

SMITH Status Report May 2012

The construction of the new pumping system including larger Tigre engine is complete. Two preliminary tests have been run in order to characterize the new system. The first test was to determine the flow rate at various voltages with the pumping system was connected to the plastic filter housing used in SMITH 2011. The second test was to determine the flow rate at various voltages with the pumping system was connected to the new stainless steel filter housing that will be integrated into SMITH 2012. Both tests have been detailed and added to SMITH binder. The construction of the new 3/8ths filter assembly is under way and all parts are currently in to finish construction for testing. The plumbing is assembled and the solenoid valves are being wired.

The microbiological data analysis plan for SMITH 2012 is in progress. This document details the preliminary tests to be completed during the summer, limits of detection for analysis, payload handling during recovery, and specific protocols for processing the sample upon return. We have also selected Mesa Spore strips (10^6 spores strip⁻¹) to conduct experiments to determine the efficiency of our sterilization procedures. Experiments to determine which filter material to use are scheduled to begin within the next two weeks. Sequencing analysis are also continuing on atmospheric isolates.