


United States Nuclear Regulatory Commission Official Hearing Exhibit	
In the Matter of: POWERTECH USA, INC. (Dewey-Burdock In Situ Uranium Recovery Facility)	
	ASLBP #: 10-898-02-MLA-BD01
	Docket #: 04009075
	Exhibit #: NRC-178-00-BD01
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	Identified: 8/28/2019
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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of  
  
POWERTECH USA, INC.  
  
(Dewey-Burdock  
In Situ Uranium Recovery Facility)

Docket No. 40-9075-MLA

ASLBP No. 10-898-02-MLA-BD01

Hearing Exhibit

Exhibit Number:

Exhibit Title:

## JERRY SPANGLER

<b>PROPOSED ROLE</b>	Senior Technical Reviewer	<b>COMMITMENT</b>	75%
<b>EDUCATION</b>	<ul style="list-style-type: none"> <li>• M.S., Anthropology, Brigham Young University, 1993</li> </ul>		
<b>PROFESSIONAL EXPERIENCE</b>	<ul style="list-style-type: none"> <li>• 2014–present: SC&amp;A, INC.: Associate</li> <li>• 2005–Present: COLORADO PLATEAU ARCHAEOLOGICAL ALLIANCE: Executive Director</li> <li>• 1995–Present : UINTA RESEARCH: Owner and Principal Investigator</li> </ul>		

### SUMMARY OF PROFESSIONAL ACCOMPLISHMENTS

Jerry D. Spangler is a registered professional archaeologist and currently holds statewide archaeological permits issued by the State of Utah and the U.S. Bureau of Land Management (BLM). Mr. Spangler has extensive experience developing and implementing Programmatic Agreements (PAs) and collaborating with government, industry, conservation, and educational interests to develop strategies for the protection and preservation of historic properties through the Section 106 and 110 processes and through proactive measures outside the mandates of government regulations.

### SELECTED PROJECTS

- Worked with the Lakota Oglala Sioux Tribes in the late 1990s and early 2000s, related to archaeological-ethnographic research on maize farming by highly mobile bison hunters who arrived in the Missouri River Country in the 15th century from their ancestral homelands in the Ohio Valley. During the course of this research, interviewed Tribal elders and Tribal historians of various Siouan-speaking Tribes about their oral traditions as to the importance (or lack thereof) of domesticated food crops, and how high-cost farming might be compatible with high-mobility bison hunting. Those interviewed included Siouan-speaking Mandan and Hidatsa Tribal members in North Dakota and Sioux Tribal members living at that time at the Pine Ridge Agency in South Dakota. Results of this research published in “Paradigms and Perspectives Revisited: An Updated Class I Overview of Cultural Resources in the Uinta Basin,” Bureau of Land Management Cultural Resource Series (2002).
- Conducted a long-term research project with the Grand Staircase-Escalante National Monument to perform baseline inventories and assessments of adverse anthropogenic impacts in the Paria River corridor and the Kaiparowits Plateau and Johnson Canyon areas (2011 –2018). Collaborating partner with the Monument to assist and advise as to its Section 106 and 110 responsibilities under terms of an Assistance Agreement with BLM (2009–present). Past member of Monument Advisory Committee.
- Lead researcher in an effort to use historic photographs (1928–1932) to identify legacy sites and determine the nature and extent of adverse impacts on archaeological sites over the past 80 years, in collaboration with the Peabody Museum at Harvard University and others (2006–2018). Findings were published by University of Utah Press in 2018.
- Collaborating with BLM and conservationists to resolve a legal dispute over off-highway vehicle routes and damage to cultural resources, to bring BLM into compliance with Section 106 under a Federal court order. Synthesized a vast amount of complex data to analyze vehicle impacts to archaeological sites along more than 600 miles of disputed dirt roads in southern Utah.
- Lead negotiator on behalf of the Southern Utah Wilderness Alliance to settle an appeal of BLM’s authorization of a Jeep Safari without adequate Section 106 compliance. Currently developing an implementation plan to ensure phased compliance (2012–present).
- With input from the Hopi Tribe, provided detailed Section 106 analysis on six regional Resource Management Plans and Travel Management Plans (five in UT and one in CO).

