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RECONSTRUCTING FIRE HISTORY FROM SOIL SEDIMENT SAMPLES NEAR A FREMONT SITE CONCENTRATION IN CHERRY MEADOWS, RANGE CREEK CANYON, UTAH.

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Range Creek Canyon, Utah is a unique research field station because of its well preserved Ancient Puebloan and Fremont archaeological sites; over five-hundred have been located and recorded so far. Cherry Meadows is a significant location within the canyon because of the high concentration of surrounding archaeological sites. It is level land adjacent to a year-round water source and may have been used for agricultural purposes during the Fremont occupation of the canyon between 900 - 1100 A.D.

In the summer of 2018, a 100 meter trench, 2 meters in depth, was dug in an east/west trajectory, perpendicular to the creek. Sediment cores were extracted at intervals along the southern edge of the trench. The sediment core for this research was taken at 95 meters. Additional cores taken at 22.5m, 50m, and 75m were also examined and tested. While of interest individually, data collected from each sample combined to provide a macroscopic charcoal analysis of fire history in the sediment in Cherry Meadows. Sediment cores serve as proxy for paleoclimate conditions and prehistoric agricultural land management practices. Additional multi-proxy analysis of each core includes Magnetic Susceptibility, X-Ray Fluorescence, and Loss on Ignition. Preliminary results show consistent charcoal stratification and morphology across the cores. The geochemical data supports the initial hypothesis that the Fremont used Cherry Meadows to irrigate maize during the period of occupation. This research contributes to the overarching data collection in Range Creek Canyon.