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DEPARTMENT OF
WATER RESOURCES

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Attorneys for Bonneville-Jefferson Ground Water District

**STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES**

IN THE MATTER OF DISTRIBUTION OF
WATER TO VARIOUS WATER RIGHTS HELD
BY OR FOR THE BENEFIT OF A&B
IRRIGATION DISTRICT, AMERICAN FALLS
RESERVOIR DISTRICT #2, BURLEY
IRRIGATION DISTRICT, MILNER IRRIGATION
DISTRICT, MINIDOKA IRRIGATION DISTRICT,
NORTH SIDE CANAL COMPANY, AND TWIN
FALLS CANAL COMPANY IN THE MATTER OF
IGWA’S SETTLEMENT AGREEMENT
MITIGATION PLAN

Docket No. CM-MP-2016-001

**BONNEVILLE-JEFFERSON
GROUND WATER DISTRICT
WITNESS LISTS AND EXPERT
CURRICULA VITARUM**

The Bonneville-Jefferson Ground Water District (hereafter “Bonneville-Jefferson”, “BJGWD”, or the “District”) provides the following witness lists in accordance with the Hearing Officer’s *Order Authorizing Discovery, Scheduling Order, Order Suspending IDAHPA 37.01.01.354 and Notice of Prehearing Conference*. Attached to this document are the curricula vitarum (hereafter “CV”) for the experts the District may call to testify in this matter.

**I.
LAY WITNESSES**

All lay witnesses are available through counsel. The District may call the following witnesses to testify at the hearing for this matter:

1 BONNEVILLE-JEFFERSON GROUND WATER DISTRICT WITNESS LISTS AND EXPERT CURRICULA VITARUM

1) Bob Turner, 1070 Riverwalk Dr. Suite 263, Idaho Falls 83402

- Mr. Turner is the former District Manager and the current Executive Director of the Idaho Ground Water Appropriators (hereafter “IGWA”).
- Mr. Turner may be called to testify regarding the District’s understanding and implementation of the *Surface Water Coalition’s and IGWA’s Stipulated Mitigation Plan and Request for Order* filed March 9, 2016, the *Final Order Approving Stipulated Mitigation Plan* issued May 2, 2016, *Surface Water Coalition’s and IGWA’s Stipulated Amended Mitigation Plan and Request for Order* filed February 7, 2017, and the *Final Order Approving Amendment to Stipulated Mitigation Plan* issued May 9, 2017, in IDWR Docket No. CM-MP-2016-001 (collectively, “2016 Mitigation Plan”); and *IGWA’s Mitigation Plan for the Surface Water Coalition Delivery Call* filed November 9, 2009, and *Order Approving Mitigation Plan* issued June 3, 2010, in IDWR Docket No. CM-MP-2009-007 (“2009 Mitigation Plan”).
- Mr. Turner may also testify regarding the District’s individual mitigation plan, how it was implemented at the district level, actions taken to comply with the Mitigation Plan in 2022, and how the District intends to measure compliance with the 2016 Mitigation Plan in light of former Director Spackman’s ruling that averaging may not be used.

2) Brad Buttars, PO BOX 51121, Idaho Falls 83405

- Mr. Buttars is the current District Manager.
- Mr. Buttars may testify regarding the District’s individual mitigation plan, how it was implemented at the district level, actions taken to comply with the Mitigation Plan in 2022, how the District intends to measure compliance with the 2016 Mitigation Plan in

light of former Director Spackman’s ruling that averaging may not be used, and efforts taken against patrons who did not comply with the Mitigation Plan.

3) Kirt Schweider, PO BOX 51121, Idaho Falls 83405

- Mr. Schweider may testify regarding the District’s individual mitigation plan, how it was implemented at the district level, actions taken to comply with the Mitigation Plan in 2022, how the District intends to measure compliance with the 2016 Mitigation Plan in light of former Director Spackman’s ruling that averaging may not be used, and efforts taken against patrons who did not comply with the Mitigation Plan.

4) Carl Taylor, PO BOX 51121, Idaho Falls 83405

- Mr. Taylor may testify regarding the District’s individual mitigation plan, how it was implemented at the district level, actions taken to comply with the Mitigation Plan in 2022, how the District intends to measure compliance with the 2016 Mitigation Plan in light of former Director Spackman’s ruling that averaging may not be used, and efforts taken against patrons who did not comply with the Mitigation Plan.

