Notes on setting up of gas-liquid exchanger PI 9009 for attenuation hydraulic drive

1. The exchanger is attached via a short piece of ¼" tubing from the axial port at the liquid end of the exchanger to the output port of the attenuation driver (the port that is normally connected via a tee-junction to the driver-isolate valve and to the pore fluid entry tube below the pressure vessel.

2. The above-mentioned tee-junction is removed and the other port at the liquid end of the exchanger is connected via a 1/8” tube to the pore fluid pipe entering the internal load cell at the bottom of the pressure vessel.

3. The port at the gas end of the exchanger is connected via a 1/8” tube to the driver-isolate valve.

4. An arrangement has to be set up at the kerosene injection port of the exchanger whereby a vacuum pump can be used to void all air in the kerosene section of the plumbing. Then kerosene is injected to back-fill the plumbing and push the exchanger piston to near the gas connection end of its range of travel. Next, after relaxing any pressure needed to inject the kerosene, the ball valve on the side of the exchanger is closed (the driver piston should be near the gas-end of its range of travel now).

5. The system can now be operated in the same manner as without the exchanger. With the driver-inlet valve and driver-isolate valve both open, the confining pressure is raised to the desired level. Then the driver-isolate valve is closed and the attenuation experiment carried out by operating the driver unit.

6. After completing the experiment the driver-isolate valve is opened and the driver-inlet valve closed, and then the driver gas release valve is opened in order to release the gas from the attenuation system. The position of the piston in the exchanger should now be in the same position as at the end of step 4.