

James A. Saunders

423 Summertrees Dr.
Auburn AI 36832
Email: saundersja1953@outlook.com
Phone: 334-750-6215

EDUCATION:

Ph.D., Geology, Colorado School of Mines, 1986
M.S., Geology, University of Georgia, 1978
B.S., Geology, Auburn University, 1975 (*summa cum laude*)

EMPLOMENT:

- 2016- **Consulting geologist/geochemist**
- 1991-2015 **Associate Professor, Professor of Geology**, Auburn University. Course offerings and research in ore deposits, aqueous and environmental geochemistry and research in geochemistry of ore deposits, anaerobic groundwater geomicrobiology, geochemistry and bioremediation. Research supported by the National Science Foundation, NRC, USGS, and the Petroleum Research Fund of the American Chemical Society.
- 1991, 1994 **Summer Faculty Research Associate**, Environmental Science Division, Oak Ridge National Laboratory. Conducted research on the geochemistry of DOE-style radionuclide contamination of groundwater.
- 1986-1991 **Assistant Professor of Geology and Geological Engineering**, University of Mississippi. Course offerings included: economic geology, introductory geochemistry, groundwater geochemistry, petrology, and hydrogeology
- 1986-1991 **Instructor**, Jackson Engineering Program (Univ. Miss.), Jackson, MS. Taught courses in geochemistry and hydrogeology.
- 1984-1986 **Part-time appointment, U.S. Geological Survey** Branch of Geochemistry, Denver, Colorado. Conducted geochemical surveys as part of mineral-resource evaluation studies.
- 1980-1983 **Project Geologist**, Law Environmental Services, Inc., Marietta, Georgia. Major Projects: Geochemical and hydrogeologic studies of Gulf Coast salt domes for potential of storage of nuclear and hazardous wastes; environmental problems associated with coal mining; hydrogeologic studies at proposed or existing waste-storage facilities.
- 1978-1980 **Research Associate**, Department of Geology and Geophysics, Boise State University, Boise, ID. Principal Investigator on a DOE-funded project to document water-rock interactions at the Raft River Geothermal System demonstration project. Taught undergraduate 2-semester sequence of mineralogy and petrology (lecture and labs).

1975-1979 **Summer jobs**, U.S. Steel (Warrior Basin, AL), Selco Mining Co. (Quebec), U.S. Steel (central Alaska and SE Texas), and AMAX Mining Co. (Washington state). Field mapping, geochemical exploration studies, core logging, research on hydrothermal alteration around mineral deposits.

PROFESSIONAL AFFILIATIONS:

International Association of Geochemists
Society of Economic Geology (Fellow)

PATENTS:

"In situ bioremediation of contaminated groundwater"
(#5,833,855) "Method for forming an in situ groundwater filter" (#7,341,664 B2)

CONSULTING AND EXPERT WITNESSING:

Mineral rights-navigable river dispute with the State of Alabama

Lead contamination of shallow groundwater in northeast South Carolina

Groundwater geochemical investigations related to natural causes of arsenic release

Technical investigations at 3 different anthropogenic arsenic-contaminated sites (FL, NJ, WA)

Technical investigations related to a salt-dome cavern collapse (LA) and toxic gas (H₂S) release as a result

Bioremediation of metal-contaminated groundwater (OK, FL, AL)

Technical research and expert testimony related to Super Fund litigation, eastern Mississippi

Technical research and expert testimony related to litigation involving naturally occurring radioactive materials (NORM) and heavy metals deposited on oil well pipes in central Mississippi (as related to human health)

Technical research and expert testimony related to site suitability for a municipal landfill near Houston, TX (concerns about former mining of a nearby salt dome)

Technical research and expert testimony related to groundwater effects and sinkhole formation around marble quarries (due to mine dewatering) in eastern Alabama

Technical research and expert testimony related to ownership dispute of gold mining claims, eastern California

Investigation of sinkhole causes in two Alabama cities

While employed at Law Environmental (major projects)

Evaluation of Gulf Coast salt domes as potential repositories of high-level radioactive waste (Client: Battelle Memorial Instit./DOE)

Evaluation of Gulf Coast salt domes for suitability for storing oil for the Strategic Petroleum Reserve (SPR/DOE)

Evaluation of Gulf Coast salt domes for suitability for storing chemical wastes (international industrial client)

