

**BEFORE THE STATE OF SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES
BOARD OF MINERALS AND ENVIRONMENT**

IN THE MATTER OF CLEAN NUCLEAR	)
ENERGY CORP. URANIUM EXPLORATION	)
PERMIT APPLICATION	)
	)
EXNI 453	)
	)

**Intervenor Great Plains Tribal Water Alliance, Inc. Disclosure of Experts
Joined by Intervenor Susan McPhail Pang**

Intervenor the Great Plains Tribal Water Alliance, Inc., joined by intervenor Susan McPhail Pang, hereby disclose the expert witnesses to testify at the contested case hearing in this matter:

Timothy Mentz, Sr. – Expert in the identification and evaluation of traditional cultural properties. Contact information: Makoce Wowapi, Inc., Post Office Box 492 Fort Yates, North Dakota 58538

Joni K. Tobacco – Expert in traditional practices of subsistence gathering, traditional ecological knowledge and hydrology. Contact information: Post Office Box 119 Keystone, South Dakota 57751

Michael P. Gutzmer, PhD. – Expert in wildlife surveying and identifying the existence of species, including northern long erred bats. Contact information: New Century Environmental LLC, 20717 West Rattler Road Buckeye, Arizona 85396

Kurt Tooley – Expert in wildlife surveying and identifying the existence of species, including northern long erred bats. Contact information: New Century Environmental, LLC, 678 S. Red Fox Lane Columbus, Nebraska 68601

The resumes/CVs or Statement of Qualifications of the above experts are attached, and filed herewith.

Dated this 14th day of October 2025

By: Chase Iron Eyes
Chase Iron Eyes
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Pro hac vice pending

Susan McPhail Pang
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Tim Mentz Sr.

Pa Baksa Ihunktowana Dakota/Hunkpapa Lakota
PO Box 492
Fort Yates, ND 58538
timmentzsr@gmail.com

I'm a strong supporter of our culture, our heritage and have been a lifelong participant in the spiritual movement of preserving and documenting sacred areas of the Great Plains of the Lakota/Dakota/Nakota bands of the Great Sioux Nation.

Graduated from Standing Rock High School 1972;

Attended Sacramento Voc-Tech School 1973-1975 in Welding;

Director of Office of Native Americans Program 1976-1979;

Truck Driver for Food Distribution Program 1980-1991;

Member Great Plains Reburial/Sacred Sites Committee for Amendments to National Historic Preservation Act of 1966;

Member of Great Plains Coalition of North Dakota Tribes on Human Remains and Reburial 1985-1991 to draft a Reburial law;

Assisted in the reburial of all human remains in North Dakota Heritage Center 1985;

Founding Member of the North Dakota Intertribal Re-internment Committee 1990;

Assisted in codifying a new section in the North Dakota Century Code on Reburial 1990;

Participated in the 1992 Amendments to the National Historic Preservation Act of 1966, as a member of the Standing Rock Sioux tribe Tribal Council

Elected At Large Member Standing Rock Tribal Council; 1991-1995

- 1991-1993 Secretary Economics Committee;
- 1993-1995 Secretary for Health, Education and Welfare Committee;
- Black Hills Sioux Nation Treaty Council Member 1991-1995;
- 1992 Provided Testimony in Hearings with Senate Indian Affairs Committee and House Natural Resources Committee on 1992 Amendments to NHPA;
- Participated in the development of the 1992 Amendments to the National Historic Preservation Act of 1966;
- Member North Dakota Inter-tribal Reinternment Committee 1991-Present

Standing Rock Sioux Tribe NAGPRA Representative; 1991-2008

- 1992-1995 provided testimony to Senate Select Committee on Indian Affairs Field Hearing on regulations to NAGPRA;
- Repatriation and reburial of 438 human remains from the State Historical Society of ND and ACOE lands;

Standing Rock Sioux Tribe Tribal Historic Preservation Officer; 1996-2008

- Established the first certified Tribal Historic Preservation Office (THPO) and was the first Tribal Historic Preservation Officer in the Nation on August 14, 1996;
- Black Hills Sioux Nation Treaty/Council Member 1992-2000;

- Co-Authored the Standing Rock Cultural Resource Code adopted 1998;
- Co-Authored the Paleontology Code adopted 2007;
- In 2005 the Standing Rock Sioux Tribe THPO's Tribal Monitors program was recognized and award High Honors by *Honoring Contributions in the Governance of American Indian Nations*. The award is administered by the Harvard Project on American Indian Economic Development at Harvard's Kennedy School of Business;
- Assisted 11 Tribes throughout the Great Plains in establishing THPO offices;

Member Standing Rock Sioux Tribe Water Control Board; 2008 – Present

Elected Long Soldier District Chairman; 2005-2009

DBA-Makoche Wowapi, [Environmental/Cultural Resource] Mentz-Wilson Consultants, LLP; 2009-present

Established an LLC in April 2009 to assist Great Plains Tribes in: the identification, evaluation, preservation; and protection of sacred places and sites and the administration of their cultural resource programs.

Projects:

2010:

- Traditional Cultural Properties Survey For "Orca Federal 1-23-26H Well Pad," Mountrail County, North Dakota, August 2010;
- TZ Survey Report of 200 Acres Management Area September 2010; Sponsor Sisseton-Wahpeton Dakota Nation;
- Traditional Cultural Properties Survey Browns Valley Floodway and Diversion Dam Project, Army Corps of Engineers, Sisseton-Wahpeton Dakota Nation, Roberts County, South Dakota

2011:

- Ashley Wind Energy Project: CPV Ashley Renewable Energy Company, LLC, Emmons County, North Dakota, May 2011;

2012:

- Williston By-Pass Federal Highway Alternate Road Project, TCP Survey for Alternative A, B, C, D, Routes, Williams County, North Dakota;

2013:

- Basin Electric Power Transmission Antelope Station to Charlie Creek, Oliver-Dunn Counties, North Dakota Phase I;

2014:

- WBI Energy Transmission Natural Gas Pipeline Project, Lamoure, Logan, Emmons County, North Dakota;

Joni K. Tobacco

P.O. Box 119, Keystone, South Dakota 57751 • jktobacco@gmail.com • (605)944-1079

Education

Salish Kootenai College:

Master of Science – Natural Resources Management, March 2026 (expected)

Bachelors of Science – Hydrology 2023, Forestry 2025

Certificate – Geographic Information Systems – June 2022

Oglala Lakota College:

Associate of Arts – Science, Engineering & Math – 2011

Columbia University, Institute for the Study of Human Rights, Indigenous Peoples' Rights Program and International Indigenous Women's Forum:

Certificate – Global Leadership School of Indigenous Women, Program on Human Rights and International Advocacy Skills “Indigenous Women Leaders at Columbia” – February 2021 to November 2021

Experience

Fraser Experimental Forest, Rocky Mountain Research Station – September 2023 to Present

Fraser, Colorado

Hydrologist

Surveyed fluvial mass destruction following wildfire on Sulphur District. Effect on native plants following fire and fluvial disturbance on Sulphur District. Weather station design and deployment at Fraser Experimental Forest and Black Hills Experimental Forest. Weather station data acquisition, manual data download, and perform quality assurance and quality control on data. Weather station instrument assessment, maintenance, and replacement. Remote digital camera time series configuration and deployment. Electric fence installation and maintenance.

Oglala Sioux Tribe Natural Resources Regulatory Agency – March 2007-2012 and January 2016 – January 2018

Pine Ridge, South Dakota

Water Administrator- June 2017 to January 2018, May 2008 to March 2012

Managed the P.L. 638 Water Resources Management contract between U.S. Bureau of Indian Affairs and Oglala Sioux Tribe. Developed and implemented groundwater level monitoring network for the Pine Ridge Indian Reservation. Developed proposals for

surface-water monitoring network and groundwater model for the water resources of the Oglala Sioux Tribe. Implemented water permit program for diversions of water for agricultural, municipal, and industrial water uses. Developed protections for wetlands, fish and wildlife habitat, and culturally significant plant and animal species. Prepared Tribal Water Resources Management Plan and Pine Ridge Irrigable Soils map. Compiled GPS coordinates of well locations using Trimble and Garmin hardware and related software into a categorized groundwater inventory. Reviewed federal, state, and private project proposals for potential impacts to the Pine Ridge Reservation environment. Prepared and delivered comments at public hearings and in meetings with developers. Provided hydrographic GIS data to Tribal departments and Oglala Lakota College. Organized public outreach events at local schools, Treaty Council meetings, health fairs, pow wows, etc. Prepared and disseminated culturally relevant natural and water resource conservation and protection literature.

Natural Resources Specialist – January 2016 to June 2017

Technical support for forestry, minerals, and water resources management on the Pine Ridge Reservation. Performed data collection and analysis for annual reporting, and geospatial data management for all reservation natural resources data. Advised department management and Tribal leadership on issues relating to natural resources protection and development as part of the environmental review process. Networked with Tribal natural resources managers and leaders on environmental issues of local, regional, and national significance. Oversaw the development of the Natural Resources Development strategic plan. Assisted with the revisions of the forest cover type shapefile. Integrated traditional Lakota cultural uses of forest resources into the timber permitting process to improve forest health conditions and reduce hazardous fuels.

Oglala Sioux Tribe Cultural Affairs & Historic Preservation

Kyle, SD

Project Review Specialist – September 2014 - January 2016

Reviewed archaeological surveys of federally funded development projects for compliance with the National Historic Preservation Act and Native American Graves Protection and Repatriation Act. Prepared Tribal comments and responses to federal agencies regarding impacts to cultural resources of the Oglala Sioux Tribe. Performed Class III cultural resource surveys and inventoried archaeological resources within the Pine Ridge Indian Reservation and created geodatabase of sacred and culturally significant resources. Negotiated with state and federal agencies and private developers on project approvals and mitigation.

Internships & Fellowships

Rocky Mountain Research Station - collected hydrologic data, soil samples, and visitor data; performed quality assurance on hydrologic data; inspected weirs, roads, and trails throughout the Fraser Experimental Forest. Assisted with tree coring and soil sample preparation for analysis. Entered snow sample data. June 2022 – September 2022 & June 2023 – June 2024

Salish Kootenai College Native Science Fellowship – developed a method to describe the observed role of Western Redcedar in streambank stability. February – June 2023

American Indian College Fund Building Sustainability Pathways – developed a field work plan to revised soil-to-sediment correlations in Fall River and Oglala Lakota Counties, South Dakota. May – August 2016

Oglala Lakota College Math and Science Intern – Installed stream gaging stations for surface water data collection and assisted with stream flow and water quality analysis. Surveyed macroinvertebrate populations in water samples. Developed MS Excel spreadsheet for statistical analysis of multiple stream-health parameters. Analysis of ArcInfo and Soil Survey (SSURGO) data on Pine Ridge Indian Reservation irrigation and agricultural needs assessment. Reviewed data from the Oglala Sioux Tribe's Water Pollution Control Program; analyzed water quality for 2008-2011 and macroinvertebrate data for 1993-2011 to inform stream health objectives. Refined recommendations for future monitoring and implementation of best management practices (BMPs). March 2011 – August 2013

Software Training and Skills

National Geospatial Resource Center, Certificates of Completion for: Introduction to ArcGIS I and II (48 hours of instruction); Working with ArcGIS Spatial Analysis (24 hours of instruction); Map Design with ArcGIS (24 hours)

ESRI 10.4: ArcInfo, ArcEditor, ArcCatalogue, ArcGIS Online

HEC RAS 5.0.7

MS Office; Adobe Illustrator

Honors & Awards

2022-2023 Clare Boothe Luce Women's STEM Tribal College Scholarship

2022-2023 Salish Kootenai College STARS Scholarship

2021-2023 USDA Tribal Scholar

2021 & 2022 Cobell Scholarship Finalist

2021, 2022, 2024 Inter-Tribal Timber Council's Truman D. Picard Scholarship

2021 Plains Anthropological Society's Native American Student Award

2007 & 2008 Oglala Sioux Tribe Natural Resources Regulatory Agency Employee of the Year.

Presentations

Traditional Ecological Knowledge of Pine Ridge: A Lakota Perspective on Traditional Ecological Knowledge. Makoce Ag – Pine Ridge Convergence. September 18, 2024.

Presented a Lakota understanding of ecological concepts as evidenced in the Lakota language, traditional songs and stories, and geographic feature names. Focus on the ethnobotany evidenced in the Lakota language. *(Invited.)*

Mitakuye Oyasin: We are all Related. A Lakota Perspective on Traditional Ecological Knowledge. Great Plains Tribal Water Alliance Fall Conference. December 6, 2023.

Presented a Lakota understanding of ecological concepts as evidenced in the Lakota language, traditional songs and stories, and geographic feature names. Explained the environmental justice implications.

Mapping the rights of the Lakota as a tool for the protection and restoration of biodiversity in the traditional homelands of the Oceti Sakowin. Presentation to an on-line audience. November 14, 2021.

Created a map in ArcGIS with geo-referenced boundaries of the Lakota ancestral homelands, treaty territories- per the 1851 & 1868 Fort Laramie Treaties, federal and public lands therein, and the current reservation boundaries created by the 1889 Act. Treaty rights, human rights, and cultural rights associated with those territories, as well as, relevant Tribal laws and customs, federal law, and international law.

Wetlands and Landscapes. EPA Tribal Wetlands Virtual Workshop. September 28, 2021.

Presented a traditional Lakota gatherer's perspective on the cultural value of wetlands and waters to regional wetlands managers in the Rocky Mountain, Great Plains, and Northern Forest ecosystems. *(Invited)*

Revised Soil to Sediment Correlations in Fall River and Oglala Lakota Counties, South Dakota. First Americans Land-Grant Consortium (FALCON) Conference, November 7, 2015.

Presented a method for comparing soils in adjacent Fall River and Oglala Lakota counties in South Dakota along two north-south transects starting in Dawes County, Nebraska, where the soils to bedrock correlations have been made.

Mapping Loess Deposits and Soil Types on the Big Stone Moraine in Minnesota to Determine a Possible Correlation. Student poster session at Geological Society of America Annual Meeting, November 1-4, 2015.

Created a map of observed loess deposits, with location and thicknesses, using topographic maps and GPS coordinates. Digitized county soil surveys (SSURGO) were used to determine the most likely soil series to occur with loess as parent material. This study

supported research to identify the extent and glacial event that created loess associated with the Big Stone Moraine and the Des Moines Lobe in northwestern Minnesota.

Irrigable Lands on the Pine Ridge Reservation: Estimating Water Needs for Agricultural Purposes. American Institute of Professional Geologists and South Dakota School of Mines & Technology's New Horizons in Oil & Gas Conference 2012 Annual Conference & Exhibition, September 22 – 26, 2012.

Estimated the maximum irrigation needs and the Practicable Irrigable Acreage for the Pine Ridge Indian Reservation using ArcGIS and Soil Survey Geographic (SSURGO) data.

Publications

Madrigal TA, Montanic D, **Tobacco JK**, Wynecoop MD. 2025. Chapter 2: Sacred relationships in traditional ecological knowledge. In Jacobs LA, editor. *Indigenous Critical Reflections on Traditional Ecological Knowledge*. Corvallis (OR): Oregon State University Press.

Volunteer Activities

Observing Unci Maka: Environmental Data Science and Tribal Land Justice. – June 2024 to Present

Co-PI for a working group of Tribal members, scientists, students and NASA remote sensing researchers using existing earth observation data (EMIT and ECOSTRESS) to formulate new methods to identify, monitor, and address environmental injustices in Tribal communities. Focus on legacy uranium mining impacts on Hopi and Pine Ridge Reservations and use of available datasets to identify prioritization of new measurements and gaps in resources for addressing and identifying environmental impacts. Efforts to advance data sovereignty is a priority of this working group, with emphasis on community building, planning, and discussions for how this environmental justice data and future collections can be aligned to Indigenous frameworks.

Morningstar Environmental Sustainable Development – June 2023 to Present

Assist with siting locations for community composting latrines in the Rio Yaqui Pueblos in Sonora, Mexico. Identify home and community sanitation issues to improve hygiene and health. Determine construction needs for the installation of home solar-powered water panels.



QUALIFICATIONS 2022-2023



"2020 Special Recognition Award Winner- Michael Gutzmer and New Century Environmental LLC"

NEW CENTURY ENVIRONMENTAL LLC

~Established 2007~

15 year Anniversary in 2022

New Century Environmental LLC (NCE), an environmental consulting firm in Columbus, Nebraska. We employ a team of environmental and ecological professionals who provide quality environmental services in a cost-effective and timely manner for clients across the Great Plains. NCE was established in 2007 and offers a full array of services and products to enhance environmental compliance, with effective resource management. NCE is one of the leading threatened and endangered species firms in the Great Plains and numerous sensitive and rare species documentations when compared to other firms. State and federal agencies and the academic community recognize the proficiency and credibility of the work NCE provides numerous clients. NCE has provided environmental support for wind farms in 5 states, FERC and CWA support for Loup Power District the past 10 years. We have also been contracted to conduct plant inventories and write plant identification books for Native American tribes in the Midwest, conduct wildlife research for energy developers, and develop wetland delineation/mitigation plans for more efficient agricultural development. NCE is qualified to develop mitigation banks across the region.

Company Highlights

- **NCE provides** environmental support and expertise for the energy, transportation, agricultural and mining industry across the Great Plains; and does it cost effectively!
- **NCE** has written over 3.5 million dollars in successful fisheries, wildlife, habitat grant awards
- **NCE** has over 50 scientific publications with wetlands, fisheries & wildlife
- **NCE** is regionally and nationally known for work in threatened/endangered species studies
- **NCE** has provided complex expertise for wetland delineation, mitigation and permitting support for a variety of big and small projects in a multi-state region.
- **NCE** is a regional expert in wetlands, small mammal ecology, fisheries, avian ecology and flora inventory and identification.
- **NCE is a national expert** in acoustic bat technology and state and federal agencies consult us regularly.
- **NCE principal** is lead author on "Aquatic Plants of Nebraska" a collaborative effort between UNL, UNO, and the private sector. The first for Nebraska book is to be published in early 2022.



Keynote biodiversity attributes;

- 1- Over 1000 flora records; several unique flora discoveries of rare and unusual species in numerous states.
- 2- Discovery of the black footed ferret in South Dakota (official) and North Dakota (un-official)
- 3- Documentation of the federally threatened northern long eared bat in North Dakota (2016) and in Nebraska (2020-2021).
- 4- Numerous fish species documentations of Tier I, Tier II, listed species in Nebraska and the Dakotas. Potential un-official discovery of the Topeka shiner in northeast Kansas. Iowa Tribe of Kansas and Nebraska reservation.
- 5- Documentations of amphibian, reptile, and pelecypod species across Great Plains.
- 6- American burying beetle surveys in central and western Nebraska.
- 7- Least tern and piping plover surveys and documentation in Nebraska and the Dakotas, as well other Tier I and Tier II bird species. NCE has worked with numerous species with conservation priority.

Michael P. Gutzmer, PhD **Principal, Naturalist**

Our Principal has a total of 50 years of environmental management-related experience and a national network of available experts. Before starting his own consulting business in 2007, he was an Environment Regional Manager for the Electric Power Research Institute in the Great Plains region for 5 years; he was an Environmental Supervisor in Environmental Services at Nebraska Public Power District where he also served as a Senior and Staff Environmental Specialist for over 13 years. He was responsible for water and waste, facility-siting, auditing, and natural resource permitting and compliance. Dr. Gutzmer, while at NPPD, also served as an environmental sub-consultant in aquatic ecology for 10 years. Before that, Dr. Gutzmer worked for several state and federal environmental agencies including the Bureau of Land Management in Arizona, National Park Service in Washington, Montana Department of Fish, Wildlife and Parks, Canadian Ministry of Fisheries, Iowa Conservation Commission, Texas Water Commission, and the Nebraska Department of Environmental Quality.

Dr. Gutzmer received a BS degree in agriculture and natural resources from the University of Nebraska in Lincoln and an MS degree in biology from Texas State University. He took courses from the University of Montana and then completed his PhD in environmental sciences and wetland ecology at Lacrosse University. He is a Certified Fisheries Scientist, Professional Wetland Scientist, Certified Wildlife Biologist, Certified Senior Ecologist, and a Certified Environmental Professional and a Technical Service Provider for the National Resource Conservation Service. Mike was nominated as a Board of Director for the Alumni Association at the University of Montana in Missoula in spring 2014.

Over 50 peer-reviewed scientific publications, 375 consultant reports and 250 environmental subject matter articles published in local, regional newspapers and magazines, elevated awareness of nature and conservation programs throughout Nebraska and Midwest.

- *Pioneered efforts with first bio- assessment program in Superfund program in Texas in 1988.*
- *ESPN Outdoors finalist for National Conservation Director of BASS in 2003.*
- *Acknowledged in "The Flora of Nebraska" by Robert B. Kaul, David M. Sutherland and Steven B. Rolfsmeier published in 2006, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, for distribution information and voucher specimens collected for dissertation work focused on Platte county wetlands during 1993-2007.*
- *Nominated and finalist for Central Community College of Nebraska Outstanding Alumni of the Year Award, April 2008.*
- *Successful project award for an eco- asset project evaluation for a significant client conducted in the United States – January 2009.*
- *Published Plants of Platte County Nebraska Wetlands book available for publication. M.P. Gutzmer. 2012. The UPS Store Publication office, Columbus*
- *Biologist of the Year nominee (2014) by the Native American Fish & Wildlife Society*
- *Named Regional Biologist of the Year-Great Plains in 2015*
- *Developed template for the first agricultural wetland bank in Nebraska for Ag Drainage Inc. July 2016*

- *Created template for flora book for the Iowa Tribes of Kansas and Nebraska*
- *Society of Wetland Scientists certified Dr. Gutzmer for another 5 years (July 2017)*
- *July 2017 – NCE conducted ecological assessment of the Missouri River below the DAPL pipeline crossing providing some of the first baseline biological information to be used adjacent to Standing Rock Indian Reservation.*
- *NCE has supported a major federal highway project in Omaha Nebraska at 180th & Blondo with wetland mitigation.*
- *NCE has been involved with numerous solar and wind farm project permit assessments and permit receipt in Pennsylvania, Nebraska, Minnesota, North and South Dakota within the Great Plains.*
- *Gutzmer has conducted botanical overviews in Europe; The Netherlands, Germany, Ireland and France. In 2018 he also conducted a mini-assessment of flora in Central Texas, USA.*
- *In February 2019 Gutzmer was nominated as a Fellow for the The Wildlife Society, a nationwide designation.*
- *In July 2019 NCE was awarded a contract to sample Nebraska streams for the Keystone XL Pipeline-TransCanada project for sensitive fish species and some wetland work. NCE was able to assist the pipeline project for 2 years.*
- *In July 2019 NCE began work on a BIA funded project to evaluate invasive species on the Santee Indian Reservation. Over 100 flora distribution records were documented.*
- *In August 2019 Dr. Gutzmer conducted representative flora observations in Germany, The Netherlands, Austria, Czechoslovakia and Hungary.*
- *In January 2020, Gutzmer was awarded Emeritus Status as a Certified Fisheries Professional with the American Fisheries Society, Bethesda Maryland.*
- *In May 2020, Gutzmer received notification that his book “Aquatic Plants of Nebraska” will be published by University of Nebraska, School of Natural Resources, Conservation Survey Division, sometime in spring 2022.*
- *In July 2021, NCE recently released the now published “Mammals of Santee” for the Santee Sioux Tribe and the guide/book and is currently available at the reservation.*
- *NCE biologists have discovered and documented the federally threatened northern long eared bat in July near the Niobrara and the Missouri River. Publication is being drafted.*
- *NCE is preparing a tribal EIS for a pipeline crossing addressing all plant and animal groups in 2021-2022.*

Gutzmer honored by The Wildlife Society with National Award



In mid-June Michael Gutzmer was notified by The National Wildlife Society that he had been selected to receive The Wildlife Society's Special Recognition Service Award for 2020. This award honors a person or group who has made an outstanding contribution over the short or long term to the wildlife profession. The presentation will be made formal in a virtual setting at the 27th Annual Conference which will be held in Louisville, Kentucky, Sept. 27 – Oct. 1, 2020.

With more than 11,000 members in several countries the society was founded in 1937, the organization's mission is "To inspire, empower, and enable wildlife professionals to sustain wildlife populations and habitats through science-based management and conservation."

The Wildlife Society enhances members' networking and learning opportunities, professional and career development, and provides numerous ways for them to get more involved in creating a better future for wildlife and their habitats for:

- Scientists, managers, educators, technicians, planners, consultants and others who manage, conserve, and study wildlife populations and habitats.
- Students who are pursuing degrees and experience that will enable them to become the next generation of wildlife professionals.
- Supporters who help spread the word and take action on important wildlife and habitat issues.

Dr. Gutzmer is one of a very few individuals nationwide that has been active in the Native American Fish and Wildlife Society, the American Fisheries Society and the Wildlife Society and has made immense strides in conservation and natural science in the wildlife profession. Gutzmer received the *Biologist of the Year Award* from the Native American Fish & Wildlife Society –Great Plains Region in 2015.

Gutzmer' work with flora, wetlands, and threatened and endangered species across the Great Plains and the U.S. is very well known in the scientific community.

Some of his accomplishments include; Gutzmer guided and administered the development of the largest eco-asset project ever conducted in the United States for a railroad. His firm, New Century Environmental (NCE) developed the Eco-asset Baseline Evaluation (EBE) process, site shadow concept, classification zonation concept and innovative credit stacking models which prioritize sites based on ecosystem services and other relevant metrics. The project covered 14 states (given high merit by the National Wildlife Federation, Ducks Unlimited and The Nature Conservancy national organizations) in the American west. During the eco-assets evaluation, Mike developed a windshield inventory for invasive species that may be the best approach in North America for macro flora invasive species inventory and proved cost effective for an ever growing invasive plant problem in the U.S.

In 2016-2018, Mikes firm was the only group of biologists that brought key aquatic flora and fauna (birds and fish) data sets to the legal process for a pipeline protest that made a difference in the decision making evolution during the USACOE review process on the upper Missouri River on a controversial pipeline process.

Gutzmer is concept founder of the Tribal Science Area (TSA) for Standing Rock Indian Reservation and other Great Plains tribes (February 2020). Gutzmer' discovered the black-footed ferret on Standing Rock Indian Reservation and has unofficially documented them in North Dakota. He has numerous plant and animal discoveries and documentations across the country in addition to the black-footed ferret. Michael' firm has also been contracted to conduct fish & wildlife surveys on millions of acres of Native American Indian Reservation land in Nebraska, Iowa, Montana, Minnesota, Kansas and the Dakotas and has written over 3 million dollars in grants for them.

Gutzmer has written several flora books and is currently writing Aquatic Plants of Nebraska to be published by the University of Nebraska' School of Natural Resources scheduled for publication in late 2021.

Locally Gutzmer' firm supports Loup Power District with FERC compliance articles that deal with threatened and endangered species, wetlands, and fisheries issues, along with invasive species. The firm does extensive wetland work across the state as well.

Gutzmer and his wife Melanie live in Columbus and have four adult children. His daughters, Alex and Lexie work for Delta Airlines in Omaha and his sons, Seth (wildlife management) and Wyatt (business and marketing) go to UNL and UNK, respectively.

IMPORTANT DISCOVERIES: Almost a thousand flora distribution records, Nelumbo lutea (NE 1997), Un-identified new flora aquatic macrophyte (NE sand hills, 2001), wood frog (SD 2012), Dakota skipper (Roberts County, SD, 2012), black-footed ferret (Corson County, SD, 2012), sicklefin chub, Cheyenne River (1995), smooth green snake, Topeka shiner (Roberts County 2013, 2015). Northern Long Eared Bat, (Corson County, 2015), white ladies slipper, Platte County, Nebraska, (2016) and unofficially the black footed ferret in Sioux County North Dakota, (2014). During 2019 NCE will document over 150 new flora county distribution records.



NCE full, part time, and seasonal staff 2022-2023

Anthony Byrne ***Senior Associate Scientist***

Has a total of 30 years of ecological research and natural resource management experience involving numerous environmental projects in 18 states in the Western, Midwestern and Southeastern US. He has previously worked for environmental consulting firms in Colorado and Arizona. Before entering the ecological consulting field, Tony worked as a Fishery Biologist for the Nebraska Game and Parks Commission, a Fishery & Wildlife Habitat Biologist for the Texas Parks and Wildlife Department, a Fish & Wildlife Technician for the Colorado Division of Wildlife (now Colorado Parks & Wildlife Department), and a Laboratory Technician for the Colorado State University Larval Fish Laboratory. His broad background, ranging from fisheries and wildlife management and research to resource litigation support, provides him with considerable knowledge of environmental ecology. As an ecologist, he has extensive training that includes fish and wildlife community assessment, natural resource management plan formulation, research study design, aquatic and terrestrial habitat evaluation and enhancement design, wetland assessment and delineation, angler and hunter survey design and analysis, scientific database management and statistical inference, ecological modeling, and macroinvertebrate community assessment.



Tony has been associated with assessments of impacts to numerous aquatic, terrestrial, riparian and wetland systems; many related to threatened & endangered and rare and sensitive species. These include studying effects from mining, hydropower, industry, transportation, agriculture, and water and wastewater development. Many of these projects involved consultation related to NEPA, CWA, NRDA, ESA and other government environmental programs.

Mr. Byrne received a BS degree in fishery biology from Colorado State University in Fort Collins and an MS degree in ecology from the University of Denver. He is active in the American Fisheries Society, The Wildlife Society, the North American Benthological Society, the North American Lake Management Society, Ducks Unlimited and the Mule Deer Foundation.

Jordan Kort, Senior Fisheries & Wildlife Technician



Jordan is our field technician who started working for NCE in 2019. Jordan has assisted with aerial, T & E, invasive, fishery, wetland and other surveys for several of our clients. In 2016 he worked on a commercial fishing boat in Alaska where he has gained experience in handling gill nets and sampling fish. Jordan has a strong agricultural and farming background. Jordan has obtained a degree in Environmental Studies from Doane University, along with a minor in Ag Science from Central Community College. While Jordan was at Doane he did independent student research. He spent the winter months observing raccoon pelt colors dependent upon environment factors.

While holding a part time job and being a full time student at Doane University, Jordan was also part of the men's soccer team where he started two years for them and two years for central community college. His college soccer experience has taught him leadership skills and how to efficiently work with others to complete a task. In his leisure time he enjoys fishing, hunting, and anything that gets him outdoors. Jordan has been playing sports his whole life and likes to keep involved with anything that is competitive. This is prevalent in his records as a four year starter and four year state qualifier on his high school soccer team. Jordan is an excellent predator caller.

Jordan is an expert ground surveyor for wildlife surveys and has become proficient in acoustic bat analysis using Sonobat and Kaleidoscope software programs. Jordan's fish taxonomy is also improving through current fish assessments conducted in the Great Plains.

Kurt J. Tooley

Senior Research Scientist, Mathematician, Theoretical Ecologist

Educated at the Universities of Chicago and Illinois at Champaign-Urbana, Kurt Tooley is a scientist specializing in research, scientific technique, quantification, and related scientific methods. Tooley has 25 years of experience working for academics, government agencies, businesses, non-profits, and entrepreneurs. Kurt is one of the leading acoustic bat monitoring experts in the United States. His experience in theoretical ecology is second to none.

Tooley's primary function with New Century Environmental is to facilitate bringing the best possible product from any available budget, or, alternatively, producing a product of sufficient quality with the least possible budget, by making the best applicable scientific methods readily accessible. This is accomplished not only by leveraging extensive experience and knowledge of science, but also by flexibly and continuously communicating, coordinating, and team-building with clients, diverse NCE personnel, and other project participants.

In addition to broadly scientific work, Tooley is also engaged in the development of technology and intellectual property of diverse types. Tooley is the inventor of patented technologies that exploit innovative adaptations of imaging, astronomical, and evolutionary-ecological techniques and theory to reveal optimal solutions to problems that were previously thought unsolvable.

Tooley's ongoing education includes the humbling and high perspiration task of learning the thousands of plants and thousands of birds necessary to becoming a field botanist (Thank you, Dr. Gutzmer!) and field ornithologist, and all the techniques of trapping and camera trapping.

- Dean's List, University of Chicago
- Transferred to U. of Illinois at Champaign-Urbana to accept a staff research position
- Evaluated math and science education programs for the National Science Foundation
- Wrote and published peer-reviewed papers on hierarchical, longitudinal modeling in leading journals (Primarily with Dr. Finbarr C. Sloane)
- Extensive field experience in all eco-region domains, division, and provinces in the contiguous U.S.
- Sole author of the textual content of more than 2,000 military museum exhibits
- Sole author of the textual content of more than 1000 paleontology museum exhibits
- Hobbies include: cycling, golf, hiking, camping, photography, and cooking





Seth Gutzmer
Jr. Biologist and Field Specialist

Is a field technician who has worked for NCE over the past 5 summers collecting data for biological assessments and doing data entry. Seth was a Wildlife Technician in Lewellen Nebraska for the Nebraska Game and Parks Commission in spring and summer 2019 and 2020 performing habitat improvement duties. He is currently a senior in wildlife management at UNL. Seth is currently specializing in big game and habitat management. . Seth graduated from UNL with a *B.S degree in Wildlife & Fisheries in May 2021* as well.

His experience is handling gill nets, electroshocking fish collection and periphyton sampling in Nebraska sand bed streams (Plum Creek). Seth has also assisted with bird diversity and abundance studies for wind farm development in Roberts County South Dakota, nocturnal black footed ferret studies in North and South Dakota for the Standing Rock Indian Reservation and has helped with several lake projects doing water quality and fish removal. Seth is 1/8th Native American (Sioux), and attended high school at Scotus Central Catholic in Columbus Nebraska. Seth was a cub scout and has been very active in sports since youth. He has played Mariners baseball, midget football and participated in junior high wrestling and football. Seth was an elementary school All-American in AAU wrestling and participated in Duncan wrestling. Seth was selected for People to People Ambassador program in summer 2014 for his leadership skills.

Seth was a high school football varsity long snapper and linebacker and was the varsity wrestling 182 pound weight class and state qualifier for the Shamrocks in 2016 and 4th place NSAA finalist in all of Nebraska. Seth was a long snapper for the South Dakota State Jackrabbits football team in 2016-2017. Seth's plans are to obtain a Doctorate in natural resources and gain more experience in wildlife management and eventually assume leadership at New Century Environmental.

Publications

Gutzmer M.P., K. Tooley , M. S. Franks , C. J. Shank, S. M. Gutzmer , W.P. Gutzmer , J. C. Kelly , A. Quinn , and A. T. Byrne. 2018. **Small Mammal Abundance on the Standing Rock and Lake Traverse Indian Reservations In North And South Dakota.** *Proceedings of the South Dakota Academy of Science*, Vol. 97 (2018) 8

Gutzmer, M.P., J.M. Kort, S.M. Gutzmer, K. Tooley, A. Bartling, and J. Avery. 2021. ***Mammals of Santee.*** *Office of Environmental Protection Department*, Santee Sioux Nation Reservation. Big Red Printing, Norfolk Nebraska|145 pages

Certifications

Associate Wildlife Biologist (AWB) (applied 2021-pending)
Associate Fisheries Professional (AFP) (applied 2021-pending)

Jack Pritchett *Project Manager / Project Ecologist*

(jpritchett@EcoResourceSolutions.com)



Jack is ERS' Project Manager, ecologist and GIS coordinator. He has an MS in Environmental Policy and Management from Florida International University where he completed his thesis on the impacts of the invasive ball python to the environmentally sensitive Florida Everglades. He also has a BS double in biology and psychology from the University of Central Florida. A native of South Florida, Jack worked as the crew leader for the Institute of Regional Conservation, a non-for-profit organization who is dedicated to the protection, restoration, and long-term management of biodiversity on a regional basis, and to the prevention of regional extinctions of rare plants, animals and ecosystems. In 2014 Jack began working with Muni Farms, an agriculture and sustainable landscaping company and managed many projects with various counties in preserving and maintaining natural spaces throughout South Florida. With a strong background in land management and water conservation, Jack moved to Colorado in 2018 to continue his career in environmental conservation. Jack began working as a park ranger with the City of Denver Parks and Recreation Department and later began working with the Colorado Parks and Wildlife Department, which he has now moved from to join the ERS team.

As an ecologist, Jack oversees numerous natural resource permitting and compliance projects and serves as a participating biologist on projects including, but not limited to, wetland delineation and functional assessment, macroinvertebrate and fish sampling, comprehensive wildlife surveys, terrestrial and aquatic habitat assessment, restoration and improvement, and sensitive flora surveys. In this position, Jack has developed a good understanding and working relationships with the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Environmental Protection Agency, and a multitude of other government and non-government agencies.

Jack has become an integral part of our team, providing technical expertise and a dedicated work ethic with regard to project design, field data collection, technical writing and report preparation. Jack is responsible for coordinating field surveys, collecting field data, drafting technical reports, supervising technical staff, and analyzing biological samples in the laboratory. As a staff biologist, he has considerable training that includes fish and wildlife assessment, aquatic and terrestrial habitat evaluation, plant identification, wetland delineation, and GIS mapping and bathymetric surveys.

