



**APPENDIX A.3
D2 AREA GEOPROBE BORING LOGS
D204 THROUGH D209**

GEOPROBE BORING LOG

SITE ID: D204

Page 1 of 1
DATE: 6/24/2008

CLIENT: Confidential
SITE NAME: Cottage Grove, MN
PROJECT NO.: 02181-002-050-0001
Area Name: East Disposal Area
Drilling Contractor: Matrix Environmental, Inc.
Drilling Equipment: GeoProbe
Logged By: T. Frinak
Area Description: Disposal Area D2

ELEV (gnd): 4959121.504860
NORTHING: 507938.138115
EASTING: 9.5 Perched
Depth to Water (ft bgs): 20
Total Boring Depth (ft bgs): na
Depth to Refusal (ft bgs): 2
Boring Diameter (inches):

Location Type: (X) GeoProbe () Well
 () Soil Boring () Other:
Completion Zone: (X) Overburden () Bedrock
Completion Type: () Monitoring Well
 (X) Abandoned by Grout
 () Other (Provide Comments)

Core Interval	Sample Interval (ft bgs)	Recovery	Moisture	Color	Grain Size						Strength	PID	Column	Lithologic Description
					Gr	S	SI	CI	O					
0-4	0 2.5	3	Dry	10YR 5/4	90	7	3				Loose			Dark brown m.g. SAND topsoil, rooty
4-8	2.5 3	3	Dry	10YR 5/4	80	15	5				Soft	0.0		Yellowish brown m.g. SAND with silty sand interbeds (black)
	4 7	3	Mst	10YR 5/4	85	10	3				Loose			As above, interbeds of c.g. sand
	7											0.1		
8-12	8 9.5	3	Mst	10YR 5/4	92	5	2				Loose			Yellowish brown m.g. to c.g. SAND
	9.5 11		Wet	10YR 5/4	92	5	2				Loose			Yellowish brown m.g. to c.g. SAND
12-16	12 15	3	Sat	10YR 5/4	93	3	2				Loose	2.0		Yellowish brown v.c.g. to c.g. SAND
16-20	16.0 18.5	4	Sat	2.5Y 3/1	95	3	2				Loose			Very dark gray v.c.g. to c.g. SAND
	18.5 20		Sat	2.5Y 2.5/1	40	40	20				Soft	29.1		Black clayey silty sand FILL with red (5YR 5/8) staining
														Boring terminated at 20 fbs.

f.g., m.g., c.g. : Fine-, Medium-, and Coarse-grained
 Moisture: Dry, Moist (Mst), Wet, Saturated (Sat)

fbs. : feet below ground surface
 Strength: Very Soft (V. Sft), Soft, Firm, Very Firm (V. Firm)

GEOPROBE BORING LOG

SITE ID: D205

Page 1 of 1
DATE: 6/23/2008

CLIENT: Confidential
SITE NAME: Cottage Grove, MN
PROJECT NO.: 02181-002-050-0001
Area Name: East Disposal Area
Drilling Contractor: Matrix Environmental, Inc.
Drilling Equipment: GeoProbe
Logged By: T. Frinak
Area Description: Disposal Area D2

ELEV (gnd): 4959121.630310
NORTHING: 507954.792179
EASTING: 5 Perched
Depth to Water (ft bgs): 20
Total Boring Depth (ft bgs): na
Depth to Refusal (ft bgs): 2
Boring Diameter (inches):

Location Type: (X) GeoProbe () Well
 () Soil Boring () Other:
Completion Zone: (X) Overburden () Bedrock
Completion Type: () Monitoring Well
 (X) Abandoned by Grout
 () Other (Provide Comments)

Core Interval	Sample Interval (ft bgs)	Recovery (ft)	Moisture	Color	Grain Size					Strength	PID	Column	Lithologic Description
					Gr	S	SI	Cl	O				
0-4	0 1	3.5											
	1 3.5		Dry	10YR 4/4	2	60	30	8		Soft			Dark brown sandy topsoil, rooty
4-8	4 5	3.5	Mst	10YR 5/4	2	85	10	3		Loose			Dark yellowish brown silty SAND with some concrete debris
	5 7.5		Wet	10YR 2/1	30	40	30			Soft			Yellowish brown c.g. to v.c.g. SAND
											2.8		Black silty sandy clay FILL, solvent odor
8-12	8 11	3	Wet	10YR 2/1	30	40	30			Soft			Black silty sandy clay FILL, solvent odor
12-16	12 13	2	Wet	10YR 2/1	30	40	30			Soft			Black silty sandy clay FILL, solvent odor
	13 14		Wet	10YR 5/1	3	92	3	2		Loose			Gray v.c.g. sand FILL with black streaks
16-20	16.0 16.5	0.5	Wet	10YR 5/1	3	92	3	2		Loose			Gray v.c.g. sand FILL with black streaks
													Boring terminated at 20 fbs.

