

The Big Book of Harry



Harry McDougal Parker
1946–2019

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Introduction

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Harry McDougal Parker passed away on 19 December 2019 as a result of complications arising from melanoma. Harry is survived by his wife, Susan Kemper Parker, daughter Meg, son Winthrop, granddaughters Angelina, Sofia, Layla, Sadie, Ashley, and Chloe, and sister Betsy. Harry and Sue enjoyed two days short of 51 years of marriage.

Harry was born in New York on 7 February 1946. Harry's youth was spent in the outdoors while his father worked for the National Park Service (NPS) as a ranger and naturalist at the Grand Teton, Crater Lake, and Yosemite National Parks, as well as a stint at the NPS offices in Virginia. Harry was introduced to geology by his mother, Katharine, who had an A.B. in geology from Radcliffe College and a master's degree in religious education from Union Theological Seminary. Geology courses for Radcliffe were taught at Harvard University, where Katharine had to take notes from the hallway because women were not allowed in the classroom. She later took graduate courses in geology at the University of California at Berkeley and briefly worked for the oil industry. Harry was particularly proud that she later co-founded the Julian's Anchorage Home for Battered Women in San Diego.

Harry graduated from St. Andrews High School, Middletown, Delaware, in 1964. The school is best known for its portrayal in the film *Dead Poet's Society*. His first degree was a B.Sc. (honors) in geology from Stanford University, conferred in 1967. This was followed in 1969 by an A.M. in geology from Harvard. Harry returned to school at Stanford in the early 1970s, obtaining an M.Sc. in statistics (1974) and a Ph.D. in geology (1975). His doctoral thesis, the second Ph.D. awarded in geostatistics in the United States, developed the approach of using conditional probability distributions

to forecast recoverable resources, an approach which is still in use within today's mining industry.

From 1965 to 1975, in and around his studies, Harry worked for the Hanna Mining Company, with duties that ranged from grassroots exploration to reserves estimation to mine geology. It was this experience which led to his Stanford nickname of "Dr Bucks". In late 1975, he joined Fluor Corporation, where he focused on resource and reserve estimation, audits, due diligence investigations, and geostatistical analysis and problem-solving. He wryly observed, "I was given two No. 2 pencils and a writing pad. The second day I was given a timesheet; I wised up quickly that I was expected to find a job to charge." He left Fluor in 1989 to co-found Mineral Resources Development Inc. (MRDI), now part of the John Wood Group plc. MRDI provided Harry with seminal work experience in the realms of resource estimation, expert witness testimonies, valuations, geostatistical analysis of geometallurgy, reconciliation, and considerations of resource classification. He developed specialist software for aspects of data verification and resource estimation that were not commercially available at the time. Harry could never refuse the lure of a new project or investigating how a pet project had advanced, and he was actively engaged with projects with Wood at the time of his passing.

Harry published more than 40 technical papers over the course of his career. His wide-ranging commodity experience included Cu, Co, Au, Mo, U, coal, oil shale, Ni, Fe, Mn, platinum group elements, diamonds, K, Pb, Zn, Ag, Sn, and alumina. He worked in 17 states within the United States, eight Canadian provinces, and 35 countries outside North America. Harry was proud that he had broken a chair on every continent, except Antarctica, and this was only because "all chairs there were metal."

Harry was a member of an impressive number of societies and professional associations, amongst them the Society for Mining, Metallurgy and Exploration (SME), the Australasian Institute of Mining and Metallurgy (AusIMM), the Australian Institute of Geoscientists (AIG), the Geological Society of America (GSA), the Society of Economic Geologists (SEG), the Institute of Mining, Metallurgy and Materials (IMMM), and the International Association for Mathematical Geology (IAMG). Harry was registered as a professional geologist in California, Arizona, and Minnesota.

Harry served with distinction on the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) from 2007 to 2018, including as deputy chairman from 2013, chairman from 2015 to 2016, and past chairman from 2016 to 2017. Harry played a pivotal role in assisting potential member countries to meet the criteria for membership of CRIRSCO, such as Mongolia, Brazil, Kazakhstan, India, and Turkey, and continued to assist China with its progress toward membership.

An integral part of the SME, Harry served as chairman of the Registered Members Committee from 2007 to 2012; co-chairman of the Resources and Reserves Committee from 2007 to 2018; member of the SME Valuation Committee from 2012 to 2019; and on the SME Ethics Committee from 2013 to 2019, including as chairman from 2015 to 2019. He was a driving force behind the development of the SME's 2017 edition of the *Guide for Reporting Exploration Results, Mineral Resources, and Mineral Reserves*. Harry was instrumental in establishing the Registered Members category within the SME and enabling adoption of new bylaws to permit Registered Members to serve as Qualified or Competent Persons under the SME Guide and CRIRSCO-compatible foreign codes/standards.

Harry's contribution to the world of geology and geostatistics was recognized by numerous bodies. He was awarded the AusIMM's Institute Medal in 2019, the SME's President's Citation in 2017, the SME's Award for Competence and Ethics in 2012, and the Southwest Mining Foundation's American Mining Hall of Fame Medal of Merit in 2007. He was made an Honorary Life Member of the Geostatistical Association of Australia, an Honorary Fellow of the Professional Society of the Independent Subsoil Experts of Kazakhstan (PONEN), and an Honorary Representative of CRIRSCO. He also was conferred the Mongolian Best Geologist Award in 2014 and given Application of Computers in the Mineral Industry (APCOM) Recognition Awards in 2015 and 2017.

Reflecting on his industry time, Harry identified a number of milestone projects, or as he called them, "character-builders". In 1978, he pioneered the use of sequential Gaussian conditional simulation in the United States, using the technique to determine the effect of variable drill spacing on the reliability of uranium reserves. 1981 saw the completion of a due diligence valuation of domestic minerals assets for St. Joe Minerals, or "\$500 million

in five days”. In the 1990s, he developed unique approaches to estimating mineral resources for Bingham Canyon Cu, Goldstrike Au, and Escondida Norte Cu, as well as grade controls for Jerritt Canyon Au. He led the independent valuation of all mineral assets (mines and prospects) to support the privatization of Brazil’s Companhia Vale do Rio Doce (CVRD; now known as Vale), and led the preparation of Technical and Competent Person’s Reports to support privatization of Zambia’s state-owned Zambia Consolidated Copper Mines (ZCCM). He was a key player in the resource estimation methodologies developed for the Antamina mine in Peru from 2000 to 2009, including developing software to perform rapid exploratory data analysis. In 2006, he described the F-factor concept, the closest to a standard that the industry currently has for reconciliation. The second decade of the twenty-first century saw Harry immersed in the resource estimation for some the largest modern copper discoveries at Kamoakakula and Oyu Tolgoi. In late 2019, Harry noted that, “Overall, it has been an interesting time. I have many memories, mostly good, of hard work that resulted in a good quality end result”.

Harry’s quixotic interests, from an airsick bag collection that made the Guinness Book of Records, to trilobites, to food and wine, and Porsches, enlivened many a long day on the job. His always inquisitive spirit, intense curiosity over the natural world, enquiring mind, constant questioning, insatiable thirst for data, and relentless focus on geology over geostatistics was truly inspirational: Harry’s catch-phrase, “in general, an ounce of geology is worth a pound of geostatistics; this may be disappointing to geostatisticians with no geological background; tough” is still widely referenced.

Harry was always willing to give time to juniors and peers within the profession, and was equally adept at communicating cutting-edge techniques as explaining the basics. He shared his knowledge and tools willingly. Harry facilitated and celebrated the successes of others. He was known for listening much, and speaking only when he had carefully decided what should be said—he could provide unvarnished opinions without offending. Harry was highly regarded for his knowledge, integrity, hard work, and new ideas, as much as his generosity, kindness, and respect.

It was a privilege to call Harry a mentor, a peer, and a good friend.



Parker family (Win, Sue, Meg and Harry-with-moustache) at Victoria Falls in Zambia, 1987 (Larry Smith)
Harry notes: probably the happiest day of my life.

family and friends



From left to right: Layla, Win, Angelina, Mandana, Sofia, Mike, Meg, Ashley, and Sadie, July 2013 (Harry Parker).

Vale Harry

Richard Bishop

Sue, Meg, Win and the whole family, you know what you lost. I shall try to express what we lost.

Harry and I were classmates at Stanford as PhD candidates in the early '70s. We shared the fact that we both worked for two years before returning to school and we both were married to exceptional women. Our lives had in common an unspoken philosophy and ambition of doing something significant for our profession. We were not at Stanford to do an academic or inconsequential study. We never said that, but it was understood. Harry was known to be both very ambitious, and very smart, and his attention level was apparent.

One day we were both writing code, and I mentioned my habit of inserting comment cards to remind me of what the next calculation was supposed to do. Not Harry. He said he did not like anything but pure code!

“Big Time Bucks”

In graduate school Harry happened to acquire the moniker of “Big Time Bucks”. This probably originated from an exceptionally articulate classmate of ours, Dr John Tinsley. As you know, graduate students/all students tend to be broke. Just like actors are always looking for work, students are always broke. One day, Stanford announced its new fund-raising campaign to be the first school to have a goal of \$1 billion dollars. Well, we students were astounded at such a sum... but Harry said he made a contribution. Well, the rest of us were astounded, and John then anointed him “Big Time Bucks”. A name which he kept all his career.

My Most Remembered Comment from Harry

During our last semester as many of us were finishing their dissertations, I experienced a serious hiccup and left school expecting to finish my degree after starting a new job. Well, most of the time that ambition was never fulfilled... but thanks to my exceptional bride, I did manage to finish.

After my successful defense, John and Marily Tinsley hosted a get-together which included Harry and Sue. All of you know how Harry loved probabilities, and he made a toast that I always keep in mind: “to the man who beat the odds!”

That has been a useful reminder throughout my career.

Maintaining Contact




After school, we went several years without seeing one another very often. But one day Harry called and he was traveling through Houston and hoped we might get in touch. Surprisingly, his client was only a block away from my office. So, getting together became much easier and this process was repeated several times.

Then a couple years ago, he was not traveling through town on business but here for treatment. Fortunately, we had many meals over the next year and a half. We never doubted he would not make it.... Never.

His passing is not just hard personally, but his professional world has lost an incredible intellect.

His Career

More than a life well lived, it was a life of great contribution to his profession and to society. I sometimes wonder if Harry had a perspective on what he had contributed and if others recognized it as well. Harry was not a ‘pushy’ kind of guy. However, without prompting from Harry, other members of the profession recognized his fine mind. Harry made significant contributions in several areas:

-  **Business:** He brought clarity to what existed locally in a mine. The SME Parker Award for Excellence recognized this major contribution to mine evaluation, but also insight to what might exist. “Drill over there” was advice given frequently and with great success;
-  **Science:** Harry’s presence on international boards helped to bring global consensus to many aspects of mining which previously were simply local terms without comparison from one side of the world to the other;
-  **Society:** Harry was a wordsmith who could explain to the non-technical world what they did or did not have.

In Closing

So long, Dr Bucks. Your family, your many friends and your profession will miss that incredible brain of yours. In many ways, Harry was the perfect Stanford Grad: internationally recognized in his field and a Big Time Donor. But most of all, we'll just miss you Dr B.

Rodney Ikola

I first met Harry in the late 1960s/early 1970s during what I believe was his first job in industry with the Hanna Mining Co. He was an energetic young geologist who quickly acquired the nickname of “High Performance” for his inability to do anything at the pace of normal individuals. I later heard this description followed him all the way to graduate school.

People who knew Harry in later life would be surprised to learn his greatest pride in these early years was his ability to cut and chain geophysical survey lines through the brush of Minnesota’s never-ending swamps faster, straighter, and more accurately than other mortals. It was during this time that he came up with his classic categorizing of swamps as either “scenic” or “bastards”; he claimed most of the swamps he worked in were bastards.

Although Harry did pride himself with the caliber of his work, he did have his moments. One day he backed up a car to a snowmobile trailer, attached the safety chains, and proceeded down the road, forgetting to secure the tongue of the trailer to the ball hitch. Hitting the first bump on the road caused the trailer to come loose from its perch on top of the ball hitch, the tongue tipped up, but was stopped by the safety chains and came crashing back down onto the trunk of the car causing a Paul Bunyan-size gash.

Harry was hired as a geologist, but the paucity of outcrops in Minnesota’s swamps prevented very much geologic mapping from actually being done. Consequently, he spent the majority of his time working on geophysical surveys. In addition to the above-mentioned line cutting, he assisted in magnetic, electromagnetic and gravity surveys. When it came time to do our first drilling on what we called the Greenstone Project, I always remember Harry’s enthusiasm when he left to go look at the first drill results or as he said, “let’s go look at the high-grade!” Unfortunately, all he saw was graphite with some pyrite mixed in.

Working on our copper/nickel project in the Duluth Complex of Minnesota afforded Harry the opportunity to actually do some geology. Outcrops were numerous, and he relished the opportunity to do geologic mapping. Forty years later these same rocks were the target of exploration activities by Twin Metals and Duluth Metals. To Harry's credit, geologists from both companies agreed that his mapping had been flawless.

Harry and I subsequently worked on Hanna projects in Rockland, Maine, Cobalt, Idaho, and around Joplin, Missouri. By this time, he was in graduate school and working on his thesis, while I continued supervising Hanna's geophysical operations. While we worked on the same projects, we had minimal contact with each other.

I last met Harry in Ely, Minnesota, in the early 2010s while he was consulting for Twin Metals, and I was doing gravity surveys for Duluth Metals. Ironically, this was exactly the same area we had worked on together 40 years previously. We had dinner at the Ely Steak House before he left; that was the last time I saw Harry.

Temp Johnson

Memory 1

I was about six years old when our family visited cousins Harry, Betsy, Uncle Harry and Aunt Kitty at Crater Lake, Oregon. The kids hiked and played around in the woods. Near their cabin home we came across a small stream. Someone, either Harry or Betsy, had placed a waterwheel in the stream where the water cascaded down and over it. The wheel spun and spun. I found it fascinating. I had never seen one before. It was my first physics lesson and nature's calm productivity.

Memory 2

My wife, two sons, and I had recently moved from New York City to suburban Washington, DC. We all loved NYC, its frenetic life, its language, its rawness, its culture. On one of many trips abroad, Harry stopped for a visit here in the quiet suburbs. Harry and my one-and-a-half-year-old son Ben, now in his high-chair, were having breakfast. I was in the kitchen having already given Ben his favorite breakfast, a bowl of Cheerios.

Suddenly I hear the bowl crash to the floor and Ben exclaims, as clear as a bell, "Oh, f***".

I was mortified!

Now in New York City this was a common figure of speech and for an adult, would have been appropriate, but:

- a) Ben was clearly NOT an adult;
- b) Ben had never said this before;
- c) WORST of all Harry was right there, only three feet away from Ben, and could not have missed it.

Astonished and panicked about what to do or say, I went back into the dining room, cleaned up the mess and offered Harry some more coffee/food (I really don't remember). Harry, thankfully, seemed unphased by what had happened. After breakfast, we wished each other well and off he went to another mine overseas.

It was one of two "oh well, such is life" moments with Harry. What a relief!

Memory 3

On another of Harry's visits, he and I went sailing on my boat on the Chesapeake Bay. Harry loved sailing—the calm environment, just the wind and water, quietly gliding across the waves. We could just relax out there, just sailing with no constraints on time or direction.

Late in the afternoon we headed back in, passing the usual navigation markers leading to the marina. Such a quiet and delightful area with a few houses, woods and birds. Suddenly the boat lurched and came to a stop. We had run aground. Our keel stuck in the Chesapeake's muddy bottom. It was again one of those, "Oh well. Such is life", kind of moments. As with the whole day, Harry and I enjoyed this quiet moment. We slowly backed up and continued peacefully on.

Being with you, Harry has always been a quiet pleasure.

Andre Journal

Harry, my friend,

So, you left us, you gave a hiatus to our friendship of close to a half century, you made me realize that we made it to old age, an age almost unreal, one that we could not even fathom in the brightness of our ingenuous dawn.

When was it? So much to sort out...it was in Frascati in 1974, I think, during some early Geostatistics conference. I met you first, I should say I heard for the first time that roar which is you, in some wine tasting cave in town. There was that huge American with an untucked shirt and a colored-tiled loose pants who suggested toasting grappa instead of that delicate fruity Frascati white wine being offered, sissy stuff he said. Later during that conference, that brawl of a man, still dressed as out of some golf tournament, came to me and stunned me with some pertinent questions about kriging. Little did I knew then he was the first ever US geostat PhD graduate from no less than Stanford-Harvard. That brawl of a man added that I should move to teach in the US, at that time this was sort of an offense to be told to a French proud graduate from 'Grande Ecole'. Little did I know that Harry, soon after, in 1978, would bring me to the US as a consultant for Fluor and a visiting professor at Stanford. I never left.

So did our friendship through many mine visits, travels together throughout the world and my only ever Concorde flight squeezed in a seat next to yours, many steak dinners, ...and those memorable Christmas dinners at your place in Castro Valley when Sue cooked her famed black Indian rice dinner accompanying the whole ham freshly shipped from Virginia, and marshmallow salad (that I could have done without). Meg and Coraline were riding their tricycles on the wooden floor all around us, jumping stairs, making a formidable noise that still resonates in my head and heart.

My life changed forever. I owed it all to you Harry. You were always a call away, reminding me that I would never cease to be a mining engineer, and I may add one that learnt it all from geology; geology that you taught me pre-empts all geostatistics. Now you left us, you left me, though for a little while until we meet again soon to talk about family, wine, steaks and Porsches.

Andre + Sylvie, as in Harry + Sue, forever.

Victor Rodwin

I've been thinking all morning of Harry and my memories of good times with him...

Harry was an eternal optimist, wasn't he? And courageous as he battled his melanoma and hoped for the best for most of the world. He was always a source of inspiration to me, not just because he was so clear-headed in helping me with my calculus many, many years ago at 15 Arlington St. in Cambridge. What I admired about Harry was the way he excelled to the top of his field in becoming a worldwide known expert in his specialized area of statistical geology. I envied his invitations all over the world to help mining companies assess their prospects of finding the minerals they were searching for...

Harry was also loyal to his friends and certainly to the Rodwin family. All of us, beginning with my parents, admired his work ethic and kindness when he lived at Arlington St., washed dishes, helped us kids, helped my Dad as a bartender, and generally joked around with us and made life fun when he wasn't studying!

When I was a graduate student at Berkeley, it was always a joy to visit both of you in Palo Alto and Hayward. You were always so generous in feeding and humoring me, and getting me to look beyond the academic trees to the larger forests of the world!

Rhonda Scott

In the early 1970s, I lived with my family on the West Coast of Tasmania, in a small iron ore mining town called Savage River. Social life was limited but I became friends with a group of mining engineers, geologists and assayers and their partners and kept in touch with them when I moved to Melbourne and later when I was overseas. Amongst those friends were Treve and Lynda Hocking who later moved to San Francisco.

In 1976 I was living in London, but wanted to visit my best friend Jenny, who was married and living in San Diego. I wrote to Treve and Lynda saying I would love to catch up with them whilst I was in California, and I distinctly remember writing a PS at the end of that letter saying, *"By the way, I wouldn't*

mind staying in the States for a while if they knew of anyone who might be able to offer me some sort of a job”.

Treve responded saying that a colleague and his wife were soon to have their first baby, and would need a live-in nanny as they were both busy young professionals, and Sue would be returning to work ASAP following the birth. I have actually found Treve’s letter. *“I think I may have found something for you here in San Francisco. We have a geostatistician on the staff – a certain Dr Harry Parker B.SC. from Harvard, M.Sc. from Harvard and PhD from Stanford. He is more commonly known as “Smoky the Bear” and is one of the nicest men I have come across”.*

I spoke to Sue on the telephone a few times, and was soon on my way. Treve picked me up at the airport and took me to Harry and Sue Parker, where I was immediately welcomed as a member of the family. It was heading towards the Christmas festive season, and Sue was keen to get her famous tree up and decorated before Meg was born. So off we all went to find a suitable 12-foot tree to house (almost) all of Sue’s immense collection of tree decorations. I had never seen anything like it, but her enthusiasm rubbed off, and all these years later I too now have my own beautiful collection of tree ornaments, many donated by Sue and Harry from all parts of the world.

Gorgeous baby Margaret Graham Kemper Parker (Meg) was born that December with Katherine, Harry’s mother, Betsy, Harry’s sister and Meg, Sue’s sister all visiting during that time to celebrate and meet their new granddaughter and niece. I enjoyed a memorable Christmas as a member of the family and have many recollections of gatherings and events during that time.

I kept house, looked after baby Meg, and cooked the evening meals mid-week. My afternoons were often spent walking around the neighbourhood with Meg in a “Snuggly”, but when Harry and Sue returned from their day’s work, my responsibility with Meg ended until the next day. Harry was very taken by his cute little “bambino”. I do remember Harry enjoyed cooking on the barbeque, and one of his specialities was delicious marinated barbequed ribs.

Whilst I was there, we often discussed when the next BIG earthquake might hit San Francisco because of the San Andreas fault. Harry said everyone knew it would most certainly happen at some time, but that everyone also thought that *their* house would be the one left standing. In the early hours of one Saturday morning, I was woken by what I thought was someone violently shaking my bed. I got up and went downstairs, but as no one there had stirred, I was desperately hoping Meg would awake to rouse her Mum and Dad. Alas no. In the morning I related the episode to Harry who knew nothing and suspected I had dreamt the episode. There was no mention on news broadcasts either, and I began to suspect that Harry was correct, until later that morning I was walking to the local BART station and heard two gentlemen sharing conversation about the early morning quake. Obviously because my bedroom was upstairs, the movement was more palpable.

As everyone knows, Harry loved the outdoors. Weekends usually involved trips somewhere; the Napa Valley, San Diego Zoo, Disneyland, local parks with their beautiful California redwood trees, and sailing on a lake in a little Sabot, perhaps aiming to emulate the sailing prowess of his Uncle Winthrop (a past commodore of one of San Diego's esteemed Yacht Clubs I seem to recall). Harry and Sue were fantastic tour guides.

Sadly, I had to leave them to return home for family reasons, but we stayed in touch, and Harry always called and caught up with me whenever he was in Melbourne; sometimes when he was visiting for just one day!

Apparently after I returned home, I sent Harry a book about Australian outdoor dunnies (toilets). It was an instant success, and Harry loved it so much that he took it into the office at Fluor Utah, where it circulated to rave reviews. He asked me to source another four or five copies for Christmas presents for various people.

Harry travelled to more places than anyone I have ever known, and always had remarkable stories of people, customs and history. He had a profound appreciation of native artefacts himself, and often presented me with unusual wooden implements.

Harry enjoyed home-cooked meals and related stories experiencing unique dining experiences. I once asked if there was anything he had refused to

eat and he said “No” he had tried anything that was offered including things like snake, crocodile, guinea pig, zebra, horse, monkey and dog! He loved the meals Jaya has prepared for him over the years, but even though traditional Sub-Continental, Asian, European or Mediterranean, never anything as exotic as some of his other experiences.

Harry related some of his most rewarding holiday experiences such as climbing Mt Kilimanjaro with his children and in about 2004 tackling the 48 km Inca trail to Macchu Pichu with his son Win and nephew Will.

Harry and Sue’s next door neighbours were (senior moment here as I cannot remember their names) and Jess. Jess had been in the US Navy, and had been stationed in Queensland during the Second World War for a time. He and I had lots of discussions over the back fence about his time in Oz, and how much he loved it. He and his fellow sailors had a dog (not allowed!) which they loved dearly. I think I recall this story correctly that when they had to leave Australia they had to destroy their beloved canine mate, so they built a secret little shrine for him in the scrub. Apparently, many people knew the sad story, and decades later when Harry was in Queensland, he hired a car and drove to the town where Jess had been stationed. He asked around and eventually found someone who verified the dog story, and told Harry where the monument was built. Harry made a special trip out there and photographed the memorial to show Jess when he returned home. That story almost brings tears to my eyes. Harry was quite a sentimental soul with the most remarkable memory. He never forgot people’s names or their stories.

Harry and Sue visited Jaya and me in May 2019 at our home in the High Country of Victoria, near a small ski resort called Mt Buller. They were in Australia for Harry to receive AusIMM’s most prestigious honour, the Institute Medal. He was aware that he would be speaking at the Institute dinner, and had been advised of the time allotted for his speech. Time and again he rewrote it and delivered it to us with a stopwatch, but it was more than a day before he could pare it down to the time allocation. We knew his speech by heart on the night of the Awards dinner.

Harry’s health was not good at that time, but I took them to visit some local landmarks and historic sites which were much enjoyed. One drive was to an old gold mining town called Kevington, which is home to the oldest pub in

Victoria [see *photograph in HMP in pictures*]. The publican was very impressed by Harry's knowledge of the mining industry. Little did he know of Dr Harry Parker's repute. Harry was greatly amused by a road sign near our place warning of the danger of wildlife on our roads and insisted on a photo [see *photograph in HMP in pictures*]

Harry and Sue went out of their way to make me and later, Jaya and me, welcome anytime we visited the US. We were honoured by their hospitality and advice about where to visit whilst we stayed with them on several occasions, and they always provided us with a vehicle so that we could tour. On one of our trips we wanted to visit Yosemite, which I knew as one of Harry's favourite places, so up early and headed off. When we got there, Yosemite WAS CLOSED!!! We returned back to Castro Valley to face an incredulous Harry who could not believe the park was closed. IT IS NEVER CLOSED! So, our visit to Yosemite was postponed to our next overseas trip. (I am certain Yosemite is a theme park invented by Kodak; such incredible sights and views). My parents also appreciated Harry and Sue's hospitality on their visit to California in about 1985, and thought of them as family too.

Harry was immensely proud of his entire family: his mother, his sister, his fantastic wife and his wonderful children, Meg and Win. His granddaughters are sure to honour his memory during their lives too. I am so glad they knew him.

Harry was an eccentric genius; a man of few words, with obscure hobbies and poor dress sense but always wearing his obligatory braces. He was an amazing son, brother, husband and father, with an innate love of nature and the natural environment. This was a man who was revered in mining, geostatistics and geological fields all around the globe. There are countless tributes online and in industry newsletters from mining companies and associated organisations throughout the world.

Harry was one very special friend to me. It has been an honour and a privilege to know him. Just imagine! L'il ol' me, here in Merrijig, knowing someone who was the most honoured and distinguished person in his field, in the entire **Universe!** (Thanks for the introduction Treve).

Finally, as we all know, Harry didn't like to waste words. He was measured and succinct. Following is an email I received from him in 2013:

Layla and Sofia (twins – 8 mo.), Angelina (2 yrs), Sadie (3yrs 9 mo.), Ashley (1 yr) – Looks like Meg did at same age.

Working hard. Will come to Australia in October. Overall travel is down this year, but have managed Peru, Chile, Burkina Faso, Canada, and Hawaii

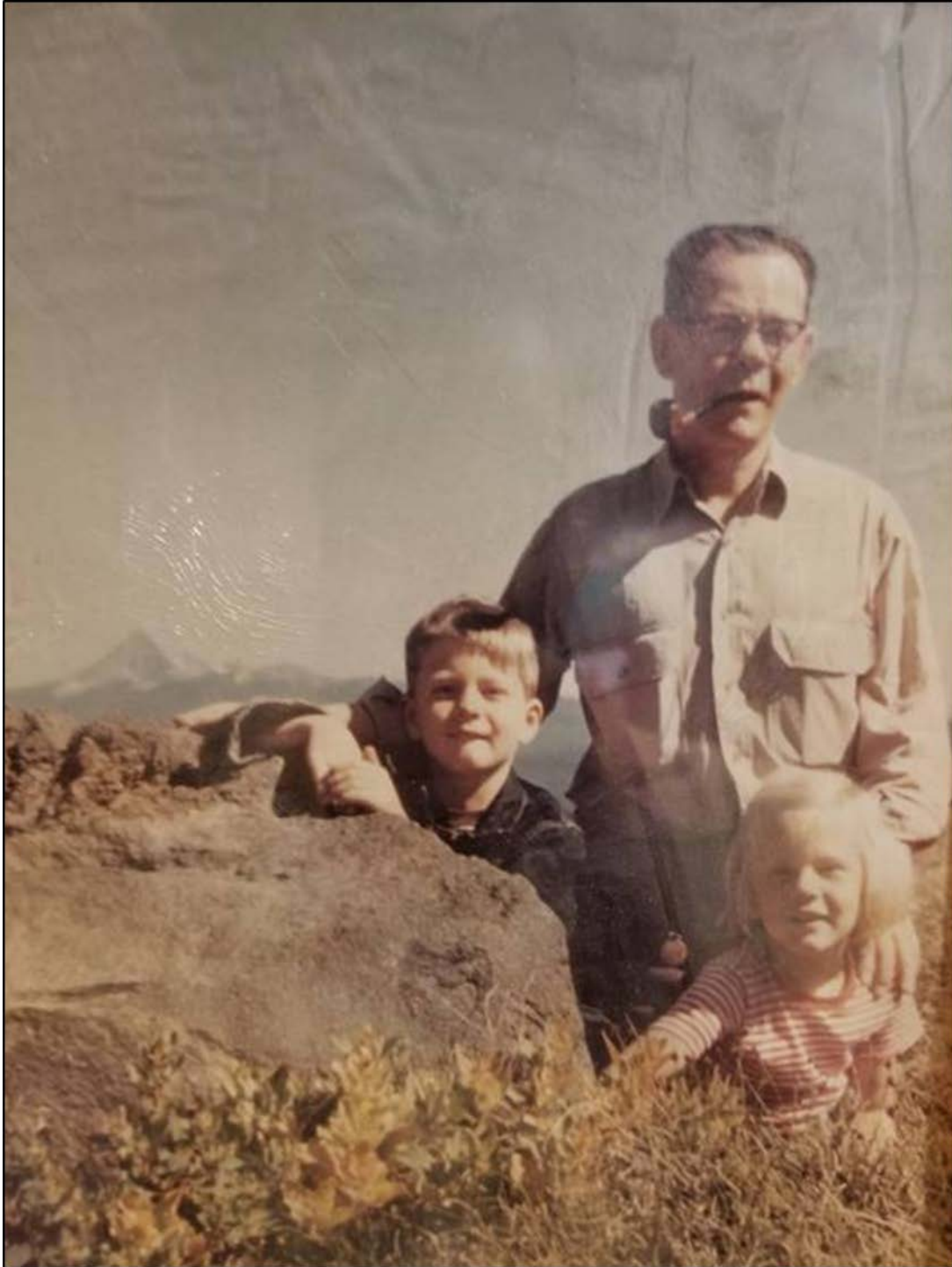
Regards and Love etc.

Vale, Harry, my friend.

Pictures



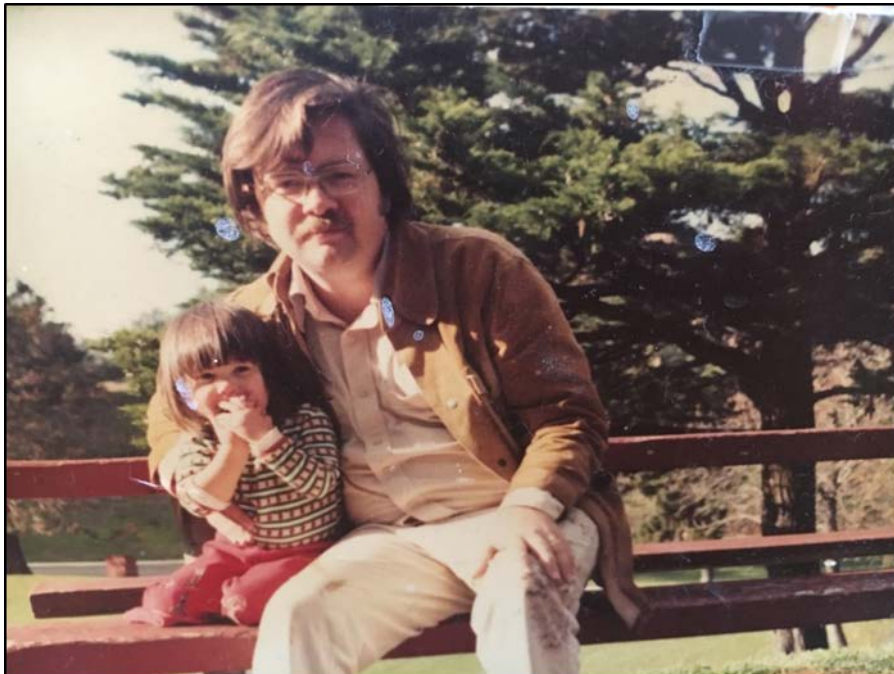
Baby Harry, 1946 (Sue Parker).



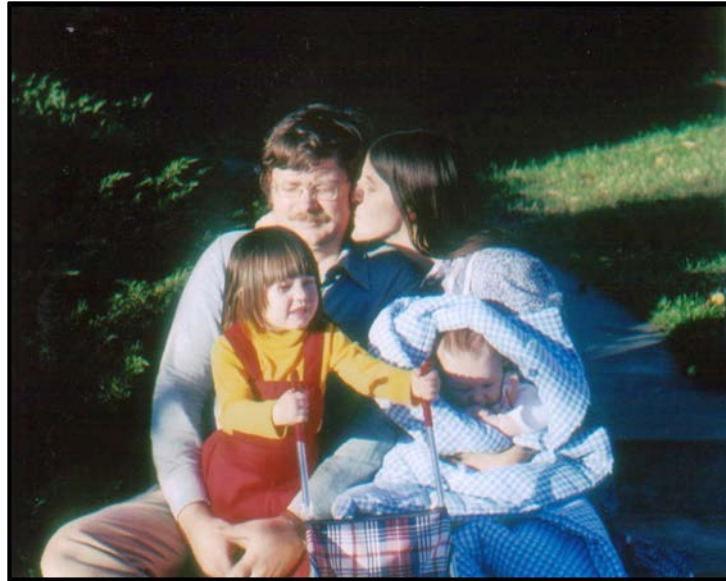
Harry with his Dad and sister Betsy at Crater Lake National Park (Henry Kim from a photo in Harry's house).



Wedding day, 21 December, 1968, Lynwood Virginia (Sue Parker).



Harry with Meg, 1979 (Sue Parker).



Harry, Sue, Meg, and baby Win, 1979 (Andre Journal).



Harry and Sue at the Kemper Knoll farm, Virginia, 1980s (Sue Parker).



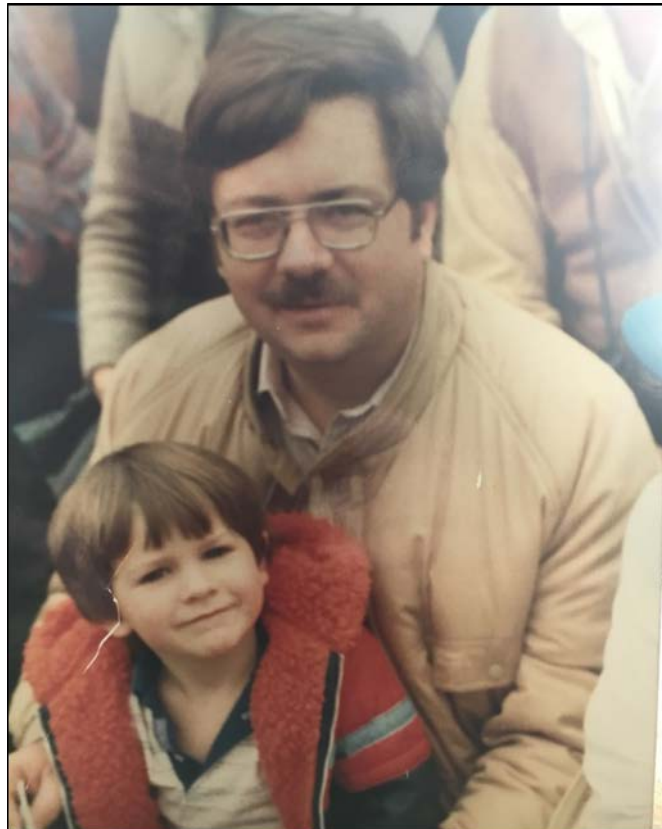
Harry with a hire-car in a Utah national park, 1980s (Sue Parker).



