



WESTCARB Regional Partnership

Samples for Analyses of Mineralogy and Dissolved Gas

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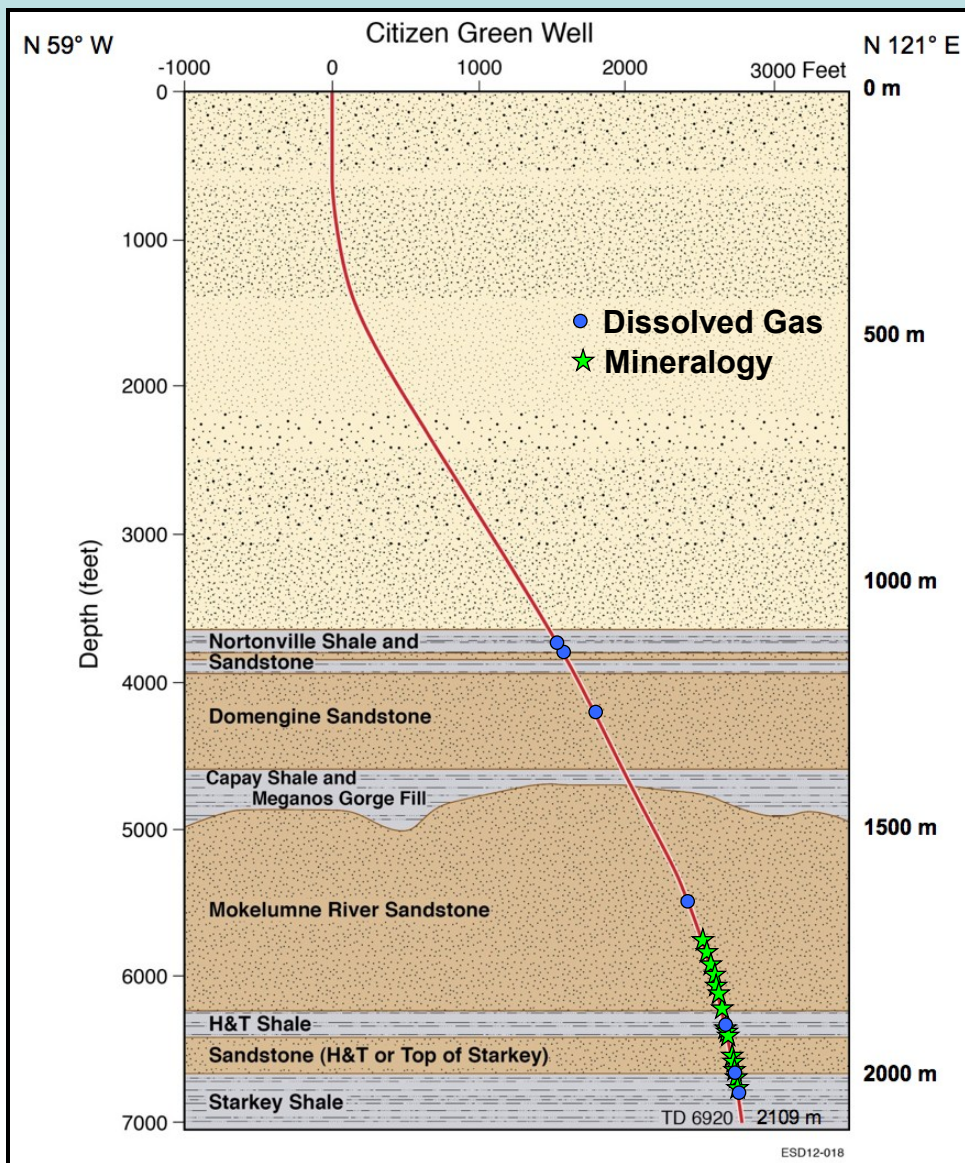
Earth Sciences Division, LBNL

WESTCARB Annual Business Meeting
Bakersfield, CA

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Mineralogy Samples - To help design CO₂ flood experiments for use with geochemical models of CO₂-rock interaction.

Polished thin sections were made from ends of sidewall cores competent enough to allow sectioning.

