

ERIC SEEDORFF

Selected Publications and Theses Advised

Selected Publications

- Favorito, D. A., and Seedorff, E., 2024, Temporal and spatial relations between porphyry copper deposits and crustal shortening: Insights from the Laramide arc of Arizona and New Mexico: *Economic Geology*, v. 119, p. 1261-1288.
- Richardson, C. A., and Seedorff, E., 2024, Contrasting constraints on the temporal and spatial extents of normal faults from the Hilltop and Lewis mining districts, northern Shoshone Range, Nevada, USA: *Geosphere*, v. 20, no. 3, p. 647– 677.
- Richardson, C. A., and Seedorff, E., 2023, Exploring for structurally concealed Carlin-type mineralization: A case study from the northern Shoshone Range, Nevada, USA: *Ore Geology Reviews*, v. 163, 105738.
- Seedorff, E., Favorito, D. A., Richardson, C. A., Nickerson, P. A., and Maher, D. J., 2022, Geometry and evolution of normal faults formed during lithospheric extension of continents, with applications to Cordilleran metamorphic core complexes, *in* Koutz, F. R., ed., *Vision for discovery: Geology and ore deposits of the Basin and Range: Geological Society of Nevada Symposium, Reno/Sparks, May 2022, Proceedings*, 79 p.
- Lewis, K. A., and Seedorff, E., 2022, The Cochise deposit, Warren (Bisbee) district, Arizona: A Jurassic porphyry copper system with preserved leached cap and chalcocite blanket, *in* Koutz, F. R., ed., *Vision for discovery: Geology and ore deposits of the Basin and Range: Geological Society of Nevada Symposium, Reno/Sparks, May 2022, Proceedings*, 37 p.
- Carlini, D. V., and Seedorff, E., 2022, Age and hydrothermal alteration, Gold Road vein, Oatman district, Mohave County, Arizona, and possible differences in origin of epithermal gold deposits along the Colorado River, *in* Koutz, F. R., ed., *Vision for discovery: Geology and ore deposits of the Basin and Range: Geological Society of Nevada, Symposium, Reno/Sparks, May 2022, Proceedings*, 35 p.
- Favorito, D. A., and Seedorff, E., 2021b, Laramide structure of southeastern Arizona: Role of basement-cored uplifts in shallow-angle subduction: *Geological Society of America Bulletin*, v. 134, p. 989-1017.
- Favorito, D. A., and Seedorff, E., 2021a, Cenozoic structural evolution of the Catalina metamorphic core complex and reassembly of Laramide reverse faults, southeastern Arizona, USA: *Geosphere*, v. 17, p. 1928-1971.
- Kassela, M. A., and Seedorff, E., 2020, Austin pluton and Reese River mining district, central Nevada: Magmatism, alteration, ore formation, and post-ore dismemberment and tilting, *in* Koutz, F. R., and Pennell, W. M., eds., *Vision for discovery: Geology and ore deposits of the Basin and Range: Geological Society of Nevada, Symposium, Reno/Sparks, May 2020, Proceedings*, p. 1237-1271.
- Wallenberg, A. L., and Seedorff, E., 2020, Gregg Canyon intrusive center, Sonoma Range, Nevada: Magmatism and porphyry-style alteration-mineralization, *in* Koutz, F. R., and Pennell, W. M., eds., *Vision for discovery: Geology and ore deposits of the Basin and Range, Geological Society of Nevada 2020 Symposium, Reno/Sparks, May 2020, Proceedings*, p. 1425-1454.

