



Perry Durning, MS '72:

Perry writes, "It has been over 50 years since I finished my graduate course work at U of A and, in 1969, began my full-time career in mineral exploration. I had finished my field work and started the text for my thesis, but it took me an additional three years (should have taken three weeks) to finish the writing. I finally submitted the thesis text with hand-colored maps for review to my thesis advisor, Dr. John Guilbert. I heard nothing for a couple of months. When I stopped by his office to inquire, he sheepishly shared that he had misplaced all my maps. Dr. Guilbert offered a great incentive. If I would bring him a new set of maps, I would not have to take my orals. I colored another set for him to review, my thesis was approved, and he was true to his word. No orals and I got my degree! Thank you Dr. Guilbert.



My passion for mineral exploration was ignited the summer of 1966 while I was in under-graduate studies at San Diego State. I was offered a summer job with Ed Wisser and Bill Cox doing grassroots mineral exploration in Nevada. The objective was to identify virgin epithermal Au-Ag districts. I had no clue what I was getting into, but it sounded interesting. Bill gave me a one-week introductory field course. I was then given the keys to a 4x4 pickup, a few maps and assigned the task of reconnaissance mapping the Kawich and Reveille ranges east of Tonopah and when finished, map the Silver Peak Range west of Tonopah. All in three months! I had a great summer and determined that grassroots mineral exploration was in my future. Towards the end of my senior year at San Diego

Above: Joe Hinzman (left) presenting Perry Durning (center) and Bud Hillemeier with the 2010 PDAC Thayer Lindsley Award for International Discoveries and Mill Complex Los Gatos Mine grand opening

State, I sent my application to the U of A for graduate school but had not heard anything from the university. I was scheduled to play in a tennis tournament at U of A and decided between matches to walk over to the geology department. As luck would have it, the door was open to Dr. John Anthony's (department chair) office. I introduced myself, had a long talk, and found out he also was a tennis player. A few weeks later I received a letter of acceptance to U of A and the offer of a teaching assistantship. Before the school year started, all new graduate students met with faculty and were asked to volunteer for teaching assignments. No one volunteered for Professor Mike Wood's mineralogy and hand specimen petrology labs. Grad student offices at the time were crammed into five-foot-by-eight-foot cubicles. Mike offered four TA volunteers a spacious office with large tables. I have always liked to spread out, so I volunteered along with John Delaney, Fred Graybeal, and Tom Heidrick to teach the labs. The labs were six hours per week and co-taught with another TA, which was fine with me. Little did I know it also required two hours of lecture per week split between my partner and I. John, Fred, and Tom were gifted lecturers. It seemed like preparation for my one-hour lecture each week took more time than all of my other classes combined. All in all, being a TA was a great experience. Since that time, I have given a few geologic talks, but public speaking is still not my gift.

In 1968 I wrote a term paper for one of Dr. Guilbert's ore deposit classes on "The Genesis of the Boleo Copper Deposits, Baja California Mexico". Dr. Guilbert liked the concept and thought he could get

a company to fund a trip to Boleo. A few weeks later he asked me to join him along with Dr. John Sumner and Pierce Parker from AMAX Exploration, on a trip to Boleo. Dr. Sumner flew us down in his private plane. The mines were operating, and we were able to arrange a mine tour and prospected the Santa Ana Basin to the north. No new discovery was made. Nonetheless, we had a great trip. As a result, Pierce Parker offered to fund my thesis if I could identify a thesis topic of interest to AMAX.

Looking for an economic geology/ structural thesis, Dr. Ed McCullough recommended the Little Hill Mine area at the northwest end of the Catalina mountains. I wrote my proposal and AMAX agreed to fund my thesis. Little Hill became a major prospect for AMAX and was an academic success (large but too low grade). Working at AMAX with Eric Braun, also a U of A grad, we determined we were looking at the roots rather than the top of a porphyry copper system.

Inspired by a 1975 quote from Peter Joraelmon, 'I know of a possible porphyry copper occurrence that was turned down by two able geologists: one because erosion had clearly stripped the deposit down to its very roots and the other seeing the same evidence, because the ore body was still buried at over 5,000 feet below the surface.' As a result, Jerry Davis, a U of A graduate who did his PhD at Kalamazoo and I decided to co-author a paper on "The Root Zone Characteristics of Porphyry Copper Deposits". The 1978 AGS Digest paper was intended to help the field geologists distinguish hood zone propylitization from the root-zone propylitization at

an early stage in the exploration of porphyry copper systems.

I spent several years in copper exploration but yearned to get into grassroots exploration for epithermal associated gold-silver ore deposits. John Dreier and Dave Hackman had recently completed their PhD's at the U of A and together, in 1976, we formed SAGE Associates. My experience at SAGE taught me perseverance and an understanding of how to prepare and present large grassroots exploration programs to mining corporations. The SAGE objective was not only the funding but also retaining an NSR royalty if an economic discovery were made. It is a business model that I use to this day.