Investigating cause of the 1981 Jefferson Island (LA) salt dome collapse as part of legal proceedings (Texaco)

Environmental geochemistry and geology of coal mines throughout Appalachia (US Bur. of Mines, State of AL)

Hydrogeologic studies at proposed or existing waste-storage facilities (industrial clients)

Fault study on southeastern Florida related to stability of Port St. Lucie nuclear power plant (NRC)

Soils, geology, and groundwater investigation along the proposed route of light rail line in Atlanta (MARTA)

SIGNIFICANT HONORS, AWARDS, etc.:

Proposed, convened, and chaired session at national GSA Annual Meeting, Denver (2013):
Isotopes in ore deposits research

Joint Technical Program (SEG coordinator), GSA (Charlotte, NC, 2012)

Invited (Pardee) Keynote Lecturer, GSA Annual National Meeting, Denver, Fall, 2010

Panelist for USGS “External” Mineral Resources Research Program (MRERP), Denver, CO,
Nov., 2010

Proposed, convened, and chaired a session at Goldschmidt Int’l Geochemistry
Conference, 2010, Knoxville, TN

Invited Talk, Geol. Soc of Nevada-USGS-SEG Symposium on Great Basin Evolution &
Metallogeny, 5/10

Invited Keynote Speaker, 2009 International Goldschmidt Geochemistry Conf., Davos,
Switzerland

Invited Speaker, Geological Society of Nevada, 2/09

Invited Distinguished Lecturer, Ralph Roberts Gold Research Institute, U. Nevada-Reno,
4/2008

Associate Editor, *Ore Geology Reviews*, (Elsevier, Amsterdam), 1996-2009

Invited Keynote Speaker, Mineral Deposits Studies Group AGM 2007, Brighton, UK, 1/2007.

Invited Moderator, Inorganic Geochemistry Gordon Research Conference, 2005, Andover, NH
Invited (Pardee) Keynote Lecturer, Geological Society of America Annual Meeting, Denver, Fall, 2004
Invited Keynote Speaker, 6th Geochemistry of the Earth's Surface Meeting, Honolulu, HA, 2002
Technical Program Chair, SEG/GSA Annual Meeting (1995)
 Auburn Univ. Sigma Xi-Alumni Association **Award for Outstanding Faculty Research (1996)**
Best graduate student M.S. Research at Auburn University (selected by AU Graduate School) for 2001 (Ivy. N. Thompson, Co-MP Saunders and Morton)
Elected as Fellow of Society of Economic Geologists (1990)

Fully Peer-reviewed Publications:

- Saunders, J.A.**, 2022, Colloids and nanoparticles: Implications for hydrothermal precious metal ore formation: *SEG Discovery*, no. 130, p. 11-17.
- Saunders, J.A.**, Burke, M., and Brueseke, M.E., 2020, SEM imaging of gold (electrum) nanoparticles in middle Miocene bonanza epithermal ores from northern Nevada, USA: *Mineralium Deposita*, v. 55, p. 389–398.
- Lee, M.K., **Saunders, J.A.**, et al., 2018, In situ bioremediation of arsenic contaminated groundwater using sulfate-reducing bacteria: *Bioremediation Journal*, Published v.23, p. 1-21.
[doi:10.1080/10889868.2018.1516617](https://doi.org/10.1080/10889868.2018.1516617) .
- Saunders, J.A.**, Lee, M.-K., Dhakal, P., Saffari Ghandehari, S., Billor, Z.M., Uddin, A., 2018, Bioremediation of arsenic-contaminated groundwater by sequestration of arsenic in biogenic pyrite: *Applied Geochemistry*, v.96, p. 233-243.
- Saunders, J.A., and Burke, M., 2017, Formation and aggregation of gold (electrum) nanoparticles in epithermal ores: *Minerals*, 7(9), 163; doi:10.3390/min7090163.
- Saunders, J.A., Pivetz, B.E., Voorhies, N., Wilkin, R.T., 2016, Potential aquifer vulnerability in regions down-gradient from uranium in situ recovery (ISR) sites: *Journal of Environmental Management*, v. 183, p. 67-83.
- Saunders, J.A.**, Mathur, R., Kamenov, G.D., Shimizu, T., and Brueseke, M.E., 2016, New isotopic evidence bearing on bonanza (Au-Ag) epithermal ore-forming processes: *Mineralium Deposita*, v. 51, p. 1-11.
- Saunders, J.A.** and Brueseke, M.E., 2015, How Gold and Silver got into the Owyhee Mountains, in, O'Malley, M., Townsend, D., and Packard, P., eds., *Owyhee Outpost*, A Journal of the History of the Owyhee County Historical Society Press 46, p. 89-99.
- Mason, M.S., **Saunders, J.A.**, Brueseke, M.E., Aseto, C., and Hames, W.E., 2015, Epithermal Au-Ag deposits of War Eagle and Florida Mountains, Silver City District, Idaho: *Proc. Volume, GSN-SEG-USGS conference*, Sparks, NV, 5/15, p. 859-870.
- Saunders J.A.**, Hofstra A.H., Goldfarb R.J. and Reed M.H. 2014, Geochemistry of Hydrothermal Gold Deposits. In: Holland H.D. and Turekian K.K. (eds.) *Treatise on Geochemistry*, Second Edition, v. 13, p 383-424. Oxford: Elsevier.
- Saunders, J.A.**, Steltenpohl, M.G., and Cook, R.B., 2013, Recent gold exploration and general geology of the Appalachian Piedmont of eastern Alabama: *Society of Economic Geologists Newsletter*, July., 2013, no. 94, p. 1-18..
- Saunders, J.A.**, Kamenov, G.D., Mathur, R., Shimizu, T., and Brueseke, M.E., 2013, Transport and deposition of metallic nanoparticles and the origin of bonanza epithermal ores: *SGA Proceedings Volume*, Uppsala, Sweden, July, 2013, p. 868-871.
- Saunders, J.A.**, and Brueseke, M.E., 2012, Volatility of Se and Te during subduction-related “distillation” and the geochemistry of epithermal ores of western USA: *Economic Geology*, v. 107, p. 165-172.