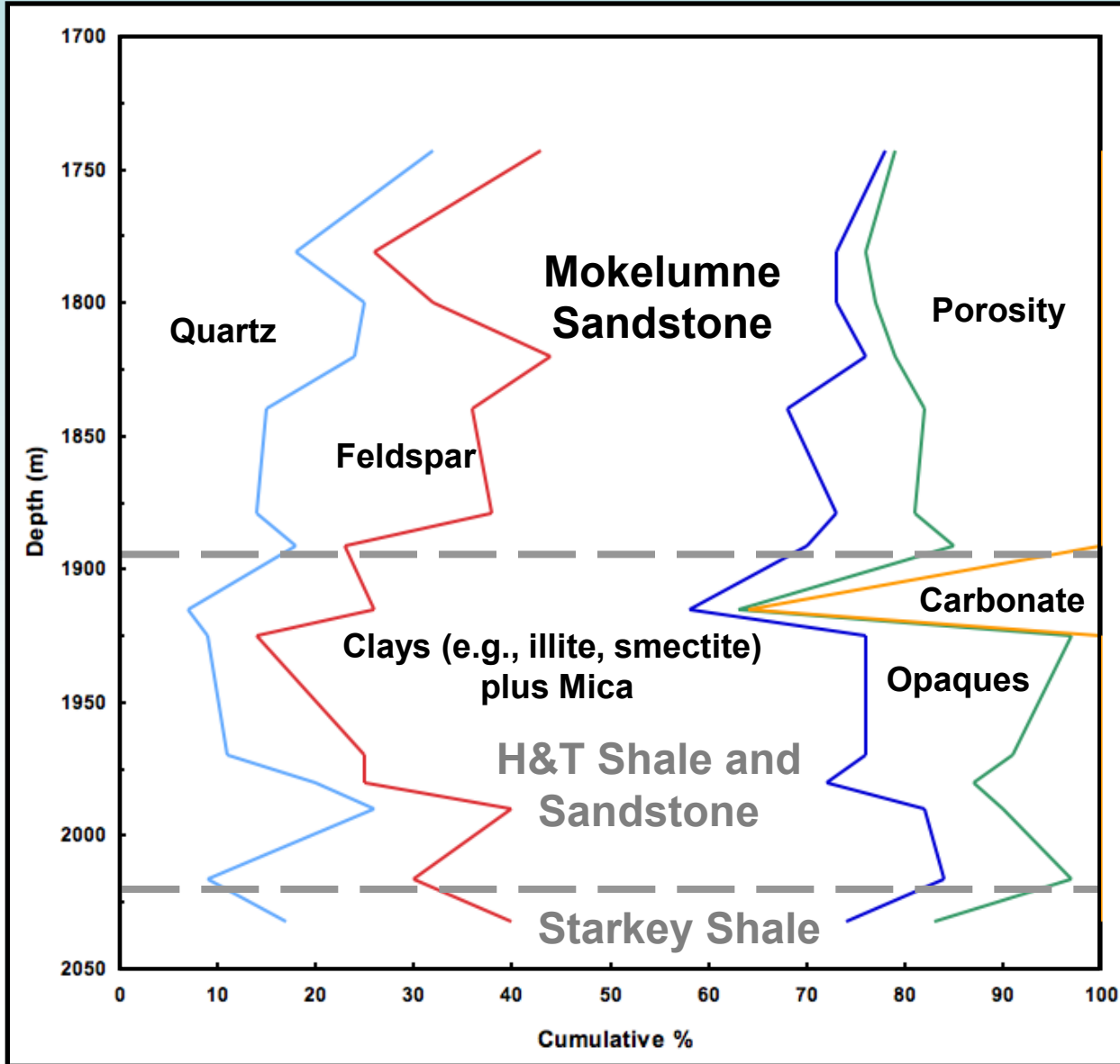
1. Point counts to determine mineral contents of sidewall cores. **Complete**
2. Electron microprobe analyses of select mineral phases to determine precise chemical composition of minerals. **Planned**

Dissolved Gas Samples - To determine gas chemistry of associated fluids to help inform models of water-rock interaction.

Core samples collected in canisters, evacuated and allowed to sit for 8 months to allow gas to diffuse out of cores.

