

APPENDIX 3.5-K

Geologic Logs and Soil Test Data for the
Railroad Spur Borings, 1988

LOG OF TEST BORING NO.: B-RS1										SURFACE ELEVATION: 1153.96	
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 39537 N 40141 E										BORING DEPTH: 21.0	
										DATE: 11/14/88	
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES	
1154.0	--0.0	0.0-1.5	ss	1	4	15.0	Dk br org SILT, abrupt change to red br SILT, loose, dry	ML			
1151.5	--2.5	2.0-3.5	ss	2	10	16.0	Red br silty fgr-mgr SAND, loose, dry, subang grains, abrupt change to red br and grey mottled SILT w/ fgr sand, loose, dry	SM/ML			
1149.0	--5.0	4.5-6.0	ss	3	24	13.0	Red br silty fgr SAND w/ lenses of fgr-mgr sand, tr grv., med loose, dry				
1146.5	--7.5	7.0-8.5	ss	4	22	14.0	Br fgr-cgr SAND w/ silt, med loose dry, subang grains				
1144.0	--10.0	9.5-11.0	ss	5	50	14.0	Top 6" - Same as above, bottom 4" is red br silty fgr SAND, tr fgr grvl, dense, damp	SM			
1141.5	--12.5										
1139.0	--15.0	14.5-16.0	ss	6	58	13.0	Top 8" - br silty fgr-cgr SAND w/ 2 2" red br SILT layers @ 8" and 11", dense, damp				
1136.5	--17.5										
1134.0	--20.0	19.5-21.0	ss	7	68	15.0	Top 3" red br silty fgr-cgr SAND, wet, hard, dense; next 8" red br SILT w/ fgr sand, hard, dense, damp; next 4" red br fgr sandy SILT, tr cgr grvl, dense, damp	SM/ML			
							End of Boring at 21.0 feet				
1131.5	--22.5										
1129.0	--25.0										
1126.5	--27.5										

DRILLING DATA	WATER LEVEL INFORMATION
START DATE: 11/14/88	DEPTH AT COMPLETION: NA
COMPLETION DATE: 11/14/88	LATER TIME/DEPTH: NA
LOGGED BY: KAD	LATER TIME/DEPTH: NA
DRILLING METHOD: HSA - ID 3 1/4", OD 5"	CAVE IN DEPTH: NA
DRILLING CONTRACTOR: Twin City Testing	DRILLING LOSSES: NA
RIG: CME 850 - All Terrain	

LOG OF TEST BORING NO.: B-RS2										SURFACE ELEVATION: 1142.94	
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 39543 N 40641 E										BORING DEPTH: 21.0	
										DATE: 11/14/88	
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES	
1142.9	--0.0	0.0-1.5	ss	1	5	20.0	Dk br org SILT w/ fgr sand, abrupt change to red br SILT w/ fgr sand, soft, dry to slightly damp	ML			
1140.4	--2.5	2.0-3.5	ss	2	10	18.0	Red br and grey mottled SILT, w/ fgr-mgr sand, soft, damp @ 3.0'; .5' of red br CLAY w/ silt and fgr sand, firm to med firm, damp	CL			
1137.9	--5.0	4.5-6.0	ss	3	22	15.0	Red br SILT, w/ fgr sand, tr cgr sand, dense, damp, slightly mottled	ML			
1135.4	--7.5	7.0-8.5	ss	4	39	14.0	Red br silty fgr-cgr SAND, subang, dense, damp				
1132.9	--10.0	9.5-11.0	ss	5	17	18.0	Red br silty fgr-cgr SAND, tr fgr-cgr grvl, med dense, damp, subang grains	SM			
1130.4	--12.5										
1127.9	--15.0	14.5-16.0	ss	6	9	22.0	Red and br mottled SILT w/ fgr sand, tr clay, soft, damp	ML			
1125.4	--17.5										
1122.9	--20.0	19.5-21.0	ss	7	26		Rock beneath sampler - no sample recovered, prob sand w/ grvl(sand on outside of sampler)	SM			
							End of Boring at 21.0 feet				
1120.4	--22.5										
1117.9	--25.0										
1115.4	--27.5										
DRILLING DATA						WATER LEVEL INFORMATION					
START DATE: 11/14/88 COMPLETION DATE: 11/14/88 LOGGED BY: KAD DRILLING METHOD: HSA - ID 3 1/4", OD 5" DRILLING CONTRACTOR: Twin City Testing						DEPTH AT COMPLETION: NA LATER TIME/DEPTH: NA LATER TIME/DEPTH: NA CAVE IN DEPTH: NA DRILLING LOSSES: NA					

