

TEMPE CELL TEST - LABORATORY DATA SHEET
SAMPLE AND APPARATUS DETAILS



PROJECT Mt Nansen TA5 2013 SI
 CLIENT Government of Yukon
 PROJECT No. VM00605E.523.20
 LAB No. S-9985
 PROJECT ENGINEER Renata Wood
 SOIL DESCRIPTION Silty clay, trace sand
 COMMENTS _____

PROJECT LOCATION Yukon
 BOREHOLE No. TP-T-13-04 GS5
 DEPTH (m) 3.0-3.1 m
 SAMPLE NUMBER GS5
 SAMPLE TYPE Silt
 DATE ORDERED 07-Dec-13

PRE-TEST MEASUREMENTS

Reported By <u>SH/CR</u>	START DATE <u>12-Jan-14</u>
CELL No. <u>4</u>	TARGET SPECIMEN DRY DENSITY <u>1428</u> kg/m ³
RING HEIGHT <u>59.6</u> mm	PRE-TEST WEIGHT OF SPECIMEN <u>242.4</u> g
RING DIAMETER <u>54.0</u> mm	PRE-TEST MOISTURE CONTENT <u>24.0</u> %
RING VOLUME <u>136.5</u> ml	
WEIGHT OF RING <u>140.0</u> g	
TARE + INITIAL WT OF SOIL + RING <u>382.4</u> g	BULK DENSITY OF SPECIMEN <u>1776</u> kg/m ³
TARE <u>0.0</u> g	DRY DENSITY OF SPECIMEN <u>1432</u> kg/m ³
WEIGHT OF CELL (with stone saturated, etc.) <u>899.80</u> g	
SPECIFIC GRAVITY <u>2.80</u>	<input type="checkbox"/> assumed <input checked="" type="checkbox"/> measured


TRIMMINGS/INITIAL SAMPLE

TARE <u>0</u> g	
TARE AND SOIL (wet) <u>85</u> g	MOISTURE CONTENT (trimmings) <u>25.2</u> %
TARE AND SOIL (dry) <u>67.9</u> g	

METHOD OF SPECIMEN PREPARATION Compacted to 86% SPDD in three layers

POST-TEST MEASUREMENTS

TARE <u>140.00</u> g	
TARE AND SOIL (wet) <u>382.80</u> g	WEIGHT OF WATER <u>47.30</u> g
TARE AND SOIL (dry) <u>335.50</u> g	WEIGHT OF DRY SOIL <u>195.50</u> g
FINAL MOISTURE CONTENT <u>24.2</u> %	

	PROJECT Mt Nansen TA5 2013 SI Program				PROJECT LOCATION Yukon											
	CLIENT Government of Yukon				BOREHOLE No. TP-T-13-04 GS5											
	PROJECT No. VM00605E.523.20				Cell No. 4											
	LAB No. S-9985				SAMPLE NUMBER GS5											
	PROJECT ENGINEER Renata Wood				SAMPLE TYPE Silt											
Capillary-Moisture Relationship of Soils by Tempe Cell																
SOIL DESCRIPTION:		Silty clay, trace sand														
Pre-Test Wet Density		1776	kg / m ³	Porosity of compacted sample				0.49		(A) Post-Test Weight of Water				47.30	g	
Initial Dry Density		1432	kg / m ³	Pre-Test Moisture content of sample				24.0	%	Post-Test Moisture Content (% weight) of Sample				24.2	%	
		Saturated	DRYING CURVE													
(B) Matric Suction Applied (kPa)		0	0.5	1	2	3	5	7	10	20	40	80	110			
(C) Weight of soil + water + cell (g)		899.80	899.80	899.60	899.50	899.20	899.10	898.20	895.80	893.50	891.00	887.00	882.80			
(D) Weight of Cell (g)		899.80														
(E) Weight of soil + water (g)		259.80	259.80	259.60	259.50	259.20	259.10	258.20	255.80	253.50	251.00	247.00	242.80			
E = F + G																
(F) Weight of dry soil (g)		195.50														
(G) Weight of water (g)		64.30	64.30	64.10	64.00	63.70	63.60	62.70	60.30	58.00	55.50	51.50	47.30			
G _n = G _(n+1) + (C _n - C _(n+1)), G _(final) = A																
(H) Moisture Content (percent weight)		32.9	32.9	32.8	32.7	32.6	32.5	32.1	30.8	29.7	28.4	26.3	24.2			
H = G/F																
Wet Density of sample (kg/m ³)		1903	1903	1902	1901	1899	1898	1892	1874	1857	1839	1810	1779			
Dry Density of sample (kg/m ³)		1432														
Moisture Content (percent volume)		47.1	47.1	47.0	46.9	46.7	46.6	45.9	44.2	42.5	40.7	37.7	34.7			
(Volume Water / Total Volume)																
Porosity ^{note 1}		0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49			
Void Ratio ^{note 1}		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Specific Gravity		2.80														
Saturation ^{note 1}		0.96	0.96	0.96	0.96	0.96	0.95	0.94	0.90	0.87	0.83	0.77	0.71			