5) Stephanie Mickelsen, PO BOX 51121, Idaho Falls 83405

- Ms. Mickelsen may testify regarding the District’s individual mitigation plan, how it was implemented at the district level, actions taken to comply with the Mitigation Plan in 2022, how the District intends to measure compliance with the 2016 Mitigation Plan in light of former Director Spackman’s ruling that averaging may not be used, and efforts taken against patrons who did not comply with the Mitigation Plan.

II. EXPERT WITNESSES

All expert witnesses are available through counsel. The District may call the following experts as part of their case in chief or for rebuttal testimony at the hearing for this matter:

- 1) Jaxon Higgs, Water Well Consultants, 355 W. 500 S. Burley, ID 83318. Mr. Higgs' CV is attached hereto as Exhibit "A".
- 2) Bryce Contor, Rocky Mountain Environmental Associates, Inc., 482 Constitution Way STE 303, Idaho Falls, ID 83402. Mr. Contor's CV is attached hereto as Exhibit "B".
- 3) Thane Kindred, Rocky Mountain Environmental Associates, Inc., 482 Constitution Way STE 303, Idaho Falls, ID 83402. Mr. Kindred's CV is attached hereto as Exhibit "C".

DATED: January 31, 2024

/s/ Skyler C. Johns

SKYLER C. JOHNS

CERTIFICATE OF SERVICE

I hereby certify that on this the 31st day of January 2024, I served a true and correct copy of the foregoing *BJGWD Witness Lists and Expert Curricula Vitarum* on the following by the method indicated:

/s/ Michelle J. Dover
Michelle J. Dover
Paralegal

Hon. Roger S. Burdick, Hearing Officer Garrick Baxter, Deputy Attorney General Sarah Tschohl, Paralegal Idaho Department of Water Resources 322 E. Front St. Boise, Idaho 83720-0098	roburd47@gmail.com garrick.baxter@idwr.idaho.gov sarah.tschohl@idwr.idaho.gov file@idwr.idaho.gov
John K. Simpson Marten Law LLP P.O. Box 2139 Boise, Idaho 83701-2139 Travis L. Thompson Marten Law LLP 163 Second Ave. W. P.O. Box 63 Twin Falls, Idaho 83303-0063 Abby R. Bitzenburg Marten Law LLP 163 Second Ave. W. P.O. Box 63 Twin Falls, Idaho 83303-0063	jsimpson@martenlaw.com tthompson@martenlaw.com abitzenburg@martenlaw.com
Dylan Anderson DYLAN ANDERSON LAW PO BOX 35 Rexburg, ID 83440	dylan@dylanandersonlaw.com
W. Kent Fletcher FLETCHER LAW OFFICE P.O. Box 248 Burley, ID 83318	wkf@pmt.org
Kathleen Marion Carr US DEPT. INTERIOR 960 Broadway Ste 400 Boise, ID 83706	kathleenmarion.carr@sol.doi.gov

<p>David W. Gehlert Natural Resources Section Environment and Natural Resources Division U.S. DEPARTMENT OF JUSTICE 999 18th St., South Terrace, Suite 370 Denver, CO 80202</p>	<p>david.gehlert@usdoj.gov</p>
<p>Matt Howard US BUREAU OF RECLAMATION 1150 N Curtis Road Boise, ID 83706-1234</p>	<p>mhoward@usbr.gov</p>
<p>Sarah A Klahn SOMACH SIMMONS & DUNN 2033 11th Street, Ste 5 Boulder, Co 80302</p>	<p>sklahn@somachlaw.com dthompson@somachlaw.com</p>
<p>Rich Diehl CITY OF POCATELLO P.O. Box 4169 Pocatello, ID 83205</p>	<p>rdiehl@pocatello.us</p>
<p>Candice McHugh Chris Bromley MCHUGH BROMLEY, PLLC 380 South 4th Street, Suite 103 Boise, ID 83 702</p>	<p>cbromley@mchughbromley.com cmchugh@mchughbromley.com</p>
<p>Robert E. Williams WILLIAMS, MESERVY, & LOTH SPEICH, LLP P.O. Box 168 Jerome, ID 83338</p>	<p>rewilliams@wmlattys.com</p>
<p>Robert L. Harris HOLDEN, KIDWELL, HAHN & CRAPO, PLLC P.O. Box 50130 Idaho Falls, ID 83405</p>	<p>rharris@holdenlegal.com</p>
<p>Randall D. Fife City Attorney CITY OF IDAHO FALLS P.O. Box 50220 Idaho Falls, ID 83405</p>	<p>rfife@idahofallsidaho.gov</p>

