

Project: Mount Nansen 2013 Site Investigation	Area: Tailings Storage Facility - Pond	Borehole No: GP-T-13-01
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880652	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Geoprobe	Easting (UTM Zone 8, NAD83): 389302	Elevation (m): 1096

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
0		WATER			Coordinates from handheld GPS, elevation obtained from LiDAR information	
1		SILT, trace to some sand, trace clay, soft to very soft, low plastic, orange-brown, wet. [TAILINGS]		C1		1095
2		From 2.37 m to 2.75 m colour change to grey-brown.		C2		1094
3				C3		1093
4		SAND and silt, fine grained, loose, brown to orange brown, wet. [TAILINGS]		GS1 C4	Gravel - 0.0% Sand - 51.4% Fines - 48.6%	1092
5		SILT, very soft, non plastic, black, organics, wet. [IN SITU] SAND, fine to medium grained, some silt, dense, black to dark grey brown, wet. [IN SITU]		C5	At 4.55 m started to hammer to advance drill.	1091
6		At 5.75 m becoming very dense.		C6	At 5.75 m hammering becomes very hard. Gravel 1.0% Sand - 94.6% Fines - 4.4%	1090
7		End of hole at 6.75 m due to refusal. No installation.				1089
8						1088
9						1087

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:20 AM (TEST PIT LOG)



Start Date: 2013-10-01 4:00:00 PM	Logged By: D. Piccinini
Completion Date: 2013-10-01 5:00:00 PM	Reviewed By: R. Wood
Completion Depth: 6.75 m	Page 1 of 1

Project: Mount Nansen 2013 Site Investigation	Area: Tailings Storage Facility - Pond	Borehole No: GP-T-13-02
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880639	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Geoprobe	Easting (UTM Zone 8, NAD83): 389391	Elevation (m): 1096

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
0		Water			Coordinates from handheld GPS, elevation obtained from LiDAR information	1095
1						
2		SILT, trace to some sand, fine grained, soft, low plastic, yellow-brown, wet. [TAILINGS]		C1		1094
3				C2		1093
4				C3		1092
5		From 4.6 m, trace clay.		C4		1091
6				C5		1090
6.25		SILT, stiff to very stiff, low plastic, black, trace organics, wet, visible individual ice inclusions. (V <sub>s</sub> ) [IN SITU/ PERMAFROST] End of hole @ 6.25 m due to refusal in permafrost. No installation.				1089
7						1088
8						1087
9						

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:20 AM (TEST PIT LOG)



Start Date: 2013-10-02 8:45:00 AM	Logged By: D. Piccininni
Completion Date: 2013-10-02 9:20:00 AM	Reviewed By: R. Wood
Completion Depth: 6.25 m	Page 1 of 1

Project: Mount Nansen 2013 Site Investigation	Area: Tailings Storage Facility - Pond	Borehole No: GP-T-13-03
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880606	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Geoprobe	Easting (UTM Zone 8, NAD83): 389303	Elevation (m): 1096

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
0		WATER			Coordinates from handheld GPS, elevation obtained from LiDAR information	1095
1						
2		SAND, fine grained, silty, poorly graded, loose to very loose, medium yellow-brown, wet. [TAILINGS]		C1		1094
3				C2		1093
4		SILT, trace sand, soft, low plastic, brown, wet. [TAILINGS]		GS1	Gravel - 0.0% Sand - 2.5% Fines - 97.5%	1092
4.38		From 4.38 m trace clay.		C3		
5				C4		1091
5.75		From 5.75 m sandy.		C5	Gravel - 0.0% Sand - 29.9% Fines - 70.1%	1090
6				C6		1089
6.75		From 6.75 m, compact and brown to orange-brown.		C6		
7				C7		1088
8		SAND, medium grained, trace silt, compact to dense, brown to dark brown, moist, trace organics in top 10cm of run. [IN SITU]		C7	Gravel - 0.3% Sand - 97.8% Fines - 1.9%	1088
8.75		End of hole @ 8.75 m due to refusal. No installation.				1087

VM00605E MOUNT NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:20 AM (TEST PIT LOG)



