

Mayo and Associates, LC

Consultants in Hydrogeology

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Alan L. Mayo, Ph.D., R.G, P.H., PG
Principal-in-charge

Education

Ph.D. Hydrogeology, 1982, University of Idaho
M.S. Geology, 1972, San Diego State University
B.S. Geology, 1970, San Diego State University

Experience

Managing Partner, Mayo and Associates, LC, 1982 – present
Consultants in Hydrogeology Lindon, UT
Professor of Hydrogeology, 1987 – present
Brigham Young University, Provo, UT
Assistant Professor of Geology, 1982-1986
University of Colorado at Colorado Springs, CO
Senior Hydrogeologist, 1981-1982
Law Engineering, Marietta, GA
Assistant Professor of Hydrogeology, 1980-1981
University of Idaho, Moscow, ID
Environmental Management Specialist III, 1972 – 1978
San Diego County, San Diego, CA

Registration

California Registered Geologist #3256
Certified Professional Hydrologist #1476, American Institute of Hydrology
Utah Registered Geologist #5248606-2250

Honors and Memberships

Fulbright Scholar 2005
J. Keith Rigby Research Award 1999, 2008
H.E.W. Fellow 1978-1980

American Geophysical Union
American Institute of Hydrology

International Association of Hydrogeologists
Geological Society of America
Sigma Xi

CONSULTING

Current Clients

Bridger Coal Company
JBR Environmental Consultants
Rio Tinto (Kennecott Copper)
West Elk Mine (coal)
Public Services of New Mexico (litigation)
Thomas Anton & Associates (litigation)
Dugout Mine (coal)

Selected Projects

Government Agencies

Cities of Reno and Sparks (Nevada) and the US Army – evaluated the impact of groundwater extraction from the Honey Lake Basin, California-Nevada
Colusa county Water District (California) – Evaluated unconfined aquifer groundwater availability.
El Paso County, Colorado – prepared land use regulations related to long-term groundwater availability. Defended the regulations in a lawsuit from the Home Builders Association.
Idaho Department of Natural Resources (Idaho) – evaluated geothermal resources in the Boise area.
Rio Grande Water Conservancy District (Colorado) – evaluated factors related to salinity of the unconfined aquifer in the San Luis Valley, Colorado
Utah Department of Natural Resources (Utah) – evaluated groundwater resources for redevelopment of fish hatchery. The issue was could a Whirling Free groundwater resource be found and developed.

Litigation

Church of Jesus Christ of Later Day Saints (Utah) – Principal defendants hydrogeologists in water rights lawsuit.
Engstrom Lipscomb and Lack (Los Angeles) – Principal Hydrogeologist for the plaintiffs in the so-called Erin Brockovich Case. Chrome-6 groundwater contamination
Engstrom Lipscomb and Lack (Los Angeles) – Principal Hydrogeologist for the plaintiffs in a TCE groundwater contamination Case vs. Lockheed.
Engstrom Lipscomb and Lack (Los Angeles) – Principal Hydrogeologist for the plaintiffs in a Cr⁺⁶ groundwater contamination Case vs. PG&E.
Hill, Johnson & Schmutz (Utah) – Evaluated nitrogen groundwater contamination associated with explosives plant pond leakage.

Manning Curtis Bradshaw and Bednar (Salt Lake City) – Hydrogeologist for defendants in potential lawsuit between Pacific Corporation and Skyline Mines. Alleged draining of Electric Lake due to mining activities.

Smith Hartvigsen (Utah) – Evaluated groundwater resources associated with various water rights issues.

Mining Projects

ASARCO (Utah) – subcontractor to JBR Environmental Consultants. Evaluated the fate and transport of an arsenic contamination plume.

Bridger Coal Company (Wyoming) – Evaluation of the hydrogeologic regime of the surface and underground mine workings.

CO-OP Mine (Utah) - preparation of statements of Probable Hydrologic Consequences associated with proposed coal mining plans.