William A. Parsons PARSONS SMITH & STONE P.O. Box 910 Burley, ID 83318	wparsons@pmt.org
Thomas J. Budge Elisheva M. Patterson RACINE OLSON, PLLP 201 E. Center St. / P.O. Box 1391 Pocatello, Idaho 83204	tj@racineolson.com elisheva@racineolson.com

Jaxon Higgs, Professional Geologist (PGL - 1672)
Water Well Consultants, Inc.
355 West 500 South
Burley, Idaho 83318

Education:

- B.S., Geology, Brigham Young University Idaho, 2010
- M.S., Hydrogeology, University of Idaho, 2012

Employment History:

- Water Well Consultants, Inc.
 - Field Tech (2000-2012)
 - Staff Hydrogeologist & GIS Analyst (2012-Present)

Summary:

Jaxon Higgs is the principal owner and operator of Water Well Consultants, Inc. (“WWC”). WWC provides a variety of hydrogeologic services in southern Idaho related to aquifer management and water conservation. Contracted duties include, but are not limited to, monitoring of aquifer health, usage measurement and reporting, and management of aquifer recharge programs.

WWC is a consultant for Idaho Ground Water Appropriators, Inc. (“IGWA”). In that capacity Higgs provides technical assistance on a variety of matters, including groundwater modelling and other issues related to the Surface Water Coalition (“SWC”) delivery call. Higgs also attends IGWA board meetings, including those involving the settlement agreement entered into between IGWA and the SWC in 2015 (the “2016 Settlement Agreement”). Among other things, Higgs prepares the spreadsheets showing groundwater diversion and recharge data that IGWA submits to the SWC and IDWR under section 2.a of the Second Addendum to the 2016 Settlement Agreement.

Higgs is also a consultant for five of IGWA’s member ground water districts: North Snake Ground Water District, Magic Valley Ground Water District, Southwest Irrigation District, American Falls-Aberdeen Ground Water District, and Bonneville-Jefferson Ground Water District. He provides input on the development of, and is familiar with, each of these districts’ programs for conserving groundwater under the 2016 Settlement Agreement (Southwest Irrigation District conserves water under a separate settlement agreement with the SWC).

Curriculum Vitae

Bryce A. Contor
5223 Steele Avenue, P.O. Box 94
Iona, Idaho 83427
208-681-9100

Summary Statement

Mr. Contor has worked in the hydrology field since 1996, including ten years with the Idaho Water Resources Research Institute where he served as a research hydrologist, and five years with Idaho Department of Water Resources where he served as a Senior Water Resource Agent. Prior to that he farmed and served on the board of directors of a small canal company.

With the Institute, Mr. Contor served as principal investigator on hydrologic projects as diverse as preparing water budgets for large numerical aquifer models, investigating remote sensing of evapotranspiration on irrigated lands, developing tools to calculate the economic demand for irrigation water, and investigating managed recharge of aquifers. He has published in national peer-reviewed scientific journals and has authored numerous technical completion reports for the Idaho Water Resources Research Institute. At Idaho Department of Water Resource, Mr. Contor measured flow in pipelines and open channels, investigated water-right claims and made water-right recommendations in the Snake River Basin Adjudication.

Mr. Contor holds an M.S. Degree in hydrology from the University of Idaho. His hydrologic specialties include groundwater/surface-water interactions and MODFLOW aquifer modeling, water-budget analysis, pipeline and open-channel flow measurement, and statistics. GIS specialties include aerial land photography interpretation and manipulation of remote-sensing data. Economics specialties are water banking and economic demand for irrigation water. He has extensive experience with water-budget preparation and with collaboration as a member of the development team for Enhanced Snake Plain Aquifer Models (ESPAM) versions 1.0 through 2.1, and the Spokane Valley – Rathdrum Prairie Model. Contor has served as an expert witness in water-related matters.