Family holiday, Hawaii, mid-1980s (Sue Parker).
Harry, Meg, Sue, Win.



Family holiday, Hawaii, mid-1980s (Sue Parker).



Harry with Win, 1985 (Sue Parker).



Meg, Harry's sister Betsy, Harry, and Win, Salt Lake City, mid-1980s (Sue Parker).



Parker, Kemper and Spain family group, Emerald Isle, 1986 (Tom Spain).
From left, Harry, Win Parker, Sue Parker, Meg Parker, Dianna Kemper, Susan Patrick (with bottle), Meg Kemper, Michael Patrick, Karen Spain, Molly Spain, Peggy Spain, Tom Spain and Jenny Spain.



**Sand Harbor, Lake Tahoe, 2008 (Larry Smith).
Win Parker, Jane Smith, Melissa Smith, Meg Kemper, Meg Parker.**



**Family photograph, Sunset Beach, June 2014 (Tom Spain).
From left: Michael Patrick, Will Patrick, Susan Patrick, Peter Muller, Harry, Peggy Spain, Ashley Laub, Meg Parker,
Mike Laub, Sadie Laub.**



Harry heading to the water to get a bucket of water for his granddaughter, Sadie. Sunset Beach, June 2015 (Tom Spain).



Harry getting Sadie's bucket of water, Sunset Beach, June 2015 (Tom Spain).



Harry's granddaughter Sadie, at Sunset Beach, 2015. Harry and Sue in the background (Tom Spain).



Harry with Jim Copeland, Las Panchitas restaurant, Kings Beach, CA, 2017 (Sue Parker).



Family group photo at Michael Patrick's house in Chapel Hill, January 2019 (Tom Spain).
From bottom left, Maggie Muller, Sadie Laub, Chloe Laub, Peter Muller,
Back to left: Meg Parker holding Chloe, Elias Kite, Harry Parker,
Back to left: Bunte Kite, Peyton Kite,
Back to left: Susan Patrick, Rachel Katz, Dianna Kemper, Wes Kite, Isaiah Kite, Will Patrick.



Harry and Sue looking over photos at Michael Patrick's house in Chapel Hill, January, 2019 (Tom Spain).



Harry and Sue Parker in NYC, May 2019 (Victor Rodwin).
From left, Nadell Fishman, David Chinitz, Sue, Harry, and Victor Rodwin.



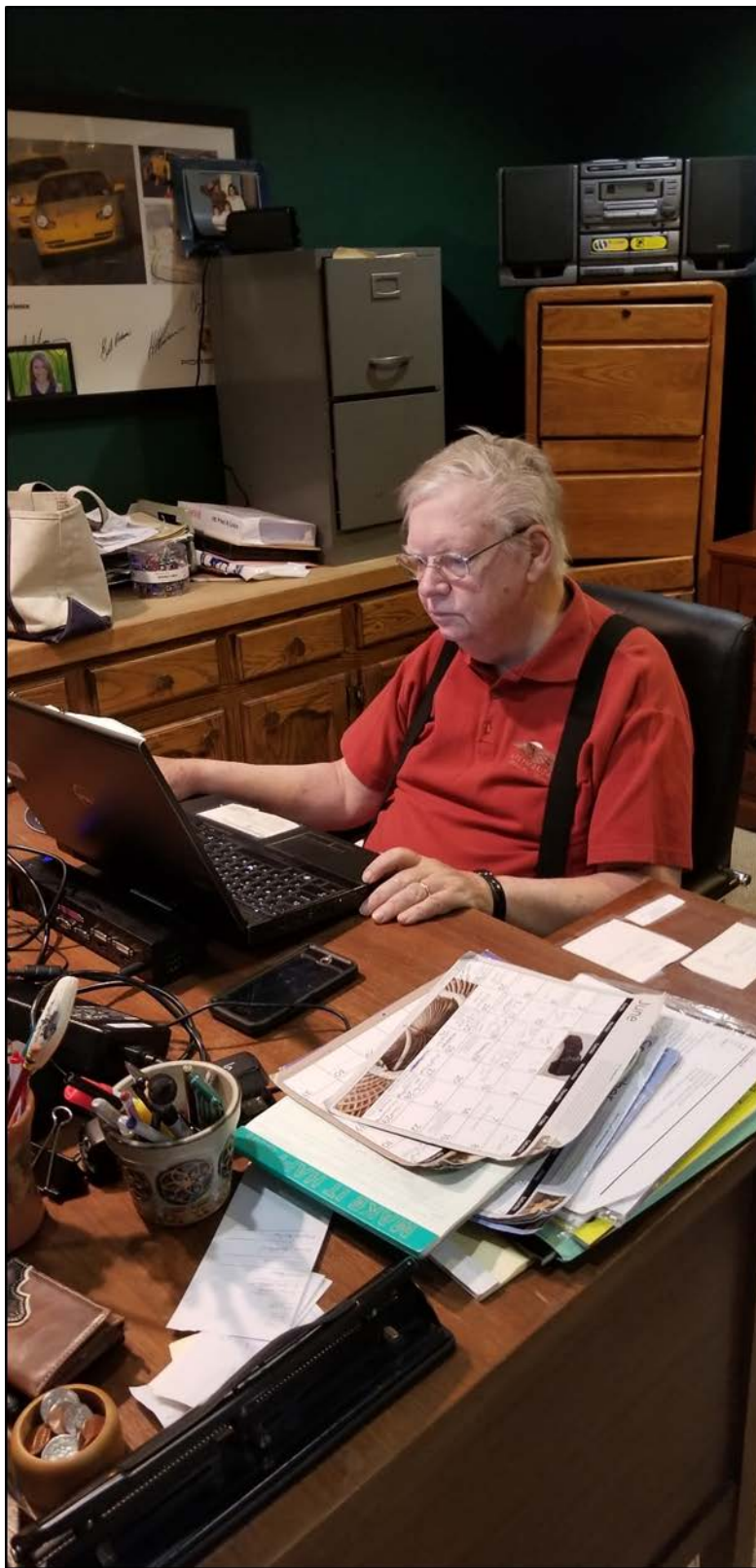
Harry at Will and Rachel's California wedding June 2019 (Tom Spain).



On board a 50-foot sailing vessel catching the sunset and moon rise on Lake Tahoe, July 2019 (Temp Johnson).
From left: Alan Johnson, Winthrop Templeton (Temp) Johnson, and Harry.

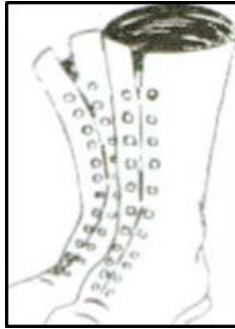


On the Virginia and Truckee railroad tourist train, Nevada, July 2019 (Temp Johnson).
From left: Alan Johnson, Sue, Harry.



Harry at work at home in Incline Village, July 2019 (Temp Johnson).
Temp says: "Always staying up to date with work".

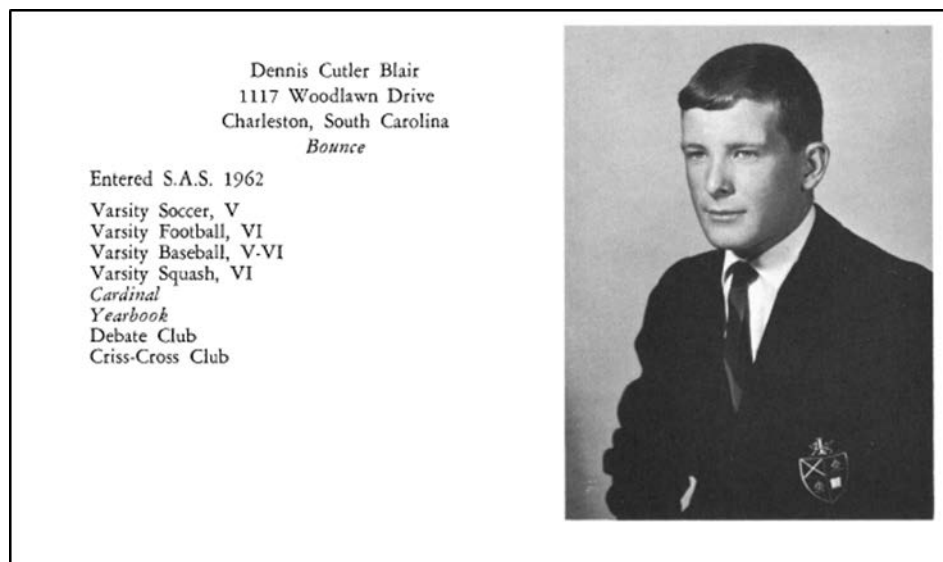
Schooldays



Vale Harry

Thomas (Tom) Synder and Chesa Profaci, classmates of Harry's at St Andrews, forwarded the following tributes from Harry's high-school peers.

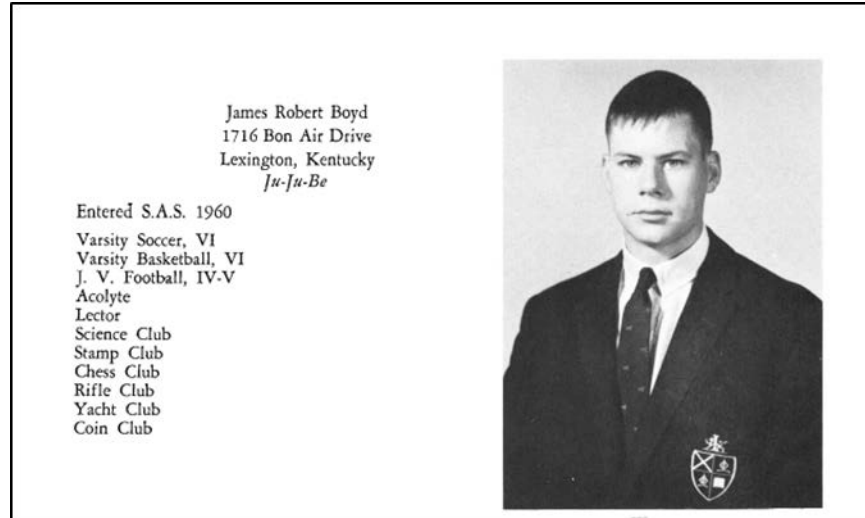
Dennis Blair



Tough news. Harry "Tundra Boots" Parker was one of our classmates whom we admired because he knew what he wanted to do, went about doing it, was friendly with all, and did not criticize others, or seem to care much about the fashions of the day. From what I saw at reunions, he stayed the same for the rest of his life, and did great things. Good for him, and sad for us that he is gone.

Mr Blair is a former Director of National Intelligence for President Barack Obama and former United States Navy four-star admiral. He was a classmate of Harry's and kept in touch with him through the years.

James Boyd



Harry Parker—well I was Harry's "roomie" in our V Form year. After Harry tutored me to the Honor Roll and an escape from Study Hall, we would spend long hours listening to jazz (I always have, and always will, think of Harry when I hear "Take Five") with Harry explaining to me the simplicity of solid geometry and the beauty of foreign languages. (Jim—it's just Latin in a different format)!

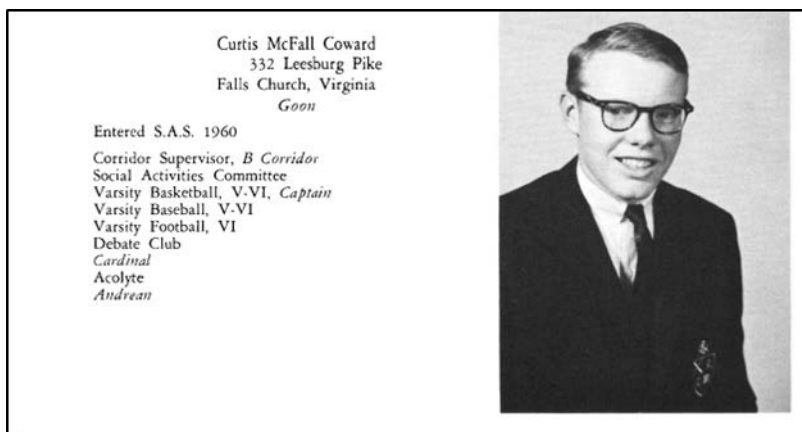
Harry never had the trouble I did with syntax, but occasionally that western drawl would sneak in, and make the words seem funny.

Harry could "cut" with the best, but somehow his insults were never hurtful, just witty. Harry suffered from strabismus, an eye disorder where one's eyes do not coordinate well, and one perceives objects to be where they really are not. Glasses back then helped some, but it was still difficult to play stick and ball games, so Harry, being Harry, either managed the sports teams or pursued activities where this was not a big issue, such as being Commodore of the Yacht Club.

Harry enjoyed helping people. When Otso Sovijarvi came to campus, his formal English was quite good, but he was lost on jargon and could not understand a joke or double entendre. Harry took him in tow and by second semester, Otso could banter with the best. I fondly remember Harry's efforts to bring Otso back for one of our reunions. Just the kind of person that Harry

was. I will always remember him, never forget him and YES he did sign my '64 yearbook - Tundra Boots.

Curtis Coward



Sui generis, brilliant, genuine, and blessed with a convulsive laugh that racked his whole body. A wonderful person. He will be missed.

I have a number of mental images of Harry from our SAS days, mostly reflecting his wonderful way of laughing. But I will share my two fully formed anecdotes, one from SAS and one from many years later.

Our senior year, Harry was the manager of the basketball team. We were solidly mediocre, depending primarily on Eric Middleton to singlehandedly dominate the opponent, and therefore played a lot of close games. As always, the big rivalry was with Tower Hill. I remember vividly that the night before our away game at Tower, Harry came to me as the team captain to say that he had devised a way to motivate the team to play its best, but that he wanted to keep it a secret. He then went into another convulsive laugh, and disappeared out the door. When the team gathered the next day to get on the bus to go up to Wilmington, I watched Harry very closely, but saw nothing unusual. By the time we got to Tower, I assumed that whatever Harry had planned had aborted. We disembarked and walked into the visiting team locker room. As usual, Harry handed out the towel rolls that had our uniforms, socks, and jocks. But this time they each had one additional item—a Playmate foldout! I honestly can't remember if we won or lost—the record will show—but I can say categorically it was the only game

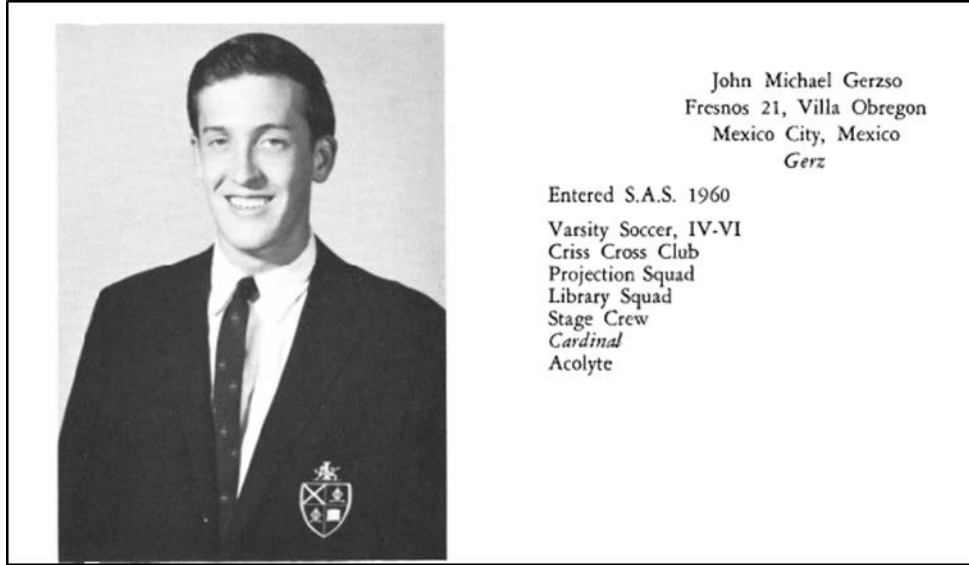
I ever played at the high school or college level that I spent laughing start to finish.

Thirty years later I had my other memorable interaction with Harry. By this time, he was already established as a world-class geologist based, as I recall, in San Francisco. My oldest daughter Meg was then a sophomore at Oberlin and trying to decide between Geology or Religion as a Major. She called me from school in the fall of that year and asked if I knew of any way to get her hooked up with a geological expedition during her upcoming "January Term" (a scam then popular among primarily northern colleges to reduce heating expenses in the winter) so she could see what the profession was really like. I instantly thought of Harry and was able to reach him. When I broached the idea, Harry again broke into that wonderful laugh and said: "Let's see if she is serious"! He thereupon arranged for Meg to join an expedition in the Mojave Desert for 10 days following the Christmas holidays. Meg has always been super enthusiastic about everything, and, in that spirit, we bought enough gear at North Face for a moonwalk. Sure enough, early in the month I took Meg and her enormous backpack out to Dulles Airport for her flight to California. She was really jacked up and looking forward to an amazing experience. In the event she spent most of the 10 days in the desert getting up close and personal with snakes, tarantula, and the like. When I picked her up at Dulles, she looked exhausted and bedraggled. Her first words were: "I am declaring Religion as my major"! (She did and prospered, going to Harvard Divinity School, and succeeding wonderfully in the not-for-profit management world where she still thrives). My last lengthy conversation with Harry was to thank him for making the arrangements, and to report on the failed experiment. Harry was having none of it—instead he again broke into laughter, and exclaimed: "We cured her"!

Harry was not merely brilliant, but he was wise. While the rest of us were struggling in our adolescence to fit in and be cool, Harry was blissfully happy being his own unique self. It took years for most of us to reach that level of maturity—if we ever did.

Whenever I think of Harry I will smile. I can't think of a better way to be remembered.

John Gerszo



In 2018, Harry received my Christmas email which contained several images of my eclectic collection of knick-knacks, including a Perkin-Elmer Series 3200 coffee cup and some of my family's Pre-Columbian clay figures. Much to my surprise, Harry replied: "Ok Mike. Next year I will send pictures of barf bags from the vomitorium". Vomitorium? At first, I was rather offended. I thought he was making fun of my collection. Trying to be sarcastic, I answered: "Hey, if they are interesting and collectible, why not"?

But he was serious: "I have 600 bags dating from 1970s. Probably can give you Aero Mexico, Mexicana. Am attempting to get one from a Canadian astronaut".

I answered: "If I can be picky, I am interested in bags from Eastern Airlines, Western Airlines, TWA, BOAC, Aeroflot, Piedmont Airlines 1970s-1980's, in addition to Aero Mexico, or Mexicana (RIP)".

Harry's final suggestion: "Ok. I pretty much have bags from all the airlines you mention. I will try to get you 2 bags where I can, so you have some trading stock. I might throw in some others to give you diversity: Yak and Yeti (Nepal), KLM (for a clean feeling), Qantas (film offer), Air India (kindly fold the flaps toward you), some Russian airline (don't store food in the bag)".

It is weird that my last interactions with Harry were emails about barf bags. And yet his collection contains clues about his life and travels.

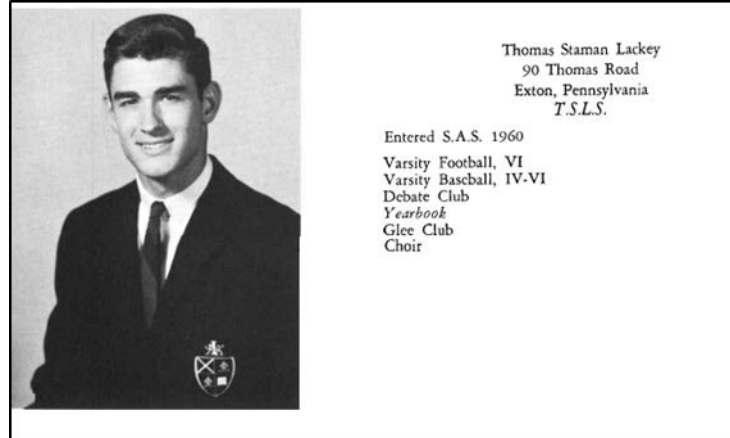
They are tags for remembrances of things past. I got a glimpse into that past about five years ago. During a dinner, I happened to ask my wife's first cousin, Javier, who is originally from Mexico City, and who was working for a gold mining company at the time, if he knew about a geologist named Harry Parker. "Oh yes", he said. Harry was very well known in the industry, and not only that, he met Harry at a Peruvian mine.

I never got the barf bags. But as it turns out, I may have objects which conjure up memories of Harry while we were at St. Andrew's. In addition to being a consistently good student, he was very enterprising. Before many Saturday night movies, he would set up a folding table in the entrance of the (old) auditorium to sell us paperback books. I bought one about the P-47 Thunderbolt, and another one titled *No High Ground*, a depressing account of the U.S. raid on Nagasaki and Hiroshima. Mr. Amos drove Harry to Wilmington so he could replenish his stock of books. I sometimes went along because I wanted to purchase miniature rolling stock at a model railroad store and help Mr. Amos with his purchases of HO tracks, cork ballast and switches. Some of those rail-road cars are in a display case behind my desk.

Harry and I worked together on the library squad for several years. By the Vth form, I considered him a close friend despite his curmudgeonly demeanor.

I will miss him. We all will.

Thomas Lackey



Tom found and shared:

Harry Parker: 2007 Medal of Merit Recipient

Harry Parker is widely known and respected as a foremost authority and expert in the field of resource modeling and geostatistics. He has emphasized preparation of resource models that reflect both local geological controls on grade and orebody geometry as well as the degree of selectivity implicit in the mining method.

Harry received his B.Sc. in Geology with departmental honors from Stanford University in 1967, followed by his AM. in Geology from Harvard University in 1969. Between 1965 and 1975, he worked as an Exploration and Staff Geologist for the Hanna Mining Company, focusing on exploration for nickel laterites, nickel–copper–cobalt sulfide deposits, volcanogenic massive sulfide deposits, and Mississippi Valley-type zinc deposits. While working for Hanna, he obtained his M.Sc. in Statistics in 1974 and his Ph.D. in Geology in 1975 from Stanford University.

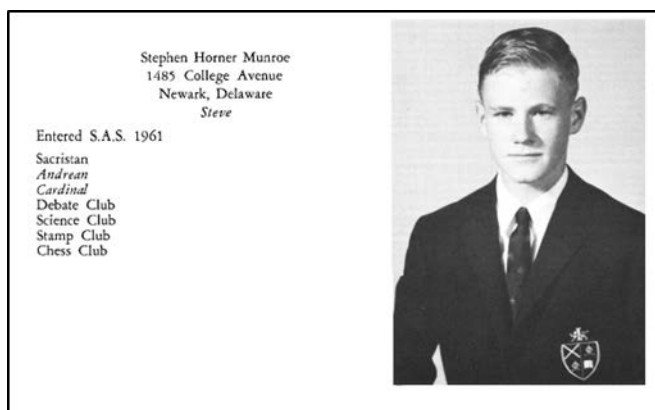
From 1975 through 1989, Harry served as a Mining Geologist and Geostatistician for Fluor Corporation. During his tenure at Fluor, he was involved in a wide variety of consulting assignments on six continents that focused on coal, uranium, copper and gold deposits and the development of state-of-the art geostatistical and mine planning software. He was a member of first U.S. mining delegation to China in 1977. From 1989 to the present, Harry has been Technical Director of AMEC and its predecessor firms

(MRDI, H.A. Simons, and Agra), and has been actively involved in the resource modeling of copper, molybdenum, gold, zinc, iron, silver, nickel, and platinum group elements (PGE) deposits worldwide. He has trained operations staff and implemented computer-based ore body and resource modeling systems on the Zambian Copper Belt in Africa. He has also led or advised teams responsible for providing Qualified Person's reports in connection with the change in ownership of major mining assets around the world.

Harry is a Professional Geologist (California, Arizona), a Chartered Professional Geologist and Fellow of the Australasian Institution of Mining and Metallurgy (AusIMM), a Fellow of the Society of Economic Geologists (SEG), an Honorary Life Member of the Geostatistical Association of Australasia, and a member of Phi Beta Kappa. He currently serves as the Chairman of the Registered Member Admissions Committee of the Society for Mining, Metallurgy and Exploration (SME), as Co-chairman of the SME Resources and Reserves Committee, and is a U.S. representative on the International Committee for Resources and Reserves Reporting. He is the author of numerous published technical papers. Harry currently resides in Incline Village, Nevada, with his wife Susan.

© Mining Foundation of the Southwest

Stephen Munroe

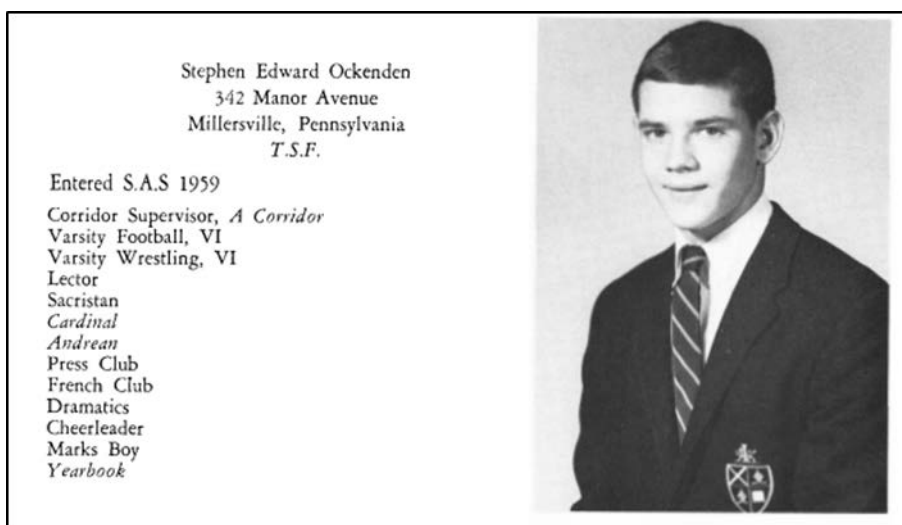


At the beginning of our IV Form year, my first at SAS, I saw a V Former, harassing Harry by scrawling (anonymously) "give up Harry" on one of the weather reports Harry had posted.

Of course, it had no effect, the weather reports continued all year and probably beyond.

Harry was not one to ever give up. It served him well.

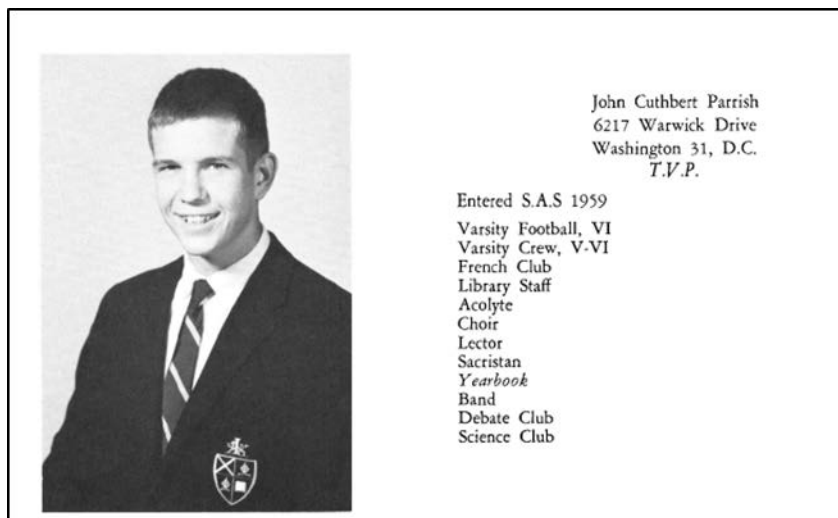
Stephen Ockenden



One of my favorite recollections of Harry is how he went about his duties as a table waiter when it was his turn. He would come rushing out of the kitchen, his tray stacked high with plates, and would turn sharply to the left or right to go to his assigned table. The stack of plates would lean a bit, a few things on the tray might slide an inch or so, Harry would lean into the turn, and people would hold their breath waiting for a crash. It never happened. Not once.

I asked him once how he managed to do this, and he gave me a tongue-in-cheek answer to the effect that he had applied his knowledge of physics and matrix algebra to determine the velocity and position vectors of the load on his tray, and then calculated how fast he could move and how sharply he could turn. He was so smart that this would not have surprised me, but his humor was so subtle and his wit so sharp that I could never be sure.

John Parrish



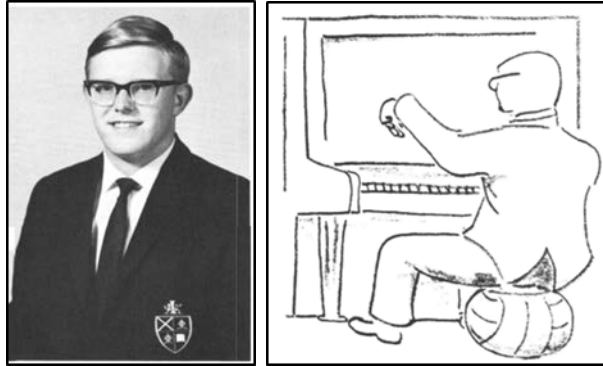
Tundra Boots was a marvelous man and great supporter of SAS. I have two classic memories of Harry, who managed to cut his own path outside athletic achievement so well. The road less traveled was surely Harry.

My first memory is of his sinecure job as custodian of the largely vacant upstairs library, which afforded him a private office. I would join him there to go through the Allied and National electronic catalogs to discuss various electronic components while listening to tunes on his Wallensak tape recorder purchased therefrom.

My second memory is his entrepreneurial venture to peddle quasi verboten literature under the table to under-formers prior to the weekend movie. A huge success that lifted the joy of reading for so many.

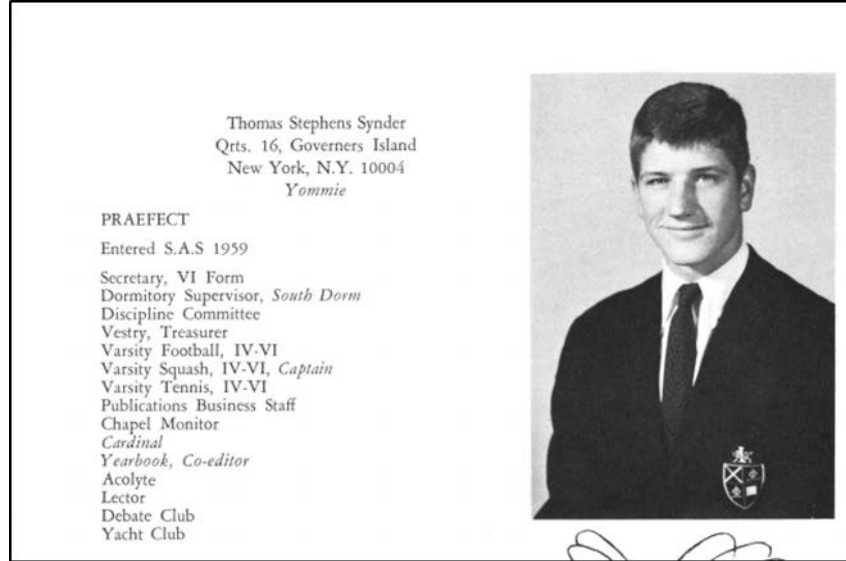
The best of we '64ers have been taken too soon, which provides me with the scant comfort that I therefore have significant runway left. I hope he left SAS his collection of rare airline barf bags from his travels to the remotest corners of the planet. My favorite was from some hill hopper airline in the U.S. southwest—the “Quiet Urp” bag. The endless forever is yours to explore now, Harry.

Otso Sovijarvi



Otso Sovijarvi, from Suonenjoki, Pappila, Finland, has been a true contribution to our class and to Saint Andrew's School. Some boys take from S.A.S. and leave nothing behind when they graduate. This has not been the case with Otso for he has been the main stay of the musical department as he demonstrated over Father's Weekend with a fine classical music performance. He is the only musician who has contributed to the Sixth Form coffee hour to make this privilege a period of "education" as well as relaxation for the Class of '64. His voice added zest to the choir, and Otso's role in the play was professional. In athletics, "Ots" was often complimented by his soccer mates for being the "best player on the field". Most important of all, his open kindness and constant good nature have been a sense of pleasure to us all. We would like to thank Otso for what he has done for us and wish him the best of luck when he enters the Finnish Army next year. After this, "Otto" hopes to take up the ministry, medicine, or politics. Whatever he does, Otso will undoubtedly be as much a success as he was here.

Thomas Synder

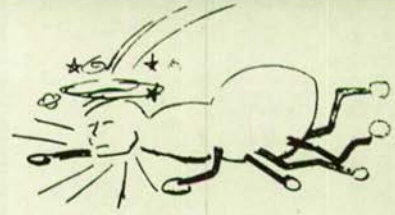
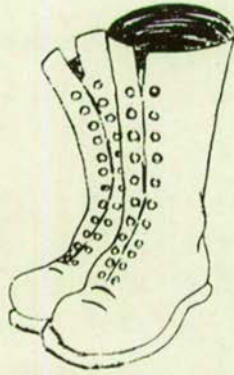


Harry's passing is indeed so very sad. His fight against melanoma was nothing less than heroic, fought tenaciously and with good humor.

Harry and I spoke with regularity over the last 18 months. He was always candid about the struggle, while never losing his optimism that his MD Anderson team and he might prevail.

Harry was a leading geologist, recognized throughout the world, and always in demand until the end for his knowledge and expertise. His career was remarkable and inspiring, one which would make both our class and our school proud to be able to call him one of our own. We all would have enjoyed the telling of Harry's adventures around the world, just a few of which I enjoyed at our 40th reunion.

Pictures



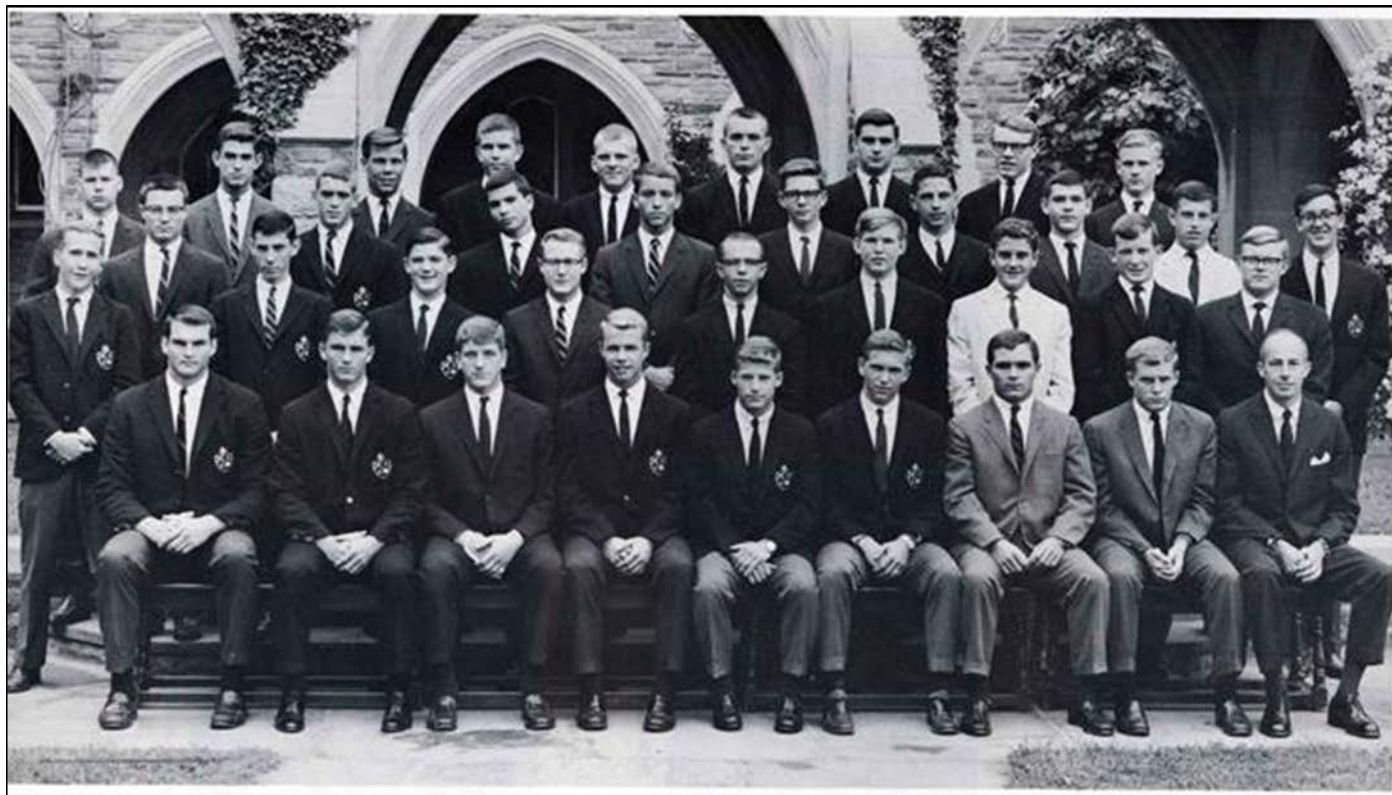
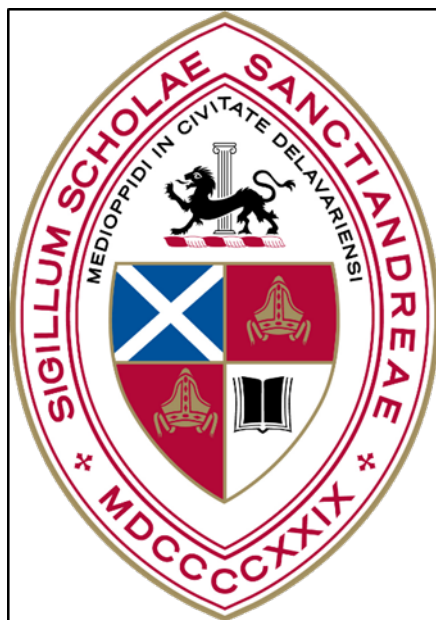
Harry McDougal Parker
1632 Fort Hunt Road
Alexandria, Virginia
Tundra Boots

Entered S.A.S. 1960

Varsity Soccer, IV-VI
Varsity Basketball, V-VI, *Manager*
Criss-Cross Club
Chess Club
Choir
Lector
Sacristan
Andrean
Cardinal
Debate Club
Glee Club
Science Club
Yacht Club

19

Harry's high-school yearbook, St Andrews High School, Middletown, Delaware (Larry Smith via Ancestry.com).
Even back in 1964, the interests were eclectic!



