



Diamond Exploration and Research Training School

2018/2019 Publications

(DERTS authors in bold.)

- Abersteiner, A., V.S. Kamenetsky, **D. G. Pearson**, M. Kamenetsky, K. Goemann, K. Ehrig & T. Rodemann (2018) Monticellite in Group-I kimberlites: Implications for evolution of parental melts and post-emplacement CO₂ degassing. *Chemical Geology*, 478, 76-88.
- Almeida, V.V., de Assis Janasi, V., **Heaman, L.M.**, Shaulis, B.J., de Hollanda, M.H., Renne, P.R. (2018). Contemporaneous alkaline and tholeiitic magmatism in the Ponta Grossa Arch, Paraná-Etendeka Magmatic Province: constraints from precise U-Pb zircon/baddeleyite and ⁴⁰Ar/³⁹Ar phlogopite dating of the José Fernandes Gabbro and mafic dykes. *Journal of Volcanology and Geothermal Research* v.355, 55-65.
- Aulbach S., **Heaman L.M.**, **Stachel T.** (2018) The diamondiferous mantle root beneath the Central Slave Craton. *Society of Economic Geologists Special Publication* 20, 319-341
doi:<http://dx.doi.org/10.5382/SP.20.15>.
- Aulbach S., Creaser R.A., **Stachel T.**, **Heaman L.M.**, Chinn I.L., Kong J. (2018). Diamond ages from Victor (Superior Craton): Intra-mantle cycling of volatiles (C, N, S) during supercontinent reorganization. *Earth and Planetary Sciences Letters* 490, 77-87.
<https://doi.org/10.1016/j.epsl.2018.03.016>
- Aulbach, S., **Heaman, L.M.**, Jacob, D., and Viljoen, K.S. (2019). Ages and sources of mantle eclogites: ID-TIMS and in situ MC-ICPMS Pb-Sr isotope systematics of clinopyroxene. *Chemical Geology* v.503, 15-28.
- Böhm. C.O., Hartlaub, R.B., **Heaman, L.M.**, Cates, N., Guitreau, M., Bourdon, B., Roth, A.S.G., Mojzsis, S.J., and Blichert-Toft, J. (2018). The Assean Lake Complex: Ancient Crust at the Northwestern Margin of the Superior Craton, Manitoba, Canada. Chapter 28 in “Earth’s Oldest Crust” Elsevier (2nd edition), 703-722.
- Bulanova, G.P., C.B. Smith, S.C. Kohn, **Pearson, D.G.**, A.T. Davy, A. Marks (2018) Diamonds from Murowa kimberlites – formation within extremely depleted and metasomatised Zimbabwean peridotitic subcontinental mantle. Chapter 5: Special Publication of the Society of Economic Geologists No. 20; geoscience and Exploration of the Argyle, Bunder, Diavik and Murowa Diamond Deposits, Eds A. Davy, C.B. Smith, H. Helmstaedt, A.L. Jaques, J.J. Gurney, 425-451.
- Bussweiler Y., Brey G.P., **Pearson D.G.**, **Stachel T.**, Stern R.A., **Hardman M.F.**, Kjarsgaard B.A., Jackson S.E. (2017) The aluminum-in-olivine thermometer for mantle peridotites — Experimental versus empirical calibration and potential applications. *Lithos* 272–273: 301-314.
- Bussweiler Y., **Pearson D.G.**, **Stachel T.**, Kjarsgaard B.A. (2018) Cr-rich megacrysts of clinopyroxene and garnet from Lac de Gras Kimberlites, Slave Craton, Canada – Implications for the origin of

clinopyroxene and garnet in cratonic lherzolites *Mineralogy and Petrology* 112(2): 583-596
doi:10.1007/s00710-018-0599-2.

Cordell, D., Unsworth, M.J., Díaz, D. (2018) Imaging the Laguna del Maule Volcanic Field, central Chile using magnetotellurics: Evidence for crustal melt regions laterally-offset from surface vents and lava flows. *Earth and Planetary Science Letters* 488, 168-180

Czas J., Stachel T., Pearson D.G., Stern R.A., Read G.H. (2018) Diamond brecciation and annealing accompanying major metasomatism in eclogite xenoliths from the Sask Craton, Canada. *Mineralogy and Petrology* 112(1):311-323 doi:10.1007/s00710-018-0590-y.