Cyprus Plateau Mining Corporation (Utah) – Evaluated mine flooding at the Willow Creek Mine.

Energy West Mining Company (Utah) - Conducted various groundwater resources and mine flooding investigations, permit applications, and preparation of statements of Probable Hydrologic Consequences associated with proposed coal mining plans.

Homestake Mining (South Dakota) – subcontractor to JBR Environmental Consultants. Evaluated the fate and transport of heavy metals (As, Cd, Zn, Cr, Mo etc.) associated with past mining activities.

Newmont Mining (Nevada) – subcontractor to JBR Environmental Consultants. Evaluated groundwater flow patterns and potential heavy metal migration associated with acid mine pit.

Oxbow Mining (Colorado) – Evaluated mine flooding at the Somerset facility.

Rio Tinto (Kennecott Copper, Utah) – Evaluation of Se plume.

Skyline Mines (Utah) – Conducted various groundwater resources and mine flooding investigations, permit applications, and preparation of statements of Probable Hydrologic Consequences associated with proposed coal mining plans.

Simplot Mining (Wyoming) – subcontractor to JBR Environmental Consultants. Evaluated groundwater resources and supervised the preparation of a groundwater flow model used to predict heavy metal contaminant migration (Se, As, Cd, Zn, etc) associated with proposed mine expansion plan.

SUFCO Mine (Utah) - various groundwater resources and mine flooding investigations, permit applications, and preparation of statements of Probable Hydrologic Consequences associated with proposed coal mining plans.

Tintic Utah Metals (Utah) – Evaluated relationship between hard rock mine groundwater inflows and groundwater discharge into Utah Lake - Presented results at State Engineers Hearing.

West Elk Mine (Colorado) – Conducted various investigation of in mine flooding and other groundwater related issues. Successfully defended the mine in against a claim that mine waters were leaking into adjacent mine.

Energy Facilities

Mobil Oil Company (Wyoming) – Evaluated the fate and transport of hydrocarbon contamination at the Big Piney Facility.

Nevada Power (Nevada) – subcontractor to JBR Environmental Consultants. Principal Hydrogeologist for Environmental Impact Statement for proposed 1.8 billion dollar power plant in Ely Nevada).

Public Services New Mexico – Evaluated the elevated factors responsible for elevated TDS in surface and groundwater.
IPPC (Utah) – subcontractor to JBR Environmental Consultants. Principal Hydrogeologist evaluating evaporation pond leakage.

PUBLICATIONS

Papers:

- Ritter, D., Mayo, A.L., Bruthans, J., Tingey, D., in review, Nitrate loading in the upper Elbe River Basin, Czech Republic: *Journal of Hydrology*
- Carling, G, Mayo, A.L., Tingey, D., Bruthans, J., in review, Mechanisms, timing, and rates of arid region mountain front recharge: *Journal of Hydrology*.
- Mayo, A.L., Nelson, S.T., McBride, J.H., Durrant, C., and Tingey, D., in review, Understanding inverted hydrochemical gradients: A case study at midway, Utah, USA employing geophysics, geochemistry, and hydrostratigraphy: *Hydrogeological Sciences Journal*.
- Parks, E.M., McBride, J.H., Nelson, S.T., Tingey, D.G., Mayo, A.L., Guthrie, W.S., and Hoopes, J.C., 2011, comparing electromagnetic and seismic geophysical methods: Estimating the depth to water in geological simples and complex arid environments: *Engineering Geology*, v. 117, n. 1-2, p. 62-77.
- Mayo, A.L., Nelson, S., Herron, D.A., Tingey, D., Tranel, M.J. and Bruthans, J, 2010, *Geology and Hydrogeology of Timpanogos Cave National Monument, Utah, Geology, Hydrogeology and Implications to Movement of the Wasatch Fault in The Geology of Utah's Parks and Monuments*, 3rd edition, Sprinkel, D.A., Chidsey, T.C. Jr., and Anderson, P.B. editors: Utah Geological Association Publication 28, p. 271-285.
- Mayo, A.L., 2010, Ambient well bore and aquifer mixing, pumping stress, and water quality in long-screened wells: what is sampled and what is not?: *Hydrogeology Journal*, v. 18, p. 823-837, DOI 10.1007/s10040-009-0568-2
- Mayo, A.L., Henderson, R., and Tingey, D., 2010, Chemical evolution of shallow playa groundwater in response to post-pluvial isostatic rebound, Honey Lake Basin, California-Nevada, USA: *Hydrogeology Journal*, v 18, p. 725-747.
- Mayo, A.L., Bruthans, J., Kradlec, J., and Tingey, D., 2009, Insights into Wasatch fault vertical slip rates using the age of sediments in Timpanogos Cave, Utah: *Quaternary Research*, v. 72, p. 275-283.
- Schlegel, M.E., Mayo, A.L., Nelson, S.T., Tingey, D., Eggett, D., and Henderson, R., 2009, Paleo-climate of the Boise area, Idaho from the last glacial maximum to the present based on groundwater $\delta^2\text{H}$ and $\delta^{18}\text{O}$ compositions: *Quaternary Research*, v 71, p. 172-180.