The 1964 St Andrew's sixth-form class (Henry Kim via <http://libraryarchives.standrews-de.org/archive/1964-sixth-formers>).

Harry is second row from the back, near centre, with glasses.

– Endowed Scholars Funds

Endowed Scholars Funds have a market value of at least \$250,000, and up to \$999,999. Unless otherwise specified, proceeds from these funds go toward general financial aid support. A gift may be made to any Endowed Scholars Fund at any time; to make a gift, contact Will Mitchell, Director of Advancement, at 302-285-4210 or wmitchell@standrews-de.org.

Alumni Memorial Scholars Fund

Established to honor alumni who served their country during World War II. This is now the general alumni fund for financial aid.

Class of 1964 Scholars Fund

Established with a gift from **Harry** Parker '64 in memory of his father, and now supported by members of the Class of 1964.

<https://www.standrews-de.org/giving/endowment-giving>

(Henry Kim).

Henry says: Harry told me that his family was not able to afford school tuition at St. Andrews after his father passed away. At that time, the school allowed him to continue his education for free, and Harry's family only had to pay for the room and board. He said he was very thankful to the school and always wanted to give back the money he owed one day. He did donate the amount he thought owed (with inflation) a few years ago.

My Life, or Tundra Boots Grows Up

Harry's reminiscences on the occasion of his 50th high-school reunion.

A week after I left SAS [St Andrew's School], I reported to Shrinemont, an Episcopal camp and conference center located in the Blue Ridge Mountains of Virginia. My job was waiting on tables and washing dishes professionally. I decided that it would be fun to date one of the counselors, and found one I liked at a table I was waiting on. Her name was Susan (Sue) Kemper. She impressed me in the way she took care of the children, aged six to maybe 12. I particularly remember her getting a young camper to end his hunger

strike and join his fellow campers. We attended a lot of parties in the Shenandoah Valley, and the summer flew by.

In September I left for Stanford, and in those pre-Silicon Valley days, it was a sleepy place. The courses were all there and solid, but the pace was pretty much left to the individual. I took geology my first quarter and loved it, particularly the field trips. So, I declared geology as my major and took about 10 courses from a well-integrated curriculum designed to produce field geologists that could figure out the rocks with a compass, hand lens, protractor-scale and pocket-knife. I learned the principle of multiple working hypotheses by which one gathered data, tested hypotheses against them, gathered more data and repeated the process.

The Dean got me a summer job as a field assistant at a mining company called Hanna (founded by the industrialist and Senator from Ohio, Marc Hanna). It was tough exploration in rugged terrain of northern California and southern Oregon. I cut wood to keep a fire going all day; samples were put in large pans, and it was my job to dry them for shipment. We also pounded an iron plate with an 8-lb sledge-hammer to make seismic surveys. Toward the end of the summer I was moved to a mine, where I was taught drafting with ink on linen. This was done with a crow quill pen, and I burned a hole through the linen with an electric eraser trying to correct mistakes. I was located in a bullpen and could observe the engineering and geology that was done to run the mine, and separate the ore from waste. I am pretty sure my SAS tundra boots were worn out by the end the summer.

By taking a heavier than normal course load, I graduated in three years. I took another summer job in Minnesota, also with Hanna Mining, doing detailed mapping in an area being heavily prospected for copper and nickel. I learned about black flies and cutting lines to control the maps through second-growth forest and brush.

I went off to Harvard to get a Master's degree, and learned about ore deposits from a Peruvian–German named Ulrich Petersen. There was a lot of physical chemistry, and they made me re-take advanced calculus.

While I was at Harvard, I went to Virginia to see Sue, and toward the end of 1968, we got married.

On graduation I went back to Minnesota and spent three years running ground geophysics in the swamps and forests and on frozen lakes. I learned to get snowmobiles and chainsaws going at -30°. We found a lot of graphite, but nothing of economic interest.

By chance I went to a convention of the Geological Society of America, and further I went to their bookstore. I saw a book entitled *Statistical Analysis of Geological Data*. I bought it and found it well written and interesting to read during the winter evenings.

In 1972, I returned to Stanford, this time to get a PhD in economic geology. I took a course in statistics and liked it. That led to picking up a Masters in statistics. Again, I was in luck. There were two professors, Paul Switzer and John Harbaugh, who were interested in applications of statistics and mathematics in geology. Hanna Mining then gave me a thesis area in Maine, and I convinced them to let me do geostatistical research for my thesis.

It was a good challenge: I had to relog 30,000 ft of core; teach myself programming; clean up the database; and predict conditional probability distributions of nickel, copper and cobalt given the assays from drill cores. I finished in 1975, and Hanna Mining thought so much of my work they moved me to Cleveland. Unfortunately, Sue did not like it there, so I decided to look for employment in the Bay Area.

I found a job at Fluor, an engineering and construction company. They had never heard of geostatistics. But they needed a programmer to write a pit design package. About that time uranium became a hot commodity, and Fluor had built a few processing plants, oil companies were interested, and by luck a former classmate was working on uranium at Mobil. He told his bosses to contract with us, and that led to the first serious use of geostatistics in uranium in the USA.

By 1977, we were processing about 10% of all exploration holes drilled in Wyoming and New Mexico. I went to China on a trade mission, and introduced the Chinese to geostatistics. The country was recovering from the Cultural Revolution and the need to spend a few hours a day studying *The Selected Works of Chairman Mao*. They threw out the Gang of Four while I was there and celebrated for three days the expunging of "bourgeois careerists" from the Communist Party. It was a peaceful celebration, fortunately, as we had to traverse a couple divisions of the Peoples

Liberation Army filling Tiananmen Square on the way back to our hotel from dinner. I collected my first barf bag on that trip, starting a collection that has now grown to about 600 bags.

My daughter Meg came along in 1976 and my son Win in 1979. I wasn't home much, as I was traveling to France and Africa (uranium), Colombia (coal), Australia (oil shale), China (copper and coal). The mining industry was booming, and Fluor decided to recycle their petrodollars into mining. They took a week to look over St Joe Minerals; my job was to value the domestic metals (lead, zinc and iron mines). I assembled a team of geologists and engineers, and put on a \$500 million value that later proved pretty accurate when the assets were sold in the early 1990s. It was interesting to observe that investment bankers rounded the asset values off to the nearest hundred million (two or even one significant figures), compared to our standard practice in resource and reserve estimation of using two or three significant figures.

Then came the recession in 1982, and except for gold the mining industry was in a severe down cycle. We survived on some multiyear coal projects, but by 1984, there was not much left. A World Bank contract came up in Zambia, and I went there. This began a long relationship bringing computers into the mines, and building some models of their copper and cobalt deposits that were among the largest of their day (800,000 blocks). I enhanced our pit design program, and spent many happy hours on a Vax 11-780 computer. The result was a value increase of \$100 million, quite a sum in those days. A picture is attached showing the family at Victoria Falls *[used as the introduction frontispiece picture for this section]*, probably the happiest day of my life.

In 1989, a group of us left Fluor to form Mineral Resources Development (MRDI). Even in good times it took a while to get the company up and running. I cycled through the gold mines in Nevada and took on an assignment to modernize the estimation of copper, molybdenum, gold and silver resources at Bingham Canyon, one of the largest mines in the U.S. and for that matter the world.

In 1996–1997 I went to Melbourne, Australia as an expert witness in a hard-fought case over the resources at a mine located in Borneo. I stayed in a hotel so long that when Michael Jackson came and stayed there, I was

invited by the general manager to a cocktail party in his honor. I regret now I did not take them up on the offer to "press the flesh". The other highpoint of the case was the judge. He came into the un-airconditioned courtroom one hot day in January and announced that "It will be 36°C tomorrow; we will not wear our wigs". Toward the end of the case he gave a long speech trying to get the parties to mediate. One reason he gave was "I might die, and you would have to try the case from scratch under a new judge". I asked the solicitor at the coffee break, "What was that all about"? He said: "No problem mate; we took out a \$30 million life insurance policy on the judge; premium was \$800,000".

This was followed by assignments in Brazil and Zambia to provide valuation and technical documentation to support privatization of state-owned mining companies. The ultimate accolade was having a section of one of my reports plagiarized in the Aero Zambia inflight magazine.

In 1999, I recognized that I had broken chairs on six continents. I decided to go to Antarctica, home of penguins, seals, albatrosses and whales. We stopped at an old British encampment with low hand-built stone huts. I tried to find a chair I could break, but alas the chairs were made with half-inch steel rebar.

MRDI was also sold, but I stayed on through a succession of corporate owners, the latest being AMEC. The 2000s brought large projects in Peru, Mongolia, South Africa and the Democratic Republic of Congo. Most interesting perhaps was Peru, where the Antamina Mine was situated far back in the Andes at 14,000 ft (4300 m). I started hiking around a couple hours a day, starting in the dark and watching the sun rise over the valley. It reminded me of the hymn we used to sing at SAS:

High o'er the lonely hills

Black turns to grey,

Birdsong the valley fills,

Mists fold away;

So, o'er the hills of life,

Stormy, forlorn,

Out of the cloud and strife

Sunrise is born.

I got into shape and did the Inca Trail in the summer of 2004 with son and nephew. The trail leads to Machu Picchu, and there are spectacular views of the Andes and amazing steps and tunnels cut out of solid granite. Having done that, my son, daughter, and I climbed Mt. Kilimanjaro in 2005. This was a great shield volcano of basalt with a superimposed steeper cone of andesite, only 800,000 years old, yet over 19,000 ft (5,800 m) high.

I did manage a trip to a gold project in Russia, on the Arctic Circle and so far east of Siberia, they call it Chukotka. Call Sarah Palin, and she can show it to you from her living room window. There was real tundra there, spongy grass and hard to walk on. I visited an underground operation and was amazed to find permafrost at a depth of 1,000 ft (300 m).

Since then, I moved to Lake Tahoe on the Nevada side, and have thoroughly enjoyed living there. My children both married in 2007, and we now have five granddaughters aged one to four. I am trying to settle down, and am waiting for clients to put me out to pasture. However, this comes from a nickel mine in Indonesia, from whence I return to Mongolia and thence to a gold mine in Turkey, a new stop on the tour.

At our 40th reunion, Otso Sovijarvi reminded us to “carpe diem”. For me it has been more as in the old beer commercial, “you only go around once, so go for the gusto”. It has been a voyage of discovery, long and fruitful.

Best wishes, and see you at the reunion.



Larry Smith (2020)

The deep dark secret. What Tundra Boots really wore when he grew up.

HMP in His Words



Harry with Win and Meg.

Harry Reminiscing on the Occasion of His 40th Year in Consulting

Harry noted: I started my consulting career on August 13, 1975.

Career highlights:

- ✚ Furthest north project: Kupol, Russia;
- ✚ Furthest east project: Kupol, Russia;
- ✚ Furthest south project: Los Sulfatos, Chile;
- ✚ Furthest west project: Rock Creek, AK;
- ✚ Coldest: Colomac, NWT;
- ✚ Hottest: Imouraren, Niger;
- ✚ Toughest: Kelian litigation;
- ✚ Fun: Hellenic Minerals, Greece;
- ✚ Easiest: Alumina Partners, Jamaica;
- ✚ Highest: Collahuasi, Chile;
- ✚ Nicest client: Energy Fuels;
- ✚ Roughest field conditions: Suluakan, Philippines.

Personal highlights:

- ✚ Best flight: Concorde;
- ✚ Shortest flight: San Francisco to Oakland (4 mins);
- ✚ Longest flight: Yangon, Myanmar–Bangkok–London–Sao Paulo–Santiago–Copiapo (40 hrs);
- ✚ Best airline: Pan Am;
- ✚ Best city hotel: Raffles Rudyard Kipling Suite, Singapore;
- ✚ Best country hotel: Laguna Seca, Peru;
- ✚ Best meals: Great Hall of the People, Beijing; Andre Journal's in-laws, France;
- ✚ Worst meal: Carvers Station, Round Mountain, NV.

Harry's Work History (1965–2018)

Year	Commodity	Employer	Client	Project	Location	Position	Duration	Site Visit	Comment
1965	Ni	Hanna		Lateritic nickel exploration	California–Oregon	Assistant	3 months	Yes	Ran sample preparation, seismic surveys, drafting
1967–1969	Cu, Ni	Hanna		Mafic sulfide exploration	Minnesota	Lead	6 months	Yes	Detailed mapping gabbroic rocks, self-potential surveys, diamond drilling
1969	Fe	Hanna		Pilot Knob Mine	Missouri	Assistant	1 month	Yes	Acting mine geologist for 7,000 t/d sublevel open stope mine
1969–1972	Cu, Zn, Au, Ag	Hanna		Greenstone exploration	Minnesota	Lead	3 year	Yes	Mapping, E.M., magnetics, gravity surveys, diamond drilling
1970–1971	Zn, Pb	Hanna		Tri State	Missouri, Kansas	Lead	2 months	Yes	Gravity surveys, reverse circulation drilling
1972	Pt	Hanna		Elandsrand (Bushveld)	Republic of South Africa	Consultant	2 weeks		Confidence limits on grade of lognormal distribution
1972	Co	Hanna		Iron Creek Prospect	Idaho	Consultant	1 month	Yes	Determined confidence limits on reserves, recommended no. of additional holes
1972–1975	Ni, Cu, Co	Hanna		Area 5 prospect	Maine	Lead	18 months	Yes	Logged 30 000 ft of core, pioneered conditional distributions of recoverable reserves
1974–1975	Ni	Hanna		Cerro Matoso	Colombia	Consultant	2 months		Ore reserves, geostatistical analysis, simulation of dilution, blending
1975	Au	Hanna		Picacho	California	Consultant	1 month	Yes	Confidence limits on reserves, recoverable reserve estimates
1975	Diamonds, Au	Hanna		Dragagem	Brazil	Consultant	2 weeks		Frequency distributions, analysis of variance
1976	Al	F.C. Kruger	National Bulk Carriers	Trombetas Bauxite	Brazil	Consultant	2 weeks		Specified software for reserve inventory
1975	Software	Fluor		Counter-current decantation (CCD) filter materials balance		Manager	1 month		An early prototype for FLEXMET, used on several uranium projects
1975	U	Fluor	GZL Mining Corporation	Vrroshi Vhr	Yugoslavia	Assistant	2 weeks		Computed ore reserves using polygons
1975	Fe	Fluor	National Bulk Carriers	Brucutu	Brazil	Consultant	2 weeks		Multi-element statistical study on representativeness of bulk sample
1975–1981	Software	Fluor		COPOR		Manager	1 year		Floating cone pit design package, wrote 25% of code
1976	U	Fluor	Arco	Clay West	Texas	Assistant	2 weeks		Cash flow analysis for piping alternatives, loaded resins to plant
1976	U	Fluor	Federal American Partners	Gas Hills	Wyoming	Consultant	1 month	Yes	Reserve audit and calculation, assessment of district potential
1976	Cu	Fluor	Homestake	Lakeshore Mine	Arizona	Assistant	3 weeks		Used COPOR to evaluate open pit alternative
1976	U	Fluor	Pioneer Nuclear	Standing Rock	New Mexico	Consultant	2 months		Reserve calculation, exploration program design, cash flow analysis
1976	Cu, Zn, Pb, Ag	Fluor	Pickands Mather	Detour	Quebec	Consultant	2 weeks	Yes	Reserve and exploration audit to determine fair market value
1976–1977	U	Fluor	Mobil	Crownpoint	New Mexico	Manager	1 year	Yes	Calculated and monitored reserves during exploration, cash flow analysis
1977	Sn	Fluor	International Oil	Mt. Razorback Mine	Tasmania	Manager	2 weeks		Indicator kriging to assess downdip potential
1977	Cu	Fluor	Esso Eastern	Disputada	Chile	Consultant	2 weeks		Reserve audit
1977	Coal	Fluor	Sunedco	Cordero expansion	Wyoming	Consultant	2 weeks		Simulated unit train loadout for barn storage capacity, single/double trucking alternatives.
1977	U	Fluor	Tennessee Valley Authority	Morton Ranch	Wyoming	Manager	2 months		Calculated reserves for 66 orebodies using 14,000 drill holes, exploration potent.
1977	Coal	Fluor	Intercor	Cerrejon	Colombia	Lead	2 months	Yes	First calculation of mineable reserves, exploration program design
1977	Miscellaneous	Fluor	The National Council for United States-China Trade (NCUSCT)	Technical exchange	People's Republic of China	Consultant	3 weeks	Yes	Presented 32 hours of lectures on geostatistics
1977	Coal	Fluor	Dow Chemical	Choctaw	Louisiana	Lead	1 month	Yes	Geostatistical reserves, exploration program design
1977–1978	U	Fluor	Mobil	Grants District Mine	New Mexico	Manager	3 months		Conditional simulation. of grade–thickness, impact of drill hole spacing on reserves
1977–1978; 1980	Coal	Fluor	Energy Fuels	Sugarloaf	Colorado	Lead	6 months	Yes	Block model, COPOR pit design, successful defense in \$30 M litigation
1978	U	Fluor	United Nuclear		New Mexico	Manager	1 week		Geostatistical methodology for U reserve estimation
1978	U	Fluor	Conoco	Imouraren	Niger	Manager	3 months		Ore reserves via lognormal kriging and conditional probability distributions

Harry McDougal Parker (1946–2019)

Year	Commodity	Employer	Client	Project	Location	Position	Duration	Site Visit	Comment
1978	Al	Fluor	Hellenic Minerals	Vronderon Bauxite	Greece	Lead	2 months	Yes	Geology review, sampling, reserve calcs, supervised marketing study
1978	U	Fluor	Mobil	Cadena 100%	Texas	Manager	1 month		Exploration program design for in-situ leach property
1978	Coal	Fluor	Dow Chemical	Castor Bayou	Louisiana	Sponsor	1 week	Yes	Monitored field work by Fluor geologists
1979	Cu, Mo	Fluor	China National Technical Import and Export Corporation (CNTIC)	Dexing	People's Republic of China	Lead	4 months	Yes	Geol. Review, kriging software, blk model, COPOR pit designs
1979	Au	Fluor	St Joe Minerals	El Indio Mine	Chile	Manager	1 week	Yes	Stat anal of outliers, geostatistical training for exploration staff
1979	U	Fluor	Conoco/Kerr McGee	Moore Ranch	Wyoming	Sponsor	2 weeks		Disequilibrium study, oriented variograms, geostatistical reserves,
1979	U	Fluor	Shroedder Wagg	Ranger Mine	Northern Territory, Australia	Sponsor	2 weeks		Geology and ore reserves review
1979	U	Fluor	Rocky Mountain Energy	Copper Mountain	Wyoming	Sponsor	2 months	Yes	Geol. Review, disequilibrium study, reserves via conditional probability distributions
1979, 1984	U	Fluor	Rio Tinto Zinc	Rossing Mine	Namibia	Manager	2 months	Yes	Reserve audit (disjunctive kriging 79, linear kriging with geological control 84)
1979–1980	U	Fluor	Cogema	Imouraren	Niger	Lead	6 months	Yes	Ore reserves, COPOR pit design, cutoff grade/stockpile optimization
1980	U	Fluor	Energy Resources of Australia	Ranger Mine	Northern Territory, Australia	Manager	2 weeks	Yes	Geology and reserves review for stock exchange prospectus
1980	Cu	Fluor	Rio Tinto Zinc	Cerro Colorado	Panama	Manager	1 month		Geostatistical methodology for block model. and reserve estimation, monitor for RTZ management
1980	Cu	Fluor	Antonio Floirendo	Suluakan	Philippines	Manager	1 week	Yes	Property examination, reserve estimate, exploration recommendations
1980–1981	Cu, Mo, Au	Fluor	Kennecott	Bingham Canyon Mine	Utah	Consultant	1 month	Yes	Review geology and reserves, pit design software
1981	Pb, Zn, Fe	Fluor	Fluor	St Joe Acquisition	Eastern United States	Lead	1 month		Due diligence for Domestic Metals Division
1981	Au	Fluor	Getty Minerals	Mercur	Utah	Sponsor	1 month	Yes	Recoverable reserves using geostatistics, geometallurgy
1981	Au, Ag	Fluor	Placer Development Inc	Porgera	Papua New Guinea	Consultant	1 month		Geometallurgy, COPOR pit design
1981	Au	Fluor	Homestake	McLaughlin	California	Sponsor	2 weeks		Geostatistical review of exploration drill hole spacing vs precision of reserves
1981	Au	Fluor	Smoky Valley Mining	Round Mtn	Nevada	Sponsor	1 month	Yes	Geostatistical study of recoverable reserves
1981	Oil shale	Fluor	Esso Australia	Rundle	Queensland	Consultant	1 month		Geostatistical reserves via kriging, drill hole spacing vs precision of reserves
1981	Au, Ag	Fluor	Gold Fields	Porgera	Papua New Guinea	Sponsor	3 months		Ore reserves via lognormal kriging and conditional probability distribution
1981–1986	Au	Fluor	Freeport Gold	Jerritt Canyon/Bell Mine	Nevada	Manager	5 months	Yes	Geostatistical assessment of recoverable reserves, indicator kriging software
1982	Au, Ag	Fluor	Hanna	Gooseberry Mine	Nevada	Manager	1 month		Universal kriging of reserves for vein deposit, panel kriging software
1982	Coal	Fluor	China National Coal Development Corporation (CNCDC)	Fushun West Open Pit	People's Republic of China	Consultant	2 months	Yes	Reconnaissance geological map of pit, reserve audit and model
1982	Ni	Fluor	Hanna	Cerro Matoso	Colombia	Manager	1 week		Specify work program for geostatistical reserve estimate by Hanna staff
1982	Au	Fluor	Guy Denman	Glendale	Nevada	Sponsor	1 week	Yes	Mapping, sampling of alluvial deposit
1982	Pb, Zn	Fluor	General Crude	White A	Alaska	Sponsor	1 month		Kriging block model of stratabound deposit
1982, 1984	Mo	Fluor	Norsk Hydro	Confidential	Confidential	Sponsor	1 month	Yes	Dowel rod model, panel kriging of reserves for porphyry Mo deposit
1982, 1986	Coal, software	Fluor	Carbozulia	Paso Diablo	Venezuela	Consultant	4 months	Yes	Built coal quality data base; COPOR pit designs and convert to F77
1982–1983	Coal	Fluor	Island Ck Coal	Ping Shuo	People's Republic of China	Lead	2 months		Geology and reserve audit, representativeness of bulk samples
1983	U	Fluor	Kerr McGee	Grants District	New Mexico	Manager	1 week		Scoping study for reserve audit
1983	Coal	Fluor	China National Coal Development Corporation (CNCDC)	Huo Lin He	People's Republic of China	Lead	5 months	Yes	Seam correlations, block model, coal quality for direct ship and washed product

Harry McDougal Parker (1946–2019)

Year	Commodity	Employer	Client	Project	Location	Position	Duration	Site Visit	Comment
1983	Al	Fluor	Alpart	Bauxite mines	Jamaica	Manager	1 week	Yes	Scoping study for database, pit sequencing, conveyor/truck alternatives.
1983–1984	Au	Fluor	Kone	Kahama	Tanzania	Manager	2 months		Geological and sampling review, calculated reserves for vein deposit
1984	Au	Fluor	Placer Services	San Juan Ridge	California	Consultant	2 weeks	Yes	Audit sampling methods, data base; advise on geostatistical methodology
1984	Cu, Co, pyrite	Fluor	Zambia Consolidated Copper Mines/World Bank	11 mines	Zambia	Lead	3 months	Yes	Audited geology, sampling, reserves for entire Zambian Copperbelt
1984	Cu, U, Au, Ag	Fluor	Roxby Management Services	Olympic Dam	South Australia	Sponsor	2 months	Yes	Geology review and reserve audit, geostatistical reserves
1984–1986	Coal, software	Fluor	Carbocol/World Bank	Cerrejon	Colombia	Consultant	4 months	Yes	Audit geology and reserves, developed Personal Geostatistical System, dust/fines study
1985	Au, Ag, Pb, Zn	Fluor	Bank of America	Montana Tunnels	Montana	Sponsor	1 month	Yes	Audit geology, sampling; calculated geological reserves
1985	Coal	Fluor	Shell	Jining	People's Republic of China	Consultant	2 months		Geology and coal quality review, reserve estimation
1985	Cu	Fluor	Codelco	Andina	Chile	Lead	3 weeks	Yes	Geology review and reserve audit
1985	Cu, Co	Fluor	Zambia Consolidated Copper Mines/World Bank	Eight mining units	Zambia	Lead	4 months	Yes	Preparation of 5 Year Plans, assess geological training, geostatistical study
1985	Coal	Fluor	Arco	Business conditions	People's Republic of China	Consultant	1 week		Coal geology, exploration and reserve procedures used in P.R.C.
1986	Au	Fluor	Fluor/South Montague	Sumich, Goldbar, Hog Ranch	Nevada	Manager	2 weeks	Yes	Audit for possible investment
1986–1987	Au, Ag, Pb, Zn	Fluor	Murray Trygg	Sunnyside Mine	Colorado	Manager	6 weeks	Yes	Geostatistical treatment of very high-grade samples, Personal Geostatistical System
1986–1988	Cu, Co	Fluor	Zambia Consolidated Copper Mines/World Bank	Nchanga Open Pit	Zambia	Lead	18 months	Yes	970,000 block model, COPOR pit design, mine/mill reconciliation, economic analysis
1988	Cu	Fluor	Mineral Resources Development Ltd/Zambia Consolidated Copper Mines	Nchanga Underground Mine	Zambia	Lead	4 months	Yes	Managed design coding and implementation of block cave production scheduling system
1988	Au	Fluor	Bank of America	Colomac	Northwest Territories, Canada	Lead	3 weeks		Audit geology and reserves for 10,000 t/d quartz diorite porphyry open pit project
1988–1989	Au	Fluor	Neptune Resources	Colomac	Northwest Territories, Canada	Manager	3 months	Yes	Advisory services and presentation to investors on geology, ore reserves and drill program
1988	Pb, Zn, Au, Ag	Fluor	Chemical Bank	Greens Creek	Alaska	Sponsor	1 week		Due diligence to support project financing
1988	Software	Fluor	Fluor/Wright	Due diligence	British Columbia, Canada	Lead	1 month	Yes	Evaluation of Wright Engineers/Lynx Geosystems geological/mining software and business plans
1989	Cu	Fluor	Mineral Resources Development Ltd/Zambia Consolidated Copper Mines	Nchanga Underground Mine	Zambia	Lead	1 month	Yes	Reserve evaluation of exhausted and reclamation areas
1989	U	Fluor/MRDI	Fluor/CEGB	Kayelekera Project	Malawi	Sponsor	3 weeks	Yes	Geology and reserves to support detailed feasibility study
1989	Cu	MRDI	Zambia Consolidated Copper Mines	Konkola Underground Mine	Zambia	Lead	3 months	Yes	Reserve model to support detailed feasibility study
1989, 1994–1995	Ni, Cu, Co	MRDI	Apollo Mining	Munali Nickel Project	Zambia	Lead	2 months	Yes	Geology and reserves for prefeasibility study
1989–1992	Cu, Mo, Au, Ag	MRDI	Kennecott	Bingham Canyon Mine	Utah	Manager	18 months	Yes	600,000 block reserve model using kriging w/in grade zones
1989–1992	Au	MRDI	Kennecott	Lihir Project	Papua New Guinea	Manager	9 months		Check assays, endorse reserves, computer mine plan, conditional simul.
1990–1991	Au	MRDI	Bema Gold	Refugio	Chile	Sponsor	4 months	Yes	Due diligence for property acquisition, reserves, disequilibrium
1990–1992	U	MRDI	Kennecott	Green Mountain (Jackpot)	Wyoming	Manager			
1991	Au	MRDI	Sharpes Pixley	Royal Mtn King Mine	California	Lead	1 week	Yes	Ore reserves due diligence on behalf of potential buyer

Harry McDougal Parker (1946–2019)

Year	Commodity	Employer	Client	Project	Location	Position	Duration	Site Visit	Comment
1991	Au	MRDI	Bema Gold	Buffalo Gulch	Idaho	Lead	1 week	Yes	Ore reserves review
1991–1992	Au	MRDI	Fairbanks Gold	Fort Knox	Alaska	Manager	3 months	Yes	Ore reserve model, monitor drilling program for 35,000 t/d open pit project
1991	Au	MRDI	Independent Mining	Big Springs	Nevada	Manager	2 weeks		Established capping grades for disseminated deposit
1991–1992	Au	MRDI	Gold Fields	Mesquite Mine	California	Lead	4 months	Yes	Reconciliation, audit reserve model, computer mine plan
1992	Au	MRDI	Independent Mining	Jerritt Canyon Mines	Nevada	Manager	3 months	Yes	Drill hole spacing, resource class., improved grade control
1992	Cu	MRDI	Union Bank of Switzerland	Quebrada Blanca	Chile	Manager	3 months		Review ore reserves, geostatistics, conditional simulation for project financing
1992–1993	Cu, Au, Ag	MRDI	Kennecott	North Ore Shoot	Utah	Manager	3 months	Yes	Ore reserves in support of feasibility studies and project financing
1992	Au	MRDI	Gold Fields	United States mines/prospects	Nevada, California, Montana	Manager	2 weeks	Yes	Review of ore reserves for internal purposes
1993	Cu, Co	MRDI	Zambia Consolidated Copper Mines	Zambian Copperbelt	Zambia	Lead	6 weeks	Yes	Review ore reserves and resources, Nchanga Open Pit model download
1993	Au	MRDI	Pegasus	Pullahi, LLipe	Chile	Manager	1 week	Yes	Review data for two prospects; exploratory data analysis, drilling program
1993	Au	MRDI	Ivanhoe Gold Fields	Dublin Gulch	Yukon, Canada	Manager	2 weeks		Review data for prospect; exploratory data analysis, drilling program
1993–1996	Au	MRDI	American Barrick	Goldstrike Mine	Nevada	Manager	2 months	Yes	Review reserve methodology, build new reserve model
1993, 1995	Fe	MRDI	BHP	Mt Whaleback Mine	West. Australia	Manager	1 month	Yes	Review reserve methodology, audit database, calculations
1993	Cu, Au	MRDI	Newmont Mining	Batu Hijau	Indonesia	Lead	1 month	Yes	Review exploration geology and reserves; develop drill program for feasibility study
1993–1994	Au	MRDI	Amax Gold	Guanaco	Chile	Sponsor	5 weeks	Yes	Review mine geol./ore controls; new reserve model using grade zones
1993	Au	MRDI	Santa Carolina	Cerro Corona	Peru	Manager	1 week	Yes	Review geology, advise on potential and JV possibilities
1993	Zn, Pb	MRDI	Metall Mining	Castellanos	Caribbean	Sponsor	2 weeks		Review geology, develop reserve methodology for feasibility study
1993–1994	Zn, Pb, Ag, Au	MRDI	Kennecott	Greens Creek Mine	Alaska	Manager	3 weeks	Yes	Review geology and reserve methodology
1993	Au	MRDI	James Kapel	Ashanti Mines	Ghana	Sponsor	2 weeks	Yes	Review geology and reserve methodology; due diligence for prospectus
1993–1994	Cu, Au	MRDI	Freeport Indonesia	Grasberg Open Pit	Indonesia	Manager	5 weeks	Yes	Investigate mine/mill variance
1994	Cu	MRDI	Zambia Consolidated Copper Mines	Chambishi Mine	Zambia	Lead	1 month	Yes	Review ore reserve model; reserve risk analysis using cond. simulation
1994	Au	MRDI	McQuarie Metals	Colomac Mine	Northwest Territories, Canada	Consultant	2 weeks	Yes	Review reserves, production reconciliation
1994	Cu, Mo, Au, Ag	MRDI	Kennecott	Bingham Canyon Mine	Utah	Manager	1 month	Yes	Prepare updated reserve model using kriging
1994	Au	MRDI	Ranger Minerals	Damang/Abosso	Ghana	Manager	2 weeks	Yes	Pre-feasibility reserves and resources
1993–1994	Au	MRDI	American Resources Corporation	San Gregorio	Uruguay	Sponsor	3 weeks		Feasibility study reserves and resources
1994	Cu	MRDI	Codelco	Mansa Mina	Chile	Lead	3 weeks	Yes	Review geology, reserve methodology
1994–1995	Cu, Au	MRDI	American Barrick	Cerro Corona	Peru	Sponsor	2 weeks	Yes	Technical support to field program, reserve modelling
1994–1995	Cu	MRDI	Zambia Consolidated Copper Mines	Mufulira Mine	Zambia	Lead	6 months	Yes	Palinspastic model of sediment hosted Cu to guide exploration
1994	Au	MRDI	Amax Gold	Robertson	Nevada	Sponsor	1 week	Yes	Review reserves for intrusive/skarn-hosted Au deposit
1994	Au	MRDI	Fairbanks Gold	Fort Knox	Alaska	Sponsor	1 week	Yes	Conditional simulation to assess reserve risk, grade control
1994	Au	MRDI	Enterprise Appraisals	Newmont Carlin Trend	Nevada	Manager	2 weeks	Yes	Review refractory res. and resources to support sale/lease of roaster
1994	Cu, Au	MRDI	Zambia Consolidated Copper Mines	Kansanshi	Zambia	Sponsor	2 weeks	Yes	Exploration program for Au, Class I Study
1994	Au	MRDI	Independent Mining	Jerritt Canyon, Cripple Ck	Nevada, Colorado	Manager	3 weeks	Yes	Review reserves and resources, mine plans and costs
1994–1995	Au	MRDI	Union Bank of Switzerland	Troilus	Quebec	Consultant	3 weeks		Review reserves for O.P. mine
1994–1995	Au	MRDI	Compañía Minera Doña Inés de Collahuasi	Collahuasi	Chile	Sponsor	3 weeks	Yes	Review resources for Ujina, Rosario, Huiniquitipa open pit deposits
1994–1995	Au	MRDI	Amax Gold	Hayden Hill, Sleeper	California, Nevada	Manager	2 weeks	Yes	Review reserves for annual report