Brady Gabbert, Ecological Technician/GIS Field Specialist (bgabbert@ecoresourcesolutions.com)



Brady earned his BS degree in fishery and wildlife biology (concentration in fisheries and aquatic sciences) from Colorado State University. He is experienced with sampling both aquatic and terrestrial ecosystems, including invertebrate sampling, wetland delineation, and fish and wildlife surveys. Brady has experience with ESA species recovery design, habitat assessment and restoration project design and implementation, and ecological risk assessment from urban development, oil and gas, mining, and agricultural operations. Brady is also experienced with several hydrology methods, including land use hydrology, potential evaporation analysis, water table contouring to determine flow direction, hydraulic flow rate and groundwater flow using Darcy's Law, and infiltration measurement via ring infiltrometer.

Brady is responsible for coordination and completion of field surveys, data compilation and analysis, laboratory sample process and analysis, critical literature review, and report preparation assistance. He is also called upon to collect GIS data in the field, including completion of bathymetric surveys, wetland delineations, instream and riparian habitat, and wildlife habitat, in general.

Justin Hobert Associate Scientist (jhobert@ecoresourcesolutions.com)

Justin has a PhD in herpetology and helps NCE on complex amphibian and reptile projects. He has worked with numerous rare reptiles in the desert southwest.

**David L. Jenson [Contributing Part-Time subcontractor]
*Associate Biologist, Emeritus - "Grandpa"***

Dave received his Bachelor of Science Degree in Biology (with Emphasis on Wildlife Conservation), from Kearney State College (currently University of Nebraska at



Kearney) in August 1978. He received his Associate Degree in Science, (Biology) from Platte Technical Community College (currently Central Community College, Platte Campus), in Columbus, Nebraska in May 1976.

- As a Soil Conservation Technician with the Natural Resources Conservation Service in Beatrice, NE for over 6 years, Dave coordinated work between landowners and the Lower Big Blue Natural Resource District involving the layout/design of windbreak and wildlife tree/shrub plantings, drafted planting plans and conducted annual status reviews on Conservation Reserve Program (CRP) acres to monitor grass/legume establishment. He also assisted with the sign-up of new CRP land acres in Gage Co.
- While working as a Conservation Technician in the Resource Services Division with the Nebraska Game and Parks Commission, he worked extensively with wildlife management and conservation projects in the Salt Valley Lakes area near Lincoln, NE.
- Identifying problem prairie vegetation management areas and providing alternative methods for restoration to native tallgrass prairie species was a large part of Dave's position as a Park Technician in the Resource Management Division with the National Park Service, (Homestead National Monument), near Beatrice, NE for 5+ years. Dave conducted numerous bird and mammal surveys, assisted with prescribed prairie burns and wrote numerous papers documenting the results of various resource management projects that he spearheaded. He also designed and created the Monument's 1st bird checklist and herbarium. As a result, Dave has become very proficient in the identification of Nebraska flora and fauna species.
- As a Biological Aid for the US Fish and Wildlife Service, he gained invaluable experience working on the research team that conducted and composed the 3 year study, *The Platte River Ecology Study* near Kearney, NE. Dave worked with sandhill crane censusing and telemetry tracking of birds, conducted raptor surveys, performed Bald eagle surveys (including food habits studies and roost censusing), located nesting colonies of least terns and piping plovers plus documented detailed habitat characteristics of each nesting area. Other research involved coring and aging trees, vegetation encroachment on river sandbars and waste grain availability studies involving waterfowl and cranes.
- Other noteworthy positions that Dave has held include college greenhouse manager, herbarium aid, volunteer ornithologist for the North American Breeding Bird Survey for 3 years, volunteer fisheries biologist for the Nebr. Game and Parks Commission, habitat committee chairman for Pheasants Forever and fisheries investigator for the Nature Conservancy in central Nebraska.

Dave has worked for NCE for 3 winters (2013 – 2015) and has a particular interest and knowledge of composing project reports, floral research/identification, ornithological investigations, fisheries management and wetland mitigation projects. He has co-authored a plant identification book plus a number of technical papers with NCE.

Christopher J. Shank [Part time- aerial subcontractor]

Christopher Shank has been an associate biologist of New Century Environmental for four year surveying and collecting biological data. In his work he has surveyed for wildlife by roadside counting, aerial surveying (plane and helicopter), nocturnal surveying, small mammal trapping, bat surveillance with the use of acoustic monitoring, avian point/raptor nesting surveys for wind energy development, etc. Mr. Shank has been a part of habitat restoration/improvement projects as well. He has also surveyed for aquatic wildlife such as seining, shocking fish, setting frame nets and gill nets. Mr. Shank has also obtained field experience with the Game and Parks commission working for the Nebraska Invasive Species Project for two years. He also collected water samples on a state wide basis, and performed lab work analysis of water samples. Additional experience includes capturing pheasants, radio-collaring, radio telemetry and conducting vegetation studies on a graduate level. Mr. Shank has become experienced with grant writing and reviewing for proposals for various entities including the Fish and Wildlife Service Tribal Wildlife Grants and BIA grant proposals.



Mr. Shank received his BS in Fisheries and Wildlife with an emphasis in wildlife damage management from the University of Nebraska-Lincoln in May of 2013. He received his Master Naturalist Certification in the fall of 2013. He also obtained his red card certification for prescribed burns, firefighting, etc. while in school for his BS. He also

received his pesticide applicator certification while in schooling. Mr. Shank has many publications and publications in the process including:

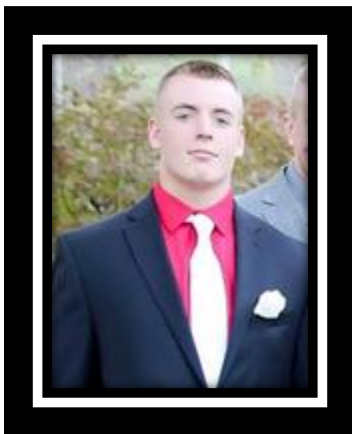
- Documentation of Northern Long-Eared Bat, *Myotis septentrionalis* on the Standing Rock Indian Reservation, published in South Dakota Academy of Sciences
- Ring-necked Pheasant Presence and Wetland Habitats On Standing Rock Indian Reservation, in the process
- Baseline Flora Assessment of the Forested Areas of the Coteau Escarpment of the Lake Traverse Indian Reservation in South Dakota and Associated Climate Hydrology Factors, 2015
- A Field Guide to the Upland and Wetland Plants of the Winnebago Tribe of Nebraska, 2014
- Small Mammal Presence in Minimally Disturbed Habitats of the Lake Traverse Indian Reservation Poster, 2014
- Discovery and Confirmation of the Black Footed Ferret (*Mustela nigripes*) on Standing Rock Indian Reservation Poster, 2014
- Article in the Winter Edition of Loup Public Power Districts "Generator" Newsletter, 2013

Christopher has experience in threatened and endangered Species. Experience includes nocturnal surveying for the Black-Footed Ferret, setting camera surveillance to capture the ferret on film, seining for the Topeka Shiner and evaluating habitat condition on stream stretches for reintroduction of the shiner. Mr. Shank has been an integral part of a Topeka shiner re-introduction plan for a tribe in northeast South Dakota and has regional taxonomy skills. Recently, Mr. Shank has documented the federally threatened northern long-eared myotis by acoustic monitoring in Sioux county, ND.



Another part of Christopher's job includes wetland delineation/mitigations; which includes on site surveying; collecting/identifying plant vouchers, GPS marking, etc. and floral analysis, drafting and writing/reviewing reports.

Christopher enjoys hunting/fishing in his spare time, and also is a good encourager of youth hunters and fishers. He is an active member in Ducks Unlimited. Christopher's future development includes graduate level training in Wildlife Biology.



Wyatt Gutzmer
Field Technician & Specialist

Is a field technician who has worked for NCE over the past 5 summers collecting data for biological studies. His experience is handling gill nets, electroshocking fish collection and periphyton sampling in Nebraska sand bed streams (Plum Creek). Wyatt has also assisted with bird diversity and abundance studies for wind farm development in Roberts County South Dakota, nocturnal black footed ferret studies in North and South Dakota for the Standing Rock Indian Reservation and has helped with several lake projects doing water quality and fish removal. Wyatt is 1/8th Native American (Sioux), and attended high school at Scotus Central Catholic in Columbus Nebraska. Wyatt was a cub scout and has been very active in sports since he was a boy. He has played Mariners baseball, midjet football and participated in junior high wrestling and

football. Wyatt was an elementary school All-American in AAU wrestling and participated in Duncan wrestling.

Wyatt was a high school football varsity lineman, co-captain and linebacker (received the Jeff Podraza Scholarship) and was the varsity 220 pound weight class qualifier for the Shamrocks in 2014 through 2016. Wyatt was a state consolation final champion in 2016 and 2017 at the NSAA state championships in Omaha. Wyatt was selected for People to People Ambassador program in summer 2014 for his leadership skills. Wyatt's plans are to obtain a business and marketing degree. and work as a business developer. Wyatt is currently a senior at the University of Nebraska-Kearney and will graduate in December 2021 with a Bachelors in business & marketing with a supply chain emphasis.



Bob Kaul and Mike Gutzmer assessing/collecting submergent aquatic macrophytes in Minnechaduza Creek, near Valentine, Cherry County, Nebraska. This photo was taken by Martha Kaul, in mid-summer 1993, I believe. If I remember we vouchered Potamogeton zosteriformis and a half dozen other Potamogetons...

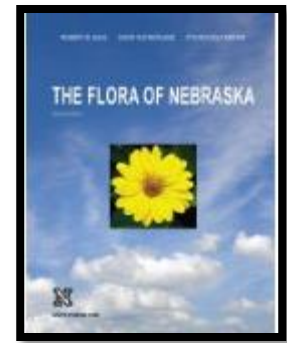
IN MEMORY OF:

Dr. Robert B. Kaul [deceased November 14, 2019]

Professor Emeritus of Botany

World Flora Taxonomic Expert

Dr. Kaul was Research Professor and Curator, University of Nebraska State Museum of Natural History, Professor Emeritus of Botany, School of Biological Sciences at the University of Nebraska-Lincoln and assists NCE with critical guidance on plant taxonomy changes and serves as liaison for a variety of projects involving wetlands across the Great Plains and inventory approaches and scientific accuracy. Dr. Kaul is a world expert in the field of aquatic angiosperm reproduction and was considered one of the leading botanical taxonomists in the world.



B.S. 1957, University of Minnesota, Minneapolis (biology)

M.A. 1959, University of Minnesota, Minneapolis (plant ecology)

University of Montana, Missoula, 1960

Ph.D. 1964 University of Minnesota, Minneapolis (botany)

University of Nebraska-Lincoln

- Research Professor and Curator, State Museum, 2003-PRESENT
- Interim Director, State Museum, 2003
- Professor Emeritus, School of Biological Sciences, 2000-
- Professor, Dept. of Botany & School of Biological Sciences, 1964-2000
- Vice Director, School of Biol. Sciences., 1989-1991
- Chairman, Ecology & Systematics Section, School of Biological Sciences 1974-77, 1981-82

Conducted research in Arizona, California, Colorado, Connecticut, Florida, Hawaii, Idaho, Maine, Minnesota, Montana, Nebraska, New Mexico, Oregon, Texas, Washington, Wisconsin, Australia, Borneo, Canada, Ceylon, Greece, India, Iran, Japan, Malaysia, Mexico, New Zealand, and the Philippines.



Dr. Bob and Mike at the UNL Bessey Herbarium (2010). Bob we sure miss you!

Awards and Recognition

Gutzmer named Regional Biologist of the Year by the Native American Fish and Wildlife Society / Dr. Gutzmer was nominated as a *Fellow* in the Wildlife Society in February 2019 and the *Distinguished Service Award* through the American Fisheries Society in 2020. Gutzmer received the national Special Recognition Award from the Wildlife Society in 2020.



Dr. Gutzmer and Director Kelly and Ron Skates in Ft. Yates North Dakota (2015) .

**BEFORE THE STATE OF SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES
BOARD OF MINERALS AND ENVIRONMENT**

IN THE MATTER OF CLEAN NUCLEAR)
ENERGY CORP. URANIUM EXPLORATION)
PERMIT APPLICATION)
)
EXNI 453)
)

CERTIFICATE OF SERVICE

The undersigned hereby certifies that, on this day, a copy of the afore was served
via U.S. mail with proper postage affixed to:

Steven R. Blair
Deputy Attorney General
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Mashanaposhe Camp
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CRST Attorney General
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Courtesy copies served upon:

Bob Morris
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bobmorris@westriverlaw.com

DATED this 14th day of October 2025

Peter Cipossela

STATE OF SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE & NATURAL RESOURCES

BOARD OF MINERALS AND ENVIRONMENT

IN THE MATTER OF CLEAN	)	
NUCLEAR ENERGY CORP.	)	
URANIUM EXPORATON PERMIT	)	SUPPLEMENTAL
APPLICATION	)	DESIGNATION OF EXPERT
	)	WITNESS BY CHEYENNE
	)	RIVER SIOUX TRIBE AND
	)	OTLALA SIOUX TRIBE
EXNI 453	)	

COME NOW the Cheyenne River Sioux Tribe and the Oglala Sioux Tribe and give notice that they intend to call the following additional expert witness at the contested case hearing in this matter.

Chris Shuey
Environmental Health Specialist
Director, Uranium Impact Assessment Program
Southwest Research and Information Center
P.O. Box 4524
Albuquerque, NM 87196
Telephone: (505) 262-1862

A curriculum vitae for this expert is attached.

This expert will testify as to: the adverse effects of the proposed uranium exploration operation on the historic, archaeological, geologic, scientific, or recreational aspects of affected or surrounding land and whether those effects outweigh the benefits of the proposed uranium exploration operation; the extent to which the proposed uranium exploration operation will result in the loss or reduction of long-range productivity of watershed lands, public and domestic water wells, aquifer recharge areas, or significant agricultural areas; and/or the extent to which the proposed uranium exploration operation will adversely affect threatened or endangered wildlife indigenous to the area.

The Cheyenne River Sioux Tribe and Oglala Sioux Tribe reserve the right to supplement this expert witness disclosure with any expert report prepared based on the results of ongoing fact discovery.

Dated: October 14, 2025

By: 

Steven J. Gunn
1301 Hollins Street
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Telephone: (314) 920-9129
Facsimile: (800) 520-8341
Email: sjgunn@wustl.edu;
sjgunn37@gmail.com

*Attorney for Cheyenne River Sioux Tribe and
Oglala Sioux Tribe*

CERTIFICATE OF SERVICE

I certify that on October 14, 2025, I caused a true and correct copy of the foregoing to be served electronically and by U.S. mail, postage prepaid, for filing upon the following:

Brenda Binegar
Department of Agriculture & Natural Resource
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I further certify that on October 14, 2025, I caused a true and correct copy of the foregoing to be served upon the following by electronic mail, facsimile, and U.S. mail, postage prepaid:

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Electronic mail: mnaasz@gpna.com

I further certify that on October 14, 2025, I caused true and correct copies of the foregoing to be served upon the following by U.S. mail, postage prepaid:

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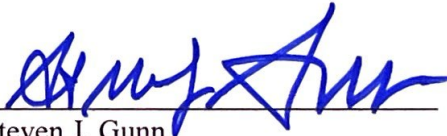
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Rapid City, SD 57702


Steven J. Gunn

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Shuey, Christopher L.

eRA COMMONS USER NAME (credential, e.g., agency login): cshuey

POSITION TITLE: Environmental Health Specialist and Director, Uranium Impact Assessment Program

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Ohio University, Athens, OH		1973-1974	Journalism
Arizona State University, Tempe, AZ		1974-1980	Journalism, earth sciences
Colorado School of Mines, Golden, CO	Certificate	1983	Energy Field Institute
Albuquerque Technical Vocational Institute		1986-1988	Mathematics
National Water Well Assn., Columbus, OH	Certificate	1987	Hydrogeology
University of New Mexico, Albuquerque, NM	BUS	1987-1990	Earth sciences, chemistry, Navajo language
Radiation Technical Services, Inc., Houston, TX	Certificate	1993	Naturally occurring radioactive materials in oil and gas industry
University of New Mexico, Albuquerque, NM	MPH	1995-2002	Environmental epidemiology
USEPA, Washington, DC (MARSSIM Working Group)	Certificate	2012	Advanced training in radiological assessments
University of New Mexico Comprehensive Cancer Center	Certificate	March 2022	Biostatistics 101 short course

A. Personal Statement

Throughout my 40 years of working with Native communities, I have observed a steady change in the classic paradigm of researchers creating new science for society. In the METALS Superfund Research Center, we have seen new and exciting ways that our UNM scientists and faculty have embraced the wisdom of informing research through the lens of community concerns and Indigenous Ways of Knowing. The Thinking Zinc clinical intervention represents this nexus between Western Science and Indigenous Knowledge. I have been involved in Thinking Zinc since its inception, coordinating community outreach and engagement. Extensive community involvement informed the final design of *Thinking Zinc*. The study name reflects experiential use of the Navajo language: Thinking Zinc —*Beesh Doot'izh Bantsáhákees* [metal + blue (the one that is) + thinking about it]. The single-arm cohort design rather than placebo-controlled was informed by Navajo cultural values. We expanded the age inclusion criteria to include older individuals based on community input. Community members were also involved in vetting of recruitment and outreach materials. I worked with Dr. David Begay and Ms. Sarah Henio-Adeky, two experts in Navajo language and culture and members of the METALS team, to develop and present a Thinking Zinc language poster for the UNM Health Sciences Center in April 2022.

My role in the Multi-modal, multi-directional approaches to Indigenize return of research results and communicate uncertainty across cultures Program will be to work with SRIC staff Kirena Tsosie, Ms. Henio-Adeky (Eastern Navajo Agency), and another Community Liaison to contribute to the development, optimization and assessment of Return of Research Results materials through its community engagement, indigenous cultural training and interactions and coordination between affected communities and the UNM team. I bring to the Program nearly 25 years of experience working with UNM College of Pharmacy faculty on several population-based health studies, including the Navajo Birth Cohort Study-ECHO+ (NIH UG3/UH33D023344 and CDC U01 TS00135) and the DiNEH Project Kidney Health Study (NIEHS RO1 ES014565, R25 ES013208, P30 ES-012072). I am trained in environmental assessments (soil, water, air) of mining sites and I contribute practical knowledge in epidemiology, biostatistics, biomonitoring, biological sample collections and other disciplines relevant to the Program.

B. Positions and Honors

Positions and Employment

1981-present	Environmental Health Specialist, director, Uranium Impact Assessment Program, Southwest Research and Information Center; Albuquerque, NM
1980-1981	Graphics Artist, The Fonts Typeset and Design, Phoenix, AZ
1980-1983	Freelance Writer, Editor, and Reporter, Correspondent for Time-Life, Inc.
1980-1982	Research Associate, Arizonans for a Better Environment, Tempe, AZ
1974-1978	Staff Reporter, Writer, and Editor, Daily Progress, Scottsdale, AZ

Selected Consulting Projects

2019-2020	<u>UNM Bureau of Business and Economic Research</u> : Consultation and research supporting BBER's study of the job-generating potential of a uranium mine cleanup program in N.M.
2011-2013	<u>Red Water Pond Road Community Association, Gallup, NM</u> : Contracted to Skeo Solutions, Inc. for TASC work on Northeast Church Rock Mine for USEPA Region 9.
2010-2011	<u>Bluewater Valley Downstream Alliance, Milan, NM</u> : Contracted to Skeo Solutions, Inc., for TASC Program, USEPA Region 6 Superfund Program.
2009-2010	<u>E2, Inc.</u> ; contracted under USEPA TASC program to prepare reviews and analyses of uranium mill tailings wastewater management, groundwater remediation and radon monitoring in and around the Homestake Mining Company mill tailings Superfund site near Milan, NM.
2003-2007	<u>Church Rock Uranium Monitoring Project</u> , Church Rock Chapter, Navajo Nation: coordinated environmental monitoring of water, land and air in residential areas near abandoned mines.
2001-2004	<u>Eastern Navajo Health Board, Crownpoint, NM</u> : Designed and implemented environmental health training program for Board members and community leaders.
2000-2001	<u>UNM Community Environmental Health Program</u> : Conducted literature review on uranium toxicity for New Mexico Environment Dept's proposal to lower the state's uranium standard.
1993-1997	<u>Office of Navajo and Hopi Indian Relocation, Flagstaff, AZ</u> : Assisted in selection, transfer and development of federal lands in northwestern New Mexico for the Navajo Nation.
1992-1993	Henry, Lowerre and Taylor, Austin, TX: Compiled and summarized regulatory documentation on groundwater issues relevant to DOE's Uranium Mill Tailings Remedial Action Project.
1982-1983	<u>Haralson, Kinerk & Morley, Tucson, AZ</u> : Research on Church Rock uranium tailings dam failure.

Selected Honors and Professional Recognition:

2012	Community Recognition Award, Red Water Pond Road Community Association
2006	Nuclear-Free Future Award, International Physicians for the Prevention of Nuclear War (shared with SRIC Staff)
1995	Karl Souder Memorial Water Protection Award, New Mexico Environmental Law Center
1994	Bernalillo County (NM) PIPE Award

C. Contributions to Science

1. Journalism Era

In 1978 and 1979, I interviewed dozens of former Navajo uranium miners and the surviving spouses of miners who had already died from lung cancer or non-malignant respiratory diseases, and published several articles on the plights of the and their widows (e.g., Shuey 1979). My reporting contributed to broader understanding of the cumulative effects of exposure to radon and to enactment of the Radiation Exposure Compensation Act (RECA) of 1990. As editor of SRIC's quarterly magazine *Mine Talk*, I compiled and documented environmental data on water quality impacts of the 1979 Church Rock uranium mill tailings spill and 20+ years of mine water discharges in the Puerco River Valley in NM and AZ (Shuey, et al., 1982; Shuey, 1986). These findings resulted in publication of a paper documenting extensive groundwater contamination around the United Nuclear Corp. uranium mill tailings impoundment (Shuey and Robinson, 1984).

- Shuey C. Widows of Red Rock. *Saturday Magazine*, Scottsdale Daily Progress; February 1979.
- Shuey C, Taylor L, Siskind J. Church Rock Revisited: The Tailings Spill Three Years Later. *Mine Talk*, 2(1-2), Summer/Fall 1982. Albuquerque: Southwest Research and Information Center.
- Shuey C. The Puerco River: Where Did the Water Go? Albuquerque: *The Workbook*, Southwest Research and Information Center; March 1986.
- Shuey C, Robinson WP. Characterization of Ground Water Quality near A Uranium Mill Tailings Facility And Comparison To Background Levels and New Mexico Standards. New Mexico Bureau of Mines and Mineral Resources (Socorro NM), Hydrologic Report 6, April 1984.

2. Community-engaged Environmental Assessment

In the mid-1980s, I organized a team of university chemists and Navajo Nation hydrologists to conduct a study of leakage from unlined oil and gas waste pits in the Farmington, NM area. Our team found extensive contamination of groundwater by benzene and other hydrocarbons (Eiceman et al., 1986), with the findings eventually leading to a ban on unlined earthen pits for waste disposal.

Concerns among Navajo leaders that high rates of kidney disease may be linked to uranium contamination of local wells led to UNM-CEHP and SRIC's implementation of the DiNEH Project between 2001 and 2011. I lead a team that sampled and tested more than 100 water sources, finding arsenic contamination in about 10% of wells and uranium contamination in about 8% of wells in the study area. This work led to development of water-quality databases of more than 500 unregulated water sources on the Navajo Nation (Hoover, et al., 2017) and later developed into an interactive web site (Navajo Water GIS (<https://unmcop.unm.edu/metals/#>)).

Working with residents of Blue Gap-Tachee Chapter of the Navajo Nation in northeastern Arizona, our team characterized water quality and soil chemistries at the Claim 28 abandoned mine (Shuey et al., 2014; Blake et al., 2015) and contributed to laboratory studies demonstrating cardiopulmonary toxicity in mice exposed to mine waste dust (Zychowski et al., 2018). Our work led the Navajo EPA to place the mine on the Navajo Nation's abandoned mine priority list in 2015.

- a. Eiceman GA, McConnon JT, Zaman M, Shuey C, Earp D. Hydrocarbons and aromatic hydrocarbons in groundwater surrounding an earthen waste disposal pit for produced water in the Duncan oil field of New Mexico. *International Journal of Environmental Analytical Chemistry*, 24(2):143-62; 1986. PubMed PMID: 3710677.
- b. Shuey C., Robinson WP, Bill S, Brearley A, Cerrato JM, Ali AB.. "Uranium in Soil, Mine Waste and Spring Water near Abandoned Uranium Mines, Tachee/Blue Gap and Black Mesa Chapters, Navajo Nation, Arizona," March 31, 2014; <http://srhc.org/uranium/rirf.php>.
- c. Hoover J, Gonzales M, Shuey C, Barney Y, Lewis J. Elevated Arsenic and Uranium Concentrations in Unregulated Water Sources on the Navajo Nation, USA. *Expo Health*. 2016; 1–12.
- d. Blake JM, Avasarala S, Artyushkova K, Ali AMS, Brearley AJ, Shuey C, Robinson WP, Nez C, Bill S, Lewis JL, Hirani C, Lezama Pacheco JS, Cerrato JM. Elevated Concentrations of U and Co-occurring Metals in Abandoned Mine Wastes in a Northeastern Arizona Native American Community. *Environ. Sci. Technol*. 2015, 49, 8506-8514. Available at: <http://pubs.acs.org/doi/pdf/10.1021/acs.est.5b01408>.
- e. Zychowski KE, Kodali V, Harmon M, Tyler C, Sanchez B, Ordonez Suarez Y, Herbert G, Wheeler A, Avasarala S, Cerrato JM, Kunda NK, Muttill P, Shuey C, Brearley A, Ali AM, Lin Y, Shoeb M, Erdely A, Campen MJ. 2018. Respirable uranyl-vanadate containing particulate matter derived from a legacy uranium mine site exhibits potentiated cardiopulmonary toxicity. *Toxicol Sci* [Online 5 April 2018]. doi: 10.1093/toxsci/kfy064 PMID: 29660078.

3. Partnerships in Environmental Public Health

In the DiNEH Project, a water, land-use and health survey was administered to more than 1,300 residents by our Navajo-speaking staff, who I trained in human subjects research protections, survey administration and water quality science. A little more than 20% of survey participants later volunteered to donate blood and urine samples. Findings from this work demonstrated that proximity and direct contact with uranium wastes were significant predictive factors for chronic disease, including hypertension, kidney disease and autoimmunity (Hund et al., 2015; Erdei et al, 2019; Erdei et al., 2023).

I worked with UNM-CEHP director Johnnye Lewis and Dr. Barbara Toth on an exhaustive review of the literature on uranium toxicity and gave expert testimony before the New Mexico Water Quality Control Commission (Malczewska-Toth et al., 2003) that resulted in a nearly threefold reduction in the state's groundwater protection standard for uranium. Our current collaboration on the Navajo Birth Cohort Study has resulted in numerous findings, including that Navajo mothers, fathers and babies have much higher concentrations of uranium in their urine than the average US adult, that Navajo mothers are deficient in key nutrients needed to protect immune function, and that such exposures that can lead to adverse reproductive outcomes and developmental delays in Navajo children (Lewis et al., 2015).

Over the last five years, we worked with two partner communities, the Red Water Pond Road Community Association (RWPRCA) and residents of Blue Gap-Tachee Chapter, to help residents prepare and present citizen-science posters that describe how the communities have had to live with uranium mine wastes and the

actions they have taken to raise awareness about those impacts with policy makers. The posters were first shown by their community authors at the 10th International Conference in Metals Toxicity and Carcinogenesis in Albuquerque in October 2018 and later at their respective chapter houses in 2019. In December 2020, RWPRCA presented its poster in a virtual international conference sponsored by the Managing the Atom program at the Harvard University Belfer Center.

- a. Hund L, Bedrick EJ, Miller C, Huerta G, Nez T, Ramone S, Shuey C, Cajero M, Lewis JL. A Bayesian framework for estimating disease risk due to exposure to uranium mine and mill waste on the Navajo Nation. *J. R. Statist. Soc. A*, January 2015. (<http://onlinelibrary.wiley.com/doi/10.1111/rssa.12099/abstract>)
- b. Erdei E, Shuey C, Pacheco B, Cajero M, Lewis J, Rubin RL. Elevated autoimmunity in residents living near abandoned uranium mine sites on the Navajo Nation. *J Autoimmunity* 99 (2019), 15-23.
- c. Erdei E, Shuey C, Miller C, Hoover J, Cajero M, Lewis J. Metal mixtures exposures and multiplexed autoantibody screening in Navajo communities exposed to uranium mine wastes. *J Translational Autoimmunity*, published online 19 April 2023. <https://doi.org/10.1016/j.jtauto.2023.100201>.
- d. Malczewska-Toth B, Myers O, Shuey C, Lewis JL. Recommendations for a Uranium Health-Based Ground Water Standard. Santa Fe, NM: Report to New Mexico Environment Department; May 2003.
- e. Lewis J, Gonzales M, Burnette C, Benally M, Seanez P, Shuey C, Nez H, Nez C, Nez S. Environmental Exposures to Metals in Native Communities and Implications for Child Development: Basis for the Navajo Birth Cohort Study. *J Social Work in Disability & Rehabilitation*, 0:1-25, July 2015. (<http://www.tandfonline.com/loi/wswd20>).

4. Church Rock Uranium Monitoring Project (CRUMP)

In collaborating with Church Rock Chapter to form CRUMP in 2002, I organized in-kind contributions of radiation detection equipment, laboratory analytical services for water and soil samples, and training of community members in conducting radiation surveys and water and soil sampling. Our assessments identified radiological contamination along highways and next to homes adjacent to mine sites (Shuey and Ronca-Battista, 2007), some 20 years after mining in the area ended. The results led to EPA issuing enforcement orders requiring removal of contaminated soils around homes next to the Northeast Church Rock Mine in 2007, 2009-10, and 2012. In Blue Gap-Tachee Chapter, I organized a team of community members and SRIC and UNM scientists to collect waste and water samples from on and near the Claim 28 abandoned uranium mine between 2013 and 2016. The results, which were published in the prestigious journal *ES&T* in July 2015 (Blake et al, 2015), led the Navajo Nation to place the site on its list of the top 16 orphan uranium mines for cleanup under a US-Navajo Nation settlement agreement. Our collaboration with Tolani Lake Enterprises and a homeowners association in Sanders, AZ resulted (1) in the first public notification that uranium levels in the local public water supply had consistently exceeded the uranium MCL since 2003, and (2) a substantial reduction in risk when the vast majority of residents stopped drinking the tainted water after being connected to a clean public water supply in 2016 (Rock, Shuey and Yazzie, 2015-16; McQuillan, Shuey and Robinson, 2017). Most recently, I headed a team that worked with Cameron Chapter (AZ) residents to test soils and plants on two parcels next to the Little Colorado River where they plan on growing local produce and restoring traditional agricultural practices. Our preliminary results indicated that metals and radionuclides are within “background” ranges on the croplands despite the fact that the land is surrounded by more than 30 AUMs.

- a. Shuey C, Ronca-Battista M. Report of the Church Rock Uranium Monitoring Project 2003-2007. Albuquerque, NM: Southwest Research and Information Center; May 2007. Available at: <http://www.sric.org/uranium/CRUMPRReportSummary.pdf>.
- b. Rock T, Shuey C, Yazzie J. Uranium Water Quality Assessment Project. Special Meeting of the Vice President of the Navajo Nation and Stakeholders to Address Uranium Contamination in the Sanders Public Water System; September 25, 2015; revised December 2015, February 2016.
- c. McQuillan D, Shuey C, Robinson P. Let's Not Wait for Catastrophic Spills to Happen: Holistic, Long-Term, Multi-Jurisdictional Monitoring in Legacy Mining Areas. Animas River Conference, June 20, 2017. (https://animas.nmwrri.nmsu.edu/wp-content/uploads/2017Presentations/D1_08_Dennis_McQuillan.pdf).

Complete List of Published Work in MyBibliography:

<https://www.ncbi.nlm.nih.gov/myncbi/1ZqNa89D9pyQy/bibliography/public/>.

STATE OF SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE & NATURAL RESOURCES
BOARD OF MINERALS AND ENVIRONMENT

IN THE MATTER OF CLEAN	)	
NUCLEAR ENERGY CORP.	)	
URANIUM EXPORATON PERMIT	)	DESIGNATION OF EXPERT
APPLICATION	)	WITNESSES BY CHEYENNE
	)	RIVER SIOUX TRIBE AND
	)	OGLALA SIOUX TRIBE
EXNI 453	)	

COME NOW the Cheyenne River Sioux Tribe and the Oglala Sioux Tribe and give notice that they intend to call the following expert witnesses at the contested case hearing in this matter.

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Curricula vitae for all experts are attached.

All experts will testify as to: the adverse effects of the proposed uranium exploration operation on the historic, archaeologic, geologic, scientific, or recreational aspects of affected or surrounding land and whether those effects outweigh the benefits of the proposed uranium exploration operation; the extent to which the proposed uranium exploration operation will result in the loss or reduction of long-range productivity of watershed lands, public and domestic water wells, aquifer recharge areas, or significant agricultural areas; and/or the extent to which the proposed uranium exploration operation will adversely affect threatened or endangered wildlife indigenous to the area.

The Cheyenne River Sioux Tribe and Oglala Sioux Tribe reserve the right to supplement this expert witness disclosure with any expert reports prepared based on the results of ongoing fact discovery.