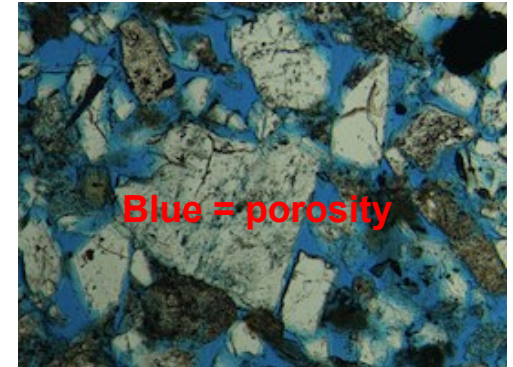
1. Noble gas isotopic compositions and concentrations. **Underway**
2. $\delta^{13}\text{C}$ and concentrations of CO₂ and C₁-C₅ alkanes. **CO₂ analyses complete, other analyses underway.**

Citizen Green Mineralogy

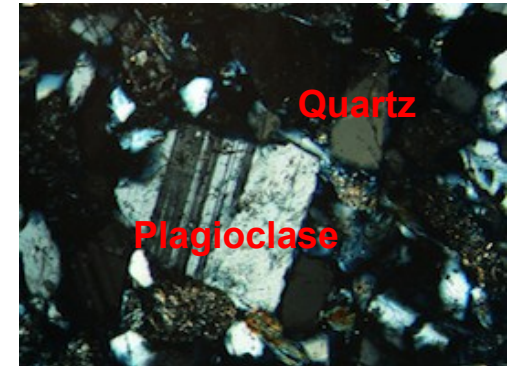