- Nelson, S.T., Mayo, A.L., Gilfillan, S., Dutson, S.J., Harris, R.A., Shipton, Z.K., and Tingey, D.G., 2009, Enhanced fracture permeability and accompanying fluid flow in the footwall of a normal fault: The Hurricane fault at Pah Tempe hot springs, Washington, County, Utah: Geological Society of America Bulletin, v. 121, n. 1-2, p. 236-246.
- Mayo, A.L., Davey, A., and Christiansen, D., 2007, Groundwater flow patterns in the San Luis Valley, Colorado, USA, revisited: An evaluation of solute and isotopic data; Hydrogeology Journal, v. 15, n. 2, p. 383-408.
- Anderson, K., Nelson, S., Mayo, A., and Tingey, D.G., 2006, Interbasin flow revisited: the contribution of local recharge to high-discharge springs, Death Valley, CA: Journal of Hydrology, v.323, p. 276-302.
- Nelson, S.T., Anderson, K., and Mayo, A.L., 2005, Reply to Winograd et al., comment on "Testing the interbasin flow hypothesis at Death Valley, California": EOS, v. 86, n. 32, p. 296.
- Nelson, S.T., Wood, J., Mayo, A.L., Tingey, D.G., and Eggett, D.L., 2005, Shoreline Tufa and Tufalglomerate from Pleistocene Lake Bonneville, Utah, USA: Stable isotopic and mineralogical records of lake conditions, processes, and climate: Journal of Quaternary Science, v. 20 p. 3-19.
- Anderson, S.D., Cosper, K.B., Buck B.W., Lemon, A.M., and Mayo, A.L., 2004, Not all contamination comes from mining operations: 2004 Tailings and Waste Conference, Vail Colorado, October 10-13, p. 415-425.
- Nelson, S.T., Anderson, K.W., and Mayo, A.L., 2004, Testing the interbasin flow hypothesis at Death Valley, CA, USA: EOS, v. 85, n. 37, p. 349-356.
- Mayo, A.L., Morris, T.H., Peltier, S., Petersen, E.C., Payne, K., Holman, L.S., Fogel, T., Black, B.J., and Gibbs, T.D., 2003, Active and inactive groundwater flow systems: evidence from stratified mountainous terrain: Bulletin Geological Society of America, v. 115, n. 12. p. 1456-1472.
- Mayo, A.L., Nelson, S., Tingey, D., Dutson, S., and Harris, R., 2003, Flux-induced solution weathering in a large displacement fault damage zone *in* International Conference on Groundwater in Fracture Rocks, proceedings, Krasny J., Hrkal, Z, and Bruthans, J., ed.: IHP-VI, Series on Groundwater No. 7, Prague, Czech Republic, p. 75-76.
- Catteen-Diazconti, C., Nelson, S.T., and Mayo, A.L., 2003: The geohydrology of the Midway area, Utah, U.S.A., with emphasis on subsurface mixing of end member waters and the potential for transmission of whirling disease by irrigation recharge: Journal of Hydrology, v. 273, p. 119-138.
- Luthi, A., Harris, R., Mayo, A.L., and Koontz, W., 2002, Structural controls of hydrodynamic anisotropy in the West Elk Mine Region, Western Colorado, USA: Environmental and Engineering Geosciences, v. 8, p. 93-102