Education

University of Idaho, Idaho Falls, Idaho, 2005, M.S., Hydrology
Brigham Young University, Provo, Utah, 1994, B.S., Agricultural Economics. Cum Laude.
Ricks College, Rexburg, Idaho, 1980, A.S., Farm Crops Management

Work Experience

Hydrologist at Rocky Mountain Environmental Associates, Inc., Idaho Falls, Idaho, 2010 to Present. Currently serving as Principal Hydrologist.

Position includes aquifer modeling, hydrologic field investigation, hydrologic analysis, GIS and expert-witness work in support of Idaho water-rights transactions, negotiations and proceedings. For approximately two years, Mr. Contor reduced his work at Rocky Mountain Environmental Associates while doing landowner-outreach and technical work for the Henry's Fork Foundation and Friends of the Teton River.

Research Hydrologist of Idaho Water Resources Research Institute, University of Idaho, Idaho Falls, Idaho, 2001-2010

Position included serving as a principle investigator on a ground water banking project in cooperation with U.S. Bureau of Reclamation, as principle investigator in water-budget preparation for aquifer modeling projects, and field investigation in support of managed aquifer recharge. The position included GIS analysis and supervision of hydrologists and data technicians. During this period Mr. Contor sub-contracted field exams for the Snake River Basin Adjudication for Idaho Department of Water Resources.

Senior Water Resource Agent, Idaho Department of Water Resources and North Water Measurement District, 1996-2001

Duties included field and office evaluation of water-right claims, including flow measurements and characterization of conveyance and diversion structures, making water-right recommendations in the Snake River Basin Adjudication, and the measurement of water discharge and power consumption of irrigation wells for documentation of ground water withdrawal volumes.

Worked in irrigated agriculture from 1980 through 1995 as irrigation supervisor, farm manager, tenant farmer, farm owner, seed-company field representative, and Idaho Department of Agriculture chemigation inspector. In the late 1980s through early 1990s served as a board member and then as secretary of a small canal company.

Experience Testifying/Giving Depositions

Circa 2005: Deposed in matters related to the calibration of Enhanced Snake Plain Aquifer Model Version 1.0 and 1.1.

Circa 2012: Deposed and testified at hearing before IDWR regarding aquifer-modeling issues related to the Rangen Aquifer Delivery Call.

2016: Testified in behalf of the plaintiff in a civil case related to filling in of an irrigation ditch.

Circa 2019: Deposed and testified at hearing before IDWR regarding creation of the Eastern Snake Plain Aquifer Ground Water Management Area.

2021: Testified in behalf of protestant at hearing before IDWR regarding change in Point of Diversion of surface-water rights.

2023: Testified in behalf of applicant at hearing before IDWR regarding change in Point of Diversion and Place of Use of surface-water rights.

Selected Idaho Water Resources Research Institute Publications Directly Related to ESPAM Aquifer Models

S.L. Taylor and B.A. Contor. 2010. ET Adjustment and the Entity File (*.ent) for the Eastern Snake Plain Aquifer Model Version 2 AS BUILT. Idaho Water Resources Research Institute Technical Report 201009 ESPAM 2 Design Document DDW-V2-11.

B.A. Contor. 2010. Representation of Soil Type for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built Revision 1. Idaho Water Resources Research Institute Technical Report 201003 ESPAM2 Design Document DDW-V2-06 As Built Rev 1 “Soil Type”.

B.A. Contor. 2010. Representation of Recharge from Canal Leakage for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built, Revision 1. Idaho Water Resources Research Institute Technical Report 200907 UPDATED ESPAM2 Design Document DDW-V2-01-Rev1 As Built “Canal Recharge”.

B.A. Contor. 2010. Irrigation Diversions and Returns and Surface-Water Irrigation Entities for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built. Idaho Water Resources Research Institute Technical Report 201004 ESPAM2 Design Document DDW-V2-07 As Built “Diversions”.

B.A. Contor. 2010. Fixed-point and Offsite-point Recharge and Discharge for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built. Idaho Water Resources Research Institute Technical Report 201005 ESPAM2 Design Document DDW-V2-08 As Built “Fixed/Offsite”

B.A. Contor. 2010. Surface-water Irrigation Entities and Groundwater Polygons for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built. Draft for Review. Idaho Water Resources Research Institute Technical Report 201006 ESPAM2 Design Document DDW-V2-09 As Built “Entity Geometry”.