Harry McDougal Parker (1946–2019)

Year	Commodity	Employer	Client	Project	Location	Position	Duration	Site Visit	Comment
1994–1995	Cu	MRDI	Zambia Consolidated Copper Mines	Konkola	Zambia	Lead	3 months	Yes	Revise reserves for deep mine expansion
1995	Au	MRDI	Nuigini Mining	San Cristobal	Chile	Sponsor	1 week	Yes	Review reserves for annual report
1995	Au	MRDI	Compañía Minera Maricunga	Refugio	Chile	Manager	3 weeks		Review reserves to support mine start-up
1995	Cu	MRDI	Gibraltar	Lomas Bayas	Chile	Consultant			
1995	Zn, Pb	MRDI	Century Zinc	Century, Queensland	Australia	Manager			
1995	Au	MRDI	First Miss Gold	Turquoise Ridge	Nevada	Sponsor			
1995	Cu	MRDI	Compañía Minera Escondida	Escondida	Chile	Sponsor			
1995	Cu, Au	MRDI	Salobo Metals	Salobo	Brazil	Manager			
1995	Cu	MRDI	Canada Tungsten	Andacollo	Chile	Consultant			
1995–1996	Au	MRDI	Echo Bay Mines	Alaska Juneau	Alaska	Manager	5 weeks	Yes	Review reserve estimation methodology for pre-feasibility study
1995–1996	Cu	MRDI	Ivanhoe Myanmar	Monywa	Myanmar (Burma)	Consultant	6 weeks	Yes	Feasibility study for heap-leach copper deposit
1995–1996	Au	MRDI	First Dynasty	Dublin Gulch	Yukon, Canada	Sponsor	2 weeks	Yes	Review sampling
1996	Au, Cu	MRDI	Royal Oak	Kemess South	British Columbia	Manager	3 weeks		Audit Reserves
1996	Fe, Au, Cu, bauxite	MRDI	Rothschilds/Merrill	Privatization	Brazil	Manager	3 months	Yes	Valuation of mineral properties
1996	Mn, potash, kaolin	MRDI	Lynch/Compañía Vale do Rio Doce	Ore Reserve classification	Brazil	Consultant	1 week	Yes	Classification of reserves SEC/SME standards
1996–1997	Au	MRDI	CRA	Kelian Litigation	Australia	Manager	9 months	Yes	Lead defense witness on ore reserves
1997	Au	MRDI	Amax Gold	Fort Knox & Refugio	Alaska, Chile	Manager	2 weeks	Yes	SEC Form 10-K reserve audit
1997	Au	MRDI	Rea Gold	Mt. Hamilton	Nevada	Sponsor	1 week	Yes	Resource using kriging within domains
1997	Au	MRDI	Rea Gold	San Gregorio	Uruguay	Sponsor	3 weeks	Yes	Resource model for shear-hosted deposit, used multiple indicator kriging
1997	Fe	MRDI	BHP Iron Ore	Newman District	Western Australia	Manager	3 weeks	Yes	Review of resource and reserve models, mine plans, 15 year production schedule
1997	Au	MRDI	Cripple Creek & Victor	Cripple Creek Dist. - Cresson	Colorado	Manager	1 week	Yes	Review resource modelling methodology
1997	Au	MRDI	Amax Gold	Haile Litigation	South Carolina	Lead	1 month	Yes	Defense witness on reserves and exploration potential
1997	Cu	MRDI	Falconbridge	Konkola	Zambia	Consultant			
1997–1998	Pb, Zn, Au, Ag	MRDI	Kennecott	Greens Creek Mine	Alaska	Manager	1 month	Yes	Reconciliation, audit reserve model
1997–1998	Diamonds	MRDI	Diavik	Diavik	Northwest Territories, Canada	Sponsor	1 month	Yes	Resource model, classification
1997–1998	Cu, Co	MRDI	Zambia Consolidated Copper Mines	Copperbelt, Zambia	Zambia	Manager	3 months	Yes	Competent persons report to support privatization
1997–1998	Au	MRDI	Independent Mining	Jerritt Canyon	Nevada	Manager	3 weeks	Yes	Audit resource model
1997–1998	Au	MRDI	Amax Gold	Fort Knox	Alaska	Sponsor	3 weeks	Yes	Build new resource and reserve model
1998	Pb, Zn, Au, Ag	MRDI	Kennecott	Greens Creek Mine	Alaska	Manager	5 months	Yes	Audit database and build new resource models with mine staff
1998	Cu, Mo, Au, Ag	MRDI	Kennecott	Bingham Canyon Mine	Utah	Manager	6 weeks	Yes	Audit database and resource models for porphyry and skarn underground deposits
1998, 2000	Cu	MRDI	Minera Escondida	Escondida Norte	Chile	Sponsor	1 month	Yes	Resource model and update
1998–1999	Au	MRDI	Barrick	Goldstrike Mine	Nevada	Manager	12 weeks	Yes	Evaluation of Post and Screamer open pit resources, test MIK
1998–2000	Au	MRDI	Barrick	Meikle Mine	Nevada	Manager	2 weeks	Yes	Review resource modelling methodology and reconciliation
1998–2000	Au	MRDI	Independent Mining	Jerritt Canyon	Nevada	Manager	1 month	Yes	Audit resources, drill hole spacing, strategic plan
1998–2000	Au	MRDI	Cripple Creek & Victor	Cripple Creek district, Cresson	Colorado	Manager	1 month	Yes	Audit resources, drill hole spacing, strategic plan
1999	Cu, Zn, Au, Ag	MRDI	Hudson Bay Mining and Smelting Company	Flin Flon	Manitoba	Sponsor	2 weeks	Yes	Develop confidence limits for inferred resources
1999	Ni	MRDI	Bankruptcy Court	Nical	California	Lead	1 week		Review reserve calculations
1999	Au	MRDI	Newmont Mining	Yanacocha	Peru	Manager	1 month	Yes	Prepare software documentation, review resource models
1999	Diamonds	MRDI	DeBeers	Premier Mine	South Africa	Manager			

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Year	Commodity	Employer	Client	Project	Location	Position	Duration	Site Visit	Comment
1999	Pt, Pd	MRDI	North American Palladium	Lac des Iles	Ontario	Sponsor			
1999–2000	Cu, Mo, Au, Ag	MRDI	Kennecott	Bingham Canyon mine	Utah	Manager			
1999–2001	Cu, Co	MRDI	Zambia Consolidated Copper Mines/Zambia Copper Investments	Zambian Copperbelt	Zambia	Manager	8 months	Yes	Prepare Competent Person's Report and technical documentation
1999–2000, 2003	Au	MRDI	Battle Mountain Gold	Phoenix Project	Nevada	Sponsor	6 weeks	Yes	Review resource models
2000	Pt, Pd	MRDI	Stillwater Mining	E. Boulder, Nye	Montana	Sponsor	5 weeks	Yes	Review resource models; prepare new resource models
2000	Diamonds	MRDI	Diamond Fields International	Lüderitz Bay	Namibia	Sponsor	1 week		Feasibility study for marine diamonds project
2000	Au, Cu	MRDI	Scotia Capital	Kemess South	British Columbia	Lead	1 week	Yes	Audit reserves
2000	Au	MRDI	Homestake	Veladero	Argentina	Manager	1 week		Review resource classification criteria
2000–2001	Au	MRDI	Kinross	True North, Gil, Ryan	Alaska	Manager	5 weeks	Yes	Assist in resource modelling, geostatistical training, reconciliation
2000–2002	Cu, Zn, Mo, Ag	MRDI	Compañía Minera Antamina	Antamina	Peru	Manager			
2001	Cu	MRDI	Compañía Minera Doña Inés de Collahuasi	Collahuasi	Chile	Sponsor	2 weeks		Review kriging plans for Rosario deposit
2001	Diamonds	MRDI	DeBeers	All properties	Southern Africa	Manager	2 weeks		Edit technical and financial report to shareholders
2001	Cu	MRDI	Konkola Copper Mines	Konkola	Zambia	Manager	2 weeks	Yes	Advise and review 3-dimensional resource model
2001–2002	Diamonds	MRDI	DeBeers	Snap Lake	NWT, Canada	Sponsor	3 weeks	Yes	Review resource model, assess dilution and ore loss
2001	Diamonds	MRDI	DeBeers	Jagersfontein	South Africa	Manager	1 week	Yes	Review dump sampling program
2001	Fe	MRDI	Compañía Vale do Rio Doce	Timbopeba	Brazil	Sponsor	2 weeks	Yes	Construct new resource model
2001	Au	MRDI	Newmont	Carlin Underground	Nevada	Manager	1 week	Yes	Review resource models and classification
2001	Au	MRDI	Rio Tinto	Lihir	P.N.G.	Manager	1 month		Compare uniform conditioning and multiple indicator kriging
2001	Cu	MRDI	BHP Billiton	Tintaya	Peru	Manager			
2001–2003	PGEs	MRDI	African Minerals	Platreef	South Africa	Sponsor	8 months	Yes	Review data, determine ore controls, design drilling program
2001–2006	Cu, Au	MRDI	Ivanhoe Mines	Oyu Tolgoi	Mongolia	Manager	5 months	Yes	Review exploration program, prepare resource model, resource risk analysis
2001–2003; 2005–2006	Cu, Mo, Au, Ag	MRDI	Kennecott	Bingham Canyon underground/open pit	Utah	Sponsor	2 weeks	Yes	Review geological interpretation, advise on conceptual resource model
2002	Cu, Au	AMEC	Freeport Indonesia	Grasberg	Indonesia	Sponsor			
2002	Au	AMEC	Trans Siberian	Asacha	Kamchatka	Consultant			
2002–2003	Ni	MRDI	Falconbridge	Koniambo	New Caledonia	Manager	4 months	Yes	Review resource model and classification
2002–2003	Ni, Cu	AMEC	Inco	Voisey's Bay	Newfoundland	Manager	5 weeks	Yes	Review exploration model; build resource model using MIK
2002, 2004	Au	AMEC	Newmont	Akyem	Ghana	Sponsor			
2002, 2006, 2008, 2012, 2013	Cu	AMEC	Rio Tinto	Resolution	Arizona	Manager	10 weeks	Yes	Review exploration data, resource models, assess risks related to faulting
2003	Metals, industrial minerals	AMEC	Inco	Survey	Worldwide				
2003	Diamonds	AMEC	DeBeers	Risk Analysis	United Kingdom				
2003–2004	Ni, Cu, PGEs	AMEC	African Minerals	Platreef	South Africa				
2003, 2006	Au	AMEC	Nova Gold	Donlin Creek	Alaska	Sponsor	3 weeks		Resource modelling, classification
2003, 2007	Cu, Au	AMEC	Anglo American	Boyongan	Philippines	Manager	6 weeks	Yes	Resource audit
2003–2012	Cu, Zn, Mo, Ag	AMEC	Compañía Minera Antamina	Antamina	Peru	Sponsor	2.5 years	Yes	Review and prepare new resource models, resource classification, grade control, block values
2004	Au	AMEC	Newmont	Jundee	Australia	Sponsor	10 weeks	Yes	MIK model of dollar value with metals estimated via regression,43-101 Technical Report.
2004	Cu, Au	AMEC	Philex Gold	Boyongan	Philippines				
2004	Au	AMEC	Barrick	North Screamer, West Barrel	Nevada	Consultant	1 week	Yes	Serve on steering committee to guide risk assessment

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Year	Commodity	Employer	Client	Project	Location	Position	Duration	Site Visit	Comment
2004–2005	Au	AMEC	Bema	Kupol	Russia	Sponsor	10 weeks	Yes	Review resource model and classification, treatment of outliers, recommend drilling program
2004–2005	Ni	AMEC	Dynatec	Ambatovy	Madagascar				
2004, 2006	Au	AMEC	NovaGold	Rock Creek	Alaska	Sponsor	4 months	Yes	Develop resource models using linear kriging; 43-101 Technical Report
2005	Ni	AMEC	Canico/Barclays	Onça Puma	Brazil	Manager	2 weeks	Yes	Review data, top-cutting and resource modelling
2005	Au	AMEC	GLR	Box	Saskatchewan	Manager	2 weeks		Prepare resource chapter, 43-101 Technical Report
2005	Fe ore	AMEC	Robe	West Angelas	Western Australia				
2005	Miscellaneous	AMEC	Anglo American		Republic of South Africa				
2005	Diamonds	AMEC	DeBeers	Republic of South Africa operations	Republic of South Africa	Manager	1 week	Yes	Exploratory data analysis, drill hole spacing
2005, 2007	Ni	AMEC	Inco	Sorowako	Indonesia	Manager	9 weeks	Yes	Review geology interpretations, resource models for Ni laterite ops
2006	Ni	AMEC	Inco	McCreedy East, Coleman	Ontario	Manager	4 weeks	Yes	Review resource models for Ni laterite
2006	Au	AMEC	Placer Dome	Turquoise Ridge	Nevada	Manager	1 week	Yes	Review reconciliation
2006–2008	Cu, U, Au	AMEC	BHP Billiton	Olympic Dam	South Australia	Consultant	4 months	Yes	Audit resource models for expansion; review calculated mineralogy
2006, 2008	U	AMEC	Wildhorse Energy	Green Mountain	Wyoming				
2006–2014	Miscellaneous	AMEC	Rio Tinto/Duke Continuing Education	Workshop on estimation and reconciliation	United States, Australia, Republic of South Africa	Consultant	1 month	Yes	Review logging, geol. interpretations, resource models
2007	Cu, Au, Mo, Ag	AMEC	Kennecott	Bingham Canyon open pit	Utah	Consultant	2 weeks	Yes	Audit reserves
2007	Cu, Au	AMEC	Kennecott	Bingham Canyon North Rim Skarns	Utah	Sponsor	2 weeks	Yes	Model resources using Datamine, unfolding
2007	Pb, Zn	AMEC	Anglo American	Lisheen	Ireland	Consultant	1 week	Yes	Reconciliation
2007		CRIRSCO	IASB	Mapping mineral resources to petroleum		Consultant	3 weeks		Joint CRIRSCO/SPE project
2007	Ni	AMEC	Turnagin	Hard Creek Nickel	British Columbia	Consultant	1 week		Peer review and advice
2007–2009	Ni	AMEC	Vale Inco	Onça Puma	Brazil				
2007, 2010	U	AMEC	Aurora-Fronteer	Michelin	Labrador	Consultant	2 weeks		Review resource models and conditional simulations
2008	Potash	AMEC	Athabasca Potash	Burr	Saskatchewan				
2008	Diamonds	AMEC	Shore Gold	Star	Saskatchewan				
2008–2010		CRIRSCO	IASB	Extractive industries project	Worldwide	Manager	2 months		Provide technical input to accounting standards regarding reserves, resources
2008, 2009, 2010	Cu	AMEC	Abacus	Ajax	British Columbia				
2008, 2015	Ni, Cu, Co	AMEC	Vale Inco	Voisey's Bay	Labrador	Consultant	1 month	Yes	Resource audit, and Qualified Persons report
2009	Diamonds	AMEC	DeBeers	Gahcho Kue	Northwest Territories, Canada	Consultant	1 week		Peer review
2009–2010	Au, Cu	AMEC	Kinross	Lobo Marte	Chile				
2009–2010	Cu	AMEC	Orvana	Copperwood	Michigan	Consultant	3 weeks	Yes	Review resource models
2009–2010; 2013–2014	Cu	AMEC	TEAL	Konkola North; Lubambe	Zambia				
2009–2016	Cu	AMEC	Ivanplats	Kamoa	Democratic Republic of Congo	Sponsor	6 months	Yes	Resource models, Technical Reports, served as QP
2010	Cu, Mo, Au, Ag	AMEC	Kennecott	Bingham Canyon	Utah	Consultant	3 weeks		Resource models
2010	Fe	AMEC	Iron Ore Co. Canada	Luce	Labrador	Consultant	2 weeks		Review resource models
2010	Potash	AMEC	BHP Billiton	Jansen	Saskatchewan				
2010	Miscellaneous	CRIRSCO	IASB	Extractive activities discussion paper					
2010–2012	Cu	AMEC	Rio Tinto	La Granja	Peru				
2010–2011, 2015	Diamonds	AMEC	DeBeers	Jwaneng, Venetia	Botswana, Republic of South Africa				

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Year	Commodity	Employer	Client	Project	Location	Position	Duration	Site Visit	Comment
2010–2014, 2016	Cu, Au	AMEC	Oyu Tolgoi LLC	Oyu Tolgoi	Mongolia				
2010–2016	Ni, Cu, Pt, Pd, Au	AMEC	Ivanplats	Platreef	Republic of South Africa	Manager	10 months	Yes	Resource models, Technical Reports, served as QP
2011	Miscellaneous	AMEC	BHP Billiton	Perth	Australia	Manager	1 month		Review corporate governance procedures for reserves and resources
2011–2013	Cu	AMEC	Codelco	El Salvador	Chile	Manager	6 weeks		Review PCBC projections of remaining broken ore tonnage and grade
2011–2014	Cu, Ni, PGEs	AMEC	Twin Metals Minnesota	Maturi and Birch Lake	Minnesota	Sponsor	7 weeks	Yes	Resource models, drilling programs, QP
2012–2013	Cu, Mo, Ag	AMEC	Intergeo	Ak Sug	Siberia	Sponsor	6 weeks	Yes	Resource models, metallurgical sample selection
2012–2013	Ni, Cu, PGEs	AMEC	Intergeo	Kingash	Siberia	Sponsor	2 weeks	Yes	Review data, metallurgical sample selection
2013	Au	AMEC	Endeavour Mining	Houndé	Burkina Faso				
2013	Various		University of Adelaide	PhD thesis external reviewer	Australia				
2013	Au	AMEC	AngloGold Ashanti	Gramalote	Colombia				
2013–2014	Cu, Au	AMEC	Philex Mining	Silangan	Philippines	Sponsor	1 month	Yes	Review logging, geological interpretations, resource models
2013–2014	Cu	AMEC	Rio Tinto	La Granja	Peru	Manager	1 month		Geometallurgical models, confidence limits in geometallurgical variables
2013–2014	Miscellaneous		Society for Mining, Metals and Exploration	2014 Guide for Public Reporting		Manager	2 months		Lead SME Committee of 14 to prepare SME Guide update
2014	Cu	AMEC	Anglo American	Los Sulfatos	Chile				
2014	Au	AMEC	Newmont	Governance	Denver				
2014	Au	AMEC	IAMGold	Sadiola	Mali				
2014–2015	Ni	AMEC	Vale Inco	Sorowako	Indonesia	Manager	5 weeks	Yes	Review reconciliation systems
2014–2015	Cu	Amec Foster Wheeler	Marcobre	Mina Justa	Peru				
2014, 2016	Au	AMEC	Alacer	Çöpler	Turkey	Sponsor	1 month	Yes	Review reconciliation, NI43-101 report on resources (QP)
2015	Au	Amec Foster Wheeler	International Tower Hill	Livengood	Alaska	Sponsor	3 weeks	Yes	Review drilling requirements, classification
2015	Cu, Ni	Amec Foster Wheeler	Vale Inco	Creighton	Ontario	Sponsor	1 week	Yes	Formulate reconciliation metrics
2015	Cu, Au	Amec Foster Wheeler	Gold Fields	Cerro Corona	Peru	Sponsor	2 weeks	Yes	Audit resources, mine geology
2015–2016	Au	Amec Foster Wheeler	Sprott Resource	Hope Bay	Nunavut, Canada	Consultant	2 weeks		Audit resources, mine geology
2015–2016	Au	Amec Foster Wheeler	Yamana Gold Inc.	Alhué, Gualcamayo, El Peñón, Cerro Moro	Chile, Argentina	Consultant	1 month	Yes	Review geology and resource models for four underground mines
2015–2016	Various		International Raw Materials Observatory	Raw materials supply	Europe	Consultant	1 week		Expert review panel for EU minerals supply research project
2016	U	Amec Foster Wheeler	Energy Fuels	Roca Honda and Bull Frog	New Mexico, Utah	Manager	3 weeks		Drill hole spacing for future exploration
2016	Various	CRIRSCO	Mining Engineers' Association of India	Workshop on CRIRSCO Template	India	Manager	2 weeks	Yes	Gave 6 hours of lectures in Hyderabad, India
2016	Cu	Amec Foster Wheeler	Kennecott Exploration	La Granja	Peru	Consultant	1 week		Review of resources, options for developing a concentrator
2016–2018	Various		Society for Mining, Metals and Exploration	Proposed rules for mining disclosure	United States	Manager	2 months		SME response to SEC's request for comments

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Year	Commodity	Employer	Client	Project	Location	Position	Duration	Site Visit	Comment
2016–2018	Cu, Mo	Amec Foster Wheeler	Anglo American	Los Sulfatos, Los Bronces underground	Chile	Consultant	1 month	Yes	Review drill targets
2017	Diamonds	Wood	Debswana	Corporate database-reconciliation	Botswana	Consultant	1 month	Yes	Review reconciliation
2017	Cu, Au	Amec Foster Wheeler	Thompson Creek Metals Company	Mt Milligan	British Columbia	Manager	3 months	Yes	Geometallurgical models for density, recovery
2017	Cu, Zn, Ag, Mo	Amec Foster Wheeler	Compañía Minera Antamina	Underground mining study, update economic model	Peru	Manager	2 months		Update 2009 block valuation program, consult on underground study
2017	Cu, Mo, Au, Ag	Wood	Kennecott	Drainage Gallery Ore	Utah	Manager	3 weeks	Yes	Audit resource model for North Rim Skarn underground mine
2018	Cu, Ni, PGEs	Wood	Duluth Metals	Nakomis	Minnesota	Consultant	1 week		Resource classification using conditional simulation
2018	Ni, Co	Wood	Appian Capital	Mirabela	Brazil	Consultant	2 weeks		QA/QC for partial Ni, Co assays

Definitions:

✚ Duration = Full time equivalent worked, only jobs worked on for at least one week listed.

Positions:

- ✚ Assistant = Served in a support role;
- ✚ Consultant = Worked as an individual on specific aspects of project or study;
- ✚ Lead = Headed group to perform activities listed;
- ✚ Manager = In charge of project/study. Responsible to client for all work done, billings, etc.
- ✚ Sponsor = Technical reviewer of work done by project team. In many cases also served as consultant.

College Education

- ✚ Ph.D., Geology, Stanford University, 1975;
- ✚ M.Sc., Statistics, Stanford University, 1974;
- ✚ A.M., Geology, Harvard University, 1969;
- ✚ B.Sc., Geology (Honors), Stanford University, 1967.

Phi Beta Kappa

Harry was elected to Phi Beta Kappa in 1967, the year he received his A.M., Geology, from Harvard University.

Phi Beta Kappa is the oldest and one of the most prestigious academic honor societies in the United States. Founded in 1776 at the College of William and Mary, Phi Beta Kappa now has chapters at 290 colleges and universities. A college is awarded a chapter of Phi Beta Kappa only after rigorous evaluation of the school's strengths in the liberal arts and sciences, and students can be inducted into the honor society in their junior and senior years. To be admitted, a student generally needs to have a grade point average around an A- or higher (typically a 3.5 or higher), foreign language expertise beyond the introductory level, and a breadth of study that goes beyond a single major (for example, a minor, double major, or significant coursework beyond minimum requirements). Members also need to pass a character check.

The Phi Beta Kappa website notes that 17 U.S. Presidents, 40 Supreme Court Justices, and over 140 Nobel Laureates have been members of Phi Beta Kappa. Mark Twain, Helen Keller, and Franklin D. Roosevelt were also members.

Harry in Academia

A M 164 71526 PARKER, HARRY MCDUGAL 131 618		MAJOR: M.S., STATISTICS JUNE 16, 1974 ✓ PH.D., GEOLOGY JUNE 15, 1975 ✓	
BIRTH DATE: FEB. 7, 1946 BIRTH PLACE: NEW YORK, N.Y. GRADUATE		ENTERED FROM: B.S., STANFORD UNIVERSITY, JUNE 18, 1967 A.M., HARVARD UNIVERSITY, MARCH 1969 GRADUATE	
164-071526 SPRING 71-72 GEOL 107 PROBLTY/STAT 03 A+ GEOL 208 X-RAY ANAL 04 + GEOL 282 ORE GENESIS 03 B GEOL 400 RESEARCH 01 + MINE 215 MINERAL ECON 03 A GEOL 371 GEOCHE ORE SOL 02 A		164-071526 WINTER 73-74 STAT 219 ELEM STAT INF 3 A STAT 343A TIME-SER ANAL 3 B+ GEOL 389 PETROLOGY 1 A- 164-071526 WINTER 75-76 OP R 245 FIN GRPH-FLOWS 3 A	
164-071526 AUTUMN 72-73 E SC 304 APPL GEOMATH 05 A GEOL 320 TECTONICS 03 A E SC 230 CASE HISTORIES 03 A+ STAT 116 PROBABIL THRY 04 A-		164-071526 SPRING 73-74 OP R 257 SIMULATION 3 B+ STAT 220 STAT INFERENCE 3 B 164-071526 SUMMER 73-74 TERMINAL GRAD	
164-071526 WINTER 72-73 E SC 305 APPLD GEOMATH 05 A E SC 231 MINRL PROP VAL 04 A STAT 217 STOCHAST PROC 03 A GEOL 400 RESEARCH 03 +		164-071526 AUTUMN 74-75 TERMINAL GRAD 164-071526 WINTER 74-75 TERMINAL GRAD	
164-071526 SPRING 72-73 GEOL 205 APPLD STAT PRB 3 A E SC 283 LAB-ORE MINRLS 4 A STAT 218 INTRO STOCH PR 3 A- GEOL 471 SEM GEOCHEM 2 + E SC 288 GEOCHEM EXPLOR 4 A		164-071526 SPRING 74-75 TERMINAL GRAD 164-071526 AUTUMN 75-76 OP R 240 LINEAR PROGNG 3 +	
164-071526 AUTUMN 73-74 MATH 113 LIN ALG-MAT TH 3 B- OP R 252 OPERATNS RSRCH 4 A			

GRADING SYSTEM:
A - SUPERIOR PERFORMANCE
B - GOOD PERFORMANCE
C - SATISFACTORY PERFORMANCE
D - PASS EQUIVALENT TO C OR BETTER
N - NOT REPORTED
X - NO LETTER GRADE TO BE REPORTED
- INCOMPLETE

A MINIMUM OF 150 QUARTER UNITS IS REQUIRED FOR A.E. OR B.S. DEGREE. LAW SCHOOL WORK IS EXPRESSED IN TWO TERM SEMESTER UNITS.

I CERTIFY THE INFORMATION ON THIS RECORD TO BE CORRECT.
DATE: 10/15/75
SIGNATURE AND SEAL: RICH224E

PhD Thesis

The Geostatistical Evaluation of Ore Reserves Using Conditional Probability Distributions: A Case Study for the Area 5 Prospect, Warren, Maine; PhD thesis, submitted 14 November, 1975, Stanford, 482 pages.

Selected Bibliography

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Experience Statement from Harry's 2019 CV

I have more than 50 years of experience, specializing in mining and development geology, geostatistics and mineral resource/reserve evaluation to support operations, financing, acquisitions and privatization. I pioneered the use of conditional simulation to predict recoverable reserves, and to develop new grade control techniques. I have also used geometallurgy in block valuation for short- and long-range planning. I am a member of numerous national and international committees within the mineral industry.

Later in his CV, Harry notes “sponsored and managed consulting projects averaging 10,000 man hours per year”.

Memberships and Professional Honors

- ✚ Fellow, Australasian Institution of Mining and Metallurgy. Awarded the Institute Medal (2019);
- ✚ Founding Registered Member, and Distinguished Member, Society for Mining, Metallurgy and Exploration (SME); Chairman of the Registered Members Committee, 2007–2012; Co-chairman of the Resources and Reserves Committee 2007–2018; Service on the SME Valuation Committee 2012–2019; Service on the SME Ethics Committee (2013–2019, Chairman from 2015); President's Citation award, 2017;
- ✚ Member Australian Institute of Geoscientists;
- ✚ Member Committee for Mineral Reserves International Reporting Standards (CRIRSCO), 2007–2018. Deputy Chairman from 2013; Chairman 2015–2016; Past Chairman 2016–2017;
- ✚ Member Geological Society of America;
- ✚ Honorary Life Member, Geostatistical Society of Australia;
- ✚ Honorary Fellow Professional Society of the Independent Subsoil Experts (Kazakhstan);

- Member Institution of Mining, Metallurgy and Materials;
- Member International Association for Mathematical Geology;
- Senior Fellow, Society of Economic Geologists;
- Southwest Mining Foundation–American Mining Hall of Fame Medal of Merit, 2007;
- SME Award for Competence and Ethics, 2012;
- Mongolian Best Geologist Award, 2015;
- APCOM Recognition Award, 2015, 2017;

Harry was posthumously awarded the inaugural Harry M Parker Excellence award and the William Laurence Saunders gold medal by the SME in 2020.

Professional Colleagues and friends



On site, Oyu Tolgoi, 2012 (Rodrigo Marinho).

Vale Harry

Introduction by Larry Smith.

All memoria are thereafter in alphabetical order by surname.

Larry Smith

My 20-year association with Harry Parker was an interesting voyage of discovery that combined great challenges, occasional disappointments, but ultimately many successes. There was never the lack of adventure. It brought exposure to varied cultures, great ore deposits, amazing landscapes, and special, talented people.

I almost did not get the chance to become part of Harry's technical team. When he was looking for a Chief Geologist in 1998, he called my home. My wife thought he was a salesman and almost hung up on him. She paused, thought about it more, then asked him to wait while she found me. What followed was me eventually joining a talented mining consulting team in San Mateo, California.

Times were initially extremely tough because the mining industry was in a deep recession. Very little consulting work was available. The team got smaller one by one until a group that once was 60 in the US, Canada and UK had shrunk to 12 individuals in San Mateo and Vancouver, British Columbia.

The recession continued until 2002. In this time the consulting team also experienced two changes in engineering company ownership from HA Simons to Agra to AMEC. Financial constraints were significant. After the acquisition by AMEC, the US consulting base was moved to Phoenix, Arizona. San Mateo staff not interested in the move formed their own companies, or became part-time consultants to AMEC.

When the mining recession ended, and a 12-year boom began, the entire character of the AMEC consulting group evolved significantly and very quickly. Working closely with Harry and others with expertise in geology, resource estimation, mining and metallurgy, we grew the team to 230 individuals in Canada, the US, Peru, Chile, Brazil, the UK, South Africa, and

Australia. It was common from 2005 to 2014 for there to be in excess of 100 projects in progress at any given time.

Harry took on the role of Zen Master of technical leadership, quality management, and technical mentoring under a system of Technical Directors designed by Harry, Jim Sorensen, and me. Harry pushed management and team leadership responsibilities to me. We hired specialists in geostatistics, resource estimation, underground mining, open pit mining, geotechnical engineering, regulatory compliance, metallurgy, and process design so they could provide the necessary expertise for a wide variety of mineral commodities and deposit types. The team comprised individuals from 12 cultures located in eight countries.

It was an exciting time. I personally worked with Harry on many world-class ore deposits, including the Carajás, Brazil, iron ore; Collahuasi, Chile, copper; Antamina, Peru, copper–zinc; Bingham, US, copper–polymetallic; and Olympic Dam, Australia, uranium–copper–gold. I enjoyed providing an assessment of the geological support for mineral resource estimates, working side-by-side with Harry, but this became extremely difficult to do as the team grew to one of the largest in the world. Gradually I became what he referred to as his “handler”, as in “let me see if my handler can arrange that”.

We saw many young professionals in our company, and in our clients’ teams, learn, grow in confidence, and succeed. Many of our professionals after 5–6 years of training left to become valued technical leaders at many of our client organizations. Harry especially celebrated this evolution and their successes. He always said: “Keep looking for quality, fresh meat to train, we need to give the best product to our clients”.

Harry entered into a new period of intense support to the mining industry in about 2008. A growing interest in mineral resource and mineral reserve best practices, regulatory reporting, and standardization of international codes fascinated and energized Harry. He devoted much of his extra time beyond 80 hours a week to support professional societies and regulatory agencies in needed improvements. This may have been his greatest legacy. My role was to act as a buffer zone between Harry and demands of senior management or clients with late reports, and it was a pleasure to do so.

Harry was a hard taskmaster and a very demanding peer reviewer. Many professionals were “sent to the showers” to fix their analyses and findings. In the MRDI days it was deemed a tongue-in-cheek success if you got a “nice” or “good” comment on the face of your draft report.

Everyone experienced the extreme frustration of responding to his requests (more correctly, his demands). After assigning you to a task that would reasonably take one day, he would return and give you another, then another, then another. The plane might be leaving in six hours but too bad.

I once told him that I would fire him if he ever pressured an employee into a +100-hour work week again. He was visibly shocked because I am sure that he had never heard this before in his entire career. He responded finally in a very quiet voice, “sorry, I will be more thoughtful next time”.

He had a habit of arriving at the airport just in time to check in at the Premier line and step last on the aircraft before the door closed. One of the best pieces of advice I ever got from San Mateo MRDI staff was “never go to the airport with him”.

Although a 24/7 workaholic, Harry had a fun side. He loved mountain trekking as a rebirth of his activities as a youth in US national parks. After getting in shape by hiking mornings at 4,200 m at Antamina, he took on the Machu Picchu Trail, Kilimanjaro, Tour d’ Mont Blanc and the Mt Everest base camp trail.

I accompanied him for Mont Blanc. We had a humorous start in Geneva where Harry arrived with his nieces Brooke Kemper and Susan Patrick. I had flown into Zurich with my wife so she could join Sue Parker for a bus tour of Switzerland. My train to Geneva arrived about 15 minutes after the main group landed in Geneva. While waiting for me at baggage, the guide counts heads and finds that they were missing one hiker. He asked who that was. Harry responded that his “partner” Larry was arriving by train, and would be with them shortly. For the rest of the day Brooke and Susan sat in the back of the group laughing because the other hikers assumed Harry and I were a gay couple. After a while it became obvious that we were not, and Susan let me in on the joke. The group had a fantastic trek over the following 10 days, hiking 110 miles with a total accumulated elevation change of 30,000 feet up and 30,000 feet down.

I learned many things from Harry, or was reinforced in my own beliefs by him:

- ✚ Do the right thing;
- ✚ Be honest and ethical, even when the news is uncomfortable;
- ✚ Strive to be excellent in whatever you do;
- ✚ Be thorough;
- ✚ Understand that there are always two or more sides to every story;
- ✚ You have two ears and one mouth for a reason;
- ✚ Be respectful;
- ✚ Make everyone better off from your presence;
- ✚ Facilitate and celebrate the success of others;
- ✚ Lose your ego;
- ✚ Appreciate other cultures.

Harry was quite eclectic. He tried to be conservative but his thirst for knowledge and adventure was incompatible with being a dodgy conservative. But he tried. He remarked to me after returning on one global trip that his life was getting very complicated and a bit out of control. “Oh Larry, when I was gone my family got a DOG! And not only that, my son got an EARRING!” We had to remind him that sometimes life is unpredictable.

Susan Meister and I set about to softening him up. Susan gave him a pair of Birkenstocks for Christmas, which he found he liked, and they became his preferred footwear for the rest of his life when he was not hiking. We could not talk him into an earring, however. He developed a strong preference for Starbucks Frappuccinos. At Bingham Canyon once, he asked Tim Kuhl to buy him one, while at the same time complaining that Tim’s coat looked rather “yuppie”.

He was a fashionista in a style that Paris has not yet discovered. Susan Meister, Harry and I were auditing the Grasberg skarn model at IMC’s office in Tucson in September 2002. Harry showed up at breakfast dressed in a striped shirt, checkered shorts, and Birkenstocks with knee-high socks. I think it was unsettling to IMC staff. Maybe that was the strategy, but nah, Sue Parker said that she always struggled to dress him.

In another case, I met Harry in Washington DC for a conference on SEC regulations for disclosure of mineral resource and mineral reserve estimates.

He was on the panel of presenters. He had been at Antamina training for hikes and had lost nearly 50 pounds, down to 199. He forgot that he only had a suit for a 250-pound man, but what the heck, decided to wear it anyway. He led the discussion, which often was heated, looking like a recent escapee from a head-shrink pygmy colony. These are the things that endeared him to us.