- Morris, T.H., Mayo, A.L., Bills, T.L., Black, B.J., and Holeman, L.S., 2001, Barriers, baffles, and bounding surfaces: Keys to understanding the hydrogeology of the coal-bearing Wasatch Plateau, Utah: Utah Geological Association, v. 33, n. 3, p.1-2.
- Mayo, A.L., Petersen, E.C., and Kravits, C., 2000, Chemical evolution of coal mine drainage in a non-acid producing environment, Wasatch Plateau, UT: Journal of Hydrology v. 236, n. 1-2, p. 1-16.
- Mayo, A.L., and Koontz, W., 2000, Fracture flow and groundwater compartmentalization in the Rollins Sandstone, lower Mesaverde Group, Colorado, USA: Hydrogeology Journal, v. 8, n. 4, p. 430-446.
- Mayo, A.L., Nelson, S., Herron, D.A., Tingey, D., and Tranel, M.J., 2000, Geology and Hydrogeology of Timpanogos Cave National Monument, Utah *in* The Geology of Utah's Parks and Monuments, Sprinkel, D.A., Chidsey, T.C. Jr., and Anderson, P.B. editors: Utah Geological Association Publication 28, p 363-377.
- Mayo, A.L., and Morris, T.H., 2000, Conceptual model of groundwater flow in stratified mountainous terrain, Utah, USA *in* Groundwater: Past achievements and future challenges, Sililo, O, ed: Proceedings of the XXX International Association of Hydrogeologist (IAH) Congress on Groundwater, Cape Town South Africa, p. 225-229.
- Mayo, A.L., and Klauk, 2000, Hydrogeology of Antelope Island, Great Salt Lake, Utah *in* King, J.K., and Willis, G.C., editors, The geology of Antelope Island, Davis County, Utah: Utah Geological Survey Miscellaneous Publication 00-1, p. 135-150. (Reprinted from Journal of Hydrology)
- Mayo, A.L., and Muller, A.B., 1997, Contributions of external CO₂ gas to a shallow groundwater system: Journal of Hydrology, v. 194, p. 286-304.
- Mayo, A.L., and Lucks, M.D., 1995, Solute and isotopic geochemistry and ground water flow in the central Wasatch Range, Utah: Journal of Hydrology, v. 172, p. 31-59.
- Mayo, A.L., and Slosson, J.E., 1992, The application of ground-water flow models as predictive tools - A review of two ground water models in eastern Honey Lake Valley, California-Nevada: Assoc. Eng. Geol. Bul., v. XXIX, n. 2, p. 151-163.
- Tranel, M. A., Mayo A.L., Jensen, T.M., 1992, Preliminary investigation of the hydrogeology and hydrogeochemistry at Timpanogos Cave, Timpanogos Cave National Monument, Utah, *in* proceedings 1991 National Cave Management Symposium, Bowling Green, Kentucky, Oct. 23-26, 1991: Am. Cave Cons. Assoc., p. 162-176.
- Mayo, A.L., and Loucks, M., 1992, Ground water flow systems in the Central Wasatch Range, Utah: Utah Department of Natural Resources, Contract Report 92-6, 81 p.
- Mayo, A.L., Nielsen, P., Loucks, M.D., and Brimhall, W., 1992, Use of solute and isotopic chemistry to identify the factors which limit acid mine drainage in the Wasatch Range, Utah: Groundwater, v. 30 n. 2, p. 243-249.