B.A. Contor. 2009. Representation of Recharge from Canal Leakage for Calibration of Eastern Snake Plain Aquifer Model Version 2, As Built. Idaho Water Resources Research Institute Technical Report 200907 ESPAM2 Design Document DDW-V2-01 As Built “Canal Recharge”.

- B.A. Contor. 2008. Representation of Recharge from Canal Leakage for Calibration of Eastern Snake Plain Aquifer Model Version 2. Idaho Water Resources Research Institute Technical Report 200804 ESPAM2 Design Document DDW-V2-01 “Canal Recharge”.
- B.A. Contor and P.L. Pelot. 2008. Determination of Source of Irrigation Water for Calibration of Eastern Snake Plain Aquifer Model Version 2. Idaho Water Resources Research Institute Technical Report 200805 ESPAM2 Design Document DDW-V2-02 “Source of Irrigation Water”.
- B.A. Contor and P.L. Pelot. 2008. Effects of Changes in Crop Mix Upon Consumptive Use of Irrigation Water in the Eastern Snake Plain of Idaho. Idaho Water Resources Institute Technical Completion Report 2008-001.
- B.A. Contor and P.L. Pelot. 2008. Draft 2. Determination of Source of Irrigation Water for Calibration of Eastern Snake Plain Aquifer Model Version 2. Idaho Water Resources Research Institute Technical Report 200805 ESPAM2 Design Document DDW-V2-02 “Source of Irrigation Water”.
- B.A. Contor, P.L. Pelot, G.L. Moore. 2008. The Potential Application of Additional Surface Water to Irrigated Lands Having Both Surface-water and Groundwater Irrigation Rights. IWRI Technical completion report 200902.
- B.A. Contor. 2007. Hydrologic Impacts of Current Water-Use Practices and Current Hydrologic Conditions - "Current Practices" Scenario. IWRI Technical Completion Report 200702.
- D. M. Cosgrove, B. A. Contor, G. S. Johnson. 2006. Enhanced Snake Plain Aquifer Model Final Report. Idaho Water Resources Research Institute Technical Report 06-002 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document Number DDM-019.
- N. Erickson, D. Nelson, B. Contor. 2006. Non-Snake River Diversions and Perched River Seepage. Idaho Water Resources Research Institute Technical Report 06-003 Eastern Snake Plain Aquifer Model Enhancement Project Water Budget Design Document Number DDW-024 Draft As-Built.
- B.A. Contor. 2004. Traditional Evapotranspiration Calculations. Idaho Water Resource Research Institute Technical Report 04-009 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DWS-010 Final As-built.
- B.A. Contor. 2004. Fixed Point Pumping and Offsite Ground Water Pumping. Draft. Idaho Water Resources Research Institute Technical Report 04-027. Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document Number DDW-026. Eastern

Snake Plain Aquifer Model Enhancement Project Water Budget Design Document
Number DDW- As-built.

- B.A. Contor. 2004. Recharge on Non-Irrigated Lands. Idaho Water Resource Research Institute Technical Report 04-006 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-00.
- B.A. Contor. 2004. Percolation, Runoff, and Deficit Irrigation. Idaho Water Resource Research Institute Technical Report 04-004 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-002 Final As-Built.
- B.A. Contor. 2004. Irrigation Conveyance Loss. Idaho Water Resource Research Institute Technical Report 04-008 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-020 Final As-built.
- B.A. Contor. 2004. Determining Source of Irrigation Water for Recharge Calculation. Idaho Water Resource Research Institute Technical Report 04-010 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-017 Final As-built.
- B.A. Contor. 2004. Delineation of Sprinkler and Gravity Application Systems. Idaho Water Resource Research Institute Technical Report 04-005 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-022.
- B.A. Contor. 2003. Draft. Evapotranspiration Adjustment Factors. Eastern Snake Plain Aquifer Model Enhancement Project Design Document Number DDW-021.
- B.A. Contor. 2003. Determination of Crop Mix Revision One. Idaho Water Resources Research Institute Technical Report 04-025 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document Number DDW-001.
- B.A. Contor. 2002. Land Use. Idaho Water Resource Research Institute Technical Report 04-007 Eastern Snake Plain Aquifer Model Enhancement Project Scenario Document DDW-015 Final As-Built.
- B.A. Contor. 2002. Ground Water Irrigation Polygons for Recharge Calculation. Idaho Water Resource Research Institute. Eastern Snake Plain Aquifer Model Enhancement Project Water Budget Design Document Number DDW-009.