f.g., m.g., c.g. : Fine-, Medium-, and Coarse-grained
 Moisture: Dry, Moist (Mst), Wet, Saturated (Sat)

fbs. : feet below ground surface
 Strength: Very Soft (V. Sft), Soft, Firm, Very Firm (V. Firm)

GEOPROBE BORING LOG

SITE ID: D206

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DATE: 6/24/2008

ELEV (gnd): 4959114.000355
 NORTHING: 507962.383124
 EASTING: 5.5 Perched
 Depth to Water (ft bgs): 24
 Total Boring Depth (ft bgs): na
 Depth to Refusal (ft bgs): 2
 Boring Diameter (inches):

CLIENT: Confidential
SITE NAME: Cottage Grove, MN
PROJECT NO.: 02181-002-050-0001
Area Name: East Disposal Area
Drilling Contractor: Matrix Environmental, Inc.
Drilling Equipment: GeoProbe
Logged By: T. Frinak
Area Description: Disposal Area D2

Location Type: (X) GeoProbe () Well
 () Soil Boring () Other:
 Completion Zone: (X) Overburden () Bedrock
 Completion Type: () Monitoring Well
 (X) Abandoned by Grout
 () Other (Provide Comments)

Core Interval	Sample Interval (ft bgs)	Recovery (ft)	Moisture	Color	Grain Size					Strength	PID	Column	Lithologic Description
					Gr	S	SI	Cl	O				
0-4	0 1 1 2	2	Dry	10YR 2/1	1	30	40	29		Firm		Dark brown topsoil, rooty Black clayey sandy silt, some gravel	
4-8	4 5.5 5.5 7	3	Mst	10YR 3/2	1	80	15	4		Soft		Very dark grayish brown silty SAND with interbeds of black clay	
8-12	8 10 10 12	2	Wet	10YR 2/1		60	20	20		Soft		Very dark grayish brown silty SAND with interbeds of black clay FILL Black silty clayey SAND FILL with yellow streaks	
12-16	12 15.5 15.5 19	3.5	Mst	10YR 2/1		30	40	30		Soft		Black silty clayey SAND FILL with yellow streaks	
16-20	16 19 19 20	4	Mst	10YR 2/1		30	30	40		Soft	43.1	Black sandy silty clay FILL with yellowish streaks	
20-24	20 21.5 21.5 24	4	Wet	10YR 2/1		15	30	65		Soft		Olive brown silty clay to sandy silty clay FILL Olive brown silty clay to sandy silty clay FILL Black silty clay with gray and pink streaks, odors	
											111.0	Boring terminated at 24 fbs	

f.g., m.g., c.g. : Fine-, Medium-, and Coarse-grained
 Moisture: Dry, Moist (Mst), Wet, Saturated (Sat)
 Strength: Very Soft (V. Sft), Soft, Firm, Very Firm (V. Fm)
 fbs: feet below ground surface
 Boring terminated at 24 fbs

GEOPROBE BORING LOG

SITE ID: D207

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6/24/2008

CLIENT: Confidential
SITE NAME: Cottage Grove, MN
PROJECT NO.: 02181-002-050-0001
Area Name: East Disposal Area
Drilling Contractor: Matrix Environmental, Inc.
Drilling Equipment: GeoProbe
Logged By: T. Frinak
Area Description: Disposal Area D2

ELEV (gnd): 4959121.329360
NORTHING: 507970.398696
EASTING: 8 Perched
 Depth to Water (ft bgs): 24
 Total Boring Depth (ft bgs): na
 Depth to Refusal (ft bgs): 2
 Boring Diameter (inches): 2

DATE: _____
Location Type: (X) GeoProbe () Well
 () Soil Boring () Other:
Completion Zone: (X) Overburden () Bedrock
Completion Type: () Monitoring Well
 (X) Abandoned by Grout
 () Other (Provide Comments)