- Mayo, A.L., and Klauk, R., 1991, Contributions to the solute and isotopic ground water geochemistry, Antelope Island, Great Salt Lake, Utah: *Journal of Hydrology*, v. 127, p. 307-335.
- Mayo, A.L., Shrum, D.B., and Chidsey, T.C., Jr., 1991, Factors contributing to the exsolving carbon dioxide in ground water systems in the Colorado Plateau *in* T.C. Chidsey, Jr., Ed. *Geology of East Central Utah*: Utah Geol. Assoc. Pub. 19, p. 335-339.
- Mayo, A.L., and Webber W., 1991, Preliminary evaluation of the factors contributing to the spatial and temporal water quality variation in Stage 3 - Closed Basin Project Salvage Wells, San Luis Valley, Colorado: Technical completion report U.S. Bureau of Reclamation and Rio Grande Water Conservation District.
- Mayo, A.L., 1990, A 300 year-water supply requirement - One County's approach: *Journal of the American Planning Association*, Spring 1990, p. 197-208.
- Nielsen, P.J., and Mayo A.L., 1989, Chemical and isotopic investigation of the cause of acid and neutral mine discharges in the central Wasatch Range, Utah: *Utah Geol. Assoc. Pub.* 17, p. 121-134.
- Muller, A.B., and Mayo, A.L., 1986, $\delta^{13}\text{C}$ variation in limestone on an aquifer wide scale and its effects on groundwater ^{14}C dating models: *Radiocarbon*, v. 28, n. 34, p. 1041-1054.
- Mayo, A.L., Muller, A.B., and Ralston, D.R., 1985, Hydrogeochemistry of the Meade thrust allochthon southeastern Idaho, and its relevance to the stratigraphic and structural groundwater flow control: *Journal of Hydrology*, v. 76, n. 1/2, p. 27-61.
- Mayo, A.L., Muller, A.B., and Mitchell, J., 1984, Geochemical and isotopic investigations of the thermal water occurrences in the Boise Front geothermal system, Ada County, Idaho: Idaho Department of Water Resources, *Water Info. Bull.*, n. 30, pt. 14, 55 p.
- Muller, A.B., and Mayo, A.L., 1983, Ground-water circulation in the Meade thrust allochthon evaluated by radiocarbon techniques: *Radiocarbon*, v. 25, n. 2, p. 357-372.
- Ralston, D.R., Mayo, A.L., Arrigo, J.L., Baglio, J.V., Coleman, L.M., Hubbell, J.M., and Souder, K., 1981, Geothermal evaluation of the thrust zone in southeastern Idaho: Research Technical Report, Idaho Water Energy Res. Inst., 110 p.
- Ralston, D.R., and Mayo, A.L., 1980, Utilization of regional ground water flow systems to aid dewatering in phosphate mining: Idaho Mining Mineral Res. Inst. Report, 51 p.
- Mayo, A.L., 1973, Flood hazards in the San Diego River Basin *in* *Studies of the Geology and geologic hazards of the greater San Diego area*: Assoc. San Diego Geol., p. 119-123.