- Favorito, D. A., and Seedorff, E., 2020, Laramide uplift near the Ray and Resolution porphyry copper deposits, southeastern Arizona: Insights into regional shortening style, magnitude of uplift, and implications for exploration: *Economic Geology*, v. 115, p. 153-175,
- Runyon, S. E., Seedorff, E., Barton, M. D., Steele-MacInnis, M. J., Lecumberri-Sánchez, P., and Mazdab, F. K., 2019, Coarse muscovite veins and alteration in porphyry systems: *Ore Geology Reviews*, v. 113, 103045.
- Zaffron, S., Poulton, M., Loffredi, O., and Seedorff, E., 2019, The new face of mining; Breakthroughs in results leveraging the people factor: *Mining Engineering*, v. 71, no. 10, October 2019, p. 38-43.
- Seedorff, E., Barton, M. D., Gehrels, G. E., Valencia, V. A., Johnson, D. A., Maher, D. J., Stavast, W. J. A., and Marsh, T. M., 2019b, Temporal evolution of the Laramide arc: U-Pb geochronology of plutons associated with porphyry copper mineralization in east-central Arizona, *in* Pearthree, P. A., ed., *Geologic excursions in southwestern North America: Geological Society of America Field Guide 55*, p. 369-400.
- Richardson, C. A., Favorito, D. A., Runyon, S. E., Seedorff, E., Maher, D. J., Barton, M. D., and Greig, R. E., 2019, Superimposed Laramide contraction, porphyry copper systems, and Cenozoic extension, east-central Arizona: A road log, *in* Pearthree, P. A., ed., *Geologic excursions in southwestern North America: Geological Society of America Field Guide 55*, p. 337-367.
- Seedorff, E., Richardson, C. A., Favorito, D. A., Barton, M. D., and Greig, R. E., 2019a, Crustal shortening and porphyry copper mineralization in the Laramide arc and superimposed extension: Introduction and themes, *in* Pearthree, P. A., ed., *Geologic excursions in southwestern North America: Geological Society of America Field Guide 55*, p. 319-335.
- Runyon, S. E., Nickerson, P. A., Seedorff, E., Barton, M. D., Mazdab, F. K., Lecumberri-Sánchez, P., and Steele-MacInnis, M. J., 2019, Sodic-calcic family of alteration in porphyry systems of Arizona and adjacent New Mexico: *Economic Geology*, v. 114, p. 745-770.
- Runyon, S. E., Mazdab, F. K., Lecumberri-Sánchez, P., Steele-MacInnis, M. J., Seedorff, E., and Dyar, M. D., 2019, An occurrence of phlogopite-rich alteration in the Yerington district, Nevada: *Canadian Mineralogist*, v. 57, p. 271-294.
- Favorito, D. A., and Seedorff, E., 2018, Discovery of major basement-cored uplifts in the northern Galiuro Mountains, southeastern Arizona: Implications for regional Laramide deformation style and structural evolution: *Tectonics*, v. 37, p. 3916-3940.
- Runyon, S. E., Steele-MacInnis, M. J., Seedorff, E., Lecumberri-Sánchez, P., and Mazdab, F. K., 2017, Coarse muscovite veins and alteration deep in the Yerington batholith, Nevada: Insights into fluid exsolution in the roots of porphyry copper systems: *Mineralium Deposita*, v. 52, p. 463-470.
- Favorito, D. A., and Seedorff, E., 2017, Characterization and reconstruction of Laramide shortening and superimposed Cenozoic extension, Romero Wash-Tecolote Ranch area, southeastern Arizona: *Geosphere*, v. 13, p. 577-607.
- Richardson, C. A., and Seedorff, E., 2017, Estimating friction in normal fault systems of the Basin and Range province and examining its geological context, *in* Turner, J. P., Healy, D., Hillis, R. R., and Welch, M. J., eds., *Geomechanics and geology: Geological Society of London Special Publication 458*, p. 155-179.