LOG OF TEST BORING NO.: B-RS3										SURFACE ELEVATION: 1139.53	
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 39550 N 41141 E										BORING DEPTH: 21.0	
										DATE: 11/15/88	
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES	
1139.5	--0.0	0.0-1.5	ss	1	1	14.0	Org rich bl br SILT, tr clay, soft				
1137.0	--2.5	2.0-3.5	ss	2	10	16.0	Red br SILT w/ fgr sand, tr clay and fgr grvl, damp, soft	ML			
1134.5	--5.0	4.5-6.0	ss	3	14		Red br silty fgr-cgr SAND, loose, wet, saturated, subang grains				
1132.0	--7.5	7.0-8.5	ss	4	21	14.0	Red br silty fgr-cgr SAND grading to silty fgr-mgr SAND @ bottom, loose, saturated(wet)				
1129.5	--10.0	9.5-11.0	ss	5	18		Same as above only w/o cgr sand	SM			
1127.0	--12.5										
1124.5	--15.0	14.5-16.0	ss	6	70		Red br silty fgr SAND, tr fgr grvl wet, dense, high blow counts due to grvl				
1122.0	--17.5										
1119.5	--20.0	19.5-21.0	ss	7	7		Red br silty fgr-mgr SAND w/ lenses(1/8") of fgr-cgr silty SAND wet, soft, subang grains				
							End of Boring at 21.0 feet				
1117.0	--22.5										
1114.5	--25.0										
1112.0	--27.5										
DRILLING DATA						WATER LEVEL INFORMATION					
START DATE: 11/15/88 COMPLETION DATE: 11/15/88 LOGGED BY: KAD DRILLING METHOD: HSA - ID 3 1/4", OD 5" DRILLING CONTRACTOR: Twin City Testing						DEPTH AT COMPLETION: NA LATER TIME/DEPTH: NA LATER TIME/DEPTH: NA CAVE IN DEPTH: NA DRILLING LOSSES: NA					

LOG OF TEST BORING NO.: B-RS4										SURFACE ELEVATION: 1143.07		
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 39557 N 41641 E										BORING DEPTH: 21.0		
										DATE: 11/16/88		
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES		
1143.1	--0.0	0.0-1.5	ss	1	3	18.0	Top 2" dk br to bl org SILT, next 10" is red grey and br mottled SILT, tr clay, next 6" is red br silty fgr SAND w/ grey mottles, tr clay, damp	ML/SM		Moderate amount of boulders thruout soil		
1140.6	--2.5	2.0-3.5	ss	2	6		Grey br mottled SILT, tr clay, soft, damp, some Fe-staining					
1138.1	--5.0	4.5-6.0	ss	3	10		Red br and grey mottles SILT w/ fgr-cgr sand, damp, soft	ML				
1135.6	--7.5	7.0-8.5	ss	4	18		Red br silty fgr-mgr SAND, tr fgr-cgr grvl(chert), med soft, damp					
1133.1	--10.0	9.5-11.0	ss	5	14	12.0	Red br silty fgr-cgr SAND, tr fgr grvl, soft, damp to v damp	SM				
1130.6	--12.5											
1128.1	--15.0	14.5-16.0	ss	6	7	15.0	Red br silty fgr-cgr SAND w/ fgr-cgr grvl, tr clay, wet, soft					
1125.6	--17.5											
1123.1	--20.0	19.5-21.0	ss	7	8	10.0	Red br silty fgr-cgr SAND, w/ fgr-cgr grvl, tr clay, wet, soft					
							End of Boring at 21.0 feet					
1120.6	--22.5											
1118.1	--25.0											
1115.6	--27.5											
DRILLING DATA						WATER LEVEL INFORMATION						
START DATE: 11/16/88 @ 8:00 am COMPLETION DATE: 11/16/88 @ 9:00 am LOGGED BY: KAD DRILLING METHOD: HSA - ID 3 1/4", OD 5" RIG: CME 850 - All Terrain DRILLING CONTRACTOR: Twin City Testing						DEPTH AT COMPLETION: 16.0 feet LATER TIME/DEPTH: NA LATER TIME/DEPTH: NA CAVE IN DEPTH: NA DRILLING LOSSES: NA						