Abstracts:

- Mayo, A.L., 2010, Well bore cross-aquifer contamination: International Association of Hydrogeologists, XXXVII Congress, September 12-17, Krakow, Poland, Extended Abstracts, p. 201.
- Mayo, A.L., Bruthans, J., Tingey, D., McBride J., Radebaugh, J., and Wiggins, S., 2010, Pre-fluvial incipient bedrock channel development: preliminary investigation of the role of phreatic fracture flow and vadose weathering: Geological Society of America, Abs/w programs, v. 42, n. 5, paper 72-2.
- Mayo, A.L., Ritter, D., Bruthans, J., and Tingey, D., 2010, Preliminary analysis of nitrate loading in the upper Elbe River basin, Czech Republic: Geological Society of America, Abs/w programs, v. 42, n. 5, paper 152-8.
- Mayo, A.L., and Buck, B., 2010, Overview of stratigraphic and structural control of groundwater flow in the southeastern Idaho phosphate district: Geological Society of America, Abs/w programs, v. 42, n. 5, paper 232-6.
- Mayo, A.L., Schlegel, M., Nelson, S., and Tingey, D., 2009, A stable isotope record of paleoclimate of the Boise area, Idaho: Geol. Soc., Am., programs w/abstracts, v. 41, n. 7, p. 216.
- Bruthans, J., and Mayo, A.L., 2009, The extent of heat flow area of hydrothermal systems: Estimates from heat flow and radiocarbon ages: Geol. Soc., Am., programs w/abstracts, v. 41, n. 7, p. 217.
- Mayo, A.L., Bruthans, J., Tingey, D., Kadlec, J., and Nelson, S.T., 2009, Observations regarding Wasatch fault vertical slip rates: Insights using the age of sediments in Timpanogos Cave, UT: Geol. Soc., Am., programs w/abstracts, v. 41, n. 6, p. 42.
- Mayo, A.L., Henderson, R.M., Tingey, D., and Webber, W., 2009, Impact of post-pluvial isostatic rebound on shallow groundwater chemical evolution in a closed basin: Geol. Soc. Am., programs w/abstracts, v. 41, n. 6, p. 5.
- Hart, R., Nelson, S.T., Mayo, A.L., Tingey, D., and Eggett, D., 2009, Isotopic evaluation of soil gas in Utah for a more accurate input variable in groundwater age determining models: Geol. Soc. Am., programs w/abstracts, v. 41, n. 6, p. 4.
- Mayo, A.L., 2008, Compartmentalization and fracture flow – Rollins Sandstone, Colorado: Geol. Soc. Am., programs w/abstracts, v. 40, n. 6
- Mayo, A.L., 2008, Unconfined and deep confined aquifer interactions evaluated by isotopic techniques – San Luis Valley, Colorado: Geol. Soc., Am., programs w/abstracts, v. 40, n. 6.
- Mayo, A.L., Carling, G., and Tingey, D., 2008, The rate and timing of direct mountain front recharge in an arid environment: 33rd International Geological Congress, Oslo, Norway