Harry had an amazing command of highly technical jargon while doing his work, such as:

- ✚ That's CRAP!
- ✚ Please STOP THE ROT!
- ✚ SQUEEZE THE PIG SOME MORE!
- ✚ Rub your belly hair off at the drafting table and get to know this ore deposit!

Harry's appearance of sleeping in meetings was legendary. Only later did he learn that he had sleep apnea, and this, combined with long work hours, made him susceptible to being a meeting napper. However, he never lost track of the content and direction of the meeting. I recall one interview of metallurgist Michael Drozd in which at the opportune time Harry became quiet, slid back in his chair, and slowly started whirling in circles like a possessed dervish. Mike asked a question and Harry promptly replied with an insightful comment, much to Mike's amazement. This was repeated in countless meetings.

Harry gave me the opportunity to be part of participating in, building and running something truly special. I consider my two decades of work and friendship with Harry to be one of life's true blessings, complex as it was, and I will miss him immensely.

Thomas Aldritch

Harry was a recipient in 2007 of a Medal of Merit Award in the American Mining Hall of Fame from the Mining Foundation of the Southwest. He truly was an industry stalwart.

Hooman Askari-Nasab

I was always so impressed with his depth of knowledge. Rest in peace, Harry, you will be missed.

Gerlee Bayanjargal

I met with Harry for the first time on 16th of October 2008 during a visit by Harry to Ulaanbaatar. I was at the time, the Chief Mine Geologist for Centerra Gold Inc. I had the opportunity to present on resource estimation at our deposit at a seminar organised by the Mongolian University of Science and Technology. I remember that I was really excited to talk about my work in front of Harry and Ian Douglas.

In mid-2011, I started my consulting career with Snowden Mineral Industry Consultants in Perth. Snowden had just started a consulting project for the Mongolian government to support development of a Mineral Resource and Mineral Reserve public reporting code that was planned to be aligned to the CRIRSCO Template as well as to organise a recognized professional organisation (RPO) that would allow members to be internationally recognized as mining industry professionals. That project allowed me to work closely with Harry, and I have been involved with CRIRSCO since then.

Harry was the mentor for Mongolia to support admission of Mongolia as a CRIRSCO member. His first visit to Ulaanbaatar for that task was during May 2014. We organised a two-day workshop, where Harry gave us some invaluable advice based on his Mongolian work experience. This enabled us to organize CRIRSCO's Annual Meeting in Ulaanbaatar in October 2014 as a joint effort between CRIRSCO, the Mongolian Professional Institute of Geosciences and Mining (MPIGM) and the Mongolian Ministry of Mines. The meeting took place from 13–18 October. At the time, there were only seven CRIRSCO member countries, as compared to the 14 today. Two representatives from each CRIRSCO member country arrived in Ulaanbaatar.

MPIGM organised a dinner for CRIRSCO members after one of the busy days, and we prepared a Mongolian souvenir and a framed scroll of each

CRIRSCO representative's name written in traditional Mongolian script as a memento of the occasion.

Mongolia has celebrated “Geologists’ Day” during every third week of October since 1939. As it happened, 2014 was the 75th Celebration Anniversary of “Geologists’ Day”, and Harry was awarded the “Best Geologist” medal during the celebration banquet. That award was presented not only for his contributions to the MPIGM and the Mongolian government, but also for his knowledge transfer for Mongolian professionals.

When Harry was in Ulaanbaatar on May, 2014, Harry and I was talking about our families and I told him my father was a geologist and my childhood was bound-up with one song, translated as the “Song of the Explorer”, or the “Mongolian Geologist’s Song”. This song was famous within geologists’ families in Mongolia, and a new clip was made for the 70th anniversary of “Geologists’ Day”.

After Harry had listened to the song, he asked me to send a link to the site, and the song lyrics. He wanted the CRIRSCO members to sing the song as a surprise for the Mongolian geologists during the 75th Celebration Anniversary of “Geologists’ Day”. CRIRSCO members still remember this song. Harry even suggested that this song be a CRIRSCO song. Harry never forgot the music, and every time we catch up in a meeting somewhere, he always mentioned it. It was truly an unforgettable journey when Mongolia become a member of CRIRSCO.

The day following the celebration, we had a workshop presentation from CRIRSCO members who shared their experiences and knowledge with Mongolian professionals. It was a rare occasion that we could participate in a training session by world class experts.

I am thankful for Harry that he supported and encouraged me to be a member of the CRIRSCO family. I can’t imagine next CRIRSCO meeting without Harry. I will always remember his warm and deep suggestions for my future career.

Mongolian geologists will never forget his contributions, and almost 20 years of experiences in Mongolia.

Donald Birak

I first met Harry when he was with Fluor Mining and Metals; a firm we (Freeport) engaged to help us understand the "new" Jerritt Canyon, Nevada, gold deposit. The discovery of Jerritt was the most significant departure from the Carlin type at the time and Harry's insights were an integral part of the work leading to the production decision. At the time, I was early in my career but can look back and count Harry as both a professional and personal mentor. He taught me much. Over the years, we had less frequent interaction but Harry remained, and still is, a unique, rational and insightful pillar in the mining industry. Thank you, Harry.

Richard Bucks

From 1965 to 1975, in and around his studies, Harry worked for the Hanna Mining Company, with duties that ranged from grass-roots exploration to reserves estimation to mine geology. It was this experience which led to his Stanford nickname of "Dr Bucks".

Brian Buss

A giant in the industry. Wherever he went, he was met with profound respect for his deep knowledge and experience.

Tom Butler

I learned last week of Harry's death, and would like you please to pass on my condolences to his widow, and my condolences on behalf of ICMM and our membership. Harry's period as chair of CRIRSCO coincided with my arrival at ICMM, which is CRIRSCO's main funder, and so I had occasion to meet him a number of times. I was always deeply impressed by his commitment to CRIRSCO's mission. He was clearly a redoubtable and steely-willed person; what is equally clear from his obituary is that this steely will was deployed not just in support of CRIRSCO's aims and objectives but across a very broad spectrum of related activities. He was a remarkable person, with great energy, commitment, and wisdom. I hope that it will be of

some comfort to his family in their loss that he was so widely respected and appreciated; and I hope they will also derive some comfort from the fact that he influenced so positively, and at a global level.

Geoff Challiner

In 2001, I was working with Harry's team on the Platreef project in South Africa. Harry knew I had been divorced the previous year and I was joined by a new lady-friend, Eileen, for a short stay at the Ranch, where we were living. Over meals, Harry charmed Eileen with his gruff, witty conversations and a twinkle in his eye. Harry left for projects elsewhere, and we were surprised and delighted to receive a bottle of champagne he had organised for us both. What a lovely touch from such a kind man.

Eileen and I celebrate 20 years of being together this year, over a decade as husband and wife, but we still both remember fondly that simple, thoughtful gesture.

Xyona Chavez Pacheco

A wise person, I was lucky to meet Harry. My condolences to his family.

Clement Chebani

May his soul rest in eternal peace.

Ivy Chen

The passing of such an industry giant and gentleman is a sad event indeed. Harry will certainly be missed by both the many who knew him and worked with him, and the many, many more who only know him by reputation. I am of the latter category.

Albert Chong

Harry was, and will always remain an amazing forward-thinking industry leader, mentor and friend. He has received accolades the world over for his body of work, which many of us know was his passion.

Harry led by example. An Ivy Leaguer with an old-school work ethic in a blue-collar industry. Expecting in others, only what he expected and demanded from himself. He was a whirlwind force that would only accept our absolute very-best, personal effort, and some. Harry cared about the mining industry, people within the consulting group, our clients, economic viability of the projects, and of course the estimation of mineral resources using industry best practices. He would at times talk very fondly about his family, and of course his Porsche that his son drove more than himself.

I used to call our group in Vancouver, Stanford-Light, or Stanford-North, due to the influences of Harry and Georges Verly. At times, the efforts required to maintain the best in-class industry standards and meet project timelines were beyond imagination. But we would typically persevere, and ultimately end up as better version of ourselves. That was the gratifying part of being part of such a great collective, group. During the trying times, the comfort blanket was knowing we had Harry, Georges Verly, Scott Long, and Greg Gosson in our corners to keep us on-scope and on-side.

Perspective #1: “Stop the rot”

In the beginning, I had only heard of Harry by reputation and through stories from other AMEC consulting group members. Eventually, Harry was passing through Vancouver and agreed to peer review a memo I had penned up for what one AMEC principal staffer eventually coined, “The Dirtiest Database in AMEC History”. After reading the memo, Harry leaned back in his chair saying, *“Sorry, but I have to send you to the showers. For more than 20 years, we have held our clients to having clean databases with less than 1.0% error. Yours is not below 1.0%. The database needs to be re-entered and cleaned up.”* Then Harry disappeared into a mystical vapour trail, leaving me to pick up the pieces with the project manager and client.

I don’t recall the exact number, but the error rate presented to Harry in the memo was between 1.0 and 2.0%. Up to that point, I had worked very hard with the client to reduce the number of errors from what was originally a very

high number. Lesson learned was that clean databases supported by original certificates are the foundation for everything going forward: geological interpretations, data analyses, estimation methodology selected, grade estimation plan, confidence classification, and the estimate itself. There are no short cuts and “Stopping the Rot” at the outset is the foundation for proper project management decisions based upon facts and sound data. Equally important was the realization that the AMEC management team would support quality work and respect internal standards.

Perspective #2: “An ounce of geology is worth a pound of geostatistics” and “Harry’s an angel”

The second significant project I had with AMEC introduced me to perspective #2. As a geologist, geological interpretation is the essence of any map or Mineral Resource estimate. Without sound geological interpretation, the location and metal tenure of a mineral deposit could be vastly misrepresented, and ultimately lead to inappropriate outcomes and poor management decisions.

This specific project was a very low-grade nickel project that had very limited geological interpretation on paper by the company’s staff geologists. The lack of interpretation was carried through into a resource model prepared by a local, independent mineral resource estimation geologist.

Visual inspection clearly showed a significant number of internal “waste” dykes were not adequately represented in the geological interpretation and ultimately the mineral resource model. The end-result was dilution of the metal grades in the estimate, and this can be very important towards the economics for a low-grade deposit.

About the same time, the client had hired a competing Australian consulting group to provide independent third-party advice. One of the third-party consultants was considered an up-and-coming expert in the field of geostatistics in Australian circles. All of these factors translated into a meeting where AMEC’s reputation was being put on the line, even though the block model in question wasn’t even ours! This is where the work on our part really started.

Ultimately, the scope was to quantify and prove to the client that the mineral resource block model, that they had paid good money for, was not only

unsuitable, but potentially detrimental as a basis for an economic study. With this situation explained in context, Harry was asked to prepare me for a meeting with the client, and their newly-minted third-party experts.

Once again, I was still new to the consulting group, had only met Harry once before that, and I required “coaching” in the use and interpretation of his customized geostatistical software. The twist was that this “coaching” by Harry was to be delivered remotely, as he was scheduled for a whirlwind trip to multiple mining and advanced exploration projects in South America. I was way over my head.

This is where, the mentor in Harry stood tall. We would meet by phone about two to three times per week, and each time the call would come from a different project or location, somewhere in South America. Each call involved reviewing the work completed, and a new task for the next call. For me, the work was at a breakneck pace. I was later informed that this would be only one of many projects and reviews Harry would lead at any given time.

When the meeting with the client and the competing consultants finally occurred, Harry was on the squawk box but barely spoke during the whole meeting. It was like Harry was “Charlie”, from the show, or movie “Charlie’s Angels”. The main difference was that Harry was MY angel.

At the end of the meeting, the competing consulting group agreed with our findings, and the client understood why a new mineral resource estimate, including the use of improved geological interpretations, was important for the economic evaluation of their project.

An ounce of geology (and sound preparation guided by mentoring from Harry) is worth a lifetime of self-learned lessons.

Perspective #3: Inclusion and family are important

At the time, AMEC Vancouver would host a very splashy annual Christmas party where employees and their spouses/significant others were invited. The dress was formal and the event often took place in very upscale venues such as the Fairmont-Hotel Vancouver, the newly-opened Vancouver Convention Centre-West, or the River Rock Casino. This event was sometimes daunting for those not used to such large, swishy affairs. At one point, my wife Mia and I were by a large window admiring the view. Out of

nowhere, Harry crossed the ballroom and introduced himself to Mia and we had a nice chat.

To this day, Mia and I both remember how Harry had made us feel welcome, and appreciated as part of the extended AMEC consulting family. How we treat others with inclusion, kindness, and warmth is often how we will be remembered most.

Closing Remarks

Harry, thank you for all that you have done for me and my family. I, and the rest of your “angels”, will continue to honor your legacy of integrity, diligence, and leadership through technical excellence, mentorship, inclusion, and kindness.

Jacqui Coombes

Wow, Harry ... such an enormous presence ... where does one begin?

I've always felt inspired by Harry's ability to speak only when he had something of value to add ... and then always words of wisdom came from him. I can picture him sitting quietly at conferences, simply absorbing it all. I remember wondering whether he was asleep, but then Harry would ask a question of the presenter that went incisively to the issue.

To me Harry Parker was a man of great intellect, rugged determination, and incredible humility.

“Growing up” in the industry under Viv and Phil Snowden's mentoring, I could sense their deep respect and admiration for him as nothing Harry ever did was frivolous; nothing was ever more than was absolutely necessary; he chose his words carefully, and when he spoke EVERYONE listened. I can hear him now quietly explaining: “The devil is in the detail”. This was a mantra the whole team at Snowden ended up repeating as we tried our best to emulate Harry's work ethic and commitment to quality striving for quality and thoroughness.

Yet, for all this detail, it was never more than was necessary. Harry Parker epitomised parsimony in work and in spirit. This attitude fuelled my own approach, and so it was absolutely imperative that the launch point in my

book “The Art and Science of Resource Estimation” be a quote from Harry Parker:

“In general, an ounce of geology is worth a pound of geostatistics: this may be disappointing to geostatisticians with no geological background – Tough!”

These words set the tone for the approach described in the book—as homage to a process and an art that Harry perfected.

However, more than simply words, Harry’s philosophy is the inspiration to me that runs far deeper. For me Harry was an ideal we should all strive towards: that scientific aspiration of parsimony, quality, and interconnectedness between disciplines.

I remember delivering 10 of my books to Harry in Perth. He wanted them for his team back in the States. When he saw the quote, there was a humbleness in him that I had not anticipated. Here was this great, quiet and distant man who I had spent decades admiring for his intellect and fundamental philosophies, standing there with the kindest smile on his face. Far from the scary presence I had hitherto known, Harry was delighted, delightful, and warm. And in that moment, I was able to connect with Harry differently, and my heart found even more space for him.

An absolute pleasure to be influenced by, to have known, and to have connected with one of the Greats in geostatistics (or 16 times geology).

Roger Cooper

I met Harry in late 1990. I was alone in a wood-panelled room at Technical Services, Kalulushi, working for the Zambian Consolidated Copper Mines, teaching myself geostatistics and the Lynx software simultaneously from a couple of books, a pile of IBM manuals, and variable advice from friends now and then. It was slow going but I was having fun.

One day Harry showed up. I had no idea who he was. However, it was instantly apparent that he knew what I was supposed to be doing, which was a relief. It was less of a relief that the last three months’ work was going to have to be redone, but Harry presented that in such a kind and positive way that I was not too stressed. Oh well! So, I invited him home for dinner.

That was not the last time that Harry looked at my work, and in a kindly way, shredded it. He was on a kind of World Bank global orbit, and would show up quarterly, plus or minus a month or two, and dole out half a million tonnes of geostatistical wisdom, set me back two months, and then get back on the plane.

Gradually I got better at the role, and even scraped a couple of small compliments. Kind as Harry was, compliments for work were not handed out without validated justification. I usually did dinner as well, and got to know and enjoy Harry's company.

Over the years post-Zambia, I kept in contact and caught up for dinner when he was in town. In the late '90s when consulting was struggling, and I was working for BFP Consultants in Perth, we at BFP tried to team up with Harry to get him into the somewhat insular Perth geostatistical consulting world. Success was limited, but when 9/11 happened, Harry was in our office. He was due to leave, but there were no flights. We gave him an office, and by day two he was part of the woodwork. He would attend the morning meeting as if he had been with us for a decade, and his dry humor lit up the office in what was a very gloomy time for consulting.

As I went from consulting to Placer Dome to Rio Tinto to Newmont, I had various professional interactions with Harry and his teams. We did not always agree, but he was always prepared to take on board my comments. Whenever I presented at SME, he was always, always there. He did choose to ask tough questions, and he could ask TOUGH questions. But his presence always added lustre to my talks—as long as I could survive the questions.

About a decade ago, it seemed to me that the entire world wanted to squeeze Harry for geostatistical questions: sometimes for real reasons, but sometimes more like they wanted Harry to be a rabbit's foot both to guard them against their own ineptitude and to wear like a Scout badge. I felt it was a bit much, and he was getting old. I made a conscious decision to veer our conversations in email and over dinner to our mutual obsession with automobiles. We still worked together occasionally, and I didn't escape tough questions wherever I presented, but gradually our world became automotive.

Several times a week we would discuss the cars that were listed in the various classic car catalogues we were sent once or twice a week. We discussed what we would buy from today's catalogue if price were no object. We discussed past cars we did not buy, but should have. We discussed the cars we sold, but should not have. We discussed the cars we had blown up. We discussed the cars we had crashed. We discussed those driven into rusting wrecks, and the cars that had been so much fun that they built that part of us that still lived in them, and the cars that had scared us shirtless *[euphemism]* when we did stupid things. It was fun. Most of a decade of fun, in fact.

Fun is what I will remember most from Harry.

Antonio Cortés

In July 2016, I was preparing my oral presentation for the 2016 geostatistics congress to be held in Valencia in September 2016. Harry was supposed to be there but, unfortunately, he could not attend the congress.

In July, he travelled to South America to visit some mines and he happened to have some hours in Santiago. Harry arrived early that Sunday morning and was flying out to Argentina the same Sunday evening. He suggested to me that I come to his hotel (the hotel right next to the international airport) and he would review presentation. It was a Sunday afternoon. I took my car and went to the airport. He invited me for a coffee and we spent something like one and a half hours working on the presentation. Many important improvements came up from this meeting.

Well, several feelings arise when remembering him. But the main word that describes him for me is “generosity”. I will always remember him as an incredible colleague and a very good person.

Ian Crundwell

I will always remember Harry's kind nature (well, perhaps outside of work, and if you were not on the receiving end of critique). The one photo shows Harry while on a walk near El Pinar sharing candy with the local children (*Harry handing out candy in the HMP in Pictures section*). I too, experienced

this when we invited him to visit our family in Burlington, and he arrived with a wooden carving from Peru for each of my children.

Gerard Danckert

Very sorry to hear of the passing of Harry Parker, a respected expert and good person. A true resources industry doyen, always willing to share his knowledge. Vale Harry, you will be missed.

Andrew Daniels

A Titan of our industry and a true professional. Rest in peace Harry. My condolences to Harry's family.

Bruce Davis

I met Harry in 1977 when he came to recruit me in Laramie. Over the rest of my working life it seemed like whenever I needed employment, Harry was there with something for me. When I wasn't able to accept his initial offer to work in San Mateo, he introduced me to a uranium mining group in Casper, WY. Two years later he hired me to work in Fluor's Tucson office. When that office closed, he was able to arrange a transfer to St. Joe Minerals so that I didn't have to leave Tucson.

Later when I left the corporate world for consulting, he hired me on a consulting basis at MRDI and introduced me to MRDI Canada where I consulted on an almost full-time basis over the next several years.

I have been extremely grateful for the opportunity to work for and with Harry over the many years. Please, accept my sincere condolences for your loss.

Tara Davis

I had heard of Harry long before I actually met him. He was on the Registered Member committee at a point so I spoke him on the phone but didn't really know him nor had I met him. He seemed a plodding, measured

man via phone. At one point I was to meet him in the hotel foyer during an Annual Conference and escort him to the SME Board meeting so he could give a presentation.

I guess I was surprised by his presence. A bear of a man but very quiet and again plodding—the definition of unassuming. When we entered the room, many came to their feet, and all obviously listened carefully to his presentation. I had not seen that before. The respect was uncommon. Rare.

I came to know Harry as someone who listened carefully and talked little. Several times I thought he might have fallen asleep in a meeting, but he never did—he was listening—carefully. Also, he took consensus seriously, including people, on any level, locally, globally, peer, stranger, etc. It was something he did in nearly every interaction.

He was a mentor. He personally guided about five counties in their efforts to meet the global standards for CRIRSCO and become Recognized Overseas Professional Organizations. He was curious. He paid attention to what was going on around him and was interested in it.

Once I took him to lunch at the local regional airport here in Centennial [*Denver, Colorado*]. There is a restaurant there that overlooks the planes landing and taking off. I was jabbering away when he inquired about something out the window. It was Air Force One. Small version for a cabinet member he told me. I would have not paid it any mind—not even seen it... Just an airplane sitting there to me. I would have missed it. He didn't. So, neither did I. To my benefit.

He extended to all, unquestioning respect for their opinions, needs, personalities, experience and skill. His level of commitment to professional competency I doubt I will see again—and I see much of that daily.

I would tell you, I knew, and remember Harry, not as a man of commanding presence, but a man of commanding character. Something nearly as rare as the things he explored for over a lifetime. It was a real blessing to have known him.

Kat Delos Angeles

From all of us who from Philex and Silangan, who have worked with Dr Parker, please extend our condolences, deepest sympathy and prayers to the bereaved family and colleagues of Dr Parker. May Dr Harry Parker rest in peace.

Clayton Deutsch

I knew Harry for more than thirty years. Maybe I knew him. He was a man of simple pleasures, but a deep thinker. The legend of Harry was always larger than the man (and the man was not small). Did you know that he had one of the largest air sickness bag collections in the world? Don't you hate traveling with Harry—arriving at the airport moments before departure? Did you see how he treated the mine manager; maybe he worked for Harry in the past? He looks asleep in a meeting, but isn't it great when he opens his eyes wider than required, and gets straight to the point that everyone has been avoiding or cannot understand? Isn't it funny how we all deepen our voices when talking about Harry?

Harry visited Edmonton a number of times. On one of his first visits, he wanted to go to a Greek restaurant in a strip mall at the edge of West Edmonton because he had a coupon. Where did he get a coupon for a strip mall restaurant in Edmonton? About 10 of us went. The food was okay. There was a time for dancing with a young Greek dancer trying to get someone to stand up and help get things going. Nine of us were looking awkwardly at each other; Harry was up to the challenge.

In all of my encounters with Harry, I would say that he "raised the bar". He made all of us more aware of geology, more appreciative of the fundamentals, more focused on the real problem at hand, more humble, and sensitive to those around us, less compromising with the truth and facts, more honest and ethical. Harry influenced me to understand simple pleasures and maintain integrity and humility in all circumstances.

Stephen Dinkowitz

Truly a loss. He was a resource for many of us lucky enough to have crossed paths and feel a connection. RIP.

Roger Dixon

Harry Parker joined the CRIRSCO committee in March 2007 and according to the quarterly report to members he was “a welcome addition to CRIRSCO both because he increased the US representation to two and also because of his wide-ranging industry experience, particularly in the field of mineral resource and reserve audits”.

I first met him at the annual meeting held in London late in 2007 and it was obvious that Harry did bring years of experience gained in all parts of the world; however, he was a modest man of few words and never saw it necessary to tell everybody about his undoubted skills and experience. In Beijing in 2009 in a presentation to a large audience he casually quoted four or five mines which he had worked on in China in the previous 30 years.

Through the years, wives attended the CRIRSCO meeting and my Tereza and I had the pleasure of meeting up with Sue on several occasions starting with the meeting in Moscow in 2010. Harry never failed to ask after Tereza whenever we met.

Since 2014 I have had the pleasure of working with Harry, Ian Goddard and Peter Stoker revising the CRIRSCO Template 2013. Harry brought his vast experience in Mineral Reserve and Mineral Resource reporting and his knowledge of the 2017 SME Guide to the group and was always available to discuss even the smallest detail. It was only when we were almost complete, and Harry was ill that he told us he had “bigger things to think about”.

Harry worked tirelessly to bring new members into CRIRSCO and was instrumental in bringing Mongolia, Kazakhstan, Brazil, Turkey and India into the committee. It was largely due to him that membership of CRIRSCO went from five to 13 members in a period of 12 years.

During his many years working with CRIRSCO, it was always a source of embarrassment to Harry that in the USA, the country which he represented, the Securities Exchange Commission (SEC) resisted adopting the principles

of the SME Guide and the CRIRSCO Template. Harry worked tirelessly with the SME Resources and Reserve Committee lobbying the SEC officials over many years to bring about change. It therefore made him justifiably very proud when the SEC issued Regulation S-K 1300 in December 2018, and it was most fitting that the last CRIRSCO meeting which he attended was held in Washington; he had achieved his objective; the job was done.

Harry made an enormous contribution to the spread of a common understanding of International Reporting Standards for Mineral Resources and Mineral Reserves throughout the world and on his way, he made lots of friends. We are going to miss him.

Ian Douglas


Mentor, coach and friend. A gentleman and a scholar whose generosity was exceeded only by the size of his suspenders. He helped focus resource modeling on the practical application of geostatistics commonly referred to as the ‘Stanford School’ of geostatistics.

I have fond memories of working with Harry, as a boss, colleague and contractor. On the light-side, some of his accomplishments I remember:

- ✚ He has broken chairs in nearly every continent of the world;
- ✚ Him being on stage in Ulan Bataar Mongolia, proudly joining in singing the Mongolian Geologists’ Day anthem.

Some fond memories of working with Harry:

- ✚ Him taking us up to the chimp farm in Zambia [*Chimfunshi Wildlife Orphanage*] and seeing the baby hippo that had taken over part of the owner’s house;
- ✚ Spending a month in the hotel on Leblon beach in Rio de Janeiro while completing the technical report of CVRD’s assets for the privatization. Intense month, 14-hour days, seven days a week. Looking at the beautiful view but only touching the sand of Leblon Beach one time;
- ✚ Getting a malachite pen holder from Kitwe, in the form of a butterfly, after Harry found out I was a lepidopterist;

 Crunching ore control all-nighters at Jerritt Canyon to have results for him and Mario Rossi ready first thing in the morning. The study delivered a solution with a new ore control system that resulted in eliminating the mill call factor within a month. Within a year of that study, I was working for MRDI.

I was fortunate to have spoken with Harry in early December when word was that he was back in hospital and not doing well. His voice gave away that he was indeed not doing well, but all he wanted to talk to me about was recent research he was doing on a deposit in Wisconsin(?) with some unusual statistical features that he was calling the “Sasquatch” pattern. So very Harry all the way to the end.

So, I say goodbye to Harry, but he will always be an incredible person and fond memory for me.

Scott Douglass

What a character!! It was a privilege to have worked with you on a number of projects at MRDI. I'll never forget the two weeks in Zambia when we were the last of the team there and got stuck in political turbulence at the time.

Kevin Francis

Harry used to love going to dinner at the Ranch, not just because of the massive steaks, but because they did a great dessert. He would finish his main course, then look at the waiter, who knew what was coming, and order, with a huge twinkle in his eye, “cherries Jubilee, with extra Jubilee”.

Dominique François-Bongarçon

Harry and I had a history covering most of my professional career, and most of what really counted in it. So, it is difficult to recollect any particular anecdotes or details: too many of them I guess, and some of them too private.

However, the first thing I think of, almost every time I think of Harry, is our very first contact, because it set in motion everything that followed and it marked me forever.

In the late 70s, I was a young geostatistician and researcher, and I was often publishing papers in English in some hope of learning the language a little better than after my solid 14 failed years of English learning at school and after.

I did not really know Harry back then, but I knew who he was, because in several conferences where I was presenting, he had been pointed to me as the one person you definitively should hope not to get difficult questions from. I guess I was doing well, because Harry did ask questions during several of my presentations, but he never objected to my arguments, nor did he ever seem to be dissatisfied with my answers. But I did sweat all the same!

A few years later, after two years spent in Peru acquiring a taste for traveling and discovery, I was on the market for a more stable job, preferably in geostatistics. There were few geostatisticians available and a growing demand for their skills. With my wife, we had decided an American experience would be a good idea. I therefore included a fair number of American companies among the numerous exploratory letters I sent out in Europe and in the Americas with my résumé.

From the USA, out of maybe 10 letters, I got only one letter answered. Most companies did not even bother about a courtesy answer...

The one answer I did receive was not positive, but it was polite and clearly coming from a warm, compassionate person. A certain Dr Parker at Fluor Mining wrote me that nice letter saying he was unfortunately not in a position to hire me at that particular time, but he had been interested in my successive papers and if I ever made it to San Francisco, I should please visit him and discuss geostatistics and pit optimization with his team. I was impressed by that person, his courtesy, so I did visit some time later, and a rewarding relationship started on technical grounds.

Many years later, to make the story short, wanting out of where I was at the time, I got a telephone call from Harry (who knew it), and I heard his big voice telling me: "Dominique, I am now seriously threatening to hire you".

He did, at MRDI, and that was the real start of my career as a consultant, as most of what I needed to learn (even what I thought I already knew), I learnt from Harry thereafter. I will never forget my friend, scientific confident and mentor.

Ian Goddard

I knew Harry through CRIRSCO. We both attended the first of the regular annual meetings in 2007, which was held in London. We both bowed out at the 2019 meeting in Washington. Our time in CRIRSCO was the same, and we were born within five weeks of each other.

I can recall a session at the hotel in Greenwich in 2007, where we discussed issues of concern. Harry was this gruff plain-speaking man, who obviously knew what he was talking about and others treated his views with respect. He was concerned about the estimation of Inferred Resources and their reporting, but also raised other matters that were emerging and had not been on the radar for some of us.

This style of speaking, the technical excellence, and the broad vision continued for the next 12 annual meetings we attended together. He was unfailingly polite, except for when he made an occasional jibe about the standards of the junior mining industry in Australia. I tried to return serve about the SEC's attitudes.

During those years, we shared many a dinner table in interesting places around the world, sometimes with our wives. We shared experiences from our travels—mine were often travels for pleasure; Harry's usually were for work. On one rare occasion, Sue managed to get him to go on a river cruise in Europe. No doubt he had his huge, heavy laptop with him. He used to have a dig about my frequent cruising. We shared a joy in visiting the National Parks of the USA.

Even when his mobility was reduced, there was no way of suggesting that a determined Harry should not go somewhere or do something.

I have happy memories of our time together in Kazakhstan, with Roger Dixon and Bat-Erdene Dash, for the ceremonies associated with Kazakhstan's membership of CRIRSCO. Harry, Roger Dixon, Bat-Erdene Dash, and I

were made Honorary Fellows of PONEN. Because it was a start-up professional society, they had no founding Fellows to start the recognition process. We were asked to approve or otherwise four local professionals to the position of Fellow, so they could take it further.

Harry was a huge help for countries seeking assistance with their membership process and Mongolia, Brazil, India, Turkey and China benefitted from his willingness to help and go there to provide encouragement and technical advice.

The meeting in Mongolia in 2014 had many happy memories, including his award of Geologist of the Year, and our receiving scrolls with our names in Mongolian. I enjoyed a visit to Oyu Tolgoi, which had special significance for Harry.

We spent hours as members of sub-committees reviewing the developing Reporting Codes of potential members and even more time thrashing out the 2019 CRIRSCO Template. It was only at the end that he opted not to finalise an issue, as he had more important things to do in his life. The 2019 Template could be regarded as a fitting legacy of Harry's. He made sure we introduced other, non-technical issues into the consideration of Modifying Factors, such as the many environmental, societal and governmental considerations that can affect whether a project may be developed.

Harry made a determined effort to come to the meeting in London in 2018, despite his failing health. Sue came to make sure he conserved his strength and looked after himself. He was the usual active participant.

He always wanted to have the annual meeting in Washington, but felt that the appropriate time was when the SEC brought the USA more into line with other CRIRSCO countries with an upgraded Industry Guide. This happened in 2019 and it is a tribute to Harry (amongst others) that we had such a good meeting and were able to have a meaningful exchange of ideas with SEC staff. He would have been pleased that it had come to pass.

I was delighted and honoured to have played a part in successfully nominating Harry for the AusIMM award of the Institute Medal in 2019. He had many memberships of professional societies and was a representative of the SME on CRIRSCO, but he valued being a Fellow of the AusIMM and took a keen interest in its activities.

Unfortunately, Jenny and I were unable to be there for the ceremony (as we were on a cruise going the other way across the Pacific), and missed a chance to welcome Harry and Sue to Australia. We last shared a table with them in an Italian restaurant in Washington in September.

Harry was admired and respected by all who had dealings with him. He was a world leader in his field, but also had wide interests, not limited to the mining industry. He could see the big picture and could advise on the appropriate direction for participants to deal with emerging issues.

Most of all he was a gentleman and “a good bloke”. We cannot say better than that.

Matthew Halliday

Will be missed, amazing man and contributor to science and society.

Douglas Hambley

I have been on the SME Resources and Reserves Committee with Harry since 2016. Harry paid me a great compliment a year or so ago in thanking me on an email to the Committee for my expertise regarding resources/reserves for solution mining, geothermal energy, and sedimentary deposits such as limestone and coal. A reference like that from Harry was as much as one could ask for as a resource/reserve professional.

Matthew Hamer

I only met him a few times during my tour through the mining industry, but he was a legend in the industry. Great guy, down to earth, extremely charismatic, and one of the most knowledgeable people I ever met in my 41-year career. God speed, Harry.

Rayleen Hargreaves

A legend who will be sadly missed but has left a legacy in reconciliation factors. We need to progress what he started!

Randal Huffsmith

We will miss Harry a lot at Wood. He was a pleasure to work with and he truly was a world-class expert that transformed our industry.

Don Hulse

The lasting impact of a single exceptional individual on a community and beyond.

Cayó un Roble

Cayó un Roble, una noche invernal
La tormenta llegó con el apuesto del sol
Llegó el alba, soleado, con una brisa
Y quedó el roble, raíces arriba, tumbado

Nadie recuerda un tiempo sin roble en el claro
Como llegó la bellota allá, sabé Dios y sus ángeles
Quizás una ardilla escondiendo su cena
O un viento fortuito traía la bellota

El roble joven prosperó
A pesar de peligros y desafíos
Sequias forzaron raíces profundos
Tormentas causaron ramos fuertes

Con los años, crecieron otros arboles
Unos pinos, un sicomoro, y más robles
El Roble les protegieron
Dando oportunidad crecer fuertes y sanos

Formaron una comunidad allá
Pájaros, animales, y también
Jóvenes enamorando en su sombra
Familias haciendo picnic

Niños jugando al escondite
Tras los arbolitos, corriendo
Gritando, riendo de alegría
Con amigos, enamorando de nuevo

Una tarde tormentosa
Un relámpago fuerte, una rama tumbada
Llegó la primavera, con hojitas verdes
Una esperanza que crece de nuevo el roble
Pero... sin la fortaleza de antes

Nunca prosperó igual, el árbol
Quedó un tiempo en su claro
Rodeado por la vida familiar
Hasta una noche invernal

Una tormenta pegó el bosque
Y allá, en su lugar de siempre
Cayó el Roble

¡Te quiero Papá!

Steffen Kalbskopf

I recall Harry coming to the Kamoia copper deposit in the DRC to do due diligence in about 2010, I think. I recall that despite his seniority he did not allow that to hinder his work, but demonstrated a level of meticulous work and considerate interaction and congeniality that endeared him to all. He used his many decades of experience to be a great blessing to uplift juniors and yet despite his elevated status in the industry, he was not slow to give credit to others.

Glen Kuntz

Harry was an amazing mentor. It was imperative to him that interpretations didn't reside in the math. If it didn't make sense on the ground and in the rocks, then the numbers were more than likely wrong.

Geoff Lane

Our condolences to his family and friends. We worked with Harry on a project in BC a number of years ago, and found him encouraging, and ready to embrace the new mineral data we were delivering by scanning electron microscope. He will be missed.

