

AMEC E & I				Project: Mount Nansen		
SPECIFIC GRAVITY AND ABSORPTION ASTM D854, C127, C128				Project No.: VM00605E.523.20		
				Technician: GM		Date: Nov. 16, 2013
SOIL - D854	Hole Number		TP-T-13-02	TP-T-13-02		Average
	Sample Number		GS2 Bulk	GS2 Bulk		
	Weight of Bottle and Water and Soil	"Wb"	775.2	777.8		
	Temperature of Water	"Tx"	20C	20C		
	Weight of Bottle and Water	"Wa"	709.4	711.1		
	Evaporating Dish Number					
	Weight Dish and Dry Soil					
	Weight of Dish					
	Weight of Dry Soil	"Wo"	101.1	102.40		
	Specific Gravity of Soil		2.864	2.868		2.866
SAND - C128	Trial Number					Average
	Bottle Number					
	Weight of Bottle					
	Weight of S.S.D. Sand in Air	"D"				
	Weight of Bottle, Water and Sand	"C"				
	Temperature of Water					
	Weight of Bottle and Water (chart)	"B"				
	Tare Number					
	Weight Dry Sand and Tare					
	Weight of Tare					
	Weight of Dry Sand	"A"				
	Bulk Specific Gravity					
	S.S.D. Specific Gravity					
	% Absorption					
GRAVEL - C127	Trial Number					Average
	Weight of S.S.D. Rock and Tare in Air					
	Weight of Tare					
	Weight of S.S.D. Rock (in Air)	"B"				
	Weight of S.S.D. Rock (in Water)	"C"				
	Weight of Tare and Dry Rock					
	Weight of Tare					
	Weight of Dry Rock	"A"				
	Bulk Specific Gravity					
	S.S.D. Specific Gravity					
	% Absorption					
Calculation Soil: $G_s = W_o / (W_o + W_a) - W_b$ Sand: Bulk Sp. Gr. = $A / (B + D - C)$ Sand: S.S.D. Sp. Gr. = $D / (B + D - C)$ Gravel: Bulk Sp. Gr. = $A / (B - C)$ Gravel: S.S.D. Sp. Gr. = $B / (B - C)$ Absorption: Sand % Abs. = $((D - A) / A) \times 100$ Absorption: Gravel % Abs. = $((B - A) / A) \times 100$						
Remarks: 						

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SOIL - D854	Hole Number	TP-T-13-04	TP-T-13-04		Average
	Sample Number	GS1 Bulk	GS1 Bulk		
	Weight of Bottle and Water and Soil "Wb"	759.3	782.5		
	Temperature of Water "Tx"	20C	20C		
	Weight of Bottle and Water "Wa"	686.6	711.8		
	Evaporating Dish Number				
	Weight Dish and Dry Soil				
	Weight of Dish				
	Weight of Dry Soil "Wo"	112.7	109.60		
	Specific Gravity of Soil	2.818	2.817		2.818
SAND - C128	Trial Number				Average
	Bottle Number				
	Weight of Bottle				
	Weight of S.S.D. Sand in Air "D"				
	Weight of Bottle, Water and Sand "C"				
	Temperature of Water				
	Weight of Bottle and Water (chart) "B"				
	Tare Number				
	Weight Dry Sand and Tare				
	Weight of Tare				
	Weight of Dry Sand "A"				
	Bulk Specific Gravity				
	S.S.D. Specific Gravity				
	% Absorption				
GRAVEL - C127	Trial Number				Average
	Weight of S.S.D. Rock and Tare in Air				
	Weight of Tare				
	Weight of S.S.D. Rock (in Air) "B"				
	Weight of S.S.D. Rock (in Water) "C"				
	Weight of Tare and Dry Rock				
	Weight of Tare				
	Weight of Dry Rock "A"				
	Bulk Specific Gravity				
	S.S.D. Specific Gravity				
% Absorption					

Calculation

Soil: $G_s = W_o / (W_o + W_a) - W_b$

Sand: Bulk Sp. Gr. = $A / (B + D - C)$

Sand: S.S.D. Sp. Gr. = $D / (B + D - C)$

Gravel: Bulk Sp. Gr. = $A / (B - C)$

Gravel: S.S.D. Sp. Gr. = $B / (B - C)$

Absorption: Sand % Abs. = $((D - A) / A) \times 100$

Absorption: Gravel % Abs. = $((B - A) / A) \times 100$

Remarks:

