FLENSE MODEL 3

Lab Report #4

Date: 8/17/2022

Test Conductor: Vincent Sadowski and Jack Charles

Location: Behind the apartment building

Time: Start – 11:15 AM **Finish** – 2:15 PM

Amount of Water: 32 oz. of water

Objective(s): Measure the water boil time and test Flense Model #3 using the Aluminum foil wrapped around the top of the bowl.

Product(s): Fresnel Lens #3 – Stainless steel regular size bowl – Wired copper coil in twist 25" – Water 32 oz. – TDS Tool – Pen – Notepad – Time watch – **Aluminum Foil 14"X12"**

Water Temperature Test: Before – $24.70^{*C} = 76.46^{*F}$ **After** – $65.20^{*C} = 149.36^{*F}$

Report Detail:

- For this test, there are 2 questions that needed to be answered – What is the result when prolonging the test for more than 2 hours and what is the outcome reaction when applying aluminum foil to partially cover the top of the bowl but leave enough space to allow the sunlight to shine through the water. At 11:15 PM, the test began. At 11:18 PM, the bottom of the water had quickly formed small bubbles as the silver bowl quickly became hot. Also, the sizzling sound can also be heard when up close. At 11:45 PM, more small bubbles continued to form resulting in covering the bottom surface layer of the bowl. Although the bowl is getting very hot to touch on the surface level, it is not at a hot boiling point level yet. Within an hour at 12:15 PM, no new reaction has occurred. At 2:15 PM, 3 hours later, the result remains the same as in the last hour. Knowing this result, near the end of its testing time, it's concluded that the subject model needs to be recreated in order to deliver different or better result for the next test.

NEW DISCOVERY – For this new attempt of adding aluminum foil to cover partial of the top silver bowl, it was revealed that the aluminum foil blocks some of the sun's energy and as a result, it reduces the amount of heat energy that the water gets from the sun to bring the temperature to the boiling point.

1. **The set-up model by adding aluminum foil did not accomplish the goal – to boil the water. The sole purpose of adding and wrapping the aluminum foil was to cover up and act as a dome in order to keep the steam inside the bowl.**

Conclusion:

- Knowing this result, near the end of its testing time, it's concluded that the subject model needs to be recreate in order to deliver different or better result for the next test.

Problem(s):

- Because the way the aluminum foil was set up and as well as the material that is made out of, the aluminum foil for this test act as a heat resistant and is able to block any sunlight that shines through and as a result, any sunlight that shines through the aluminum foil doesn't pass through the foil, but rather it reflects back to the air.

Next Step:

- Research on new material that can replace the aluminum foil before the next test.