- Saunders, J.A.** 2012, Textural evidence of episodic introduction of metallic nanoparticles into bonanza epithermal ores: *Minerals*, v. 2, p. 228-243, doi:10.3390/min2030228.
- Saunders, J.A.,** Kamenov, G.D., Hofstra, A.H., Unger, D.L., Creaser, R.A., and Barra, F., 2011, “Forensic” geochemical approaches to constrain the source of Au-Ag in low-sulfidation epithermal ores, in R. Steininger, and W. Pennell (eds.): *Great Basin Evolution and Metallogeny*, Geological Society of NV 2010 Symposium, May 14-22, 2010, p. 693-700.
- Saunders, J.A.,** Peter Vikre, P., Unger, D.L., and Beasley, L., 2011, Colloidal and physical transport textures exhibited by electrum and naumannite in bonanza epithermal veins from western USA, and their significance, in R. Steininger, and W. Pennell (eds.): *Great Basin Evolution and Metallogeny*, Geological Society of NV 2010 Symposium, May 14-22, 2010, p. 825-832.
- Saunders, J.A.,** 2010, Geologic time and epithermal ore formation: Technical article (peer reviewed) for *Society of Economic Geologist's Newsletter*, no. 82, July, 2010, p. 10-11.
- Hames, W.E., Unger, D.L., **Saunders, J.A.,** Kamenov, G.D., 2009, Metallogeny and magmatism in the early Yellowstone hotspot: *Journal of Volcanology and Geothermal Research*, v. 188, p. 214-222.
- Saunders, J.A.,** Unger, D.L., Kamenov, G.D., Fayek, M., Hames, W.E., and Utterback, W.C., 2008, Genesis of Middle Miocene Yellowstone-hotspot-related bonanza epithermal Au-Ag deposits, Northern Great Basin Region, USA: *Mineralium Deposita*, v. 43, p. 715-734.
- Shamsudduha, M., Marzen, L.J., Uddin, A., Lee, M.-K., and **Saunders, J.A.,** 2008, Spatial relationship of groundwater arsenic distribution with regional topography and water-table fluctuations in the shallow aquifers in Bangladesh: *Environmental Geology* (DOI: 10.1007/s00254-008-1429-3).
- Saunders, J.A.,** Lee, M.-K., Shamsudduha, M., Chawdry, T., and Ahmed, K.M., 2008, Geochemistry and mineralogy of arsenic under anaerobic conditions: *Applied Geochemistry*, v. 23, p. 3205-3214.
- Kamenov, G.D., **Saunders, J.A.,** and Hames W.E., Unger, D., 2007, Mafic magmas as sources for gold in middle-Miocene epithermal deposits of northern Great Basin, USA: Evidence from Pb isotopic compositions of native gold: *Economic Geology*, v. 102, p.1191-1195.
- Lee, M.-K., Griffin, J., **Saunders, J.A.,** Wang, Y., Jean, J., 2007, Reactive transport of trace elements and isotopes in Alabama coastal plain aquifers. *Journal of Geophysical Research*, 112, 0238.
- Southam, G., and **Saunders, J.A.,** 2005, Geomicrobiology of ore deposits: *Economic Geology*, v. 100, p. 1067-1084.
- Saunders, J.A.,** Lee, M.-K., Uddin, A., Mohammad, S., Wilkin, R.T., Fayek, M., and Korte, N.E., 2005, Natural arsenic contamination of Holocene alluvial aquifers by linked tectonic, weathering, and microbial processes: *G-Cubed (Geochemistry, Geophysics, and Geosystems)*, v. 6, 13 April.
- Saunders, J.A.,** Mohammad, S., Korte, N.E., Lee, M.-K., Fayek, M., Castle, D., and Barnett, M.O., 2005, Groundwater geochemistry, microbiology, and mineralogy of two arsenic-bearing Holocene alluvial aquifers from the USA: American Chemical Society Symposium Series 915, p. 191-205.
- Lee, M.-K., **Saunders, J.A.,** Wilkin, R.T., and Shahnewaz, M., 2005, Geochemical modeling of arsenic speciation and mobilization: Implications for bioremediation: *American Chemical Society Symposium Series 915*, p.398-413.
- Saunders, J.A,** Lee, M-K., Wolf, L.A., Morton, C.M., Feng, Y., Thomson, I., and Park, S, 2005, Geochemical, microbiological, and geophysical assessments of anaerobic immobilization of heavy metals: *Bioremediation Journal*, v. 9, p. 33-48.
- Lee, M.-K., **Saunders, J.A.,** Mohammad, S., Wilkin, R.T., Harrington, J., and Lutes, C., 2004, Strategy for bioremediation of arsenic in groundwater: Book chapter, *Remediation of Recalcitrant Contaminants*, Battelle Press, Columbus, OH, (in press).
- Lee, M.-K., **Saunders, J.A.,** Uddin, A., 2003, Geochemical and hydrologic considerations on evolution of groundwaters in a portion of the Mississippi Embayment: *Southeastern Geology*, v. 42, p. 83-98.

