

WATER BOILING TEST - DATA SHEET

These sheets should be printed out so that data can be recorded manually during the WBT and entered into spreadsheets after tests are complete

Name(s) of Tester(s) _____

Test Number _____ Location _____

Date _____ Wood species _____

Stove type/model _____ Wind conditions _____

Air temp _____ °C Dry weight of Pot # 3 (grams) _____ g

Average dimensions of wood _____ cm x cm x cm Dry weight of Pot # 4 (grams) _____ g

Dry weight of Pot # 1 (grams) _____ g Weight of container for char (grams) _____ g

Dry weight of Pot # 2 (grams) _____ g Local boiling point _____ °C

Wood moisture content - method used for calculation (circle one): Gravimetric, Moisture Meter, Other (describe) _____

If using gravimetric methods, record in the "Avg MC" space. If using moisture meter, use meter's averaging function and record in the "Avg MC" space. If you do not use the averaging function, record 9 measurements in the space provided to the right and calculate the average later using the data calculation spreadsheet. In any case, indicate if MC is on a wet or dry basis.

1 _____	4 _____	7 _____
2 _____	5 _____	8 _____
3 _____	6 _____	9 _____

Avg MC
dry wet (circle one)

WBT TEST 1		HIGH POWER TEST (COLD START)				HIGH POWER TEST (HOT START)				SIMMER TEST			
Measurements	Units	Start		Finish: when Pot #1 boils		Start		Finish: when Pot #1 boils		Start: when Pot #1 boils		Finish: 45 min after Pot #1 boils	
		data	label	data	label	data	label	data	label	data	label	data	label
Time	min	_____	t _{ci}	_____	t _{cf}	_____	t _{hi}	_____	t _{hf}	_____	t _{si}	_____	t _{sf}
Weight of wood	g	_____	f _{ci}	_____	f _{cf}	_____	f _{hi}	_____	f _{hf}	_____	f _{si}	_____	f _{sf}
Water temperature, Pot # 1	°C	_____	T1 _{ci}	_____	T1 _{cf}	_____	T1 _{hi}	_____	T1 _{hf}	_____	T1 _{si}	_____	T1 _{sf}
Water temperature, Pot # 2	°C	_____	T2 _{ci}	_____	T2 _{cf}	_____	T2 _{hi}	_____	T2 _{hf}	<div style="border: 1px solid black; padding: 5px; margin: 5px;"> T1_{si} is set equal to T_b because the test starts after the pot has boiled. </div>			
Water temperature, Pot # 3	°C	_____	T3 _{ci}	_____	T3 _{cf}	_____	T3 _{hi}	_____	T3 _{hf}				
Water temperature, Pot # 4	°C	_____	T4 _{ci}	_____	T4 _{cf}	_____	T4 _{hi}	_____	T4 _{hf}	_____	P1 _{si}	_____	P1 _{sf}
Weight of Pot # 1 with water	g	_____	P1 _{ci}	_____	P1 _{cf}	_____	P1 _{hi}	_____	P1 _{hf}	<div style="border: 1px solid black; padding: 5px; margin: 5px;"> P1_{si} should be the mass of water after the pot comes to boil. </div>			
Weight of Pot # 2 with water	g	_____	P2 _{ci}	_____	P2 _{cf}	_____	P2 _{hi}	_____	P2 _{hf}				
Weight of Pot # 3 with water	g	_____	P3 _{ci}	_____	P3 _{cf}	_____	P3 _{hi}	_____	P3 _{hf}	_____	_____	_____	C _s
Weight of Pot # 4 with water	g	_____	P4 _{ci}	_____	P4 _{cf}	_____	P4 _{hi}	_____	P4 _{hf}	_____	_____	_____	C _s
Fire-starting materials (if any)	--	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Weight of charcoal+container	g	_____	_____	_____	C _c	_____	_____	_____	C _h	_____	_____	_____	C _s

