

NAME**MEGHAN HODGINS****TITLE****Senior Modeler, Project Manager Geologist, Glorieta Geoscience, Inc.****EXPERIENCE
SUMMARY****17 Years of Experience Encompassing the Following Areas:**

- Development of 3-dimensional ground water flow models in basin fill and fractured bedrock aquifers
- Development and implementation of ground water monitoring program
- Drilling supervision, well design, lithologic description of cuttings and continuous core, evaluation of geophysical logs, and development of drilling specifications for ground water production water wells and monitoring wells
- Geologic mapping for mineral resource evaluation and well siting
- Field supervision of drilling and installation of well nests to depths of up to 2,500 feet in basin fill aquifer settings
- Field management of programs for conducting aquifer tests and sampling of discrete ground water zones in multi-aquifer systems
- Aquifer test design, data collection and analysis
- Phase I Environmental Site Assessments: all phases, in conformance with ASTM Standard E1527-13
- NMED Groundwater Discharge Permit compliance and reporting

**SELECTED
PROJECT
EXPERIENCE**

Eldorado Area Water and Sanitation District, Santa Fe County (2005 – present): Project Management of geohydrologic investigation of the District area, ground water flow modeling for well field management and water rights applications, well siting, well drilling and testing. Responsible for all geology and hydrology support for obtaining water rights license from State Engineer. This ongoing project includes interaction with the OSE hydrology and water rights divisions for review and approval of new wells and water rights applications.

Nye County Water District: Project Manager for Bureau of Reclamation Water Supply Appraisal Investigation conducted on behalf of the Nye County Water District. The investigation was conducted to support sustainable development within Nye County. The investigation included interviewing water system operators and compiling data on water use, water demand, and infrastructure conditions. The sustainable yield of each basin within the County was evaluated relative to the recorded water use.

Nye County, Nevada: Project Manager for Nye County, NV water resources development and water quality protection. Supervises Nye County's portion of development of the Southern Amargosa Embedded Model with the USGS to evaluate non-Federal pumping impacts on Death Valley, Devils' Hole (Caepert), Ash Meadows, and radionuclide migration from the Nevada Test Site and Yucca Mountain Project.

Santa Fe County Geohydrology and Reconnaissance Geohydrology Reports: Project Management of more than 25 projects that include geologic and structural mapping, well siting and design, pumping tests and data analysis, ground water modeling, water rights investigation, report preparation, attendance at public meetings and consultation with county authorities

Rockview Farms, Amargosa Valley, NV (1998 – present): Development of multilayer ground water flow model to assess pumping effects from a farm diversion of 4700 ac-ft on Devil's Hole and nearby wells; design and install monitoring wells; negotiate permit conditions for State Engineer permits.



Rancho San Lucas Subdivision, Eldorado, Santa Fe County: Subdivision Geohydrology report for development, including well siting, drilling oversight, well design, aquifer test design and implementation, MODFLOW and Theis groundwater modeling including the design and construction of a regional model for predicting groundwater drawdown. The MODFLOW model was designed to estimate groundwater flow in a fractured bedrock aquifer, was validated using aquifer test data and presented at a national conference on groundwater modeling. The project also involved Santa Fe County and OSE interaction for development review and approval and OSE interaction for water rights administration.

Taos Drilling and Modeling: Field drilling oversight, lithologic and geophysical logging, well design, and completion oversight of eight 1,400 to 2,500 feet deep exploratory and production wells, aquifer test design and implementation, test analysis and groundwater modeling, and report preparation. Groundwater modeling (Theis, Glover-Balmer and MODFLOW) and OSE interaction for water rights administration.

EDUCATION

M.S. Geology, University of New Mexico, 1997

B.A. Geology, Hartwick College, New York (*cum laude*), 1994

PROFESSIONAL DEVELOPMENT/ TRAINING

- Calibrating Groundwater Models with Groundwater Vistas and PEST; 12 hour Short Course Webinar 2015.
- Improving Hydrogeologic Analysis of Fractured Bedrock Systems; 32-hour Short Course 2009.
- UCODE (Universal Inversion Code for Automated Calibration); 24-hour Short Course 2007.
- The MODFLOW Course Theory & Hands-on Applications using MODFLOW-2000, MODPATH, MT3D & WinPEST; 36-hour Short Course 2005
- Advanced MODFLOW 2000 modeling: 'Polishing Your Groundwater Modeling Skills', International Groundwater Modeling Center, 36-hour Short Course, 2003.
- Artificial Recharge of Groundwater, 2002
- Using ArcView GIS with Groundwater Vistas & MODFLOW, 2000
- Analysis and Design of Aquifer Tests including Slug Tests and Fracture Flow, 1998
- OSHA 40 - Hour Hazardous Waste Training (40 CFR 1910.120)
- OSHA 8-Hour refresher Courses

PUBLICATIONS

Hodgins, M., Riesterer, J., and Lazarus, J., 2013, Preliminary development of a superposition ground water model for use in administration of water right transfers in the Pahrump Valley, Devil's Hole Workshop 2013, p. 6.