- Lee, M.-K. and **Saunders, J.A.**, 2003, Effects of pH on metals precipitation and sorption: Field Bioremediation and geochemical modeling approaches: *Vadose Zone Journal*, v. 2, p. 177-185.
- Lee, M.-K., and **Saunders, J.A.**, and Wolf, L.A., 2000, Effects of geologic heterogeneities on pump-and-treat and in-situ bioremediation: *Environmental Engineering Science*, v. 17, no. 3, p. 183-189.
- Toran, L., and Saunders, J.A., 1999, Alternative chemical evolution path of NaHCO₃ groundwaters at Oak Ridge National Laboratory, *Journal of Hydrology*, v.7, p. 355-364.
- Toran, L.E., Bryant, S., **Saunders, J.A.**, and Wheeler, M.F., 1998, A two-tiered approach to reactive transport: application to Sr mobility under variable pH: *Ground Water*, v. 36, p. 404-410.
- Saunders, J.A.**, Pritchett, M.A., Cook, R.B., 1997, Geochemistry of biogenic pyrite and ferromanganese stream coatings: A bacterial connection? *Geomicrobiology Journal*, v. 14, p. 203-217.
- Kyle, J.R., and **Saunders, J.A.**, 1996, Metallic deposits in the Gulf Coast Basin of southern North America: Diverse mineralization styles in a young sedimentary basin: *Economic Geology Special Publication No. 4*, p. 218-229.
- Saunders, J.A.**, and Thomas, R.C., 1996, Origin of "exotic" minerals in Mississippi salt dome cap rocks: Results of reaction-path modeling: *Applied Geochemistry*, v. 11, p. 667-676.
- Saunders, J.A.**, Schoenly, P.A., and Cook, R.B., 1996, Electrum disequilibrium crystallization textures in volcanic-hosted bonanza epithermal gold deposits: *Proceedings of the International Symposium on the Geology and Ore Deposits of the America Cordillera*: (Reno, NV) p. 173-179.
- Saunders, J.A.** and Toran, L.E., 1995, Modeling of radionuclide and heavy metal sorption around waste disposal sites near Oak Ridge, Tennessee: *Applied Geochemistry*, v. 10, p. 673-684.
- Saunders, J.A.**, and Schoenly, P.A., 1995, Boiling, colloid nucleation and aggregation, and the genesis of bonanza gold mineralization at the Sleeper Deposit, Nevada: *Mineralium Deposita*, v. 30, p. 199-211.
- Saunders, J.A.**, and Schoenly, P.A., 1995, Fractal structure of electrum dendrites in bonanza epithermal Au-Ag deposits, in Barton, C.C., and LaPointe, P.R. (eds.) *Fractal Geometry and Its Use in the Earth Sciences*: Plenum Publishing, New York, p. 251-261.
- Saunders, J.A.**, 1994, Silica and gold textures at the Sleeper deposit, Humboldt County, Nevada: Evidence for colloids and implications for ore-forming processes: *Economic Geology*, v. 89, p. 628-638.
- Saunders, J.A.**, and Swann, C.T., 1994, Mineralogy and geochemistry of cap rock Zn-Pb-Sr-Ba mineralization at Hazlehurst salt dome, Mississippi: *Economic Geology*, v. 89, p. 381-390.
- Lavery, N.G., Leach, D.L., and **Saunders, J.A.**, 1994, Litho-geochemical investigations applied to exploration for sediment-hosted lead-zinc deposits, In: Fontbote, L., and Boni, M., (eds.), *Sediment-hosted Zn-Pb Ores*: Berlin, Springer-Verlag, p. 393-428.
- Schoenly, P.A., and **Saunders, J.A.**, 1993, Natural gold dendrites from hydrothermal Au-Ag deposits characteristics and computer simulations: *Fractals*, v. 1, p. 585-593.
- Saunders, J.A.**, 1993, Hydrothermal alteration and mineralization at the Jackson Dome volcanic complex, Mississippi: *Southeastern Geology*, v. 33, p. 71-79.
- Saunders, J.A.**, 1993, Supergene oxidation of bonanza Au-Ag veins at the Sleeper deposit, Nevada: Implications for hydrogeochemical exploration in the Great Basin: *Journal of Geochemical Exploration*, v. 47, p. 359-375.
- Saunders, J.A.**, and Swann, C.T., 1992, Nature and origin of authigenic rhodochrosite and siderite from the Paleozoic aquifer, northeast Mississippi, U.S.A.: *Applied Geochemistry*, v. 7, p. 375-387.
- Nash, J.T., Utterback, W.C., and **Saunders, J.A.**, 1991, Geology and geochemistry of the Sleeper deposit, *Ore Deposits of the Great Basin* (Geological Society of Nevada, Reno, NV) p. 1063-1084.
- Saunders, J.A.**, 1991, Gold deposits of the Boulder County gold district, Colorado: U.S. Geological Survey Bulletin 1857-I, p. 137-148.
- Saunders, J.A.**, and Swann, C.T., 1990, Trace metal content of Mississippi oil field brines: *Journal of Geochemical Exploration*, v. 37, p. 171-183.