Continue on next page for tests 2 and 3

WBT TEST 2		HIGH POWER TEST (COLD START)				HIGH POWER TEST (HOT START)				SIMMER TEST			
		Start		Finish: when Pot #1 boils		Start		Finish: when Pot #1 boils		Start:when Pot #1 boils		Finish: 45 min after Pot #1 boils	
Measurements	Units	data	label	data	label	data	label	data	label	data	label	data	label
Time	min	_____	t_{ci}	_____	t_{cf}	_____	t_{hi}	_____	t_{hf}	_____	t_{si}	_____	t_{sf}
Weight of wood	g	_____	f_{ci}	_____	f_{cf}	_____	f_{hi}	_____	f_{hf}	_____	f_{si}	_____	f_{sf}
Water temperature, Pot # 1	°C	_____	$T1_{ci}$	_____	$T1_{cf}$	_____	$T1_{hi}$	_____	$T1_{hf}$	_____	$T1_{si}$	_____	$T1_{sf}$
Water temperature, Pot # 2	°C	_____	$T2_{ci}$	_____	$T2_{cf}$	_____	$T2_{hi}$	_____	$T2_{hf}$	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> $T1_{si}$ is set equal to T_b because the test starts after the pot has boiled. </div>			
Water temperature, Pot # 3	°C	_____	$T3_{ci}$	_____	$T3_{cf}$	_____	$T3_{hi}$	_____	$T3_{hf}$				
Water temperature, Pot # 4	°C	_____	$T4_{ci}$	_____	$T4_{cf}$	_____	$T4_{hi}$	_____	$T4_{hf}$	_____	$P1_{si}$	_____	$P1_{sf}$
Weight of Pot # 1 with water	g	_____	$P1_{ci}$	_____	$P1_{cf}$	_____	$P1_{hi}$	_____	$P1_{hf}$	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> $P1_{si}$ should be the mass of water after the pot comes to boil. </div>			
Weight of Pot # 2 with water	g	_____	$P2_{ci}$	_____	$P2_{cf}$	_____	$P2_{hi}$	_____	$P2_{hf}$				
Weight of Pot # 3 with water	g	_____	$P3_{ci}$	_____	$P3_{cf}$	_____	$P3_{hi}$	_____	$P3_{hf}$	_____			
Weight of Pot # 4 with water	g	_____	$P4_{ci}$	_____	$P4_{cf}$	_____	$P4_{hi}$	_____	$P4_{hf}$	_____			
Fire-starting materials (if any)	--	_____		_____		_____		_____		_____			
Weight of charcoal+container	g	_____		_____	C_c	_____		_____	C_h	_____		_____	C_s

WBT TEST 3		HIGH POWER TEST (COLD START)				HIGH POWER TEST (HOT START)				SIMMER TEST			
		Start		Finish: when Pot #1 boils		Start		Finish: when Pot #1 boils		Start:when Pot #1 boils		Finish: 45 min after Pot #1 boils	
Measurements	Units	data	label	data	label	data	label	data	label	data	label	data	label
Time	min	_____	t_{ci}	_____	t_{cf}	_____	t_{hi}	_____	t_{hf}	_____	t_{si}	_____	t_{sf}
Weight of wood	g	_____	f_{ci}	_____	f_{cf}	_____	f_{hi}	_____	f_{hf}	_____	f_{si}	_____	f_{sf}
Water temperature, Pot # 1	°C	_____	$T1_{ci}$	_____	$T1_{cf}$	_____	$T1_{hi}$	_____	$T1_{hf}$	_____	$T1_{si}$	_____	$T1_{sf}$
Water temperature, Pot # 2	°C	_____	$T2_{ci}$	_____	$T2_{cf}$	_____	$T2_{hi}$	_____	$T2_{hf}$	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> $T1_{si}$ is set equal to T_b because the test starts after the pot has boiled. </div>			
Water temperature, Pot # 3	°C	_____	$T3_{ci}$	_____	$T3_{cf}$	_____	$T3_{hi}$	_____	$T3_{hf}$				
Water temperature, Pot # 4	°C	_____	$T4_{ci}$	_____	$T4_{cf}$	_____	$T4_{hi}$	_____	$T4_{hf}$	_____	$P1_{si}$	_____	$P1_{sf}$
Weight of Pot # 1 with water	g	_____	$P1_{ci}$	_____	$P1_{cf}$	_____	$P1_{hi}$	_____	$P1_{hf}$	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> $P1_{si}$ should be the mass of water after the pot comes to boil. </div>			
Weight of Pot # 2 with water	g	_____	$P2_{ci}$	_____	$P2_{cf}$	_____	$P2_{hi}$	_____	$P2_{hf}$				
Weight of Pot # 3 with water	g	_____	$P3_{ci}$	_____	$P3_{cf}$	_____	$P3_{hi}$	_____	$P3_{hf}$	_____			
Weight of Pot # 4 with water	g	_____	$P4_{ci}$	_____	$P4_{cf}$	_____	$P4_{hi}$	_____	$P4_{hf}$	_____			
Fire-starting materials (if any)	--	_____		_____		_____		_____		_____			
Weight of charcoal+container	g	_____		_____	C_c	_____		_____	C_h	_____		_____	C_s

Continue on next page for test 4