Drakos, P., McRae, R., **Hodgins, M.**, Klenke, J., Howard, W., Kryder, L., Crossey, L., and Karlstrom K., 2013 Assessment of Selected Springs and Wells and Implications for Recharge in the Pahrump Valley and Spring Mountains, Nye Co., Nevada, Devil's Hole Workshop 2013, p. 7.

Drakos, P., Lazarus, J., Riesterer, J., Sims, K., and **Hodgins, M.**, 2009, Structural controls on ground water flow and recharge into the Southern San Luis Basin near Taos, NM, AWWA – CA-NV section Fall 2009 meeting.

Hodgins, M., Lazarus, J., and Mitchem, C., 2006, Naturally occurring radionuclide contamination in diverse aquifers tapped by domestic wells in the Santa Fe, New Mexico area. NGWA 2006 Ground Water Summit Conference Proceedings p. 30.



- Drakos, P., Lazarus, J., Riesterer, J., White, B., Banet C., **Hodgins, M.**, and Sandoval, J., 2004, Subsurface stratigraphy in the southern San Luis Basin, New Mexico *in* New Mexico Geological Society, 55th Field Conference Guidebook, p. 374-382.
- Drakos, P., Lazarus, J., White, B., Banet C., **Hodgins, M.**, Riesterer, J., and Sandoval, J., 2004, Hydrologic characteristics of basin-fill aquifers in the southern San Luis Basin, New Mexico *in* New Mexico Geological Society, 55th Field Conference Guidebook, p.391-404.
- Hodgins, M.**, Chudnoff, M., Vaughn, J., 2004, Basal Galisteo and Fractured Granite encountered in horst block at Bend in The Mountain Front Fault Sunlit Hills area, Santa Fe county, New Mexico: USGS Española Basin Technical Advisory Group (EBTAG) 3rd Annual Basin Workshop Abstracts Volume (March 2-3, 2004).
- Hodgins, M.**, Chudnoff, M., 2003, MODFLOW simulation of pumping test data in a fractured sedimentary rock aquifer, International Groundwater Modeling Center, MODFLOW and More 2003 Abstracts Volume (September 16-19, 2003).
- Hodgins, M.**, Hall, J., Lazarus, J., 2003, Subsurface mapping and hydrologic characterization of Bishop's Lodge Member of the Tesuque Formation, USGS Española Basin Technical Advisory Group (EBTAG) 2nd Annual Basin Workshop Abstracts Volume (March 4-5, 2003).
- Hodgins, M.**, Lazarus, J., Chudnoff, M., 2002, Groundwater – Surface water communication in fractured crystalline bedrock aquifer near Red River Pass, Colfax County, New Mexico, NGWA Fractured -Rock Aquifers 2002 Conference Proceedings pp. 170 – 184.
- Drakos, P., Lazarus, J., Jetter, S., and **Hodgins, M.**, 1999, Hydrogeologic Characterization of Fractured Abo and Madera Formation Aquifer, Hydrocarbon Contamination and Transport along the Zuzax Fault, Tijeras Canyon, New Mexico, New Mexico Geological Society Guidebook, 50th Field Conference, Albuquerque Geology, pp. 419-424.
- Selverstone, J., **Hodgins, M.**, Shaw, C., Aleinikoff, J. N., and Fanning, C. M., 1997, Proterozoic Tectonics of the Northern Colorado Front Range, Rocky Mountain Association of Geologists Colorado Front Range Guidebook, pp 1-10.
- Hodgins, M.**, Selverstone, J., Karlstrom, K., Pletsch-Rivera, L., 1996, 1.4 Ga contractional deformation and strain partitioning in the Northern Colorado Front Range, Geological Society of America Abstracts with Programs Vol., 28, No. 7, p. A-375.
- Hodgins, M.** and Selverstone, J., 1996, 1.7 - 1.4 Ga Polymetamorphic history of the Big Thompson Canyon, northern Colorado Front Range, New Mexico Geological Society Proceedings Volume, 1996 Annual Spring Meeting, Socorro, NM, p. 45.
- Selverstone, J., **Hodgins, M.**, and Shaw, C., 1995, 1.4 versus 1.7 Ga metamorphism in the northern Colorado Front Range, A repeated history of post- accretion midcrustal heating: Geological Society of America Abstracts with Programs, v. 27, no.6, p. A-49.
- Hodgins, M.** and Moore, A., 1994, Trace element, REE and Nd isotopic variations in metavolcanic and metasedimentary sequences, Grand Manan Island, New Brunswick. Geological Society of America Northeastern Section Abstracts with Programs, v.26, no. 3, p.23.

Recent Unpublished Projects:

- Eldorado Area Water and Sanitation District, Santa Fe, NM: Well evaluation and siting for future production well; groundwater modeling for short term and long term hydrologic conditions for water resource planning.
- Taos, NM: Field investigation and data analysis of multiple formations and aquifers in the Taos Basin area and development of a regional groundwater flow model.
- Bobcat Pass, Red River, NM: Field mapping and analysis of fractured crystalline and volcanic rock for the purpose of well siting and groundwater resource development for large scale residential development. Groundwater modeling of proposed development wells and analysis of depletion effects on springs and streams.
- Edgewood, NM: Drilling, logging and installation of shallow monitoring wells in the Fractured Madera Formation Aquifer for the purpose of monitoring groundwater contamination and fracture flow and transport of contaminants.