Core Interval	Sample Interval (ft bgs)	Recovery (ft)	Moisture	Color	Grain Size					Strength	PID	Column	Lithologic Description
					Gr	S	SI	Cl	O				
0-4	0 0.5 0.5 3	3	Dry	7.5YR 3/4	60	30	10			Soft	0.0		Black topsoil, rooty Dark brown silt m.g. to c.g. SAND, uniform color
4-8	4 5 5 6 6 6.5 6.5 7	3	Mst	7.5YR 3/4	60	30	10			Soft			Dark brown silt m.g. to c.g. SAND, uniform color, more c.g. Very dark brown clayey silty f.g. sand transitioning to (6-6.5)
8-12	8 11 11 3	3	Wet	10YR 5/4 10YR 4/4 10YR 5/4	90	8	2			Loose	2.4		Black sandy clayey silt FILL, stained Dark yellowish brown v.c.g. SAND FILL Yellowish brown m.g. to c.g. SAND FILL
12-16	12 13.5 13.5 14	2	Wet	10YR 5/4 10YR 3/1	4	90	4	2		Loose	0.0		Yellowish brown m.g. to c.g. sand with rounded gravel FILL Black sandy clayey silt FILL, stained, solvent odor
16-20	16 20	4	Wet	10YR 3/1	15	40	45			Soft			Black sandy silty clay FILL, olive streaks
20-24	20 23.5 23.5 3.5	3.5	Wet	10YR 3/1	15	40	45			Soft	3.3		Black sandy silty clay FILL, olive streaks
											220.0		Boring terminated at 24 fbs

f.g., m.g., c.g. : Fine-, Medium-, and Coarse-grained
 Moisture: Dry, Moist (Mst), Wet, Saturated (Sat)

fbs. : feet below ground surface
 Strength: Very Soft (V. St), Soft, Firm, Very Firm (V. Fm)

GEOPROBE BORING LOG

CLIENT: Confidential		SITE ID: D208	
SITE NAME: Cottage Grove, MN		Page 1 of 1	
PROJECT NO.: 02181-002-050-0001		DATE: 6/24/2008	
Area Name: East Disposal Area		ELEV (gnd): 4959126.456560	
Drilling Contractor: Matrix Environmental, Inc.		NORTHING: 507962.357599	
Drilling Equipment: GeoProbe		EASTING: 10 Perched	
Logged By: T. Frinak		Depth to Water (ft bgs): 25	
Area Description: Disposal Area D2		Total Boring Depth (ft bgs): na	
		Depth to Refusal (ft bgs): 3	
		Boring Diameter (inches):	
		Location Type: (X) GeoProbe () Well	
		() Soil Boring () Other:	
		Completion Zone: (X) Overburden () Bedrock	
		Completion Type: () Monitoring Well	
		(X) Abandoned by Grout	
		() Other (Provide Comments)	

Core Interval	Sample Interval (ft bgs)	Recovery	Moisture	Color	Grain Size					Strength	PID	Column	Lithologic Description
					Gr	S	SI	Cl	O				
0-4	0 0.5	ft		Munsell						Units			Black topsoil, rooty
	0.5 1.5	3.5	Dry	10YR 3/2	65	30	5			Soft			Very dark grayish brown silty SAND
	1.5 3.5		Mst	10YR 5/6	25	40	35			Soft	0.4		Yellowish brown to black sandy clayey silt FILL. Stained, odor
4-8	4 6.5	3	Mst	10YR 5/6	25	40	35			Soft			Yellowish brown to black sandy clayey silt FILL. Stained, odor
	6.5 7		Mst	10YR 7/4	90	7	3			Loose	4.7		Pale brown c.g. to v.c.g. SAND FILL
8-12	8 10	2	Mst	10YR 7/4	90	7	3			Loose			Pale brown c.g. to v.c.g. SAND FILL
													Changed to duel core tube to increase sample recovery
10-15	10 11	5	Wet	10YR 3/1	20	30	50			Soft			Dark gray sandy silty clay FILL with black streaks
	11 13.5		Wet	10YR 4/3	85	10	5			Soft			Brown v.c.g. to c.g. SAND, trace gravel, gray staining at base
	13.5 15		Wet	10YR 3/1	20	30	50			Soft			Black sandy silty clay FILL with staining and odor, sand lenses
											18.8		
15-20	15 15.3	5	Wet	10YR 3/1	20	30	50			Soft			Black sandy silty clay FILL with staining and odor, sand lenses
	15.3 17		Wet	10YR 4/3	70	20	10			Soft			Brown m.g. to c.g. SAND FILL
	17 20		Wet	10YR 3/1	20	30	50			Soft			Black sandy silty clay FILL with staining and odor, sand lenses
											41.8		
20-25	20 23.0		Wet	10YR 3/1	20	30	50			Soft			Black sandy silty clay FILL with staining and odor, sand lenses
	23.0 24		Sat	10YR 3/1	20	30	50			Soft			Black sandy silty clay FILL as above, mucky
	24 25		Sat	10YR 3/1	10	40	50			Firm	266.0		Black silty clay FILL odor
													Boring terminated at 25 fbs

