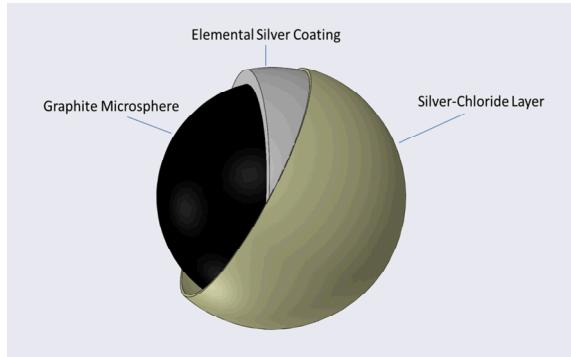


GRC Sandia Support Slides

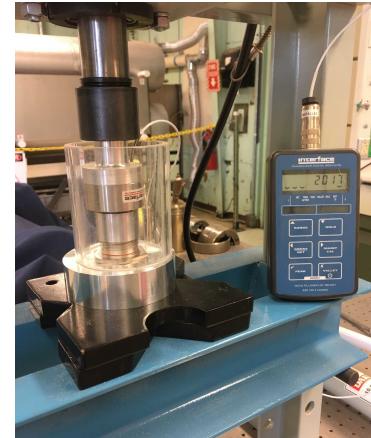
Avery “Zack” Cashion

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Sandia Ion-Selective and Reference Electrodes



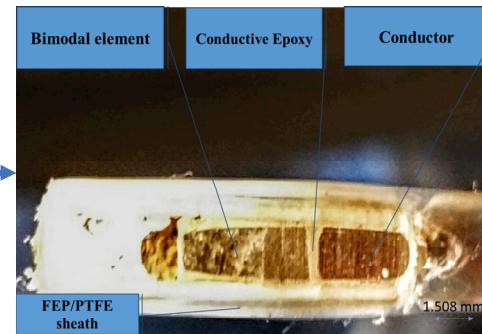
Engineered Particles (powder)