- Collaborating with BLM to refine NEPA alternatives to cultural resource management under the Moab Master Leading Plan, and to implement a formal consulting party process (2015–2017).
- Helped develop model language for the National Historic Preservation Act Responsibilities for Small-Scale Undertakings Statewide PA and the Arizona-Utah Off-Road Vehicle Management Plan for Glen Canyon National Recreation Area PA. Working with BLM to develop model language for a Utah statewide Travel Management PA and Fire Rehabilitation PA. Travel PA support includes development of a phased implementation plan for full Section 106 compliance (2014–present).
- Collaborated with industry (Bill Barrett Corporation) and BLM to develop and implement the West Tavaputs Plateau PA for oil and gas development. Organized and facilitated a teleconference of consulting parties concerned that BLM was not complying the PA and is now working with BLM to resolve consulting party concerns (2010–present).
- Developed, wrote and implemented (after peer review) testing plans for three sites adversely affected by construction of the Wide Hollow Reservoir Project, on behalf of the U.S. Army Corps of Engineers. Developed and implemented the first phase of data recovery plans for one of those sites, a massive Archaic and Formative residential site (2011–2013; reported in 2015).
- Developed, wrote and implemented testing and data recovery plans for three high-elevation Archaic camp sites and one historic cabin in the Buckskin area of the West Tavaputs Plateau (2010–2012).
- Organized and facilitated a public meeting for more than 300 citizens concerned about the management of archaeological resources in the Canyonlands region.
- Organized meetings in Washington, DC, with the Department of Interior, Department of Agriculture, National Park Service, and Council on Environmental Quality to discuss the management of cultural resources in the West and to seek Administration support for special management designations.
- Organized and facilitated annual public outreach events in Nine Mile Canyon to highlight landmark collaborations between conservationists and industry to protect world-class rock art sites. More than a dozen statewide and regional news outlets regularly participate.
- Provided expertise to the Bill Barrett Corporation to resolve conflicts with preservationists seeking to litigate. Efforts resulted in the largest voluntary commitment to archaeological preservation in Utah history.
- Provided expertise to The Wilderness Society to address Section 106 concerns in the Red Cliff National Conservation Area. The research, conducted in collaboration with BLM, provided baseline data to allow land managers to evaluate proposals to construct new highways in the area. Efforts to protect Red Cliffs NCA for multiple uses is ongoing with additional projects planned for 2019.
- For the National Trust for Historic Preservation, synthesized cultural resource data and analyzed potential adverse effects to more than 1,000 sites to support the proposed designation of Bears Ears National Monument.
- For the BLM Moab Field Office, developed a treatment plan for prehistoric quarry sites adversely affected by the Marathon Oil pipeline project. Working in cooperation with the cultural resources management contractor to apply new and innovative approaches to quantitative analysis.
- Working with a Northern Ute representative to identify cultural properties of Tribal significance that are at risk of degradation due to recreation, oil/gas development, and looting (2012–present).
- Working with the Navajo Nation, Hopi Tribe, and others to provide cultural resource arguments in support of proposals for national monuments at Dine' Bikeyah, Cedar Mesa, and the Greater Canyonlands (2014–2017). Currently working with Utes and Navajo interests to protect the Bears Ears National Monument from being diminished.