f.g., m.g., c.g. : Fine-, Medium-, and Coarse-grained
 Moisture: Dry, Moist (Mst), Wet, Saturated (Sat)
 Strength: Very Soft (V. Sft), Soft, Firm, Very Firm (V. Fm)
 fbs. : feet below ground surface

GEOPROBE BORING LOG

SITE ID: D209

Page 1 of 1
6/24/2008

CLIENT: Confidential
SITE NAME: Cottage Grove, MN
PROJECT NO.: 02181-002-050-0001
Area Name: East Disposal Area
Drilling Contractor: Matrix Environmental, Inc.
Drilling Equipment: GeoProbe
Logged By: T. Frinak
Area Description: Disposal Area D2

ELEV (gnd): NORTHING:
EASTING:
 Depth to Water (ft bgs)
 Total Boring Depth (ft bgs):
 Depth to Refusal (ft bgs):
 Boring Diameter (inches):

DATE:
4959121.012880
507981.160200
 11.5 Perched
 25
 na
 3
 Location Type: (X) GeoProbe () Well
 () Soil Boring () Other:
 Completion Zone: (X) Overburden () Bedrock
 Completion Type: () Monitoring Well
 (X) Abandoned by Grout
 () Other (Provide Comments)

Core Interval	Sample Interval (ft bgs)	Recovery (ft)	Moisture	Color	Grain Size						Strength	PID	Column	Lithologic Description
					Gr	S	SI	Cl	O	Units				
0-4	0 1.5 1.5 3	3.0	Dry	10YR 3/3 10YR 3/1	65	25	10				Soft			Dark brown silty sand topsoil, rooty
			Dry		20	60	20				Soft	1.6		Brown sandy clayey silty heavily stained black, odor
4-8	4 6 6 6.5 6.5 7 8 8.5 8.5 0.5	3	Dry	5YR 4/4	30	50	20				Soft			Reddish brown clayey sandy SILT FILL, trace grave/debris
			Mst	2.5Y 3/2	20	40	40				Soft			Very dark grayish brown sandy clayey silt FILL with black staining
			Mst	10YR 5/4	92	6	2				Loose	0.0		Yellowish brown v.c.g. SAND FILL
														Yellowish brown v.c.g. SAND FILL
														Went to duel core tubes to increase recovery
10-15	10 11 11 11.5 11.5 14.5	4	Mst	10YR 5/4	92	6	2				Loose			Yellowish brown v.c.g. SAND FILL
			Mst	10YR 4/3	40	40	20				Soft			Brown clayey sandy silt
			Wet	10YR 4/3	40	40	20				Soft			Brown clayey sandy silt, gray staining at 14 to 14.5 fbs
			Wet	10YR 3/1	10	40	50				Soft	23.8		Black silty CLAY FILL, odor
			Wet	10YR 3/1	10	40	50				Soft			Black silty CLAY FILL, odor
			Wet	10YR 4/3	2	90	6	2			Loose			Brown m.g. to c.g. SAND, gray to black staining increase with depth
			Wet	10YR 3/1	10	40	50				Soft	52.6		Black to Olive silty CLAY FILL, stained, odor
			Wet	10YR 3/1	10	40	50				Soft			Black to Olive silty CLAY FILL, stained, odor
20-25	20 20.5 20.5 22 22 25	0.5	Wet	10YR 3/1	10	40	50				Soft			Brown m.g. to c.g. SAND, gray to black staining increase with depth
			Wet	10YR 4/3	2	90	6	2			Loose			Reddish brown to black sandy silty CLAY
			Wet	5YR 4/4	20	35	45				Soft			
												182.0		Boring terminated at 25 fbs

f.g. m.g. : Fine-, Medium-, and Coarse-grained
 Moisture: Dry, Moist (Mst), Wet, Saturated (Sat)

f.bgs. : feet below ground surface
 Strength: Very Soft (V. Sft), Soft, Firm, Very Firm (V. Frm)