- Nelson, S.T., Mayo, A.L., Gillespie, J., Tingey, D., 2011, Conceptual groundwater flow models matter: Trans-boundary flow in the arid Great Basin: Geol. Soc. Am., Programs w/abstracts, v
- Mayo, A.L., 2010, Well bore cross-aquifer contamination: International Association of Hydrogeologists, XXXVII Congress, September 12-17, Krakow, Poland, Extended Abstracts, p. 201.
- Mayo, A.L., Bruthans, J., Tingey, D., McBride J., Radebaugh, J., and Wiggins, S., 2010, Pre-fluvial incipient bedrock channel development: preliminary investigation of the role of phreatic fracture flow and vadose weathering: Geological Society of America, Abs/w programs, v. 42, n. 5, paper 72-2.
- Mayo, A.L., Ritter, D., Bruthans, J., and Tingey, D., 2010, Preliminary analysis of nitrate loading in the upper Elbe River basin, Czech Republic: Geological Society of America, Abs/w programs, v. 42, n. 5, paper 152-8.
- Mayo, A.L., and Buck, B., 2010, Overview of stratigraphic and structural control of groundwater flow in the southeastern Idaho phosphate district: Geological Society of America, Abs/w programs, v. 42, n. 5, paper 232-6.
- Mayo, A.L., Schlegel, M., Nelson, S., and Tingey, D., 2009, A stable isotope record of paleoclimate of the Boise area, Idaho: Geol. Soc., Am., programs w/abstracts, v. 41, n. 7, p. 216.
- Bruthans, J., and Mayo, A.L., 2009, The extent of heat flow area of hydrothermal systems: Estimates from heat flow and radiocarbon ages: Geol. Soc., Am., programs w/abstracts, v. 41, n. 7, p. 217.
- Mayo, A.L., Bruthans, J., Tingey, D., Kadlec, J., and Nelson, S.T., 2009, Observations regarding Wasatch fault vertical slip rates: Insights using the age of sediments in Timpanogos Cave, UT: Geol. Soc., Am., programs w/abstracts, v. 41, n. 6, p. 42.
- Mayo, A.L., Henderson, R.M., Tingey, D., and Webber, W., 2009, Impact of post-pluvial isostatic rebound on shallow groundwater chemical evolution in a closed basin: Geol. Soc. Am., programs w/abstracts, v. 41, n. 6, p. 5.
- Hart, R., Nelson, S.T., Mayo, A.L., Tingey, D., and Eggett, D., 2009, Isotopic evaluation of soil gas in Utah for a more accurate input variable in groundwater age determining models: Geol. Soc. Am., programs w/abstracts, v. 41, n. 6, p. 4.
- Mayo, A.L., Schlegel, M., Nelson, S.T., and Tingey, D., 2008, Paleo-climate of the Boise area, Idaho (USA) from the last glacial maximum to the present based on groundwater $\delta^2\text{H}$ and $\delta^{18}\text{O}$ compositions, 33rd International Geological Congress, Oslo, Norway
- Nelson, S.T., Hart, R., and Mayo, A.L., 2008, Preliminary evaluation of d^{13}C and CO_2 concentration in soil gas in Utah based on constraining environmental variable for a more

- accurate and precise input parameter for groundwater model ages: Geol. Soc. Am, Programs w/abstracts, v. 40, n 1.
- Nelson, S.T., and Mayo, A.L., 2008, Revealing patterns of enhanced fracture permeability and fluid flow in the footwall damage zone of an active normal fault: the Hurricane Fault at Pah Tempe Hot springs, Washington County, Utah: Geol. Soc. Am, Programs w/abstracts, v. 40, n 1.
- Mayo, A.L., Nelson, S.T., Durrant, C., and Tingey, D., 2007, Development of a free groundwater source in a hydrologically complex environment: International Association of Hydrogeologists, XXXV IAH Congress, Lisbon, Portugal, 17-21 September 2007, p. 252-253.
- Mayo, A.L., Nelson, S.T., Durrant, C., Tingey, D.G., and McBride, 2007, Mixed contributions of local and regional groundwater at the Midway Fish Hatchery water supply: J., Geol. Soc. Am. Abs. w/Program, v 39, n. 5, p. 46.
- Bates, B., June, N., Harper, K., Mayo, A.L., Tingey, D., and Vilhelm, Z., 2007, Preliminary chemical and isotopic analysis of groundwater systems in the northern Bohemian cretaceous Basin, Czech Republic: Geol. Soc. Am. Abs. w/Program, v 39, n. 5, p. 38.
- Henderson, R.M., Mayo, A.L., and Tingey D.G., 2007, Solute chemistry and isotopic investigation of the groundwater flow paths in Honey lake Basin, Lassen County, California and Washoe county, Nevada: Geol. Soc. Am. Abs. w/Program, v 39, n. 5, p. 39.
- Carling, G.T., Mayo, A.L., and Tingey, D.G., 2007, Quantifying groundwater recharge in an arid environment, Pilot Valley, UT-NV: Geol. Soc. Am. Abs. w/Program, v 39, n. 5, p. 45.
- Gillispie, G.M., Nelson, S.T., Mayo, A.L., Parks, E., 2007, Preliminary analysis of groundwater residence and aquifer segmentation in the central Great Basin: Geol. Soc. Am. Abs. w/Program, v 39, n. 5, p. 46.
- South, J. V., McBride, J. H., Mayo, A., and Nelson, S., 2005, A structural-hydrologic model of a freshwater-brine system from integrating high-resolution seismic reflection profiles and hydrogeology in Pilot Valley, Utah,: Geological Society of America Abstracts with Programs, Vol. 37, No. 6, p. 4.
- Bushman, M., McBride, J.H., Nelson, S.T., and Mayo, A.L., 2005, Preliminary results from a shallow, high-resolution seismic survey and potential field data filtering near Devil's Hole at Ash Meadow, Nevada: Geol. Soc. Am. Abs. w/Programs, v. 37, n. 7, p. 373
- Mayo, A.L., and Morris, T., 2004, Active and inactive groundwater flow systems: 32nd International Geological Congress, Florence Italy, August 20-28, 2004, Abstracts, pt. 1, p. 37-38.
- Mayo, A.L., 2004, A new conceptual model: groundwater flow in stratified mountainous terrain: Geological Society of America, Abs. w/programs, v. 36 n. 5.