Press 8h @5 Tons



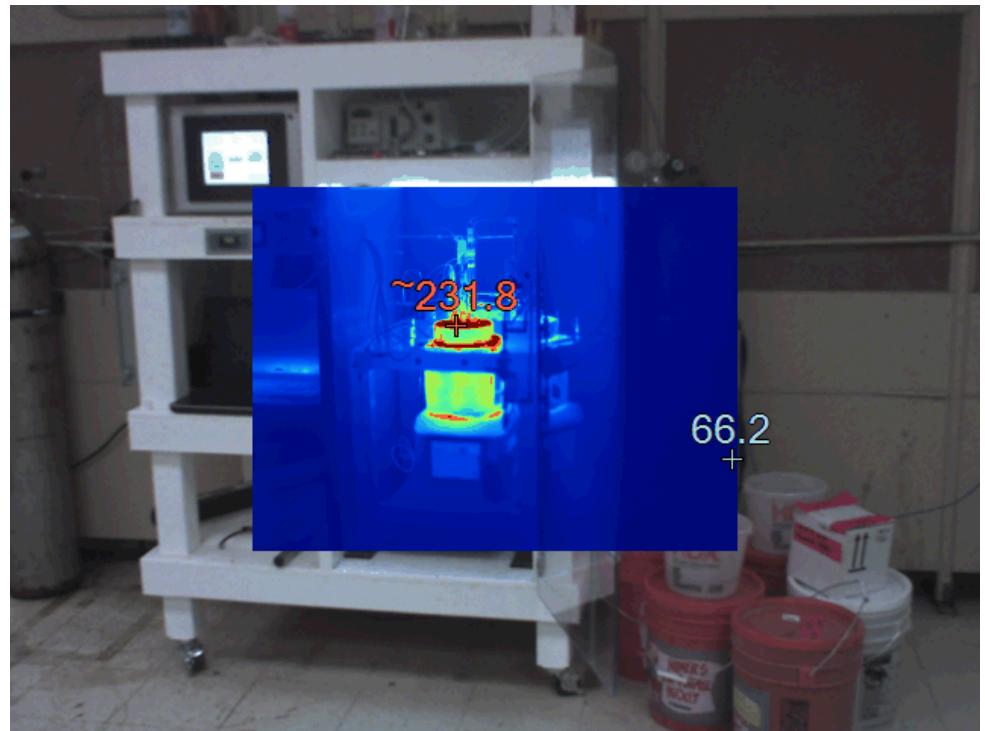
Electrode Pellet



Electrode Assembly

Sandia Pressure Vessel Test

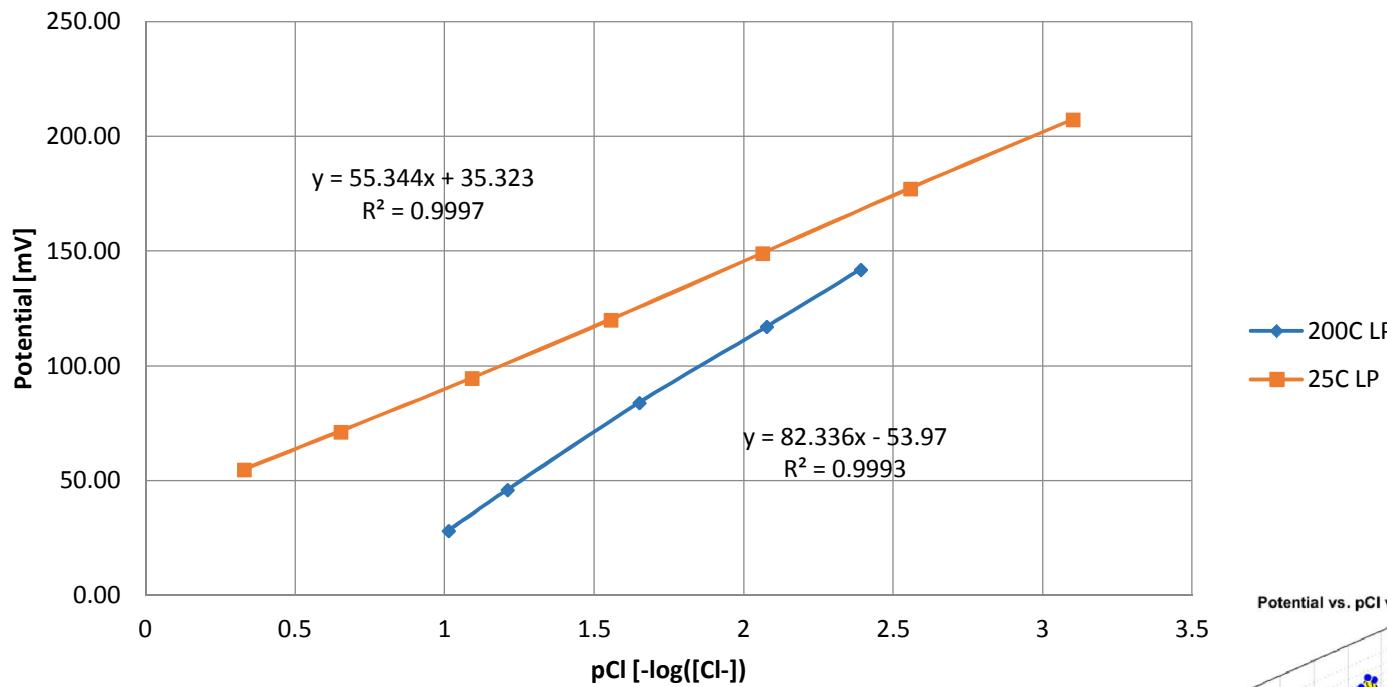
- Electrodes are assembled in pressure vessel port hardware
- PTFE liner in the pressure vessel is filled with test solution
- Pressure vessel is pressurized to up to 1700psi and heated to up to 230°C
- Ion-Selective electrode potentials are recorded on National Instruments DAQ hardware



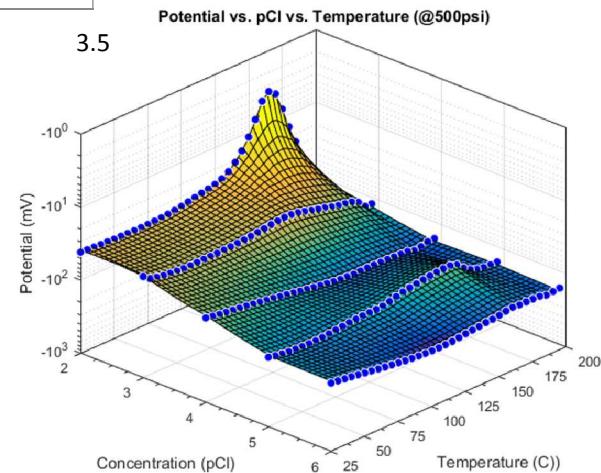
Thermal image of heating pressure vessel (°F)