Dockman, D.M., Pearson, D.G., Heaman, L.M., Gibson, S., Sarkar, C. (2018) Timing and origin of magmatism in the Sverdrup Basin, Northern Canada—implications for lithospheric evolution in the High Arctic Large Igneous Province (HALIP). *Tectonophysics*, 742-743, 50-65.

From, R., Machada, A., Lou, Y., Pearson, D.G., (2018) U-Pb and Lu-Hf isotopes of the Archean orthogneiss complex on eastern Hall Peninsula, southern Baffin Island, Nunavut: identification of exotic Paleo- to Mesoproterozoic crust beneath eastern Hall Peninsula. *Precambrian Research*. 305, 341-357.

Fulop, A., Kopylova, M., Kurszlaukis, S., Hilchie, L., Ellemers, P., and Squibb, C. (2018) Petrography of Snap Lake kimberlite dyke (Northwest Territories, Canada) and its interaction with country rock granitoids. *Journal of Petrology*, 59, 12, 2493-2518, doi.org/10.1093/petrology/egy025

Gaudet, M.A., Kopylova, M.G., Zhuk, V. (2018) Geology of the Renard 65 kimberlite pipe, Québec, Canada. *Mineralogy and Petrology* 112 (Suppl 2):S433–S445

Giordano, D, Russell, JK (2018) Towards a structural model for the viscosity of geological melts. *Earth and Planetary Science Letters* 501, 202-212.

Guotana, J. M., Morishita, T., Tamura, A., Yamaguchi, R., Nishio, I., Tani, K., Harigane, Y., Szilas, K., Pearson, D.G., (2018) Contrasting textural and chemical signatures of chromitites in Ulamertoq peridotite body, southern West Greenland. *Geosciences*. 8, 328; doi:10.3390/geosciences8090328

Hardman M.F., Pearson D.G., Stachel T., Sweeney R.J. (2018) Statistical approaches to the discrimination of mantle- and crust-derived low-Cr garnets using major and trace element data. *Mineralogy and Petrology* <https://doi.org/10.1007/s00710-018-0622-7>

Hardman M.F., Pearson D.G., Stachel T., Sweeney R.J. (2018) Statistical approaches to the discrimination of crust- and mantle-derived low-Cr garnet – Major-element-based methods and their application in diamond exploration. *Journal of Geochemical Exploration* 186, 24-35. <https://doi.org/10.1016/j.gexplo.2017.11.012>

Harris, G.A., Pearson, D.G., Liu, J., Hardman, M.F., Snyder, D.B., Kelsch, D. (2018) Mantle Composition, Age and Geotherm beneath the Darby Kimberlite field, West Central Rae Craton. *Mineralogy & Petrology*, 112 (Suppl 1): S57-S70.