Start Date: 2013-10-01 2:00:00 PM	Logged By: D. Piccininni
Completion Date: 2013-10-01 3:00:00 PM	Reviewed By: R. Wood
Completion Depth: 8.75 m	Page 1 of 1

Project: Mount Nansen 2013 Site Investigation	Area: Tailings Storage Facility - Pond	Borehole No: GP-T-13-04
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880600	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Geoprobe	Easting (UTM Zone 8, NAD83): 389379	Elevation (m): 1096

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
0		Water			Coordinates from handheld GPS, elevation obtained from LiDAR information	
1		SILT, very soft, non plastic, pale brown, wet. [TAILINGS]				1095
		SAND, fine grained, silty, very loose, brown, wet. [TAILINGS]				
2		SILT, trace sand, very soft to soft, low plastic, grey-brown to light yellow-brown, wet. [TAILINGS]				1094
3				C1		1093
4					At 4.25 m, sampler started to encounter slight resistance in the soil. Very loose, unconsolidated soil above this point.	1092
5					Gravel - 0.0% Sand - 3.5% Fines - 96.5%	1091
6				C2		1090
7				C3		1089
8				C4		1088
9				C5		1087
				C6		

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:20 AM (TEST PIT LOG)



Start Date: 2013-10-05 2:30:00 PM	Logged By: D. Piccinini
Completion Date: 2013-10-05 4:30:00 PM	Reviewed By: R. Wood
Completion Depth: 11.25 m	Page 1 of 2

Project: Mount Nansen 2013 Site Investigation	Area: Tailings Storage Facility - Pond	Borehole No: GP-T-13-04
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880600	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Geoprobe	Easting (UTM Zone 8, NAD83): 389379	Elevation (m): 1096

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
11		SILT, trace sand, very soft to soft, low plastic, grey-brown to light yellow-brown, wet. [TAILINGS] (continued)		C7	Gravel - 2.1% Sand - 93.1% Fines - 4.8%	1085
		SAND, fine to medium grained, trace gravel, trace silt, compact to dense, dark grey to black, wet. [IN SITU]				1085
		End of hole @ 11.25 m. No installation.				1084
12						1084
13						1083
14						1082
15						1081
16						1080
17						1079
18						1078
19						1077

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:20 AM (TEST PIT LOG)



Start Date: 2013-10-05 2:30:00 PM	Logged By: D. Piccininni
Completion Date: 2013-10-05 4:30:00 PM	Reviewed By: R. Wood
Completion Depth: 11.25 m	Page 2 of 2

Project: Mount Nansen 2013 Site Investigation	Area: Tailings Storage Facility - Pond	Borehole No: GP-T-13-10
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880630	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Geoprobe	Easting (UTM Zone 8, NAD83): 389400	Elevation (m): 1096

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
0		Water			Coordinates from handheld GPS, elevation obtained from LiDAR information	1095
1				C1		1095
2		SAND, fine grained, silty, loose, brown, wet. [TAILINGS]				1094
3		SILT, trace sand, soft, low plastic, yellow-brown, moist to wet. [TAILINGS]		C2		1093
4				C3		1092
5				C4	Gravel - 0.0% Sand - 1.8% Fines - 98.2%	1091
6		SAND, silty, fine grained, loose to compact, grey-brown, moist to wet. [TAILINGS]		C5		1090
7		SILT, some sand, soft, low plastic, yellow-brown, moist to wet. (TAILINGS)		C6		1089
8				C7		1088
9		At 8.5 m to 8.6 m SAND, fine grained, silty, loose, grey-brown, wet. [TAILINGS] From 8.6 m change to trace sand.		C8	Gravel - 0.0% Sand - 8.1% Fines - 91.9%	1087
9.25		SILT, soft, low plastic, black, trace rootlets, visible ice coatings on particles (V <sub>c</sub> ), strong organic odour. [IN SITU/ PERMFROST] End of Hole @ 9.25 m due to refusal in permafrost. No installation.				

