate	10 U	10 U	10 U	10 U	10 UJ
Benzo (b) fluoranthene	10 U	10 U	10 U	10 U	10 UJ
Benzo (k) fluoranthene	10 U	10 U	10 U	10 U	10 UJ
Benzo (a) pyrene	10 U	10 U	10 U	10 U	10 UJ
Ideno (1,2,3-cd) pyrene	10 U	10 U	10 U	10 U	10 UJ
Dibenzo (a,h) anthracene	10 U	10 U	10 U	10 U	10 UJ

Appendix F: Blank and Duplicate Analysis (Groundwater Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	10/11/93		10/11/93		10/11/93		10/18/93		10/18/93	
Sample Number	MW122A		MW122A(D)		MW122A(B)		MW142(B)		MW142	
Organic Traffic Report Number	EXT04		EXT05		EXT06		EXT15		EXT16	
Benzo (g,h,i) perylene	10	U	10	U	10	U	10	U	10	UJ
Pesticides & PCBs (ug/L)										
alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Toxaphene	5	U	5	U	5	U	5	U	5	U
Aroclor-1016	1	U	1	U	1	U	1	U	1	U
Aroclor-1221	2	U	2	U	2	U	2	U	2	U
Aroclor-1232	1	U	1	U	1	U	1	U	1	U
Aroclor-1242	1	U	1	U	1	U	1	U	1	U
Aroclor-1248	1	U	1	U	1	U	1	U	1	U
Aroclor-1254	1	U	1	U	1	U	1	U	1	U
Aroclor-1260	1	U	1	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	10/18/93	10/20/93	10/20/93	10/20/93	10/20/93
Sample Number	MW142(D)	MW133C	MW133C(D)	MW133C(B)	MW126A(B)
Organic Traffic Report Number	EXT17	EXT27	EXT28	EXT29	EXT32
Semivolatile Organics (ug/L)					
Phenol	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)Ether	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	8 J	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U

Appendix F: Blank and Duplicate Analysis (Groundwater Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	10/18/93	10/20/93	10/20/93	10/20/93	10/20/93
Sample Number	MW142(D)	MW133C	MW133C(D)	MW133C(B)	MW126A(B)
Organic Traffic Report Number	EXT17	EXT27	EXT28	EXT29	EXT32
3-Nitroaniline	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 U	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
N-Nitrosodiphenylamine (1)	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Di-n-Butylphthalate	0.9 JB	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate	1 JB	8 JB	10 U	10 U	10 U
Di-n-Octyl Phthalate	10 U	10 U	10 U	10 U	10 U
Benzo (b) fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo (k) fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo (a) pyrene	10 U	10 U	10 U	10 U	10 U
Ideno (1,2,3-cd) pyrene	10 U	10 U	10 U	10 U	10 U
Dibenzo (a,h) anthracene	10 U	10 U	10 U	10 U	10 U

Appendix F: Blank and Duplicate Analysis (Groundwater Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	10/18/93		10/20/93		10/20/93		10/20/93		10/20/93	
Sample Number	MW142(D)		MW133C		MW133C(D)		MW133C(B)		MW126A(B)	
Organic Traffic Report Number	EXT17		EXT27		EXT28		EXT29		EXT32	
Benzo (g,h,i) perylene	10	U	10	U	10	U	10	U	10	U
Pesticides & PCBs (ug/L)										
alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Aldrin	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endrin	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Toxaphene	5	U	5	U	5	U	5	U	5	U
Aroclor-1016	1	U	1	U	1	U	1	U	1	U
Aroclor-1221	2	U	2	U	2	U	2	U	2	U
Aroclor-1232	1	U	1	U	1	U	1	U	1	U
Aroclor-1242	1	U	1	U	1	U	1	U	1	U
Aroclor-1248	1	U	1	U	1	U	1	U	1	U
Aroclor-1254	1	U	1	U	1	U	1	U	1	U
Aroclor-1260	1	U	1	U	1	U	1	U	1	U

Appendix F: Blank and Duplicate Analysis (Groundwater Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	10/20/93	10/20/93
Sample Number	MW126A	MW126A(D)
Organic Traffic Report Number	EXT33	EXT34

Semivolatile Organics (ug/L)

Phenol	10	U	10	U
bis(2-Chloroethyl)Ether	10	U	10	U
2-Chlorophenol	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U
2-Methylphenol	10	U	10	U
2,2'-oxybis(1-Chloropropane)	10	U	10	U
4-Methylphenol	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U
Hexachloroethane	10	U	10	U
Nitrobenzene	10	U	10	U
Isophorone	10	U	10	U
2-Nitrophenol	10	U	10	U
2,4-Dimethylphenol	10	U	10	U
bis(2-Chloroethoxy)methane	10	U	10	U
2,4-Dichlorophenol	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U
Naphthalene	10	U	10	U
4-Chloroaniline	10	U	10	U
Hexachlorobutadiene	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U
2-Methylnaphthalene	10	U	10	U
Hexachlorocyclopentadiene	10	U	10	U
2,4,6-Trichlorophenol	10	U	10	U
2,4,5-Trichlorophenol	25	U	25	U
2-Chloronaphthalene	10	U	10	U
2-Nitroaniline	25	U	25	U
Dimethylphthalate	10	U	10	U
Acenaphthylene	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U