- Nickerson, P. A., and Seedorff, E., 2016, Dismembered porphyry systems near Wickenburg, Arizona: District-scale reconstruction with an arc-scale context: *Economic Geology*, v. 111, p. 447-466.
- Pape, J. R., Seedorff, E., Baril, T. C., and Thompson T. B., 2016, Structural reconstruction and age of an extensionally faulted porphyry molybdenum system at Spruce Mountain, Elko County, Nevada: *Geosphere*, v. 12, p. 237-263.
- Seedorff, E., Richardson, C. A., and Maher, D. J., 2015, Fault surface maps: Three-dimensional structural reconstructions and their utility in exploration and mining, *in* Pennell, W. M., and Garside, L. J., eds., *New concepts and discoveries: Geological Society of Nevada, Symposium, Reno/Sparks, May 2015, Proceedings*, v. 2, p. 1179-1206.
- Hoge, A. K., Seedorff, E., Barton, M. D., Richardson, C. A., and Favorito, D. A., 2015, The Jackson-Lawton-Bowman normal fault system and its relationship to Carlin-type gold mineralization, Eureka district, Nevada, *in* Pennell, W. M., and Garside, L. J., eds., *New concepts and discoveries: Geological Society of Nevada, Symposium, Reno/Sparks, May 2015, Proceedings*, v. 2, p. 967-1000.
- Richardson, C. A., and Seedorff, E., 2015, Reconstruction of normal fault blocks in the Ann-Mason and Blue Hill areas, Yerington district, Lyon County, western Nevada, *in* Pennell, W. M., and Garside, L. J., eds., *New concepts and discoveries: Geological Society of Nevada, Symposium, Reno/Sparks, May 2015, Proceedings*, v. 2, p. 1153-1178.
- Runyon, S. E., Barton, M. D., Dilles, J. H., Ohlin, H. N., Seedorff, E., Carpenter, K., and Johnson, D. A., 2015, Iron oxide-rich mineralization and related alteration in the Yerington district, Lyon County, Nevada, *in* Pennell, W. M., and Garside, L. J., eds., *New concepts and discoveries: Geological Society of Nevada, Symposium, Reno/Sparks, May 2015, Proceedings*, v. 1, p. 251-283.
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- Eichenlaub, A. B., and Seedorff, E., 2008, Exploration of genetic links between breccia pipes and porphyry copper deposits in a Laramide hydrothermal system, Sombrero Butte, Pinal County, Arizona, USA, *in* Spencer, J. E., and Titley, S. R., eds., *Ores and orogenesis: Circum-Pacific tectonics, geologic evolution, and ore deposits: Arizona Geological Society Digest 22*, p. 591-599.
- Seedorff, E., Barton, M. D., Stavast, W. J. A., and Maher, D. J., 2008, Root zones of porphyry systems: Extending the porphyry model to depth: *Economic Geology*, v. 103, p. 939-956.
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- Seedorff, E., Dilles, J. H., Proffett, J. M., Jr., Einaudi, M. T., Zurcher, L., Stavast, W. J. A., Johnson, D. A., and Barton, M. D., 2005, Porphyry deposits: Characteristics and origin of hypogene features, *in* Hedenquist, J. W., Thompson, J. F. H., Goldfarb, R. J., and Richards, J. P., eds., *Economic Geology 100th Anniversary Volume*, p. 251-298.
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- Seedorff, E., and Barton, M. D., 2004, Enigmatic origin of Carlin-type deposits: An amagmatic solution?: *SEG Newsletter*, no. 59, p. 14-18.
- Seedorff, E., and Einaudi, M. T., 2004a, Henderson porphyry molybdenum system, Colorado: I. Sequence and abundance of hydrothermal mineral assemblages, flow paths of evolving fluids, and evolutionary style: *Economic Geology*, v. 99, p. 3-37.
- Seedorff, E., and Einaudi, M. T., 2004b, Henderson porphyry molybdenum system, Colorado: II. Decoupling of introduction and deposition of metals during geochemical evolution of hydrothermal fluids: *Economic Geology*, v. 99, p. 39-72.
- Gans, P. B., Seedorff, E., Fahey, P. L., Hasler, R. W., Maher, D. J., Jeanne, R. A., and Shaver, S. A., 2001, Rapid Eocene extension in the Robinson district, White Pine County, Nevada: Constraints from $^{40}\text{Ar}/^{39}\text{Ar}$ dating: *Geology*, v. 29, p. 475-478.
- Seedorff, E., 1991a, Magmatism, extension, and ore deposits of Eocene to Holocene age in the Great Basin--Mutual effects and preliminary proposed genetic relationships, *in* Raines, G. L., Lisle, R. E., Schafer, R. W., and Wilkinson, W. H., eds., *Geology and ore deposits of the Great Basin: Geological Society of Nevada, Symposium, Reno/Sparks, April 1990, Proceedings*, v. 1, p. 133-178.
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- Seedorff, E., 1988, Cyclic development of hydrothermal mineral assemblages related to multiple intrusions at the Henderson porphyry molybdenum deposit, Colorado, *in* Taylor, R. P., and Strong, D. F., eds., *Recent advances in the geology of granite-related mineral deposits: Canadian Institute of Mining and Metallurgy Special Volume 39*, p. 367-393.