- Dutson, S., and Mayo, A.L., 2004, Effects of Hurricane Fault architecture on groundwater flow in Timpoweap Canyon of Southwestern Utah: Geological Society of America, Abs. w/programs, v. 36 n. 5.
- Mayo, A., Nelson, S. Anderson, K., and Tingey D., Are high discharge springs at Death Valley CA, the result of interbasin flow or local recharge: 2003, Geological society of America, Abs w/programs, v. 34, n. 7, p. 489.
- Nelson S., Wood, M.J., Mayo, A., Tingey, D., 2003, Shoreline tufas of Pleistocene Lake Bonneville, Utah; what can be learned from such deposits: Geological society of America, Abs w/programs, v. 34, n. 7, p. 105
- Mayo, A.L., Nelson, S., Noakes, J., Tingey, D., and Culp, R., 2003, Application of stable and radiogenic isotopic techniques to problems of surface and groundwater interactions *in* Proceedings of the 2003 Georgia Water Resources Conference: April 23-24, at the University of Georgia.
- Mayo, A.L., 2002, Chemical and isotopic investigation of groundwater systems in the vicinity of the New Harmony Basin, Utah: Geol. Soc. Am., Abs. w/program. v. 34, n. 4, p. A-59.
- Anderson, K.W., Nielsen, S.T., and Mayo, A.L., 2002, Sources and sinks of groundwater at high discharge springs, Death Valley, California: Geol. Soc. Am., Abs. w/program. v. 34, n. 4, p. A-56
- _____, 2002, Contributions of local recharge at high discharge springs, Death Valley, California: Desert Research Institute Conference on Spring Fed Wetland, Las Vegas, Nevada, May 7-9, 2002
- Tingey, D., Mayo, A.L., and Nielson, S.T., 2002, Recharge of a fresh water-brine groundwater system, Pilot Valley, Utah-Nevada: Geol. Soc. Am., Abs. w/program. v. 34, n. 4, p. A-56.
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- Mayo, A.L., 2001, We've come a long way, but when are we going to understand hydrogeology, really?: 2001 International Conference, American Institute of Hydrology, October 14-17, 2001, p.28-29.
- Mabey, M.A., Mayo, A.L., and Nelson, S.T., 2001, The application of geophysical methods in the remediation of a case of biologically contaminated shallow groundwater at the Midway, Utah fish hatchery: 2001 Annual Meeting Association of Engineering Geologist, v. 44, n.4, p. 67.
- Morris, T.H., Mayo, A.L., Bills, T.L., Black, B.J., and Holeman, L.S., 2001, Barriers, baffles, and bounding surfaces: Keys to understanding the hydrogeology of the coal-bearing Wasatch Plateau, Utah: Utah Geological Association, v. 33, n. 3, p.1-2.

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