Appendix F: Blank and Duplicate Analysis (Groundwater Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	10/20/93		10/20/93	
Sample Number	MW126A		MW126A(D)	
Organic Traffic Report Number	EXT33		EXT34	
3-Nitroaniline	25	U	25	U
Acenaphthene	10	U	10	U
2,4-Dinitrophenol	25	U	25	U
4-Nitrophenol	25	U	25	U
Dibenzofuran	10	U	10	U
2,4-Dinitrotoluene	10	U	10	U
Diethylphthalate	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	U
Fluorene	10	U	10	U
4-Nitroaniline	25	U	25	U
4,6-Dinitro-2-methylphenol	25	U	25	U
N-Nitrosodiphenylamine (1)	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U
Hexachlorobenzene	10	U	10	U
Pentachlorophenol	25	U	25	U
Phenanthrene	10	U	10	U
Anthracene	10	U	10	U
Carbazole	10	U	10	U
Di-n-Butylphthalate	10	U	10	U
Fluoranthene	10	U	10	U
Pyrene	10	U	10	U
Butylbenzylphthalate	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U
Benzo(a)anthracene	10	U	10	U
Chrysene	10	U	10	U
bis(2-Ethylhexyl)Phthalate	10	U	10	U
Di-n-Octyl Phthalate	10	U	10	U
Benzo (b) fluoranthene	10	U	10	U
Benzo (k) fluoranthene	10	U	10	U
Benzo (a) pyrene	10	U	10	U
Ideno (1,2,3-cd) pyrene	10	U	10	U
Dibenzo (a,h) anthracene	10	U	10	U

Appendix F: Blank and Duplicate Analysis (Groundwater Semivolatile Organics, Pesticides, and PCB's)

Date Sampled	10/20/93		10/20/93	
Sample Number	MW126A		MW126A(D)	
Organic Traffic Report Number	EXT33		EXT34	
Benzo (g,h,i) perylene	10	U	10	U
Pesticides & PCBs (ug/L)				
alpha-BHC	0.1	U	0.05	U
beta-BHC	0.1	U	0.05	U
delta-BHC	0.1	U	0.05	U
gamma-BHC (Lindane)	0.1	U	0.05	U
Heptachlor	0.1	U	0.05	U
Aldrin	0.1	U	0.05	U
Heptachlor epoxide	0.1	U	0.05	U
Endosulfan I	0.1	U	0.05	U
Dieldrin	0.2	U	0.1	U
4,4'-DDE	0.2	U	0.1	U
Endrin	0.2	U	0.1	U
Endosulfan II	0.2	U	0.1	U
4,4'-DDD	0.2	U	0.1	U
Endosulfan sulfate	0.2	U	0.1	U
4,4'-DDT	0.2	U	0.1	U
Methoxychlor	1	U	0.5	U
Endrin ketone	0.2	U	0.1	U
Endrin aldehyde	0.2	U	0.1	U
alpha-Chlordane	0.1	U	0.05	U
gamma-Chlordane	0.1	U	0.05	U
Toxaphene	10	U	5	U
Aroclor-1016	2	U	1	U
Aroclor-1221	4	U	2	U
Aroclor-1232	2	U	1	U
Aroclor-1242	2	U	1	U
Aroclor-1248	2	U	1	U
Aroclor-1254	2	U	1	U
Aroclor-1260	2	U	1	U

Appendix F: Blank And Duplicate Analysis (Groundwater Inorganics)