- Hunt L., **Stachel T.**, Stern R.A., and Creighton S. (2018) Diamonds from the Diavik Mine: from formation through mantle residence to emplacement. Society of Economic Geologists Special Publication 20, 343-358 <http://dx.doi.org/10.5382/SP.20.16>.
- Hunter, R.C., Lafrance, B., **Heaman, L.M.**, Zaluski, G., Thomas, D. (2018). Geology, lithogeochemistry and U-Pb geochronology of the Aberdeen Lake area, Nunavut: New insights into the Neoproterozoic tectonic evolution of the central Rae Domain. *Precambrian Research* v.310, 114-132.
- Jaques, A.L., Luguet, A. Smith, C.B., **Pearson, D.G.**, Bulanova, G.P. Yaxley, G.M. Kobussen, A. (2018) Nature of the mantle beneath the Argyle AK1 lamproite: constraints from mantle xenoliths, diamonds and lamproite geochemistry. Chapter 8: Special Publication of the Society of Economic Geologists No. 20; geoscience and Exploration of the Argyle, Bunder, Diavik and Murowa Diamond Deposits, Eds A. Davy, C.B. Smith, H. Helmstaedt, A.L. Jaques, J.J. Gurney, 119-144.
- Jones, TJ, **Russell, JK** (2018) Attrition in the kimberlite system. *Mineralogy and Petrology* 112, 491-501.
- Kiseeva E.S., Vasiukov D.M., Wood B.J., McCammon C., **Stachel T.**, Bykov M., Bykova E., Chumakov A., Cerantola V., Harris J.W., Dubrovinsky L. (2018) Oxidised iron in garnets from the mantle transition zone. *Nature Geoscience* 11, 144–147. <https://doi.org/10.1038/s41561-017-0055-7>
- Korolev, N.M., **Kopylova, M.**, Bussweiler, Y., **Pearson, D.G.**, Gurney, J., Davidson, J. (2018) The uniquely high-temperature character of Cullinan diamonds: A signature of the Bushveld mantle plume? *Lithos*. 304, 362-373.
- Korolev, N. M., **Kopylova, M.**, Gurney, J., Moore, A.E., Davidson, J. (2018) The origin of Type II diamonds as inferred from Cullinan mineral inclusions, *Mineralogy and Petrology* (2018) 112 (Suppl 1):S275–S289
- Krebs M.Y., Pearson D.G., Stachel T.**, Laiginhas F., Woodland S., Chinn I., Kong J. (2018) A common parentage - Low abundance trace element data of gem diamonds reveals similar fluids to fibrous diamonds. *Lithos*, 324-325, 356-370 <https://doi.org/10.1016/j.lithos.2018.11.025>
- Liu, J., **Pearson, DG.**, **Chacko, T.**, Lou, Y. (2018) A reconnaissance view of tungsten in some crustal and mantle rocks: Implications for interpreting W isotopic compositions and crust-mantle W cycling. *Geochimica Cosmochimica Acta*, 186, 24-35.
- Liu, J., Brin, L., **Pearson, D.G.**, Bretschneider, L., Luguet, A., van Acken, D., Kjarsgaard, B. Riches, A., Miskovic, A. (2018). Diamondiferous Paleoproterozoic roots beneath Arctic Canada: A study of mantle xenoliths from Parry Peninsula and Central Victoria Island. *Geochimica Cosmochimica Acta*, 239. 284-311.
- Meyer, N.A.**, Wenz, M.D., Walsh, J.P.S., Jacobsen, S.D., Locock, A.J. and Harris, J.W. (2018) Goldschmidtite, IMA 2018-034. *CNMNC Newsletter* No. 44, August 2018, page 881; *European Journal of Mineralogy*, 30, 877–882

- Motsamai, T., Harris J.W., Stachel, T., Pearson, D.G., Armstrong J.** (2018) Mineral inclusions in diamonds from Karowe Mine, Botswana: super-deep sources for super-sized diamonds? *Mineralogy and Petrology* 112(1):169-180 doi:10.1007/s00710-018-0604-9.
- Navon O., **Stachel T., Stern R.A., Harris J.W.** (2018) Carbon and nitrogen systematics in nitrogen-rich, ultradeep diamonds from Sao Luiz, Brazil. *Mineralogy and Petrology* 112(1): 301-310 doi:10.1007/s00710-018-0576-9.
- Nestola, F., N. Korolev, **M. Kopylova**, N. Rotiroti, **Pearson, D.G.**, M.G. Pamato, M. Alvaro, L. Peruzzo, J.J. Gurney, A.E. Moore, J. Davidson (2018) CaSiO₃-perovskite in diamond confirms the recycling of oceanic crust into the lower mantle. *Nature*, 555, 237-241.
- Palot, M., **Pearson, D.G., Stachel, T., Stern, R.A., Le Pioufle, A., Gurney, J.J. Harris, J.W.** (2017): The transition zone as a host for recycled volatiles: A nitrogen and carbon isotope study of ultra-deep diamonds from Monastery and Jagersfontein (South Africa). *Chemical Geology* 466, 733-749. <http://dx.doi.org/10.1016/j.chemgeo.2017.07.023>
- Pearson, D.G.**, J. Liu, C.B. Smith, K.A. Mather, **M.Y. Krebs**, G.P. Bulanova, A. Kobussen (2018) Characteristics and origin of the mantle root beneath the Murowa diamond mine: Implications for craton and diamond formation. Chapter 10: Special Publication of the Society of Economic Geologists No. 20; geoscience and Exploration of the Argyle, Bunder, Diavik and Murowa Diamond Deposits, Eds A. Davy, C.B. Smith, H. Helmstaedt, A.L. Jaques, J.J. Gurney, 403-424
- Pell, J, **Russell, JK**, Zhang, S (2018) Conodont geothermometry in pyroclastic kimberlite: Constraints on emplacement temperatures and cooling histories. *Mineralogy & Petrology* 112, 477-490. doi.org/10.1007/s00710-018-0561-3.
- Poitras S.P., Pearson D.G., Hardman M.F., Stachel T., Nowell G.M., Cairns S.** (2018) Evidence for a 200 km thick diamond-bearing root beneath the Central Mackenzie Valley, Northwest Territories, Canada? Diamond indicator mineral geochemistry from the Horn Plateau and Trout Lake regions. *Mineralogy and Petrology*, 112(2), 719-736, doi:10.1007/s00710-018-0641-4
- Ranger, I., **Heaman, L.M., Pearson, D.G., Muntener, C., Zhuk, V.** (2018) Punctuated, long-lived emplacement history of kimberlites from the Renard Cluster, Superior Province, Canada indicated by new high precision U-Pb groundmass perovskite dating. *Mineralogy & Petrology*, 112 (Suppl 2): S639-S651.
- Regier ME, Mišković A, Ickert RB, Pearson DG, Stachel T, Stern RA, Kopylova M** (2018) An oxygen isotope test for the origin of Archean mantle roots. *Geochemical Perspectives Letters* 9: 6-10 <http://dx.doi.org/10.7185/geochemlet.1830>
- Ryan, A, Kolzenburg, S, Vona, A, Heap, MJ, **Russell, JK**, Badger, S (2018). A proxy for magmatic foams: FOAMGLAS®, a closed-cell glass insulation. *Journal of Non-Crystalline Solids X*, 100001.
- Ryan, A, **Russell, JK**, Heap, MJ (2018) Rapid solid-state sintering in volcanic systems, *American Mineralogist Letters* 103, 2028-2031.