Other Selected Publications pre-2013

- B.A. Contor. 2011. Adaptation of the Glover/Balmer/Jenkins Analytical Stream-Depletion Methods for No-Flow and Recharge Boundaries. IWRRRI Technical Completion Report 201101
- G. Taylor, B. Contor and J. Hamilton. 2010. *The ABC's of Apples, Bees and Connections Hydrologic*. Choices Magazine, Agricultural and Applied Economics Association. Volume 25 No. Article 144.
<http://www.choicesmagazine.org/magazine/article.php?article=144>
- B.A. Contor. 2009. *Ground-water Banking in Aquifers that Interact with Surface Water, Using Double-entry Accounting and Aquifer Response Functions*. Journal of the American Water Resources Association, Volume 45, Issue 6, pp 1465-1474.
- Gary S. Johnson, Bryce A. Contor, Donna M. Cosgrove. 2008. *Efficient and Practical Approaches to Ground-water Right Transfers Under the Prior Appropriation Doctrine and Snake River Example*. Journal of the American Water Resources Association, Vol 44 Issue 1, February 2008, pp 27-36.
- E. B. Rafn, B.A. Contor and D.P. Ames. 2008. *Evaluation of a Method for Estimating Irrigated Crop-Evapotranspiration Coefficients from Remotely Sensed Data in Idaho*. Journal of Irrigation and Drainage Engineering. Vol. 134, Issue 6, pp 722-729.
- Paul A. Hsieh, Michael E. Barber, Bryce A. Contor, Md. Akram Hossain, Gary S. Johnson, Joseph L. Jones, and Allan H. Wylie. 2007. Ground-water Flow Model for the Spokane Valley-Rathdrum Prairie Aquifer, Spokane County, Washington, and Bonner and Kootenai Counties, Idaho. Scientific Investigations Report 2007-5044, US Geological Survey.

Publications Since 2013

- B.A. Contor and R. G. Taylor. 2016. *A Framework for Assessing the Effect of Irrigation Improvements: Economic Rivalry, Irrigation Abstraction, and Partition to Fates*. Water Economics and Policy, Vol. 3, Issue 3.
doi: 10.1142/S2382624X16500181
- R. Garth Taylor, R.D. Schmidt, L. Stodick and B. Contor. 2014. *Modeling Conjunctive Water Use as a Reciprocal Externality*. American Journal of Agricultural Economics, Vol. 94, Issue 6, pp 753-768.
doi 10:1093/ajae/aat095

B. Contor and R. G. Taylor. 2013. *Why Improving Irrigation Efficiency Increases Total Volume of Consumptive Use*. Irrigation and Drainage, Vol. 62, Issue 3, doi 10:1002/ird. 1717

Thane R. Kindred

September 7, 2023
www.linkedin.com/in/thanerkindred
801-243-0347 • thane.kindred@gmail.com

Education

Idaho State University

Pocatello, Idaho
August 2022

Master of Science: Geology

Thesis: *Spatial Structure, Temporal Patterns, and Drivers of Stream Drying in the Gibson Jack Watershed, Bannock County, Idaho*

Coursework: Advanced Geomorphology, Biometry, Geologic Writing, Geostatistics, Geovisualization, GIS Programming, Idaho Water Seminar, Programming in Matlab, Remote Sensing, Spatial Analysis.

Brigham Young University

Provo, Utah
December 2018

Bachelor of Science: Geology

Coursework: Ecology, Geochemistry, Geologic Field Camp, Geological Communications, Geomorphology, Groundwater, Living with Plants, Igneous and Metamorphic Petrology, Rangeland Management, Sedimentology and Stratigraphy, Soil Science, Technical Writing, Wildlife and Fisheries Management.

Professional Experience

Rocky Mountain Environmental Associates Inc.