Note 1. Calculated using a specific gravity of 2.8

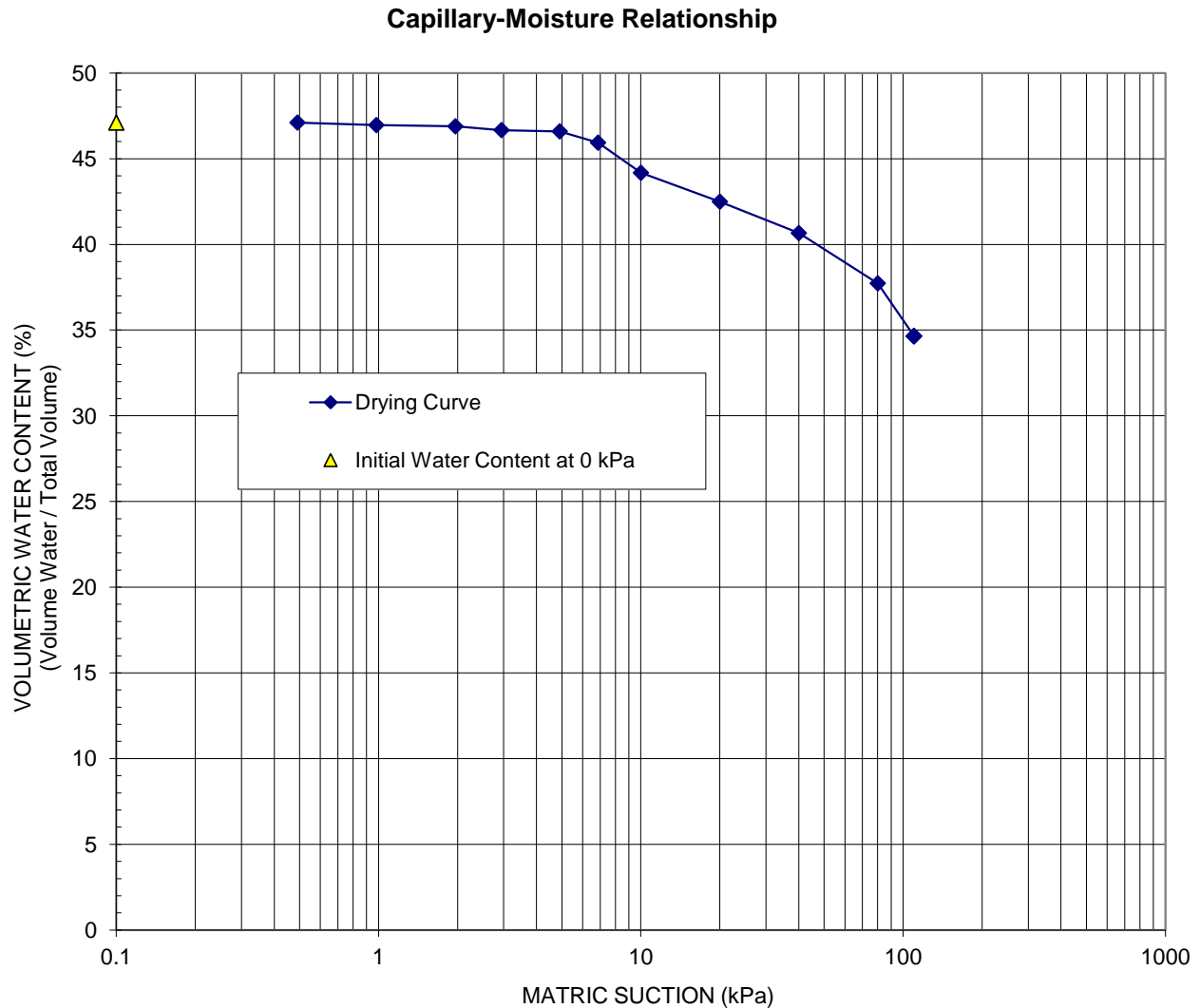
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CLIENT Government of Yukon
PROJECT No. VM00605E.523.20
LAB No. S-9985
PROJECT ENGINEER Renata Wood

PROJECT LOCATION Yukon
BOREHOLE No. TP-T-13-04 GS5
Cell No. 4
SAMPLE NUMBER GS5
SAMPLE TYPE Silt

Capillary-Moisture Relationship of Soils by Tempe Cell



SOIL DESCRIPTION: Silty clay, trace sand

VOID RATIO, e : 0.95

POROSITY, n : 0.49

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SAMPLE AND APPARATUS DETAILS