LOG OF TEST BORING NO.: B-RS5										SURFACE ELEVATION: 1147.57		
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 39683 N 42137 E										BORING DEPTH: 21.0		
										DATE: 11/16/88		
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES		
1147.6	--0.0	0.0-1.5	ss	1	6	12.0	Top 3" bl br SILT w/ organics, tr fgr sand, dry, soft, next 9" is grey Fe-stained (mottled) SILT w/ fgr sand, tr clay, dry to damp, soft					
1145.1	--2.5	2.0-3.5	ss	2	10	18.0	Same as above w/ fgr grvl (chert)	ML				
1142.6	--5.0	4.5-6.0	ss	3	30	10.0	Same as above except bottom 6" is fgr-cgr SAND w/ silt and fgr-cgr grvl, tr clay	ML/SM				
1140.1	--7.5	7.0-8.5	ss	4	23	6.0	Red br silty fgr-cgr SAND w/ fgr-cgr grvl, med dense, damp to v damp, subang grains					
1137.6	--10.0	9.5-11.0	ss	5	13	10.0	Same as above exc bottom 2" is silty cgr sand, med loose, damp to v damp	SM				
1135.1	--12.5											
1132.6	--15.0	14.5-16.0	ss	6	3	18.0	Red br silty fgr-cgr SAND w/ fgr-cgr grvl and clay, wet, soft					
1130.1	--17.5											
1127.6	--20.0	19.5-21.0	ss	7	10	9.0	Same as above, wet, soft					
							End of Boring at 21.0 feet					
1125.1	--22.5											
1122.6	--25.0											
1120.1	--27.5											
DRILLING DATA						WATER LEVEL INFORMATION						
START DATE: 11/16/88 @ 9:40 am COMPLETION DATE: 11/16/88 @ 10:35 am LOGGED BY: KAD DRILLING METHOD: HSA - ID 3 1/4", OD 5" RIG: CME 850 - All Terrain DRILLING CONTRACTOR: Twin City Testing						DEPTH AT COMPLETION: 16.5' @ 10:30 am LATER TIME/DEPTH: NA LATER TIME/DEPTH: NA CAVE IN DEPTH: NA DRILLING LOSSES: NA						

LOG OF TEST BORING NO.: B-RS6										SURFACE ELEVATION: 1150.19	
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 39999 N 42530 E										BORING DEPTH: 21.0	
										DATE: 11/16/88	
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES	
1150.2	--0.0	0.0-1.5	SS	1	1.5	12.0	Top 3" is bl br org rich SILT, rest is grey br(Fe-stained) mottled SILT, tr fgr sand and clay dry, loose	ML			
1147.7	--2.5	2.0-3.5	SS	2	20	10.0	top 6" is grey br(Fe-stained) SILT tr clay, fgr sand and fgr grvl, bottom 4" is red br silty fgr-cgr SAND w/ fgr-cgr grvl, loose, damp	ML/SM			
1145.2	--5.0	4.5-6.0	SS	3	26	14.0	Same as above, med loose, damp				
1142.7	--7.5	7.0-8.5	SS	4	33	16.0	Red br silty fgr-cgr SAND w/ fgr-cgr grvl, dense, damp				
1140.2	--10.0	9.5-11.0	SS	5	34	14.0	Same as above	SM			
1137.7	--12.5										
1135.2	--15.0	14.5-16.0	SS	6	69	4.0	Red br silty mgr-cgr SAND, w/ fgr-cgr grvl, wet, loose, hard due to size of gravel			Water at 14 feet at 12:15 pm	
1132.7	--17.5										
1130.2	--20.0	19.5-21.0	SS	7	33	18.0	Red br silty fgr-mgr SAND w/ fgr-cgr grvl, v damp to wet, med dense non-cohesive to slightly cohesive				
							End of Boring at 21.0 feet				
1127.7	--22.5										
1125.2	--25.0										
1122.7	--27.5										
DRILLING DATA								WATER LEVEL INFORMATION			
START DATE: 11/16/88 @ 11:30 am COMPLETION DATE: 11/16/88 @ 12:45 pm LOGGED BY: KAD DRILLING METHOD: HSA - ID 3 1/4", OD 5" DRILLING CONTRACTOR: Twin City Testing								DEPTH AT COMPLETION: NA LATER TIME/DEPTH: NA LATER TIME/DEPTH: NA CAVE IN DEPTH: NA DRILLING LOSSES: NA			