Mokelumne Sandstone 1762 m depth

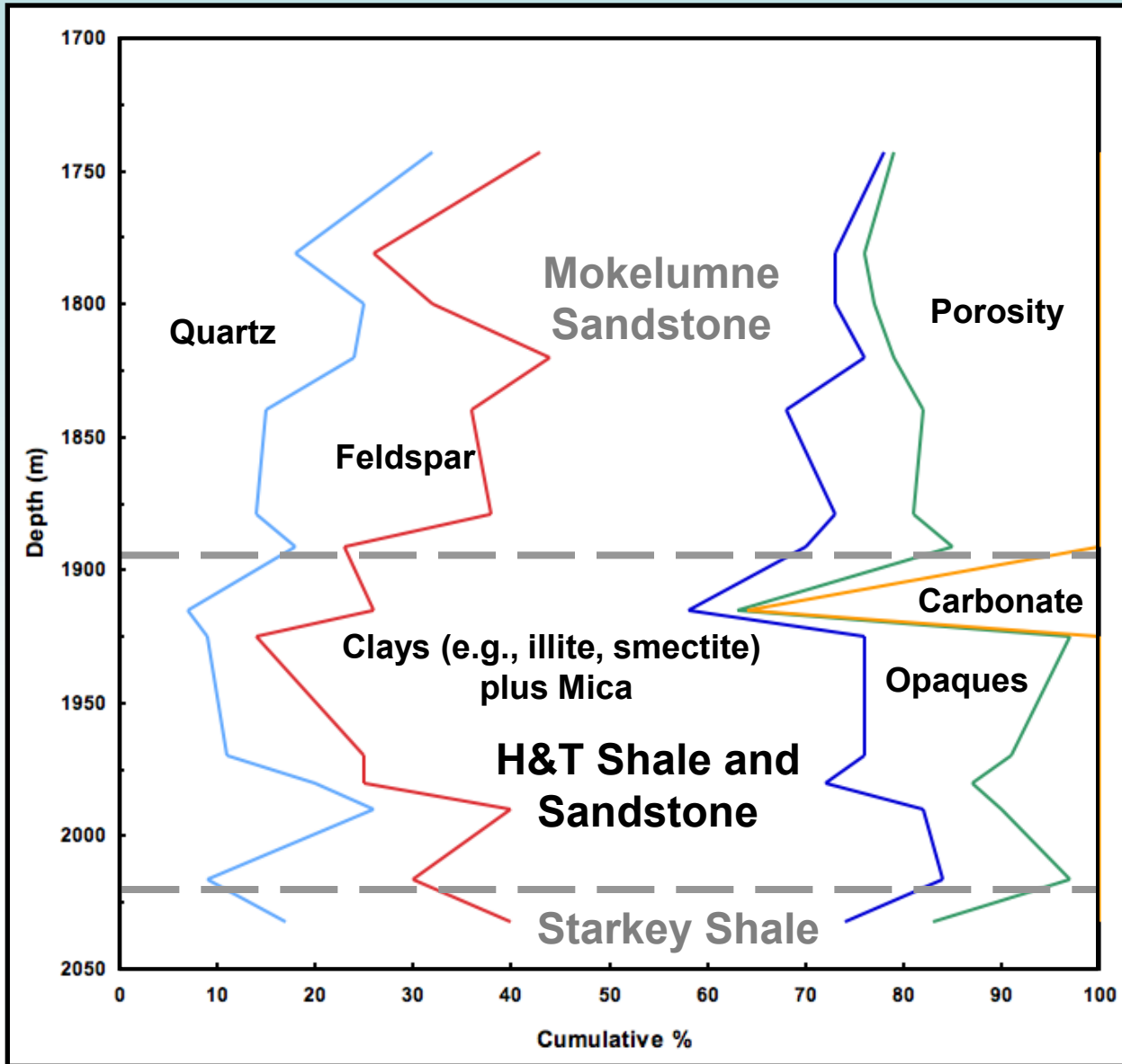
Plane-polarized light



Cross-polarized light

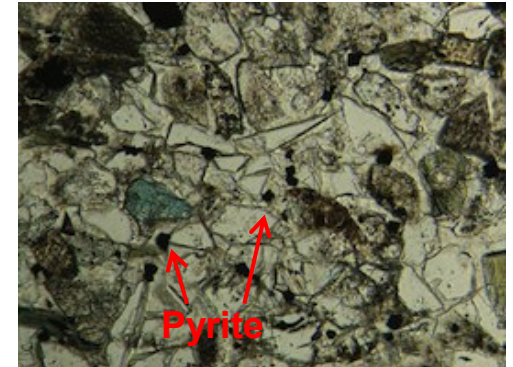


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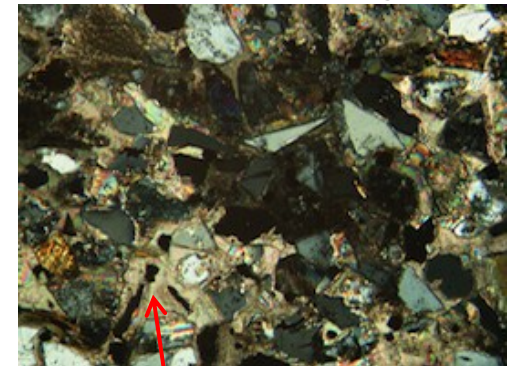