Completed PhD, MS, and PSM theses for which I was principal advisor (alphabetical)

- Carlini, D. V., 2021, Age and hydrothermal alteration, Gold Road vein, Oatman district, northwestern Arizona, and possible differences in origin of epithermal gold deposits along the Colorado River: Unpublished M. S. thesis, Tucson, University of Arizona, 65 p.
- Cornoyer, J. M., 2021, Revised interpretation of the structural geology of the Ray deposit, Mineral Creek mining district, Pinal County, Arizona: Unpublished P. S. M. thesis, Tucson, University of Arizona, 33 p.
- Early, Andrew Scott, 2016, Structural reconstruction of the Twin Buttes deposit, Pima County, Arizona: Unpublished P. S. M. thesis, Tucson, University of Arizona, 62 p.
- Eichenlaub, Amy B., 2007, Exploration of genetic links between breccia pipes and porphyry copper deposits in a Laramide hydrothermal system, Sombrero Butte, Pinal County, Arizona: Unpublished M. S. thesis, Tucson, University of Arizona, 118 p.
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- Favorito, Daniel Anthony, 2016, Characterization and reconstruction of Laramide deformation and porphyry-style alteration in the Romero Wash-Tecolote Ranch area, southeastern Arizona: Unpublished M. S. thesis, Tucson, University of Arizona, 106 p.
- Favorito Daniel Anthony, 2020, Laramide crustal shortening and Cenozoic extensional overprint in southeastern Arizona: Insights from structural reconstructions and relation to porphyry copper systems: Unpublished Ph. D. thesis, Tucson University of Arizona, 383 p.
- Gil-Rodríguez, Javier, 2010, Igneous petrology of the Colosa gold-rich porphyry system (Tolima, Colombia): Unpublished P. S. M. thesis, Tucson University of Arizona, 51 p.
- González Garzón, Germán Eduardo, 2010, Petrographic characterization of two gold-rich banded iron formations (BIFs) in the Foxe fold belt, Baffin Island, Canada: Unpublished P. S. M. thesis, Tucson, University of Arizona, 51 p.
- Hoge, Aryn Kinley, 2014, The Jackson-Lawton-Bowman normal fault system and its relationship to Carlin-type gold mineralization, Eureka district, Nevada: Unpublished M. S. thesis, Tucson University of Arizona, 55 p.
- Kassela, Michael Aaron, 2019, Austin pluton and Reese River mining district, central Nevada: Magmatism, alteration, ore formation, and post-ore dismemberment and tilting: Unpublished M. S. thesis, Tucson, University of Arizona, 105 p.
- Keeler, David A., 2010, Structural reconstruction of the Copper Basin area, Battle Mountain district, Nevada: Unpublished M. S. thesis, Tucson, University of Arizona, 92 p.
- Lewis, Kyle Allen, 2021, Geology and mineralization of the undeveloped Cochise supergene porphyry copper deposit, Warren (Bisbee) mining district, Cochise County, Arizona: Unpublished P. S. M. thesis, Tucson, University of Arizona, 103 p.
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- Mendoza Inca, Nirio, 2010 Geology, grade distribution, and metal ratios at the Amaro gold-copper porphyry deposit, Minas Conga district, Cajamarca province, Perú: Unpublished P. S. M. report, Tucson, University of Arizona, 73 p.
- Nickerson, Phillip Anson, 2012, Post-mineral normal faulting in Arizona porphyry systems: Unpublished Ph. D. thesis: Tucson, University of Arizona, 310 p.
- O'Neal, Sean Patrick, 2015, Characterization of two centers of porphyry-style Cu-(Mo) alteration in the western Superior mining district, Arizona: Unpublished Professional Science Master's in Economic Geology thesis, University of Arizona, 106 p.
- Pape, James Russell, 2010, Reconstruction of extensional faulting northeastern Nevada within the southern Ruby Mountains metamorphic core complex and adjacent area, northeastern Nevada: Unpublished M. S. thesis, Tucson, University of Arizona, 99 p.
- Perea Trejo, Daniel Alejandro, 2019, Submarine volcanic rocks in the Mesa Central, Zacatecas, Mexico: Unpublished P. S. M. report, Tucson, University of Arizona, 63 p.
- Pilco Saraza, Richard Rolando, 2011, Hypogene alteration, sulfide mineralogy, and metal distribution at Cerro Yanacocha high-sulfidation epithermal deposit, northern Perú: Unpublished P. S. M. thesis, Tucson, University of Arizona, 89 p.
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- Wallenberg, Alexandra L. "Lexi", 2020, Gregg Canyon intrusive center, Sonoma Range, Nevada: Magmatism and porphyry-style alteration-mineralization: Unpublished M. S. thesis, Tucson, University of Arizona, 110 p.
- Winant, Alexander Raine, 2010, Sericitic and advanced argillic mineral assemblages and their relationship to copper mineralization, Resolution porphyry Cu-(Mo) deposit, Superior district, Pinal County, Arizona: Unpublished M. S. thesis, Tucson, University of Arizona, 79 p.