LOG OF TEST BORING NO.: B-RS7										SURFACE ELEVATION: 1156.77	
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 40353 N 42890 E										BORING DEPTH: 21.0	
										DATE: 11/16/88	
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES	
1156.8	--0.0	0.0-1.5	ss	1	2	6.0	Top 3" is dk br blk org SILT, next 3" is br Fe-stained mottled SILT, dry, soft				
1154.3	--2.5	2.0-3.5	ss	2	20	18.0	Red br SILT w/ fgr sand, tr clay grading to red br silty fgr SAND w/ mgr-cgr sand, tr grvl and clay, dry, med loose	ML			
1151.8	--5.0	4.5-6.0	ss	3	25	14.0	Red br silty fgr-cgr SAND, tr grvl med loose, dry				
1149.3	--7.5	7.0-8.5	ss	4	38	12.0	Red br silty fgr-cgr SAND w/ silt, some 1/2" fgr-cgr SAND lenses, all w/ tr fgr-mgr grvl, damp, dense				
1146.8	--10.0	9.5-11.0	ss	5	29	13.0	Same as above, v damp	SM			
1144.3	--12.5										
1141.8	--15.0	14.5-16.0	ss	6	171/6	4.0	Same as above - rock impeding sampler				
1139.3	--17.5										
1136.8	--20.0	19.5-21.0	ss	7	30	14.0	Same as above, v damp				
							End of Boring at 21.0 feet				
1134.3	--22.5										
1131.8	--25.0										
1129.3	--27.5										
DRILLING DATA								WATER LEVEL INFORMATION			
START DATE: 11/16/88 @ 2:00 pm COMPLETION DATE: 11/16/88 @ 3:45 pm LOGGED BY: KAD DRILLING METHOD: HSA - ID 3 1/4", OD 5" DRILLING CONTRACTOR: Twin City Testing								DEPTH AT COMPLETION: DRY LATER TIME/DEPTH: NA LATER TIME/DEPTH: NA CAVE IN DEPTH: NA DRILLING LOSSES: NA			

LOG OF TEST BORING NO.: B-RS8										SURFACE ELEVATION: 1156.89		
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 40647 N 43306 E										BORING DEPTH: 21.0		
										DATE: 11/17/88		
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES		
1156.9	--0.0	0.0-1.5	ss	1	4	12.0	Top 4" blk br org SILT, tr fgr sand; bottom 8" is red tan mottled SILT w/ fgr sand, tr fgr-mgr grvl, dry, soft					
1154.4	--2.5	2.0-3.5	ss	2	13	12.0	Tan red and br(Fe-stained) mottled SILT, tr clay, dry, loose, slightly cohesive when saturated	ML				
1151.9	--5.0	4.5-6.0	ss	3	21	14.0	Red br silty fgr SAND, tr clay grading to silty fgr-mgr SAND, damp, med loose					
1149.4	--7.5	7.0-8.5	ss	4	12	9.0	Top 3" Same as above, next 3" br fgr-cgr SAND w/ silt, tr fgr-cgr grvl, next 3" fgr-cgr SAND w/ silt loose, dry					
1146.9	--10.0	9.5-11.0	ss	5	35	7.0	Red br silty fgr-mgr SAND, tr cgr grvl, damp, dense	SM				
1144.4	--12.5											
1141.9	--15.0	14.5-16.0	ss	6	47	11.0	Red br silty fgr-cgr SAND, tr cgr grvl, v dense, damp, hard					
1139.4	--17.5											
1136.9	--20.0	19.5-21.0	ss	7	47	12.0	Same as above w/ top 4" tr clay, wet					
							End of Boring at 21.0 feet					
1134.4	--22.5											
1131.9	--25.0											
1129.4	--27.5											
DRILLING DATA						WATER LEVEL INFORMATION						
START DATE: 11/16/88 @ 4:15 pm COMPLETION DATE: 11/17/88 @ 8:00 am LOGGED BY: KAD DRILLING METHOD: HSA - ID 3 1/4", OD 5" RIG: CME 850 - All Terrain DRILLING CONTRACTOR: Twin City Testing						DEPTH AT COMPLETION: DRY LATER TIME/DEPTH: NA LATER TIME/DEPTH: NA CAVE IN DEPTH: NA DRILLING LOSSES: NA						