**H&T Sandstone
1915 m depth**

Plane-polarized light

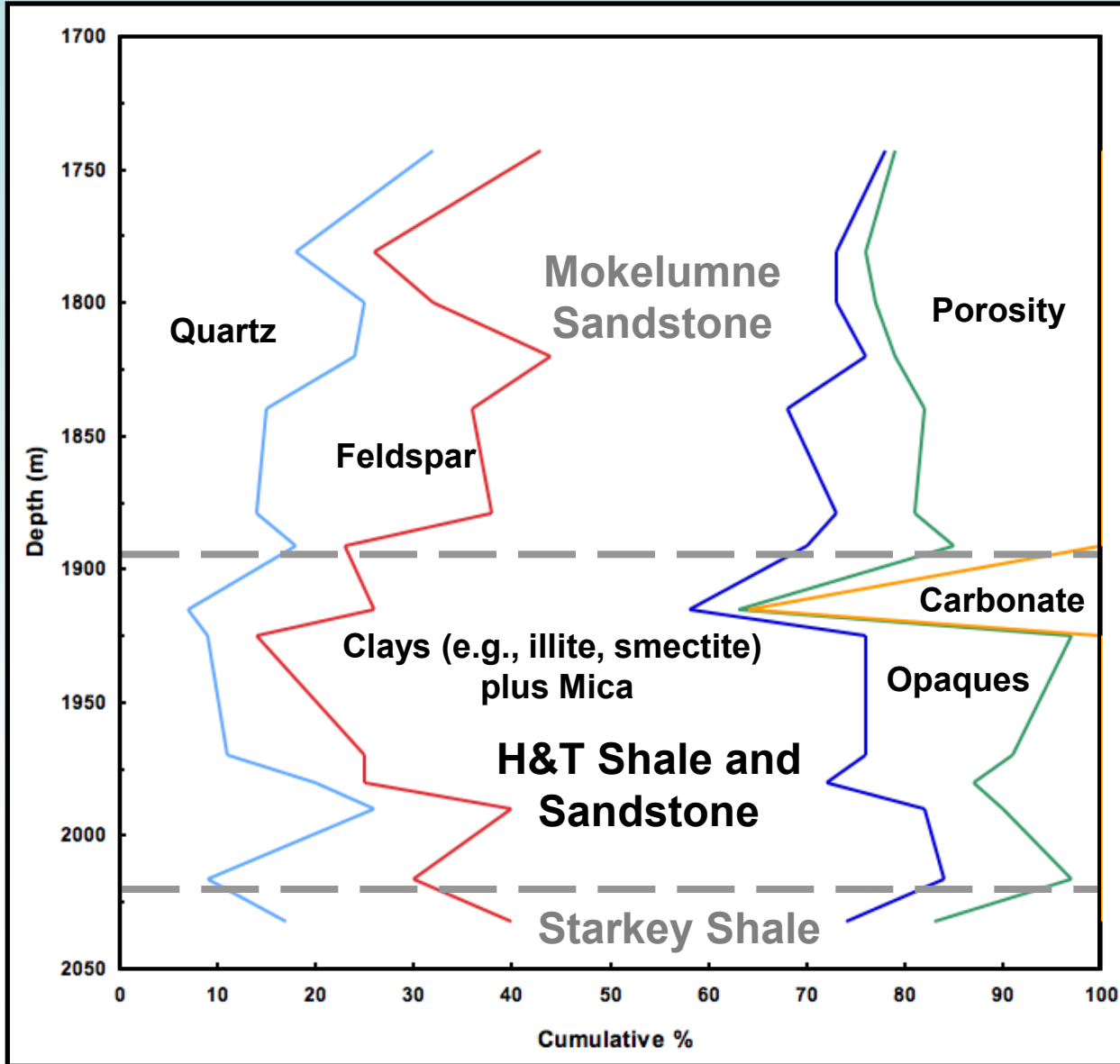


Cross-polarized light



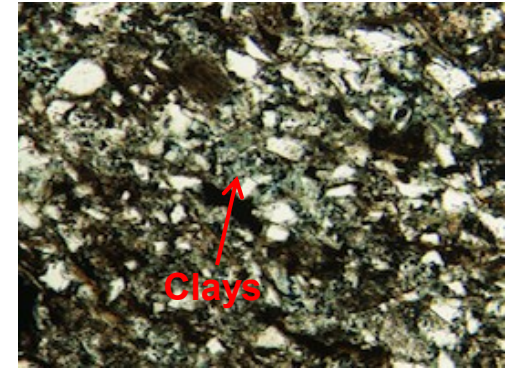
Carbonate cement

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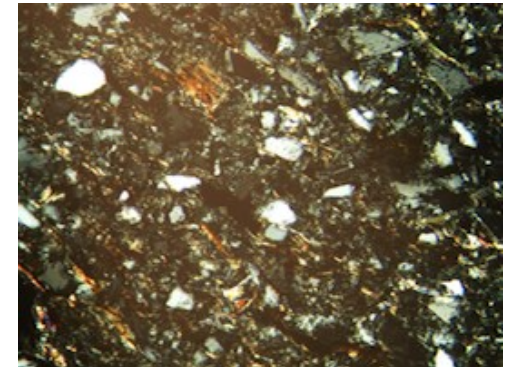


**H&T Shale
2016 m depth**

Plane-polarized light



Cross-polarized light



Carbon Isotope Composition of Dissolved CO₂