Dated: October 14, 2025

By:



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*Attorney for Cheyenne River Sioux Tribe and
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CERTIFICATE OF SERVICE

I certify that on October 14, 2025, I caused a true and correct copy of the foregoing to be served electronically and by U.S. mail, postage prepaid, for filing upon the following:

Brenda Binegar
Department of Agriculture & Natural Resource
523 E Capitol Ave.
Pierre, SD 57501
Email: Brenda.Binegar@state.sd.us

I further certify that on October 14, 2025, I caused a true and correct copy of the foregoing to be served upon the following by electronic mail, facsimile, and U.S. mail, postage prepaid:

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I further certify that on October 14, 2025, I caused true and correct copies of the foregoing to be served upon the following by U.S. mail, postage prepaid:

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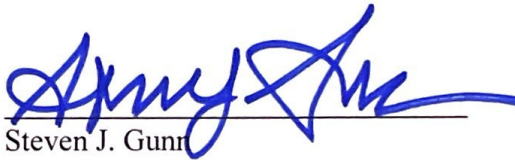
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Consulting Areas:

Mine waste management, tailings and earthen dams, groundwater and surface water modeling, geophysical interpretation, satellite image interpretation, environmental arsenic and heavy metals, scientific translation

Software Expertise:

AquiferTest, ArcGIS, FLO-2D, HEC-RAS, Hydrus, MATLAB, Python, R, Visual MODFLOW, Vulcan

Languages:

Chinese, English, French, Hebrew, Indonesian, Latin, Nepali, Polish, Portuguese, Russian, Spanish

Selected Recent Clients (with location of project): Above Ground (Brazil), Acción Ecológica (Ecuador), Acangau Foundation (Brazil), AGHAM-Advocates of Science and Technology for the People (Philippines), Amazon Watch (Brazil), Andrew Lees Trust (Madagascar), Arizona Mining Reform Coalition, Arkansas Valley Conservation Coalition (Colorado), Asociación de Propietarios de Tierras Rurales del Norte (Ecuador), Asociación Interamericana para la Defensa del Ambiente (Colombia), Asociación Verdegaiia (Spain), Associação Povo e Natureza do Barroso (Portugal), Associações Unidos em Defesa de Covas do Barroso, Bantuan Hukum dan Advokasi Rakyat Sumatera Utara (Indonesia), Black Warrior Riverkeeper (Alabama), British Columbia Mining Law Reform, Broolly Jameson Solicitors (Northern Ireland), Center for Biological Diversity (Nevada), Citizens' Alliance for North Korean Human Rights, City of Richmond (Virginia), Comissão Pastoral da Terra de Minas Gerais (Brazil), Comissão Pro Índio (Brazil), Communities Against the Injustice of Mining (Ireland), Comunidad Amazónica de Acción Social Cordillera del Cóndor Mirador (Ecuador), Concerned Citizens for Lake County (Colorado), Concerned Citizens of Charles City County (Virginia), Confederated Tribes of the Colville Reservation (British Colombia), Confraría de Pescadores San Bartolomé de Noia (Spain), ContraMINAcción (Spain), Cooperación (Peru), Conselho Nacional de Direitos Humanos (Brazil), Coosa Riverkeeper (Alabama), Deertail Scientific (Wisconsin), Coromandel Watchdog of Hauraki (New Zealand), Defensa y Conservación Ecológica de Íntag (Ecuador), Earthjustice (Montana, Washington), Earthworks (Brazil, California, Idaho, Indonesia, Montana, Peru), Earth Community Garden and Food Pantry (Utah), Eau Secours (Quebec), EcoJustice (Nova Scotia), Ecologistas en Acción (Spain), Education, Economics, Environmental, Climate and Health Organization (Mississippi), Espacio Nacional por la Transparencia de la Industria Extractivas (Dominican Republic), E-Tech International (Ecuador), European Center for Constitutional and Human Rights (Germany), European Environmental Bureau, Fondation Rivières (Quebec), Frank Bold Society (Poland), Frente Antiminero (Ecuador), Friends of Buckingham (Virginia), Friends of the Boundary Waters Wilderness (Minnesota), Fundación Montescola (Spain), Gaudīya Society of Sacred Archaeology (Utah), Global Justice Clinic of the New York University School of Law (Dominican Republic), Global Witness, Great Basin Resource Watch (Nevada), Great Basin Water Network (Utah), Greencastle Community Voices/Save our Sperrins (Northern Ireland), Groundwater Relief (Burkina Faso, South Sudan, Syria, Yemen), Heinrich Böll Foundation (El Salvador, Guatemala), Inclusive Development International (Indonesia, Guinea), Information Network for Responsible Mining (Colorado), International Rivers (Ecuador), Ionic Mineral Technologies (Utah), Jaringan Advokasi Tambang (Indonesia), Jubilee Australia Research Centre (Papua New Guinea), Kaplan Fox & Kilsheimer LLP (Brazil), Keep Coxheath Clean (Nova Scotia), Latinoamérica Sustentable (Ecuador), LEAD Agency (Oklahoma), League of Conservation Voters (Virginia), Leigh Day Solicitors (Lesotho, Madagascar), Lil'wat Nation (British Columbia), Living Rivers (Utah), London Mining Network (Spain), Maluti Community Development Forum (Lesotho),

Matías J. Adrogué Attorneys (Texas), MiningWatch Canada (Canada, Ecuador), Minnesota Center for Environmental Advocacy, Northern Confluence Initiative (British Columbia), Pacific Asia Resource Center (Ecuador), Patagonia Area Resource Alliance (Arizona), Pembroke Clean Water Committee (Maine), Perkumpulan Aksi Ekologi dan Emansipasi Rakyat (Indonesia), Pew Charitable Trust (Southwest Pacific), Phoenix Law (Northern Ireland), Plataforma Mina Touro-O Pino Non (Spain), Prolific Mining (Utah), Rainforest Information Centre (Ecuador), Residents Against Flooding (Texas), Richwood Advisory Council (Texas), Royal Gorge Preservation Project (Colorado), San Carlos Apache Tribe (Arizona), Satya Bumi (Indonesia), Saving Island Green (South Carolina), SkeenaWild Conservation Trust (British Columbia), Smarter Shift (British Columbia), South Carolina Coastal Conservation League, SOS Suído Seixo (Spain), South Tacoma Economic Green Zone (Washington), Southeast Queens Residents Environmental Justice Coalition (New York), Southern Environmental Law Center (Alabama), Survival International (Indonesia), Transport & Environment (Indonesia), Utah Valley University (Utah), Valle Unido por Beneficios Comunitarios (California), Virginia Community Rights Network, Voices NGO (Brazil), Water Legacy (Minnesota), Ymir Community Watershed Society (British Columbia)

Education:

Ph.D., Geophysics, Cornell University, 1984
M.A., Geophysics, Princeton University, 1980
B.S., Mathematics, The Ohio State University, 1978

Professional Experience:

Fulbright Professor (October-November 2018), Visiting Professor (June-July 2016), Faculty of Geological and Petroleum Engineering, Escuela Politécnica Nacional, Quito, Ecuador
Associate Professor of Hydrology, Utah Valley University, Orem, Utah, 2008-2018
Associate Professor of Geology (2004-2007), Assistant Professor of Geology (1998-2004), Simpson College, Indianola, Iowa
Fulbright Professor of Geology, Tri-Chandra Multiple Campus, Kathmandu, Nepal, 2003
Assistant Professor of Geology, Ashland University, Ashland, Ohio, 1995-1998
Visiting Scientist (Plant Physiological Ecology, 1994-1995), Research Associate III (Soil Hydrology and Soil Physics, 1993-1994), Cornell University, Ithaca, New York
Mechanical Engineer, Transonic Systems, Ithaca, New York, 1989-1992
Lecturer, Department of Physics, University of Botswana, Gaborone, Botswana, 1987-1989
Postdoctoral Research Associate, Cornell Injection Molding Program, School of Mechanical and Aerospace Engineering, Cornell University, Ithaca, New York, 1984-1986

Selected Awards:

Community Engaged Faculty, Utah Campus Compact Presidential Award, 2017
Community Engaged Scholar of the Year, Utah Valley University, 2017
University Faculty Fellow in Ethics for Liberal Arts and Science, Utah Valley University, 2012
Presidential Award of Excellence in Engagement, Utah Valley University, 2011
Full-Time Faculty of the Year, Wolverine Achievement Awards, Utah Valley University, 2010

Selected Membership on Expert Panels:

IRMA Initiative for Responsible Mining Expert Working Group on Waste and Materials Management
IRMA Initiative for Responsible Mining Expert Working Group on Water Management
United Nations Environment Programme Expert Review Panel for Report on Knowledge Gaps in Tailings Management
Product Water Footprint Working Group, International Lithium Association

Selected Recent Testimony to Governmental Bodies:

- U.S. House of Representatives Subcommittee on Indigenous Peoples of the United States, Hearing on “The Irreparable Environmental and Cultural Impacts of the Proposed Resolution Copper Mining Operation,” March 12, 2020
- United Nations Permanent Forum on Indigenous Issues, Side Event on “Protection of Indigenous Peoples in Amazon Region, Pará, Brazil: Human Rights Violations of ‘Volta Grande’ Mining Project,” April 29, 2021
- European Parliament Public Hearing on “Environmental and Social Impacts of Mining Activity in the EU,” Session on “Mining Legislation, Safety Standards, Social and Environmental Impacts of Miners,” December 2, 2021
- United Nations Environment Assembly, 5.2 Green Tent Event: “Sustainable Solutions to Risky Mine Tailings Management,” February 28, 2022
- Permanent Commission on Human Rights, Dominican Republic Chamber of Deputies, “Presentation of the ‘Emerman Report’ on the Barrick Gold Tailings Dam,” October 6, 2023
- Minnesota Senate Environment, Climate and Legacy Committee, “Hearing for Prove It First Law—Protect Clean Water,” February 22, 2024 and February 24, 2025

Selected Recent Depositions and Court Testimony:

- Administración de Justicia (Galicia, Spain), October 31, 2024
- United States District Court, Eastern District of New York, September 8, 2023
- Office of the Hearing Examiner, City of Tacoma, July 25, 2023
- Arizona Water Quality Appeals Board, January 19, 2022
- Mississippi Environmental Quality Permit Board, April 23, 2021
- Jueza Constitucional [Constitutional Court] (Ecuador), April 15, 2021
- South Carolina Circuit Court, January 19, 2021
- District Court of Brazoria County, Texas, 23rd Judicial District, December 3, 2020

Selected Recent Consulting Reports:

- Emerman, S.H., 2025. Implications of the QMM 2024 Water Report for the impact of the Rio Tinto QMM ilmenite-zircon-monazite mine on downstream water quality, southeastern Madagascar: Report to Leigh Day, 102 p.
- Emerman, S.H., 2025. Review of regulations on mine tailings in Indonesia with complete English translations of key documents: Report to Earthworks and Transport & Environment, 231 p.
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Dr. Chambers is the president of the Center for Science in Public Participation, a non-profit corporation formed to provide technical assistance on mining and water quality to public interest groups and tribal governments.

David Chambers has 50 years of experience in mineral exploration and development – 15 years of technical and management experience in the mineral exploration industry, and for the past 35 years he has served as an advisor on the environmental effects of mining projects both nationally and internationally. He has Professional Engineering Degree in physics from the Colorado School of Mines, a Master of Science Degree in geophysics from the University of California at Berkeley, and is a registered professional geophysicist in California (# GP 972). Dr. Chambers received his Ph.D. in environmental planning from Berkeley. His recent research focuses on tailings dam failures, and the intersection of science and technology with public policy and natural resource management.

Dr. Chambers has been involved with the formation of the Initiative for Responsible Mining Assurance (IRMA), and was instrumental in developing the environmental and reclamation & closure parts of the IRMA Standard. He is a frequent peer reviewer for several international publications, as well as reviewer of science & research informing further development of Natural Resource Canada's MEND (Mine Environmental Neutral Drainage) Program. Dr. Chambers has been a member of the federally chartered US Extractive Industries Transparency Initiative, the University of Alaska-Fairbanks School of Mineral Engineering Advisory Board; a member of the Western Governors' Association Abandoned Mine Waste Working Group; and, a member of the EPA's RCRA Policy Dialogue Committee, a group of industry, environmental and government representatives who worked to develop regulations for mining wastes under the authority of RCRA Subtitle D.

He has provided technical assistance to public interest groups and tribal governments on proposed, operating, and abandoned mines in Alaska, Arizona, California, Colorado, Idaho, Michigan, Minnesota, Missouri, Montana, Nevada, Oregon, South Carolina, South Dakota, Utah, Washington, Wisconsin, Canada (British Columbia, Ontario, Labrador, and the Yukon), Kyrgyzstan, and Northern Ireland. This assistance has included review of environmental impact studies and reclamation plans for underground and open pit mine design, seismic stability for tailings dams, waste rock facilities design, water quality monitoring, water treatment facility design, reclamation planning, and financial assurance for mine closure. He has also played a key role in efforts by the mining industry and NGOs to research and regulate marine mine waste disposal, and a joint industry-NGO international effort to develop a process to define and measure performance for responsible mining practices.

He is also a retired Navy Captain (O-6), a Naval Flight Officer with two Vietnam carrier combat cruises and over 30 years of military service.

Education:

University of California, Berkeley Doctor of Philosophy - Environmental Planning	May 1985
University of California, Berkeley Master of Science - Geophysics	June 1976
Colorado School of Mines, Golden, Colorado Mineral Engineer - Physics	May 1969

Working Affiliations:

- US Extractive Industries Transparency Initiative, chartered under the Department of Interior during the Obama administration, but disbanded by the Trump administration in 2017.
- International Conference on Acid Rock Drainage (ICARD), technical paper referee for 2012 conference.
- International Network on Acid Production (INAP) – Global Acid Rock Drainage (GARD) Guide Advisory Committee, 2009
- University of Alaska, Fairbanks, School of Mineral Engineering Advisory Board (1994-2001)
- Department of Energy - Integrated Non-Thermal Systems Review - Tribal and Stakeholder Working Group (1995-1996)
- Western Governors' Association Mine Waste Working Group (1993-1995)
- Alaska Minerals and Energy Education Program - Executive Review Committee (1992-1995)
- EPA Policy Dialog Committee on Mining Waste (1991-1992)
- United States Navy (1970-2000), Naval Flight Officer, Captain (O-6, Reserve-retired)

RECENT PUBLICATIONS/PAPERS:

- [“Net Present Value Calculations for Mining Post-Closure Financial Assurance”](#), David M. Chambers, Mine Water and the Environment 43:511–515, September 26, 2024, <https://doi.org/10.1007/s10230-024-00995-1>
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- [“Potential Impacts to Wetlands and Water Bodies Due to Mineral Exploration, Pebble Copper-Gold Prospect, Southwest Alaska,”](#) Kendra Zamzow and David M. Chambers, Environments 2019, 6, 84; doi:10.3390/environments6070084, July 19, 2019
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- ["Independent investigation of reclamation at exploration drill holes at the remote Pebble copper prospect, Alaska,"](#) Kendra Zamzow and David M Chambers, Proceedings of the 13th International Mine Water Association Congress, 2017
- ["Root Causes of Tailings Dam Overtopping: The Economics of Risk & Consequence,"](#) Lindsay Newland Bowker and David M. Chambers, Protections 2016, Colorado State University, 8Sep16
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- ["AFS Position Paper and Policy on Mining and Fossil Fuel Extraction,"](#) Robert M. Hughes, Felipe Amezcua, David M. Chambers, Wesley M. Daniel, James S. Franks, William Franzin, Donald MacDonald, Eric Merriam, George Neall, Paulo dos Santos Pompeu, Lou Reynolds & Carol Ann Woody, Fisheries, Vol. 41, No. 1, January 2016
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- ["Perpetual Water Treatment for Mines,"](#) David M Chambers, Water Today, Volume 3, Issue 4, August, 2010, pp. 58-59.

Richard B. White, P.E.

EDUCATION

MS, CIVIL AND ENVIRONMENTAL ENGINEERING, Utah State University	1977
BS, WATERSHED SCIENCE, Utah State University	1976

EXPERIENCE

CONSULTING CIVIL AND ENVIRONMENTAL ENGINEER	2016-PRESENT
<i>Richard B. White, PE, PLLC</i>	<i>Draper, Utah</i>

PRESIDENT	1982-2016
<i>EarthFax Engineering Group, LLC</i>	<i>Midvale, Utah</i>

SENIOR HYDROLOGIST	1979-1983
<i>Ford, Bacon & Davis, Inc.</i>	<i>Salt Lake City, Utah</i>

HYDROLOGIST	1977-1979
<i>Vaughn Hansen Associates</i>	<i>Salt Lake City, Utah</i>

PRACTICE AREAS

Mr. White is a water resources engineer with over 45 years of practical experience. His core areas of expertise include:

- Assessment, planning, design, permitting, and construction supervision of surface and groundwater resource projects
- Water rights technical assistance
- Assessment and mitigation of environmental impacts resulting from land development
- Rapid engineering response to oil spills and other environmental emergencies
- Preparation of plans to remediate soil and groundwater contamination
- Design of disturbed-land reclamation plans
- Design of stream channel control and stabilization plans
- Design of ground-source heat exchange drilling programs.
- Interaction with regulatory agencies

SELECTED EXPERIENCE

Mr. White has extensive water resource and environmental engineering experience in wildland, urban, and industrial settings throughout Utah and the Intermountain/Rocky Mountain region as well as internationally. His designs have been implemented to restore natural conditions, mitigate past environmental impacts, prevent future environmental impacts, provide water for beneficial use, and to serve as the basis of ground-source heat exchange.

His disturbed-land reclamation plans have won State, national, and international awards. He has assessed the extent and magnitude of contamination associated with multiple crude-oil and refined-oil spills, has prepared plans to remediate the impacts of those spills, has supervised cleanup operations, and has monitored post-cleanup areas to evaluate the long-term effectiveness of cleanup. He has also designed approaches to mitigated stream- and river-channel instability at oil and gas pipeline crossings.

Mr. White has assisted several municipalities and private entities in the western US with the development of groundwater to meet anticipated future demands. He has designed and supervised the construction and testing of multiple water wells installed in unconsolidated and bedrock aquifers.

Representative experience includes the following:

- Served as chief consulting environmental engineer on over 25 oil spills (crude, gasoline, and diesel) in the Intermountain/Rocky Mountain region, assessing and designing methods to remediate impacts to surface water (rivers and reservoirs), groundwater, and soil.
- Supervised environmental characterization efforts at rocket-motor production facilities, petroleum refineries, petroleum pipelines, printed-circuit facilities, abandoned smelter complexes, and other industrial facilities to determine the extent and magnitude of soil and groundwater contamination.
- Designed methods to remediate the impacts of industrial operations on soil and groundwater, including air stripping, vapor extraction, thermal desorption, pump-and-treat, air sparging, dual-phase extraction, excavation and off-site disposal, stabilization/solidification, bioremediation, and natural attenuation for contaminants that included explosives, inorganics, chlorinated solvents, dioxins/furans, and other organics.
- Performed assessments and designed mitigation measures to stabilize stream and river channels and beds at over 20 oil and gas pipeline crossings throughout the United States.
- Prepared multiple stream-alteration permit applications for submittal to the U.S. Army Corps of Engineers and the Utah State Engineer's Office.
- Developed award-winning plans and developed the associated cost estimates to reclaim areas that had been disturbed by coal and mineral mining operations.
- Served as senior water resources engineer on a project to evaluate and implement Aquifer Storage and Recovery for the community of Provo, Utah.
- Conducted detailed hydrologic and hydraulic evaluations of a 12,300-acre urban watershed in northern Utah to determine peak annual and seasonal flows in a drainage canal scheduled for re-routing during dredging.
- Modeled groundwater flow in the unsaturated zone beneath infiltration basins at multiple locations in northern Utah.
- Supervised groundwater flow and contaminant transport modeling at a petroleum refinery and two chemical manufacturing facilities in Utah.
- Developed storm water runoff conveyance system master plans for two rural Utah communities.
- Prepared culinary water master plans, designed water-system improvements, and helped resolve water-rights issues for the communities of Escalante and Hatch in south-central Utah.
- Prepared specifications and supervised the installation of multiple exploratory boreholes in Salt Lake County, Utah to develop a data-base for the design of large-quantity production wells.
- Evaluated the viability of an interconnected water-distribution system in Utah with more than 5,000 domestic, commercial, agricultural, and other connections to determine whether or not bottle necks existed that could reduce system performance.
- Conducted hydrologic analyses to determine the adequacy of existing and proposed water supplies for use at coal-fired power plants in Utah and assessed the long-term statistical adequacy of alternative surface and groundwater sources to supplement existing supplies.

MEMBERSHIPS AND CERTIFICATIONS

- Utah Solid and Hazardous Waste Control Board (Member and Chair, 1995-2003)
- Utah Centers of Excellence Advisory Council, Utah Office of Technology and Science (2002-2010)
- U.S. Department of Commerce, Environmental Technologies Trade Advisory Committee (2009-2016) - Chair of Trade Promotion Subcommittee
- Registered Professional Engineer (Arizona, Colorado, Montana, Utah, Washington, and Wyoming)

EDUCATION

MS, CIVIL AND ENVIRONMENTAL ENGINEERING <i>Utah State University</i>	1977 <i>Logan, Utah</i>
BS, WATERSHED SCIENCE <i>Utah State University</i>	1976 <i>Logan, Utah</i>
SAFETY AT HAZARDOUS MATERIALS SITES <i>EarthFax Engineering, Inc.</i>	1986 <i>Midvale, Utah</i>

EXPERIENCE

SENIOR WATER RESOURCES ENGINEER (CONTRACT EMPLOYEE) <i>Barr Engineering Co.</i>	2021-PRESENT <i>Salt Lake City, Utah</i>
CONSULTING CIVIL AND ENVIRONMENTAL ENGINEER <i>Richard B. White, PE, PLLC</i>	2016-PRESENT <i>Draper, Utah</i>
PRESIDENT <i>EarthFax Engineering Group, LLC</i>	1982-2016 <i>Midvale, Utah</i>
SENIOR HYDROLOGIST <i>Ford, Bacon & Davis, Inc.</i>	1979-1983 <i>Salt Lake City, Utah</i>
HYDROLOGIST <i>Vaughn Hansen Associates</i>	1977-1979 <i>Salt Lake City, Utah</i>
RESEARCH ASSISTANT <i>Utah State University</i>	1976-1977 <i>Logan, Utah</i>

PRACTICE AREAS

Mr. White is a civil and environmental engineer with over 45 years of practical experience. His core areas of expertise include:

- Assessment and mitigation of environmental impacts resulting from land development
- Design of disturbed-land reclamation plans
- Design of runoff- and sediment-control plans
- Design of stream channel stabilization plans
- Rapid engineering response to oil spills and other environmental emergencies
- Preparation of plans to remediate soil and groundwater contamination
- Water supply development
- Interaction with regulatory agencies

Representative projects on which Mr. White has worked are summarized below.

Water Supply Development

Mr. White has assisted several municipalities, industrial facilities, and other clients in Utah to develop groundwater to meet anticipated future demands. He has conducted hydrogeologic evaluations to identify target production zones, modeled the aquifers to determine potential yields, designed screens and filter packs to maximize well efficiencies, prepared specifications and bid documents for installation of the wells, performed and analyzed the results pumping tests, and prepared as-built documentation. These services were provided for wells installed in unconsolidated and bedrock aquifers using a variety of drilling methods, with yields ranging from about 100 to more than 2,000 gallons per minute, depths of 120 to 5,400 feet, and finished diameters up to 20 inches.

He has also assisted several private entities, industrial clients, and municipalities in Utah with water rights issues. In this capacity, he has successfully filed multiple water-right exchange applications, applications to appropriate, permanent and temporary change applications, fixed-time change applications, diligence claims, and extensions. He has prepared documentation to ensure that municipal water rights would remain available for future growth, even though full beneficial use of the rights could not yet be proven. He has also prepared several proofs of beneficial use in order to certificate water rights and has provided technical assistance to client legal counsel when water rights were in dispute. Representative projects are summarized below.

- Prepared specifications for the installation of seven exploratory boreholes in Salt Lake County, Utah to develop a data-base for the design of large-quantity production wells. Assisted the client (a major metropolitan water district) in selecting contractors to drill the boreholes and then supervised drilling and down-hole geophysical logging of the holes. Based on cuttings samples collected from the holes and a review of the geophysical logs, provided recommendations to the client for construction of production wells at the locations. Combined yields from the seven production wells was designed to be in excess of 15,000 gallons per minute. Supervised drilling, and well completion, and the performance of variable- and constant-rate pumping tests for two of the final wells, with combined yields of approximately 4700 gallons per minute.
- Evaluated the water-supply and distribution system for a rural community of approximately 800 people in southern Utah. Modeled the hydraulic capacity of the community's culinary water system under average and peak demands. Prepared a Master Plan outlining the adequacy of the community's culinary water system and providing recommendations for improving the sustainability of that system. Assisted the community in shoring up water rights by filing for exchanges and applications to appropriate in order to allow for future growth. Provided input to legal counsel to resolve water-right conflicts with a local irrigation company. Developed plans and cost estimates to upgrade their system to provide a long-term solution to their water needs, including rehabilitation of a backup water-supply well, replacement of an old pipeline carrying water from the town's springs to their storage tanks, installation of additional piping within the town limits to improve water quality and fire-fighting capacity, installation of system-wide water meters to better monitor water usage, and installation of an automation system to allow remote communication between the storage tank and the town center. Assisted the town in obtaining grants and loans from funding agencies. Managed final design and construction of necessary improvements.
- Managed a project to model an existing potable water system at an oil refinery located in northern Utah. Some of the challenges of modeling the existing system included the lack of accurate mapping, inadequate records of pipe sizes, and installation of dead-end lines

without loops. The project team inventoried existing water system design and construction information and compiled existing drawings of the public and private water utilities that supply the refinery. Problem areas were identified based on simulated flows and recommendations were made for developing alternative loops, valves, and line replacements. Project deliverables included updated potable water system schematic drawings, recommendations concerning prioritized repairs and replacements, and a master plan that identified the best cost-to-benefit values based on the client's priorities.

- Managed projects to design and supervise the construction to upgrade firewater systems at two oil refineries in northern Utah. The project team developed estimates (in accordance with National Fire Protection Association and American Petroleum Institute standards) of the quantity of water required for firefighting at the refineries to prevent or mitigate the loss of equipment and business interruption should a fire occur. Project deliverables included updated water-system maps, system models, detailed design drawings, construction specifications, and bid documents. The project team then supervised the construction of required improvements. The completed projects included the installation of over 30,000 feet of new pipeline, with diameters ranging up to 16 inches, to deliver over 6,000 gallons per minute of water throughout the refineries.
- Evaluated the viability of an interconnected water-distribution system in Utah with more than 5,000 domestic, commercial, agricultural, and other connections to determine whether or not "bottle necks" existed that could reduce system performance. The system consisted of over 100 miles of ductile iron and PVC distribution piping (up to 30 inches in diameter), and appurtenant structures (valves, pressure reducers, thrust blocks, interconnects, etc.). Modeled flow and pressure conditions under normal and peak-demand scenarios to evaluate source and system reliability.
- Conducted hydrologic analyses to determine the adequacy of existing and proposed water supplies for use at coal-fired power plants in Utah. Examined alternative surface and groundwater sources to supplement existing supplies. Conceptually designed alternative supplies.
- Provided engineering design and construction inspection services to repair a spring collection system for a rural community in central Utah. The repairs were necessitated by several recent slope failures that had restricted flow and threatened the quality of culinary water resources for the community system. Tasks included removal of saturated soils in the area where slope failure occurred and placement of gabion baskets, geofabric, and compacted fill material to stabilize the slope. Additional tasks included replacement of the collection piping near as well as the piping that conveyed this water to pretreatment transmission lines.
- Prepared multiple Preliminary Evaluation Reports and Drinking Water Source Protection Plans for culinary water wells and springs throughout the State of Utah. These reports and plans were prepared in accordance with the requirements of the Utah Division of Drinking Water to identify uncontrolled potential contamination or pollution sources within the capture zones of the water sources. The reports also identified existing land use agreements or zoning ordinances that could affect the sources during future operation. Modeled groundwater flow under probable operational scenarios, delineated source protection zone boundaries, identified potential contamination sources within these protection zones, assisted the clients in obtaining agreements with adjacent land owners to preclude the establishment of future contamination sources, and developed management plans in accordance with State of Utah regulations.

Mine Site Assessment, Design, and Reclamation

Mr. White has developed reclamation plans for several areas disturbed by coal and mineral mining operations. Using site-specific topographic data, he has designed drainage alignments, profiles, and channel sections to efficiently convey runoff from the reclaimed slopes. He has also developed reclamation grading plans that balanced earthwork volumes, designed post-mining runoff- and sediment-control structures, developed topsoil and substitute topsoil redistribution plans, and developed revegetation plans to restore the areas to productive post-mining land uses. He has submitted this information to the appropriate regulatory agencies on behalf of his clients, and provided construction oversight during field implementation of the plans. Representative projects are summarized below.

- Prepared reclamation plans for an existing uranium mine and mill in southeastern Utah. The project included the design of a suitable cover for the tailings, giving consideration to radon attenuation, and erosion control. Designed a capillary break that was installed between the tailings and the cover to minimize the potential for moisture (and accompanying contaminants) to migrate in the vadose zone between the tailings and the cover. In accordance with the requirements of the U.S. Nuclear Regulatory Commission, designed a reclamation channel to convey surface runoff resulting from the probable maximum precipitation event across the site without damaging the reclaimed tailings piles.
- Supervised data collection and analyses to evaluate the migration of inorganic and radioactive contaminants in surface and groundwater from several inactive uranium-mill tailings piles in the western United States. Supervised drilling and monitoring-well construction. Collected soil and water samples for quality analyses. Performed field tests to determine groundwater hydraulics. Analyzed all data to determine existing conditions and probable impacts of implementing proposed remedial actions. Prepared detailed reports for each site and associated sections of environmental assessments. Assisted in preparation of remedial-action plans.
- Evaluated the extent of lixiviant migration at a uranium solution mine in Texas. Developed cost estimates for restoration of groundwater quality at the site.
- Designed an instrumentation network to monitor moisture and contaminant migration in the unsaturated zone at the site of a proposed low-level, high specific-activity radioactive waste disposal site in Nevada.
- Designed a surface-roughening technique applicable to the semi-arid areas of the western United States referred to as "deep gouging." This method results in a variably roughened surface that retains precipitation on the immediate slope, thereby enhancing revegetation success and substantially reducing erosion potentials. Using established hydrologic calculation methods, demonstrated that sediment yields from areas reclaimed with this method are significantly reduced when compared with the same areas prior to disturbance. Using this reclamation technique, the client received the *2003 Excellence in Surface Coal Mining and Reclamation National Award*, presented by the U.S. Department of Interior, Office of Surface Mining. They were cited "for outstanding performance in developing and implementing exemplary mining and reclamation methods that maintained sound environmental conditions."
- Developed a plan to reclaim land affected by molybdenum mine and mill located at an elevation of over 10,000 feet in Colorado. Expansion of the mining operation was projected to result in an affected area of over 6,400 acres, including the open-pit mine, tailings impoundments, a waste-rock disposal site, the mill site, and several ancillary facilities. Critical issues affecting the design of the reclamation plan included the high-

altitude location in montane and alpine ecological zones, dealing with a short growing season and an average annual snowfall of over 20 feet, the control of acid-mine drainage, the location of the site on the continental divide at the headwaters of three major drainages, and the fact that much of the surface water from the site discharged into watersheds that provided a portion of the drinking-water supply for Denver, Colorado. Evaluated areas to be affected by the expansion project and developed topsoil salvaging plans for those areas that had not yet been disturbed. Designed reclamation channels to safely convey the peak flow from the probable maximum precipitation event around and across the tailings in a non-erosive manner. Designed a cover system for the tailings impoundments that would shed runoff in a controlled manner and minimize the potential for long-term seepage of acidic water from the tailings. The reclamation plan included demolition of site structures, placement of the demolition debris in the tailings impoundments, construction of the cover system for the tailings, recontouring of selected areas, incorporation of lime into the surface of acid-generating material, placement of topsoil, and site revegetation.

- Evaluated alternatives for reducing, controlling, and recycling waste rock at a coal mine located on Sakhalin Island in the Russian Far East. Evaluated alternatives for minimizing environmental pollution resulting from existing mine waste dumps and increasing opportunities to recycle this waste; developed a program to control and beneficially reuse solid wastes generated by the mine; and prepared a project report that outlined the feasibility of solid-waste control and recycling at the facility. Also evaluated alternative underground mining methods to minimize the production of waste rock and assessed the coal burning efficiency of the town boiler to minimize ash production. This project was subsequently designated by the Eurasian-American Partnership for Environmentally Sustainable Economies as a *Best Practice*. The citation indicated that the project demonstrated "environmentally sound and economically efficient solutions to environmental problems in Central and Eastern Europe and Eurasia."
- Conducted a hydrogeologic investigation at a surface coal mine located north of Vladivostok in the Russian Far East. Large quantities of groundwater were flowing uncontrolled into the mine, creating safety hazards due to instability of pit walls and spoil piles. Furthermore, water being discharged from the mine had the potential of adversely impacting the quality of water in Khanka Lake, an important ecological preserve located downstream from the mine. Evaluated data collected at the site by the Russian Academy of Sciences, conducted field investigations, and interviewed mine personnel familiar with the local hydrogeology. Designed dewatering wells to intercept the groundwater before it could flow into the mine, thereby eliminating the safety and environmental concerns. Recommended that water pumped from the dewatering wells be delivered to nearby communities for their domestic use and that the heat from the pumped groundwater be recovered to heat mine buildings and nearby residences.
- Prepared a plan to reclaim land affected by waste from silver and gold mining operations near Park City, Utah. The 4,800-acre area was planned for residential, commercial, and recreational development. Over a 100-year period, large quantities of waste rock and tailings contaminated primarily with arsenic and lead had been left in diverse locations throughout the property. Since sufficient topsoil was not available to cover the exposed waste, the cover system design for the waste rock involved incorporation of mulch into the waste rock and direct revegetation of the mulched surface. Final reclamation plans also included demolition of remaining structures, construction of diversions to control runoff, and fertilizing and revegetating the reclaimed waste rock and tailings. The plan was developed to provide long-term protection of the environment under the assumed future scenarios consisting of residential, commercial, and recreational land uses.

- Designed numerous surface-runoff and sediment control facilities for surface and underground coal mines, active and inactive uranium mills, and hazardous-waste management operations. Facilities have included sedimentation ponds, diversion channels, riprapped channels, land reclamation, check dams, and culverts. State-of-the-art models have been used to determine peak design flows and to aid in design of the structures. Design considerations have included selection of the appropriate design storm, avoidance of maximum permissible flow velocities, cost-effective erosion control, and water-surface profile analyses. Served as a liaison between the clients and the appropriate regulatory agencies.
- Conducted an investigation at the site of an active uranium mill in southeastern Utah to determine appropriate remedial actions to prevent future groundwater contamination after a plume had developed due to seepage from tailings ponds. Performed surface geophysical investigations (electrical resistivity and very-low-frequency electromagnetic) to determine the extent of contamination, bedrock lithology, and the location of major groundwater-conducting fractures. Utilized water-level and quality data from over 140 previously existing and new monitor wells to aid in defining the extent of groundwater contamination. Conducted long-term pumping tests to determine the anisotropic nature of the groundwater hydraulic system. Modeled the fractured aquifer to determine the rate of contaminant migration and the effectiveness of the proposed remedial action. Designed a remedial-action plan consisting of hydrodynamic control of contaminant migration through the operation of several groundwater recovery wells and pumping this groundwater to evaporation ponds for disposal.
- Conducted groundwater, surface water, and soil investigations at the site of an abandoned copper/lead smelter in Utah which was being considered for addition to EPA's National Priorities List. Installed multiple monitoring wells to assess groundwater hydraulic and quality conditions. Delineated and sampled areas of smelter wastes, including slag, calcine, baghouse dust, and miscellaneous waste which had accumulated during operation and demolition of the smelter. Data received from the laboratories were interpreted using geochemical and hydrologic models to determine the need for future remedial actions and the effectiveness of natural soils at attenuating the migration of inorganic contaminants from the waste sources. Developed a conceptual remedial-action plan together with work plans for remedial design. Information was also provided in support of the client's pursuit of Innocent Purchaser Defense rules.
- Designed methods to stabilize a steep-slope area of approximately 40,000 square feet that had been affected by a coal outcrop fire. The fire had originated in an adjacent abandoned underground coal mine and had resulted in denuding of the area and mass failure of several portions of the slope, including multiple rotational failure cracks with depths in excess of 25 feet and top widths in excess of 10 feet. The design consisted of creating a uniform slope in areas that had been subject to mass failure, installing gabions and anchoring the gabions to the slope using rock bolts, filling the gabions with road-base material and topsoil, and revegetating the area. Provided construction oversight and survey control during implementation of the project.
- Developed a conceptual dewatering plan for a proposed lead/zinc/silver mine that was projected to encounter significant quantities of hot saline groundwater. Previous dewatering operations in the region had pumped water to percolation ponds on an alluvial fan that was situated above a valley that relied on groundwater for irrigation of agricultural fields. Performed investigations to determine the potential of future dewatering operations to impact the valley's groundwater resources. Reviewed data from local water-supply wells to determine whether or not past impacts had occurred. Evaluated alternatives for mine-water disposal and designed a monitoring program to

assess future impacts. Served as a liaison between the mining company, regulatory agencies, and legal counsel.

- Prepared a reclamation plan for an abandoned mine/mill/smelter complex in Utah. Collected soil, waste, and water samples to delineate acceptable topsoil and structural fill borrow materials and to determine requirements for isolation of waste materials. Prepared reclamation designs, giving consideration to regulatory obligations, demolition of structures, post-mining land uses, soil cover requirements, revegetation, and controlling runoff in a non-erosive manner. The reclamation plan also included plans for shaft and portal closure, backfilling and stabilization of disturbed slopes, reclamation of roads and pads, and general re-contouring of the area. Particular concern was paid to mitigating erosion that had occurred in the area since shutdown of mining operations and the beginning of reclamation. Project costs were also estimated.

Stream Channel Stabilization

Mr. White has performed and/or managed the assessment and design of over 20 projects to stabilize stream and river channels and beds at oil and gas pipeline crossings. This work has included the following:

- Developed a compendium of stream-bank and channel stabilization methods to assist a petroleum and natural gas pipeline company in controlling the impacts of their operations on the environment. The company operates approximately 2,800 miles of pipelines throughout western Canada and the western and Midwestern United States. The longest of these pipelines extends from Alberta, Canada through parts of Montana, Wyoming, Nebraska, Kansas, Missouri, and Illinois in the United States. Presented the client with 24 approaches that could be used to stabilize stream banks and channel bottoms, depending on the specifics of the site. These included “hard” approaches that rely on non-biodegradable materials such as riprap and concrete to provide stability. They also included “soft” approaches that rely on vegetation and other biodegradable materials, as well as combinations of the two general approaches. Evaluated the effectiveness, environmental consequences, and cost of each approach and provided the client with design and installation guidelines and maintenance recommendations to permit them to evaluate field conditions and, in many cases, select and implement an appropriate stabilization method without further involvement by EarthFax.
- Evaluated stream-crossing locations along the route of a proposed crude-oil pipeline that that was to be constructed for approximately 90 miles from Evanston, Wyoming to Salt Lake City, Utah. Considered various alternatives for installation of the new pipeline across the streams to minimize damage, including spanning, boring, and trenching. Prepared stream-alteration permits for submittal by the client to the U.S. Army Corps of Engineers and the Utah State Engineer’s Office. Provided typical design drawings and specifications as well as construction alternatives for completing the stream channel crossings. In specific instances, collected site-specific survey data, evaluated design discharge rates, designed open channels and erosion-protection features, and provided the client with design drawings used for construction bidding.
- Conducted an investigation of conditions at locations in Kansas and Missouri where historic pipelines had become exposed due to improper stabilization of ground during installation of a new pipeline. Examined the immediate area of concern as well as up- and downstream from that area, performed land surveys, prepared drawings and other documents to detail the design, assisted the client in obtaining stream alteration permits, and reviewed construction information to help the client with project implementation.