LOG OF TEST BORING NO.: B-RS9										SURFACE ELEVATION: 1160.75		
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 40871 N 43748 E										BORING DEPTH: 21.0		
										DATE: 11/17/88		
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES		
1160.8	--0.0	0.0-1.5	ss	1	3	10.0	Top 3" dk br org SILT, wet, soft next 7" br Fe-stained mottled SILT tr clay, dry to slightly damp, soft					
1158.3	--2.5	2.0-3.5	ss	2	9	12.0	Br SILT, w/ fgr sand, tr clay, v slightly cohesive, damp, soft	ML				
1155.8	--5.0	4.5-6.0	ss	3	33	12.0	Red br silty fgr-cgr SAND, tr fgr grvl, hard, damp, subang grains					
1153.3	--7.5	7.0-8.5	ss	4	34	12.0	Same as above					
1150.8	--10.0	9.5-11.0	ss	5	46	11.0	Br fgr-cgr SAND w/ silt, tr fgr grvl, dry, dense, subang grains	SM				
1148.3	--12.5											
1145.8	--15.0	14.5-16.0	ss	6	38	13.0	Red br silty fgr-cgr SAND w/ fgr-cgr grvl, dense, hard, dry					
1143.3	--17.5											
1140.8	--20.0	19.5-21.0	ss	7	50	18.0	Same as above w/ 1" fgr-cgr SAND seam @ 20.5' BGS, sand lense wet, rest of sample damp					
							End of Boring at 21.0 feet					
1138.3	--22.5											
1135.8	--25.0											
1133.3	--27.5											
DRILLING DATA						WATER LEVEL INFORMATION						
START DATE: 11/17/88 @ 8:10 am COMPLETION DATE: 11/17/88 @ 10:00 am LOGGED BY: KAD DRILLING METHOD: HSA - ID 3 1/4", OD 5" RIG: CME 850 - All Terrain DRILLING CONTRACTOR: Twin City Testing						DEPTH AT COMPLETION: DRY LATER TIME/DEPTH: NA LATER TIME/DEPTH: NA CAVE IN DEPTH: NA DRILLING LOSSES: NA						

LOG OF TEST BORING NO.: B-RS10										SURFACE ELEVATION: 1166.17		
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 41087 N 44206 E										BORING DEPTH: 16.0		
										DATE: 11/17/88		
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES		
1166.2	--0.0	0.0-1.5	ss	1	7	12.0	Top 6" is dk blk br org SILT, tr fgr sand, dry, soft, next 6" is tan grey mottled SILT w/ fgr sand, dry, soft, slightly cohesive	ML				
1163.7	--2.5	2.0-3.5	ss	2	16	14.0	Top 6" same as above, next 8" is red br silty fgr-cgr SAND w/ fgr-cgr grvl, dry to damp, med loose	ML/SM				
1161.2	--5.0	4.5-6.0	ss	3	37	16.0	Same as above only dense rather than med loose					
1158.7	--7.5	7.0-8.5	ss	4	31	14.0	Same as above, dry, dense					
1156.2	--10.0	9.5-11.0	ss	5	99	6.0	Same as above, high blow count due to rock in sampler tip	SM				
1153.7	--12.5						Same as above, sampler destroyed (flattened), small amount recovered					
1151.2	--15.0	14.5-16.0	ss	6			End of Boring at 16.0 feet					
1148.7	--17.5											
1146.2	--20.0											
1143.7	--22.5											
1141.2	--25.0											
1138.7	--27.5											
DRILLING DATA										WATER LEVEL INFORMATION		
START DATE: 11/17/88 @ 10:30 am COMPLETION DATE: 11/17/88 @ 12:00 pm LOGGED BY: KAD DRILLING METHOD: HSA - ID 3 1/4", OD 5" RIG: CME 850 - All Terrain DRILLING CONTRACTOR: Twin City Testing										DEPTH AT COMPLETION: DRY LATER TIME/DEPTH: NA LATER TIME/DEPTH: NA CAVE IN DEPTH: NA DRILLING LOSSES: NA		