I am very grateful for my education at the U of A, guidance from faculty, student friendships, and industry contacts made during my early career in mineral exploration. Experiences during those formative years laid the foundation for my future career path.

In 1979 I was part of the startup team for Fischer-Watt Gold and, in 1993, founded La Cuesta International, Inc. with my current partner Bud Hillemeier. Fischer-Watt Gold and La Cuesta International successfully employed the business model first utilized with SAGE Associates. I have had the privilege of working from Argentina to Canada and from the Pacific to the Rockies. I have had more fun, adventure and discoveries than I could ever have imagined back in 1966 when I took on that first summer job. U of A grad Kitt Marris will remember the trip he made to Baja to help me with a little aerial recon. He flew his prized Stinson high-wing airplane to join me on

the east coast of Baja. We completed the recon but, unfortunately, we later discovered gas for his plane was only available at a few designated locations. Kitt knew he would run out of gas before he made it back to an authorized fueling station. So, we decided I would find some gas and he would land near a predetermined road in a remote area near the south end of the Laguna Salada. We knew if we got caught, we would be in trouble. I bought some gas, drove to the rendezvous area, tested the lakebed crust, and waved Kitt in for landing. Unfortunately, the plane tires broke through the crust and the plane was stuck. We had a problem.

Kitt and I drove the road and located a straight section that was long and level enough for him to take off. I towed the Stinson out of the soft sand with my Bronco to the take off point, gassed it up and Kitt took off for the border before the federales found us. Gratefully, another adventure ended well.

In 1990 Fischer-Watt Gold was hired to evaluate the exploration potential of the Pachuca-Real del Monte Mining District, Hidalgo, Mexico. The Mexican Government intended to privatize the district and a potential buyer hired us for one week to evaluate the entire +100,000-hectare district. Geologist Jorge Ordoñez represented the buyer, U of A graduates John Dreier and Jose Luis Lee joined Fischer-Watt employees, Larry Buchanan, Bud Hillemeier, Walter Schull, and myself as part of the team. We were well prepared for the task. However, upon arrival Jorge told us an SEG field trip was coming at the end of the week and, in addition to completing the evaluation, asked us to give the SEG participants surface and underground tours and prepare two-to-three talks for dinner presentations that evening.

Remarkably, we completed the evaluation, gave the SEG tours and presentations on time and within budget. Jorge's client bought the district.

In 1993 Fischer-Watt changed focus and no longer had a need for geologists. Bud Hillemeier, who had been with Fischer-Watt since 1983, and I formed La Cuesta International (LCI). LCI proposed to interested parties grassroots exploration programs for gold and silver +/- base metal projects. LCI was fortunate to find an initial funding partner. LCI worked primarily in Mexico from 1993-2010 and, during that time, made five grassroots discoveries. Three of the discoveries are currently in production; San Sebastian (Hecla Mining), San Agustin (Argonaut Gold), and Los Gatos (Dowa/ Sunshine Mining). Camino Rojo (ORLA Mining) is in development and Pitarrilla (Silver Standard) is undergoing an advanced evaluation. As a result of the Mexican discoveries Bud and I were honored to receive the "Thayer Lindsey Award for International Mineral Discoveries" at the 2010 PDAC meeting.

LCI returned to work in the USA in 2010. To this day LCI continues its grassroots mineral exploration programs. In September 2019 LCI was invited to be part of the Los Gatos Mine grand opening celebration. It was a wonderful experience with dignitaries from Mexico, Japan, and the USA, banquets, and surface and underground tours.

For those interested, here is the discovery timeline for Los Gatos:

1. 1994 first seen from aerial recon.
2. 1998 first field exam by LCI, targets identified.
3. 2005 Los Gatos concession located.

4. 2008 Los Gatos claim title granted.
5. 2009 Discovery drill hole 34 m @ 414 g/t Ag, 0.5 g/t Au, 2% Pb, and 4.85% Zn.
6. 2019 First production, 2500 TPD UG mine and mill complex. Twenty-five years from initial recognition to a mine!

In February 2020, Bud's son, Nick Hillemeier, a 2017 U of A geology graduate, joined LCI as a partner in the newly formed company Bull Mountain Resources. Nick completed his graduate curriculum in Economic Geology at the University of Nevada, Reno and is currently writing his thesis to finish his degree. It is a great feeling to be able to pass the LCI legacy on to the younger generation. Welcome aboard Nick.

A few final thoughts. Successful grassroots exploration requires thinking out of the box, hard work, patience, perseverance, teamwork, and good judgement. Grassroots explorationists need to determine early on if they are at the top, productive, or bottom part of a mineral system, 'draw grand conclusions from trivial amounts of facts, as Mark Twain says, and, as a risk taker, you have to 'know when to hold 'em and know when to fold 'em' (Kenny Rodgers). Success in grassroots exploration requires family and management support with a long-term perspective. I am thankful for my U of A education, many longtime friends and associates in geology, a supportive family and corporate partners who, over the years, allowed my partners and I to pursue the dream of grassroots mineral exploration and make a few discoveries along the way."