- Worked with the Hopi Cultural Preservation Office to protect ancient Hisatsinom shrines threatened by oil/gas development in Utah's White River area when BLM dismissed the shrines as insignificant.
- Worked informally with the Hopi Cultural Preservation Office to ensure sacred items discovered in Arch Canyon were properly recovered and repatriated, and that BLM more aggressively engage the tribe in Section 106 consultation to resolve adverse effects in Arch Canyon (2008–2010).
- Provided expert Section 106 advice to the Wampanoag Tribe of Gay Head, Narragansett Indian Tribe, Mohegan Tribe, and Mashantucket Pequot Tribal Nation (through the Narragansett Tribal Historic Preservation Office) that prompted the Federal Energy Regulatory Commission to implement more robust Section 106 consultation with the tribes (2015 to 2017), as consultant to tribal coalition representative Rebecca Wetzel.
- For the National Trust for Historic Preservation and the Nine Mile Canyon Coalition, prepared the nomination for the Nine Mile Canyon National Register District, and for the National Trust and the Utah Division of State History, prepared the nomination for the Range Creek Canyon National Register District, both encompassing approximately 100,000 acres in eastern Utah. More than 300 of these sites have now been listed on the National Register.
- Implemented an overview of grazing practices in the West, especially when it involves remarkable landscapes, and to engage public lands stakeholders (ranchers) in a public recognition of traditional land-use practices and involve them in proactive grazing reforms to ensure continued traditional uses. The results of these efforts will be published in 2019 under the title "Beauty and the Beasts" by the U.S. Government and affiliated scholarly press (TBD).
- Assisted the Arizona BLM to identify proactive land management strategies for Vermilion Cliffs National Monument and Parashant National Monument, as well as other special management areas, in fulfillment of the agency's Section 110 responsibilities (2017 to present).

## RELEVANCE TO THE TASK ORDER STATEMENT OF WORK

For the past decade, Mr. Spangler has been immersed in all facets of Section 106, from initial data collection and analysis (Class I, Class II, and Class III) to the final preparation of National Register documentations and monitoring of historic properties for their continued preservation. He has spent countless hours reviewing Section 106 documents and eligibility recommendations, developing and commenting on PAs, and working with others entities, including Tribes, in the preparation of formal comments on plans to avoid, minimize, or mitigate adverse effects in facilitating Section 106 consultations, and interacting with tribes, as shown in the projects in his resume, is directly relevant to this task order:

- Secretary of the Interior Standards: Mr. Spangler meets or exceeds all the standards established by the National Park Service for minimum professional qualifications and for archaeology and historic preservation. Currently working collaboratively with private entities, consulting parties, and government, Mr. Spangler has devoted the past 25 years to archaeological research and public outreach with the express purpose of furthering the protection and preservation of cultural resources in the western United States and fostering greater public awareness of tribal interests, perspectives, and concerns. He is a recognized expert on prehistoric peoples of the northern Colorado Plateau and has published widely in peer-reviewed journals, monographs and books. Significant experience as a nongovernmental organization reviewing Section 106 inventory reports, testing plans, data recovery plans, assessments of direct and indirect adverse effects to historic properties, and plans to avoid, minimize and/or mitigate those adverse effects.
- Facilitation: Brings a collaborative approach to conflict resolution based on a firm belief that development interests and conservation interests can be compatible. Ten years of experience facilitating scores of site visits to educate industry/development officials on how best to avoid adverse effects and avoid conflict with interested parties (e.g., conservationists, tribes, historic preservationists).
- NHPA Section 106 consultation: Recognized expert on Section 106 compliance issues, sought consistently by business interests, government agencies, tribes, and conservationists. Heavily involved in Section 106 meetings and site visits, usually as an expert consulting party that is versed in the Section 106 process and the specific details of the cultural resources at risk. Planned, coordinated, and facilitated dozens of unofficial meetings and teleconferences with consulting parties and project proponents to resolve conflicts outside the more-formal context of Section 106 consultation, resulting in greater trust and respect among parties otherwise at odds.
- Interactions with tribes: Mr. Spangler has experience working in close collaboration with Native American tribes (primarily Northern Ute, Southern Paiute, Hopi, and occasionally Navajo) to ensure tribal interests are adequately represented in the consulting party process, and that the voice of cultural resource preservation is consistent with tribal interests. This process also involves working with federal agencies to encourage more robust consultation with the tribes.
- Technical reviewer: Mr. Spangler is a recognized expert in writing eligibility recommendations, reviewing and commenting on eligibility recommendations of others, and working with state historic preservation offices to resolve differences on those recommendations. Mr. Spangler has also expertise in analyzing, reviewing, and commenting on adverse effects, as defined in 36 CFR Part 800. He has reviewed scores of plans to avoid, minimize, or mitigate adverse effects to significant historic properties. Mr. Spangler has reviewed dozens of major Cultural Resources Management Class III reports for technical completeness, the professional standards applied, and efficacy of the method and theory. As a principal investigator, he has also prepared countless fieldwork reports that met this same standard.