John Lauderdale

I recall the hugely positive attitude and totally professional manner in which all of "Harry's team" operated when working with us [*ENRC sites in the DRC*]. We were lucky enough that Harry came out to visit our sites and, I think, was impressed with the way we were working and the way his team were integrated into what we were doing. These latter were really down to the way he had developed the sheer quality and professionalism of his whole team.

David Lawson

Wherever you are in the world, it's almost a given that Harry Parker's name will come up during any discussion of mineral resources and reserves. His contributions to the global mining industry are unrivaled and his legacy has left a permanent imprint. Highly regarded for his knowledge, integrity, hard work and new ideas, as much as for his generosity, kindness and respect, he will be greatly missed.

Harry worked for Wood for over 30 years and was an industry-recognized expert with more than 50 years of experience specializing in development geology, geostatistics and resource/reserve evaluation to support operations, financing, acquisitions and privatization.

Harry was a model of integrity, hard work and technical achievement, earning the world-wide respect of his customers, colleagues and peers. He talked of retirement, but it was never for very long. His strong passion for mining always prevailed and he was actively engaged with projects at the time of his passing.

Chris Wright, Wood's technical director of resource estimation and geometallurgy said: "I have learned more about the global mining industry from Harry than from almost all other sources put together". Harry stood tall among the giants in his field and attracted strong technical professionals to Wood who were eager to learn from him. Geologists and geostatisticians who had the opportunity to go through his "boot camp" immediately strengthened their credentials in the view of mining customers.

It's been my privilege to have known Harry as a colleague and friend. Throughout the years, he had countless opportunities come his way. His decision to grow his distinguished career at Wood not only speaks to his character and commitment but also to our people and their technical expertise. His inquisitive spirit, insatiable curiosity and steadfast determination to improve the mining industry will continue to inspire us all.

We extend our heartfelt sympathy to his wife, Susan Kemper Parker, daughter Meg, son Winthrop, and the entire family.

Eric Lipten

He was the most demanding boss I ever had and the most challenging person I ever had to supervise.

He broke my geology department chairs, my budgets, my schedules, and my patience. But never my love or my respect.

My staff at Antamina loved him, and would move heaven and earth for him.

I have fond memories of him and only wish we had spent more time together. Sadly, he was always a busy man and I was busy with work and family. We would meet up when our paths crossed during our travels. There was a dinner together just before Christmas one year when we were both in Lima. There was a chance encounter in Nevada. These were always great experiences.

Sam Lungu

Very sorry to hear of Harry's passing. Go well my tutor. This is the man that I dedicate my whole career to.

Edson Machado

He would certainly be missed. Such an example of passion and dedication to the profession!!

Todd Madill

Reconciliation, reconciliation. Harry breathed it.

Funny story... he was such a busy man, high in demand. I remember him sitting in my office at a conference table discussing with us, next minute he's fast asleep, then he wakes and continues without missing a beat! I don't think retirement was ever in his cards.

Goodbye old friend.

PS. Be careful in the sun. It can be ruthless.

Hamilton Matias

Nice mentor and the best professional I knew!

Deborah McCombe

Harry's passing has left a sense of loss in the hearts of many people whose lives he touched. Filling this with a book of tributes and the many memories we have is wonderful.

Joseph Paul McKibben

Vale Harry Parker—a pioneer and an inspiration.

Chalwe Mapoma

I first met Harry Parker in a small mining town called Luanshya on the Zambian Copperbelt in 1994, when his company MRDI, was contracted to do some work for the World Bank on the then-prospective Baluba Flat Underground deposit.

There I was, a young geologist only a few years out from university, coming face to face with the great Dr. Harry Parker and his team. No idea who this big, gruff but quiet man was, but boy did I quickly learn!




We were working on one of the first computerized resource models for the then Zambia Consolidated Copper Mines (ZCCM) at Baluba, using Lynx

mining software on a UNIX platform. Working with his team, it would take us the whole night to run a model and hope power didn't go out, otherwise it was back to square one.

Harry would listen to all our complaints, assumptions and general reasons as to why the work couldn't be done, listen quietly (never assume he was asleep, no matter how he would sometimes appear), ask a few barely audible questions (in that low voice of his!) and proceeded to write a Fortran program that did everything we said couldn't be done!

Suffice it to say the project was done on time and to the high standards that Harry always demanded of himself and others.

Harry taught me that there is more than just my opinion, to always strive for excellence, and to never accept the norm. He helped shape me as a geologist, and I can honestly say that I owe most of my career to his initial guidance and mentoring. To this day I still work by the three phrases he would always use and drum into whoever was willing to listen:

-  Trust no one.
-  Assume nothing.
-  Check everything.

All that's left to say is: Thank you Harry, for everything. You will be missed.

Michael McNulty

I met Harry as a very green consultant in Zambia in the early nineties. As you note, he was incredibly generous with his time and patient with those willing to learn. I also recollect a wicked sense of humour, and contagious laugh.

Brett Menzel

We are so much better for Harry's involvement. He was an inspiration and mentor in many ways, with an incredible ability to cut to the point. RIP.

Larry Mireku

I met Harry while working for AMEC. A very respected in geology and resource estimation. My condolences to Harry's family.

Ken Moss

Harry's suggestions and tasks always benefited and educated the people he worked with and it was a pleasure to associate with him.

Craig Moulton

A very sad day. Harry was a truly passionate geologist and a wonderful individual.

Mylar Mukti

I am writing for the geologists who work for Vale Indonesia. We are deeply sorry about the loss of Dr Harry Parker.

I met Harry on a couple of occasions in Sorowako, when he was hired to help out with mine reconciliation issues. He was a very dedicated person, kind and open minded, and full of experiences. I personally think of him as the "Father of Mine Reconciliation".

I think it's not only the geologists at Sorowako that will grieve the loss of him, but mine geology globally will also miss him.

Rest in peace Dr Harry Parker.

Douglas Munyawiri

I first met Dr Harry Parker during the compilation of the Technical and Financial Report for the diamond business interests of De Beers and its partners around the year 2000.

A representative team of Competent Persons had been assembled under the technical leadership of Dr. WL Kleingeld then Group Manager Minerals Resources – De Beers Group. As Technical Assistant to the De Beers Group

Manager – Global Exploration Mr. WF McKechnie, my job included compiling of Group Exploration's contribution to the Technical and Financial Report to the Independent Committee of Directors of De Beers providing relevant technical information on the entire De Beers Group of companies.

Dr Harry Parker played the pivotal role of external technical peer reviewer to the key technical inputs and compilation of the Report. With the concept of mineral resources management (MRM) within the diamond industry in its infancy, Harry struck me as a tireless, hardworking, extremely sharp, hawk-eyed, technical reviewer with a deep knowledge of geology, exploration, mineral resources development, MinRED systems and processes, mining and mineral economics and an unparalleled meticulous attention to detail. What struck me most was how he could maintain such high levels of bottomless energy and alertness as the team toiled well into the early hours of the morning to meet the deadline. Harry's key role was to provide the necessary assurance and external competent person and peer review signoff on all the technical input into the report.

The seed of the importance of peer reviews had been planted, his unique technique of interrogation of geosciences and mineral resources management data and information became our blueprint guide as 10 years later we later designed, developed and implemented the De Beers Group Exploration Technical Assurance Framework, and recently the Debswana Group MRM Integrated Technical Assurance Framework. Harry's sound advice to embed assurance to help "...trap any errors in geosciences data early on to enable the activation of appropriate interventive corrective action before it's too late..." still echoes in my ears to this day.

A modest humble giant and mentor, his influence continued as we joined forces again at Amec (later Amec Foster Wheeler, now Wood) where he was our Technical Director tirelessly and generously sharing his expertise on geology resources estimation and geostatistics. Having Harry as our pillar helped pave the way for career diversification from diamonds only to other commodities including zinc, copper, nickel, platinum and geometallurgical modelling, simultaneously cementing and fortifying the philosophy of embedded governance assurance and multidisciplinary integration.

A modest giant and icon of the geosciences and mineral resources management fraternity, Harry would always insist that, whenever he came

down to South Africa in his packed technical schedules, we somehow “magically” created gaps for him to reconnect with other icons of the industry such as Danie Krige [*see image in HMP in pictures*], Roger Dixon, Ina Dohm, Malcolm Thurston, and Chris Prins.

I will forever cherish still vivid memories of his 2014 visit, captured in the photograph of Harry with Prof. Ferdi Camisani in the shadow of another global giant and icon, Nelson Mandela [*see image in HMP in pictures*].

It was indeed a privilege, and an honour, to meet and work with Dr Harry Parker for all these years.

Mark Murphy

Harry was a true legend in all senses of the word and will no doubt continue on as such to those of us who were fortunate to have worked with him directly. I treasure my list of Harry Parker sayings that I gathered over the last 20 odd years since I first met him at Snowden.

It is very sad to see you go Harry, but you can be proud of the inspiring legacy you have left in all those mining professionals you met, trained, and mentored over your long service to the industry.

Mark Noppe

I was first introduced to Harry back in the mid-1990s.

At the time I was working with Anglo American’s Mineral Resource Evaluation Department (MinRED, previously the Ore Evaluation Department, OED). MinRED was staffed with a number of people for whom Harry was dear to and whose names those reading this will know: Wynand Kleingeld, Ina Dohm, Malcolm Thurston, Duncan Campbell, Mike O’Brien and Vaughan Chamberlain to name a few.

At the time Harry had been and was providing external independent peer review for key projects carried by MinRED. I had recently moved from mine site roles to “head office”, and was learning the tricks around resource modelling, estimation and reconciliation. As a 30-something “mineral resource analyst” (as we were called), I had been tasked with generating a geology model and resource estimate for the Konkola Deeps Copper project

in Zambia. Harry was the peer reviewer, and so the first time I met Harry was around the boardroom table for a “show and tell”. Many of you know what this meant for the uninitiated...with me being that “newbie”. What an eye-opener. Being asked insightful questions, thinking ahead to the outcomes, how they would be used, and the list goes on.

My main learning from this though was the introduction to Harry’s view on time- (and quantity-) based resource classification using expected accuracy and confidence. I was encouraged to discover, learn and apply conditional simulation around geological interpretations and grade and the resultant contained metal outputs. What a stretch at the time, and with such a great mentor.

From that time, Harry always made himself available for a query, regardless of how much time had passed between our contact. Given his very busy schedule and frequent and extended site visits, he was always responsive and measured and considerate in his replies.

As we all know, my small example of Harry’s knowledge sharing was repeated in many other scenarios, boardrooms. mine sites, committees and the like. Harry was a true legend in our industry and I was fortunate to catch up with in mid-2019 when he was awarded the AusIMM’s highest honor, the Institute Medal, which recognized his contribution to the promotion of excellence in international public reporting standards and in the estimation of resources and reserves (*see the photo of Harry with another industry professional, Daniel Guibal, at the 2019 AusIMM Awards night, Melbourne, in the HMP in pictures section*).

Harry, your contribution, shared knowledge and unique personality will live on in our memories to be shared in turn with others.

Rest in peace.

Eric Olson

A true icon! Condolences to his family and friends.

Mark Pearson

I was always appreciative of the time that Harry took, with me and the discussions that we had. He was always probing in the questions he asked, and gave me time to think about the responses before giving an answer. I enjoyed these, and at no time did I ever get the feeling that I was being belittled or treated as anything but an equal.

Edwin Peralta

It is a privilege to have known and have worked with Harry Parker. He will continue to inspire us all.

Michael Phipps

A legend in resource geology. RIP.

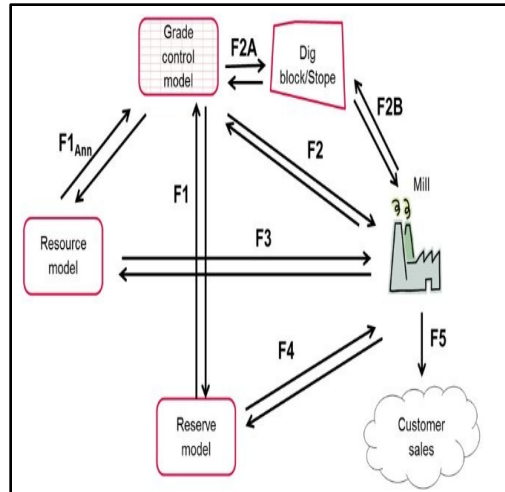
Julian Poniewierski

Vale Dr Harry Parker - 19 Dec 2019 It is only today that I heard of the passing of Dr Harry Parker - in the AusIMM newsletter.

It was one of Harry's papers that finally made sense of the resource reconciliation work I had been doing by providing a framework that made sense—one that is closest to a de facto standard for the industry.

One of my regrets is the "never happened" Masterclass I was planning for Harry to give at MMG in 2014—cancelled due to a budget blow-out by someone else in my group. And then I was restructured out—so was never able to do the following year (though I had it in the budget).

What I (and my colleagues) could have learnt from him. "If only".



Murray Rayner

A sad loss of a legend and a gentleman.

Doug Reid

My wife and I still laugh at the many fond memories we have of my time with Harry. I am fortunate to be able to call Harry a colleague, a mentor, and most of all a close personal friend. Take care Harry.

Abani Samal

Even though I knew him, and we met before, I made my first attempt for connecting with Dr Parker in 2008 during the Geostatistics Congress at Santiago, Chile. I could tell he knew a lot more about me than what I expected! I was pleasantly surprised. We were in communication only at a professional level.

Around 2014–2015, we met at a brainstorming session as experts in the field hosted by a very large exploration project in Arizona. Throughout the day, Harry spoke may be three times and for a maximum of 2–5 minutes each time. I won't exaggerate if I say all he spoke was recorded verbatim in the meeting notes by the host. I re-learned something that day from him: not to speak unless it was needed or, additional information or, important. I spoke

only once for three to four minutes in that whole day event. I had similar observations of him at CRIRSCO annual meetings, where the meeting room was pin-drop silent when Harry spoke.

I was lucky to have Harry as the co-presenter with me on my work shop at the Current Trends in Mining Finance conference in New York in 2017. During that program, I spent few hours with him discussing various things. I accepted those hours as the greatest gifts in my life from a person like Harry. What an amazing person he was! He treated me with respect and a lot of love and there were a lot of sympathy too! I was lucky to have received some tips (secret! 😊) from him.

I had the opportunity to share the same dining space with him several times. He loved food. He respected different cultures in the world. When I shared my experience in Nigeria with him, he appreciated so much—just learning about the people of another country that he could not visit.

I know who he was as a professional! What I remember about him more is as a great personality! I thank God to have given me the opportunity to know Harry in my life. His soul rests in peace.

Chris Sangster

Another legend of the industry.

Stella Searston

Working with Harry was a mixture of being a working dog enthusiastically chasing the bus, yipping happily at its wheels, and being the more domesticated dog that caught the bus, wondering what on earth to do now.

It'd be four-and-a-half days a week that I'd just pinch myself at the opportunities that I was given to work with Harry on the incredible projects he brought in. I was so lucky to be able to observe a true magician, who always had multiple rabbits hidden away in his magician's hat, which he could, and would, pull out to answer gnarly geology and geostatistical questions and issues. One after the other if the occasion required. There always seemed to be another rabbit in that hat.

Harry was an incredible mentor, and I learned without even realizing the half of what he was doing for me to allow me to gain experience. A compliment from Harry was hard-earned, and sparingly issued, but when I got one, it sure buoyed me up for the rest of the month.

In fairness to all my colleagues, though, I have to say that the last half-day of a working week was the flip side of the coin. That last couple hours, I generally wanted to throttle Harry. A total workaholic himself, he never considered staffs' personal lives, commitments to other clients and projects that staff might have outside of Harry's pet projects, or any other obligations. Such pet projects were not just client-related; they could also be anything that had caught Harry's magpie-like attention.

It was not unusual to be contacted at 8.30 am on a Saturday with the list of items he wanted sorted out over the weekend. Or called late at night with something that just "had" to be dealt with immediately. Or be contacted because he needed something researched, and he needed those research results right away. Or to be expected to routinely work 60–80-hour weeks as the man himself did. My small claim to fame is the one week in the mid-2010s where I was seriously cranky enough to finally properly bill all of the hours that I had worked that week on Harry projects, to make the point that enough was enough. That one week I had 107 documented billable hours. I was not alone in the overkill workload area.

It is an awful truth that those of us who worked closely with Harry are (or should be) so much more aware of the importance of work–life balance as a result of our experiences with him. I really hope we have learned, by example, what not to emulate. Sue, Meg, Win, I would like to thank you for the sacrifices you made as a family for Harry's career. I was definitely one who benefited by that.

There were times Harry would get a bumble-sized bee in his bonnet, contact a cast of tens, if not twenties, to work on something, and wouldn't rest till his insatiable curiosity had explained that arcane piece of geology or solved a geostatistical wrinkle to his own satisfaction. All of which was done without a single thought as to whoever he called in might need to bill time, or worse, had assumed because Harry asked it of them, that they could bill time. Or the impact on other projects that those called upon had to juggle with a Harry request. And woe betide if the consensus was that there was no explanation

yet, or that the consensus disagreed with Harry's instincts/interpretations. This often left me cautioning Harry (in ever more panicky emails and left voicemails) about needing to respect deadlines and budgets, but Harry would be on his peripatetic global flights, secure that I couldn't catch him before he'd got the working cast of tens mobilised.

Harry could also be totally tone-deaf to nuances and social cues, and was so often entirely single-minded. Sometimes this worked well, in that his laser focus got amazing results. Other times, it resulted in burnout of colleagues. And unfortunately, sometimes it also resulted in hard memories for some, where the bad times outweighed the good. As a colleague wryly observed, "yes, he could make you soar with one of his rare compliments, but then just as quickly, he could cut off your wings in the next breath". To those colleagues who have memories that were different to mine, "your" Harry was a Venn diagram that had only a small overlap with "my" Harry, but overlap of experiences there definitely was, I agree. I simply had some wonderful times and great memories to counterbalance the bad.

"Handling" Harry was never a sinecure and I was always in awe of how well Larry managed, what to my mind, was the unmanageable. From my side, though, just when I'd get to the point of total exasperation, I'd get a Harry call, with his gruff voice asking tentatively, "are you still really mad at me?", and it was impossible to remain p'd off. Until the next time, of course.

Harry was always the best of company outside of work. He'd talk food, wine, books, and trilobites; cars, barf bags, and such-like; on-the-job tales; and all things travel. Stories, jokes, and anecdotes would flow all evening. Despite being very familiar with some of the world's best lodgings and restaurants ("I have to stop at the Raffles because there I can think"), he never commented on what he was served when over for tea in the early 1990s Zambia, when simply being able to have butter on the table was a real achievement. Let alone providing a wine that was actually drinkable. Harry always considered an evening at our home in Zambia to be a good one if one of the rickety, artisan-made cane chairs we'd buy off the roadside outside Ndola stayed completely intact during his visit. I don't remember one ever being quite the same after an evening with Harry.

He took great pride in taking my family out to various restaurants in later years, particularly in the US, for "real meat" (i.e. steak). That included our

first visit to the Buckhorn Exchange, with its backwoodsman-type menu, heads-on-the wall ambiance, and proud claim to the first liquor licence granted in Colorado. Harry was in his element there. His food interests could be eclectic, but once he found a restaurant he liked, we would be frequent visitors at his invitation.

His sense of humour was generous enough to laugh when our daughter identified his voice as the voice I used for the “Gruffalo” (I swear unconsciously) when reading that book aloud to her when she was little. And he even chuckled after she showed him the illustration of the Gruffalo... He always remembered little somethings for her, most memorably a moose soft toy, which he insisted she name Bullwinkle J. She was very indignant that a moose was to be named Bullwinkle; she was convinced he didn’t know a (bull) cow from a (bull) moose. She’d been in Canada; she had a meat-centric dad; and she knew there was a difference both in the animals, and the resulting steaks! Thanks partly to Harry, we had to embark on a crash course in 60s and 70s Americana for her, which ranged from Rocky and Bullwinkle to My Favourite Martian. When visiting us, and needing snooze time before tea was served, he would “watch” selected episodes of Americana shows with her.

It’s not going to be possible in my lifetime to replace what Harry brought to the workplace and to any social gathering of ours: that combination of an eidetic memory, breadth of experience, fund of anecdotes, sly humour, and love of all things geology. He was a true fundi. I miss Harry very much.

Vernon Shein

RIP Harry and condolences to your family, friends and colleagues.

Ed Sides

During the last consulting trip which I was on with Harry—to the Debswana operations in Botswana in September 2017—I kept some notes of one or two of his sayings and reminiscences. As always, Harry was also trying to keep tabs on several projects elsewhere around the world whilst dealing with the

work at Debswana. However, during a social evening with some colleagues he told us a bit about his early days, including:

One of his first jobs was “exploring for iron limonite in California around 1965 when he was 18 years old. They used to dry the samples on the fire and used steel cans on tree stumps as markers.”

Two of his typically memorable catchphrases which he used on that trip were:

✚ “Comes in like a mule train and goes out like a jet plane!”

✚ “You can only piss with the cock that you have!”

Harry was a larger than life character, and will be sadly missed by all of us who used to work with him.

Ashok (AK) Singh

I met Dr Harry Parker first time while working as Assistant Head of Geology for Konkola Mine, Zambia in late 1980s. It was my privilege to have worked with him when he was developing the first geological model for the vast Konkola copper deposit containing almost 400 million tonnes at about 4% Cu. A massive amount of data was digitised, the team worked round the clock to finish the job on time set by Dr Parker. The model required a great deal of geological and structural information from the Konkola geologists. Further, as the deposit was 10 km long, variations in mineralogy were noticed, and to cater for mill feed forecasts, different mineral zones were identified.

Later on, during the 1990s, I moved to Mufulira Mine as the Chief Geologist. Here Dr Parker was heading the team working on Competent Person’s Report in preparation of privatisation of the mine.

Looking through the book shelves in the Geology Departments on the Copperbelt mines of Zambia, one finds them full of reports on studies that were carried out by Dr Parker. I found those reports in my office when I started as Manger, Geology at the Nchanga Mine in Zambia in 2005. Here his reports covered the entire spectrum of mining from both open pits and underground.

I found Dr Parker a hard-core professional, fully dedicated to his assignments. His relationship with everyone was very cordial, but at the same time he would ensure that correct procedures were adhered to.

We, in the geoscience professions, will greatly miss him and his valued contribution.

May the Almighty grant him peace in His Abode.

Mike Smith

I had a brief opportunity to work directly with Harry for about four days on a job, and boy do you learn a lot... quickly!

Rod Smith

I'll remember Harry for his breathlessly dry humour and sharp, straight-to-the-point insight. A great man of the geosciences, he will be long remembered.

Pat Stephenson

I worked with Harry on the Kelian litigation in 1996–1997. The case was run out of Melbourne and I joined part-way through.

The deposit was owned jointly by CRA and Kalimantan Gold (all this information is in the public domain), until Kalimantan was acquired by CRA in a somewhat unfriendly takeover process.

Mining started in 1992, but by 1993, it was evident that gold grades were substantially higher than predicted by the CRA-produced feasibility study. In 1994, ex-Kalimantan shareholders filed a lawsuit to claim a share of the revenue from the extra gold production.

CRA defended and Harry was its key technical expert (my involvement was mainly to do with the JORC Code although I was also asked to opine on Resource estimation and classification processes). It settled through mediation in 1997, with the terms of the settlement remaining confidential.

I learned a huge amount from Harry and other experts on the CRA side and was extremely impressed with his expertise, depth of knowledge and grasp of the technical minutia of the case.

(As an aside, I do recall an amusing incident during our QC's questioning of a technical expert on the Kalimantan side. The issue was to do with the temperature of a sample drying oven. The slightly exasperated QC asked how the expert determined the temperature—"was it, perhaps, by sticking your head in the oven?" The judge was not amused!)

I had quite a bit to do with Harry both before and after I relocated to Canada in 2007, involving JORC, other national reporting standards, CRIRSCO (of which I was co-Chair with Niall Weatherstone in 2005–2006), various conferences and technical papers etc. In 2013, he also got me involved on behalf of CRIRSCO (no-one else was available!) with the International Seabed Authority of the United Nations which was developing its "Reporting Standard of the International Seabed Authority for Mineral Exploration Results Assessments, Mineral Resources and Mineral Reserves". Between Harry, me and Caitlyn Antrim (CRIRSCO's ISA Observer, who sadly passed away in 2018), we managed to have CRIRSCO's November 2013 edition of its International Reporting Template adopted as its basis for the ISA reporting standard. Harry played a huge part in making this happen.

He had an amazing work capacity and ethic, contributed to the industry in so many ways other than just his professional consulting, never hesitated to share his ideas and techniques (some of which others less selfish might have treated as proprietary), was always prepared to speak up for the industry—sometimes bluntly (!), and was a man of few but very pertinent words.

Vale Harry—I doubt we'll see your like again.

Anil Subramanya

A real loss. Passionate about OBK and ever-willing to share his incomparable experience and expertise. I had the pleasure of being 'educated' by him... and the principles have stayed strong. Very sorry to hear of his passing.

Malcolm Thurston

As anyone who worked with Harry will know, Harry shared his experience, knowledge and software selflessly. This meant that every project was a learning experience: something that anyone who worked with Harry has appreciated and put to good use.

Andy Thwaites

Very sad and a huge loss to geoscience. Harry was the best in the business.

Edmundo Tulcanaza

I think it is good to remember the frequent trips that Harry made to Chile. He was an advocate of the standardization of mine reporting in the Chilean mining sector. Normally he liked to send messages to some of us in order to share some food and beverages in some of the typical places in Santiago. He always was generous to transmit professional experiences or comment on the general outlook of the industry.

In Chile, Harry left a powerful legacy and his life, conduct, and modesty will be forever an example to follow to much of us.

Helen Twigg

I was sad to hear that Harry Parker passed away. It was always a pleasure to meet him.

Saule Urazayeva

I want to express my deep empathy for his family and let them know that Harry provided invaluable support in the formation of our young professional organization PONEN and in the development of Kazakhstan's KAZRC code.

Harry had rare wonderful personal qualities and he generously shared with us with vast experience and in-depth knowledge of mining. Together with him, we prepared a Memorandum of Understanding between our Ministry for

Investment and Development of Kazakhstan and CRIRSCO, for the signing of which we all flew to London in November 2015.

It was the first official document on the beginning of our cooperation.

In 2016, in Astana, within the framework of the Astana Mining and Metallurgy International Forum, the KAZRC Association was accepted as the tenth member of the CRIRSCO international committee.

At the invitation of PONEN, Harry and his three CRIRSCO colleagues became honorary members of PONEN.

In our hearts, the memory of our great friend Harry will remain forever.

Alex Virisheff

Harry was an industry champion and contributed hugely. I will always have memories of a few conversations and beers. Rest in peace, Harry, and sincere condolences to Sue and family.

Elaina Ware

Harry Parker helped so many of us by sharing his knowledge and passion. His teaching style was impactful and memorable. He left a lasting legacy for sure.

Neil Wells

Harry was seriously ill for quite some time, and despite the strain that his treatments had on him physically, he remained engaged and active in CRIRSCO until the end. Harry passed peacefully surrounded by his family, and will be missed by everyone who knew him. His unique style, presence, and insight will likely never be matched again, and CRIRSCO has lost a true champion.

A sombre note to end the year, but let us all remember him with fondness and admiration and raise a toast while we all enjoy Christmas and the New Year with our loved ones.

Rest in peace Harry.

Dana Willis

I remember when I first met Harry at Jerriitt Canyon in Nevada in the early 90s. As was his way, he got right to the point by telling the assembled team of managers, engineers, and geologists that after he had been telling them for 10 years what the problem was (we had lousy reconciliation), and that it had finally bit us in the ass. Then the managers did listen to Harry, developed new resource models, and got reconciliation to zero percent variance after one year.

I was fortunate to have worked for Harry at MRDI and what I learned from him stood me well throughout my career, and for that I will be forever grateful and in his debt.

Bon voyage Harry, you will be missed by all.

Ian Woods

Harry had a huge influence on the industry due to his resources knowledge and impartial judgement. His advice was always welcomed and actioned. Also, socially he was a wonderful companion, and loved a good story over a wine or two. He will not be forgotten for a long time.

Mohan Yellishetty

I am sorry to hear that Dr Harry Parker passed away—it is such a great loss to our industry.

Eric Yooku Imbeah

Wonderful teacher. Had the favour of being audited by him. Great encounter.

Li Yuwei

Harry Parker is an internationally renowned mineral exploration geologist, geostatistical reserve estimation expert, and former chairman of CRIRSCO. He died on December 19, 2019. My Australian friend and CRIRSCO representative Peter Stoker transferred the news that his wife Sue had informed Harry's death and asked to be sent to Harry's circle of friends. I was informed in time and deeply saddened. Now that my friend has gone away, I remembered what I should write about as a memorial.

Harry was born in New York in 1946. He received a bachelor's degree in geology from Stanford University, a master's degree from Harvard University, and then a doctorate degree from Stanford University. Finally, he studied geostatistics under the tutelage of Matheron at the Fontainebleau Geostatistics Center in France. Obtaining a doctorate is one of Matheron's favorite disciples. Harry's education is very good.

In 1977, Harry, who had just been working for two years, had become the chief geologist of the Fluor Utah Mining Company. In this year, the China Council for the Promotion of International Trade organized a seminar on geostatistics, and Harry was invited as the keynote speaker to introduce the geostatistical reserves estimation method to the Chinese mining industry. China was led by the National Reserve Committee, and the Ministry of Geology, Coal and Metallurgy (when metallurgy and nonferrous metals were not separated at the time) sent people to attend. There were about 30 people in the whole seminar.

A seminar of a certain scale was determined, but what geostatistics was unknown at the time. One day, I was working at my home desk (maybe Sunday, otherwise why would I be at home), two guests came, one was Director Zhu Kai of the Geology and Mining Department of the Ministry of Geology and the other was Zhang Muju Director, both are leaders I know well. They said that there is a seminar, but the content of the seminar is unclear, can you help take a look? They asked me to put down a few pages of material. I said I will take a look at it, it's about geostatistics, but I have never heard of this name. See there are some formulas. I was mainly engaged in mathematical geology at that time, and I was more interested in formulas. I said that I did not know this content, but I can take a look. After the two left, I spent half a day and figured out that the core content of this

meeting was "kriging". Its application was mineral reserve estimation. The specific operation was to solve a chain of linear equations composed of differential functions. Of kriging I had already got some impressions from Atteberg's "Geological Mathematics", but I haven't heard of "geological statistics" yet. This is all the knowledge I had before the meeting. Then the Director told the two visiting leaders about the situation. They asked me to talk as the Chinese leader, and I agreed.

The seminar began. Harry was a little over 30 at the time, but he was already a large man, and he walked on and off. The meeting was mainly consisted of three people working together: Harry talked about the subject, translated by an old translator from the Ministry of Coal, and I explained and summarized the technical issues. At the time, I was only able to read English, but did not speak English at all. On the first day, before the lecture, Harry had to make some advertisements for the Fluor Utah company he worked for. He talked about some powerful, advanced technology, great achievements and the like. This process is over. This made me feel good about him and I felt that he was a loyal person. Speaking of geostatistics, he swayed freely and was relaxed. This is the real Harry.

A week passed quickly. After all, it is new to everyone, and it is still difficult to digest at the beginning. When we talked about it later, we continued to repeat and deepen our understanding. The theory, method, and application are relatively clear. I remember one time when I was talking about the kriging coefficient, Harry wrote a linear system of equations on a blackboard. I said that it can be solved with four symbols. On the blackboard, I changed the simultaneous equations into a matrix form. Harry was particularly happy at the time. I think he spent so much time listing equations on the blackboard by matrix elements because he was afraid that participants would not understand the matrix. At the last meeting, Harry gave me a lot of books and reference materials on geostatistics, which was more than one person tall from the ground. After the meeting, I gave them all to the National Geological Library. At that meeting, Harry said: "If Mr. Li comes to the United States in the future, the first place I should go is my California office". I understood this sentence before it was translated.

Harry later told his teacher Matheron about his activities in China. Later that year, Minister Sun Daguang of the Ministry of Geology visited France. When

he visited the Fontainebleau Geostatistical Center, the minister was very interested in geostatistics. Matheron said that you also have geostatistics in China. In 1978, my partner Yu Jinsheng and I were included in the list of Chinese delegations participating in the 26th International Geological Congress held in Paris, which was related to Minister Daguang's visit to France. The Foreign Affairs Bureau informed me that I must go to Fontainebleau and visit Matheron. So I and Yu Jinsheng visited the founder of geostatistics. At the time, people at the Geostatistical Center were a bit surprised by the meeting between Matheron and us. Because Matheron is low-key, he rarely participates in public events and receives visitors. I later thought about it, not because of what is special about the two of us, but because our country was in the initial stage of reform and opening up at the time. Matheron was interested in the huge development potential of China's mineral exploration and development.

Matheron has trained many outstanding geostatistical experts. At the 26th International Geological Congress, we heard a paper by Andre Journel, a student of Matheron and a brilliant young man; At the same time, I was invited to Margaret Armstrong's party after finishing her thesis defense. Later I met with JM Rendu at the headquarters of Newmont, Colorado. He made an important contribution to the use of kriging for mine grade control. In Vancouver, Canada, I saw another talented Fontainebleau researcher, Dominique François-Bongarçon. They were all at the forefront of modern international mineral reserves estimation technology.

After the seminar, a small upsurge in research and application of geostatistics took place in China. Some universities began to study, and the Ministry of Metallurgy began to apply this method boldly. I remember that a deputy minister of the Ministry of Metallurgy also went to the Ministry of Geology to introduce their application of geostatistics to estimate reserves at the Dexing Copper Mine and asked for opinions. The application of geostatistics in Dexing Copper Mine was conducted under the auspices of Harry.

In addition to geostatistics, Harry has also made great efforts to participate in CRIRSCO in China. China's current reserves classification is like an isolated island, which is incompatible with the standards of the world mining industry. Under such circumstances, how can China's mining industry

integrate into the process of mining globalization? Around 2006, Harry talked to me about whether it is possible for China to participate in CRIRSCO. I was very pessimistic at that time because our management ideas and technical ideas on mineral reserves were too far from this standard. But Harry felt he could still try it.

In 2009, I assisted the Reserves Department at that time to move CRIRSCO's annual meeting to Beijing in order to show the basic concepts of CRIRSCO standards to China's reserves sector. All CRIRSCO committee members have arrived, including the makers of the JORC specification and the writers of 43-101 legal documents. During the annual meeting, a seminar was held specifically for China's reserves. After the meeting, all CRIRSCO members inspected the Zijinshan Gold and Copper Mine.

Harry held the chairmanship for two years at CRIRSCO and five years as the former chairman. It is the pillar of this institution and has high prestige. During the CRIRSCO 2009 annual meeting in China, whenever there were important issues discussed, the committee members would say: Harry, Harry, you come first. Because in the field of mineral exploration and reserves estimation, Harry is indeed the highest in knowledge, experience, and prestige.

In recent years, Harry has a very good idea on the relationship between exploration network and reserve error, that is, to link the measured resource error with the mine's quarterly production plan, and to link the indicated resource error with the mine's annual production plan. If the interval estimation based on the variogram is related to these two errors, it is a perfect decision-making idea for geostatistical survey strategy. I discussed this issue with him in 2017, but due to the short time, thinking that there will be too much in the future, I did not hurry to communicate and did not expect to lose my chance forever.

Harry has been committed to advancing China's accession to CRIRSCO in recent years, and the situation has made some progress. CRIRSCO is the product of mining globalization, and China is a staunch supporter of globalization. From this logic, it seems that China's joining CRIRSCO is a smooth success. But the actual situation is much more complicated than logical reasoning. There are too many Chinese characteristics. In front of

the characteristics, you have to refrain. At present, Russia, Mongolia, and Kazakhstan are all CRIRSCO members. Of the world's important mineral resource countries, only China is outside. The mining industry is already deeply disturbed, and it is time to consider accelerating its progress. If China joins CRIRSCO one day, Harry's contribution cannot be forgotten.