LOG OF TEST BORING NO.: B-RS11										SURFACE ELEVATION: 1159.53		
CLIENT: Kennecott PROJECT: Railroad Spur Borings PROJECT NUMBER: 87K10 LOCATION: Ladysmith, Wisconsin COORDINATES: 41368 N 44622 E										BORING DEPTH: 21.0		
										DATE: 11/17/88		
MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES		
1159.5	--0.0	0.0-1.5	ss	1	3	14.0	Top 7" is blk br org SILT, soft, damp, next 7" is tan reddish br mottled SILT w/ fgr sand, soft, damp to dry	ML				
1157.0	--2.5	2.0-3.5	ss	2	17	14.0	Red br to tan br silty fgr-cgr SAND, tr fgr-cgr grvl, damp to dry loose, soft					
1154.5	--5.0	4.5-6.0	ss	3	33	12.0	Red br silty fgr-cgr SAND w/ fgr-cgr grvl, damp to dry, dense, grains are subang	SM				
1152.0	--7.5	7.0-8.5	ss	4	20	15.0	Br fgr-cgr SAND w/ silt and fgr-cgr grvl, loose, dry, grains are subang to ang					
1149.5	--10.0	9.5-11.0	ss	5	28	18.0	Top 3" Same as above, next 3" br SILT w/ fgr sand, soft, damp, non-cohesive, next 6" red br silty fgr-cgr SAND, tr fgr-cgr grvl, dense, dry to damp	SM/ML				
1147.0	--12.5											
1144.5	--15.0	14.5-16.0	ss	6	24	16.0	Same as above(last 6" from above)	SM				
1142.0	--17.5						Top 12" is br silty fgr-mgr SAND, soft, loose, wet, subang to ang grains, bottom 6" is br to red br SILT w/ fgr sand, dense, damp					
1139.5	--20.0	19.5-21.0	ss	7	19	18.0	End of Boring at 21.0 feet					
1137.0	--22.5											
1134.5	--25.0											
1132.0	--27.5											
DRILLING DATA										WATER LEVEL INFORMATION		
START DATE: 11/17/88 @ 12:30 pm COMPLETION DATE: 11/17/88 @ 1:45 pm LOGGED BY: KAD DRILLING METHOD: HSA - ID 3 1/4", OD 5" RIG: CME 850 - All Terrain DRILLING CONTRACTOR: Twin City Testing										DEPTH AT COMPLETION: 19.7' @ 1:45 pm LATER TIME/DEPTH: NA LATER TIME/DEPTH: NA CAVE IN DEPTH: NA DRILLING LOSSES: NA		

LOG OF TEST BORING NO.: B-RS12

CLIENT: Kennecott
 PROJECT: Railroad Spur Borings
 PROJECT NUMBER: 87K10
 LOCATION: Ladysmith, Wisconsin
 COORDINATES: 41826 N 44851 E

SURFACE ELEVATION: 1151.27
 BORING DEPTH: 16.0
 DATE: 11/17/88

MSL ELEV	DEPTH FR LND SURF	SAMP DEPTH INTERVAL	TYPE	#	N	REC (in)	DESCRIPTION OF MATERIAL	CLASS	LABORATORY TESTS	DRILLING AND SAMPLING NOTES
1151.3	--0.0	0.0-1.5	ss	1	3	12.0	Top 3" is blk br org SILT, soft, v damp, next 9" is tan br mottled SILT w/ fgr sand, tr clay, soft, loose, v damp, slightly cohesive			
1148.8	--2.5	2.0-3.5	ss	2	25	14.0	Tan br mottled fgr sandy SILT, tr fgr-cgr grvl, dry, med dense	ML		
1146.3	--5.0	4.5-6.0	ss	3	46	14.0	Red br silty fgr-cgr SAND w/ fgr-cgr grvl, damp, dense			
1143.8	--7.5	7.0-8.5	ss	4	35	10.0	Same as above			
1141.3	--10.0	9.5-11.0	ss	5	54	12.0	Same as above only denser	SM		
1138.8	--12.5									
1136.3	--15.0	14.5-16.0	ss	6	70	7.0	Same as above w/ boulders mixed in			Difficult drilling due to boulders
							End of Boring at 16.0 feet			
1133.8	--17.5									
1131.3	--20.0	19.5-21.0	ss	7						
1128.8	--22.5									
1126.3	--25.0									
1123.8	--27.5									

DRILLING DATA	WATER LEVEL INFORMATION
START DATE: 11/17/88 @ 2:15 pm	DEPTH AT COMPLETION: NA
COMPLETION DATE: 11/17/88 @ 4:30 pm	LATER TIME/DEPTH: NA
LOGGED BY: KAD	LATER TIME/DEPTH: NA
DRILLING METHOD: HSA - ID 3 1/4", OD 5" RIG: CME 850 - All-Terrain	CAVE IN DEPTH: NA
DRILLING CONTRACTOR: Twin City Testing	DRILLING LOSSES: NA