## TEACHING EXPERIENCE, SELECTED PUBLICATIONS, AND LECTURES

### **1. Teaching Experience:**

2008-2012 – Associate instructor, The Archaeology of Utah, Osher Institute, University of Utah.

2002-2006 – Project coordinator for the Range Creek Archaeological Project, a cost-sharing endeavor with the Utah Museum of Natural History, the University of Utah, College of Eastern Utah, Salt Lake Community College and others.

1994-2007 – Adjunct instructor, College of Eastern Utah, Price, Utah. “The Archaeology of the Northern Colorado Plateau” and “Introduction to Archaeological Survey.”

1990 to present – Volunteer instructor/lecturer to various chapters of the Utah Statewide Archaeological Society, the Utah Rock Art Research Association, the Colorado Historical Society, the Colorado Archaeological Society and other community and school groups.

### **2. Major Publications and Monographs**

2018 – Hisatsinom of the High Plateaus. Grand Staircase-Escalante National Monument Cultural Resource Series (in press).

2018 – The Crimson Cowboys: The Remarkable Odyssey of the 1931 Claflin Emerson Expedition to Eastern Utah. University of Utah Press, Salt Lake City. Winner of the prestigious Don D. and Catherine Fowler Book Award.

2017 – Beauty and the Beasts: A History of Livestock Grazing in Southern Utah. Grand Staircase-Escalante National Monument Cultural Resource Series (in press).

2017 – Short Creek Serenade: Class III Inventories on Lost Spring Mountain near Colorado City, Arizona. Colorado Plateau Archaeological Alliance, Ogden, Utah. Report on file, Arizona Strip Field Office, Bureau of Land Management, St. George, Utah.

2017 – Snap Shot: Class III Inventory in Lower Snap Draw, Grand Canyon-Parashant National Monument. Colorado Plateau Archaeological alliance, Ogden, Utah. Report on file, Arizona Strip Field Office, Bureau of Land Management, St. George, Utah.

2016 – Last Chance Byway: A History of Nine Mile Canyon. University of Utah Press, Salt Lake City. Winner of the Clarence Dixon Taylor Book Award.

2016 – Fire on the Mountain: Class III Inventories in the Lake Canyon Area, Kaiparowits Plateau, Kane County, Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2016 – From Meadow to Mesa: Class III Inventories in the Meadow Canyon Area in the Grand Staircase, Kane County, Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2014 – The Flat Canyon Archaeological Project: Report of 2013 Investigations in Desolation Canyon, Carbon County, Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2014 -- The Devil's Due: Class III Cultural Resources Inventory in the Devils Canyon area of Nine Mile Canyon, Carbon County, Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2013 – Devil's Playground: Site Documentation and Comparative Analysis of 42Cb3162 With Complete 1931 Claflin Emerson Expedition Field Notes. Colorado Plateau Archaeological Alliance, Ogden, Utah.



2013 – Two Block Surveys in the Rock House Bottom and Long Bottom Areas, Green River Corridor, Desolation Canyon National Historic Landmark. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2013 – Dart Points, Dugways, and Life on the Northern Fringe of the St. George Basin: A Class III Cultural Resource Inventory in the T Bone Hill and Black Gulch Areas of the Red Cliffs National Conservation Area, Washington County, Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah

2013 – Nine Mile Canyon: The Archaeological History of an American Treasure. University of Utah Press, Salt Lake City.