PROJECT Mt Nansen TA5 2013 SI
 CLIENT Government of Yukon
 PROJECT No. VM00605E.523.20
 LAB No. N/A
 PROJECT ENGINEER Renata Wood
 SOIL DESCRIPTION Sand and Silt trace Clay
 COMMENTS _____

PROJECT LOCATION Yukon
 BOREHOLE No. TP-T-13-06
 DEPTH (m) 0.8-0.9 m
 SAMPLE NUMBER GS1
 SAMPLE TYPE Sand and Silt
 DATE ORDERED 07-Dec-13

PRE-TEST MEASUREMENTS

Reported By	<u>CR/SH</u>	START DATE	<u>12-Jan-13</u>
CELL No.	<u>2</u>	TARGET SPECIMEN DRY DENSITY	<u>1462</u> kg/m ³
RING HEIGHT	<u>59.8</u> mm	PRE-TEST WEIGHT OF SPECIMEN	<u>239.4</u> g
RING DIAMETER	<u>53.8</u> mm	PRE-TEST MOISTURE CONTENT	<u>20.7</u> %
RING VOLUME	<u>136.0</u> ml		
WEIGHT OF RING	<u>140.0</u> g	BULK DENSITY OF SPECIMEN	<u>1760</u> kg/m ³
TARE + INITIAL WT OF SOIL + RING	<u>379.4</u> g	DRY DENSITY OF SPECIMEN	<u>1458</u> kg/m ³
TARE	<u>0.0</u> g		
WEIGHT OF CELL (with stone saturated, etc.)	<u> </u> g		
SPECIFIC GRAVITY	<u>2.77</u>	<input type="checkbox"/> assumed	<input checked="" type="checkbox"/> measured


TRIMMINGS/INITIAL SAMPLE

TARE	<u>0</u> g	
TARE AND SOIL (wet)	<u>120.1</u> g	MOISTURE CONTENT (trimmings) <u>21.6</u> %
TARE AND SOIL (dry)	<u>98.8</u> g	

METHOD OF SPECIMEN PREPARATION Compacted to 86% SPDD by 3 layers

POST-TEST MEASUREMENTS

TARE	<u>140.00</u> g	
TARE AND SOIL (wet)	<u>356.80</u> g	
TARE AND SOIL (dry)	<u>338.30</u> g	WEIGHT OF WATER <u>18.50</u> g
FINAL MOISTURE CONTENT	<u>9.3</u> %	WEIGHT OF DRY SOIL <u>198.30</u> g

	PROJECT Mt Nansen TA5 2013 SI Program						PROJECT LOCATION Yukon									
	CLIENT Government of Yukon						BOREHOLE No. TP-T-13-06									
	PROJECT No. VM00605E.523.20						Cell No. 2									
	LAB No. N/A						SAMPLE NUMBER GS1									
	PROJECT ENGINEER Renata Wood						SAMPLE TYPE Sand and Silt									
Capillary-Moisture Relationship of Soils by Tempe Cell																
SOIL DESCRIPTION:		Sand and Silt trace Clay														
Pre-Test Wet Density		1760	kg / m ³	Porosity of compacted sample				0.47		(A) Post-Test Weight of Water				18.50	g	
Initial Dry Density		1458	kg / m ³	Pre-Test Moisture content of sample				20.7	%	Post-Test Moisture Content (% weight) of Sample				9.3	%	
		Saturated	DRYING CURVE													
(B) Matric Suction Applied (kPa)		0	0.5	1	2	3	5	7	10	20	40	80	110			
(C) Weight of soil + water + cell (g)		883.20	883.00	882.90	882.80	882.50	875.80	870.70	860.00	854.40	849.20	841.80	836.90			
(D) Weight of Cell (g)																
(E) Weight of soil + water (g)		263.10	262.90	262.80	262.70	262.40	255.70	250.60	239.90	234.30	229.10	221.70	216.80			
E = F + G																
(F) Weight of dry soil (g)		198.30														
(G) Weight of water (g)		64.80	64.60	64.50	64.40	64.10	57.40	52.30	41.60	36.00	30.80	23.40	18.50			
G _n = G _(n+1) + (C _n - C _(n+1)), G _(final) = A																
(H) Moisture Content (percent weight)		32.7	32.6	32.5	32.5	32.3	28.9	26.4	21.0	18.2	15.5	11.8	9.3			
H = G/F																
Wet Density of sample (kg/m ³)		1935	1933	1933	1932	1930	1880	1843	1764	1723	1685	1630	1594			
Dry Density of sample (kg/m ³)		1458														
Moisture Content (percent volume) (Volume Water / Total Volume)		47.7	47.5	47.4	47.4	47.1	42.2	38.5	30.6	26.5	22.6	17.2	13.6			
Porosity ^{note 1}		0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47			
Void Ratio ^{note 1}		0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Specific Gravity		2.77														
Saturation ^{note 1}		1.01	1.00	1.00	1.00	1.00	0.89	0.81	0.65	0.56	0.48	0.36	0.29			