Developed mitigation designs to stabilize the exposed pipelines while ensuring that up- and downstream areas were not adversely impacted.

- Evaluated conditions at a location in Louisiana where a stream bank adjacent to a 16-inch diameter petroleum pipeline was eroding toward the pipeline. To protect their asset, the pipeline company installed sheet piling as a retaining wall in the stream bank approximately 25 years earlier. However, the lack of a drainage layer behind the sheet piling eventually caused the piling to fail. Developed a design for stabilizing the stream bank at this location, consisting of regrading the channel bank, installing articulated concrete mats on the bank, and planting willow cuttings between the concrete blocks. This approach proved successful at keeping the bank stable during extreme flooding of the area two years after installation.

Soil and Groundwater Assessment and Remediation

Supervised environmental characterization efforts at rocket-motor production facilities, petroleum refineries, petroleum pipelines, printed-circuit facilities, abandoned smelter complexes, and other industrial facilities to determine the extent and magnitude of soil and groundwater contamination. Prepared work plans, QA/QC plans, health and safety plans, and contamination assessments. Prepared human-health and ecological risk assessments to establish remediation goals. Developed remedial-action plans to clean up past contamination. Designed remedial measures (including air stripping, vapor extraction, thermal desorption, pump-and-treat, air sparging, dual-phase extraction, excavation and off-site disposal, stabilization/solidification, bioremediation, and natural attenuation). Contaminants included explosives, inorganics, chlorinated solvents, dioxins/furans, and other organics. Selected projects are summarized below.

- Supervised and directly assisted in the performance of multi-year assessment, design, and remediation management services at a petroleum refinery located on 600 acres in northern Utah. This work involved the performance of a RCRA Facility Assessment that included detailed characterization of 28 solid-waste management units to determine the need for remediation of hazardous and non-hazardous sludges, refuse, spent refinery chemicals, tank bottoms, and waste waters; performance of bench- and pilot-scale treatability studies to determine the feasibility of various remedial alternatives; preparation of a refinery-wide numerical groundwater flow and contaminant transport model; assessments of the risk of remediation alternatives on human health and the environment; and negotiations with regulatory authorities to classify groundwater as a separate solid-waste management unit, thereby negating the need to remediate groundwater at each individual location where surface remediation was required. The majority of the solid wastes were remediated through solidification and on-site disposal in onsite closure cells, the design of which included combining wastes with widely varying acid-generation potential to support chemical stabilization of the material.
- Supervised and directly provided long-term environmental engineering services to a major propellant and rocket-motor manufacturing client in northern Utah. Contaminants of concern include explosives (nitroglycerin, HMX, RDX, perchlorates, etc.), organic solvents (TCE, TCA, DCE, Freon, etc.), and inorganics (lead, silver, chromium, etc.). Specific tasks that completed for this client have included:
 - Performed groundwater quality and hydrogeologic characterizations of the facilities and adjacent areas;
 - Assessed the extent and magnitude of off-site contamination;

- Prepared work plans and bid documents and supervised installation of over 100 monitoring wells, deep piezometers, and observation wells under tight time schedules to meet regulatory constraints;
 - Determined the effectiveness of monitoring well purging during sampling and assisted the client in changing to low-purge sampling methods, thereby eliminating large amounts of investigation-derived waste;
 - Performed and analyzed the results of aquifer-characteristics tests in over 100 monitoring wells to assess the hydraulic conditions of the groundwater system;
 - Numerically modeled groundwater flow and contaminant transport to assist in determining the effectiveness of various remediation alternatives;
 - Performed human health and ecological risk assessments to establish cleanup criteria;
 - Modeled flow in the unsaturated zone to assess the potential for migration of contaminants from soil to the underlying groundwater;
 - Designed a solid-waste landfill for on-site disposal of non-hazardous solid waste;
 - Performed floodplain encroachment investigations;
 - Designed and implemented pilot-scales tests to anaerobically bioremediate soil and groundwater that was contaminated with perchlorates and organic solvents;
 - Conducted a remote drilling investigation of explosives-contaminated soil in six former industrial wastewater collection basins, exercising special precautionary measures due to the potentially-explosive nature of the contaminants; and
 - Designed a water treatment system to remove perchlorate from storm water prior to discharging to an adjacent wetland.
- Served as chief engineer to evaluate options for remediating legacy contamination adjacent to a drainage canal where it flows through to an oil refinery. Past waste disposal practices at the refinery resulted in hydrocarbon impacts to soils adjacent to the canal. The US EPA expressed concerns that continued seepage of oil into the canal following remediation of the sediments would re-contaminate the canal. Conducted a feasibility study under US EPA guidelines to evaluate alternative approaches to eliminate future impacts from the oil seepage. The design anticipated re-routing approximately 3000 feet of the canal to bypass the area of oil seepage. The impacted soils in the former canal bank would then be mitigated as part of a refinery-wide groundwater remediation effort. Evaluated several options for remediating the residual hydrocarbons in the canal bank, including preparation of conceptual designs and cost estimates for each option, and presented these options to the client for consideration. Prepared a Remedial Design/Remedial Action work plan for the preferred alternative, which consisted of partial excavation of the impacted soil, backfilling of the area to maintain stable conditions, and implementation of monitored natural attenuation.
- Designed a soil-vapor extraction (“SVE”) pilot-scale test for a Superfund site near Billings, Montana. Reviewed data collected from prior subsurface investigations and rendered a positive opinion on the feasibility of SVE as a remediation approach for the site. Designed the pilot test components, consisting of 14 SVE wells, vacuum pumps, air treatment systems, and monitoring apparatuses. Assisted the client with the process of obtaining proposals from contractors to install the pilot-test components and served as the project engineer during performance of the test.
- Served as chief engineer and manager of a project to evaluate and remediate the impacts of prior mining activities in an area of proposed residential development in southwestern Utah. The area had been the subject of silver and uranium mining from the late 1880s to the mid-1900s, with several areas containing waste rock, tailings, and other contamination of concern. The project included a detailed site characterization

investigation, performance of a risk assessment to establish remediation goals, preparation of a detailed work plan for excavation of contaminated soil and waste rock, burial of these materials in an on-site repository, and backfilling the excavated areas with clean soil. Developed a quality assurance project plan, sampling and analysis plan, dust control plan, traffic control plan, and storm water pollution prevention plan and incorporated all of these plans into the detailed remedial action plan for review by the Utah Department of Environmental Quality. Interacted with the State during site remediation and prepared a final report describing all remediation activities. This work was conducted under the Voluntary Cleanup Program of the State of Utah.

- Evaluated alternatives for treatment and disposal of water encountered in an underground coal mine in southeastern Utah. The primary concern associated with this water was high levels of salinity. Options that were evaluated included underground injection, evaporation, beneficial reuse via irrigation, and reverse-osmosis treatment for desalination. Prepared cost estimates as well as a discussion of advantages and disadvantages for each alternative to allow the client to better evaluate their options.
- Designed treatment cells for the bioremediation of contaminated soils, using both bacterial and fungal methods. Contaminants included petroleum hydrocarbons, pesticides, wood preservatives, and dioxins/furans. Work was conducted in Utah, Wyoming, Michigan, North Carolina, and New Zealand.
- Performed statistical analyses of soil and groundwater data collected from industrial facilities. Used these data to calculate exposure point concentrations and risks associated with contaminated media.
- Designed sampling programs to assess the effectiveness of soil remediation efforts. Prepared work plans, outlining data quality objectives, conceptual site models, sampling procedures, analytical procedures, and human risk associated with residual concentrations of the contaminants of concern.
- Prepared human-health and ecological risk assessments at locations where the contaminants of concern included solvents, petroleum hydrocarbons, energetics, and inorganics.
- Supervised assessment and remediation of groundwater contamination resulting from leaking underground storage tanks in Utah and Michigan. Responsible for monitoring well installation, soil-gas surveys, remediation system design and installation, and treatment system operation.

Oil Spill Response

Mr. White has served as chief consulting environmental engineer on over 25 oil spills (crude, gasoline, and diesel) in the Intermountain/Rocky Mountain regions of the U.S. In this capacity, he has provided oversight or direct involvement in assessing the extent and magnitude of impacts, designed methods to remediate those impacts, sampled impacted media to confirm the efficacy of remediation efforts, and interacted with regulatory agencies on behalf of the clients. Selected projects are summarized below.

- Served as part of the client's team in response to a release of diesel fuel to a fresh-water reservoir in northern Utah. A cracked seam in an 8-inch diameter refined products pipeline released approximately 500 barrels of diesel into a stream channel and pond system that conveys storm water to Willard Bay, a man-made fresh-water reservoir situated along the east shore of the Great Salt Lake. Provided technical and engineering expertise during initial delineation of the spill boundaries; responsible for assessing impacts to groundwater; designed groundwater remediation methods; provided input on

the design of several water control structures; reviewed mass balance calculations of released and recovered product; and interacted with State regulatory personnel and their subcontractors on behalf of the client.

- Served on the client's emergency response team on a crude oil spill in the metropolitan area of Salt Lake City, Utah. The 800-barrel release originated from an 8-inch diameter pipeline that transports crude oil from western Colorado to refineries in the Salt Lake City area. The event occurred during a series of late spring thunderstorms in Salt Lake City that resulted in short-circuiting of an adjacent high voltage terminal, causing the pipeline to become a receptor of the electrical surge which melted a hole in the line. By the time the release was discovered and controls emplaced, the oil had traveled approximately 10 miles through Salt Lake City toward the Great Salt Lake before it was contained. Responsible for technical input on all EarthFax activities throughout the project, including design of initial response efforts, site assessments, design of remediation methods, and post-event sampling. Specific tasks performed by Mr. White included:
 - Provided technical engineering and environmental expertise to the client and other subcontractors under the Unified Command system during the emergency response and remediation phases of the project.
 - Conducted multiple Shoreline Cleanup and Assessment Technique surveys along the affected waterways to uniformly grade the magnitude of contamination and prioritize future cleanup activities.
 - Provided and reviewed design and construction inspection services for the restoration of the spill site, the impacted waterways, and adjacent properties.
 - Performed confirmation sampling during active remediation efforts and for approximately 5 years after the release to verify that human health and ecological risks in the affected area had been adequately mitigated.
- Served as part of the client's emergency response team on a second crude oil spill in the metropolitan area of Salt Lake City, Utah. This 550-barrel spill occurred approximately 6 months after the above-noted release when a nearby block valve froze during extreme winter temperatures. Approximately 4 acres of land in an adjacent arboretum and amphitheater were affected. Responsible for overseeing initial assessments to delineate the extent of contamination; for designing controls to isolate the contamination during snowmelt; for verification sampling following excavation of the impacted soil; for providing technical advice on environmental, regulatory, and waste disposal matters; for directing excavation efforts; and for providing engineering support during restoration or replacement of impacted structures.
- Served as chief engineer to assess and remediate soil contamination due to leakage from a refined product pipeline in a remote location on the western Snake River Plain in south-central Idaho. Supervised assessment efforts, calculated the quantity of spilled hydrocarbons in the soil to compare with the client's estimate of spilled product based on pipeline flow records, and designed a soil vapor extraction remediation system using multiple vertical vapor extraction points. Calculations confirmed that benzene emissions from the blowers would be below the Idaho Department of Environmental Quality emission rate standard, thus eliminating the need for surface treatment of the emissions. Supervised monitoring efforts during the cleanup process.
- Served as part of the client's emergency response team on the release of diesel fuel to a wetland area adjacent to the north shore of the Great Salt Lake. An estimated 100 barrels of diesel fuel were released through a pin-hole leak in an 8-inch diameter pipeline that conveys refined fuel products from Salt Lake City, Utah to Spokane, Washington, resulting in 22 acres of wetland and upland area being affected. Mr. White provided

technical oversight or direct input on this project, including implementation of containment measures, delineating the extent and magnitude of contamination, evaluating remediation alternatives, managing remediation activities, documenting the work, and providing agency liaison. Two unique aspects of the project included responding to the release using low-impact methods (pack mules) to deploy containment booms in the sensitive wetlands and transitional wetland zones, and implementing controlled-burn activities as an acceptable remediation technology. Following completion of the controlled burn, Mr. White designed an approach to enhance bioremediation of the remaining hydrocarbon-impacted upland soil. Subsequent analyses confirmed that this approach was successful.

- Provided technical oversight during assessment and remediation of soil impacted by the release of crude oil from a 3-inch diameter underground lateral crude line that ruptured in a remote area of eastern Utah. Released traveled down an ephemeral drainage for approximately 0.5 mile toward a regionally-important river. Supervised the design of methods to contain the release before it could impact the river. Designed a passive-aeration bioremediation cell, using wind-operated turbines, to remediate approximately 9,200 cubic yards of excavated soils in this remote area. Provided oversight during sampling activities and in the interpretation of the resulting data.
- Served as chief consulting environmental engineer at the site of a crude oil spill located near an important drinking-water reservoir in northern Utah. The release occurred when a contractor for a residential development company ripped through the pipeline with a dozer, breaking the line and releasing 700 barrels of oil onto the ground before the line was shut down. Provided oversight during delineation of the spill site boundary; identification of potential above- and below-ground receptors of concern; collection of numerous soil samples from the spill site as well as background water quality samples from the nearby reservoir; and performance of a geologic study to better understand potential subsurface pathways of migration and how they might affect response activities undertaken to protect surface and groundwater resources. Assisted in the design of a permitted temporary impacted-soil storage area at the base of the spill site.
- Evaluated soil and groundwater contamination near the Trans Niger Pipeline in the Ogoniland region of Rivers State, Nigeria. Spills from these facilities (occurring from deteriorated infrastructure as well as sabotage and crude-oil theft) had created significant environmental impacts in the region. This project included a review of soil and groundwater data collected by others from 9 areas that had been previously remediated. It also included an evaluation of 133 groundwater samples collected from private wells used for domestic purposes near the pipeline. These results of these analyses were compared with risk screening levels established by the Nigerian Department of Petroleum Resources. Prepared reports summarizing the results of the above comparison and provided recommendations for future efforts.
- On behalf of the Oglala Sioux Tribe, reviewed the Environmental Assessment and the Environmental Impact Statement associated with the Dakota Access Pipeline. Provided professional opinions to the tribe for incorporation into their official comments regarding shortcomings in those environmental documents. Appeared before the U.S. Army Corps of Engineers to discuss concerns regarding the conclusions stated in those documents.

Hydrologic and Hydraulic Modeling

Conducted and managed the performance of detailed hydrologic and hydraulic evaluations of a drainage canal used for several decades to dispose of runoff and wastewater from multiple industries and treatment plants in northern Utah. The purpose of this project was to assess the

effects on water-surface profiles during removal of hydrocarbon-impacted sediments from the canal, thereby addressing concerns of the U.S. Environmental Protection Agency and the Utah Department of Environmental Quality. Determined the magnitude of design precipitation events, developed a site-specific rainfall hyetograph, assessed land-use and environmental conditions in the 12,300-acre watershed to portray rainfall-runoff relations, and modeled hydrographs of design runoff events. To meet project needs, estimates were made of peak flows at various locations within the canal for return periods ranging from 2 to 100 years. Seasonal peak flows were also estimated for storms with 2-year return periods to assist in planning sediment removal efforts. Managed hydraulic modeling efforts to determine the elevation of the water surface at various locations in the canal during all storm events.

Supervised modeling efforts to determine groundwater impacts associated with two adjacent surface coal mines in eastern Wyoming. The need for accuracy was increased by the fact that the coal seam being mined also served as a regional aquifer. Supervised the performance of field tests on existing monitoring wells to assess local groundwater hydraulic conditions. Evaluated data from several monitoring wells and private water-supply wells to determine the shape of the potentiometric surface in the overburden, coal, and underburden for an area of approximately 400 square miles around the mines. The impacts of mining were then determined three-dimensionally using a finite-difference numerical model. Sensitivity analyses were performed to assess the effects of varying model parameters on model output. The time required for water levels to recover following mining was also estimated using the model. Based on the model data and regional studies, the cumulative hydrologic impacts of mining in the region were estimated.

Modeled potential groundwater impacts due to various alternatives for control of the level of the Great Salt Lake. Modeled regional impacts of well-field operation in southwestern Michigan to determine the influence of groundwater withdrawals on the shape of a contaminant plume originating from a Superfund site. Supervised flow and contaminant transport modeling of groundwater at a petroleum refinery and two chemical manufacturing facilities in Utah.

Developed storm water runoff conveyance system master plans for two rural communities in south-central Utah. Several years previously, the towns had converted to pressurized irrigation systems, thus removing the irrigation ditches that had previously also served to control runoff in the area. Prepared master plans and conceptual design information for upgrading the towns' storm water runoff control system. Conducted hydrologic analyses to determine the capacity of the existing storm water runoff conveyance system to convey the design precipitation event. Further hydrologic analyses were then conducted to assist in designing the recommended improvements that would meet the capacity of the design precipitation event. Included in the recommendations for improvements was a site improvement cost estimate. Assisted the client with funding research and submitted successful applications for financial assistance to funding agencies.

Miscellaneous

Provided review and certification for Spill Prevention, Control, and Countermeasure Plans for a bulk petroleum storage and distribution facility in southeastern Utah, for a manufacturing facility in northern Utah, and for a high-security data center in northern Utah. Conducted onsite inspections of the exterior and interior of single-walled tanks to ensure that the tanks met the integrity requirements of the regulations.

Evaluated alternatives for closure of an open dump that was serving as a location for the disposal of garbage generated from a large community in Nigeria. Also developed conceptual design information for construction of a secure landfill near the open dump, and provided recommendations for equipment to operate the landfill.

Organized and executed thesis research project to assess the contribution of non-point sources to the salinity of the Price River Basin, Utah and, eventually, the Colorado River.

MEMBERSHIPS

Utah Solid and Hazardous Waste Control Board (Member and Chair, 1995-2003)

Utah Centers of Excellence Advisory Council, Utah Office of Technology and Science (2002-2010)

U.S. Department of Commerce, Environmental Technologies Trade Advisory Committee (2009-2016) - Chair of Trade Promotion Subcommittee

CERTIFICATIONS AND REGISTRATIONS

Registered Professional Engineer (Arizona, Colorado, Montana, Utah, Washington, and Wyoming)

Resume of
WILLIAM PAUL ROBINSON
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Albuquerque, NM 87107
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EDUCATION

Master of Community and Regional Planning, University of New Mexico, 1992, "with distinction." Professional Project - "Planning for Reclamation of Uranium Waste Sites in Germany." Course work included analysis of natural and modified water systems, including irrigation diversions, watershed analysis, urban flood reduction, environmental impact assessment methods, and geology.

Graduate Study in Environmental Engineering, Johns Hopkins University, Baltimore, MD, 1974-5. Course work included water pollution chemistry and water resource engineering.

Bachelor of Arts, Technology and Human Affairs Program, Washington University, St. Louis, MO, 1971-4. Course work included classes from anthropology, geology, engineering, and ecology programs.

EMPLOYMENT

RESEARCH DIRECTOR - Southwest Research and Information Center, PO Box, 4524, Albuquerque, NM 87106-4524, USA www.sric.org. Coordinate and prepare environmental policy and technology research reports and technical analyses of mineral, water, waste management, and other natural resource development projects for non-profit scientific and educational organization and contract clients. With Southwest Research continuously July 1976 - present.

ADJUNCT PROFESSOR – 2004 - In the Fall 2004 Semester, was appointed at University of New Mexico to teach a senior seminar, "Sacred Sites and Environmental Protection," in the Native American Studies Program.

ADJUNCT PROFESSOR - 1980 – 1997 - Appointed at University of New Mexico, Albuquerque, NM to teach undergraduate and graduate courses including: "Natural Resource Planning Methods," "Introduction to Environmental Problems," "Environmental Evaluation of Water Resource Projects" and co-teach other courses in the Community and Regional Planning Program and Water Resource Management Program.

ENVIRONMENTAL POLICY AND TECHNOLOGY ASSESSMENT CONSULTANT - Since 1980, government, corporate, tribal and non-governmental organization clients have included:

Western Governors' Association, Office of Navajo and Hopi Indian Relocation (Flagstaff AZ), Acoma Pueblo (NM), Moquino Mutual Domestic Water Users Association (NM), Alliance for Transportation Research Institute at University of New Mexico, Atomic Industrial Forum, National Council of State Legislators, Zuni Legal Services, DNA (Navajo) Legal Services, Albuquerque District Attorney's Office (NM), Energy Minerals Law Center, Durango (CO), Centex American Gypsum Company (NM), United Transportation Union, Local 1181 - Gallup (NM), New Mexico Environmental Law Center, Mining Impact Coalition of Wisconsin, Colonias Development Council (NM), Pueblo of Laguna (NM), International Physicians for Prevention of Nuclear War-German Chapter, Asociación Interamericana para la Defensa del Medio Ambiente (AIDA), Colorado Center for Environmental Management, Lower Saxony (Germany) Environment Ministry, Nordhaus Law Firm, La Gente del Rio Pecos (NM), Okanagon Highlands Alliance (WA), Great Lakes Natural Resources Center (MI), Innu Nation (Labrador, Canada), Northwatch (Ontario, Canada), Center for Science in Public Participation (MT), Water Information Network (NM), Amigos Bravos (NM), Kensington Coalition (AK), City of Yakutat (AK), Baikalwatch/Earth Island Institute (CA), Pacific Environment (CA), United Steelworkers of America Local 890 (Silver City, NM), Americans for Indian Opportunity, Northern New Mexico Legal Services, Natural Resources Defense Council, Twinings (NM) Water and Sanitation District, National Wildlife Federation, Minnesota Interim Legislative Committee on Uranium Exploration, Wisconsin Center for Alternative Mining Development Policy, Montana Environmental Information Center, Save the Jemez, South Dakota FARM, Black Hills Alliance (SD), Piedmont Environmental Council (VA Huerfano Valley Citizen's Alliance (CO), Five Sandoval Pueblos, Inc. (NM), Steadman and Hector Attorneys-at-Law, Monticello

(subdivision, NM) Residents Committee, Residents of Tucumcari NM, Environmental Defense Fund (CO), Western Nebraska Resource Council, Santa Ana Pueblo (NM), Los Herederos del Pueblo de San Mateo (NM), Board of the Cebolleta Land Grant (NM), Mathis and Reiselt, Attorneys-at-Law, Concerned Citizens of Questa (NM), Wells Park Neighborhood Association (Albuquerque, NM), Southwest Organizing Project (NM), Citizen Action Coalition (Sandia Park, NM), Bluewater Valley Downstream Alliance (Milan, NM), E², Inc., Charlottesville, VA, Roanoke River Basin Council, Danville, Virginia, Mary's Igloo Traditional Council, Teller, AK; Teller Traditional Council, Teller, AK; The Center for Water Advocacy, Homer, AK; Multi-Cultural Alliance for a Safe Environment (MASE), NM.

CO-INVESTIGATOR, "Metals Exposures in Tribal Arid Lands of the Southwest (METALS)", University of New Mexico Superfund Research Center, Community Engagement Core, NIH/NIEHS Grants P42 ES025589. <https://hsc.unm.edu/college-of-pharmacy/research-and-scholarship/metals/index.html>
– 2017 - present

INTERNATIONAL RESEARCH PROGRAM COORDINATOR – 2014 – 2016

August 2015 – August 2016 - "Sharing Best Practices for Mine Water in Russia and the USA: A Peer-to-Peer Dialogue Engaging Scientists, Civil Society Organizations, and Affected Community Residents," A project funded by the US-Russia Peer-to-Peer Dialogue, a program supported the US Department of State. Project Archive including presentations, papers and background documents at http://www.sric.org/mine_water/index.php

July 2014 – July 2015 - "Sharing Best Practices for Human Health Research in Communities Affected by Ecological Damage in Russia and the USA: A Peer-to-Peer Dialogue Engaging Scientists, Civil Society Organizations, and Affected Community Residents," A project funded by the US-Russia Peer-to-Peer Dialogue, a program supported the US Department of State. Project Archive including presentations, papers and background documents at http://www.sric.org/russia_dialogue/index.php

INTERNATIONAL MINING AND THE ENVIRONMENT EXCHANGE PROGRAM COORDINATOR – 2007 – present

"Mining and the Environment Exchange Program" Annual programs since 2007 involving civil society organization, community, company and government representatives in field programs at mines, renewable energy production sites and cultural resources in the Lake Baikal Basin in Russia and Mongolia and the US Southwest, funded by Trust for Mutual Understanding, NYC, NY

TECHNICAL ASSISTANCE CONTRACTOR – 2008 - 2015

- Technical Assistance for Brownfields (TAB) consultant, sub-contractor to EPA Region 5, 6, 7 and 8 TAB contractor - Kansas State University TAB Center, Manhattan, Kansas, www.ksutab.org - 2013 - 2015

- Technical Assistance for Superfund Communities (TASC) contractor to US EPA assisting Spokane Tribe of Indians and SHAWL Society Pond Road Community Association on the Navajo Nation and other communities affected by the Dawn Mining/Newmont Mining Midnite Uranium Mine Superfund Site – 2005 and 2012

- Technical Assistance Grant (TAG) contractor to US EPA assisting Bluewater Valley Downstream Alliance affected by the Barrick Gold/Homestake Mining Company uranium mill and mill tailings site Superfund Site – 2010 – 2013

- Technical Assistance for Superfund Communities (TASC) contractor to US EPA assisting Red Water Pond Road Community Association on the Navajo Nation and other communities affected by the General Electric/United Nuclear Northeast Churchrock uranium mine removal action – 2011 – 2013

- Technical Assistance for Superfund Communities (TASC) contractor to US EPA assisting Bluewater Valley Downstream Alliance and other communities affected by Barrick Gold/Homestake Mining Company uranium mill and tailings Superfund Site – 2008 – 2009

PROJECT DIRECTOR, NAVAJO LAND SELECTION PROJECT – 1994 – 2008, Technical Support to Navajo-Hopi Land Commission and Navajo-Hopi Land Commission Office of the Navajo Nation initiative to select, acquire and development lands to benefit Navajo families and communities affected by Relocation as contractor to the Office of Navajo and Hopi Indian Relocation, Flagstaff, AZ

PROJECT COORDINATOR - CITIZENS' MINING INFORMATION NETWORK - 1991 – 1996 - Southwest Research and Information Center. Project provides current technical and policy-related information on mining to citizens and community organizations across the US. This Project funded by United States Environmental Protection Agency and private donors.

WATER RESOURCE SPECIALIST - NORTHERN NEW MEXICO WATER PROJECT - June 1984 - June 1990 - At Southwest Research and Information Center. Project provided technical support for community and governmental organizations in northern New Mexico. This project funded by the Ford Foundation.

SELECTED PUBLICATIONS AND PRESENTATIONS (SELECTED ORAL TESTIMONY AND PRESENTATIONS AT P.16)

- Zychowski KE, Wheeler A, Sanchez B, Harmon M, Steadman-Tyler CR, Herbert G, Lucas SN, Ali AM, Avasarala S, Kunda N, Robinson P, Muttill P, Cerrato JM, Bleske B, Smirnova O, Campen MJ. (2019) “Toxic effects of particulate matter derived from dust samples near the Dzhydinski ore processing mill, eastern Siberia, Russia.” *Cardiovascular Toxicology*. (<https://doi.org/10.1007/s12012-019-09507-y>)

- “Let’s Not Wait for Catastrophic Spills to Happen: Holistic, Long-Term, Multi-Jurisdictional Monitoring in Legacy Mining Areas,” with Dennis McQuillan N.M. Environment Department, Chris Shuey and Paul Robinson, Southwest Research and Information Center, Second Annual Conference on Environmental Conditions of the Animas and San Juan River with Emphasis on Gold King Mine and other Mine Waste Issues, New Mexico Water Resources Research Institute, Farmington, NM, June 20-27, 2017, abstract at <https://animas.nmwri.nmsu.edu/2017/presentations/oral-presentations/>

- “In the Matter of the Petition for Alternate Abatement Standards for the St. Anthony Uranium Mine - Statement of Intent to Present Technical Evidence” prepared on behalf of MASE (Multicultural Alliance for a Safe Environment), July 2017, available at <https://www.env.nm.gov/wp-content/uploads/2016/12/Statement-of-Intent-Multicultural.pdfrevised.pdf>

- “Uranium Prices Fall to their Lowest Level In More than Ten Years: Global Uranium Price Trends, Reactor Plans, Uranium Resources and Information Sources,” Invited Presentation at Western Mining Action Network (WMAN) Biennial Conference, San Carlos, Arizona, November 18, 2016, available at http://www.sric.org/mining/docs/20161116_WMAN_U_Market_Presentation.pdf

- “Ablation Mining Technology Review and Recommendations regarding Regulatory Status”, Submitted to Colorado Department of Public Health and the Environment (CDPHE) Pursuant to the CDPHE Ablation Process Stakeholder Comment Invitation on Behalf of INFORM (Information Network for Responsible Mining, Jennifer Thurston, Director and Colorado Citizens Against Toxic Waste, Inc., Coloradoans Against Resource Destruction, Sheep Mountain Alliance, Tallahassee Area Community, Inc., and Uranium Watch, July 22, 2016 available at https://www.colorado.gov/pacific/sites/default/files/HM_rad-ablation-comments.pdf, p. 2 – 19.

- “Groundwater Contamination at Sandia National Laboratories (SNL) Continues At Tijeras Arroyo, Tech Area-V and Burn Sites Environmental Restoration (ER) Areas of Concern (AOCs): Increased transparency and stakeholder involvement needed to accelerate clean-up,” Presentation and Fact Sheet presented before Albuquerque Bernalillo County Water Utility Authority (ABCWUA), Water Protection Advisory Board (WPAB), June 10, 2016. Presentation available at http://www.sric.org/nuclear/docs/2016-06-01_Env_Oversight_for_SNL_GW_Sites.pdf. Fact Sheet available at http://www.sric.org/nuclear/docs/2016-06-10_Revised_Fact_Sheet.pdf

- “Remediation of the Terrero Mine and El Molino Mill, San Miguel County, New Mexico”, with Dennis McQuillan,

New Mexico Environment Department and Virginia McLemore, N.M. Bureau of Geology and Mineral Resources, In “Environmental Conditions of the Animas and San Juan Watersheds with Emphasis on the Gold King Mine and other Mine Wastes,” New Mexico Water Resources Research Institute, Farmington, NM, May 17-18, 2016. Abstract at <http://animas.nmwrri.nmsu.edu/2016/abstracts/oral-presentations/>

- “Oyu Tolgoi Phase 2: Plans, Issues and Risks: An Overview of Oyu Tolgoi Phase 2 Mining Plans and some of the issues and risks associated with block cave underground mining, international metal price uncertainty, project power supply, and impacts on water resources used by herders”, Prepared for CEE Bankwatch Network, Prague, Czech Republic www.bankwatch.org and OT Watch <http://www.minewatch.mn>, January 10, 2016. Full Report available at <http://bankwatch.org/sites/default/files/OyuTolgoi-Phase2.pdf> and Summary available at <http://bankwatch.org/sites/default/files/OyuTolgoi-Phase2-summary.pdf>.

- “Final Report to Trust for Mutual Understanding For 2015 International Mining and the Environment Exchange Program,” submitted January 26, 2016 to Trust for Mutual Understanding, New York, New York.

- “Statement in the Matter of Rio Grande Resources Corporation’s Application to Change the Status of its Existing Mine Permit from Standby Status to Active Status; Permit Revision 13-2 (Permit CI002RE)”, Before the State of New Mexico Mining and Milling Division, Submitted at Public Hearing in Grants, New Mexico, December 4, 2015 – Written Testimony available at: http://www.sric.org/uranium/docs/20151204_Mt_Taylor_Mine_Hearing_Statement_PR.pdf and Exhibit 2 – Slide Presentation available at: http://www.sric.org/uranium/docs/20151204_Mt_Taylor_Mine_Hearing_Exhibit2_PR.pdf

- “The Impact of Uranium Mining and Clean-up Activities in the Grants Mineral Belt: Seven Key Points”, An Invited Presentation to the New Mexico Interim Legislature Indian Affairs Committee Meeting, Red Valley Chapter, Navajo Nation, October 1, 2015. Available at: <http://www.nmlegis.gov/lcs/handouts/IAC%20093015%20Item%2010%20Uranium%20Impacts.pdf>

- Blake JM, Avasarala S, Artyushkova K, Ali AMS, Brearley AJ, Shuey C, Robinson WP, Nez C, Bill S, Lewis J, Hirani C, Pacheco JSL, Cerrato JM, 2015. “Elevated Concentrations of U and Co-occurring Metals in Mine Wastes in a Northeastern Arizona Native American Community,” Environ. Sci. Technol 49, 8506–8514. <https://pubs.acs.org/doi/abs/10.1021/acs.est.5b01408>

- “Technical Written Statement Recommending Deferral of Determination of Corrective Action Complete with Controls Status (CACCS) for the Mixed Waste Landfill at Sandia National Laboratories”, filed “Notice of Intent to Provide Technical Written Testimony and Technical Oral Testimony in the Matter of: Determination of Corrective Action Complete with Controls Status for the Mixed Waste Landfill, Sandia National Laboratories, EPA ID No. NM5890110518, No. HWB 15-18(P) before New Mexico Environment Department Secretary on June 15, 2015. Oral testimony provided and written testimony admitted to Hearing Record July 10, 2015.

- “Health Risk Research Dialogue: A US-Russia Peer-to-Peer Program to Identify Best Practices for Research Investigating Human Health Risks in Areas of Ecological Damage,” in Proceedings of “Actual Issues on Safety and Analysis of Human Health Risk from Environmental Hazards”, 6th All-Russian Scientific Conference convened by Russian Federal Scientific Center for Medical and Preventive Health Risk Technologies, Perm, Russia, May 12-15, 2015 available at: http://www.sric.org/russia_dialogue/docs/2015_May_trip/20150423_PERM_HealthDialogue_en.pdf

- “Water and Mining – Impact avoidance through mine design and planning, balancing operations needs with environmental sensitivity” prepared and presented at Conference on “The Mitigation Hierarchy: Reducing the Environmental Impacts of Large-Scale Mining and Small-Scale Mining”, Ulaanbaatar, Mongolia May 27-28, 2015 available at http://www.sric.org/enr/docs/20150527_Water_Mining_ImpactAvoidance_Mongolia.pdf

- “Best Practices for Uranium Mines and Mills: Where are they needed?” Compiled for World Uranium Symposium, April 14 – 16, 2015, Quebec City, Canada. Available at: http://www.sric.org/uranium/docs/2015-04-12_Best_Practices_uranium_WUS-2a.pdf

- “Uranium Issues in the Western US: Legacy, Current Production, Health Research and Resource Estimates” Compiled for World Uranium Symposium, April 14 – 16, 2015, Quebec City, Canada. Available at: http://www.sric.org/uranium/docs/2015-04-12_Uranium_activities_Western_US_1a.pdf
- “Final Report to Trust for Mutual Understanding For 2014 Mining and the Environment, Renewable Energy and Cultural Resources International Exchange Program,” submitted December 15, 2014 to Trust for Mutual Understanding, New York, New York.
- “Environmental Issues and Challenges associated with Uranium Exploration and Uranium Mill Tailings,” Invited Statement before, Quebec Uranium Inquiry Commission, Bureau D’Audiences Publique sur L’Environnement (BAPE), Quebec, City, Quebec, Canada, September 9 - 10, 2014. The written statements and presentations submitted to the Commission are available at <http://www.sric.org/enr/international.php>. Abstracts of the invited statements are available on website of BAPE Uranium Inquiry Commission at http://www.bape.gouv.qc.ca/sections/mandats/uranium-enjeux/horaire_septembre.htm and video recordings of the statement provided are available at http://www.bape.gouv.qc.ca/sections/mandats/uranium-enjeux/webdiffusion_differe%20septembre.htm.
- “Review of Côté Lake Gold Project Draft Environmental Assessment Regarding Acid Mine Drainage Potential,” July 2, 2014, Prepared on Behalf of Northwatch Canada for submittal to Canadian Environmental Assessment Agency Review of Côté Lake Project Environmental Impact Statement.
- With Avasarala, S., Atryushkova, K., et al, “Application of spectroscopy, microscopy, and chemical extraction analyses to investigate metal speciation in abandoned mine wastes,” Poster presented at “Surface Analysis 2014: 36th Symposium on Applied Surface Analysis,” Albuquerque, NM, US June 2014. Available at <http://www.nmavs.org/wp-content/uploads/2014/06/SA14-Book-5-31-14.pdf>
- with Shuey, Chris, Bill, Sadie; Brearly, Adrian; Cerrato, J. M.; Ali, Abdul-Mehdi, “Uranium in Soil, Mine Waste and Spring Water near Abandoned Uranium Mines, Tachee/blue Gap and Black Mesa Chapters, Navajo Nation, Arizona, METALS Monograph No. 1, UNM METALS Center (Metal Exposure Toxicity Assessment on Tribal lands in the Southwest), University of New Mexico./Southwest Research and Information Center/Indigenous Education Institute/Laguna Pueblo/Red Water Pond Road Community Association/Tachee Uranium Concerns Committee, Albuquerque, NM, March 31, 2014. available at http://www.sric.org/uranium/docs/METALS_Monograph1_Final_040814a.pdf.
- with Cerrato, J. M; Avasarala, S; et al, “Reactivity of U in Surface/Subsurface Environments: Insights from Laboratory and Field Experiments, University of New Mexico and others, Gordon Research Conference Poster, 2014
- “Oyu Tolgoi Copper-Gold-Molybdenum Mine, Omnigovi Province, Mongolia: Overview of Human and Natural Resource Impacts Based on Observations in August 2013,” Presented at Alaska Forum for the Environment, Anchorage, Alaska,” February 5, 2014, available from SRIC on request.
- “Final Report to Trust for Mutual Understanding For 2013 Mining and the Environment, Renewable Energy and Cultural Resources International Exchange Program,” submitted December 15, 2013 to Trust for Mutual Understanding, New York, New York.
- “A Tour of Abandoned Uranium Mines in Navajo Country and Beyond,” Compiled with Chris Shuey, October 2013 available at: http://www.sric.org/uranium/docs/Navajo_AUM_Maps_Photos_101013rev.pdf
- “Foreign Infiltration in the U.S. Uranium Industry?” in www.NewMexicoMercury.com, April 10, 2013, available at: http://newmexicomercury.com/blog/comments/foreign_infiltration_of_u.s._uranium_industry
- Comments and Recommendations Regarding the Proposed Canadian Nuclear Safety Commission Licence for the Strateco Resources, Inc. Matoush Advanced Exploration Project, May 16, 2012, on behalf of InnuPower and SISUR,

Submitted to CNSC at Public Hearing on Application for Strateco Resources' Matoush Project Underground Exploration Project, Misstasini, Quebec, Canada. Submittal Number 12-H7.26 available at http://www.cnsccsn.gc.ca/eng/the-commission/hearings/documents_browse/results.cfm?dt=5-Jun-2012,

- Social and Environmental Responsibility in Mining: International Experience and Lessons Learned Regarding Accumulated Damage from Abandoned Mines, Long-term Risks Associated with Waste Management and Renewable Energy Use," presented at Conference on Social and Environmental Responsibility in the Mineral Industry in Russia, Moscow, Russia, October 6, 2012 available at: <http://www.wwf.ru/data/programmes/mining/conference/2012/presentation/1/paulrobinson.pdf>.

