Introduction
Located in the Black Rock Desert-High Rock Canyon National Conservation Area, the Soldier Meadows Area of Critical Environmental Concern (ACEC) is an exemplary landscape given its unique hydrological, biological, and cultural features. This habitat centers on a network of hot and cold springs, outflows, creeks, and irrigation ditches harboring the vulnerable Desert Dace, cinquefoil, and snail species. Between 2013 and 2014, the BLM Black Rock Field Office directed Section 110 inventory at documenting cultural resources within this 2,077-acre ACEC (Orvald and Young 2015; Simpson 2015). Surface archaeology includes a near-continuous distribution of early- through late-Holocene flaked and ground stone accumulations as well as Emigrant Trail evidence, stage/freight corridors, and ranching infrastructure reflecting homestead- through corporate-scale land use.

Soldier Meadows History
Frémont first traversed the area in 1843 on his initial expedition through the western Great Basin. This resulted in the Applegate-Lassen Emigrant Trail by 1846, which brought waves of emigrants through the Soldier-Mud Meadows basin. By 1865, freight and stage trains crossed the basin after silver discoveries in Idaho. In 1865, the U.S. Army built Camp McGarry near Summit Lake to protect travelers. Severe winter conditions forced the camp to Soldier Meadows. After 1868, small ranches were operated by individuals who eventually sold out to the cattle barons Miller and Lux (Valentine 2005). Cattle ranching continues to this day.

Surface Archaeology
Archaeological investigation in the Soldier-Mud Meadows basin began in the 1970s with reconnaissance-level work followed by project-specific BLM surveys. Most recently, the Great Basin Institute and Far Western conducted systematic pedestrian surveys in the ACEC (Orvald and Young 2015; Simpson 2015). As a result of these inventories, which total 1,830 acres, 53 archaeological sites are documented within and adjacent to the ACEC. Several of these resources extend across large portions of the area. To date, 319 acres of the ACEC remain unsurveyed.

Prehistoric cultural resources span the Holocene and are primarily associated lithic reduction of local obsidian, FGV, and CCS; tool manufacturing; and milling activities. Historic-period resources include debris scatters, stackyard enclosures, corrals, roads, and a network of fencelines/ditches relating to ranching activities spanning the late 1800s through the 1950s. Emigrant-period activity is also represented by debris and metal wagon parts.

The variety of Paleoarchaic (12,800-7800 cal BP) through Late Archaic (1300-600 cal BP) artifacts identified in the ACEC, including crescents and stemmed points; Northern Side-notched points; Humboldt, Gatecliff, Elko, and Rosegate points, suggests human occupation spanning a period of 11,000 years. Ground stone is common and includes milling slabs, handstones, pestles, and conical mortars. In general, the period of greatest occupation in the study area falls within the Middle through Late Archaic periods (3800-600 cal BP). Curiously, the Terminal Prehistoric Period (600 cal BP to Contact) is barely represented in current inventory results.

Applegate Trail Investigation
An element of Far Western’s work in the ACEC included inspection of an area of Mud Meadow, known as the “Emigrant Camping Area” with the intention of identifying a trace of the Applegate Trail (Buck 2013). The trail is neither mapped nor apparent within the ACEC; however, traces are documented near the reservoir south of the ACEC and west of it along Fly Canyon (Brock and Buck 2004; McGuckian 1995). Intensive survey entailed metal detector and close-interval visual inspection along a 300-meter segment of a linear signature.

While metal detection failed to identify any artifacts, surface inspection located a small scatter of iron, glass, and ceramic artifacts. These items, which include “black glass”, stoneew, three iron wagon wheel hub elements, and a wagon fitting suggestive of emigrant-trail-period activity. Peggy McGuckian Jones (1980) documented black glass fragments along a trail trace on the east end of Fly Canyon east of Mud Meadow. Future efforts may reveal additional artifacts and features indicative of emigrant activity.

Conclusion
The BLM designated this ACEC to protect rare biota and cultural resources. Soldier Meadows is a spring-fed wetland inhabited by fish, cinquefoil, and spring snails that do not live anywhere else. An understanding of the archaeological record in the ACEC will allow for long-term adaptive management, conserve the landscape’s humanistic values for descendant communities, provide a resource for problem-oriented research, and help the BLM conserve this unique setting.

The archaeological research described above provides critical data to assist in management of the area. As additional areas are inventoried, the BLM may be able to delineate a portion of this landscape (one that may extend beyond the ACEC) for designation as an archaeological district. Such a designation would highlight the archaeological value of the area and facilitate the implementation of additional management protections. As a whole, the Soldier Meadows-Mud Meadows basin and the ACEC offer a unique opportunity for cultural and natural resource conservation as an archaeological and an ecological preserve.

Literature Cited
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