- Ryan, A, Friedlander, EA, **Russell, JK**, Heap, MJ, Kennedy, LA (2018). Hot pressing in conduit faults during lava dome extrusion: Insights from Mount St. Helens 2004-2008. *Earth and Planetary Science Letters* 482, 171-180.
- Sarkar, C., Kjarsgaard, B.A., **Pearson, D.G.**, **Heaman, L.M.**, Locock, A., Armstrong, J.P. (2018) Geochronology, classification and mantle source characteristics of kimberlites and related rocks from the Rae craton, Melville Peninsula, Nunavut, Canada. *Mineralogy & Petrology*, 112 (Suppl 2): S653-S672.
- Scott, J.M., Liu, J., **Pearson, D.G.**, Harris, G.A., Czertowicz, T.A., Woodland, S.J., Riches, A.J.V., **Luth, R.W.** (2019) Continent stabilisation by lateral accretion of subduction zone-processed depleted mantle residues: insights from Zealandia. *Earth and Planetary Science Letters*, 507, 175-186.
- Sheen, A.I., **Heaman, L.M.**, Ootes, L., Kjarsgaard, B., **Pearson, D.G.**, Creaser, R.A. (2019). Athapuscow aulocogen revisited: geochronology and geochemistry of the 2045 Ma Union Island Group mafic magmatism, East Arm of Great Slave Lake, Northwest Territories, Canada. *Precambrian Research* v.321, 85-102.
- Shu, Q., G.P. Brey, **Pearson, D.G.**, (2018) Eclogites and garnet pyroxenites from Kimberley, Kaapvaal craton, South Africa: Their diverse origins and complex metasomatic signatures. *Mineralogy & Petrology*, 112 (Suppl 1): S43-S56.
- Stachel T., Chacko T., Luth R.W. (2017)** Carbon isotope fractionation during diamond growth in depleted peridotite: Counterintuitive insights from modelling water-maximum CHO fluids as multi-component systems. *Earth and Planetary Science Letters* 473, 44-51.
- Stachel, T., Harris, J.W., Hunt, L., Muehlenbachs, K., Kobussen, A., EIMF (2018)** Argyle diamonds – how subduction along the Kimberley Craton edge generated the world's biggest diamond deposit. *Society of Economic Geologists Special Publication 20*, 145-167 <http://dx.doi.org/10.5382/SP.20.06>.
- Stachel T., Banas A., Aulbach S., Smit K.V., Wescott P., Chinn I., Kong J. (2018)** The Victor Mine (Superior Craton, Canada): Neoproterozoic lherzolitic diamonds from a thermally-modified cratonic root. *Mineralogy and Petrology* 112(1):325-336 doi:10.1007/s00710-018-0574-y.
- Veziñet, A. **Pearson, D.G.**, E. Thomassot, R.A. Stern, C. Sarkar, Y. Luo, C.M. Fisher (in press) Hydrothermally-altered mafic crust as source for early Earth TTG: Pb/Hf/O isotope and trace element evidence in zircon derived from TTG of the Eoarchean Saglek Block, N. Labrador. *Earth & Planetary Science Letters*, 503, 95-107.
- Wang, H., van Hunen, J., **Pearson, D.G.**, (2017) Making Archean cratonic roots by lateral compression: a two-stage thickening and stabilization model. *Tectonophysics*, 746, 562-571.
- Wang, E., **Unsworth, MJ., Chacko, T. (2018)** Geoelectric structure of the Great Slave Lake shear zone in northwest Alberta: implications for structure and tectonic history. *Canadian Journal of Earth Sciences* 55 (3), 295-307