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:20 AM (TEST PIT LOG)



Start Date: 2013-10-02 10:00:00 AM	Logged By: D. Piccininni
Completion Date: 2013-10-02 12:00:00 PM	Reviewed By: R. Wood
Completion Depth: 9.25 m	Page 1 of 1

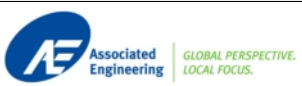
Project: Mount Nansen 2013 Site Investigation	Area: Tailings Storage Facility- Tailings	Borehole No: GP-T-13-18
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880550	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Geoprobe	Easting (UTM Zone 8, NAD83): 389324	Elevation (m): 1096

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
1		SAND, fine grained, silty, loose, medium orange-brown, wet. [TAILINGS]		C1	Coordinates from handheld GPS, elevation obtained from LiDAR information Gravel - 0.0% Sand - 65.6% Fines - 34.4%	1095
2		SILT, trace fine sand, very soft, non to low plastic, yellow-brown with grey-brown bands, moist to wet. [TAILINGS]		C2	From 1 m to 2.25 m, drilling is very soft, can push in with just the weight of the drill rods	1094
3				C3		1093
4				C4		1092
5		SAND, fine grained, black, trace organics, wet, faint organic odour, possible slight hydrocarbon odour. [IN SITU] SAND, medium grained, trace gravel, trace silt, poorly graded, compact, black, wet. [IN SITU]		C5	At 4.75 m pushing drill rods became hard, needed to start hammering. At 4.8 m, soil appears to be caving and filling core barrel without advancing drill Gravel - 2.1% Sand - 92.2% Fines - 5.7%	1091
6						1090
7		End of hole @ 6.25 m. Vibration from drill causing soil to liquify. No installation. Hole sloughed in upon completion.				1089
8						1088
9						1087

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:20 AM (TEST PIT LOG)



Start Date: 2013-09-30 8:45:00 AM	Logged By: D. Piccininni
Completion Date: 2013-09-30 10:00:00 AM	Reviewed By: R. Wood
Completion Depth: 6.25 m	Page 1 of 1

Project: Mount Nansen 2013 Site Investigation	Area: Tailings Storage Facility- Tailings	Borehole No: GP-T-13-21
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880509	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Geoprobe	Easting (UTM Zone 8, NAD83): 389377	Elevation (m): 1098

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
1		SAND, fine grained, trace to some silt, loose to compact, medium brown with some orange tint, moist to wet. [TAILINGS]		C1	Coordinates from handheld GPS, elevation obtained from LIDAR information	1097
2		SAND, fine to medium grained, some silt, loose to compact, medium brown, damp to moist. [IN SITU]		C2	Gravel - 0.3% Sand - 85.2% Fines - 14.5%	1096
3		SAND, fine to medium grained, trace gravel, trace silt, dense, medium brown, frozen with visible ice particles within the soil. [IN SITU]		C3	Gravel - 2.2% Sand - 87.3% Fines - 10.5%	1095
4		End of borehole @ 3.25 m due to refusal in permafrost. No installation. Hole sloughed in upon completion.				1094
5						1093
6						1092
7						1091
8						1090
9						1089

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:20 AM (TEST PIT LOG)



Start Date: 2013-09-29 5:30:00 PM	Logged By: D. Piccinini
Completion Date: 2013-09-29 6:30:00 PM	Reviewed By: R. Wood
Completion Depth: 3.25 m	Page 1 of 1



Project: Mount Nansen 2013 Site Investigation	Area: Tailings Storage Facility- Tailings	Borehole No: GP-T-13-22
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880750	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Geoprobe	Easting (UTM Zone 8, NAD83): 389256	Elevation (m): 1098

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
1		SAND, fine grained, trace to some silt, loose to compact, medium brown with some orange tint, moist to wet. [TAILINGS] SILT, sandy, soft to firm, dark brown, trace organics, damp. [IN SITU]	Core	C1	Coordinates from handheld GPS, elevation obtained from LiDAR information	1097
2		SAND, medium grained, trace gravel, trace silt, poorly graded, compact, dark brown to grey brown, wet. [IN SITU] From 1.5 m becoming grey-brown.	Core	C2		1096
3			Core	C3	Gravel - 4.9% Sand - 93.4% Fines - 1.7%	1095
4			Core	C4	Gravel - 2.9% Sand - 89.8% Fines - 7.3%	1094
5		At 4.95 m some angular gravel. End of hole @ 5.1 m due to refusal. No installation. Hole sloughed in upon completion.	Core	C5	Sand appears to be caving and is filling geoprobe core barrel before advancing.	1093
6						1092
7						1091
8						1090
9						1089
						1088