2012 – The Archaeology of Desolation Canyon, Utah. In *An Archaeological Legacy: Essays in Honor of Ray T. Matheny*, edited by Deanne G. Matheny, Joel C. Janetski and Glenna Nielsen, pp. 99-124. Occasional Paper No. 13, Museum of Peoples and Cultures, Brigham Young University, Provo, Utah.

2012 – Risky Business: Farming and Travel in the Upper Paria River Corridor (lead author). Colorado Plateau Archaeological Alliance, Ogden, Utah.

2012 – Fremont, Freighters and Flagpoles: An Archaeological Inventory of the North Side of Nine Mile Canyon Between Gate Canyon and Pete's Canyon. Ogden: Colorado Plateau Archaeological Alliance, 2012.

2012 – "Samuel H. Gilson." *Outlaw Trail Journal* (Summer 2012): 43-52.

2012 – The Upper Fringe: Archaeological Inventory in Upper Nine Mile Canyon, Carbon County, Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2012 – Preliminary Report on Two Block Surveys in the Steer Ridge Canyon and Lower Range Creek Areas, Desolation-Gray Canyon Corridor, Eastern Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2011 -- Formal Site Documentation and Analysis of Visitor Impacts at Warrior Ridge (42Dc1), Duchesne County, Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2011 -- Of Owls and Cranes: A Cultural Resource Inventory of Section 35, Township 11 South, Range 14 East, Middle Nine Mile Canyon, Duchesne County, Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2011 -- The Pete's Canyon Complex: Formal site Documentation and Analysis of Visitor Impacts in Nine Mile Canyon, Duchesne County, Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2011 -- 2009 Test Excavations at Fish Creek Cove (42Wn503): Revisiting the Legacy of Noel Morss and the Peabody Museum Investigations of 1928. Colorado Plateau Archaeological Alliance, Ogden, Utah.

2011 -- The Nutter Ranch Project: Investigations in the Gate Canyon Area of Nine Mile Canyon, Duchesne County, Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah (in prep.)

2011 – Nine Mile, Minnie Maud and the Mystery of a Place Name. *Utah Historical Quarterly* 79(1):42-51.

2010 -- Cultural Resources Inventories Along OHV Routes in Kane, Wayne, and San Juan Counties, Southern Utah. Colorado Plateau Archaeological Alliance, Ogden, Utah.

### **3. Invited Lectures:**

2002 -- Categories, Conundrums and Radiocarbon Dates: Temporal Perspective for the Northern Colorado Plateau. Paper presented at the 63rd annual meeting of the Society for American Archaeology, Denver, Colorado.

2002 -- Living on the Edge: Late Formative Storage Strategies and Their Implication for Societal Conflict. Paper presented at the Great Basin Anthropological Conference, Elko, Nevada.

1997 -- Invited lecture, "Reinterpreting Chronological Sequences on the Northern Colorado Plateau," Utah Humanities Council/ Brigham Young University Symposium, Provo, Utah.

1995 -- Old Paradigms and New Perspectives: A Reinterpretation of Cultural Chronology in the Uinta Basin. Paper presented at the Rocky Mountain Anthropological Conference, Steamboat Springs, Colorado.

1994 -- One Pot Pithouses and Fremont Paradoxes: A Case for Itinerant Aceramic Fremont Horticulture in Northeastern Utah. Paper presented at the Great Basin Anthropological Conference, Elko, Nevada.

1993 -- Site Distribution in Lower Nine Mile Canyon. Paper presented at the Rocky Mountain Anthropological Conference, Jackson, Wyoming.

1993 -- The Tavaputs Adaptation: Additional Evidence for Cultural Variability Among Formative Peoples of the Northern Colorado Plateau. Paper presented at the Rocky Mountain Anthropological Conference, Jackson, Wyoming.