Idaho Falls, Idaho

Staff Geologist

August 2022 - Present

- Attended tri-annual meeting of the Eastern Hydrologic Modeling Committee (ESHMC).
- Assisted in groundwater monitoring campaigns and wrote reports based on collected data.
- Compiled transfer applications and Applications for Permit for water users in eastern Idaho.
- Crafted Phase I Environmental Site Assessment reports for various local properties.
- Modeled recharge efforts by Groundwater Districts in eastern Idaho.
- Updated statistical limits for a groundwater monitoring campaign in a municipal landfill.

Hydrogeology Intern

January 2022 - August 2022

- Performed groundwater flow analysis to solve water rights problems.
- Prepared real-world datasets for statistical analysis using the R programming language.

Idaho State University

Pocatello, Idaho

Graduate Research Assistant

June 2020 - August 2022

- Collected and filtered water from private wells to test for nitrate contamination.
- Designed a module to teach students to calculate Topographic Wetness.
- Developed and carried out a plan to monitor stream intermittency in the Gibson Jack Watershed (ID).
- Developed over 50 kriging models using the SSN package in R.
- Mentored an undergraduate researcher whose project focused on measuring electrical conductivity throughout the Gibson Jack Watershed.
- Performed over 100 pebble counts, stream corridor measurements, and densitometer readings in Gibson Jack (ID), with data recorded and processed in Microsoft Excel.
- Trained colleagues to use the STARS toolbox in ArcMap.

Graduate Teaching Assistant

September 2020 - December 2020

- Improved personal grading efficiency by 50% from the beginning of the semester.
- Taught introductory geology lab using innovative online techniques.

ALS Laboratory Group

Salt Lake City, Utah

Laboratory Technician

November 2019 - April 2020

- Disposed of old samples following company hazardous waste protocol.
- Drafted reports of all lab activity using Excel Spreadsheets.
- Soaked samples in acid in preparation for heavy metals testing by an ICP-MS.

Alliance Source Testing

Salt Lake City, Utah

Project Scientist

April 2019 - October 2019

- Maintained testing equipment for use in the field.
- Recorded temperature of test equipment as samples were collected to ensure accurate results.
- Safely transported delicate equipment across hundreds of miles.
- Set up mobile lab and sample collection equipment on smokestacks to collect samples.

Dvad Labs

Salt Lake City, Utah

Sample Coordinator

February 2019 - April 2019

- Compositing soft gels, tablets, and capsules to allow testing on pills.
- Maintained a clean work area to avoid contamination of samples.
- Organized the retention of samples to enable further testing.
- Split large samples to allow three laboratories to perform tests concurrently.

Brigham Young University

Provo, Utah

Geology Research Assistant

June 2017 - December 2018

- Assisted in zircon extraction using heavy liquids and magnetism.
- Created a poster using Adobe Illustrator to present findings at the Geological Society of America's annual meeting (2018).
- Mapped pseudotachylyte (friction generated glass) near the top of Box Elder Peak (UT).

Physics Teaching Assistant

Jan 2017 - December 2018

- Explained difficult concepts to first-year physics students.
- Managed a laboratory classroom.
- Tested new equipment and techniques to improve curricula.

Boy Scouts of America

Payson, Utah

Maple Dell Senior Staff

May 2016 - Aug 2016

- Assisted more than 1,000 boy scouts to earn nature-related merit badges.
- Developed six teaching curricula on nature-related merit badges.
- Monitored and recorded the progress made by each boy scout over the duration of a week's training.
- Trained a group of four staff to teach the developed curricula to over one hundred boys a week.

Service

Idaho State Geosciences Department

Pocatello, Idaho

Geo Club Vice President

September 2020 - May 2022

- Advertised for the Geo Club in fun and interesting ways to prospective geology students.
- Organized and executed a day trip to Craters of the Moon (ID), providing a fun and educational experience for 80 students while following Covid19 protocol from both Craters of the Moon and ISU.
- Raised \$200 through a plant sale to fund future Geo Club activities.

BYU Department of Geological Sciences

Provo, Utah

Geo Club President

August 2017 - April 2018

- Lead elementary school field trips designed to teach students geology in Rock Canyon (Utah County, UT).
- Planned and carried out monthly social activities for students and faculty in the geology department.
- Taught the Geology Merit Badge to over 100 boys at the BYU merit badge pow wow.