- Saunders, J.A.**, and Rowan, E.L., 1990, Mineralogy and geochemistry of metallic well scale, Raleigh and Boykin Church oil fields, Mississippi, U.S.A.: *Instit. of Mining and Metallurgy (London) Trans.* v. 99, p. B54-B58.
- Saunders, J.A.**, 1990, Colloidal transport of gold and silica in epithermal precious metal systems: Evidence from the Sleeper deposit, Humboldt County, Nevada: *Geology*, v. 18, p. 757-760.
- Saunders, J.A.**, and Allard, G.O., 1990, The Scott Lake deposit: a contact-metamorphosed volcanogenic massive sulfide deposit, Chibougamau area, Quebec: *Canadian Journal of Earth Sciences*: v.27, p. 180-186.
- Saunders, J.A.**, 1990, Oxygen isotope zonation of agates from Karoo volcanics of the Skeleton Coast, Namibia: Discussion: *American Mineralogist*, v. 75, p. 1205-1206.
- Nash, J.T., Utterback, W.C., and **Saunders, J.A.**, 1989, Geology and geochemistry of the Sleeper Gold-silver deposit, Humboldt County, Nevada--an interim report: U.S. Geological Survey Open File Report 89-476,39 p.
- Saunders, J.A.**, Prikryl, J.D., and Posey, H.H., 1988, Mineralogic and isotopic constraints on the origin of Sr-rich caprock, Tatum salt dome, Mississippi, U.S.A.: *Chemical Geology*, v. 74, p. 137-152.
- Saunders, J.A.**, 1988, Textural and geochemical characteristics of gold mineralization from the Cresson Mine, Cripple Creek district, Colorado, U.S.A.: *Institution of Mining and Metallurgy (London) Transactions*, v. 97, p. B36-B39.
- Saunders, J.A.**, 1988, Pb-Zn-Sr mineralization in limestone cap rock, Tatum salt dome, Mississippi: *Gulf Coast Association of Geological Societies Transactions*, v. 38, p. 569-576.
- Saunders, J.A.**, and May, E.R., 1986, Bessie G: A high-grade epithermal gold telluride deposit, La Plata County, Colorado, *in* Macdonald, A.J., ed., *GOLD'86, An International Symposium on the Geology of Gold*: Toronto, 1986, p. 436-444.

Shorter Contributions (peer-reviewed):

- Saunders, J.A.**, 2010, Another view of hydrogen sulfide: Letter to *American Scientist*, v. 98, no. 2, p. 100, DOI: [10.1511/2010.83.100](https://doi.org/10.1511/2010.83.100).
- Saunders, J.A.**, 2010, Review of "Thermodynamics and Kinetics of Water-Rock Interaction" (MSA Reviews in Mineralogy and Geochemistry 70) by Oehlers and Schott (eds.): *Economic Geology*, v. 105, v. 105; no. 2; p. 451; DOI: [10.2113/gsecongeo.105.2.451](https://doi.org/10.2113/gsecongeo.105.2.451).
- Saunders, J.A.**, 2006, Review of "Molecular Geomicrobiology" (MSA Reviews in Mineralogy and Geochemistry 59) by Banfield et al., *Economic Geology*, v. 101, p. 700-701.

Refereed (Internal) Government Publications:

- Riddle, G.O, Meier, A.L., Matooka, J.M., Erlich, O., Clark, J.R., **Saunders, J.A.**, Fey, D.L., and Sparks, T., 1992, Analytical results for B-horizon soil samples from the International Falls and Roseau 1°x2° quadrangles, Minnesota/Ontario: U.S. Geol. Survey Open File Report 92-721, 10 p. + diskette.
- Toran, L.E., and **Saunders, J.A.**, 1992, Geochemical and groundwater flow modeling of multiport-instrumented coreholes (GW-131 through GW-135): Oak Ridge Y-12 Plant Technical Report Y/TS-895, 27 p.
- Nash, J.T., Utterback, W.C., and **Saunders, J.A.**, 1989, Geology and geochemistry of the Sleeper Gold-silver deposit, Humboldt County, Nevada--an interim report: U.S. Geol. Surv. Open

- File Report 89-476, 39 p.
- Nash, J.T., Hahn, G.A., and **Saunders, J.A.**, 1987, The occurrence of gold in siliceous Co-Cu exhalite deposits of the Blackbird district, Lemhi County, Idaho: U.S. Geol. Surv. Open File Report OFR87-410.
- Saunders, J.A.**, Fairfield, R.F., Jr., and Siems, D.F., 1986, Analytical results and sample locality map for stream-sediment and panned concentrate samples from the Fandango and Morey Peak Wilderness Study areas, Nye County, Nevada: U.S. Geol. Survey Open File Report OFR-196, 16 p.
- Diggles, M.F., **Saunders, J.A.**, Ponce, D.A., Rochette, E., and Neubert, J.T., 1986, Mineral resources of the South Reveille Wilderness Study Area, Nye County, Nevada: U.S. Geol. Survey Bulletin 1731-C, 11 p.
- Saunders, J.A.**, and Siems, D.F., 1986, Analytical results and sample locality map for nonmagnetic heavy-mineral concentrates from stream sediments from the South Reveille Wilderness Study Area, Nye County, Nevada: U.S. Geol. Survey Open File Report OFR86-95
- Saunders, J.A.**, and Rowan, E.L., 1986, Reconnaissance fluid inclusion study of silver and gold deposits in the Tonopah 1x2 degree quadrangle, Nevada: U.S. Geol. Surv. Open File Report OFR86-519, 13 p.