- "Comments and Recommendations Regarding the "Draft Environmental Impact Statement for the La Jara Mesa Uranium Project Prepared by the Mt. Taylor Ranger District, Cibola National Forest, Cibola County, New Mexico, US Forest Service," MB-R3-03-17, March 2012," Prepared under contract to Chestnut Law Firm, General Counsel to Pueblo of Acoma, August 15, 2012

- Memorandum Addressing Opportunities for County-Level for Protection of Public Health, Safety, and Welfare from Activities Involving Generation and Disposal of Ore and Ore-processing Waste with Potential to Damage Public Health, Safety and Welfare, Property Values and Surface and Ground Water Resources," Roanoke River Basin Association, Danville, VA, July 2, 2012

- TASC Summary and Review of "Midnite Mine Superfund Site Remedial Design Work Plan - Revision 0" March 2012," Technical Assistance Services for Communities Contract No.: EP-W-07-059 TASC WA No.: TASC-4-HQ-OSRTI Technical Directive No.: 2.01 TD #2 – Midnite Mine, Prepared under contract to SKEO Solutions on behalf of Spokane Tribe of Indians, March 27, 2012

- "TASC Summary and Review of "Spokane Tribe of Indians, Airborne Radiological Surveys, Spokane, WA" March 2012," Technical Assistance Services for Communities Contract No.: EP-W-07-059 TASC WA No.: TASC-4-HQ-OSRTI Technical Directive No.: 2.01 TD #2 – Midnite Mine, Prepared under contract to SKEO Solutions on behalf of Spokane Tribe of Indians, March 27, 2012

- "Observations and Comments Regarding Environmental Performance of the Blind River Uranium Refinery, Ontario, Canada, Submittal in the matter of the Blind River Uranium Refinery License Renewal for Canadian Nuclear Safety Commission on behalf of Northwatch, North Bay, Ontario, Canada, December 18, 2011

- Comments on Voluntary Flexible Housing Options for Impacted Residents at the Northeast Churchrock Mine Site, Navajo Nation, New Mexico - Draft 4, Technical Assistance Services for Communities Contract No.: EP-W-07-059 TASC WA No.: TASC-4-HQ-OSRTI TD No.: 2.09 TD #4 NE Church Rock (NECR), US EPA, Region 6, Dallas, TX December 5, 2011

- Observations Regarding Detour Lake Project Plans: Review of Detour Lake Comprehensive Study Report, Submittal in the matter of the Canadian Environmental Assessment Agency Review of the Detour Lake Comprehensive Study Report, on behalf of Northwatch, North Bay, Ontario, November 30, 2011

- "Review of the Mt. Taylor Uranium Mine Stand-by Renewal Application filed by Rio Grande Resources Corporation Related to: Economic Viability of the Deposit, Corporate Connections to Cotter Corporation and General Atomics, and Environmental Violations by Cotter at its Canon City Mill and Schwartzwalder Mine in Colorado," prepared under contract to Multi-Cultural Alliance for a Safe Environment (MASAE) and New Mexico Environmental Law Center (NMELC), August 4, 2011

- Groundwater Contamination and Remediation Options at the Technical Area Five (TA-V) and the Tijeras Arroyo Groundwater (TAG) Environmental Remediation Sites at Sandia National Laboratories, New Mexico," Prepared for: Sandia Working Group of New Mexico SEES (Sustainable Energy and Effective Stewardship) and Citizens for Alternatives to Radioactive Dumping (CARD), Albuquerque, New Mexico, July 20, 2011 available at: <http://www.sric.org/nuclear/docs/2011-07-20%20CARD%20Project%20Sixth%20Draft%20w%20Figs.pdf>

- “Mining and the Environment Dialogue International Exchange: Final Report”, Submitted to Trust for Mutual Understanding, New York, New York, December 29, 2010
- “Observations and Recommendations Regarding the June 18, 2010 Addenda to the Draft Focused Review of Specific Remediation Issues for the Homestake Mining Company (Grants) Superfund Site, February 2010”, co-authored with Chris Shuey, under contract to E², Inc. pursuant to US Environmental Protection Agency, Technical Assistance Services for Communities Contract No.: EP-W-07-059 TASC WA No.: R6-TASC-002 Technical Directive No.: R6-Homestake Mining-03, Dallas, TX, July 22, 2010
- “Investigation of the Solar Power Potential of Reclaimed Areas at the Black Mesa Coal Mine, Arizona, U.S.”, A Report to Black Mesa Water Coalition and To Nizhoni Ani May 28, 2010, pursuant to contract with Western Resource Advocates, Boulder, CO, May 28, 2010
- “Comments on Air Monitoring and Radon Issues Raised in the U.S. Army Corps of Engineers’ Draft Remediation System Evaluation (Supplement) for the Homestake Mining Company (Grants) Superfund Site, New Mexico”, Technical Assistance Services for Communities Contract No.: EP-W-07-059 TASC WA No.: R6-TASC-002, Technical Directive No.: R6-Homestake Mining-02, May 6, 2010
- “Observations and Recommendations Regarding the Draft Focused Review of Specific Remediation Issues for the Homestake Mining Company (Grants) Superfund Site, February 2010 – Ground Water Considerations Introduction”, co-authored with Chris Shuey, under contract to E², Inc. pursuant to US Environmental Protection Agency, Technical Assistance Services for Communities Contract No.: EP-W-07-059 TASC WA No.: R6-TASC-002 Technical Directive No.: R6-Homestake Mining-02, Charlottesville, VA, May 6, 2010
- “Comments on Air Monitoring and Radon Issues Raised in the U.S. Army Corps of Engineers’ Draft Remediation System Evaluation (Supplement) for the Homestake Mining Company (Grants) Superfund Site, New Mexico”, co-authored with Chris Shuey, under contract to E², Inc. pursuant to US Environmental Protection Agency, Technical Assistance Services for Communities Contract No.: EP-W-07-059 TASC WA No.: R6-TASC-002 Technical Directive No.: R6-Homestake Mining-02, Charlottesville, VA, May 6, 2010
- “Testimony in the of the Renewal and Modification of Homestake Mining Company Discharge Permit DP-725,” before the Secretary of the Environment of the State of New Mexico, GWB No.09-35(P), Santa Fe, New Mexico, December 18, 2009
- “Summary and Review of Application for Modification and Renewal of NMED Discharge Permit DP-725, Effluent Disposal Facilities for the Ground Water Remediation System at the Homestake Mining Company, Grants Reclamation Project, Milan, N.M.” co-authored with Chris Shuey, under contract to E², Inc. pursuant to US Environmental Protection Agency, Technical Assistance Services for Communities Program, Contract No.: EP-W-07-059, TASC WA No.: R6-TASC-002, Charlottesville, VA, November 18, 2009
- “Is There a Need for New Uranium Mines in the US?”, in “Voices from the Earth”, Southwest Research and Information Center, Volume 10, Number 1 at <http://www.sric.org/voices/2009/v10n1/Need%20for%20New%20U%20Mines.pdf>
- “An Overview of the Uranium Mining and Milling Processes, Risks and Costs, Public Interest Environmental Law Conference,” University of Oregon School of Law, Eugene, Oregon, February 27, 2009 at <http://www.pielc.org/2009/materials/2009-02-27%20Uranium%20Resource%20Overview%20PIELC%20-%20Part%201.pdf>
- “Uranium Resources: Global Supply and Demand and Implications for the United States,” Public Interest Environmental Law Conference, University of Oregon School of Law, Eugene, Oregon, February 27, 2009 at <http://www.pielc.org/2009/materials/2009-02-27%20Uranium%20Resource%20Overview%20PIELC%20-%20Part%202.pdf>

- “Expert Report in Matter of the International Uranium (USA) Corp. Revised 11.e.(2) Radioactive Materials License No. UT1900479, Amendment 2 (June 13, 2006), before the Utah Radiation Control Board” prepared under contract to Energy and Mineral Law Project on behalf of Energy Mineral Law Center of Durango, CO on Behalf of Glen Canyon Chapter of the Sierra Club, December 4, 2006
- “Radiation Releases at Sandia National Laboratories/New Mexico: Recently Reported Radiation Releases and Other Sources of Radiation Release,” Albuquerque Center for Peace and Justice funded by grant from Monitoring and Technical Assessment Fund, Washington, DC, November 6, 2006 at: <http://www.clarku.edu/mtafund/prodlib/albuquerque/Robinson.pdf>
- “Need or Greed?: Uranium Prices and Demand,” in “Voices from the Earth,” Southwest Research and Information Center, Volume 7, Number 3, at http://www.sric.org/voices/2006/v7n3/need_greed.php
- “Review of Sandia National Laboratories’ Mixed Waste Landfill Corrective Measure Implementation Plan and Fate and Transport Model: Comments and Recommendations February 7, 2006, Prepared on behalf of: Citizen Action New Mexico” at: http://www.radfreenm.org/old_web/pages/PublicComments/CMIP_FTM_comments.pdf
- “Expanding Citizens’ Use of Environmental Rights in Magadan Oblast: Final Report,” to Foundation for Russian American Economic Cooperation (FRAEC) pursuant to Agreement PG4-US-N-408, with Jennifer Castner - Pacific Environment and Olga Moskvina - Magadan Center for the Environment, Albuquerque, NM, San Francisco, CA and Magadan, Russia, January 30, 2006.
- “Midnite Uranium Mine Proposed Cleanup Plan Review: Comments and Recommendations,” based on presentations at “Midnite Mine Superfund Cleanup Plans: Addressing Community Concerns Training Session and Seminar convened by Technical Outreach Services for Native Americans, Kansas State University, November 17, 2005, Wellpinit, WA, January 18, 2006.
- “A Guide to Support the Expanded Use of Citizen Environmental Rights in Magadan and Eastern Russia,” with Misha Jones – Pacific Environment and Olga Moskvina – Magadan Center for the Environment, in pursuant to Foundation for Russian American Economic Cooperation, Albuquerque, NM, San Francisco, CA and Magadan, Russia, May 2005, at: <http://www.sric.org/mining/docs/FRAEC-cit-guide.pdf>, in English, Russian version also available.
- “Uranium Price Rise...Still No Need for New Mines,” in “Voices from the Earth,” Southwest Research and Information Center, Volume 5, Number 4, at: <http://www.sric.org/voices/2004/v5n4/uspotprice.php>
- “Technical Testimony Before State of New Mexico Secretary of Environment, Case No. HWB 04-M in the Matter of the Request for a Class 3 Permit Modification for Corrective Measures for the Mixed Waste Landfill, Sandia National Laboratories, Bernalillo County, New Mexico, EPA ID No. NM5890110518,” on behalf of Citizen Action, Sandia Park, New Mexico, December 3, 2004 - Outline at: http://www.radfreenm.org/old_web/pages/testimony_robinson.htm; Full Notice of Intent at: http://www.radfreenm.org/old_web/pages/noticeofintent.htm
- “Mining and Mineral Development Management Policy in the Selenga River Watershed,” with Galina Anosova, in proceedings of: Science for Watershed Conservation: Multidisciplinary Approaches for Natural Resource Management Conference, Convened by United States Geological Survey (USGS), Institute of General and Experimental Biology, Siberian Division -Russian Academy of Sciences, and Mongolian Academy of Sciences, September 1 - 8, 2004, Ulan-Ude, Russia and Ulanbaatar, Mongolia available at: <http://www.sric.org/mining/docs/USGS-siberia.pdf>
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SELECTED ORAL TESTIMONY OR PRESENTATIONS

- "Social and Environmental Responsibility in Mining: International Experience and Lessons Learned Regarding Accumulated Damage from Abandoned Mines, Long-term Risks Associated with Waste Management, and Renewable Energy Use," Presented at Conference on Social and Environmental Responsibility in the Mineral Industry in Russia Moscow, Russia, October 6, 2012 available at http://www.wwf.ru/about/what_we_do/mining/conference
- Uranium Mining and Milling: Hazards, Management Practices, and Issues Associated with Potential Development in Virginia, Invited Presentation before Committee on Uranium Mining in Virginia, Board on Earth Sciences and Resources, Division on Earth and Life Studies, National Research Council of the National Academies, Boulder, CO, March 23-25, 2011
- "Technical Testimony in the of the Renewal and Modification of Homestake Mining Company Discharge Permit DP-725," before the Secretary of the Environment of the State of New Mexico, GWB No.09-35(P), Grants, New Mexico, January 13, 2009 – Testimony addressed operation and proposed reclamation of evaporations ponds containing groundwater and contaminants of concern collected from Homestake Mining Company uranium mill tailings remediation system at Milan, NM.
- "Uranium Mill Tailings are Forever, But Operating Uranium Mines Come and Go: Uranium Policy Considerations", Invited Presentation before Nunatsiavut Assembly, Goose Bay, Labrador, November 20, 2007 available at <http://www.bape.gouv.qc.ca/sections/mandats/uranium-enjeux/documents/PREC25.pdf>
- "Technical Testimony in the Matter of the International Uranium (USA) Corp. Revised 11.e.(2) Radioactive Materials License No. UT1900479, Amendment 2 (June 13, 2006)," before the Utah Radiation Control Board, Blanding, Utah January 26, 2007 - Testimony addressed the significant of economic evaluation of a mineral deposit in the definition of ore, uranium and other heavy metal content of potential uranium mill feed stocks, and potential for significant impacts from proposed milling of alternative feedstocks and impact of proposed milling of alternative feedstocks on remaining capacity of existing tailings ponds among other matters.
- "Technical Testimony in the Matter of the Petition Filed April 3, 2006 by the New Mexico Environment Department to Amend the New Mexico Solid Waste 20 NMAC 9.1" before the New Mexico Environmental Improvement Board, Santa Fe, NM, May 5, 2006 - Testimony addressed technical aspects of Environmental justice proposals including

distance around community to be considered in the definition of community, significant of vertical and horizontal expansions of landfill proposals among other matters.

- "Technical Testimony Before State of New Mexico Secretary of Environment, Case No. HWB 04-M in the Matter of the Request for a Class 3 Permit Modification for Corrective Measures for the Mixed Waste Landfill, Sandia National Laboratories, Bernalillo County, New Mexico, EPA ID No. NM5890110518," on behalf of Citizen Action, Sandia Park, New Mexico, December 3, 2004 – Testimony addressed the inventory of radionuclides and hazardous constituents, dispersion of radioactive and hazardous constituents released from the landfill, alternative technologies to prevent release of contaminants among other matters.
- "Testimony in the Matter of the Alternative Abatement Stand Petition of SOHIO for the L-Bar Uranium Mill Tailings Site before the New Mexico Water Quality Control Commission," Santa Fe, NM, May 2003. – Testimony addressed variation between pre-mining water quality conditions and post-mining water quality conditions, effectiveness of the sequence of seepage control technologies installed at the tailings ponds and adequacy of cover vegetation and settlement management programs among other matters.
- "Technical Testimony in the Matter of the Draft Final Permit for the Triassic Park Waste Disposal Facility, US EPA No. NM0001002484", before the New Mexico Environment Department, Roswell, NM, October 2001.
- "Testimony in the Matter of the Rhino Environmental Services Application for a Solid Waste and Special Waste Landfill before the New Mexico Environment Department," Chaparral, NM September 2001.
- "Testimony in the Matter of the Application of Molycorp, Inc for a Groundwater Discharge Permit for its Questa Molybdenum Mine (DP-1055)," before New Mexico Environment Department, Questa New Mexico, May - June 2000.
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- "Testimony in the Matter of Regulations Pursuant to the New Mexico Mining Act", Before New Mexico Mining Commission, Santa Fe, NM, May 1994
- "Current Activities in Problem Scoping", in Proceedings of Inactive and Abandoned Mine Waste Cleanup: A Challenge for the 90s, convened by Colorado Center for Environmental Management, Salt Lake City, Utah, November, 1993.
- "Citizen Involvement and Pollution Prevention" in International Conference on Pollution Prevention in Mining and Mineral Processing", convened by Colorado School of Mines, Snowmass, Colorado, August, 1993.
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- "Statement at the Public Hearing on the matter of the Municipal Solid Waste Incinerator proposed by Los Alamos, NM", before New Mexico Environmental Improvement Division, Santa Fe, NM, June, 1988.
- "Water Related Development Opportunities in the Eastern Navajo area", Workshop on Economic Development in Eastern Navajo Agency sponsored by New Mexico Office of Indian Affairs, June, 1985.
- "Toxic Contamination Sites in New Mexico", in the Conference on Water Contamination and Toxic Pollution in New Mexico, Albuquerque, NM, December, 1984
- "In the Matter of the Groundwater Discharge Plan for Grain Power-Tucumcari Ltd.", Tucumcari, NM, October, 1984.

- "In The Matter of the Permit for Underground Injection and Mineral Production Wells for Wyoming Fuels' Crow Butte Project", before the Nebraska Department of Environmental Quality, Crawford NB, July, 1984
- "In The Matter of the Nuclear Regulatory Commission Environmental Impact Appraisal ... of the Source Material License for the Wyoming Fuels' Crow Butte ISL Project... Docket No. 40-8829", before the NRC Hearing Officer, Crawford, NB, July 1984.
- "In the Matter of the Discharge Plan for the Homestake Mining Company Uranium Mill at Milan, NM", Grants, NM, February, 1984.
- "Prioritizing Mineral Resources, Environmental and Conservation Needs", in Governmental Affairs Session, Society of Exploration Geophysicists Annual Meeting, Las Vegas, NV, September, 1983.
- "Mineral and Energy Development Projects on New Mexico's National Forests", at Citizen's Workshop on the Future of New Mexico's National Forests, Albuquerque, NM, September, 1983.
- "Concerns of the Environmental Community About Impacts from Uranium Operations on Federal and Indian Lands", at National Research Council/National Academy of Sciences Workshop on Research Needs for Optimizing Economic and Environmental Aspects of Uranium Production from Leased Federal and Indian Lands, Albuquerque, NM, December, 1982.
- "Summary of Recent Observations at Uranium Operations in the Northern Territory, Australia", Australian Institute of Aboriginal Studies, Canberra, ACT, July, 1982.
- Before South Dakota State Conservation Commission Concerning Exploration Permit Renewal for Silver King Mines, EX-5, Custer, South Dakota, February, 18, 1981.
- Before South Dakota State Conservation Commission Concerning Exploration Permit Renewal for Union Carbide Corporation, EX-31, Pierre, South Dakota, December 12, 1981.
- Before Colorado Water Quality Control Commission Concerning Reclamation Plan for Homestake - Pitch Project, Saguache County, Colorado, Gunnison, Colorado, December 10, 1981.
- Before the New Mexico Radiation Technical Advisory Council regarding Amendments to the New Mexico Radiation Protection Regulations, Santa Fe, NM, May, 1981.
- Before the Virginia Coal and Energy Commission regarding Regulation of Uranium Exploration, Richmond, VA, June 1, 1981.
- Before Montana House and Senate Committees on Natural Resources regarding Uranium Mining and Milling Legislation, Helena, Montana, February and March, 1981.
- Before New Mexico House and Senate Committees on Natural Resources regarding Uranium Severance Taxes, Santa Fe, NM, February, 1981.
- "In the Matter of the Radioactive Materials License and Groundwater Discharge Plan for the Gulf - Mount Taylor Uranium Complex", Santa Fe, New Mexico, January, 1981.
- In "State of Mexico vs. City of Albuquerque", in the Bernalillo County District Court, No. CU-80-04500, a nuisance complaint concerning odors from an Albuquerque sewage treatment plant, Albuquerque, NM, July, 1980.
- "In the Matter of the Groundwater Discharge Plan for the Ski and Tennis Ranch of Taos", Taos, NM, July, 1979. Resumed January, 1980.

- "In the Matter of the Groundwater Discharge Plan for the Bokum - Marquez Uranium Mill (DP-100)", Santa Fe, NM, January, 1980.
- Before Minnesota House of Representatives Committee on Environment and Natural Resources Informational Briefing on Uranium Mining and Processing, St. Paul, MN, December, 1979.
- "In the Matter of National Pollutant Discharge Elimination System (NPDES) Permit for Bokum Resources Corporation, NPDES No. NM0028215", Santa Fe, NM, December, 1979.
- "In the Matter of NPDES Permit for Phillips Uranium Corporation, No.NM0028274", Santa Fe, NM, December, 1979.
- Before Royal Commission of Inquiry on Uranium Mining regarding Health and Environmental Protection, Vancouver, BC, Canada, December, 1979.
- Before New Mexico Water Quality Control Commission in Hearing regarding Selenium Standards, Part 3-103A, New Mexico Groundwater Regulations, Santa Fe, New Mexico, September 20, 1979.
- "In the Matter of Groundwater Discharge Plan for the Bokum - Marquez Uranium Mill (DP-43)", Santa Fe, NM, May, 1979.
- "In the Matter of Amendments to New Mexico Radiation Protection Regulations", Santa Fe, NM, May, 1979.
- "In the Matter of NPDES Permit for Ranchers Exploration and Development Corporation, NPDES No. NM0026573", Santa Fe, NM, September, 1978.
- "In the Matter of NPDES Permit for Kerr-McGee Nuclear Corporation, NPDES No. NM0020532", Santa Fe, NM, May, 1978.

Brief Biographical Sketch



William "Paul" Robinson
Research Director
Southwest Research and Information Center
PO Box 4524
Albuquerque, NM 87196 USA
www.sric.org
Email – srcipaul@gmail.com
Phone – 505-262-1862/Fax – 505-262-1862

William "Paul" Robinson has been employed as Research Director at Southwest Research and Information Center in Albuquerque, New Mexico, a scientific and educational organization working to promote the health of people and communities, protect natural resources, ensure citizen participation, and secure environmental and social justice now and for future generations, where he has worked since 1976.

Paul has prepared peer reviewed technical papers, contract publications, and educational materials and provided expert technical testimony related to uranium mines, mills and uranium policy throughout his 45-year career. His consulting clients have included local and international non-governmental organizations, law firms, industry trade associations, project developers, and government regulatory and foreign assistance agencies.

Paul earned his Masters in Community and Regional Planning with an emphasis on Natural Resource Management from University of New Mexico (UNM) in Albuquerque in 1992 and a BA from the Technology Assessment Program at Washington University, St. Louis, MO in 1974. The professional project for this Masters addressed "Planning for Reclamation of the Uranium Waste Sites in the Former East Germany." Paul developed and taught Environmental Assessment Methods and Environmental Policy courses at the undergraduate and graduate level at UNM between 1983 and 2000 and developed and taught a course on Sacred Site and Environmental Protection on Native American Lands in the Native American Studies Program at UNM.

Paul's peer reviewed professional papers are included in publications of the British Columbia Chamber of Mines, New Mexico Bureau of Mining and Mineral Resources, Colorado School of Mines, Freiberg Technical Institute–Germany and European Union – Science and Technology Directorate, New Mexico Water Resources Research Institute (WRRI) and in Environmental Science and Technology (ES&T), among others

Paul has served as a technical expert in regulatory proceedings periodically since 1979 including proceedings for uranium facilities such as White Mesa uranium mill in UT; Crow Butte in situ uranium mine in NE; Pitch Project in CO; Homestake-Grants, Bokum-Marquez, and Gulf-Mt. Taylor uranium mills in NM, and Vane Minerals Exploration Plan in Arizona in the US, the Elliot Lake uranium mill tailings and mine waste decommissioning in Canada and the adoption of regulations concerning mine operations and mine reclamation, pursuant to the New Mexico Mining Act, among other uranium and non-uranium mines. Paul has provided testimony before Congressional Committees periodical during the past 40 decades including [Mill Tailings Dam Break at Church Rock, New Mexico](#), Oversight Hearing before the Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs before the House of Representatives, October 22, 1979.

Paul has served as Co-Investigator, “Metals Exposures in Tribal Arid Lands of the Southwest (METALS)”, University of New Mexico Superfund Research Center, Community Engagement Core, NIH/NIEHS Grants P42 ES025589, 2017-2020.

Consulting contracts related to remediation of uranium mine and mill sites have included:

- Technical Assistance Grant (TAG) contractor to Bluewater Valley Downstream Alliance affected by the Barrick Gold/Homestake Mining Company uranium mill and mill tailings site Superfund Site. – 2010 – 2013

- Technical Assistance for Superfund Communities (TASC) contractor to US EPA assisting Red Water Pond Road Community Association on the Navajo Nation and other communities affected by the General Electric/United Nuclear Northeast Churchrock uranium mine removal action – 2011 – 2013

- Technical Assistance for Superfund Communities (TASC) contractor to US EPA assisting Bluewater Valley Downstream Alliance and other communities affected by Barrick Gold/Homestake Mining Company uranium mill and tailings Superfund Site – 2008 – 2009

- Technical Outreach to Superfund-affected Native American Communities (TOSNAC) contractor to EPA to assist Spokane Tribe of Indians and tribal members affected by Midnite Mine Superfund Sites – 2005 and 2012

Oyu Tolgoi Related Publications

“Oyu Tolgoi Phase 2: Plans, Issues and Risks,” Prepared for CEE Bankwatch Network www.bankwatch.org and OT Watch, 2016 <http://bankwatch.org/sites/default/files/OyuTolgoi-Phase2.pdf>.

“Water and Mining – Impact avoidance through mine design and planning, balancing operation needs with environmental sensitivity,” prepared for Conference on The Mitigation Hierarchy: Reducing the Environmental Impacts of Large-Scale and Small-scale Mining, May 2015, Ulaanbaatar. http://src.org/enr/docs/20150527_Water_Mining_ImpactAvoidance_Mongolia.pdf

I am sending a short summary of my education highlights, and work career.

My name is Reno L. Red Cloud Sr. I am an enrolled Oglala Sioux Tribal Member, and the 6th generation descendant of the Oglala Lakota 'Chief Red Cloud'. I graduated from San Jose' High School in San Jose 'California, on June 15, 1978, and came back home to work for the Oglala Sioux Tribe. I worked for the Oglala Sioux Tribe for over 30 years in different water programs. I am currently the OST Water Resources Department / Director, the Vice -Chairman / Great Plains Tribal Water Alliance, the Chairman / OST Environmental Health Technical Team, and the Oglala Sioux Tribe, delegate to the Missouri River Recovery and Implementation Committee. I have worked for the Oglala Sioux Tribe for over 30 years in different water programs listed below:

Oglala Sioux Tribe, Work History:

- OST Water Development Inc. 1978-1983 (well driller and pump installer)
- OST Water & Sewer Company. 1983 – 1991 (Water Operator for Water Systems)
- Mni Wiconi Water Project – O&M / Supervisor, 1994-2005
- Mni Wiconi Water Project – O &M / Director 2005-2010
- Indian Health Service, Maintenance Facility, 2010 – 2013
- OST Water Resources Department, Director, (2013-2023)

I am South Dakota - State Certified in:

Class III, Water Treatment Operator, Class III, Water Distribution Operator, and Class I, Wastewater Collection Systems Operator, from my experience working with tribal water and wastewater systems.

I revised the OST Water Code # 15-18, originally written in 1985 and updated it in October, 5, 2015. I administer, manage, and enforce the OST Water Code # 15-18, for the protection and preservation of our Oglala Sioux Tribe's ground water, and surface water resources.

I was the (previous) Great Plains Tribal Water Alliance / Chairman (2014-2017) and presently the Vice Chairman. I have been with the Missouri River Recovery and Implementation Committee (MRRIC) for 11 years now.

I am a consultant with the Strong Heart Water Study, since their start in 2015. I am the Chairman / Oglala Sioux Tribe's Environmental Health Technical Team, to assist with our addressing and protection of our 1851 & 1868 Treaty, (Land, Water, & Air). My department protects our tribal natural resources, from oil pipelines, uranium, and gold mining, especially in our (Sacred) Black Hills. I have worked closely with the Black Hills Clean Water Alliance on protection of Black Hills sacred water from mining and other developments that could contaminate our precious water resources.

TRINA LONE HILL

119 Johnson Holy Rock Dr.
P.O. Box 58
Batesland, SD 57716
Cellular: (605) 407-0872
Email: trini_lh@yahoo.com
Alternate Email: 76trini@gmail.com

Date of Birth: 02-12-1976
Tribal Affiliation: 31/32 Oglala (Lakota) Sioux, U-26598

ANNOUNCEMENT NUMBER:

EXPERIENCE

P.O. Box 109 206 School St. Batesland, SD 57716 Ph: (605) 288-1921 Supervisor: Connie Kaltenbach (Superintendent) Email: Connie.Kaltenbach@k12.sd.us Pay Rate: \$27.71 p/h Average Hours Worked: 40 p/w	Executive Assistant to the Superintendent <i>Oglala Lakota County School District</i> December 2020-Present <i>Batesland, SD</i> Work directly with the Public, Vendors, and OLCSD Staff; Works directly with the Superintendent; Maintains schedule of the Superintendent; Plans events for the Superintendent, Administrative Staff and School Board Members; Generates Travel Authorizations & Travel Vouchers for Administrative Staff; Work directly with Vendors on Direct Bill Account Establishment; Work with Travel Agencies for Travel Purposes; Generates Purchase Orders for Office Supplies, Superintendent's Office Supplies, Ordering of Staff Appreciation Items; Ordering of Graduation Supplies for the six sites within the OLCSD; Ensures all signatures for paperwork are obtained and all policies are followed; Take Minutes at Policy Meetings as directed by Superintendent; Update Forms for In-house Procedures; Excellent Multi-tasking ability; Excellent Telephone Etiquette; Great under pressure; Assist in Budget Planning for Travel Events for departments; Assist the Business Office in Credit Card Reconciliation; Assist the Business in Purchase Order Generating; Excellent Communication Skills; Knowledge of Tribal Programs and Entities within the Oglala Sioux Tribe; Knowledge of the Oglala Lakota History, Culture, Language, Arts, Traditional Protocols, Customs, Games, Ceremonies, Dances and Songs; Maintains Confidentiality; Ability to maintain Professionalism at all times; Works collaboratively with all departments; Willing to work late and after hours to get the projects completed; Trustworthy; Determined; Team Player.
P.O. Box 490 Kyle, SD 57752 Ph: (605) 455-6125 Fax: (605) 455-6116	Administrative/Monitoring Assistant <i>Oglala Lakota College- Head Start Administration</i> December 2018-December 2020 <i>Kyle, SD</i>

Supervisor:
Cindy Fisher (Interim)
Email: cfisher@olc.edu

Pay Rate: \$19.20 p/h

Average Hours Worked:
40 p/w

Work directly with the Public; First point of contact within the Head Start Administrative Office; Working Knowledge of the Office of Head Start Performance Standards; Works with each Head Start/Early Head Start Center on the Reservation (31 Classrooms total); Fills Inventory Orders for each Classroom; Stocks the Office Supply Storeroom; Stocks the Nutrition Supply Storeroom; Clean & Maintain the Head Start Conference Room; Update Forms for use by all HS/EHS Employees; Works directly with Administrative Staff on Annual Reports, Self-Assessment Reports, Community Assessment Reports, Monitors each Individual Classroom for Compliance Issues; Orders Inventory as Needed; Works directly with Vendors; Delivers Items to Centers when Needed; Assists in Recruitment of Students and Staff; Works directly with the Policy Council; Assist in the Planning of Policy Council Meetings, Plans the Search & Screen Committee meetings monthly; Prepares all Time Reports for approximately 130 HS/EHS Employees, Prepares Purchase Requisitions as Needed, Assists in the Planning of Administrative Meetings, Takes meeting notes for Administrative Meetings & prepares them for staff as needed; Works collaboratively with OLC Business Office Staff to ensure OLC Policy is followed in regard to Head Start Purchases; Public Speaking at Recruitment Events; Speak on KILI Radio with Program Updates; Great People Skills; Professional Attitude; Self-Starting; Assists in securing Presenters for our Professional Development Days for Staff; Answers Questions from Parents; Utilizes the MyHeadStart.com database for any/all questions from Parents/Staff in regard to Child Files; Assisting Administrative Staff in going "paperless"; Excellent Multi-tasking Skills; Ability to Delegate Tasks to Staff; Excellent People Skills; Working knowledge of Technology.

P.O. Box 2070
Pine Ridge, SD 57770
Ph: (605) 867-8487

Supervisor:
Troy S. Weston
Email: tsw@gwtc.net

Pay Rate:
\$13.44 p/h

Average Hours Worked:
50

Cultural Liaison
Oglala Sioux Tribe-President's Office

June 2018-November 2018
Pine Ridge, SD

Worked directly with the Aid To Tribal Government Grant (Administered by the OST President's Office and Bureau of Indian Affairs); Lead Individual on Issues of Cultural and Historical Significance to the Oglala Lakota Nation; Worked with Communities on Issues of Concern in regard to Massacre Sites; Represented the Oglala Sioux Tribe in Treaty Meetings; Worked directly with the Public; Greeted Tribal Members daily and assisted them in which direction to turn to; Worked with the Youth; Gave Presentations to the Tribal Council in regard to projects; Maintained Cuff Accounts in regard to the ATG Grant Funding; Worked collaboratively with the BIA in regard to the ATG Grant; Worked directly with the OST Contracts Office in regard to Budget Modifications and Budgets in regard to the ATG Funding; Prepared Budgets for the Public Relations & Legislative Liaison Positions which

were funded along with the ATG Grant; Worked with the OSLHA on the One Nation One Number Census Project; Attended various events in Native Country Representing the Oglala Sioux Tribe with Dignity and Integrity; Worked under micromanaged Conditions, Worked in a High Stress, High Volume setting; Professional, Punctual, Courteous, Exhibits and Practices the Lakota Values and Morals.

Director/Tribal Historic Preservation Officer March 7, 2016-March 28, 2018

Oglala Sioux Tribe- Cultural Affairs & Historic Preservation Office Pine Ridge, SD

P.O. Box 320
Pine Ridge, SD 57770
Ph: (605) 867-5624
Fax: (605) 867-2818

Supervisor:
Harold D. Salway
ostnrrad@gwtc.net

Pay Rate: \$21.76 p/h

Average Hours Worked:
40 hrs per week

Works directly with Tribal, State, and Federal Agencies in regard to Section 106 of the NHPA; Consults directly with agencies in regard to Treaty Territories, Artifacts, Human Remains, Repatriation Efforts, Working with Environmental Issues affecting Treaty Territories and Cultural Sites, Any/All Cultural Resources relevant to the Oglala Sioux Tribe; Knowledge of Oglala Lakota Culture, History, Sacred Sites, Oral Histories, Traditional Medicinal Plants, Ceremonies, Songs, Dances, Arts, Treaties, Aboriginal Territories; Give Presentations to Treaty Councils, Wounded Knee Decendants Society Members, Oglala Sioux Tribal Council, Community Councils, Elders Councils, Youth Councils, and Speak on the local Radio Station with Program Information; Works directly with the public; Excellent Public Speaking Ability; Excellent Multi-tasking ability; Works directly with Vendors daily; Works directly with SD DOT, ND DOT, FAA, USFWS, NPS, EPA, NRC, BLM, DOE, ACE, BIA, IHS, LaCreek Electric, Golden West Telecommunications, and numerous Tribal Entities in regard to Treaty Lands and Cultural Resources; Plan & Prepare my own Travel Authorizations, Travel Reports, Accounts Payable Vouchers, Requisitions, Vehicle Authorizations, Mileage Reimbursements, Leave Slips, Time Sheets, Reports, Grant Writing, Grant Reporting, Annual Reports, Budgets, Budget Modifications; Actively completed/met the objectives and goals of my NPS THPO Grant; Set up meetings between my program and other entities; Prepare all Correspondence (Written, Email, Verbal) for my office; Assist in Pedestrian Survey Work; Review numerous Archaeological Surveys and prepare comments based upon Cultural Relevance/History; Supervised Para-Archaeologists out in the field, Dispatched Survey Crews to the daily sites on the FEMA Projects on the reservation; Voice the concerns of the Oglala Lakota Oyate to these Federal Agencies that I deal with on a dialy basis; Incorporate the Lakota Perspective to Exhibits, Content at National Parks; Assist with Ethnobotany Reviews; Research the Oglala Lakota History; Ensure that our Cultural Resources are protected from destruction and desecration.