Church of Jesus Christ of Latter-day Saints

Accra, Ghana

Full Time Volunteer Representative

June 2013 - June 2015

- Devoted over eight hours a day to serve as a full time missionary for the Church of Jesus Christ of Latter-day Saints in Ghana.
- Lead and trained a team of four representatives in the cities of Kade and Oda.
- Learned to interact with native peoples and picked up limited Twi (local African Language).
- Learned to work as a team with another representative.
- Taught lessons about Gospel principles to anyone who would listen.

Publications as Lead Author

Idaho State University

August 2022

Master's Thesis: *Spatial Structure, Temporal Patterns, and Drivers of Stream Drying in the Gibson Jack Watershed, Bannock County, Idaho*

Advising Professors: Sarah Godsey, Rebecca L. Hale, and Di Wu.

American Geophysical Union

December 2021

Spatial Intermittency Models of Gibson Jack (ID, USA) Reveal the Importance of Identifying the Drivers of Intermittency

Coauthors: Sarah Godsey, Rebecca L. Hale, Ken Aho, Di Wu, and Kathleen Van Wesenbeeck

Geological Society of America

November 2018

Pseudotachylyte—cataclasite in the damage zone located north of Box Elder Peak, Wasatch Mountains, Utah, associated with the 57 km² Traverse Mountain landslide: Abstracts with Programs

Coauthors: Jeffrey D. Keith, Michael A. Stearns, Ron Harris, Robert Biek, Samuel Martin, Lars Jordan, Rodney Chadburn, Alec Martin, and David Hacker.

Publications as Coauthor

American Geophysical Union

December 2022

Subsurface Controls and Characteristics for Gaining and Losing Segments of Streams

Lead Author: Kathleen Van Wesenbeeck.

Other Authors: Sarah Godsey, Bradley Carr, and **Thane Kindred**.

American Geophysical Union

December 2021

Fine-scale Seasonal Stream Permanence Partially Controlled by the Spatial Structure of Saturated Hydraulic Conductivity in an Intermittent Headwater Stream Network

Lead Author: Michael Ferraro.

Other Authors: Sarah Godsey and **Thane Kindred**.

American Geophysical Union

December 2021

Variable Ground and Surface Water Response to Plant Water Use Along a Mountainous Non-Perennial Headwater Stream Under Severe Drought Conditions

Lead Author: Sarah Newcomb

Other Authors: Sarah Godsey and **Thane Kindred**.

Geological Society of America

November 2018

Insights Into Sapphire Formation Processes From Yogo Gulch, Montana and Bingham Canyon, Utah

Lead Author: Samuel Martin.

Other Authors: Jeffrey D. Keith, Aaron C. Palke, James Shigley, Rodney Chadburn, Alec Martin, **Thane Kindred**, and Lars Jordan.

Geological Society of America

November 2018

Multi-stage Construction of the Little Cottonwood Stock, Utah: Intrusion, Venting, Mineralization, and Mass Movement

Lead Author: Collin G. Jensen, Eric H. Christiansen, Jeffrey D. Keith, Michael Dorais, Rodney

Chadburn, Alec Martin, **Thane Kindred**, Samuel Martin, Lars Jordan, and Michael A. Stearns.

Geological Society of America

November 2018

New Evidence for a Mega-Landslide Origin for the East Traverse Mountains, Utah

Lead Author: Rodney Chadburn.

Other Authors: Jeffrey D. Keith, Ron Harris, Eric H. Christiansen, Robert Biek, Collin G. Jensen, Samuel Martin, Lars Jordan, **Thane Kindred**, and Alec Martin.

Geological Society of America

November 2018

The Age of the East Traverse Mountain Landslide, Utah: Disruption of Miocene Lake Sediments and U-Pb Ages of Fracture-Hosted Opal

Lead Author: Lars Jordan.

Other Authors: Jeffery D. Keith, Christopher J. Spencer, Rodney Chadburn, Collin G. Jensen, **Thane Kindred**, Samuel Martin, Alec Martin, and Eric H. Christiansen.

Geological Society of America

November 2018

Titanite Trace Elements Trends in a Low-F Porphyry Mo-W Deposit in the Oligocene Little Cottonwood Stock, Utah

Lead Author: Alec Martin.

Other Authors: Jeffery D. Keith, Eric H. Christiansen, Bart J. Kowallis, Collin G. Jensen, Rodney Chadburn, Porter Henze, Samuel Martin, Lars Jordan, and **Thane Kindred**.