Abstract Submitted for the DNP12 Meeting of The American Physical Society

Clarifying the Structure of the Nucleon: Status of the SeaQuest **Experiment** (Fermilab E906)¹ LARRY DONALD ISENHOWER, Abilene Christian University, SEAQUEST COLLABORATION — SeaQuest (Fermilab E906) started commissioning and data collection in March and April of this year. SeaQuest will make a number of measurements in kinematic ranges with a precision that have not been possible in any previous experiment. The experiment uses the Drell-Yan process to probe the light antiquark sea and follows up on measurements of Fermilab E866/NuSea, with a goal of answering important questions raised by that experiment. One is to determine the ratio of the anti-down to anti-up quarks in the nucleon at high Bjorken x. Above x=0.25, NuSea data indicate this ratio could be changing in a surprising manner where the ratio could be dipping below one. This is just one of several determinations SeaQuest will make. A brief description of other physics to be addressed by SeaQuest will be followed by the present status of the experiment as it prepares to start up next spring when the Fermilab MI resumes operation. In the very short commissioning run we were able to validate that the detector and DAQ systems all function. These data are being used to improve the implementation of the analysis chain and guide upgrades of the SeaQuest systems for high intensity running. It is expected that the experiment will be running at full intensity in 2013.

¹Research supported in part by U.S. Department of Energy NP Division.

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Date submitted: 02 Jul 2012

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