P.O. Box 5046
Pine Ridge, SD 57770
Ph: (605) 867-1706
Fax: (605) 867-2344

Supervisor:
Tuki Tibbitts
ttibbitts@hotmail.com

Pay Rate: \$15.42 p/h

Average Hours Worked:
45 hours per week

Life Style Coach

Oglala SiouxTribe- Oyate Bli Helya

November 25, 2013-March 4, 2016

Pine Ridge, SD

Work directly with K-8th Grade Students within the schools on the Pine Ridge Reservation; HIPPA Certified, First Aide/CPR (Pediatric/Adult)/AED Certified; The Cooper Institute Trained/Certified: Boot Camp & Circuits Leadership, Fitness Specialist; Filing Experience; Work with students daily in PE Classes; Assist staff in Screening all students (Height, Weight, Acanthosis Nigricans (AN) Level, Body Mass Index) on the reservation; Assist staff in administering the Bi-Annual Presidential Fitness Assessments/Testing (Timed 1 mile Run, Timed Sit-ups, Timed Push-ups, Modified Pull-ups, Timed Shuttle Run), Identify "At Risk" students with an 85% or higher BMI and work with identified population; Participate in staff organized Fitness Events; Participate in Community-based Fitness Events (Walks, Runs, Biking Clubs, Obstacle Course, Triathlons, Fitness Challenges). Currently, I am the interim-Administrative Assistant. I prepare all documents: Correspondence (Written, Verbal, Email) for the Office, All Requisitions, Travel Authorizations, Travel Reports, Monthly Director's Reports, Time Sheets, Leave Slips, Accounts Payable Vouchers, Vehicle Authorizations, Mileage Reports, Arrange all Travel for Staff, Supervise Staff of 14 in the absence of the Supervisor & Director, Work collaboratively with Oglala Sioux Tribe Administrative Office Personnel, Work collaboratively with all School Administrators, Excellent Public Speaking Ability, Excellent Multi-tasking ability, Work directly with Vendors daily, Answer all telephone calls daily.

Counselor- East Wakpamni Center

Oglala Lakota College

September 2012-November 2013

Batesland, SD

P.O. Box 612
Batesland, SD 57716
Ph: (605) 288-1834
Fx: (605) 288-1828

Supervisor:
Colleen Provost

Pay Rate: \$15.66 p/h

Average Hours Worked:
40 hrs per week

Academic Counselor/Advisor for the East Wakpamni College Center of the Oglala Lakota College (a decentralized campus), Works directly with the student population enrolled at my respective site, Works directly with students wishing to study/test for the GED; Assists the students in the preparation/filing of their FAFSA, Higher Education Grant Applications, American Indian College Fund Scholarship Applications, FAFSA Verification Worksheets, Admissions Applications; Generates a Status Sheet in the desired field of study for each individual student; Assists the students in enrolling in courses each semester; Hosts an Orientation for new/in-coming students; Advisor to the Student Organization at my respective center; Assists in planning events for the student population and local community members that utilize the center; Answers telephones, Fax Documents as needed, Emails Documents as needed; Answers general

public questions, Works directly with the public; Assists in the maintenance/upkeep of the building; Works with Instructors that teach at my respective center; Attends Scholarship Selection Meetings to ensure my students receive funding;; Supervise Work-Study Students each semester, Maintain filing system of my students' pertinent Academic Records, Prepares monthly reports to present to Local Board Members, Self-motivated worker; Works one night each week while classes are ongoing.

Medical Support Assistant- Emergency Dpt. April 2010-September 2012
Indian Health Service-Pine Ridge Service Unit Pine Ridge,SD

P.O. Box 1201
East Hwy. 18
Pine Ridge, SD 57770
Ph: (605) 867-3339
Fx: (605) 867-3263

Supervisor:
Sheila Kozal
Sheila.Kozal@ihs.gov

Pay Rate: \$15.15p/h GS 05/02

Average Hours Worked:
84 per pay period

First point of contact for Patients checking in to the Emergency Dpt., Works directly with the public, Check Patients In/Out of the RPMS System of I.H.S., Works collaboratively with E.D. Charge Nurse, Nursing Staff, Provider staff, Housekeeping & Security Staff to keep the E.D. running smoothly, Generates paperwork for each visit, Generates Transfer Packets for Patients being transferred to outside facilities, Reviews the paperwork in Transfer Packets to ensure that forms are filled out properly for Contract Health Referrals, Contacts Transportation (EMS, Fixed Wing, Helicopter) for outside transports as needed, Maintains E.D. Log Book, HIPPA Certified, CPR Certified, Working knowledge of I.H.S. Policy & Procedures, Works collaboratively with the respective departments within the Pine Ridge Service Unit in regard to patients, Works collaboratively with the OST Dpt. Of Public Safety, OST Ambulance Service, OST CHR Staff in regard to transport of patients, Order Office & Medical Supplies for the E.D. as needed, Contacts Outside Facilities when Pertinent Patient Information is needed to further care for patients in the E.D., Pages on-call Medical Personnel as needed, Great Multi-tasking Skills, Excellent Telephone Etiquette, Operates Office Automation Machinery: Shredder, Copy Machine, Facsimile Machine, Printers, Computers, Operate Telemetry Machinery, Excellent Team Player in a high volume, high stress area.

Cook- Batesland School August 2010-October 2010
Shannon County School District Batesland,SD

206 School St.
Batesland, SD 57716
Ph: (605) 288-1921

Supervisor:
Connie Kaltenbach

Baker for the Batesland School within the Shannon County School District, Prepared & Baked bread daily for the students/staff, Assisted in the preparation of two daily meals (Breakfast & Lunch) as well as a healthy afternoon snack for the students/staff, Washed all linens in the Kitchen, Washed all baking equipment, tables, dining utensils daily, Utilized the

Pay Rate: \$9.00 p/h

Average Hours Worked:
40 hours per week

Industrial Washer/Steamer when cleaning cooking utensils, Ensured that all refrigerator equipment were within recommended range for food safety, Served meals according to correct dietary proportion standards, Cleaned my work station and area daily, Stocked the kitchen when food supplies were shipped twice a week, Maintained Cleanliness & utilized safety precautions (i.e., hairnets, gloves, aprons, oven mits) when preparing & serving all meals, Worked directly with the public.

Administrative Assistant
Oglala Sioux Tribe- Tribal Education Dpt.

March 2009- February 2010
Kyle, SD

P.O. Box 69
Kyle, SD 57752
Ph: (605) 455-2666
Fx: (605) 455-2668

Supervisor:
Dayna Brave Eagle
dbc@gwtc.net

Pay Rate: \$14.90 p/h

Average Hours Worked:
40 hours per week

Worked directly with the public, Worked directly with the Oglala Sioux Tribe's Education Committee & Tribal Council, Worked directly with the reservation-wide schools, Attended meetings on behalf of the Director, Maintained Cuff Accounts, Prepared official office correspondence, Prepared & submitted Accounts Payable/Travel Authorizations/Travel Reports/Requisitions/Time Sheets, Ordered supplies as needed, Worked directly with vendors, Arranged for meeting dates & locations, General Office Duties: answered/screened all incoming telephone calls, faxed documents as needed, greeted walk-in visitors, emailed documents as needed..

Data Entry Clerk
Oglala Sioux Tribe- Oyate Bli Helya

April 2005-February 2007
Pine Ridge, SD

P.O. Box 5046
Pine Ridge, SD 57770
Ph: (605) 867-1706
Fx: (605) 867-2344

Supervisor:
Charles Standing Bear

Pay Rate: \$10.56 p/h

Average Hours Worked:
40 hours per week

Maintain Adult and Youth Databases, Maintain Adult and Youth Files, Update Program forms (Screening Forms, Letterhead, Name badges, Business Cards) as needed, Quarterly Reports on Program Participants (School screenings, Adult screenings, Health fairs, I.H.S. Referrals, New D.M. Cases, Fitness Referrals), Assist staff as needed in regard to daily office procedures (i.e., copy documents, order supplies), Answer phones, Fax Documents as needed, Work with the public, Prepared Powerpoint presentations for the program as needed, Knowledge of OST Tribal Financial Procedures, Helped prepare/generate: timesheets, requisitions, accounts payable, travel authorizations, travel reports, Knowledge of HIPPA, Trained in Confidentiality & Privacy Practices, Supervised Staff and attended meetings in the absence of the Director/Office Manager.

242 Second Street SE
Washington, DC 20003
Ph: (202) 546-7711
Fx: (202) 546-1755

Supervisor:
Dianne Wyss

Pay Rate: \$10.00 p/h

Average Hours Worked:
30 hours per week

Internship
National Indian Gaming Association

July 2004-August 2004
Washington, DC

Part-time/Volunteer Basis: updated Tribal Gaming Compact Files, Shipped Membership Incentives, Assisted Staff in Legislative Day Activities (i.e., worked with public, registration, picture taking, catering), Worked with public and helped NIGA staff as requested. .

1201 E. Hwy. 18
Pine Ridge, SD 57770
Ph: (605) 867-5131

Supervisor:
Rhonda M. Akers

Pay Rate: \$11.00 p/h

Average Hours Worked:
40 hours per week

Patient Registration- Emergency Dept.
Indian Health Service-Pine Ridge Service Unit

October 2003-May 2004
Pine Ridge, SD

Worked directly with public, First point of contact for patients coming into the Emergency Dept., Made new charts for patients as needed, Updated patient demographics on the RPMS system of I.H.S., Had patients sign any pertinent documents needed for their files, Ordered Charts, Generated PCC's for the patient's visit, HIPPA certified, Knowledge of I.H.S. Policy/Procedures & Eligibility Requirements for patients, Trained in Medical Records: Pulled Charts as needed (after midnight on the weekend shift), Worked three 12 hour shifts (1 day, 2 night/weekend) and one 4 hour day shift, Generated New Charts for patients as needed, Monthly reports on the number of patient updates, Updated Medicaid information of patients per monthly list, Worked cooperatively with the E.R. Doctors, Nurses, Ward Clerk, Security, OST Ambulance Service and OST Police Department.

P.O. Box G
Pine Ridge, SD 57770
Ph: (605) 867-2200

Supervisor:
Andrea Eagle Bull

Pay Rate: \$11.09 p/h

Average Hours Worked:
40 hours per week

Youth Mentor
Oglala Sioux Tribe- Youth Opportunity Movement

December 2002-August 2003
Pine Ridge, SD

Worked with the Wakpamni Site and La Creek Site as a Youth Mentor, worked with youth (ages 14-21), established activities for the youth, enrolled youth into the program, data input into the national database, attend trainings for all grantees in the US, one-to-one counseling with the youth (confidential), help the youth in any way that we could, incentive trips for work and community service.

P.O. Box 1485
Sioux Falls, SD 57101
Ph: (605) 271-5405
Fx: (605) 224-1759

Supervisor:
Ellie Wicks

Pay Rate: \$8.00 p/h

Average Hours Worked:
70 hours per week

Field Office- Manager
South Dakota Democratic Party

June 2002-August 2002
Pine Ridge, SD

Recruited voters, Enrolled voters, Flier Distribution, Planned visit for Senator Johnson (D-SD) to the Pine Ridge Reservation, Worked with the

tribe directly to set this visit up, worked with the public, staffed booths at various events on the reservation, recruited volunteers for the booths, worked seven days a week (70+ hours), weekly reports to the Sioux Falls office and Native Vote campaign staff.

Wakpamni District CAP
P.O. Box 1993
Pine Ridge, SD 57770
Ph: (605) 867-5287

Administrative Assistant
Oglala Sioux Tribe- Wakpamni District

February 2002-June 2002
Pine Ridge, SD

Supervisor: Sandra Two
Lance

Pay Rate: \$8.00 p/h

Average Hours Worked:
40 hours per week

Worked directly with the District President in all matters, stationed at the Wakpamni CAP Office, worked with the general public, answered telephones, utilized office equipment (i.e., facsimile, copy machine, computers), revised office forms, public service announcements/fliers for the district members.

Office of Student Services
School of Nursing
University of Minnesota
5-160Weaver-Densford Hall
308 Harvard Street
Minneapolis, MN 55455
Ph: (612) 625-7980

Minority Student Recruiter
University of Minnesota- School of Nursing

January 2001-November 2001
Minneapolis, MN

Supervisor: Judith Beniak

Pay Rate: \$16.00 p/h

Average Hours Worked:
50 hours per week

Work with the Center of American Indian & Minority Health Grant, Work with the Technology Enhanced Learning In Graduate Nursing (TELIGN) Grant, Recruited students for the Undergraduate and Graduate programs in the fields of Nursing and Medical School- specifically Native American Students, Attended College Fairs, Hosted Information Sessions on the various programs, Gave campus tours, Worked directly with Students and Public, Transcript Evaluations with Students, Answered Telephone Inquiries, Worked with Walk-in appointments, Prepared Quarterly Reports for grants, Worked with the various communities of color on the University Campus as well as the surrounding metropolitan area, Recruited within the neighboring Native American communities.

2400 Mystic Lake Blvd.
Prior Lake, MN 55372
Ph: (952) 445-9000

Risk Management Clerk
Mystic Lake Casino/Hotel- Risk Management

August 2000-January 2001
Prior Lake, MN

Supervisor: Walt Hreno

Pay Rate: \$10.75 p/h

Average Hours Worked:
40 hours per week

Work with employees on Worker's Compensation questions, Download daily Incident Reports, Prepare files for Worker's Compensation, Notify Insurance Agency as needed, Prepare office correspondence as needed, Prepare monthly Insurance Claim Report, Filing for Worker's Compensation and General Liability, Close files in the database as needed, Order Office Supplies, Answer Telephones, Route Mail, Set up database for Hepatitis A and B Tracking, Maintain records for vaccination tracking, Notify departments of training and vaccination schedules, general office duties.

P.O. Box 562
Pine Ridge, SD 57770
Ph: (605) 867-5338

Supervisor:
Jackie Rowland

Pay Rate: \$7.29

Average Hours Worked:
40 hours per week

Records Management Clerk December 1999-August 2000
Oglala Sioux Tribe- Higher Education Grant Program Pine Ridge, SD

Set up Filing System, Set up working database for applicants, Prepared Official Office correspondence, Worked directly with students and their files, Corresponded regularly with various University/College personnel in regard to students, Greet and Work with public, Screened all telephone calls, documented all incoming/outgoing mail and documents, Worked with various office equipment (i.e., telephone, facsimile, typewriter, calculator, copy machine, mail meter, computer, time clock), General upkeep of the office.

Bonnie Holy Rock
Pathways Project
Pine Ridge, SD 57770

Supervisor:
Bonnie Holy Rock

Pay Rate: \$10.25 p/h

Average Hours Worked:
30 hours per week

Measurement Staff/Team Leader January 2000-May 2000
University of Minnesota Pathways Project Batesland, SD

Certified Measurement Staff person, Team One Leader, Prepared weekly schedule for team, Scheduled and assigned stations hourly for team members, maintained arrival/departure log for team, Calibrated all equipment to be used daily and maintained calibration log, Certified TriTrac Administrator, Initialize TriTrac devices weekly and download data when completed, Gold Standard Certified on School Lunch Observations, Prepared Standard Tray as needed for School Lunch Observations, Met with various school administrators on the project and set up weekly schedule accordingly, Supervised team of Eight measurement staff people, Determined if all measurements were within range and all procedures/specifications were met, Recertified members who did not meet procedures/specifications, Responsible for hauling all equipment to and from scheduled schools weekly.

FEMA
Denver Federal Center
Scott J. Logan- Tribal
Contact
Building 710 Box 25267
Denver, CO 80255-
02674404
Ph: (303) 235-4864

Supervisor: Del Brewer

Pay Rate: \$8.00 p/h

Average Hours Worked:
70 hours per week

Local Hire (DR-1280) June 1999-September 1999
Federal Emergency Management Agency Pine Ridge, SD

Emergency Operations Vehicle (EOV) Receptionist, Disaster Recovery Center (DRC) Courier/Receptionist, Disaster Housing (DH) Trainee, Manufactured Homes Operations (MHOPS) Staff person, Maintained three databases (Trailer Inventory, Pre-Placement Interviews, Maintenance), Prepare/Submit report on all applicants three times weekly, Prepare/Submit a weekly Disaster Housing report to the Human Services Branch Chief, Prepare/Submit Pre-Placement Interview Report as needed, Prepare/Submit Daily Inventory Report/Count of Travel Trailers/Mobile Homes, Maintain files of applicants in Travel Trailers/Mobile Homes,

Maintain Disaster Housing files, Help Inspectors/MHOPS staff with various paperwork (i.e., workorders, maintenance workorders, leases, ove in/out), Issue site control numbers for tailers, Fax documents, Prepare official correspondence for office as requested, Copy and distribute incoming documents as needed, Help prepare timesheets for local hires, Screen calls, Help prepare weekly Situation Report for Tribal Relations, Trained/Authorized user of NEMIS Network (FEMA Network) for status checks on applicants as needed, Ordered supplies as needed.

Administrative Assistant July 1998-December 1998
Oglala Sioux Tribe- Vice President's Office Pine Ridge, SD

P.O. Box 2070
Pine Ridge, SD 57770
Ph: (605) 867-5821

Supervisor:
R. Milo Yellow Hair

Pay Rate: \$14.38 p/h

Average Hours Worked:
40 hours per week

Screen calls, Greet visitors and direct to proper offices, Filing, Supervise Security and Janitorial staff of seventeen, Maintain time sheets/cards for staff, Prepare biweekly schedules for Security staff, Prepare paperwork (i.e., travel authorizations, accounts payable, requisitions, travel reports), Prepare official correspondence and in house memorandums, Set up meetings/appointments for Vice President, Worked with the public (i.e., placed phone calls, typed requests, other duties as requested), Faxed documents as needed, General upkeep of the office.

Student Congress President April 1998-March 1999
American Indian Higher Education Consortium Pablo, MT

AIHEC Student Congress
Attn: Juan Perez
52000 Hwy. 93
Box 70
Pablo, MT 59855
Ph: (406) 275-4800

Volunteer Basis- Represent over 31 tribal colleges throughout the United States and Canada, Preside at all official (quarterly) meetings of the Student Congress, Travel to various functions/conventions as requested, Public speaking at various events, Advocate/Lobby for increased funding for tribal colleges and native students while in Washington, DC, Fundraising for various activities sponsored by the organization, Work towards meeting the objectives of the Native American Higher Education Initiative Grant received from the W.K. Kellogg Foundation, Network with various organizations/projects in regard to recruitment/concerns of native students, Report to AIHEC Board of Directors on Student Congress activities/concerns, Set up meetings and agendas.

Student Congress Secretary March 1997-April 1998
American Indian Higher Education Consortium Pablo, MT

Volunteer Basis- Attend all official (Quarterly) meetings of the Student

Congress, Maintain official transcripts/ninutes of all Student Congress meetings and business actions, Responsible for the storage/filing of any and all transcript/reports/statements related to the business of the Student Congress, Performed duties and functions related to the office of the Secretary (i.e., fax documents, work on computer, work with copy machine, telephone, e-mail, utilize direct mailing system), and aother duties as specified by President and/or the Advisor.

Cashier	June 1995-July 1995
<i>Conroy's Apothecary</i>	<i>West Tisbury, MA</i>

Work with Public, Answer Telephone, Stock items as needed, Inventory weekly, Assist customers with any concerns/question that tey may have, General upkeep of the store (i.e., make coffee, vacuum, dust, sweep), Operate facsimile machine, Operate cash register, Operate lottery machine, Operate credit card machine, File all credit card purchases.

EDUCATION

Bachelor of Arts Degree in Lakota Studies	June 2005
Lakota Language Certificate	June 2014
<i>Oglala Lakota College</i>	<i>Kyle, SD</i>

Robert Gay Memorial Scholarship Recipient: highest GPA of graduating class.

Associate of Arts Degree in Lakota Studies	June 1998
<i>Oglala Lakota College</i>	<i>Kyle, SD</i>

East Wakpamni Center: Student Representative 95-98, Student Senator 95-98, Lawlor Scholarship Recipient Spring/Fall 1998. Oglala Lakota College Student Senate: Vice President 95-96, Secretary 96-97, President 97-98. Oglala Lakota College Board of Trustees: Student Representative (voting member) 97-98. American Indian Higher Education Consortium (AIHEC) Student Congress: Oglala Lakota College Representative 96-99, Secretary 97-98, President 98-99. National Indian Education Association: Student Member (voting) 96-98.

12 th Grade Diploma	May 1994
Pine Ridge High School	Pine Ridge, SD

9 th to 12 th Grade	September 1990-September 1993
Proctor Academy	Andover, NH

K to 8 th Grade	September 1981-May 1990
Pine Ridge Elementary	Pine Ridge, SD

OTHER

Oglala Lakota County Schools Parent Activity Council-VP	09/2017
<i>OLC School District- Batesland School</i>	<i>Batesland, SD</i>

Wakpamni Head Start Policy Council Member	09/2015-11/2018
<i>OLC Head Start Program</i>	<i>Kyle, SD</i>

East Wakpamni Center Local Board Member	December 2006-2012
<i>Oglala Lakota College</i>	<i>Kyle, SD</i>

Board Secretary	March 2006-Present
<i>Lakol Oyate Kawil Au (Little Bigborn Riders)</i>	<i>Pine Ridge, SD</i>

Miss Congeniality	September 2001
<i>Miss Indian Nations Pageant 2001-2002</i>	<i>Bismarck, ND</i>

Contestant in the National Miss Indian Nations Pageant 2001-2002, Voted Miss Congeniality by the participants of the pageant.

Miss Oglala Lakota Nation	August 1996-August 1997
<i>Oglala Sioux Tribe</i>	<i>Pine Ridge, SD</i>

Represented the Oglala Sioux Tribe in a 30 day cultural exchange to Norway, Attended the swearing in of Senator Tim Johnson (D-SD) in Washington, DC, Contestant in the Miss National Congress of the American Indian (NCAI) Pageant in Santa Fe, NM, Represented the tribe in various pow wows throughout the United States including Hawaii, Spoke at events promoting Healthier, Positive, Drug/Alcohol Free Lifestyles for the youth of our nation, Outspoken Advocate for Tribal Colleges & Tribal College Students.

SKILLS

- ❖ Computer Skills (Windows 10, Microsoft Office, Windows 95, Windows 97, Microsoft Word, Microsoft Access, Microsoft Excel, Internet Explorer, Netscape Navigator, Microsoft Outlook, Windows Office 2000, E-mail, Google Drive); Zoom knowledge, Microsoft Teams knowledge, and Google Meet Knowledge.
- ❖ Knowledge of Office Procedures and Equipment usage (i.e., copy machine, facsimile, typewriter, calculator, telephone, printer, mail meter)
- ❖ Excellent Public Speaking Ability
- ❖ Understand/Speak/Read/Write in the Lakota Language
- ❖ Practice/Promote Traditional Lakota Values, Customs, and Arts.

I have a positive and outgoing attitude. I am a hard worker with extreme patience and a willingness to learn. I have a good rapport with people of all ages, gender, and race.

• EMAIL: TRINI.LH@YAHOO.COM

119 JOHNSON HOLY ROCK DR. P.O. BOX 58 • BATESLAND, SD 57716 •
PHONE (605) 407-0872

References

Teanna M. Limpy
Northern Cheyenne Tribe
Tribal Historic Preservation Officer
P.O. Box 598
Lame Deer, MT 59043
(406) 850-7691
Email: tmlimpy@gmail.com

Dayna Brave Eagle
Oglala Sioux Tribe
Education Department
P.O. Box 69
Kyle, SD 57752
(605) 455-2666
Email: dbe@gwtc.net

Emerson Bull Chief
7 Bison Cultural Consulting
HC 36 Box 360
Saint Xavier, MT 59075
(406) 208-6670
Email: Emerson_bc@hotmail.com

Reed Robinson
National Parks Service
Tribal Relations/Indian Affairs
Manager- DOI Regions 3, 4, 5
601 Riverfront Drive
Omaha, NE 68102
(605) 454-4098
Email: reed_robinson@nps.gov

MICHAEL B. CATCHES ENEMY, M.S.

Physical: 464 BIA 39 No Flesh Road, Little Wound (Kyle), SD 57752

Mailing: P.O. Box 582, Kyle, SD 57752

Cellular: (605) 407-9172

Email: catchesenemy@gmail.com

Education

2019	Masters of Science	Cultural Resource Mgt. Archaeology, St. Cloud State University, St. Cloud, MN
2010	Continuing education	Graduate credits, Oglala Lakota College, Kyle, SD
2010	Continuing education	Graduate credits, South Dakota School of Mines & Tech, Rapid City, SD
2004	Continuing education	Graduate credits from Oglala Lakota College, Kyle, SD
2003	Bachelors of Science	Environmental Science, Oglala Lakota College, Kyle, SD
2000-2002	Undergraduate	Wildlife Biology, Natural Resources, Colorado State University, Ft. Collins, CO
1997-1999	Undergraduate	Environmental Science, Oglala Lakota College, Kyle, SD
1989	Diploma	Red Cloud High School, Pine Ridge, SD

Employment

2022-current	Environmental Specialist / Archaeologist, Oglala Lakota Housing Authority Environmental / Archaeological Dept., Pine Ridge, SD.	
2021-2022	Administrative Assistant / Archaeologist, Fifth Member's Office, Oglala Sioux Tribe, Pine Ridge, SD	
2018-2020	Legislative Liaison / Archaeologist, President's Office, Oglala Sioux Tribe, Pine Ridge, SD	
2016-2018	Catches Enemy Consulting, sole proprietor Environmental/Archaeological business, Pine Ridge, SD: Golden West Telecommunications; Oglala Sioux Tribal Parks & Recreation Authority; Flandreau Santee Sioux Tribal Historic Preservation Office; Lakota Consulting & Construction, LLC; Spirit Lake Tribal Historic Preservation Office; Bureau of Indian Affairs – Pine Ridge Agency; RJS Contracting, LLC; OST Economic & Business Development Committee; Oglala Sioux Tribal Employee Assistance Program; Oglala Sioux Tribal Natural Resources Regulatory Agency	
2015-2016	Tribal Compliance Archaeologist / NAGPRA representative, Oglala Sioux Tribe Cultural Affairs & Historic Preservation Office, Pine Ridge/Porcupine, SD	
2014-2015	Tribal Historic Preservation Officer/Director / NAGPRA representative, Oglala Sioux Tribe Cultural Affairs & Historic Preservation Office, Pine Ridge/Porcupine, SD	
2013-2015	Oglala Lakota College, Adjunct Faculty Math & Science and Lakota Studies Departments (Cultural Resource Management FL2013; People & the Environment SP2014; Lakota & the Environment FL2014).	
2012-2014	Catches Enemy Consulting, sole proprietor Environmental/Archaeological business, Kyle, SD: primarily prime consultant, Tribal Historic Preservation Office, Oglala Sioux Tribe, Pine Ridge/Kyle, SD; Consultant, Tribal Historic Preservation Office, Crow Creek Sioux Tribe; Consultant, Tribal Historic Preservation Office, Yankton Sioux Tribe	
2011-2012	Natural Resource Director of Natural Resources Regulatory Agency and Tribal Historic Preservation Office / NAGPRA representative, Oglala Sioux Tribe, Pine Ridge, SD	
2010-2011	Environmental Services Coordinator, Math & Science Department, Oglala Lakota College, Kyle, SD	
2004-2010	Natural Resource Director/Tribal Historic Preservation Officer of Natural Resources Regulatory Agency and Tribal Historic Preservation Office / NAGPRA representative, Oglala Sioux Tribe, Pine Ridge, SD	
2002-2004	Substance Abuse Counselor Trainee, Anpetu Luta Otipi, Oglala Sioux Tribe, Kyle, SD	
2000-2001	Assistant Director/Retention Coordinator, Native American Student Services, Colorado State University, Ft. Collins, CO	
2000-2001	Plant Analysis Technician, Natural & Environmental Science, Colorado State University, Ft. Collins, CO	
1997-1999	Housing Counselor, Rapid City Housing Coalition, Rapid City, SD	
1995-1997	Packager, Federal Beef Processors, Rapid City, SD	
1988-1993	Specialist E-4, MOS 12C Bridge Builder/Combat Engineer, South Dakota National Guard, Hot Springs /Custer, SD	

Cultural Resource Management Archaeological Field Experience and Authored Reports

2019-current	Principal Investigator / Archaeologist, archaeological compliance surveys for the Oglala Sioux Tribe.	
2013-2016	Field Inspector, Cultural Resource compliance surveys / compliance archaeology for the Oglala Sioux Tribal Historic Preservation Office (Principal Investigator Dr. Sebastian C. LeBeau II, Pine Ridge Reservation, SD) – Surveys completed provided as requested	
2012-2013	Field Assistant for the Bureau of Indian Affairs Pine Ridge Agency with Great Plains Regional Office archaeologist/Principal Investigator Dr. Sebastian C. LeBeau II - Pine Ridge Reservation, SD with the following archaeological compliance inventories/surveys – Surveys completed provided as requested	

2008-2015 Established first ever Oglala Sioux Tribal Historic Preservation Office through National Park Service Designation, appointed as the first Tribal Historic Preservation Office appointed May 18, 2009 – January 10, 2010; again October 21, 2013 – April 29, 2015)

Curation, Museum, and NAGPRA Experience

2022-2022 Oglala Sioux Tribe Fifth Member's Office, numerous repatriation activities, consultation, coordination of return, handling of human remains from the FBI, various museums and other repositories

2022-2024 Oglala Lakota College, Wounded Knee repatriated material inventory – archives/repository, Piya Wiconi Administrative Campus, Kyle, SD

2012-2016 Oglala Sioux Tribe and Oglala Lakota College Math & Science Department – field material repository, Piya Wiconi Administrative Campus, Kyle, SD

2010 Inventorying and packaging paleontological resources for relocation, Museum of Geology, Department of Geology, South Dakota School of Mines & Technology, Rapid City, SD

Advisory and Leadership Activities

2024-current Federal Advisory Review Committee, National Park Service - Native American Graves Protection & Repatriation Act Member, as appointed by DOI Secretary of Interior

2024-2024 Advisory Council Member for Cultural Affairs & Historic Preservation, NAGPRA responsibilities, Oglala Sioux Tribe

2022-2025 Member of the Advisory Committee on Reconciliation in Place Names through DOI Secretary Deb Haaland Secretary's Order No. 3405. Also served as Chair of the Geographic Features Subcommittee.