Date Sampled	10/11/93		10/11/93		10/11/93		10/18/93		10/18/93	
Sample Number	MW122A		MW122A(D)		MW122A(B)		MW142		MW142(D)	
Inorganic Traffic Report Number	MEWK06		MEWK07		MEWK08		MEWK14		MEWK15	
Inorganics (mg/L)										
Aluminum	17.5	B	1480		15.5	U	29.7	B	22.3	B
Antimony	9.2	U	9.2	U	9.2	U	9.2	U	9.2	U
Arsenic	2.4	B	3.2	B	2.1	U	2.1	U	2.1	U
Barium	43.1	B	58.8	B	3.6	U	101	B	98.5	B
Beryllium	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	1	U	1	U	1	U	1	U	1	U
Calcium	80100		82200		24.2	U	111000		108000	
Chromium	4.1	U	5.6	B	4.1	U	4.1	U	4.1	U
Cobalt	3	U	3	U	3	U	5.8	B	7.3	B
Copper	2.9	U	5.5	B	2.9	U	8.5	B	7.8	B
Iron	9.2	U	2120		10.9	B	9.2	U	9.2	U
Lead	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U
Magnesium	37700		39000		32.3	U	48800		47700	
Manganese	59.1		131		1.3	U	49.8		47	
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Nickel	3.9	U	3.9	U	3.9	U	73.2		70.7	
Potassium	2020	B	2500	B	125	U	1930	B	1880	B
Selenium	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U
Silver	3.7	U	3.7	U	3.7	U	3.7	U	3.7	U
Sodium	40400		55400		168	B	32600		31600	
Thallium	1.6	U	1.6	U	1.6	U	1.8	B	1.6	U
Vanadium	2.6	U	4.7	B	2.6	U	2.6	U	2.6	U
Zinc	8.5	U	14.1	B	8.5	U	14.8	B	10.6	B
Cyanide	10	U	10	U	10	U	10	U	10	U

Appendix F: Blank And Duplicate Analysis (Groundwater Inorganics)

Date Sampled	10/18/93		10/20/93		10/20/93		10/20/93		10/20/93	
Sample Number	MW142(B)		MW133C		MW133C(D)		MW133C(B)		MW126A(B)	
Inorganic Traffic Report Number	MEWK16		MEWK26		MEWK27		MEWK28		MEWK31	
Inorganics (mg/L)										
Aluminum	15.5	U	33	B	36.4	B	21.7	B	16.5	B
Antimony	9.2	U	12.9	U	12.9	U	12.9	U	12.9	U
Arsenic	2.1	U	4.5	BW	3.4	BW	1.3	U	1.3	U
Barium	4	B	21.6	BEJ	20.6	BEJ	1.2	UEJ	1.2	UEJ
Beryllium	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	1	U	1.3	U	1.3	U	1.3	U	1.3	U
Calcium	24.2	U	70200		70600		59	U	677	B
Chromium	4.1	U	2.8	B	2.1	U	2.1	U	2.1	U
Cobalt	3	U	2.6	U	2.6	U	2.6	U	2.6	U
Copper	2.9	U	7.2	B	2.6	B	2.5	U	2.5	U
Iron	9.2	U	39.2	B	27.4	B	38.6	B	29.5	B
Lead	2.9	U	3.1	N	2.5	UN	2.5	UN	2.5	UN
Magnesium	32.3	U	34100		34300		27.8	B	347	B
Manganese	1.3	U	18.1		18.3		0.8	U	4.9	B
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Nickel	3.9	U	3.4	U	3.4	U	3.4	U	3.4	U
Potassium	125	U	1110	B	1150	B	68.5	U	112	B
Selenium	2.8	U	3.1	UWJ	3.1	UWJ	3.1	UWJ	3.1	UWJ
Silver	3.7	U	2.6	U	2.6	U	2.6	U	2.6	U
Sodium	53	B	12900		13000		210	B	692	B
Thallium	1.6	U	3.8	UWNJ	3.8	UWNJ	3.8	UNJ	3.8	UNJ
Vanadium	2.6	U	5.5	U	5.5	U	5.5	U	5.5	U
Zinc	8.5	U	4.8	B	6.1	B	4.4	U	10.3	B
Cyanide	10	U	10	U	10	U	10	U	10	U

Appendix F: Blank And Duplicate Analysis (Groundwater Inorganics)

Date Sampled	10/20/93	10/20/93
Sample Number	MW126A	MW126A(D)
Inorganic Traffic Report Number	MEWK32	MEWK33

Inorganics (mg/L)				
Aluminum	10.6	U	32.8	B
Antimony	12.9	U	12.9	U
Arsenic	1.3	U	1.3	U
Barium	75.3	BEJ	71.7	BEJ
Beryllium	0.2	U	0.2	U
Cadmium	1.3	U	1.3	U
Calcium	101000		96100	
Chromium	2.1	U	2.1	U
Cobalt	2.6	U	2.7	B
Copper	4.9	B	5.2	B
Iron	30.8	B	39.3	B
Lead	2.5	UN	2.5	UN
Magnesium	42700		40500	
Manganese	596		564	
Mercury	0.2	U	0.2	U
Nickel	4.5	B	3.4	B
Potassium	3580	B	3530	B
Selenium	3.1	UWJ	3.1	UWJ
Silver	2.6	U	2.6	U
Sodium	89800		85000	
Thallium	3.8	UWNJ	3.8	UWNJ
Vanadium	5.5	U	5.5	U
Zinc	5.4	B	8.4	B
Cyanide	10	U	10	U