Note 1. Calculated using a specific gravity of 2.77

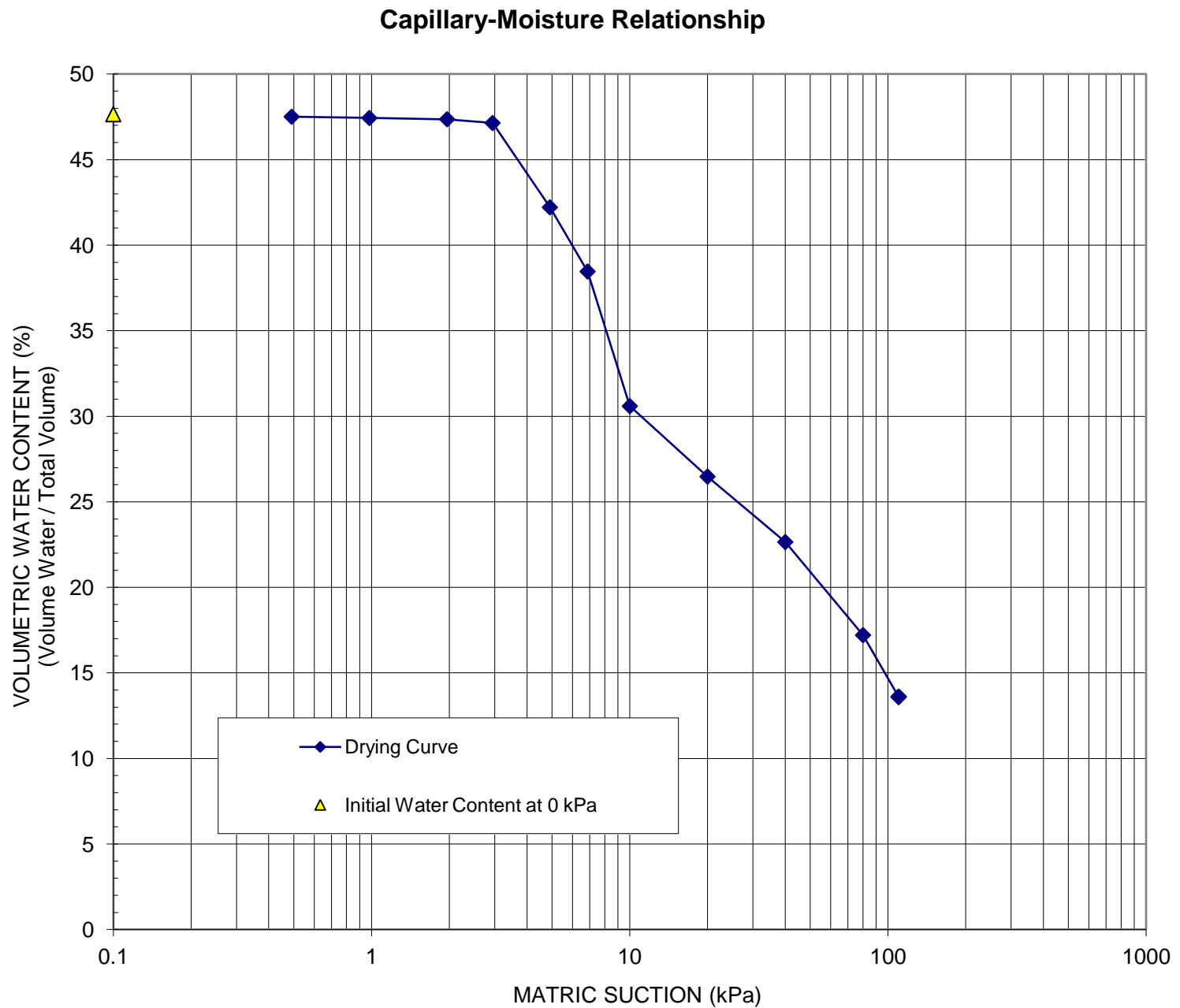
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PROJECT No. VM00605E.523.20
LAB No. N/A
PROJECT ENGINEER Renata Wood

PROJECT LOCATION Yukon
BOREHOLE No. TP-T-13-06
Cell No. 2
SAMPLE NUMBER GS1
SAMPLE TYPE Sand and Silt

Capillary-Moisture Relationship of Soils by Tempe Cell



SOIL DESCRIPTION: Sand and Silt trace Clay

VOID RATIO, e : 0.90

POROSITY, n : 0.47

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