The last time I met with Harry was in 2016, after he and Peter Stoker attended the Tianjin International Mining Conference. I invited them to visit the Simatai Great Wall and Gubei Water Town in Beijing. It was a family event and my wife and children accompanied me on the tour. After all, they are old people and need more people to take care of them. When the cable car reached the top of the mountain, I immediately regretted it. From the end of the cable car to the beacon tower, there is a very steep way to go. It is too dangerous to see Harry's huge, trembling body. I tried to persuade him to go back, he refused resolutely. On the way to Simatai, he remembered I once said to him, the saying about not being a good man if not reaching the Great Wall. Now he struggled towards the beacon tower, shouting "hero, hero" while walking. So, I suggested taking 10 steps to rest once, and he agreed. Every 10 steps find a rock to lean against, and finally reached the beacon tower, where he will join Peter Stoker from another road. The three old men sat happily on the stone steps, fulfilling the hero's wish.

Following are three poems.

The first is one taken from a book of poems published in 2013 to express my nostalgia for my friends.

Harry Parker (2009)

三十年前结为友，满头华发重牵手。

老弟已是颤摇人，昔我也成颠簸叟。

犹忆初会茶两杯，未曾相识话三斗。

君离西苑预留言：“兄到加州当告某。”

我过金山有几回，你来京城几回有？

来来往往不相逢，今日相逢随我走！

I received a gift from Harry in 2012, a book of American "500 Top Poems",
When I saw the book, I knew we knew each other well.

见书如面两相知，五百风骚令我痴。

灯下吟哦平仄乱，叹无李白读蛮诗。

This final poem is titled "A Cloud in Wushan". This is a name of the tunes to which a ci poem is composed. "Ci" means lyrics. This ci poem records how Harry, Peter and I felt when we visited the Great Wall of Simatai in 2016.

京北边关险，燕东野草黄，英雄埋骨美人伤，血肉筑城墙。烽火台犹

健，古稀人未央。回程更览水风光，始信是乌乡。

Harry, rest in peace!

Songling Zhang

Very sad to hear the news, thanks for your support and recognition. You are my forever mentor. You will be missed.

HMP in Pictures



Harry (asleep)? in Turkey, 2017 (Barış Yıldırım).

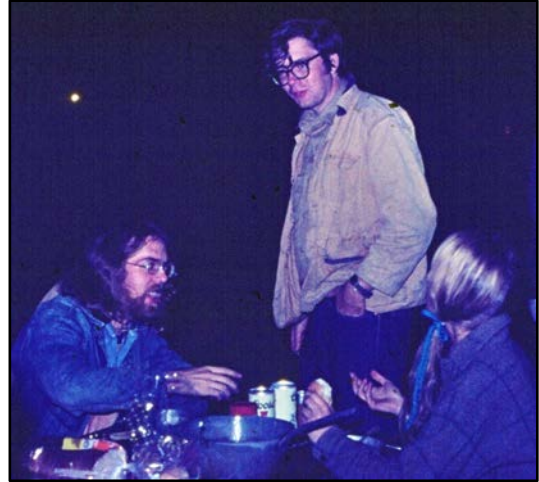
1970s



1972 Page AZ, trip (Richard Bishop).
Harry at back of photograph, in tan jacket, almost in the bushes.
Scanned from slide original.



1972 Page trip (Richard Bishop).
Harry at rear, behind the second of the hatted gentlemen.
Scanned from slide original.



1972 Page trip (Richard Bishop).
Harry standing, centre.
Scanned from slide original.



1972 Page trip (Richard Bishop).
Harry fourth from left.
Scanned from slide original.



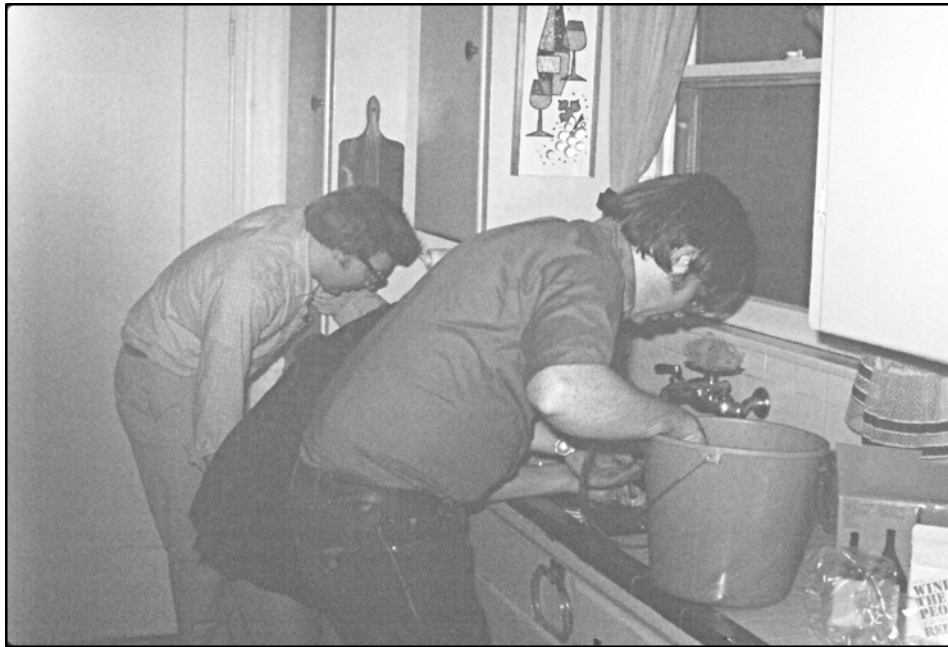
1972 Page trip (Richard Bishop).
Harry in middle of group photograph with hand to his head.
Scanned from slide original.



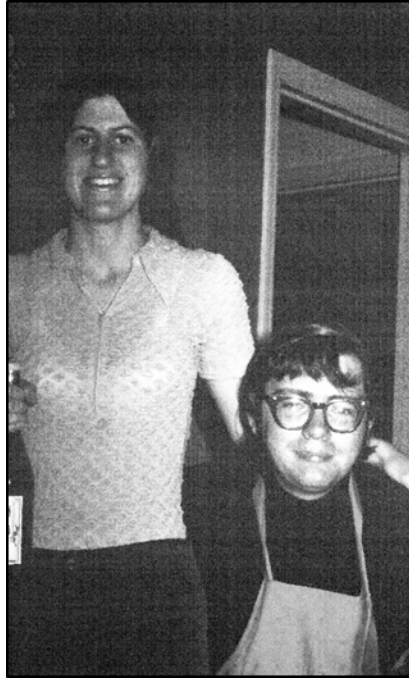
1972 Page trip (Richard Bishop).
Scanned from slide original.



1972 Page trip (Richard Bishop).
Harry to far left in group photograph.
Scanned from slide original.



Home brew (Richard Bishop).
Harry in foreground, with hand in bucket, Richard Bishop behind.
Scanned from slide original.
Sue says: Either making wine, or possibly after dinner liqueur.



1972 (Richard Bishop).
Sue and Harry.
Scanned from slide original.



The maestro's passport photo, 1973 (Larry Smith).

1980s



Chingola, Zambia, 1988 (Susan Meister).
From left: Harry, Mrs. Jon Dadswell, Jr. Dadswell, and Jon Dadswell (with cigar).



Fluor's Mining and Metals Division, based in Redwood City, CA, 1988 (Susan Meister).
Harry in the red sweater and dark sunglasses, with moustache, back row, mid-right, Susan behind, and holding up, the sign.

Mineral Resources Development, Inc.

Property Evaluators, Developers and Consulting Engineers



MRDI Brochure, 1989 (Borden Putnam).

Seated, from left: Tony Brown, Borden Putnam and Harry

Standing from left: Brian Tough, Jim Harer, Ian Smith, Frank Howald, Christian Werner.

1990s



Surprise early snowstorm, Jerritt Canyon, NV, 1994 (Don Birak).

From left, Gordon Seibel, Donald Colli and Harry.

Gordon says: note Harry's classic tweed French driving hat; it was bitterly cold and windy.

Note also the first photographic appearance of the ubiquitous, and legendary, two-handled, reinforced, open top, carry bag. Not just any carry bag for this non-Parisian fashionista, it's a monogrammed, LL Bean carry bag.

DEC-23-1994 11:00 FROM MINERAL RESOURCE & DEVELOPMENT TO 12018911819100000 P.02
94-12-23 12:02 081 754 0520 RED CARPET CLUB VUC FUC

December 23, 1994

To My Friends at MRDI:

I'm sorry not to be with you for the Christmas Lunch, but it is impossible to get there in time.

What a tumultuous year this has been. It seems like I'm always headed for a fire. I would like to thank you for the help all of you have given me. Perhaps what stands out most in my mind is the skills each of you have brought to MRDI. They make it possible to do our work better than I could ever do by myself, and it is a real pleasure for me to have seen this happen, whether in the area of open pit design, database management, exploration geology, sampling theory or conditional simulation.

I have trained a lot of people over the years and have been impressed how far the Vanderbeek's, Reamy's, Hennessy's and Sri vastava's of past teams have gone. These people certainly challenged and advanced the technology of their day. Times have changed, and the tools at hand have improved to the extent that you are now doing things in a routine way which were impossible in the past. From a technical viewpoint, you represent the finest group of players I've had the honor to work with.

We now stand at what some will see as a turning point for MRDI. I would like to thank everyone for their efforts over the last six years to make MRDI what it is today. The road has not been easy, but in summary, hard work, sometimes very hard work, has paid off. We hold a pre-eminent position in most of the markets we serve.

But, I would disagree that we are at a turning point. We have the opportunity within the large Simons organization

Harry's Christmas letter to staff, 1994 (Borden Putnam).

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'94-12-23 12:02 081 754 0520 RED CARPET CLUB 002 104
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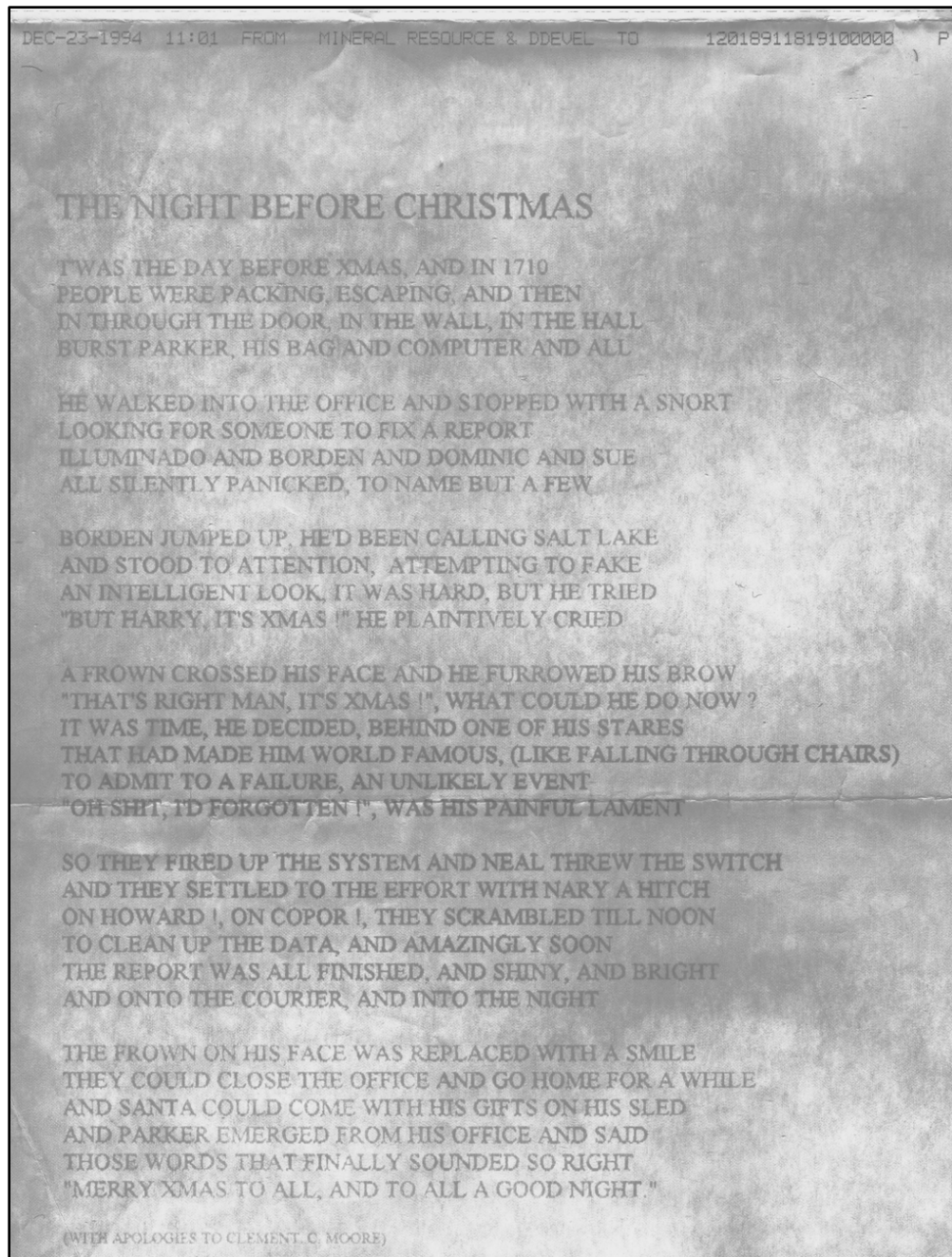
to accelerate our growth and continued development. we will have the opportunity to conduct large multi-disciplinary feasibility studies which have eluded us as MRDI. My past experience has been that these provide tremendous opportunities for personal growth and development and application of new technology.

I have known Rod Sharp (particularly), Bob Pentreigh and Barry Northam (the core of the Simms group) a long time and know they share these goals. Often a relatively small effort in a critical area (such as geostatistics at Olympic Dam) will have a far-reaching impact on study and even E+C awards. These people know this and respect this. I am looking forward to working with them again.

So have a happy holiday season with your family and friends. I am looking forward to working with you all again in 1995.

Regards,
Harry Parker

Harry's Christmas letter to staff, 1994 (Borden Putnam).



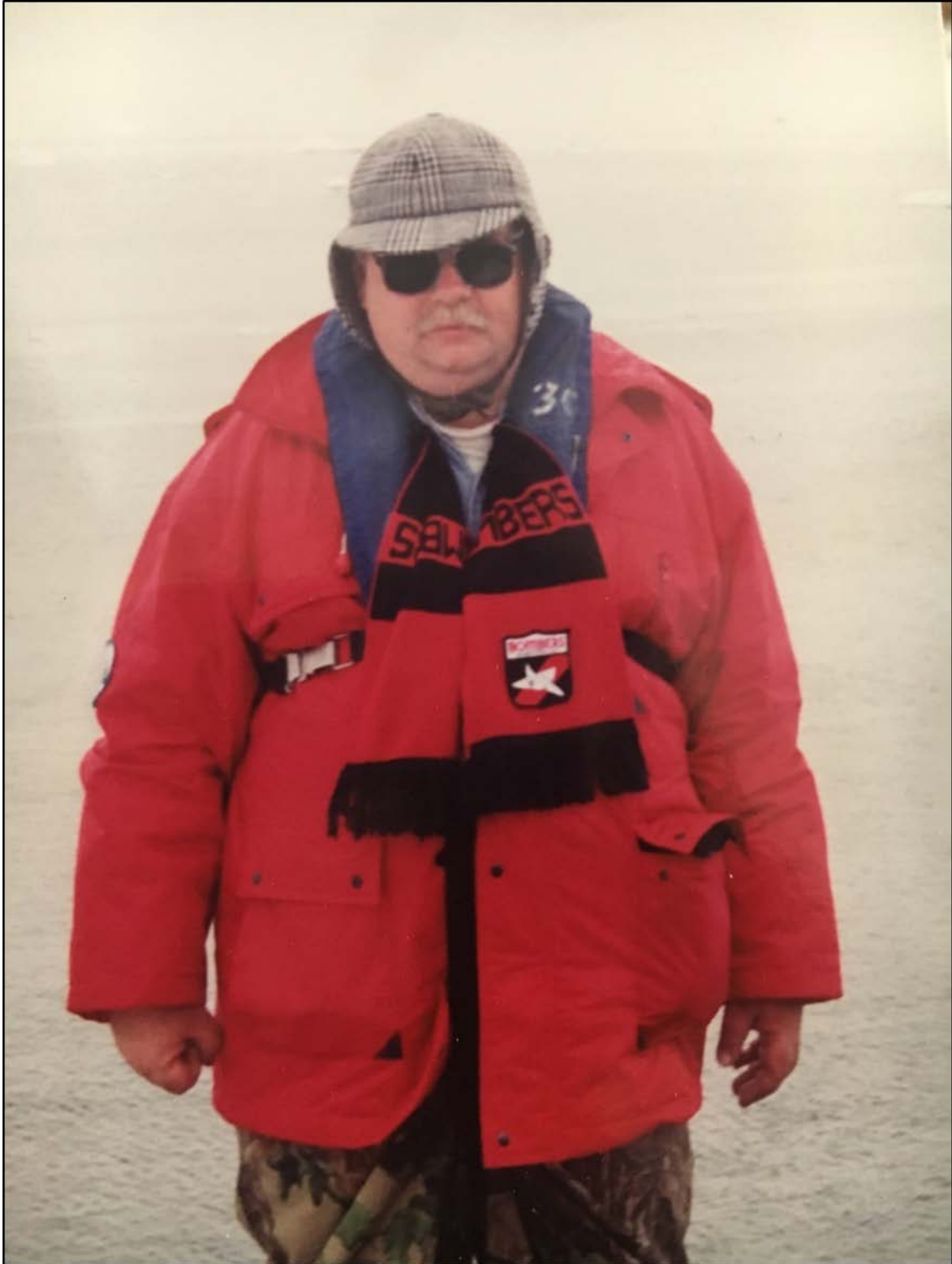
Harry's Christmas letter to staff, 1994 (Borden Putnam).



Dinner, 1997 (Susan Meister).
Harry and Sue with Dominique and Christine Francois-Bongarçon.



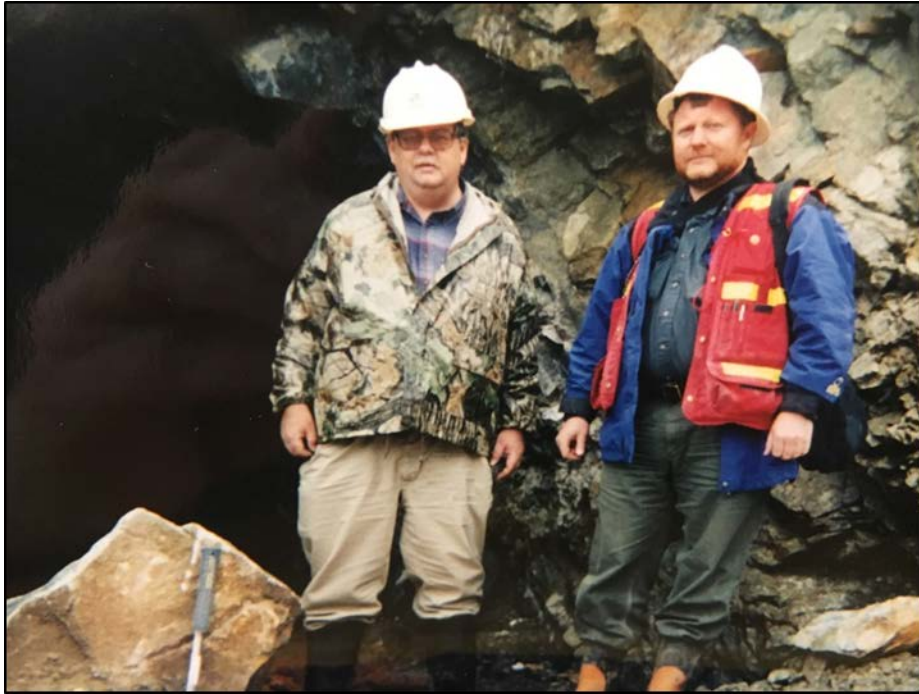
Harry with Susan Meister, Refugio, Chile, 1998 (Susan Meister).



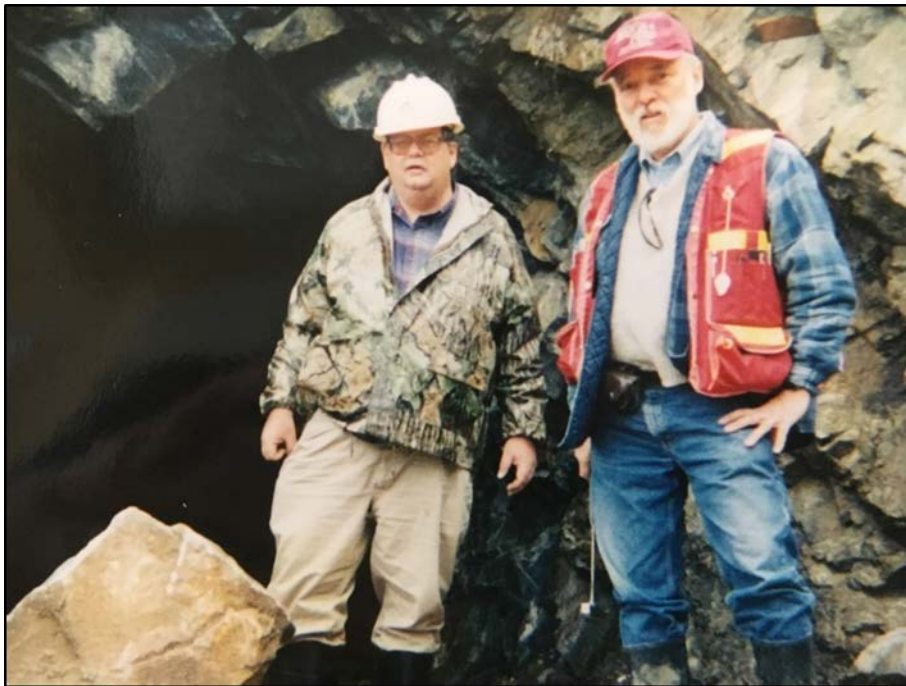
In Antarctica, 1999 (Sue Parker).

What the globe-trotting non-Parisian fashionista wears in southern latitudes. Red jacket and Essendon Bombers scarf, paired with a classic tweed French driving hat and camo trousers. (Essendon is an Australian Rules football club, based in Melbourne). Who knew Harry was a Bombers fan? Although Rhonda Scott and Jaya Naidu are most likely to be the source, since Jaya is an Essendon supporter.

2000s



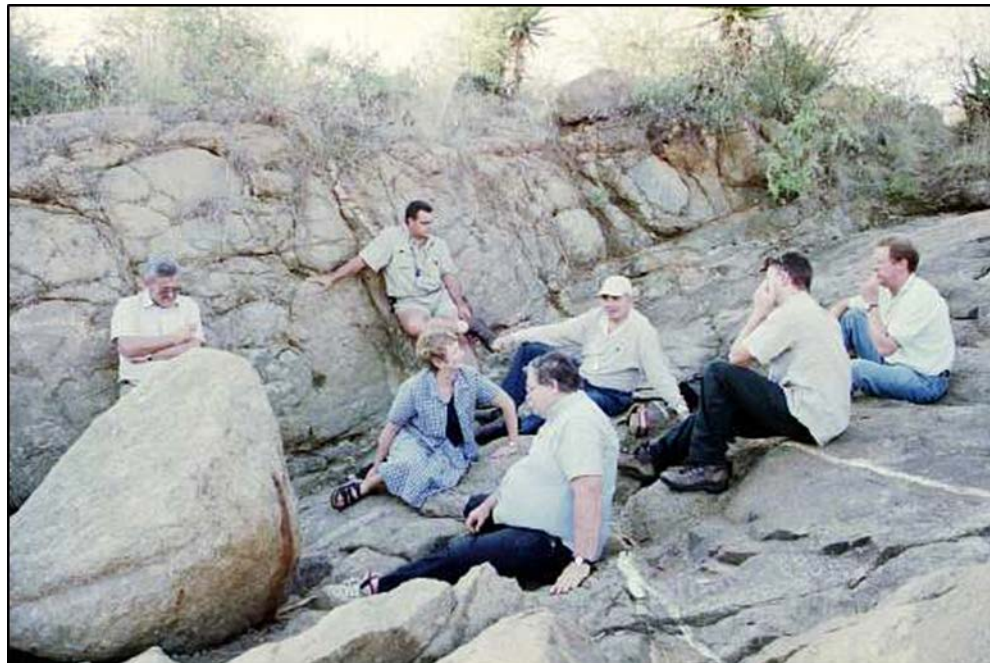
Antamina, Peru, 2000 (Sue Parker). Harry and Eric Lipten.
Eric says: taken at the Antamina test tunnel for metallurgical sampling. Harry was using an oxygen tank, but had taken it off for that for the photo. That was a great day and he was excited by the geology.



Antamina, 2000 (Sue Parker). Harry and Rick Schwartz.



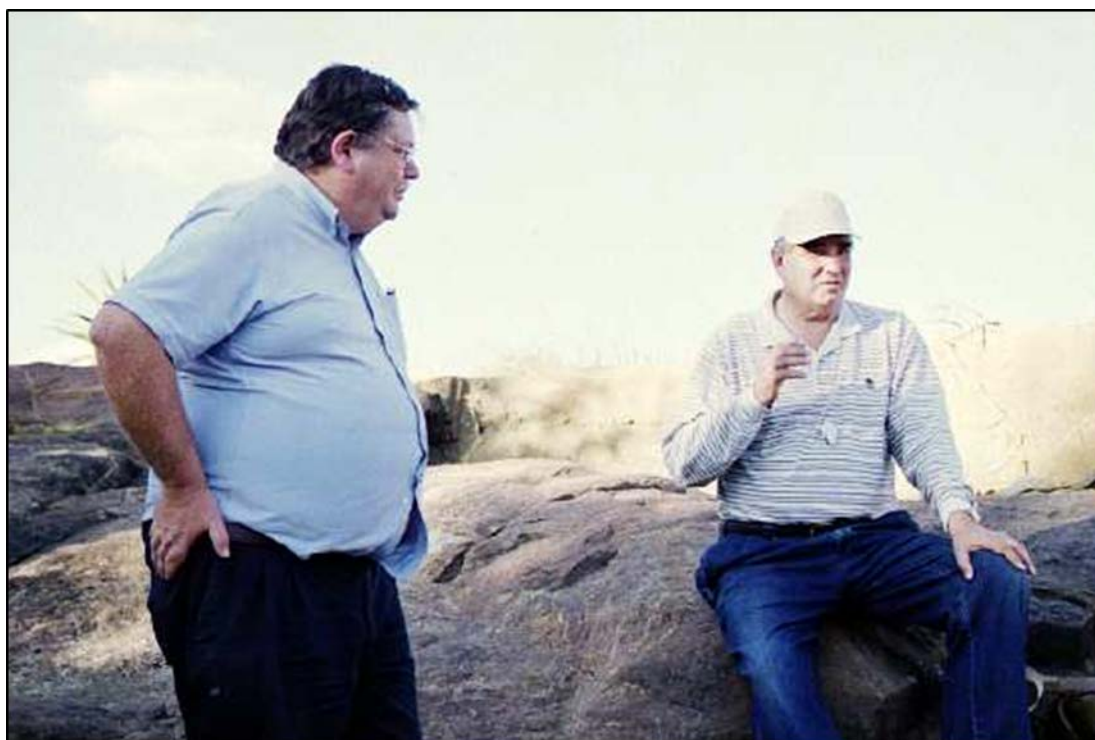
Harry and Wynand Kleingeld, Cape Point, Republic of South Africa. Probably early 2000s (Sue Parker).



Platreef exposure, Macalacaskop weir cutting, Republic of South Africa, 2001 (Kevin Francis).
From left: Geoff Challiner, Judith Kinnaird, Harry, Albie Brits, Tony Naldrett, Richard Montjoie, Louis Schurmann.



Platreef exposure, Macalacaskop weir cutting, 2001 (Kevin Francis).
From left: Tony Naldrett (blurred), Louis Schurmann, Geoff Challiner, Harry, Judith Kinnaird, Albie Britts, Richard Montjoie.



An outcrop talking point, Platreef, 2001 (Kevin Francis).
Harry and Tony Naldrett.



Inspecting core of the Platreef at Tshamahansi Township, 2001 (Kevin Francis).
From left: Harry, Louis Schurmann, and Tony Naldrett.



Drill site, Platreef, in Tshamahansi Township, 2001 (Kevin Francis).
Harry and Louis Schurmann observing.



Harry at a bush braai hosted by Tom and Vicki Sherrier, Republic of South Africa, 2001 (Kevin Francis).



Platreef drill site, in Tshamahansi Township, 2001 (Kevin Francis).
From left: Tony Naldrett, Louis Schurmann, Harry.



**Core review at Oyu Tolgoi, Mongolia, 2002 (Dale Sketchley).
From left: Munkhbat Tumor-Ochir, Harry, and Charlie Forster.**



**Koniambo, New Caledonia, 2002 (Susan Lomas).
Marc-Antoine Audet, Harry.**



Koniambo, 2002 (Susan Lomas).
From left: Harry, unknown, Marc-Antoine Audet.



Relaxing somewhere in the South Pacific, 2002 (Susan Lomas).

From left: Mark-Antoine Audet, Andy Ross, Harry.

Susan says: Early in the morning on the last day of our second visit to the site, the client geologist, Mark-Antoine Audet, took us out in a boat. We visited a reef just off New Caledonia and spent the morning snorkeling and eating wonderful food. By mid-day we returned to the office, picked up our luggage and drove to the airport. It was a beautiful day and nice to spend time with Harry away from the computers and histogram-probability plots.

*Larry says: Who said the guy was all work (I know, me) All the time he was sluffing off!
(For those not versed in mid-West slang, sluff is a Utah expression meaning, "to not go to class and/or school").*



Harry's Porsche, 2002 (Malcolm Thurston).

Malcolm says: I was working in the US and Harry came to see me in his Porsche. During his stay he was unexpectedly called away and on departing handed me the keys to the car and asked me to look after his Porsche. He was gone almost a month and I had a great time driving his car to and from work (with due care). I had never driven a Porsche before that and I haven't since. What a great memory.



On site at Antamina, Peru, with Jhon Espinoza, 2003 (unknown).



Antamina model review, 2003 (Eric Lipten).
From left, clockwise: Manuel Pacheco, Harry, Jeff Sullivan, Jim Gray, Tim Maunula, Peter Rolley, Chester Moore, John Mortimer, Eric Lipten.



Antamina model review, 2003 (Eric Lipten).
From left, clockwise: Chester Moore, Jeff Sullivan, Peter Rolley, Jim Gray, Eric Lipten, Tim Maunula, Harry, John Mortimer.



Antamina model review, 2003 (Eric Lipten).

Seated, from left: Jeff Sullivan, John Mortimer, Eric Lipten

Second row, from left: Harry, Manuel Pacheco, Waldo Arias, Jhon Espinoza, Lucio Canchis; Julio Bustamante, Chester Moore, Guillermo Pareja

Rear, from left: Jim Gray, Peter Rolley, Tim Maunula, Paul Gomez, Scott Smith.



Restaurant in Chiquiand during an Antamina audit, 2003 (Malcolm Thurston).

From left: Scott Smith, Harry, Tim Manula, Jhon Espinoza, Jim Gray, Steve Blower.

Scott says: I remember that picture and yes it is my truck, the picture is from when we went to Chiquian to work on the model and stayed in that little hotel with the restaurant.



Restaurant in Chiquian during an Antamina audit, 2003 (Malcolm Thurston).

Scott Smith, Harry at the phone.

Undoubtedly an "I want you to" instruction is being delivered to a hapless minion somewhere else on the globe.

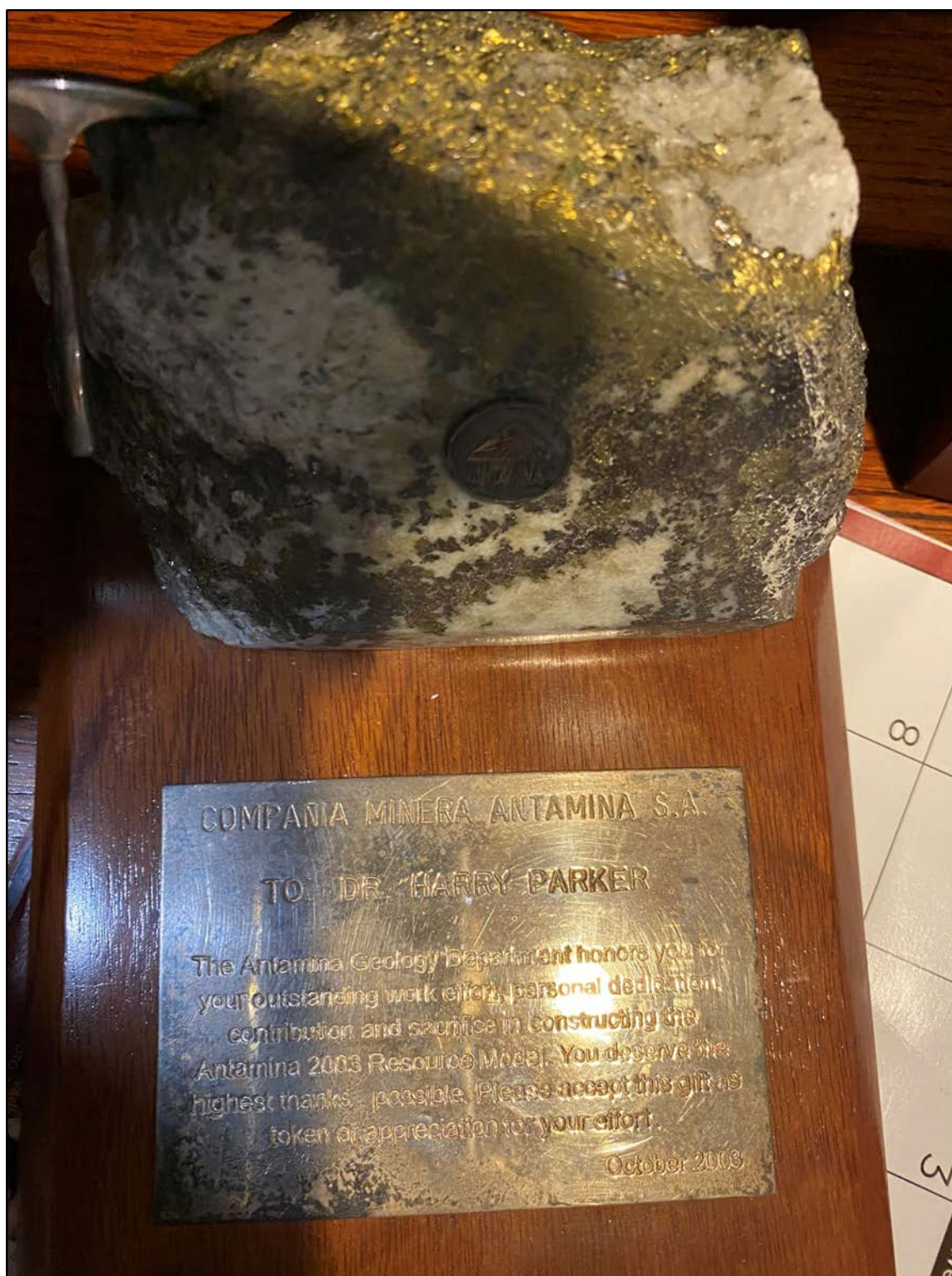


"Dellapina", Lima, Peru, 2003 (Eric Lipten).

Eric Lipten and Harry.

Eric says: And that was the last of the solid silver geologist's hammers that store ever made. I was trying to get Harry to buy it. He liked it a lot, but he was afraid to put it in checked luggage, and obviously would not be allowed to carry it on as hand luggage.

Dellapina is known for its high-quality sterling silver merchandise.



Antamina award, 2003 (Larry Smith).