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SOIL - D854	Hole Number		TP-T-13-04	TP-T-13-04		Average
	Sample Number		GS5 Bulk	GS5 Bulk		
	Weight of Bottle and Water and Soil	"Wb"	752.1	774.6		
	Temperature of Water	"Tx"	20C	20C		
	Weight of Bottle and Water	"Wa"	686.6	709.4		
	Evaporating Dish Number					
	Weight Dish and Dry Soil					
	Weight of Dish					
	Weight of Dry Soil	"Wo"	101.7	101.30		
	Specific Gravity of Soil		2.809	2.806		2.808
SAND - C128	Trial Number					Average
	Bottle Number					
	Weight of Bottle					
	Weight of S.S.D. Sand in Air	"D"				
	Weight of Bottle, Water and Sand	"C"				
	Temperature of Water					
	Weight of Bottle and Water (chart)	"B"				
	Tare Number					
	Weight Dry Sand and Tare					
	Weight of Tare					
	Weight of Dry Sand	"A"				
	Bulk Specific Gravity					
	S.S.D. Specific Gravity					
	% Absorption					
GRAVEL - C127	Trial Number					Average
	Weight of S.S.D. Rock and Tare in Air					
	Weight of Tare					
	Weight of S.S.D. Rock (in Air)	"B"				
	Weight of S.S.D. Rock (in Water)	"C"				
	Weight of Tare and Dry Rock					
	Weight of Tare					
	Weight of Dry Rock	"A"				
	Bulk Specific Gravity					
	S.S.D. Specific Gravity					
% Absorption						
<p><u>Calculation</u></p> <p>Soil: $G_s = W_o / (W_o + W_a) - W_b$</p> <p>Sand: Bulk Sp. Gr. = $A / (B + D - C)$</p> <p>Sand: S.S.D. Sp. Gr. = $D / (B + D - C)$</p> <p>Gravel: Bulk Sp. Gr. = $A / (B - C)$</p> <p>Gravel: S.S.D. Sp. Gr. = $B / (B - C)$</p> <p>Absorption: Sand % Abs. = $((D - A) / A) \times 100$</p> <p>Absorption: Gravel % Abs. = $((B - A) / A) \times 100$</p>						
<p><u>Remarks:</u></p>						

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SOIL - D854	Hole Number		TP-T-13-06	TP-T-13-06		Average
	Sample Number		GS1 Bulk	GS1 Bulk		
	Weight of Bottle and Water and Soil	"Wb"	778.1	779.7		
	Temperature of Water	"Tx"	20C	20C		
	Weight of Bottle and Water	"Wa"	711.8	711.1		
	Evaporating Dish Number					
	Weight Dish and Dry Soil					
	Weight of Dish					
	Weight of Dry Soil	"Wo"	103.7	107.30		
	Specific Gravity of Soil		2.773	2.773		2.773
SAND - C128	Trial Number					Average
	Bottle Number					
	Weight of Bottle					
	Weight of S.S.D. Sand in Air	"D"				
	Weight of Bottle, Water and Sand	"C"				
	Temperature of Water					
	Weight of Bottle and Water (chart)	"B"				
	Tare Number					
	Weight Dry Sand and Tare					
	Weight of Tare					
	Weight of Dry Sand	"A"				
	Bulk Specific Gravity					
	S.S.D. Specific Gravity					
	% Absorption					
GRAVEL - C127	Trial Number					Average
	Weight of S.S.D. Rock and Tare in Air					
	Weight of Tare					
	Weight of S.S.D. Rock (in Air)	"B"				
	Weight of S.S.D. Rock (in Water)	"C"				
	Weight of Tare and Dry Rock					
	Weight of Tare					
	Weight of Dry Rock	"A"				
	Bulk Specific Gravity					
	S.S.D. Specific Gravity					
% Absorption						
<div> <div> Calculation Soil: $G_s = W_o / (W_o + W_a) - W_b$ Sand: Bulk Sp. Gr. = $A / (B + D - C)$ Sand: S.S.D. Sp. Gr. = $D / (B + D - C)$ </div> <div> Gravel: Bulk Sp. Gr. = $A / (B - C)$ Gravel: S.S.D. Sp. Gr. = $B / (B - C)$ Absorption: Sand % Abs. = $((D - A) / A) \times 100$ Absorption: Gravel % Abs. = $((B - A) / A) \times 100$ </div> </div>						
Remarks: 						

GEOTECHNICAL LABORATORY WORK ORDER

SUMMARY SHEET



Project #: VM00605E.223.20

AMEC Engineer: Renata Wood

Project Name: Mount Nansen

Lab Number: _____

Date: 08-Nov-13

Date Required: _____

A. Details of Samples Being Submitted for Testing:

Hole Number	TP-T-13-02	TP-T-13-04	TP-T-13-04	TP-T-13-06
Sample ID	GS2-BULK	GS1-BULK	GS5-BULK	GS1-BULK
Depth (From / To) (units)	1-1.1	1-1.1	3-3.1	0.8-0.9
Storage - Dry				
Storage - Moist				

Samples will be discarded 60 DAYS after testing is complete unless other arrangements are made

B. Tests Required

Visual Description				
Moisture Content				
Density (specify method)				
Liquid Limit				
Plastic Limit				
Shrinkage Limit				
Hydrometer ²				
Sieve Analysis ³				
Specific Gravity	x	x	x	x
Organic Content (specify method)				
Soluble Sulphates				
Laboratory Vane Shear				
Chloride Analysis				
Unconfined () w/Stress Plot				
Confined- UU-ASTM D2850() w/Stress Plot (specify confining stresses)				
Minimum Index Density				
Maximum Index Density				
Compaction Test				
Resistivity				

C. Specific Requisition Forms Must Be Filled Out for the Following Tests (in addition to checking the boxes below)

Consolidation				
Direct Shear				
Triaxial				
Swelling Pressure / Swell				
Permeability Fixed Wall				
Permeability Flexible Wall				
Pinhole Test				
Filter Test				
Large Strain Consolidation				
Column Settling Test				
Tempe Cell				

NOTES: 1. Types of Samples: A - Auger B - Block C - Core D - Drive O - Other P - Pitcher U - Shelby Tube W - Wash

2. Sodium hexamethaphosphate will be used as a dispersant, unless otherwise specified

3. Unless otherwise specified, the following sieve set will be used: 76, 50.8, 32.5, 25.4, 19, 12.5, 10, 5mm, #10, #20, #40, #60, #100, #200

D. Special Instructions / Other Tests

Depth of sample is expressed in meters

Above 4 samples are from bulk samples (in 5 gallon bucket)