HT Cl- Electrode at 25°C and 200°C

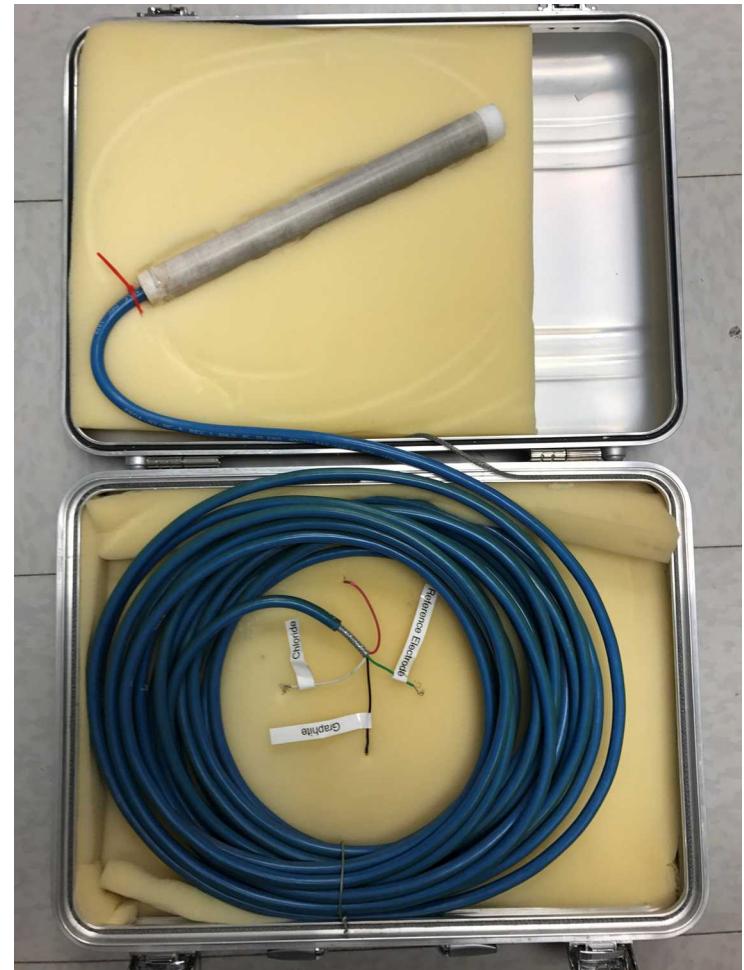
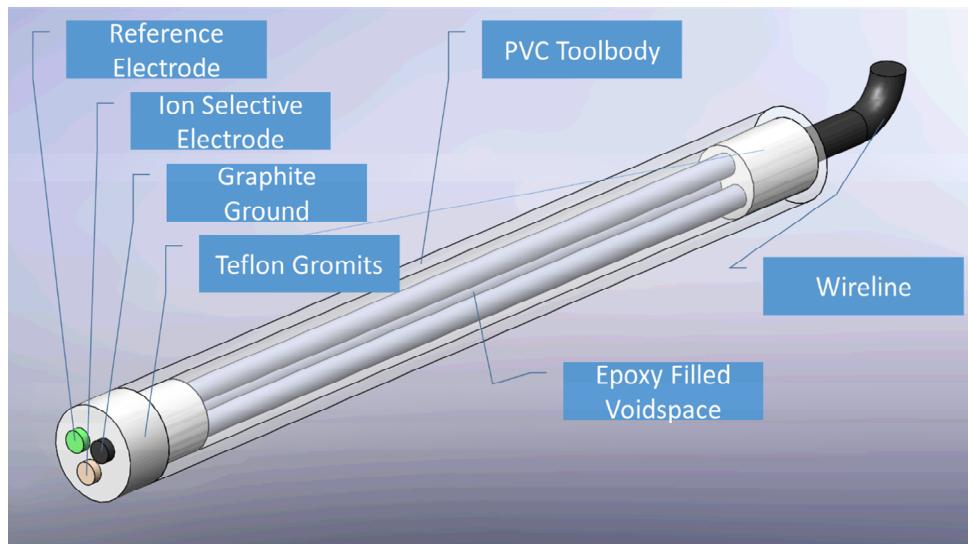
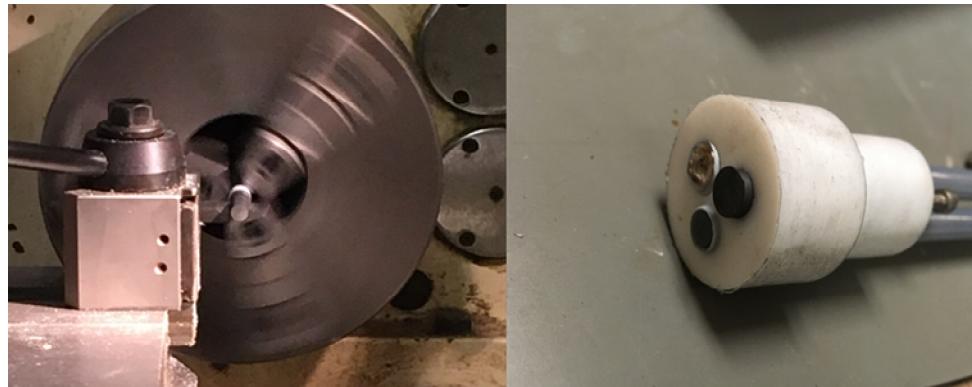
Response of Cl- electrode in 0.1M KNO₃



- Repeatable response (low hysteresis)
- Theoretical max slope @25C = 59.1mV/decade
- Theoretical max slope @200C = 93.92mV/decade
- Calibration for temperature is necessary.



Wireline Tool for the Mock Well



Stanford Multiphase Flow Chamber