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:20 AM (TEST PIT LOG)



Start Date: 2013-09-30 1:30:00 PM	Logged By: D. Piccininni
Completion Date: 2013-09-30 2:30:00 PM	Reviewed By: R. Wood
Completion Depth: 5.10 m	Page 1 of 1

Project: Mount Nansen 2013 Site Investigation	Area: Tailings Storage Facility- Tailings	Borehole No: GP-T-13-23
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880723	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Geoprobe	Easting (UTM Zone 8, NAD83): 389408	Elevation (m): 1097

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
1		SAND, fine grained, some silt, poorly graded, loose to compact, dark brown, damp. [TAILINGS]		C1	Coordinates from handheld GPS, elevation obtained from LiDAR information	1096
2				C2		1095
3		SILT, soft, no plastic, black, some organics, moist. [IN SITU] SAND, trace gravel, trace silt, fine to medium grained, poorly graded, dense, medium brown to grey, moist. [IN SITU]		C3	At 3.75m easier drilling	1094
4		From 3.75 m becoming loose to compact, wet.		C4		1093
5				C5		1092
6		From 6.25 m becoming loose.		C6	At 7.5m caving soil filling core barrel before advancement	1091
7				C7		1090
8						1089
9		End of hole @ 8.75m due to refusal. No installation. Hole sloughed in upon completion.				1088
						1087

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:21 AM (TEST PIT LOG)



Start Date: 2013-09-29 1:45:00 PM	Logged By: D. Piccinini
Completion Date: 2013-09-29 4:30:00 PM	Reviewed By: R. Wood
Completion Depth: 8.75 m	Page 1 of 1

Project: Mount Nansen 2013 Site Investigation	Area: Sand Borrow Area	Borehole No: HA-BA-13-01
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880716	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Hand Auger	Easting (UTM Zone 8, NAD83): 388945	Elevation (m): 1114

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
1		SAND, fine to medium grained, compact, grey-brown, damp. [IN SITU]		G1		1113
2				G2		1112
3				G3		1111
3		End of Hole @ 3 m. No installation. Sloughed in upon completion.				1110
4						1109
5						1108
6						1107
7						1106
8						1105
9						1104

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:21 AM (TEST PIT LOG)



Start Date: 2013-10-08	Logged By: D. Piccininni
Completion Date: 2013-10-08	Reviewed By: R. Wood
Completion Depth: 3.00 m	Page 1 of 1

Project: Mount Nansen 2013 Site Investigation	Area: Sand Borrow Area	Borehole No: HA-BA-13-02
Client: Yukon Government - AAM	Northing (UTM Zone 8, NAD83): 6880702	Project No: VM00605E
Contractor & Method: Dark Side Drilling, Hand Auger	Easting (UTM Zone 8, NAD83): 389017	Elevation (m): 1109

SAMPLE TYPE  Shelby Tube  Core  SPT (N)  Grab Sample

BACKFILL TYPE  Bentonite Chips  Bentonite Grout  Bentonite Pellets  Cement Grout  Drill Cuttings  Sand  Slough

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NO	OTHER TESTS, COMMENTS	ELEVATION (m)
1		SAND, fine to medium grained, compact, grey-brown, damp. [IN SITU]		G1		1108
2				G2		1107
3				G3		1106
3		End of Hole @ 3 m. No installation. Sloughed in upon completion.				1105
4						1104
5						1103
6						1102
7						1101
8						1100
9						1099

VM00605E NANSEN GEOPROBE LOGS REV JAN 15.GPJ 14-02-26 11:21 AM (TEST PIT LOG)



Start Date: 2013-10-08	Logged By: D. Piccininni
Completion Date: 2013-10-08	Reviewed By: R. Wood
Completion Depth: 3.00 m	Page 1 of 1