Other Publications (variably reviewed):

- Saunders, J.A.**, 2010, Review of “Thermodynamics and Kinetics of Water-Rock Interaction” (MSA Reviews in Mineralogy and Geochemistry 70) by Oehlers and Schott (eds.): Economic Geology, v. 105, p. 802-03..
- Saunders, J.A.**, 2006, Review of “Molecular Geomicrobiology” (MSA Reviews in Mineralogy and Geochemistry 59) by Banfield et al., Economic Geology, v. 101, p. 700-701.
- Whitmer, J.M., and **Saunders, J.A.**, 2000, Bioremediation of groundwater contaminated by phosphate mining and extraction: a new approach using indigenous sulfate-reducing bacteria: *Proceedings of American Society For Surface Mining and Reclamation Annual Meeting*, Tampa, FL, June, 2000 p. 107-116.
- Whitmer, J.M., and **Saunders, J.A.**, 1999, Geochemistry and remediation of phosphate mining wastes, Florida, USA: *Proceedings of the 5th International Symposium on Geochemistry of the Earth's Surface, Reykjavik, Iceland, Aug. 16-20, 1999*, p. 235-238.
- Saunders, J.A.**, Thomas, R.C., Lee, M.-K., and Wolf, L., 1997, Geologic evidence for the utility of using sulfate reducing bacteria for in situ anaerobic bioremediation of heavy-metal contaminated groundwater: Proc. 4th International Symposium on In Situ and On Site Bioremediation: New Orleans, LA, April, 1997, v. 3, p. 379-384.
- Lee, M.-K., **Saunders, J.A.**, Wolf, L.W., 1997, Stochastic analysis of in situ bioremediation within heterogeneous porous medium: Proc. 4th International Symposium on In Situ and On Site Bioremediation: New Orleans, LA, April, 1997, v. 5, p. 583-588.
- Saunders, J.A.**, Cook, R.B., Thomas, R.C., and Crowe, D.E., 1996, Coprecipitation of trace metals in pyrite: Implications for enhanced intrinsic bioremediation: Proc. Fourth International Symposium on the Geochemistry of the Earth's Surface (Ilkley, Yorkshire, England), p. 470-474.
- Kyle, J.R. and **Saunders, J.A.**, 1995, Nature and origin of mineral resources in the Gulf Coast

- basin: Society of Economic Geologists field trip Guidebook Series, v. 24, p. 3-30.
- Kyle, J.R., and **Saunders, J.A.**, 1995, Origin of Mississippi Valley-Type Zn-Pb-Ag sulfide mineralization in the Upper Jurassic Smackover formation, Gulf Coast Basin, USA: Proceedings Volume, International Conference on Carbonate-hosted Zn-Pb deposits (St. Louis, MO), p. 170-174.
- Kyle, J.R., and **Saunders, J.A.**, 1995, Metallic mineralization in the Gulf Coast Basin of southern North America: Proceedings Volume, International Conference on Carbonate-hosted Lead-Zinc Deposits (St. Louis, MO), p. 167-170.
- Saunders, J.A.**, 1992, Geology of the Shiloh Church Mo-Zn-Pb deposit, Polk County, Georgia, *in* Chowns, T.C. and O'Connor, B.J., (eds.), Cambro-Ordovician strata in northwest Georgia and southeast Tennessee; The Knox Group and the Sequatchie Formation: Georgia Geological Society Field Trip Guidebook, v. 12, no. 1, p. 81-87.
- Saunders, J.A.**, 1992, Cretaceous water-rock reactions at the Jackson dome, Mississippi: geochemical modeling with the, computer program SOLMINEQ.88: Miss. Geol., v. 13, p. 6-11.
- Saunders, J.A.**, 1989, Groundwater geochemistry as a guide to aquifer interconnection above Tatum salt dome, Mississippi: Miss. Geol., v.9, no.3, p. 1-8.
- Saunders, J.A.**, 1988, Occurrence and origin of native sulfur in caprock from Tatum salt dome, Mississippi: Miss. Geol., v. 8, no. 3, p. 1-4.