Xu, S., Unsworth, MJ., Hu, X., Mooney, WD. (2019) Magnetotelluric evidence for asymmetric simple shear extension and lithospheric thinning in South China. *Journal of Geophysical Research: Solid Earth*, <https://doi.org/10.1029/2018JB016505>

Yoshino, T., Gruber, B., Reinier, C. (2018) Effects of pressure and water on electrical conductivity of carbonate melt with implications for conductivity anomaly in continental mantle lithosphere. *Physics of the Earth and Planetary Interiors* 281 (2018) 8–16

Zorn, E, Rowe, MC, Cronin, SJ, Ryan, AG, Kennedy, LA, Russell, JK (2018) Influence of porosity and groundmass crystallinity on dome rock strength; a case study from Mt. Taranaki, New Zealand. *Bulletin Volcanology* 80, doi.org/10.1007/s00445-018-1210-8.

Abstracts – Conference Presentations

Ali, H., Regier, M.E., Pearson, D.G. (2018) Increased recovery of diamonds from eclogite by electrical pulse disaggregation. 46th Annual Yellowknife Geoscience Forum Abstracts,

Bulbuc, K.M., Galarneau, M., Stachel, T., Stern, R.A., Kong, J., and Chinn, I. (2018) Contrasting Growth Conditions for Sulphide- and Garnet-Included Diamonds from the Victor Mine (Ontario). 46th Annual Yellowknife Geoscience Forum Abstracts, p 97-98

Gruber, B.H., Chacko, T., Pearson, D.G. (2018) The Thermochemical Conditions of the Diavik Lower Crust: A Kimberlite-Hosted Xenolith Study, 46th Annual Yellowknife Geoscience Forum Abstracts,

Howell D, Stachel T, Pearson G, Stern R, Nestola F, Shirey S, Harris JW, DCO-DMGC Diamond Consortium (2018) Deep Carbon Through Time: The Diamond Record. *Goldschmidt 2018 Abstract #1067*

Jacob D, Stern R, Stachel T, Piazzolo S (2018) Polycrystalline Diamonds and their Mantle-Derived Mineral and Fluid Intergrowths. *Goldschmidt 2018 Abstract #1144*

Karaevangelou, M., Kopylova, M.G., Loudon, P. (2019). Cretaceous diamondiferous mantle of the Kaapvaal craton: Evidence from mineral inclusions in diamonds from the Lace Kimberlite, South Africa. Poster Presentation at AME Roundup 2019, Vancouver Convention Centre, 28-31 Jan, 2019

Karaevangelou, M., Kopylova, M.G., Loudon, P. (2018). Mineral inclusions in diamonds from the Lace kimberlite, South Africa. Poster Presentation at the RFG2018 – Resources for Future Generations Premier Conference on Energy, Minerals, Water and the Earth, Vancouver, BC, Canada 16-21 Jun, 2018

Karaevangelou, M., Kopylova, M.G., Loudon, P. (2018). Mineral inclusions in diamonds from the Lace kimberlite, South Africa. Poster Presentation International Diamond School, Bressanone, Italy, 29 Jan – 2 Feb 2018.