2012-2016 Advisory Board Member for Museum of Geology, Department of Geology, South Dakota School of Mines & Technology

2006-2016 Oglala Sioux Tribal President Appointed - Alternate Representative for the Native American Graves Protection & Repatriation Act (NAGPRA)

2012-2014 *Ex Officio* Member as Tribal Archaeologist of the Tribal Historic Preservation Advisory Council for the Tribal Historic Preservation Office, Oglala Sioux Tribe, Kyle, SD

2012-2014 Core Planning Team Member for Tribal National Park initiative with the National Park Service, partner Badlands National Park for the Oglala Sioux Tribe

2008-2012 Oglala Sioux Tribal Council Appointed - Representative for Tribal Missouri River Recovery & Implementation Committee

2008-2012 Oglala Sioux Tribal President Appointed - Representative for Title IX Missouri River Restoration Act Task Force

2007-2012 Oglala Sioux Tribal Council Appointed - Drafting Team Member for the Missouri River Recovery & Implementation Committee (MRRIC) Charter and Guiding Documents, nationally chartered through the Water Resources Development Act of 2007

2007-2012 Program Member of the Intertribal Timber Council

2006-2012 Oglala Sioux Tribal Task Forces, Planning Teams, and or other Tribal Commissions:

- 2007-2009: Oglala Sioux Tribe Research Review Board Member
- 2007: Oglala Sioux Tribal Utilities Commission interim Member
- 2004-2012: Oglala Sioux Tribe Emergency Management Task Force (former Chair / Member)
- 2008-2012: Oglala Sioux Tribe Solid Waste Task Force Member
- 2006-2012: Oglala Sioux Tribe Water Security Task Force (former Co-Chair / Member)

2004-2014 Oglala Sioux Tribal Council Appointed, Board Member and Secretary / Treasurer, Great Plains Tribal Water Alliance, in collaboration with Standing Rock and Rosebud Sioux Tribes

2004-2012 Oglala Sioux Tribal Council Ordinance Appointed / Committee elected - Co-Chair and Member of the Oglala Sioux Tribe Environmental Health Technical Team

1997-2001 President - American Indian Science & Engineering Society (AISES)

- Co-founder of first ever Oglala Lakota College Chapter (1997); Elected Chapter President (1997-1999)
- Chapter President – Colorado State University (2000-2001)

2000-2001 President, Native American Student Association (NASA) Chapter President, Colorado State University

1997-1999 President, HeSapa College Center (Rapid City Extension), Student Organization, Oglala Lakota College

1996-1999 President's List, academic, Oglala Lakota College

1996-1997 Overall Academic Award, Oglala Lakota College

1992 Specialist (Spec4, Soldier) – US Army National Guard, South Dakota, (214th Engineering Company - Hot Springs / Custer Unit of South Dakota). Served 1988-1993

Presentations and Co-authored Presentations

Catches Enemy, Michael

- 2025 National Environmental Policy Act training, Oglala Sioux Tribe Environmental Health Tech Team, Rapid City, SD
- 2025 Environmental Reviews training, Oglala Sioux Tribe Land Office, Pine Ridge Reservation, Pine Ridge, SD
- 2024 Archaeological Technician / Traditional Cultural Specialist, Pine Ridge Reservation, Pine Ridge, SD
- 2018-present Colorado State University Center for Protected Area Management, bi-annual adjunct instructor to international groups, Pine Ridge Reservation
- 2023 Archaeological Technician / Traditional Cultural Specialist, Pine Ridge Reservation, Pine Ridge, SD
- 2016 Guest Speaker - Lakota Traditions/Culture, Oglala Sioux Tribal Employee Assistance Program 17th Annual Stress in the Workplace Conference, Rapid City, SD
- 2016 Guest Invitee - Oglala Sioux Tribe Consultation Committee, Pine Ridge, SD
- 2016 Archaeological Technician/Monitoring training, Spirit Lake Tribal Historic Preservation Office, Ft. Totten, ND
- 2016 NHPA Section 106 and Tribal Historic Preservation Offices, Flandreau Sioux Tribal Historic Preservation Office, Flandreau, SD
- 2016 Archaeology, NHPA Section 106 and Tribal Historic Preservation Offices, Traditional Cultural Properties on Pine Ridge Reservation, OST Tech Team, Grand Gateway, Rapid City, SD
- 2015 Traditional and Naturally Significant Places, Pine Ridge Reservation, OSTCAHPO Training, Prairie Wind Casino, Oglala, SD
- 2014 Traditional and Naturally Significant Places, Pine Ridge Reservation, Oglala Lakota College, Piya Wiconi Road, Kyle, Oglala, SD
- 2013 History within Stories from Pine Ridge Reservation, St. Cloud State University, American Indian Awareness Week, American Indian Center, St. Cloud, MN

LaGarry, H.E., M. Catches Enemy and W. Mesteth

- 2013 Cultural Resource Management and the Oglala Sioux Tribal Historic Preservation Office, Pine Ridge Reservation, 28th Annual meeting of Society for the Preservation of Natural History Collections, Rapid City, SD

Catches Enemy, Michael

- 2011 NHPA Section 106 and Tribal Historic Preservation Offices, Traditional Cultural Properties, Pine Ridge Reservation, OSTHPO Training, Prairie Wind Casino, Oglala, SD

LaGarry, H.E., W. Mesteth and M. Catches Enemy

- 2011 Paleontological Resource Management and the Oglala Sioux Tribal Historic Preservation Office, Pine Ridge Reservation, 9th Conference on Fossil Resources, Kemmerer, WY

Catches Enemy, Michael

- 2009 Cultural awareness for students from Pine Ridge Reservation, Gates Millennium Scholars, American Indian Graduate Center Scholars, Albuquerque, NM
- 2007 What State DOTs Need to Know About Tribal Environmental Interests, International Institute for Indigenous Resource Management, Rapid City, SD

Awards and Scholarships

- 2016 2015 FEMA Administrator's Award – Outstanding Survivor Service Award DR-4237 JFO team
- 2013 Outstanding Achievement Award, Representing the Oglala Lakota People with Vision, Commitment and Dedication, Oglala Sioux Tribe
- 2012-2013 Graduate Assistance Award, American Indian College Fund, Denver, CO
- 2012-2013 Graduate Assistance Award, American Indian Graduate Center Scholars, Albuquerque, NM
- 2012 U.S. Air Force Academy – Ethnographic Study Participant, for Oglala Sioux Tribal Historic Preservation Office, Pine Ridge, SD
- 2011-2013 Graduate Assistance Award, National Science Foundation through Oglala Lakota College Math & Science Department, Oglala Lakota College
- 2011 Plains Anthropological Society Native American Scholarship, Plains Anthropological Society
- 2000-2003 Gates Millennium Scholarship, Inaugural Class, Alumnus
- 2000-2001 Delano F. Scott Natural Resource Scholarship, Colorado State University
- 2000-2001 Bill & Lilly Lumb Natural Resource Scholarship, Colorado State University
- 2000-2001 American Indian College Fund, Denver, CO
- 1996-2003 Oglala Lakota College administered Scholarships, Kyle, SD

Scholarship Review

2016	2016-2017 Gates Millennium Scholarship Review Process - American Indian
2013	2013-2014 Gates Millennium Scholarship Review Process - American Indian
2011	2011-2012 Gates Millennium Scholarship Review Process - American Indian
2009	2009-2010 Gates Millennium Scholarship Review Process - American Indian
2007	2007-2008 Gates Millennium Scholarship Review Process - American Indian

Training Obtained

2023	Tiered Environmental Review for HUD Projects Training, U.S. Department of Housing & Urban Development, Development Office of Native American Programs
2023	Environmental Review Training, U.S. Department of Housing & Urban Development, Development Office of Native American Programs
2021	GIS ArcGIS training (Bureau of Indian Affairs)
2017	GPS training for Trimble Geo7X handheld receiver and software – Flandreau Sioux Tribal Historic Preservation Office
2016	Gates Millennium Scholarship Review Process Training- American Indian Graduate Center Scholars – also in 2013, 2011, 2009, 2007
2015	GIS Using ArcGIS Desktop training (Bureau of Indian Affairs)
2012	Contracting Tribal Historic Preservation Programs (P.L. 93-638, Indian Self-Determination Act)
2011	Historic Preservation and Tribal Consultation: Energy & Transmission Projects (CLE International)
2011	National Environmental Policy Act (NEPA) in Indian Country training II (International Institute for Indigenous Resource Management)
2010	NHPA Section 106 training (North Dakota Dept. of Transportation / Federal Highway)
2009	National Historic Preservation Act (NHPA) and Section 106 consultation training (Oglala Sioux Tribal Historic Preservation Office)
2009	Learning GIS Using ArcGIS Desktop training (Bureau of Indian Affairs)
2009	Abuse Recognition Training (Oglala Sioux Tribe Employee Assistance Program)
2009	NHPA Section 106 training (North Dakota Dept. of Transportation / Federal Highway)
2008	USDA – APHIS Grants Writing Workshop (USDA Native American Program)
2008	Tribal Claims under 1994 Indian Trust Funds Management Reform Act training (GPTWA)
2008	Plant Identification & Range Training (Bureau of Indian Affairs)
2008	Performance Assessment & Results Tool training (Michael Hughes Consulting)
2008	NHPA Section 106 training (Advisory Council on Historic Preservation - ACHP)
2008	Legal Description / Right of Way training (Bureau of Indian Affairs)
2008	Integrated Resource Management Plan training (Oglala Sioux Tribe / Bureau of Indian Affairs)
2008	Cultural Sensitivity Training for US Geological Survey – Rapid City Office personnel and water projects with Oglala Sioux Tribe (Chris Eagle Hawk)
2008	Consultation/Cooperating with Indian Tribes on State Transportation Projects and National Environmental Policy Act (NEPA) training (International Institute for Indigenous Resource Management)
2008	Agriculture and Range Training (Oglala Lakota College)
2008	40 hour Archaeological Paraprofessional training (OSTHPO / Bureau of Indian Affairs / South Dakota State Historic Preservation Office)
2007	Uranium Mining / In Situ Leach Mining in Indian Country training (Tetrattech)
2007	P.L. 93-638 Issues, Problems, Solution training (Bill Helmich Associates / Bureau of Indian Affairs)
2007	National Environmental Policy Act (NEPA) in Indian Country training (International Institute for Indigenous Resource Management)
2007	Indian Water Rights Law training (Falmouth Institute)
2007	Government Performance & Results Act training (Michael Hughes Consulting)
2007	Geology & Water Workshop/In Situ Leach Mining training (Oglala Sioux Tribe / Dr. Hannan LaGarry)
2007	Rural Water Supply Systems / Water Quality training (Mni Wiconi Water Summit Coalition; also in 2008)
2006	P.L. 93-638 Contract Administration training (Bill Helmich Associates / Bureau of Indian Affairs)
2006	Native American Graves Protection & Repatriation Act training (National Park Service)
2006	FEMA Emergency Management Institute / National Incident Management Systems / Incident Command System IS 100, 200, 700 training (Oglala Sioux Tribe / State of South Dakota Emergency Management / FEMA)
2006	Confidentiality Training (Oglala Sioux Tribe Employee Assistance Program)
2006	Budget Justifications training (Michael Hughes Consulting)
2006	Agriculture Resource Management Plan training (Oglala Sioux Tribe / Bureau of Indian Affairs)

- 2006 Point of Dispensing (POD) training (Oglala Sioux Tribe / State of South Dakota Emergency Management/Department of Social Services; also in 2007)
- 2006 Treaty and Indian Water Rights training (Great Plains Tribal Water Alliance – GPTWA; also in 2007 & 2008)
- 2005 Water Rights Case training (Colville Confederated Tribes/ GPTWA)
- 2005 Integrated Solid Waste Management training (Midwest Assistance Program / Tribal Association for Solid Waste and Emergency Response)
- 2005 HAZMAT training (Oglala Lakota College)
- 2005 Cost Price Analysis training (Bill Helmich Associates)
- 2005 Tornado Spotter training (National Weather Service; also in 2006)

References

Donald R. Ragona, Law Attorney, Native American Rights Fund, Native American Rights Fund, 1506 Broadway, Boulder, CO 80302-6296, (303) 447-8760, ragona@narf.org

Sebastian C. LeBeau, II, Ph.D., Bureau of Indian Affairs, DESCRM, Great Plains Region Archaeology, 115 4th Avenue Southeast, Aberdeen, SD 57401, (605) 226-7343, sebastian.lebeau.ii@bia.gov

Mark P. Muñiz, Ph.D., Department of Sociology and Anthropology, St. Cloud State University, 720 Fourth Avenue South, St. Cloud, MN, 56301, (320) 308-4162, mmuniz@stcloudstate.edu

Steven K. Vance

Biographical Profile

My name is Steve Vance, a member of the Cheyenne River Sioux Tribe (CRST), in South Dakota, USA. My Great-Great- Grandfather is Chief Hump aka. High Backbone. My Lakota name is Iyohi k'te, which means "kill them all". This is the Lakota name of Reuben Ward, my grandfather who delivered me at birth and he received this Lakota name from his grandfather. I am with the Hoh'woju band of Titunwahe Lakota. My tios'paye "family", is from the S'unka Yut'e s'ni, "not eat dog". I'm a fluent speaker of Lakota and live as traditional a life as possible.

After high school I chased the "American dream" of success through material possessions. I enlisted in the US Navy during the Vietnam Era. I was stationed on the east coast and had the opportunity to see other countries and view different cultures. After the military I moved to the west coast and again seen other cultures. In viewing other world cultures I found that they were all interested in my Lakota culture more than their own. During these few three years I began to use drugs and alcohol. At 21 years of age I achieved the American Dream and had all the material possessions anyone would want but only found emptiness in my soul. In 1976 I walked away from drugs, alcohol, profanity, and city life and moved back to the reservation. I found an isolated area along Wakpa Wast'e, the Cheyenne River, and set up 3 tents, planted a garden, hauled water, fished and hunted for food. I lived there for a year and a half and found peace and harmony in my soul.

My first employment was a CRST Tribal Police Officer in 1980 and performed all phases of enforcement on the CRST reservation. I attended the South Dakota Department of Criminal Investigation to receive my South Dakota State Police Certificate. As the Senior Officer I helped other Officers to understand cultural relevance in the performance of their duties by being proactive verses reactive. Many of these Officers have gone on to jobs as Chief of Police, Investigators, State and federal agents, Highway Patrol, County Sheriffs and even Tribal Council.

In 1995 I left Law Enforcement and became a teacher with instruction in Lakota language, culture, history and government at schools on the CRST reservation. I did this for seven (7) years and I received my South Dakota State Teachers Certificate during this time.

In 2000 I was asked to come back to Law Enforcement to build the Indian Highway Safety Program and for three (3), years I was the CRST Indian Highway Safety Officer. Enforcing the Tribes Traffic Code, investigation of accidents, conducting saturation patrol and the eradication of impaired drivers under the influence, of alcohol or drugs.

In 2009 I was asked to be the Tribal Historic Preservation Officer (THPO), for CRST. CRST reservation boundaries contains approximately three million (3,000,000), acres. A major requirement with this position is the enforcement of federal regulations and compliance to the preservation and protection of historic and cultural property under the National Historic Preservation Act. Proposed projects on the reservation, or within ancestral territory require

THPO review. Other functions performed is patrolling the reservation for looters who traffic illegally taken Native artifacts and remains.

As the THPO this was the only job that I did not need a certificate or a degree to sufficiently do my job. Although archaeologists have to meet the Department of the Interior Standards, they do not know the oral teachings and lifestyle of the Lakota on CRST. THPO's across the United States are now rewriting history by telling the real stories of their origin, history and culture.

I was successful in performing each of these jobs by paying attention to teachings and oral history from Elders in my community and across reservations. These oral teachings I now pass on to others of all ages for the continued lifeway of Lakota history, culture and spirituality.

At the beginning I mentioned my Lakota name of Iyohikt'e. Names were given to guide and remind individuals of family and Lakota lifeways. My great-grandfather who received the name Iyohikt'e lived in a time when the people had to survive in different elements, even threats or battle. The story of the name was that during battle or a threat, my great-grandfather would eliminate everyone so nobody could retaliate. That was in his life time. I questioned how I could live up to this name in these times when you just can't kill everyone. I have learned to live to this name by being complete. If I start something I make it a point to not quit but finish it to the best of my ability, just like passing on traditional teachings.

**STATE OF SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE & NATURAL RESOURCES**

IN THE MATTER OF CLEAN	)	
NUCLEAR ENERGY CORP.	)	
URANIUM EXPLORATION PERMIT	)	CLEAN NUCLEAR ENERGY
APPLICATION	)	CORP.'S EXPERT DISCLOSURE
	)	
EXNI 453	)	
	)	
	)	

Pursuant to the Order on Pre-hearing Motions and Procedural & Scheduling Order entered in this matter on August 28, 2025, the Applicant, Clean Nuclear Energy Corp. through its attorney, Matthew E. Naasz of Gunderson, Palmer, Nelson & Ashmore, submits its Expert Disclosure.

Applicant intends to call the following witnesses as experts in the above-entitled matter:

Crystal M. Hocking, PG PE	Jana Morehouse, M.S.
RESPEC	Vantage Point
3824 Jet Drive	2211 N. Minnesota Street
Rapid City, SD	Mitchell, SD 57301

Summary Statement of the Anticipated Testimony

Ms. Hocking is a professional engineer and professional geologist. She will testify about the project application, the exploration process, the lack of loss or reduction of long-range productivity of water shed lands, public and domestic water wells, aquifer recharge areas or significant agricultural areas and the lack of adverse affects on threatened or endangered wildlife. A copy of her CV is attached as **Exhibit 1**.

Ms. Hocking will offer testimony and an opinion that supports the exploration permit application and the items identified in SDCL § 45-6D-29. Ms. Hocking's testimony will also include her opinion that the proposed uranium exploration project will not result in the loss or reduction of long-range productivity of watershed lands, public and domestic water wells, aquifer recharge areas, or significant agricultural areas.

Ms. Morehouse is a registered professional archeologist. Ms. Morehouse will provide testimony describing her review of the project area. Ms. Morehouse will testify about the lack of adverse affects of the proposed uranium exploration operation on the historic, archeologic, geologic, scientific or recreational aspects of the affected or surrounding land. Ms. Morehouse submitted the reports identified in the February 21, 2025 correspondence from the South Dakota State

Historic Preservation Office. Those reports are confidential pursuant to SDCL § 1-20-21.2 and will not be released absent a Protective Order. A copy of her CV is attached as **Exhibit 2**.

Methodology Used to Reach Opinion

Ms. Hocking relied on her education and experience in preparing the application and arriving at her conclusions. Ms. Hocking also utilized her knowledge of Black Hills hydrogeology and the specific site characteristics.

Ms. Morehouse relied on her education and experience, digital models of the area and an extensive field study, in evaluating the proposed project.

Respectfully submitted this 14th day of October, 2025.

By: /s/ Matthew E. Naasz

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that October 14, 2025, the original of CLEAN NUCLEAR ENERGY CORP.'S EXPERT DISCLOSURE was electronically, and via U.S. First Class Mail, Postage Prepaid upon the following to be filed in the above-captioned matter:

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Secretary, Board of Minerals & Environment

Further, the undersigned certifies that a true and correct copy of the above-referenced document was served via U.S. First Class Mail, Postage Prepaid upon the following:

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A courtesy copy of the above referenced document(s) was served by electronic mail upon the following:

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By: /s/ Matthew E. Naasz
Matthew E. Naasz



RESPEC



CRYSTAL M. HOCKING, PG, PE

PROJECT GEOLOGIST

TECHNICAL EXPERTISE

- / Environmental and Mine Permitting
- / NEPA Analysis
- / Hydrogeological Site Characterization
- / Technical Writing

EDUCATION

- / MS in Geology and Geological Engineering, South Dakota School of Mines & Technology, Rapid City, SD (2007)
- / BS in Geological Engineering, South Dakota School of Mines & Technology, Rapid City, SD (2014)
- / BS in Geology, South Dakota School of Mines & Technology, Rapid City, SD (2005)

REGISTRATIONS & LICENSES

- / Professional Engineer in South Dakota (No. 13165), Wyoming (No. 16253), Maine (No. 15295), New Jersey (24GE05546200), New Hampshire (16423), and Florida (No. 87563)
- / Professional Geologist in Wyoming (No. 3794), Louisiana (No. 184), Texas (No. 12482), and New York (No. 491)

PROFESSIONAL MEMBERSHIPS

- / Society for Mining, Metallurgy & Exploration (SME)
- / South Dakota Mineral Industries Association

CERTIFICATIONS & TRAINING

- / OSHA 40-Hour HAZWOPER
- / MSHA 32-Hour Miner Training
- / First Aid and CPR
- / Blood Borne Pathogens

HONORS & AWARDS

- / SDSMT Outstanding Recent Graduate (2015)

WORK HISTORY

- / RESPEC (2007–Present)
- / South Dakota School of Mines & Technology (2004–2007)
- / US Geological Survey (2005)

OVERVIEW

Ms. Hocking is a Professional Geologist and Professional Engineer. She has supported a myriad of activities including environmental site assessments, hydrogeological characterizations, groundwater modeling, geologic mapping, geospatial analyses, and mine permit application preparation and technical review. Ms. Hocking has worked on writing and reviewing several large-scale mine permit applications and has working knowledge of permitting regulations in several states.

As Project Manager, Crystal supervises and coordinates teams of personnel and contractors. She oversees the development and implementation of environmental sampling plans, consolidates and interprets data from various disciplines, and effectively communicates findings to diverse audiences including the public, regulators, and other stakeholders. Known for her meticulous organization skills and sharp attention to detail, Crystal excels in prioritizing tasks to ensure projects are completed ahead of schedule and within budgetary constraints.

PROJECT EXPERIENCE

Dakota Gold Exploration Permitting and Baseline Data Coordination, Lead, South Dakota.

Ms. Hocking has provided assistance to Dakota Gold preparing several Exploration Notice of Intent (EXNI) applications for the SD Department of Agriculture and Natural Resources. She is also serving as a coordinator of baseline environmental studies and permitting for anticipated large-scale mine permits for the Richmond Hill Mine Project. This includes development of sampling plans, coordination with other environmental specialists, and permit application preparation.

USFS Exploration Plan of Operations and Categorical Exclusions, South Dakota. Crystal is currently collaborating with multiple exploration companies to develop Plan of Operations for mineral exploration activities on USFS land in the Black Hills region. Her responsibilities encompass evaluating potential environmental and societal impacts, devising comprehensive field programs, and overseeing interdisciplinary teams of archaeologists and biologists to conduct field surveys. The exploration efforts are focused on identifying various resources such as gold, uranium, and lithium.

Solitario Ponderosa Categorical Exclusion, Spearfish, South Dakota. RESPEC is currently assisting the US Forest Service to assess potential impacts from a proposed gold exploration program in the northern Black Hills. This project is ongoing and development of a Categorical Exclusion for the project is in progress by RESPEC. As Project Manager, Crystal is coordinating a team of resource specialists and is responsible for review of the Biological Assessment, preparing the hydrology specialist report, reviewing scoping comments, and preparing a draft Categorical Exclusion review document.

Wharf Mine Hydrogeology and Groundwater Modeling, Lead, South Dakota. Ms. Hocking has knowledge of the hydrogeology and groundwater flow system at the Wharf Mine site based on over 15 years of projects for the mine. Groundwater flow is predominantly fracture-driven flow within the Precambrian bedrock, but also within the overlying Paleozoic and Tertiary units. In support of groundwater discharge permits, Ms. Hocking has conducted fate and transport modeling in a saturated system using MODFLOW. She has created and updated the site conceptual and three-dimensional groundwater models several times over the past decade. These models are used to determine the water quality impacts of waste rock and spent ore disposal, primarily focused on impacts to nitrate, fluoride, selenium, and arsenic. Ms. Hocking has assisted in siting new production wells, improved groundwater quality and water-level monitoring systems, and used predictive models to allow the mine to revise their rock disposal plans. In support of local and state mine expansion permits, Ms. Hocking has evaluated and summarized site hydrogeologic conditions.



FRA Categorical Exclusions, South Dakota, North Dakota, and Minnesota. Ms. Hocking has served as the Project Manager for five individual Categorical Exclusions being prepared for railroad improvement projects for submission to the Federal Railroad Administration (FRA) by Civil Design Inc. These projects involve railroad and track maintenance, bridge repair, and new segments of track. As part of preparing the Categorical Exclusion information and assessment documents, Ms. Hocking served as Project Manager and performed impacts analysis for the majority of environmental resources.

Solitario Golden Crest Exploration Plan of Operations and Environmental Assessment, Spearfish, South Dakota. RESPEC assisted the US Forest Service and led the NEPA Environmental Assessment to assess potential impacts from a gold exploration program west of Spearfish Canyon, SD. RESPEC was involved with all aspects of the project including scoping, environmental data collection, drafting a Biological Assessment/Biological Evaluation, Draft EA, Final EA, public comment response and resolution, and assisting with the Decision Notice and Findings of No Significant Impact. Ms. Hocking has provided technical assistance in preparing a Plan of Operations for Solitario's Golden Crest gold exploration project and also served as project manager for analysis of impacts, response to public comments, and development of a Draft and Final EA.

Wharf Boston Expansion Large-Scale Mine Expansion Permitting, Lead, South Dakota.

Wharf Resources is a heap-leach gold mining operation in the northern Black Hills of South Dakota. In preparation for Boston Expansion, a small 50-acre highwall pushback, RESPEC was involved in all aspects of permitting the mining project, including preparation of a baseline environmental sampling plan, county conditional use permit application, state notice of intent and determination of special, exceptional critical, or unique lands; and large-scale mine permit application. As project manager, Ms. Hocking was responsible for coordinating field surveys, compiling the entire permit applications, reviewing and summarizing all baseline studies, and coordinating with the mine and environmental contractors.

Golden Sunlight Mines, Inc. Environmental Impact Statement (EIS), Whitehall, Montana.

Golden Sunlight Mines, Inc. proposed an amendment to its Golden Sunlight Mine to excavate and reprocess old tailings material. RESPEC was retained by the Montana Department of Environmental Quality (DEQ) to perform scoping, prepare the Draft EIS, respond to public comment, and prepare the Final EIS for the DEQ and Bureau of Land Management (BLM). Ms. Hocking was the project manager for this project and was involved in public scoping and writing several sections of the EIS.

Barretts Minerals Environmental Impact Statement, Dillon, Montana. Barretts Minerals, Inc. proposed an amendment to their mine permit to expand their existing talc mining operation. RESPEC was retained by Montana Department of Environmental Quality to perform scoping, prepare the Draft EIS, respond to public comment, and prepare the Final EIS. Ms. Hocking was the Project Manager, coordinating with DEQ, BMI, and resource specialists to prepare the EIS. She also was involved in resource analysis and writing sections of the EIS on impacts to geology, geotechnical engineering, transportation, air quality, and noise.

Aquifer Pumping Test and Impacts Analysis, East Sioux Quarry, Rowena, South Dakota. LG Everest retained RESPEC to evaluate impacts to groundwater from deepening and expansion of their existing East Sioux Quarry. RESPEC conducted two aquifer pumping tests to evaluate the hydraulic conductivity of the upper and lower Sioux Quartzite. The pump test results were analyzed and reviewed to assess potential impacts to the local water table and nearby well owners.

Barrick Phase 1 Environmental Assessments, South Dakota and Nevada.

Ms. Hocking has been project manager and completed Phase 1 EAs for three historic mining properties in the Black Hills of South Dakota including Maitland, Richmond Hill, Redex, and Homestake Mines. She also assisted on a Phase 1 for the Long Canyon Mine in Oasis, Nevada. The assessments included environmental records review, site reconnaissance, and interviews with site operators. The assessments were completed for Barrick as part of a due-diligence evaluation of the properties.

Gilt Edge Mine Superfund Site Tailings Sampling, Lead, South Dakota. As Project Manager, Ms. Hocking developed and executed a sampling and analysis plan / quality assurance project plan for mapping and characterizing bank material along Strawberry Creek at the Gilt Edge Mine Superfund Site for Agnico Eagle (USA), Ltd. RESPEC helped design and execute the EPA approved sampling plan, mapping, and sample collection. Tailings samples were collected and analyzed to estimate the volume of tailings material in the project area and evaluate water quality impacts of historic tailings.

Hydrogeology of the Middle North Platte, Belle Fourche, Niobrara/Lower North Platte, and Medicine Bow Watershed Studies, Wyoming. Ms. Hocking was the project geologist for completing the watershed studies and responsible for completing the geologic and groundwater sections of the study reports. Ms. Hocking also provided expertise for the site-specific geologic



investigations needed for any proposed projects, as well as oversight of watershed study reports and quality control throughout the process.

Hydrogeologic Atlas of the Northern Black Hills, South Dakota. The goal of this project was to map the groundwater sources within Butte, Meade, and Lawrence Counties of the northern Black Hills, South Dakota. The study focused on four major aquifers in the region: Inyan Kara Group, Minnelusa Formation, Madison Limestone, and Deadwood Formation. Compiling existing data sources from structural contour maps, oil and gas wells, monitoring wells, and hundreds of water well logs, Ms. Hocking generated a suite of elevation (structure) contour and depth-to-aquifer maps.

Groundwater Modeling and Well Pressure Analysis, Confidential Client, Louisiana. For this client, Ms. Hocking constructed a reservoir simulation to model hazardous waste plume migration and pressure for a Class 1 UIC permit for EPA region 6 at a site in Louisiana. The reservoir simulation was built in SWIFT (Sandia Waste Isolation Flow and Transport in Fractured Media). Multiple runs were simulated in SWIFT to model plume migration for a waste stream above and below the density of the reservoir brine and build a composite plume geometry based on the permitted injection rate and a 10,000-year migration post-operations. Additional wells were included in the simulation based on current and past injection into the same sand interval from other operators in the area that might influence the waste stream migration. A pressure buildup simulation was created in Predict-W to model the pressure cone of influence from operational injection rates. A critical pressure was calculated based on well logs for abandoned wells in the area of the new injection and using mud weights; the critical pressure is a limit to restrict possible communication between other potential reservoirs in existing wells and the waste stream.

Geotechnical Investigation, Dell Rapids Quarry, South Dakota. LG Everest retained RESPEC to evaluate the overburden slope angle that could be developed in their proposed quarry expansion area. Ms. Hocking developed and implemented a field exploration and laboratory testing program for the site. After review and analysis of the site data, Ms. Hocking performed an engineering analysis and preliminary slope design.

Phase I Environmental Assessments, Sioux Falls, South Dakota. Ms. Hocking completed Phase 1 assessments and a regulatory compliance review for seven aggregate sites in southeastern South Dakota and northwestern Iowa. The assessments included environmental records review, site reconnaissance, and interviews with site operators and regulatory agencies. The assessments were completed for LG Everist as part of a due-diligence evaluation of the properties.

Deep Borehole Draft EA, Haakon County, South Dakota. For the Department of Energy (DOE) efforts to research methods of nuclear waste disposal, RESPEC was involved in Phase I planning that included public outreach and EA support for a proposed deep borehole project site in South Dakota. Ms. Hocking led RESPEC's team to provide the DOE with the information necessary to generate an EA document. As project manager, Ms. Hocking coordinated with numerous environmental disciplines to collect baseline data and draft sections for the EA document. The project was terminated before completion because of changes in federal administration priorities.

Post-Fire Hazardous Waste Property Assessments, California. Following the Camp Fire near the towns of Paradise and Concow, California in 2018, RESPEC was part of a large team working with the US EPA and the California Department of Toxic Substances Control to evaluate and remove household hazardous waste from more than 10,000 fire-damaged properties. Ms. Hocking assisted in evaluating properties for safety of crews, including air quality monitoring and assessment of hazardous trees.

Sand Creek Seepage Analysis, Colorado Springs, Colorado. RESPEC worked with the City of Colorado Springs to restore approximately 2,500 feet of severely degraded channel. As part of the project team, Ms. Hocking conducted seepage and hydraulic analyses of five proposed rigid-grade control structures, which included evaluating streambed stability.

Resource Block Modeling, CRH Cement Plant Quarries, France and the Philippines. Ms. Hocking conducted block modeling of limestone quarries to mine design and optimized cement plant feed for surface limestone quarries.

Roadstone Arklow Talc Quarry Geological Review, County Wicklow, Ireland. RESPEC conducted a desktop study of Roadstone Arklow Talc Quarry geology; the study's purpose was to identify intrusions with potential asbestos minerals and then develop and implement a geochemical sampling plan. As part of the project team, Ms. Hocking reviewed the local and regional site geology and summarized the field program results.



Greenfield Mine Siting, Michigan and Ohio. RESPEC conducted a market and transportation geospatial analysis to evaluate potential locations for a new salt mine. As part of this project, Ms. Hocking conducted analysis of thousands of geophysical oil/gas well logs, performed geospatial analysis, and reviewed local and state mine permitting requirements.

Wharf Green Mountain Large Scale Mine Expansion Permitting and Environmental Assessment (EA), Lead, South Dakota. Wharf Resources is a heap-leach gold mining operation in the northern Black Hills of South Dakota. In preparation for Green Mountain expansion, RESPEC was involved in all aspects of permitting the mining project, including successfully obtaining county and state mining permits. As project manager, Ms. Hocking coordinated schedules and budgets and facilitated communication with local and state agencies, as well as with the mine and environmental studies contractors. For the mine expansion, she was responsible for compiling the entire permit applications for county land-use and state mining permits, including writing sections on geology and groundwater, reviewing and summarizing all baseline studies, and coordinating with the mine to incorporate operational and reclamation plans into the permit application. Ms. Hocking also performed an analysis of alternatives and environmental impacts of the project to write an Environmental Assessment (EA) for lands that are administered by the Bureau of Land Management (BLM) and located within the project area.

US Sinkhole Hydrogeology and Subsidence Response, Louisiana. RESPEC provided field engineering and hydrogeologic support a major solution-mining operator to characterize and monitor a sinkhole that developed on a salt dome in the Gulf Coast region. As part of this multidisciplinary study, RESPEC has been involved with drilling investigations, three-dimensional (3D) seismic surveys, microseismic monitoring, physical and chemical hydrogeologic investigations, gas emissions monitoring and analysis, and subsidence surveys. Amidst snakes and alligators, RESPEC engineers and scientists traveled by airboat to maintain and monitor in-place inclinometers, tiltmeters, swamp water levels, and gas detection instrumentation. Ms. Hocking supported many aspects of this project, including but not limited to GIS database development and mapping, 3D stratigraphic modeling, field support, pumping test analyses, shallow gas monitoring and sampling, subsidence analyses, and monitoring and remediation work plans.

Cavern and Mining Induced Subsidence Analysis, Various Clients, New Mexico, Texas, and Louisiana. Ms. Hocking conducted geohydrological, structural, and subsidence analyses on several projects including at the I&W brine cavern in Carlsbad, New Mexico; Sheffield Brine Station in Pecos County, Texas; and Avery Island Mine in Avery Island, Louisiana. The land subsidence and tilt data analyses included performing data quality assurance/quality control (QA/QC), processing, interpolating, and reporting.

Wyoming Department of Environmental Quality (WDEQ) Land Quality Division (LQD) ISR Permitting Review and Support Services. RESPEC conducted comprehensive, multidisciplinary technical reviews of two separate mine permit applications in accordance with all applicable statutes, rules, guidelines, and memoranda of understanding (MOU) and in compliance with the applicable timelines for the WDEQ LQD. RESPEC provided professional support to the LQD in identifying deficiencies in the in situ mining permit applications and specifying the information necessary to correct those deficiencies. These reviews covered the following items: adjudication, land use, history, cultural resources, climatology, geology, hydrology, soils, vegetation, wildlife, wetlands, alluvial valleys, mine plans, and reclamation plans. Additionally, RESPEC revised LQD guidelines for in situ mine permitting and the state decision document (SDD) format. Ms. Hocking was the project manager and provided expert support for review of the two mine permit applications and revisions to the in situ guidelines and SDD, including scoping meetings with industry and regulators.

Hydrogeological Site Characterization of the Dewey Burdock Proposed in Situ Uranium Mine, Edgemont, South Dakota. For a proposed in situ uranium mine in the southern Black Hills, Ms. Hocking was involved in planning, conducting, and reporting detailed hydrogeological site investigations. For this project, Ms. Hocking collected field samples, performed statistical water quality analysis, completed aquifer-pumping test design, implementation, and analysis, interpreted geophysical logs, and generated a 3D geologic model. Ms. Hocking wrote geology and groundwater reports for insertion into state and federal permit applications. She also testified as an expert groundwater witness and has drafted both temporary discharge permits and groundwater rights applications for the client.

South Dakota Statewide Assessment of Forest Resources and Resource Strategy. In collaboration with the SD Department of Agriculture, RESPEC helped prepare two technical reports documenting South Dakota's forest resources. The forest types, their condition, and a compilation of threats and strategies are presented in the South Dakota Statewide Assessment of Forest Resources. The South Dakota Statewide Forest Resource Strategy details threats, strategies, existing resources, needs, partners, monitoring, and interstate collaboration.

SELECTED PUBLICATIONS AND PRESENTATIONS

Walega, E.A. and C.M. Hocking, 2022. *Groundwater Characterization Study of the Wharf Boston Expansion Project*, RSI-3137, prepared by RESPEC, Rapid City, SD, for Wharf Resource (USA), Inc., Lead, SD.

Goodman, W.M., and C.M. Hocking, 2020. "Water in the Hole! Development of Shaft Grouting Methods to Seal Devonian Limestone and Sandstone Aquifers in the First Shaft of the Detroit Salt Mine (1906-1907)," *Solution Mining Research Institute Fall Meeting*.

Ratigan, J.L., C.M. Hocking, and B.P. Bormes, 2020. Cavern Geometric Assessment and Salt Dome Mapping Anse La Butte Salt Dome, Louisiana, Topical Report REC-028 (Revision 1); prepared by Ratigan Engineering & Consulting, LLC, Rapid City, SD and RESPEC, Rapid City, SD; prepared for Cargill, Inc., Breaux Bridge, LA, Chevron U.S.A. Inc., Covington, LA, and Enterprise Products, Houston, TX.

Ratigan, J.L., C.M. Hocking, and B.P. Bormes, 2019. Cavern Geometric Assessment and Salt Dome Mapping LOOP, LLC Clovelly Salt Dome, Louisiana, Topical Report REC-066; prepared by Ratigan Engineering & Consulting, LLC, Rapid City, SD and RESPEC, Rapid City, SD; prepared for Louisiana Offshore Oil Port (LOOP) LLC, Covington, LA.

Hocking, C. M. and C. K. Vandam, 2019. *Sampling and Analysis Plan / Quality Assurance Project Plan Strawberry Creek Tailings Sampling Project at the Gilt Edge Mine*, RSI-2962, prepared by RESPEC, Rapid City, SD, for Agnico Eagle (USA), Ltd., Reno, NV, and US Environmental Protection Agency, Denver, CO.

Goodman, W. M. and C. M. Hocking, 2017. "Early Salt Exploration and Production Efforts at Anse La Butte Salt Dome: 1890s to 1920s," *Solution Mining Research Institute Fall 2017 Technical Conference*, Münster, Germany, September 24–27.

Goodman, W. M., and C. M. Hocking, 2016. "Anthony F. Lucas: America's First Great Salt Dome Explorationist and His Role in the Development of the Louisiana Salt Mining Industry," *Solution Mining Research Institute Spring Meeting*, Galveston, TX, April 25–26, pp. 1–19.

Knight, J. P., C. M. Hocking, P. H. Smith, and W. M. Goodman, 2015. *Passive Vent Well and Knight Gas Cap January–February 2015 Monthly Field Activity and Data Summary*, RSI-2516, prepared by RESPEC, Rapid City, SD, for Louisiana Department of Natural Resources, Baton Rouge, LA.

Smith, P. H., J. P. Knight, C. M. Hocking, and W. M. Goodman, 2014. *Passive Vent Well and Knight Gas Cap Installation Report and Field Data Summary for July–August 2014*, RSI-2460, prepared by RESPEC, Rapid City, SD, for the Louisiana Department of Natural Resources, Baton Rouge, LA.

Hocking, C., W. DeYonge, E. Krantz, and P. Finley, 2014. *Tilt Monitoring at Basic Energy Services, LP, Sheffield Brine Stations, Millard, North Field, Pecos County, Texas*, RSI-2413, prepared by RESPEC, Rapid City, SD, for Nabors Completion and Production Services, Co., Midland, TX.

Van Sambeek, L. L., C. M. Hocking, and E. L. Krantz, 2013. *Comparison of Historical and Recent InSAR and Conventional Survey-Measured Subsidence at Napoleonville Dome and Bayou Corne, Louisiana*, RSI-2331, prepared by RESPEC, Rapid City, SD, for United Brine Services Company, LLC, Houston, TX.

Wallace, M. G., K. O. Johnson, J. D. Osnes, E. L. Krantz, and C. M. Hocking, 2013. "Hydrogeological and Geochemical Evaluations in Support of Mine Water Management for the Jurong Rock Cavern Project, Singapore," *International Mine Water Association 2013 Annual Conference*, Golden, CO, August 5–9.

Hocking, C. M., 2013. *Depth to Top of the Madison Limestone: Butte, Meade, and Lawrence Counties, South Dakota*, prepared by RESPEC, Rapid City, SD, for Belle Fourche River Watershed Partnership, Belle Fourche, SD.

Wallace, M. G., C. M. Hocking, C. Mendonca, and F. Jurica, 2011. *Hydrogeological Design Report for the Jurong Rock Cavern Project*, RSI-2126, Revision 1A, prepared by RESPEC, Albuquerque, NM; and PB Energy Storage Services, Inc., Houston, TX, for PB Energy Storage Services, Inc., Houston, TX.

Wallace, M. G. and C. Hocking, 2011. *Hydrogeological Model Report for the Jurong Rock Cavern Project*, RSI-2115, prepared by RESPEC, Albuquerque, NM, for PB Energy Storage Services, Inc., Houston, TX

McCutcheon, C. M., C. M. Hocking, T. P. French, and J. K. Oswald, 2010. *Wharf Resources 2010 Expansion Project Meteorological Characterization*, RSI-2129, prepared by RESPEC, Rapid City, SD, for Wharf Resources (USA), Inc., Lead, SD.

Hocking, C. M., 2010. *Groundwater Characterization Study of the Wharf Expansion Project Area*, RSI-2173, prepared by RESPEC, Rapid City, SD, for Wharf Resource (USA), Inc., Lead, SD.

Hocking, C. M., E. L. Krantz, and G. J. Josten, 2010. *South Dakota Statewide Assessment of Forest Resources*, RSI-2139, prepared by RESPEC, Rapid City, SD, and South Dakota Department of Agriculture, Rapid City, SD, for South Dakota Department of Agriculture, Pierre, SD.



Henard, D. A., L. L. Van Sambeek, M. G. Wallace, W. M. Goodman, C. M. Hocking, C. A. Barber, and E. L. Krantz, 2009. *Geohydrological and Structural Analysis and Monitoring I&W Cavern, Carlsbad, New Mexico, Status Report No. 1*, RSI-2060, prepared by RESPEC, Rapid City, SD, for New Mexico Oil Conservation Division, Santa Fe, NM.

Hocking, C. M. and M. D. Minnick, 2009. "3D Geologic Modeling of an In Situ Uranium Project, South Dakota," *Geological Society of America Annual Conference*, Portland, OR, October 18–21.

Hoyer, D., C. M. Hocking, and M. Hollenbeck, 2008. "Permits, Surface Water/Groundwater Baseline Sampling, and Analysis of Dewey-Burdock In Situ Uranium Project in Fall River County, South Dakota," presented at the *World Environmental & Water Resources Congress*, Honolulu, HI, May 12–16.

Hocking, C. M., 2007. *Geohydrology of the Madison Limestone in the Hayward Quadrangle, Pennington and Custer Counties, South Dakota*, Unpublished MS Thesis, South Dakota School of Mines and Technology, Rapid City, SD.

Pellowski, C. J., A. L. Lisenbee, and C. M. Hocking, 2005. *Geologic Map of the Hermosa NW Quadrangle*(unpublished).

Jana Morehouse, M.S. - Environmental and Cultural Resource Services Department Manager

Register of Professional Archaeologists #41999989

I. EDUCATION

Ph.D. program Anthropology, University of New Mexico, coursework: August 2012-May 2013

M.S. Anthropology, Dept. of Anthropology, University of New Mexico, May 2012

B.A. Anthropology (minor Spanish) University of New Mexico, 2009

II. PROFESSIONAL EXPERIENCE

Environmental and Cultural Resources Services Department Manager/Principal Investigator for Archeology and History- *Vantage Point Solutions*; December 2021 to present. Oversee department of archeologists and environmental scientists for all levels of cultural resource projects and National Environmental Protection Act (NEPA) reports, both in the field and for reporting purposes. Coordinate with VPS engineers and right-of-way specialists for environmental aspects of project permitting and grant submittals. Conduct archeological and architectural background research and field projects in multiple states around the U.S. Work with a team to write proposals for projects. Keep quality control and quality assurance standards for reports and field procedures current based on state and federal regulations

Principal Investigator/Operations Manager– Archeology & History, Quality Services Inc. August 2013 to November 2021. Report preparation; editing and review; template writer, historic records research; archeological and historical site recording/testing & evaluation; mapping projects using ArcGIS. Management of personnel and projects in order to accomplish tasks by a deadline and within a budget. Communications with federal, private, tribal, and state agencies for project standards. Use of Barrington gradiometer, FARO Focus 3D Scanner, and NextEngine Scanner. Experience with Trimble and TopCon GPS systems.

Archaeology Research Assistant/GIS Specialist – University of New Mexico, May 2009 to May 2013. Updated and maintained GIS site database including archaeological data, land development and ownership data, government data, and natural resource data, created GIS maps using any and all appropriate data files, digitized archaeological site maps, completed site report forms and site reports, organized and planned field research projects, create presentations for local and national meetings. Planned & directed Phase 1, 2 & 3 surveys, lithic analysis, archeological & historical literature research, historic period structure recording and evaluation, report preparation, monitoring.

Archeologist – Hawaiian Archaeological Research Project, May 2008 to May 2013. Planned & directed Phase 1, 2 & 3 surveys, recorded and evaluated pictographs within project areas, lithic analysis, archeological & historical literature research, historic period structure recording and evaluation, report preparation, monitoring.

Book Review Coordinator – Journal of Anthropological Research, University of New Mexico, July 2011 to May 2013. Communicated with publishers, authors, and reviewers about book reviews, organized and maintained database of books and reviews, assisted with editing process of journal, general office upkeep.



Paleontology Field Assistant – University of Pennsylvania, Dawson City, Yukon, June to July 2010. Worked with the Yukon government to collect fossils from active mining areas. Prepared and curated fossils from Pleistocene era. Identification and catalog of fossils. Public outreach and social media work regarding project.

Museum Curatorial Assistant – Maxwell Museum of Anthropology, University of New Mexico, October 2010 to May 2011. Organized photographic archival data, assisted in exhibit planning and implementation, practiced artifact curation as needed.

Research Scientist I – Bureau of Business and Economic Research, March 2006 to March 2010. Created ArcGIS maps, created ArcGIS databases, data management of large scale address and land geodatabases as GIS data in ArcCatalog, continued training on GIS softwares, compiled data into databases as needed, researched public records on population and land use for reports, format GIS geocoding projects and oversaw implementation and best practices of geocoding projects by Bureau students, conducted in person, telephone and remote 2016 Environmental Review for the Eastern Pennington County Grazing District Pipeline Project on United States Forest Service Land, Pennington County, South Dakota. sensing surveys for project data, oversee data entry, work independently to complete tasks, take instruction on projects, supervised timeline and checklists for updates and projects, trained new students on software and office practices, copyedited and format final projects.

III. CERTIFICATIONS, MEMBERSHIPS, and TRAININGS

Register of Professional Archaeologists 2017-present
Society of American Archaeology
South Dakota Archaeological Society
Plains Anthropological Society

Advisory Council on Historic Preservation Section 106 Training- July 2015
Advisory Council on Historic Preservation Advanced Section 106 Training- July 2015
Current Archeological Prospection Advances for Non-Destructive Investigations 21st Century- May 2015
eRailsafe Certified for Burlington Northern Santa Fe Railroad and Union Pacific Railroad

IV. FIELDWORK EXPERIENCE IN THE FOLLOWING STATES

- Arizona
- California
- Colorado
- Hawaii
- Idaho
- Iowa
- Kansas
- Minnesota
- Missouri
- Montana
- Nebraska
- Nevada
- New Mexico
- North Dakota
- South Dakota
- Texas
- Yukon Territories (Canada)
- Wyoming

V. Select Reports

Graves, M.W., and J. Morehouse et al.

2012 The Hawaii Archaeological Research Project (HARP): 2012 Fieldwork in Kohala, Hawai'i Island. Report Prepared for Kamehameha Schools (Honolulu), Surety Kohala Corporation (Hawi, HI), Anthony Sun (Menlo Park, CA), and Nani and Don Svendsen (Niulii, HI).

Graves, M.W., and J. Morehouse et al.

2011 The Hawaii Archaeological Research Project (HARP): Archaeological Research Project (HARP) 2010-2011: Fieldwork in Wai'āpuka and Makanikahio 1 and 2 Ahupua'a. Report Prepared for Kamehameha Schools (Honolulu) and Surety Kohala Corporation (Hawi). Hawaii Archaeological Research Project.

Larson, J. and Jana Morehouse

2018 Level III Inventory for the Fink Draw, Hoodoo, Solomon Vegetation Areas on United States Forest Service Black Hills National Forest Land, Pennington and Lawrence County, South Dakota.

Morehouse, J.

2013 Cultural Resources Inventory for the Golden West Martin Buried Cable Exchange, Bennett County, South Dakota.

Morehouse, J. and Eric Fries

2014 Historic Properties Review for Twenty-Four Positive Train Control Towers on Amtrak Lines, Eastern Michigan.

Morehouse, J.

2014 Cultural Resource Inventory for the Vantage Point Polar Buried Cable Exchange, Cavalier, Drayton, Neche, Park River, and Pembina Rural Exchange.

Morehouse, J.

2014 Gateway Subdivision Positive Train Control Poles Historic Property Review, Kalmath County, Oregon.

Morehouse, J. and Reuben Weston

2014 Batesland Utility Improvement Architectural Study, Oral History, and Cultural Resource Inventory, Bennett County, South Dakota.

Morehouse, J.

2015 Historic Properties Review and Documentation for Nine Small-Cell Node Projects in Downtown Omaha, Nebraska.

Morehouse, J.

2015 Class III for the Ryan Farmstead Stock Tank and Pipeline Project, Crook County, Wyoming.



Morehouse, J.

2015 Class III Inventory for the Crook County Water Conservation District Stocktank, Wells, and Pipeline Project, Crook County, Wyoming.

Morehouse, J.

2016 Monitoring and Documentation for the Burlington Northern Santa Fe Railroad River Subdivision Positive Train Control Project, Mississippi County, Arkansas.

Morehouse, J.

2016 Class III Inventory for the Bentonite Performance Minerals Lucky Strike Mine, Weston County, Wyoming.

Morehouse, J. and David Hahs

2017 Phase I Inventory for the Marshalltown Development Project, Marshall County, Iowa.

Morehouse, J.

2018 Class III Inventory for the Pine Creek Vegetation Management Project on United State Forest Service National Grasslands, Weston County, Wyoming.

Morehouse, J.

2018 Cultural Resources Inventory for the South Dakota Army National Guard Cemetery Land Exchange, Minnehaha County, South Dakota.

Morehouse, J. and Mark Carpenter

2018 Class III Cultural Resource Inventory for the DESCO Sand Creek Seismic Project, Carbon County, Wyoming.

Morehouse, J.

2019 Cultural Resource Probability Model for the Big Bend Wind Farm Project, Cottonwood, Jackson, and Watonwan Counties, Minnesota.

Morehouse, J.

2019 Mitigation Project for the Verizon Interior Communication Tower and the Badlands National Park, Jackson County, South Dakota.

Morehouse, J.

2019 Archeological Testing Project for the Indian Health Services Rapid City Medical Center, Pennington County, South Dakota.

Morehouse, J. and Cody Newton

2020 Archeological Inventory for the Big Bend Wind Farm Project and Transmission Line, Cottonwood, Jackson, and Watonwan Counties, Minnesota.

Morehouse, J.

2020 Phase I Archeological Testing for the Plattsmouth Waterline Project, Sarpy County, Nebraska.



Morehouse, J.

2020 Architectural Inventory for the Eastern and Ellis Railroad Bridge Replacement Project, Minnehaha County, South Dakota.

Morehouse, J.

2020 Cultural Resource Inventory for the Deer Mountain Sanitation District Proposed Waterline Upgrade Project, Lawrence County, South Dakota.

Morehouse, J. and Sara Kamppi

2020 Architectural Recording and Historical Research for the South Dakota Game, Fish and Parks Hydro #2 Structure, Lawrence County, South Dakota.

Morehouse, J.

2022 Class III Inventory for the Nemont Buried Cable Project, Roosevelt County, Fort Peck Reservation, Montana.

Morehouse, J.

2023 Class III Inventory for the Mitchell Industrial Park Development Project, Davison County, South Dakota.

Morehouse, J.

2023 Pueblo Middle Mile Class I, Pueblo County, Colorado.

Morehouse, J.

2024 Archeological Monitoring for the Buried Cable Project at the Rapid City Airport, Pennington County, South Dakota.

Morehouse, J.

2024 Class III Inventory for the Ponderosa Telephone Rural Utility Service Group 1 Buried Cable Project, Fresno County, California.

Morehouse, J.

2024 Class III Inventory for the Sky Fiber Buried Cable Project, Thurston County, Nevada.

Rom, L., Patricia Turbiville, and Jana Morehouse

2016 Environmental Review for the Eastern Pennington County Grazing District Pipeline Project on United States Forest Service Land, Pennington County, South Dakota.



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**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

221 MALL DRIVE, SUITE #201
RAPID CITY SD 57701
605-394-2229
danr.sd.gov

October 14, 2025

Brenda Binegar
Dept. of Agriculture & Nat. Resources
523 E. Capitol Ave.
Pierre, SD 57501

Re: In re Matter of Clean Nuclear Energy Corp. Uranium Exploration Permit
Application

Dear Ms. Binegar:

Enclosed please find the Department's Witness Disclosure intended to be filed in the above referenced matter. Copies of these documents will be served upon the parties and Hearing Chair Morris, as indicated in the attached Certificate of Service.

If you have any questions, please don't hesitate to contact me.

Sincerely,

Steven R. Blair
General Counsel – Dept. of Agriculture & Natural Resources

Enclosures

Cc/encl: Mike Lees – DANR Minerals, Mining, & Superfund Program (via email only)
David McVey – Counsel, Brd. Of Minerals & Environment (via email only)

STATE OF SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES
BOARD OF MINERALS & ENVIRONMENT

IN THE MATTER OF CLEAN	)	DANR WITNESS DISCLOSURE
NUCLEAR ENERGY CORP.	)	
URANIUM EXPLORATION PERMIT	)	
APPLICATION	)	
	)	
EXNI 453	)	

The Minerals, Mining, and Superfund Program of the Department of Agriculture and Natural Resources (Department), through the undersigned counsel of record, hereby discloses that it intends to call the following witnesses in its case in chief in the above captioned matter:

Roberta Hudson – DANR Minerals, Mining, Superfund Program. Ms. Hudson will generally testify to the uranium exploration regulatory program administered by the Department, and review of Clean Nuclear Energy Corporation’s application. Ms. Hudson’s witness declaration and curriculum vitae are attached.

Eric Holm – DANR Minerals, Mining, Superfund Program. Mr. Holm will generally testify to reclamation bonding issues concerning Clean Nuclear Energy Corporation’s proposed uranium exploration project. Mr. Holm’s witness declaration and curriculum vitae are attached.

Mandy Pearson – S.D. Game, Fish, & Parks. Ms. Pearson will generally testify to the role of S.D. Game, Fish, & Parks in the processing of uranium exploration permit applications, and review of Clean Nuclear Energy Corporation’s proposed uranium exploration project by S.D. GF&P. Ms. Pearson’s witness declaration and curriculum vitae are not yet available but will be provided through a supplemental filing once they become available.

Jozef Lamfers –S.D. State Historical Preservation Office. Mr. Lamfers will generally testify to the State Historical Preservation Office’s role under SDCL § 1-19A-11.1, review of Clean Nuclear Energy

Corporation's proposed uranium exploration project by the State Historical Preservation Office, and any identified issues concerning the operation's potential impact on historical places or cultural resources. Mr. Lamfers previously issued a letter to Clean Nuclear Energy concerning the State Historical Preservation Office's Review. A copy of that letter is attached. Mr. Lamfers' witness declaration and curriculum vitae are not yet available but will be provided through a supplemental filing once they become available.

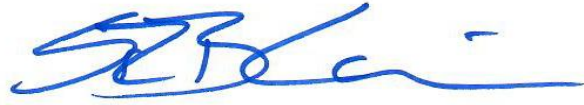
Dustin Lloyd – S.D. Archaeological Research Center. Mr. Lloyd will generally testify to the Archaeological Research Center's role in the review of uranium exploration permit applications, review of Clean Nuclear Energy Corporation's proposed uranium exploration project by the Archaeological Research Center, and any identified issues concerning the operation's potential impact on cultural resources. By operation of SDCL § 1-20-21.2, Mr. Lloyd's report is confidential and will not be released without a protective order issued by the Hearing Chair. Mr. Lloyd's witness declaration and curriculum vitae are not yet available but will be provided through a supplemental filing once they become available.

These witnesses identified above are expected to testify primarily as fact witnesses regarding their respective roles concerning Clean Nuclear Energy Corporation's uranium exploration permit application, actions taken as part of their official duties, and any corresponding state statutes or administrative rules. It is recognized that some inherent opinion testimony will be elicited. As a result, DANR is hereby disclosing the above mentioned as hybrid witnesses. These witnesses have not prepared expert reports that DANR intends to offer as part of, or rely upon in, its case in chief.

The Department reserves the right to designate further expert witnesses should the need arise. Further, the Department reserves the right to call other witnesses not disclosed by this pleading should it be determined that such witnesses are necessary. The Department also reserves the right to call any

rebuttal witnesses, expert or otherwise, as may be necessitated by the testimony and evidence presented during the hearing of this matter.

Dated this 14th day of October, 2025.



Steven R. Blair
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*Counsel for Department of Agriculture
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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the original of the Department of Agriculture & Natural Resources' DANR WITNESS DISCLOSURE was submitted electronically, and via United States Mail, First Class, Postage Prepaid upon the following to be filed in the above captioned matter:

Brenda Binegar
Dept. of Agr. & Nat. Resources
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brenda.binegar@state.sd.us
Secretary, Board of Minerals & Environment

Further, a true and correct copy of the above referenced document(s) was served by United States Mail, First Class, Postage Prepaid, upon:

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Rapid City, SD 57701
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Nuclear Energy Corp.*

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Belle Fourche, SD 57717
*Hearing Chair – Brd. of Min.
& Env.*

Kimberly Craven
Attorney General – Cheyenne
River Sioux Tribe
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Eagle Butte, SD 57625
*Counsel for Intervenor –
Cheyenne River Sioux Tribe*

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Rapid City, SD 57701
Intervenor

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Pine Ridge, SD 57770
*Counsel for Intervenor – Great
Plains Tribal Water Alliance*

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c/o Lakota Prairie Ranch
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Kyle, SD 57752
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Wounded Knee, SD 57794
Intervenor

Michelle Tyon
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Pine Ridge, SD 57770
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Lincoln, NE 68510
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Rapid City, SD 57702
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Rapid City, SD 57701
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Wounded Knee, SD 57794
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Rapid City, SD 57709
Intervenor

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740 University St., Apt. 3
Spearfish, SD 57783
Intervenor

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Porcupine, SD 57772
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Rapid City, SD 57709
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221 E Jackson St.
Rapid City, SD 57701
Intervenor

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145 S. Garden St.
Hot Springs, SD 57747
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Rapid City, SD 57701
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Smithwick, SD 57782
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Tonya Stands
202 Bald Eagle Lane, #8
Rapid City, SD 57709
Intervenor

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Rapid City, SD 57701
Intervenor

Sarah Peterson
510 Jennings
Hot Springs, SD 57747
Intervenor

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P.O. Box 4052
Pine Ridge, SD 57770
Intervenor

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337 S. 5th St
Hot Springs, SD 57747
Intervenor

Julie Plachta
P.O. Box 635
Hot Springs, SD 57747
Intervenor

Steven Gunn
Oglala Sioux Tribe Legal
Department
P.O. Box 1204
Pine Ridge, SD 57770
*Counsel for Intervenor – Oglala
Sioux Tribe*

Helen Red Feather
P.O. Box 173
Wounded Knee, SD 57794
Intervenor

Susan McPhail Pang
28017 Cascade Road
Hot Springs, SD 57747
Intervenor

Brenda Gamache
2337 Wilson Ave.
Hot Springs, SD 57747
Intervenor

Ben R Sharp
28290 W. Flagpole Rd.
Hot Springs, SD 57747
Intervenor

Jeremiah Davis
130 E. Centennial St.
Rapid City, SD 57701
Intervenor

Gena Parkhurst
514 Americas Way, #20805
Box Elder, SD 57719
Intervenor

George J. Nelson
2640 Jackson Blvd., Suite 1
Rapid City, SD 57702
*Counsel for Intervenor Black
Hills Group – Sierra Club*

Peter Capossela
P.O. Box 10643
Eugene, OR 97440
*Counsel for Intervenor – Great
Plains Tribal Water Alliance*

Dated this 14th day of October, 2025.



Steven R. Blair – DANR

EXPERT DECLARATION OF ROBERTA HUDSON, SD-DANR MINERALS, MINING, & SUPERFUND PROGRAM

- A. Roberta Hudson, 2002 Bachelor of Science degree in Geology and 2004 Master of Science Degree in Geology and Geological Engineering both from the South Dakota School of Mines and Technology. Since 2006 I have been employed as an engineer with the Minerals, Mining, and Superfund Program of the South Dakota Department of Agriculture and Natural Resources (DANR). My current position is Engineering Manager I. Job duties include processing, evaluation and review of mine permit applications, exploration notices of intent, and uranium exploration permits. I also perform inspections, conduct water quality assurance audits for mines, and perform construction quality assurance reviews for mine facility construction. A copy of my curriculum vitae is attached to this declaration.
- B. The general subject matters on which I may testify are: the uranium exploration regulatory program administered by DANR; how applications for uranium exploration permits are processed, and Clean Nuclear Energy Corp's application for a uranium exploration permit; completeness review of Clean Nuclear's application, and proposed permit conditions should the application be approved by the Board.
- C. I was the primary reviewer of the Clean Nuclear uranium exploration permit application. Processing involves a completeness review (to determine if the submitted application materials meet the requirements of state statute or administrative rule) and a site pre-inspection. I coordinated a pre-inspection between the MMSP, Clean Nuclear, SD Department of Game, Fish and Parks, SD Archaeological Research Center, and SD State Historic Preservation Office. Upon completion of the pre-inspection, and receipt of comments from applicable review agencies, MMSP developed a set of proposed conditions which may be reviewed by the Board if the application is approved.

Dated this 14 day of October, 2025



Roberta Hudson
Engineer Manager I
Department of Agriculture and Natural Resources
Minerals, Mining, & Superfund Program

Curriculum Vitae

**Roberta Hudson, PE
Engineering Manager I
South Dakota Department of Agriculture and Natural Resources
Minerals, Mining, and Superfund Program
Pierre, South Dakota**

Roberta Hudson is an Engineering Manager I with the South Dakota Department of Agriculture and Natural Resources, Minerals, Mining, and Superfund Program. She is a licensed Professional Engineer in the State of South Dakota. Ms. Hudson has a B.S. degree in Geology and a M.S. degree in Geology and Geological Engineering from South Dakota School of Mines and Technology in Rapid City, SD.

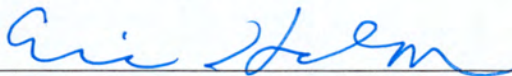
Ms. Hudson has been employed with the South Dakota Department of Agriculture and Natural Resources since May 2004. From May 2004 through May 2006, Ms. Hudson worked as a Natural Resources Project Engineer for the Waste Management Program of the DANR where she performed inspections of reclaimed waste facilities, assisted with review of ground water reports from regional landfills in the state, and worked as the state recycling coordinator. In June 2006, Ms. Hudson began working for the Minerals and Mining Program. Ms. Hudson has been an Engineering Manager I for the program since 2019. Her primary responsibilities are mine permit team leadership, reviewing mine permit, uranium exploration permit, and exploration notice of intent applications, reviewing plans and specifications for various mine facilities, reviewing technical revisions and permit amendments, inspecting various mining operations, and reviewing water quality at the mine.

Ms. Hudson acted as lead reviewer for the Clean Nuclear Energy Corp's Uranium Exploration Permit Application.

EXPERT DECLARATION OF ERIC HOLM, SD-DANR MINERALS, MINING, AND
SUPERFUND PROGRAM

- A. Eric Holm, 1984 Bachelor of Science degree in Environmental Engineering and Associate of Science degree in Engineering from Montana Tech. Since 1984, I have been employed with the Minerals, Mining, and Superfund Program of the South Dakota Department of Agriculture and Natural Resources (DANR). My current position is Engineer III. Job duties include review of large-scale gold mine permit applications and other large and small-scale mine permit applications and calculation of reclamation and postclosure bonds for large scale gold and other mines and mineral and uranium exploration projects. Job duties also include conducting inspections of mine permit and exploration operations and review of plans and specifications. A copy of my curriculum vitae is attached to this declaration.
- B. The general subject matter on which I may testify is: reclamation bonding issues regarding Clean Nuclear Energy's proposed operation.
- C. I calculated the reclamation bond for Clean Nuclear Energy's uranium exploration permit application. As part of the calculation process, I reviewed the uranium exploration permit application and assisted in the pre-inspection of the proposed exploration area to determine the number of exploration drill holes to be plugged and the amount of surface disturbance to be reclaimed. I also consulted with staff from the Minerals, Mining, and Superfund Program, the Archaeological Research Center, and the State Historical Preservation Office to determine bonding of potential impacts to unique and natural historical sites and water wells.

Dated this 14 day of October, 2025



Eric Holm
Engineer III
Department of Agriculture and Natural Resources
Minerals, Mining, and Superfund Program

Curriculum Vitae

Eric Holm, EIT
407 South Pierce
Pierre, SD 57501
Home (605) 224-2657 Cell (605) 222-4061
Email: eric.holm@state.sd.us

PROFESSIONAL REGISTRATIONS

December 18, 1997 Engineer-in-Training (E-7985)

EXPERIENCE

2011 – Present Engineer III
South Dakota Department of Agriculture and Natural Resources
Minerals, Mining, and Superfund Program

- Reviewed complex mine permit applications, such as large scale gold mine permit applications. Lead reviewer of other large and small scale mine permit, scenic and unique, permit amendment, and technical revision applications.
- Conducted mine and exploration inspections, including annual audits of large scale gold mines. Led large scale gold mine audits in June 2011 during absence of team leader.
- Reviewed complex mine plans and specifications for leach pad lining systems, multi-layer cap designs, and culvert designs for large scale gold mines and the Gilt Edge Superfund Project.
- Issued warning letters on several mine permits for non-compliance with state laws and regulations and permit conditions. No notices of violation or permit revocations were required due to operator compliance.
- Periodically updated BONDALC reclamation and postclosure bond calculation programs. Used updated programs to calculate reclamation and postclosure bond amounts for large scale gold and other mines and mineral and uranium exploration projects.
- Represented South Dakota in meetings and webinars with EPA on proposed CERCLA 108(b) financial assurance rules. Gave presentations to EPA and the White House Office of Information and Regulatory Affairs on South Dakota bonding procedures.
- Gave presentations to the Board of Minerals and Environment on reclaimed mine sites meeting release criteria, reclamation, postclosure and cyanide spill bond adjustments, large scale mine permit applications, reclamation and postclosure bonding procedures, CERCLA 108(b) financial assurance rules, and other items.

1990 – 2011 Natural Resources Engineer II/Project Engineer
South Dakota Department of Environment and Natural Resources
Minerals and Mining Program

- Lead reviewer of several small and large scale mine permit, scenic and unique, permit amendment, and technical revision applications, including the conversion of small scale granite quarry permits to large scale permits.
- Conducted mine and exploration inspections, including annual reclamation inspections and audits of large scale gold mines.
- Reviewed several complex plans and specification packages for leach pad lining systems and multi-layer capping systems.
- Periodically upgraded BONDALC reclamation bond calculation program, including considerable research into reclamation cost analysis and development of a postclosure bond calculation program. Used upgraded program to calculate increases in large scale gold mine reclamation bonds.
- Issued enforcement actions on several EXNI's and mine permits, including warning letters, notices of violation and orders, and revocations of EXNI's and mine permits.
- Presented mine license and permit releases of reclamation liability, reclamation, postclosure, and cyanide spill bond adjustments, and mine permit applications to the Board of Minerals and Environment.
- Temporarily assumed some duties of vacant hydrologist position, including EXNI application and annual report reviews.
- Trained new employees on correct EXNI and mine permit application review and inspection protocol.

1988 – 1990 Natural Resources Engineer I
 South Dakota Department of Water and Natural Resources
 Exploration and Mining Program

- Reviewed mining permit applications, including technical revisions, and annual reports to ensure compliance with state mining laws and regulations.
- Reviewed mine plans and specifications for heap leach pad and process pond lining systems and sediment and erosion control structures.
- Conducted annual and construction inspections of mine permitted facilities, including leach pad and pond lining systems.
- Calculated reclamation bonds for small and large scale mine permits.
- Implemented conversion of pegmatite mines from mine permits to mine licenses.

1984 – 1988 Natural Resources Analyst
 South Dakota Department of Water and Natural Resources
 Exploration and Mining Program

- Reviewed mine license applications, notices of intent to mine, and annual reports to ensure compliance with state mining law.
- Developed and maintained a system for organizing and analyzing all program water quality data.
- Assisted in water sample collection to monitor large scale gold mines.
- Witnessed plugging of oil and gas exploration drill holes.
- Conducted numerous construction aggregate inspections and several inspections of EXNI

and mine permit operations.

EDUCATION

May 1984 Bachelor of Science Environmental Engineering, Montana Tech
May 1984 Associate of Science Engineering, Montana Tech

CONTINUING EDUCATION

August 21 and 22, 2013	Interstate Mining Compact Commission Bonding Workshop, St. Louis, MO.
November 28 through 30, 2006	EPA Alternative Covers for Landfills Workshop, Denver, CO.
April 27 through 29, 1999	Mine Design Operations and Closure Conference, Polson, MT.
April 21 through 23, 1998	Office of Surface Mining Cost Estimation Bonding Workshop, Cincinnati, OH.
August 4 through 6, 1992	Sampling for Hazardous Materials, Pierre, SD.
December 13 and 14, 1990	Effective Writing, Pierre, SD.
June 18 through 22, 1990	HAZWOPR Personnel Protection and Safety, Pierre, SD.
May 5 through 7, 1987	Introduction to Ground Water Investigations, Pierre, SD.

PUBLICATIONS

1992 to 2011	Annual Summary of the Mining Industry in South Dakota
1995 to 2008	South Dakota Mining Summary – Mining Engineering Magazine (Co-authored with other Minerals and Mining Program personnel)

COMMITTEES

1991 to 1994	Best Minerals Management Practices sub-committee on pegmatite mining.
1991	Brohm expansion inter-disciplinary team.
2016	Interstate Mining Compact Commission short term working group on bonding requirements for the hard rock mining industry.



February 21, 2025

RECEIVED

Feb 21, 2025

MINERALS, MINING, &
SUPERFUND PROGRAM

Crystal Hocking
RESPEC
3824 Jet Drive
Rapid City, SD 57703

SDCL 1-19A-11.1 Consultation

Project: 240312001S – Clean Nuclear Energy Corp. Uranium Exploration Permit

Location: Fall River

DANR - South Dakota Department of Agriculture and Natural Resources

Dear Ms. Hocking,

Thank you for the opportunity to comment on the above referenced project pursuant to SDCL 1-19A-11.1. SDCL 1-19A-11.1 outlines a specific process that must be followed prior to any governmental action, including the issuance of permits, that may harm any historic property that is included in the National or State Registers of Historic Places. The South Dakota Office of the State Historic Preservation Officer (SHPO) would like to provide the following comments concerning effect of the proposed project on the non-renewable cultural resources of South Dakota.

On March 12, 2024, the SHPO received a cover letter regarding the submission of a Uranium Exploration Permit Application to the South Dakota Department of Agriculture and Natural Resources (DANR) from Mike Blady of Clean Nuclear Energy Corp. as well as the Uranium Permit Application itself as a notification of the above-referenced project to conduct exploratory drilling for uranium ore at Township 7S, Range 2E, Section 36. A letter from DANR was received on March 20, 2024 which acknowledged the receipt of the aforementioned Uranium Exploration Permit Application.

On March 22, 2024, SHPO requested an abbreviated case report to investigate potential direct, indirect, and cumulative effects of the proposed exploratory drilling on the nearby historic properties. On October 29, 2024, SHPO received the abbreviated case report titled, "Black Hills National Forest Craven Canyon Rock Art Abbreviated Case Report VPS #SD24-7 Fall River County, South Dakota Section 31, Township 7 S, Range 3 Section 25, Township 7 South, Range 2 E Section 30, Township 7 South, Range 3 September 9, 2024" prepared by Corinne Headley and Jana Morehouse of Vantage Point Solutions and a cultural resource inventory report for the portions of the project located on State lands titled, "Cultural Resource Inventory for the Clean Nuclear Energy Craven Canyon Uranium Exploration Project VPS #SD24-7 Fall River County, South Dakota Township 7S, Range 2E, Section 36 September 6, 2024 SD State Permit # SP-24-009" prepared by Will Alexander, Sydney Russell, and Jana Morehouse of Vantage Point Solutions. Additional Information clarifying the project scope was received on December 6, 2024. Further information, including the on-site Plan of Operations (PoO), was received on January 13, 2025. GIS shapefiles of the drilling locations on state land was received by SHPO on January 24, 2025.

Based upon the information provided, the proposed drilling project consists of up to 50 drill platforms on State-owned land, each creating a vertical exploration hole with a maximum depth of 213 m (700 ft). Each drill hole will require approximately two weeks to complete exploratory drilling activities and abandon. Drilling will occur on a 18.3-meter by 18.3-meter (60-feet by 60-feet) drill pad with 335 square meters



(0.08 acres) or less of disturbance per site. A recirculation mud pit measuring approximately 3.05-meter by 1.52-meter by 1.83-meter (10-feet by 5-feet by 6-feet) will be excavated on each site.

The abbreviated case report indicated that of the twelve rock art and petroglyph sites within the 1-mile study area, four rock art sites (39FA0088, 39FA0099, 39FA0321, and 39FA0723) will be partially visible within the viewshed of the project area. Additionally, one drill pad (Pad 33) is within the boundaries of a suspected burial site (39FA0725). Given the nature of the site, this drill pad should be moved to another location or removed from the project entirely. Given the distance, geology of the area, and the delicate nature of the archaeological sites potentially affected by the proposed drilling, a case report was requested to further assess potential visual, fluid, vibratory, and auditory effects.

The abbreviated case report indicated that vibratory effects from drilling are difficult to detect past 50 meters from the drilling equipment, with the nearest site being over 260 meters away from the drill site. As such, the risk of damage to these sites is low, given their distance from the drilling equipment.

The abbreviated case report also indicated that while dust created during operations is unavoidable, the dust's effects to the sites will be mitigated by following OSHA guidelines for protecting drill crews from silica dust, which includes ground saturation by a water truck during dry and high wind conditions, wet drilling, wet dust suppression of drill exhaust, and use of extended drill shrouds. Fluid impacts will be managed by the creation of a berm lined with a geomembrane around the fuel storage area, which will be designed to accommodate a 110% spill. Additionally, spill absorbing material will be on site for use in the event of a petroleum spill. Once drilling is completed, the drill solids will be buried in a sump lined with a biodegradable liner or a plastic liner, and the entirety of that will be removed. Once the sump is closed, the ground will be mulched and seeded.

There will be temporary effects to the sites during drilling operations which may consist primarily of auditory and visual effects, but may include particulate effects during dry and windy conditions. These effects, however, should only last during drilling activities.

Therefore, SHPO has made the following determination that the proposal will not encroach upon, damage, or destroy a historic property which is included in the National and State Registers of Historic Places, pursuant to SDCL 1-19A-11.1, provided that the twelve listed rock art sites are inspected pre- and post-construction by qualified personnel, a report documenting the condition of the sites will be submitted to SHPO within forty-five days after drilling has concluded, the environmental mitigation measures outlined in the case report are followed, and site 39FA0725 is avoided by all drilling activities.

The credentials and work experience of the inspection candidate can be submitted to SHPO for review. Previous experience in identifying and documenting rock art is preferred.

During the pre-construction inspection, there must be significant background research of the sites identified. Background research should include details of the sites from previous reports, site files, the original National Register of Historic Places (NRHP) nomination forms, or other available forms of previous documentation of these sites. During the inspection, these sites must be identified, mapped with accurate geospatial data (including the rock art panels themselves), and rigorously documented with sketches as well as National Register quality photos (at least 2000x3000 pixels and 300dpi, submitted in TIFF format). These photos must be submitted to SHPO via hard disk along with the final report. Scans of previous sketches may be used to document any changes that have happened between the original sketch and the pre-construction sketch. Then, any post-construction changes should be documented relative to their pre-construction condition.

The post-construction inspection will document any changes in the integrity of the sites after the drilling has completed. In the final report, the condition of the sites pre- and post-construction will be compared in





order to assess any effects to the sites or deterioration which may have occurred during work. This includes, but is not limited to, increased dust coverage, stone layers peeling-off the rock face, or hydraulic extrusion through or over the canyon walls. SHPO must respond within thirty days of their receipt of this final report, to acknowledge that the stipulations were followed, and to assess effects to these sites.

Additionally, if any tribes with an interest in this project wish to participate in the inspections, reasonable and good-faith accommodations should be made to facilitate this.

Finally, if any pertinent information is discovered during public meetings or hearings, or if specific concerns regarding effects to Historic Properties are brought forth by the public, SHPO would like the opportunity to comment on these concerns.

Should you require additional information or clarification on these stipulations or SHPO's comments on this project, please contact Jozef Lamfers at Jozef.Lamfers@state.sd.us or at 605-773-6004. Your concern for the non-renewable cultural heritage of our state is appreciated.

Sincerely,
Garry Guan
State Historic Preservation Officer

Jozef Lamfers
Review & Compliance Archaeologist

CC:
Katie Lamie - Archaeological Research Center
Lynn Griffin - Archaeological Research Center
Megan Ostrenga Fabricius - Archaeological Research Center
Dustin Lloyd - Archaeological Research Center
Roberta Hudson - DANR
Eric Holm - DANR
Mike Lees - DANR
Mike Blady - Clean Nuclear Energy Corporation
John Glasscock - Clean Nuclear Energy Corporation
Jana Morehouse - Vantage Point Solutions