- Kopylova, M. G., Fulop, A., Gaudet, M., Hilchie L.** (2018) “Kimberlite skarns: More common and more complex”. Goldschmidt conference, Boston, August
- Lai M.Y., Stachel T., Beeding M., Stern R.A.** (2018) Spectroscopic analysis of yellow diamonds. Diamond Conference, Warwick, Abstract # P23.1, 3 p.
- Lai M.Y., Stachel T., Beeding M., Stern R.A.** (2018) Spectroscopic analysis of yellow diamonds. GIA Symposium, Carlsbad, 3 p.
- Nestola, F., Korolev, N., Kopylova, M., Rotiroti, N., Pearson, G., Pamato, M., Alvaro, M., Peruzzo, L.** (2018) First natural CaSiO₃ perovskite inclusion within a diamond from Cullinan kimberlite, XXII Meeting of the International Mineralogical Association (IMA 2018) taking place from August 13-17, 2018 in Melbourne, Australia.
- Pearson, D.G.** (2018) A Unified View on the Composition, Structure and Dynamics of the Lithosphere. Invited lecture: Fall Meeting, American Geophysical Union
- Pearson, D.G.** (2018) Making Cratonic Lithosphere – The Host for Diamonds. Invited Lecture International Diamond School, Bressanone, Italy, January 2018.
- Pearson, D.G.** (2018) Modern Advances in the Understanding of Diamond Formation. Invited Special keynote 2018 GIA Symposium, Carlsbad, USA. *Gems & Gemology*, Fall 2018, Vol. 54, No. 3.
- Regier, M.E., Pearson, D.G., Stachel, T., Stern, R.A., and Harris, J.** (2018) Tracing the Formation and Abundance of Superdeep Diamonds. 46th Annual Yellowknife Geoscience Forum Abstracts, p 63
- Regier ME, Pearson DG, Stachel T, Stern RA & Harris JW** (2018) Oxygen Isotopes in Kankan Super-Deep Diamond Inclusions Reveal Variable Slab-Mantle Interaction. Goldschmidt 2018 Abstract #2125
- Regier, M.E., Pearson, D.G., Stachel, T., Stern, R.A., Harris, J.,** 2018, International Diamond School, Oxygen isotopes of sublithospheric to superdeep Kankan inclusions.
- Sasse, D., Jones, T.J., Russell, K.** (2018) Experimental milling of Olivin: Implications for ascent and eruption of kimberlite. Oral presentation International Diamond School, Bressanone, Italy, January 2018.
- Sasse, D., Jones, T.J., Russell, K.** (2019) Experimental milling of Olivin: Implications for ascent and eruption of kimberlite. Poster Presentation at AME Roundup 2019, Vancouver Convention Centre, 28-31 Jan, 2019
- Siva-Jothy, W., Chinn, I., Stachel, T., Pearson, G.D.** (2018) Resorption Features of Macro and Micro Diamonds from Gahcho Kué. 46th Annual Yellowknife Geoscience Forum Abstracts, p 120
- Smyth, D., Pearson, D.G., Armstrong, K.,** (2018) Petrology, chemistry, and geochronology of the Pikoo kimberlites, Saskatchewan. Oral Presentation at the 2018 Saskatchewan Geological Open House, December 2018

Stachel T., Luth R.W., Chacko, T. (2018) Diamond Formation in Earth's Mantle. Invited lecture: International Diamond School, Bressanone, Italy, January 2018

Stachel T., Luth R.W., Navon O (2018) Diamond Precipitation from High-Density CHO Fluids. 2018 GIA Symposium, Gems & Gemology 54(3): 271-272.

Theses

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Czas, J. (2018) The Quandry of the Sask Craton: Origin and evolution of the lithospheric mantle beneath the Sask Craton. (PhD. Thesis) University of Alberta
<https://doi.org/10.7939/R3TT4G86C>

Harris, G. (2018) Mantle composition, age and geotherm beneath the Darby kimberlite field, west central Rae Craton. (MSc. Thesis) University of Alberta <https://doi.org/10.7939/R3NC5SV24>

McIntyre, T. (2018). Geochemistry of the Tussaap Ultramafic Complex, Southern West Greenland (MSc. Thesis). University of Alberta <https://doi.org/10.7939/R3B27Q704>

Motsamai, T. (2018) The composition of the lithospheric mantle beneath the Karowe Mine and its associated diamond sources in north-eastern Botswana (PhD. Thesis) University of Alberta

Poitras, S. (2018) Kimberlite Indicator Minerals from the Central Mackenzie Valley, Northwest Territories, Canada: a Reconnaissance Geochemistry Survey. (MSc. Thesis) University of Alberta <https://doi.org/10.7939/R3C53FH3P>

Krebs, M. (2018) Impurities and defects in, and isotope compositions of, gemstones. (PhD. Thesis) University of Alberta <https://doi.org/10.7939/R3CF9JN5Q>

Lai, M.Y. (2018) Spectroscopic analysis of yellow diamonds. (MSc. Thesis) University of Alberta
<https://doi.org/10.7939/R30863N2M>

Xia, X. (2018) Mineral inclusions in diamonds from Chidliak (Nunavut, Canada): constraining the diamond substrates. (MSc. Thesis) University of Alberta <https://doi.org/10.7939/R3K35MW24>