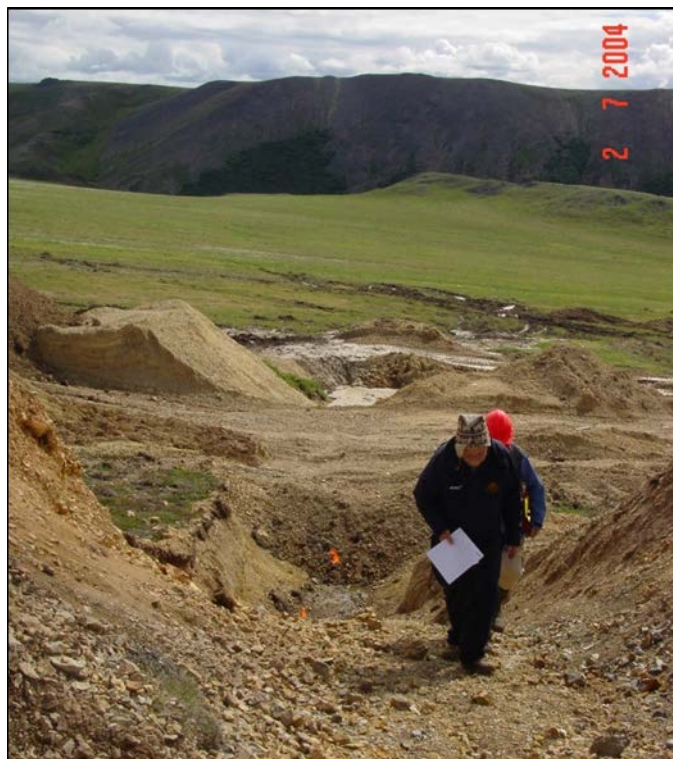
Dinner at Eric's, El Pinar, Huaraz, Peru, 2003 (Eric Lipten).
From left: Daniel Lipten, Eric Lipten, Harry, Jim Gray (partly obscured).



McCreedy East underground core farm, 2003 (Ted Eggleston)
From left: Jeff McVeety, Harry, Pierre Roque.



Helicopter flight into the Kupol deposit, Russia, 2004 (Susan Meister).
Fred Stahlbush (front) and Harry (second) on left side of photograph.



Harry inspecting the mineralization, Kupol, 2004 (Susan Meister).



Field inspection, Democratic Republic of Congo, 2004 (Doug Reid/Harry's collection).



Eric's house, El Pinar, Huaraz, 2004 (Eric Lipten).
Eric Lipten, Daniel Lipten, and Harry.
Eric says: Harry had just given Daniel a book for his birthday.



**Petea, Indonesia, 2005 (Ted Eggleston).
Gordon Zurowski and Harry.**



**Inalahi Hill, Indonesia, 2005 (Ted Eggleston).
Gordon Zurowski, Robby Rafianto, and Harry.**



Antamina review team, 2005 (Kevin Francis).

From left, front: Guillermo Pareja, Jhon Espinosa, Maribel Casca, Marlene Vara, Claudia de la Cruz, Artemio Maque
From left, back: Kevin Francis, Emmanuel Henry, José Carlos Gutierrez, Kim Kirkland, Harry, Mark Sedore, Ed
Isaaks, Nikki Grieco (Agyei), Willie Hamilton.



Antamina review team, 2005 (Kevin Francis).

From left, front: Steve Blower, Jhon Espinosa, Marlene Vara, Claudia de la Cruz, Artemio Maque, Maribel Casca.
From left, back: Kevin Francis, Emmanuel Henry, José Carlos Gutierrez, Kim Kirkland, Harry, Mark Sedore, Ed
Isaaks, Nikki Grieco (Agyei), Willie Hamilton.



Antamina offices, 2005 (Willie Hamilton).
From back: Harry, Emmanuel Henry, Kevin Francis, and Artemio Maque.



Dawn at Antamina, 2005 (Willie Hamilton).
Kevin Francis for scale.



Antamina, 2005 (Kevin Francis).
Ed Isaaks and Harry.
Kevin says: probably arguing!



Antamina, 2005 (Kevin Francis).
Harry inspecting Run for the Roses potential.



Harry's birthday, Antamina, 2005 (Eric Lipten).
From left, clockwise: Emanuel Henry, Ed Isaaks, Eric Lipten, Scott Ansell, Jhon Espinoza, Harry, Miguel Sanchez, Marlene Vara, Guillermo Pareja.



Harry's birthday, Antamina, 2005 (Eric Lipten).
From left: Jhon Espinoza, Scott Ansell, Harry.



Kilimanjaro success, 2005 (Larry Smith).



Antamina, 2006 (Ian Crundwell)

From left: Silvia Satchwell, Jeff Sullivan, Ed Orbock, Ian Crundwell, Nikki Grieco (Agyei), Harry, unknown, Julio Rojas, Paul Gomez (behind), Julio Bustamante, Manuel Rodriguez (behind), Artemio Maque, Guillermo Pareja, José Carlos Gutierrez and Manuel Pacheco.



Antamina, 2006 (Ian Crundwell).

Front row, from left: Ian Crundwell, unknown, Nikki Grieco (Agyei), Guillermo Pareja.

Second row, from left: José Carlos Gutierrez, Julio Bustamante, Artemio Maque, Manuel Pacheco, Jhon Espinoza, Julio Rojas, Silvia Satchwell.

Back row, from left: Eric Lipten, Arndt Brettschneider, Paul Gomez, Manuel Rodriguez, Ed Orbock, Harry.



Harry out hiking near Lake Tahoe, 2006 (Malcolm Thurston).



Harry enjoying a Pisco sour with Manuel Pacheco in Huaraz, 2007 (Arndt Brettschneider).



Antamina, 2007 (Doug Reid/Harry's collection).
From left, Harry, Ed Isaaks, Ed's wife Carey, Ed's sister-in-law Nancy, and Ed's brother-in-law George.



Kathmandu, Nepal, 2007 (unknown).

*Harry's caption: Jealous? Eat your heart out, I'm hiking the Everest Base Camp Trail with three gorgeous babes.
Sue says: Shekoufeh, Bitu, and Mina with Harry. Shekoufeh is our daughter-in-law's sister.*



Nickeliferous outcrop inspection, Onça Puma, Brazil, 2007 (Rodrigo Marinho).



Onça Puma, 2007 (Rodrigo Marinho).
Of course I'm inspecting outcrop, what else would a dedicated geologist be doing behind the bushes?



Onça Puma site visit, 2007 (Rodrigo Marinho).
From left: Renato Landgraf, David Chiron, Jonathan (Jon) Gill, Rodrigo Marinho, Harry, Ralph Penner, Walber Carvalho, Flavio Ferreira.



Inspecting laterite exposure, Onça Puma, 2007 (Rodrigo Marinho).



Onça Puma site visit, 2007 (Rodrigo Marinho).
From left: Jon Gill, Ralph Penner, Harry.



Onça Puma site visit, 2007 (Rodrigo Marinho).
From left: Jon Gill, Harry, David Chiron. Flavio Ferreira (obscured), Walber Carvalho.



Onça Puma site visit, 2007 (Rodrigo Marinho).
Harry and Jon Gill.



Onça Puma site visit, 2007 (Rodrigo Marinho).
Dominique Francois-Bongarçon and Harry.



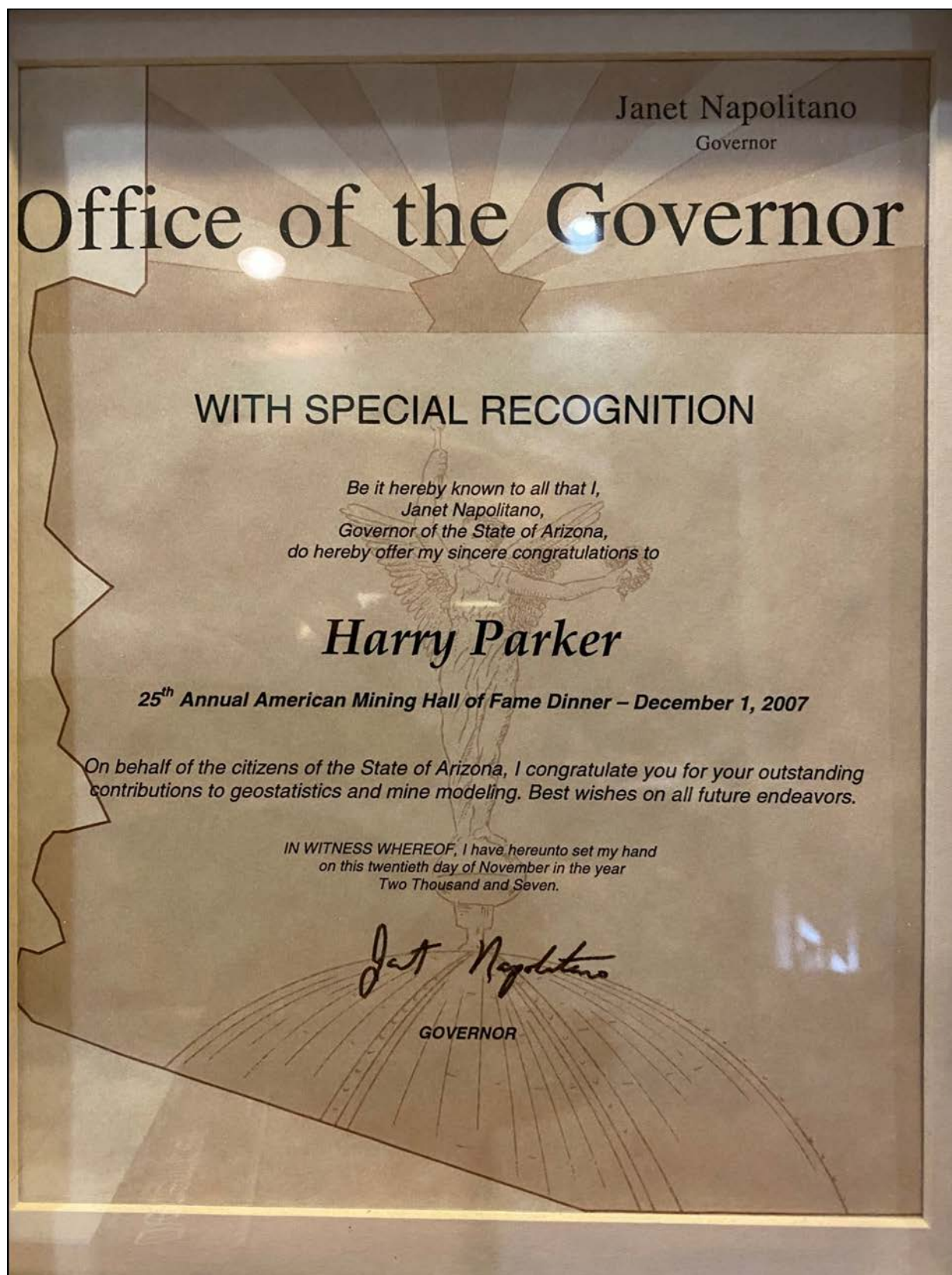
Onça Puma site visit, 2007 (Rodrigo Marinho).
From left: Ralph Penner, Jon Gill, David Chiron, Mrs David Chiron, Harry.



CRIRSCO committee meeting, 2007 (Ian Goddard).
From left: Harry, Roger Dixon, Ferdi Camisani, Edmundo Tulcanaza, Ian Goddard, Peter Stoker, John Postle, John Clifford, Niall Weatherstone and Jean Michel Rendu.



2007 (Ian Goddard).





Dinner during Antamina audit, Huaraz, Peru, 2008 (Tim Kuhl).
From left: Henrique Da Silva, Hamilton Matias, Javier Mercado, Artemio Macque, Guillermo Pareja, Ian Crundwell, Tim Kuhl, Ed Isaaks, Fernando Linares, Jhon Espinoza, Julio Bustamante, Peggy Peñaloza, Gustavo Loyola, Jose-Carlos Gutiérrez, and Harry.



Morning walk at El Pinar during the Antamina audit, 2008 (Tim Kuhl).



Harry strategically evaluating refreshment opportunities, in Chamonix, at start of alpine trek, Mont Blanc to upper left, 2008 (Larry Smith).



First day hike above Argentière with Chamonix guide, 2008 (Larry Smith).



Harry and Chamonix guide on the Italian side of the Mont Blanc massif, 2008 (Larry Smith).



Third day rest on the way to Les Contamines, with niece Brooke Kemper, 2008 (Larry Smith).



Third day on trail, near Col du Bonhomme, 2008 (Larry Smith).



Brooke Kemper photographing Susan Patrick on trail, west of Courmayeur, Italy. Mont Blanc in the background, 2008 (Larry Smith).



Aiguille Du Midi point above Chamonix (location of next photograph), 2008 (Larry Smith).



Observation deck at Aiguille Du Midi, 2008 (Larry Smith).



Observation deck at Aiguille Du Midi, 2008 (Larry Smith).



Harry with Chamonix guide in Switzerland, northeast of Mont Blanc discussing route of trail back to Chamonix, 2008 (Larry Smith).

Larry says: by this time the guide was carrying Harry's daypack!



Dinner at hiking lodge at Ville de Glaciers. Niece Susan Patrick across from Harry and Brooke Kemper to his left, 2008 (Larry Smith).



Dinner, 2008, after 110-mile hike around the massif of Mont Blanc. Total of 30,000 feet up and 30,000 feet down over 10 days (Larry Smith).
Harry second from left; Larry second from right.



AMEC managers' meeting, Harry's house at Incline Village, 2008 (Larry Smith).

Front row: Sue Parker, Pam Angelo, Mrs. Tom Holcomb, Larry Smith, Chris Wright.

Second row: Mark Angelo, Helen Wood, Guillermo Pareja, Monica Colquhoun, Emmanuel Henry, Doug Smith, Mrs. Doug Smith, Magdell Gosson, Pierre Rocque, Alexandra Kozak, Kelly Ansell, Gerrit Vos, Lawrence Elgert, Richard Kilpatrick.

Third row: Kim Kirkland, Tom Holcomb, Ed Orbock, Mrs Greg Wortman, William Colquhoun, Gary Taylor, Greg Wortman, Greg Gosson, Don Doe, Karina Rogers, Ed Sides, Harry, Tim Kuhl, Georges Verly, Bill Tilley, Christine Kilpatrick, Ian Crundwell, Scott Ansell.



View from Harry's house, 2008 (Larry Smith).

Ralph Penner says: During the 2008 AMEC Manager's Summit, Harry invited us up to the Parker place in Tahoe. I was standing on the deck looking through the giant pines at Lake Tahoe when Harry stepped up beside me. I said to him, "Harry, that is a million-dollar view". He replied, "it was a hell-of-a-lot more than a million dollars, Ralph".



AMEC Manager's meeting, 2008 (Larry Smith).
From left: Doug Smith, Mrs Doug Smith, Graham Wood, Harry.



AMEC Manager's meeting, 2008 (Larry Smith).
From left: Bill Tilley, Karina Rogers, Greg and Magdell Gosson, Helen Wood, Emmanuel Henry, Harry.



AMEC Manager's meeting, 2008 (Larry Smith).
From left: Karina Rogers, Greg Gosson, Emmanuel Henry (at back), Graham and Helen Wood, Harry.



AMEC Manager's meeting, 2008 (Larry Smith). Hiking the Truckee meadows.
From left: Richard and Christine Kilpatrick, Kelly Ansell, Magdell Gosson, Gary Taylor, Ed Sides (with hat, obscured), Harry, Greg Gosson.

Larry says: While I was bringing my boat to the lake and reserving a beach site at Sand Harbor, Harry took these people on a hike near Truckee. The more adventuresome men like Bill Tilley, Scott Ansell, and Chris Wright were riding the Tahoe Flume mountain bike trail at the same time.



AMEC Manager's meeting, 2008 (Larry Smith). Hiking the Truckee meadows.
From left: Ed Sides, Magdell and Greg Gosson, Harry, Gary Taylor, Richard and Christine Kilpatrick, Kelly Ansell.



AMEC Manager's meeting, 2008 (Larry Smith). Hiking the Truckee meadows.
From left: Gary Taylor, Harry, Ed Sides, Kelly Ansell, Richard and Christine Kilpatrick, Mrs. Greg Wortman, Greg Wortman, Graham and Helen Wood, Greg and Magdell Gosson.



**AMEC Manager's meeting, 2008 (Larry Smith). Hiking the Truckee meadows.
From left: Gary Taylor, Harry, Ed Sides.**



**AMEC Manager's meeting, 2008 (Larry Smith). Hiking the Truckee meadows.
Harry, Ed Sides.**



AMEC Manager's meeting, 2008 (Larry Smith).

From left: Harry, Ed Sides (partly obscured), Gary Taylor, Chris Wright (partly obscured), William and Monica Colquhoun, Sue.

Making the rainbow connection.

Larry notes: Note that Harry is wearing hiking boots on the beach. They just returned from the hike above near Truckee and I guess he did not transition well to the beach!



Lawrence Elgert, Harry, and Tim Kuhl, off on a walking safari, Huaraz, 2008 (Ian Crundwell).



Lawrence Elgert and Harry, still walking, Huaraz, 2008 (Ian Crundwell).



Huaraz, 2008 (Ian Crundwell).
Harry handing out candy to the local kids, Lawrence Elgert and Tim Kuhl to Harry's right.



**Huaraz, 2008 (Ian Crundwell).
Harry assessing pork belly futures, Tim Kuhl in the background.**



**Huaraz, 2008 (Ian Crundwell).
Corn futures are also on the up. Harry with Lawrence Elgart, greeting a local farmer.**



Dinner with Antamina staff, Huarez, circa 2008 (Eric Lipten).
Manuel Pacheco, Harry, Artemio Maque, Lucio Canchis.



Resource seminar organised by the Mongolian University of Science and Technology, 2008 (Gerlee Bayanjargal).
Harry seated, centre left.



Antamina, Peru, circa 2009 (Doug Reid/Harry's collection).

Chris Wright, Harry.

Chris says: the date on the photo is not correct, this must have been in about 2009.



CRIRSCO group photograph, Xiamen airport lounge, China, 2009 (Ian Goddard).

From left: Ian Douglas, Deborah McCombe, Roger Dixon, John Postle, Herman Souza, the Managing Director of the Zijin Mining Group, Peter Stoker, Ian Goddard, Harry.



CRIRSCO group photograph, Zijin mine tour, 2009 (Ian Goddard).

From left: Dr Yan, Harry, Zijin staff member, Li Yuwei, Hernan Soza, Wang Bei, Peter Stoker, Ian Douglas, Zijin staff member, Deborah McCombe, John Postle, Roger Dixon, Tereza Dixon, Ian Goddard, Zijin staff member.



Banquet in Beijing, 2009 (Ian Goddard).

From left, John Postle, Tereza Dixon (obscured), Wang Bei (back to camera), Hernan Soza, Harry.

2010s



At Harry's Bar in Venice, with a Bellini, 2010 (Doug Reid/Harry's collection).



Harry on his 64th birthday, Salt Lake City, 2010 (Roger Cooper/Stella Searston).
Top right, Harry and Roger Cooper; centre, Stella Searston and Harry, and remainder, Harry settling into the evening.
After having walked into the room to the sounds of "When I'm 64", he said: "the Beatles 50th anniversary brought back many memories of parties in the Shenandoah Valley in 1964. That's the summer I met Sue".



Laboratory visit, Kolwezi preparation facility, Democratic Republic of Congo, 2010 (Doug Reid/Harry's collection).



Minnesota, 2011 (Doug Reid/Harry's collection).

Kevin Boerst, Ted Eggleston and Harry.

Ted says: we were looking at mafic/ultramafic rocks on a hike to find a breccia that Harry discovered in the early 70s.

We didn't get to the breccia because of the beaver ponds you can see in the background, but we saw other stuff along the way. Harry remembered it all after 40 years.

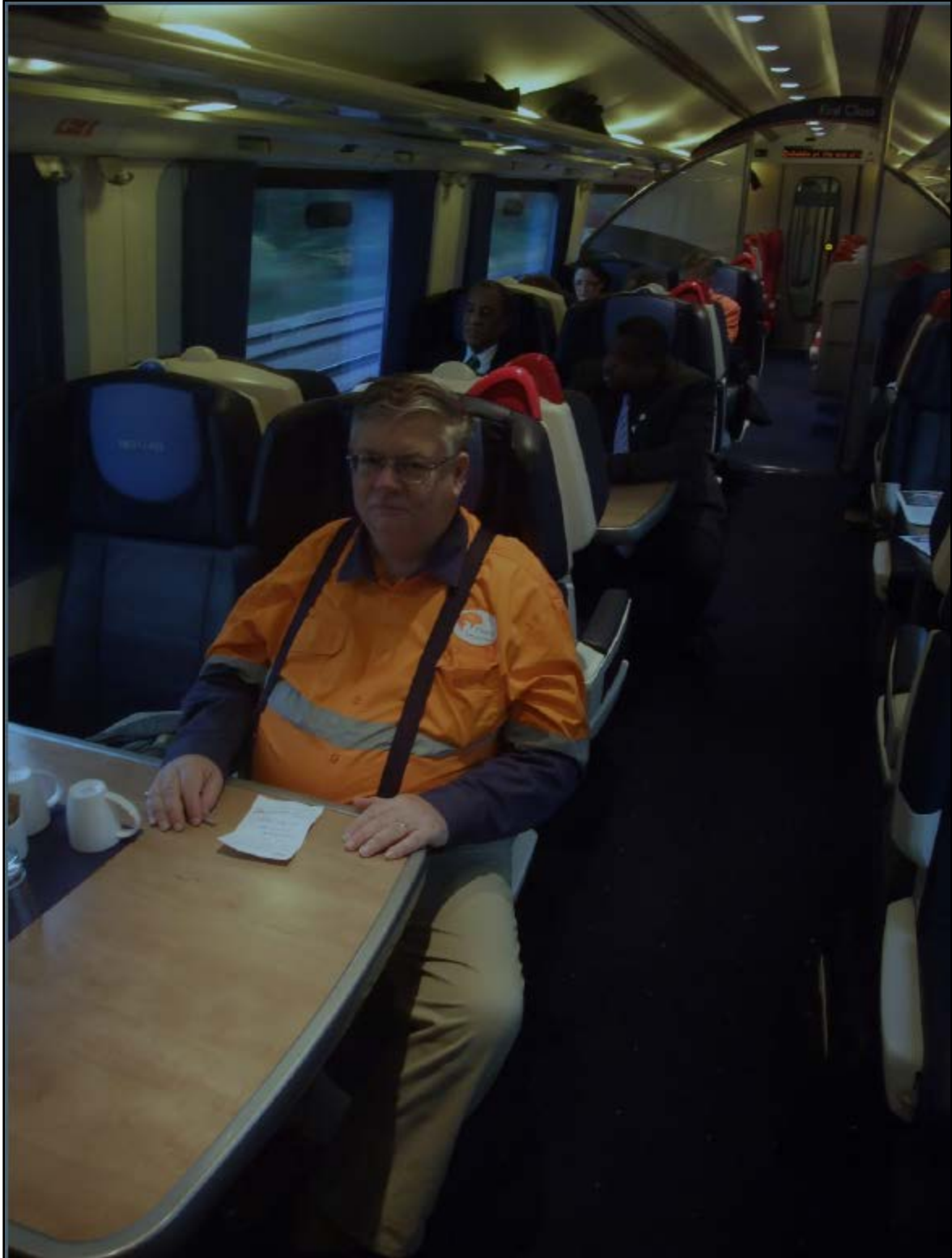


Hibbing, Minnesota, 2011 (Doug Reid/Harry's collection).

Sue says: this is the first apartment we lived in after getting married in Dec, 1968. It was a damp and very cold apartment, complete with very old and nasty furniture; but the mice loved it and seemed to thrive there in spite of my best efforts to remove them. We were saving money to go to graduate school and Harry was already saving for his first Porsche!



CRIRSCO meeting in 2011 (Stephen Henley).
From left, Roger Dixon, Ian Goddard, and Harry.



On the way to the Ecton Mine in the UK as part of a CRIRSCO tour in 2011 (Roger Dixon).



Harry at the Ecton Mine in the UK as part of a CRIRSCO tour in 2011 (Stephen Henley).
Stephen says: The “gold panning” is a joke as the mine was copper/lead/zinc—no gold was ever found there, and the mine was abandoned over a century ago.



Lunch at the Ecton Mine, 2011 (Roger Dixon).



CRIRSCO, 2011 (Stephen Henley).

From left: Oyunbaatar Ulzii, Deborah McCombe, and Harry.

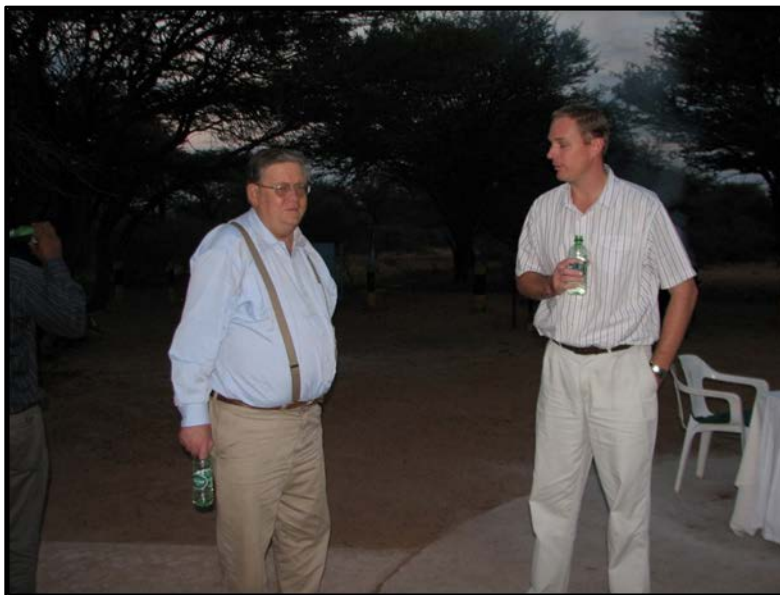
Stephen says: taken at the IOM3 offices at 1 Carlton House in London in 2011 on the occasion of the signing of the MOU with Mongolia. Harry had been the prime contact with the Mongolian representatives, which resulted in Mongolia becoming a member of CRIRSCO in 2014.



CRIRSCO, 2011 (Roger Dixon)



Dinner with De Beers/Debswana staff during a Botswana visit to the Jwaneng and Orapa diamond mines, 2011 (Ian Crundwell).
From left: Malcolm Thurston, Harry, Peter Brammar, Ken Brisebois (and Johan Stiefenhofer's arm).



Socializing with De Beers/Debswana staff during a Botswana visit to the Jwaneng and Orapa diamond mines, 2011 (Ian Crundwell).
From left: Johan Stiefenhofer (facing away from camera), Harry, Trevor Rowlands.



Socializing with De Beers/Debswana staff during a Botswana visit to the Orapa diamond mines, 2011 (Malcolm Thurston).

Harry at the bain marie, and Chris Rowan.



Socializing with De Beers/Debswana staff during a Botswana visit to the Jwaneng diamond mine, 2011 (Malcolm Thurston).

Malcolm Thurston, Harry.



Socializing with De Beers/Debswana staff during a Botswana visit to the Jwaneng diamond mines, 2011 (Malcolm Thurston).

From left: Ian Crundwell, Harry, Ted Eggleston.



Harry silhouetted against the excavated first bench of the Southern Oyu open pit, with the plant and infrastructure under construction in the background, Oyu Tolgoi, Mongolia, 2011 (Rodrigo Marinho).



First bench, Southern Oyu open pit, 2011 (Rodrigo Marinho).
From left: Greg Kulla, Carl Hehnke, Keenan Jennings, Harry, Clay Craig.



First bench, Southern Oyu open pit, 2011 (Rodrigo Marinho).
From left: Greg Kulla, Bill Hart, Keenan Jennings, Clay Craig, Carl Hehnke, Harry, Rodrigo Marinho.



First bench, Southern Oyu open pit, 2011 (Rodrigo Marinho).
From left Clay Craig, Harry, Keenan Jennings, Greg Kulla.



On site at Oyu Tolgoi, 2011 (Rodrigo Marinho).
From left: Keenan Jennings, Kitty Gundy, Clay Craig (partly obscured), Harry, Bill Hart, Greg Kulla. Carl Hehnke.



**2011 Oyu Tolgoi resource update (Peter Oshust).
Rodrigo Marinho and Harry intently validating.**



**Core inspection, Platreef, 2011 (Harry's collection).
Sarah Clay, Sello Kekana, Harry.**



Harry's bear at the carver's, and insitu at Harry's home, 2011 (Larry Smith/Pamela Angelo).
Harry had long wanted a welcome bear, of the chainsaw-art carved type. For his 65th birthday, Larry Smith organized a local carver in North Tahoe to make Harry's bear, and co-ordinated the chipping-in by AMEC Reno-affiliated staff to buy it for Harry.

Harry said at the time: "Thanks very much everyone for a complete surprise. The bear looks very nice by a large ponderosa pine at the end of the driveway. I have wanted a bear of years, and the carver did a very nice job. I saw a real bear on Monday while out walking. Looked to be yearling cruising the woods".



Harry inspecting a fluorite crystal ball, London, UK, 2011 (Ian Goddard).
Ian says that the ball had earlier been presented to Deborah McCombe, who was CRIRSCO Chair that year.



London, 2011 (Ian Goddard).
From left: Barbara Stoker, Tereza Dixon, Sue, Harry, Peter Stoker.



London, 2011 (Ian Goddard)
From left, Harry, Ian Douglas, Edmundo Tulcanaza, Ian Goddard, Peter Stoker, Roger Dixon, Paul Bankes, Steve Henley.



Ferdi Camisani, Steve Henley, Harry, London, 2011 (Ian Goddard).



London, 2011 (Ian Goddard).
Sue and Harry in foreground.
Ian says: "Taken at the Chowki Indian restaurant, near Piccadilly Circus".



Lunch in Johannesburg, South Africa, 2012 (Malcolm Thurston).
From left: Ansi Krige, Danie Krige, Christina (Ina) Dohm, Malcolm Thurston, Harry, Douglas Munyawiri.



Reviewing the deep drill program results, Platreef, 2012 (George Gilchrist).
From left, Danie Grobler, Harry, Shane Nielsen, Tim Dunnett
George says: Apologies for the facial hair on the Ivanplats geologists – it was Movember...



On site at Oyu Tolgoi, 2012 (Rodrigo Marinho).
From left: Harry, Peter Oshust, Nicolas Pizarro, Kendal Cole-Rae, Henry Kim.



On site at Oyu Tolgoi, 2012 (Rodrigo Marinho).
Harry with Peter Oshust.



Re-validating, Oyu Tolgoi, 2012 (Rodrigo Marinho).
From left, Harry, Kendal Cole-Rae, Rodrigo Marinho.



Harry with Henry Kim at Oyu Tolgoi during the Nadaam Festival, 2012 (Peter Oshust).



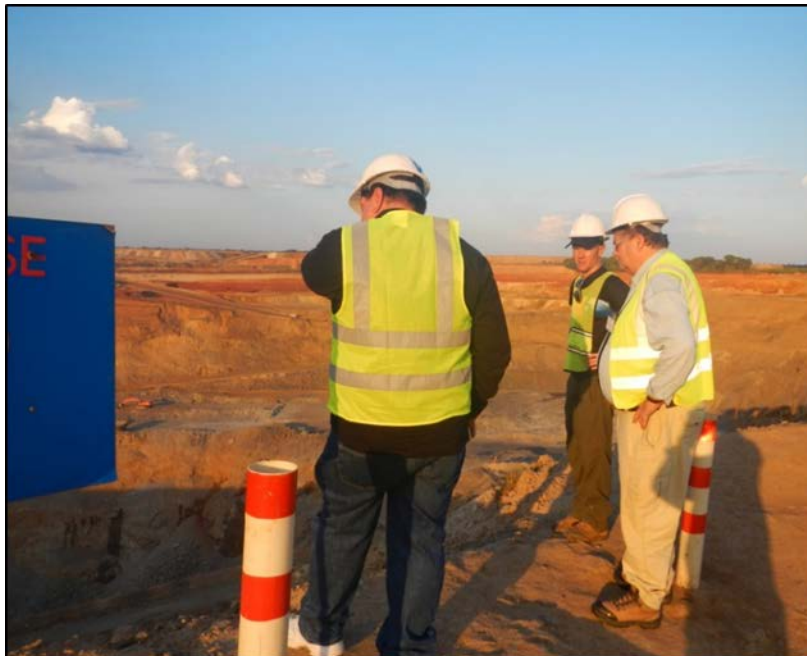
Tamir Alexsandr with Harry at Oyu Tolgoi during the Nadaam Festival, 2012 (Peter Oshust).



Site visit to Kakanda, Democratic Republic of Congo, 2012 (Gordon Seibel).
Harry, Helen Twigg, unknown.



On site, Camrose open pit, Democratic Republic of Congo, 2012 (Gordon Seibel).
Harry with John Robertson.



Site visit, Frontier open pit, Democratic Republic of Congo, 2012 (Gordon Seibel)
From left: unknown ENRC employee, Harry, Nigel Voaden.



**"Pink Palace", Kolwezi, 2012 (Gordon Seibel).
Harry with Gordon.**



**Core inspection, Ak Sug, Russia, 2012 (Doug Reid/Harry's collection).
Gary Artmont and Harry.**



Core inspection, Ak Sug, Russia, 2012 (Doug Reid/Harry's collection).



Ak Sug, 2012 (Doug Reid/Harry's collection).



Ak Sug, 2012 (Doug Reid/Harry's collection).



Data validation, Ak Sug, 2012 (Doug Reid/Harry's collection).
Harry, unknown, and Gary Artmont.



Site inspection, Ak Sug, 2012 (Doug Reid/Harry's collection).
unknown, Gary Artmont, and Harry.



Pisco sours all round, Antamina, 2012 (Doug Reid/Harry's collection).
From left: Artemio Maque, Jose Gutierrez, Romulo Salirrosas, Javier Mercado, Raul Parra, Nehemias Lopez,
Gustavo Loyola, Harry, Cesar Guerra, Jessica Villafuerte, Jhon Cuarezma, Luis Lozada, Jorge Parraga, Angel Rios,
Paul Gomez.



Lima bbq, Sergio Munoz's house, 2012 (Doug Reid/Harry's collection).

From left: Gonzalo Lemuz, Torsten Danne, Cecilia Artica, Harry, Alvaro Murga, Dagiana Arana, the chef (the guy who brought the caja china barbecue), Diego Angulo with his wife and two daughters, Angelica Torres, Sergio Muñoz with his son Alonso and his wife Graciela, Melissa Morales, Liliana Cancho, Wilmer Cancho.



Gramalote, Colombia, site visit, 2013 (Susan Meister).

From left: Harry, John Vann, Susan Meister, Tyler McKinnon, Alessandro Silva, Pablo Noriega and Lorenzo Nunez.



CRIRSCO Meeting, Bogota Columbia, 2013 (Roger Dixon).
Harry at front left, seated.



CRIRSCO lunch, Bogota Columbia, 2013 (Roger Dixon).
Harry, front left.



Yosemite, 2013 (unknown).



Inspecting outcrop of the Duluth Complex, Minnesota, 2013 (Doug Reid).
From left: Ted Eggleston, Renan Argandofia Ramos, and Kevin Boerst. Harry looking on.



Harry in unabashed outcrop worship, building the mental geological model for the Duluth Complex nickel mineralization, Minnesota, 2013 (Doug Reid).



Silangan, Philippines, 2013 (Mark Murphy).

Onsite with the AMEC due diligence audit team and the Philex Mining geology team.

Front row, from left: Katrina Carla Delos Angeles, Maria Lourdes Faustino, Zareth Quimba, Rowena Margallo, Nitzie Ann Dela Cruz, Rikki Pamela Pineda-Sia, Mark Murphy.

Second row, from left: Ranee Joshi, Maria Bianca Isabel Abriol-Santos, Janelle Iris Marasigan, Jamie Ara Chan, Redempta Baluda, Harry, Jocelyn Galapon, Gemma Francisco, Kristine Sobrepeña, Mara Carenina Rich, Lourdes Christian Alejan.

Back row, from left: Claro Jose Manipon, Felix Cuyos, Armando Jimenez, Glenn Jason Coderis, Noel Oliveros, Andrew Richmond, Jani Kalla, Luis Mendoza, Ruel Malapitan, Vince Lauron Borerros, Avriel Venis Cirineo, Julius Osa.



Harry with Jani Kalla, Silangan, 2013 (Mark Murphy).



Core inspections, Silangan, 2013 (Mark Murphy).

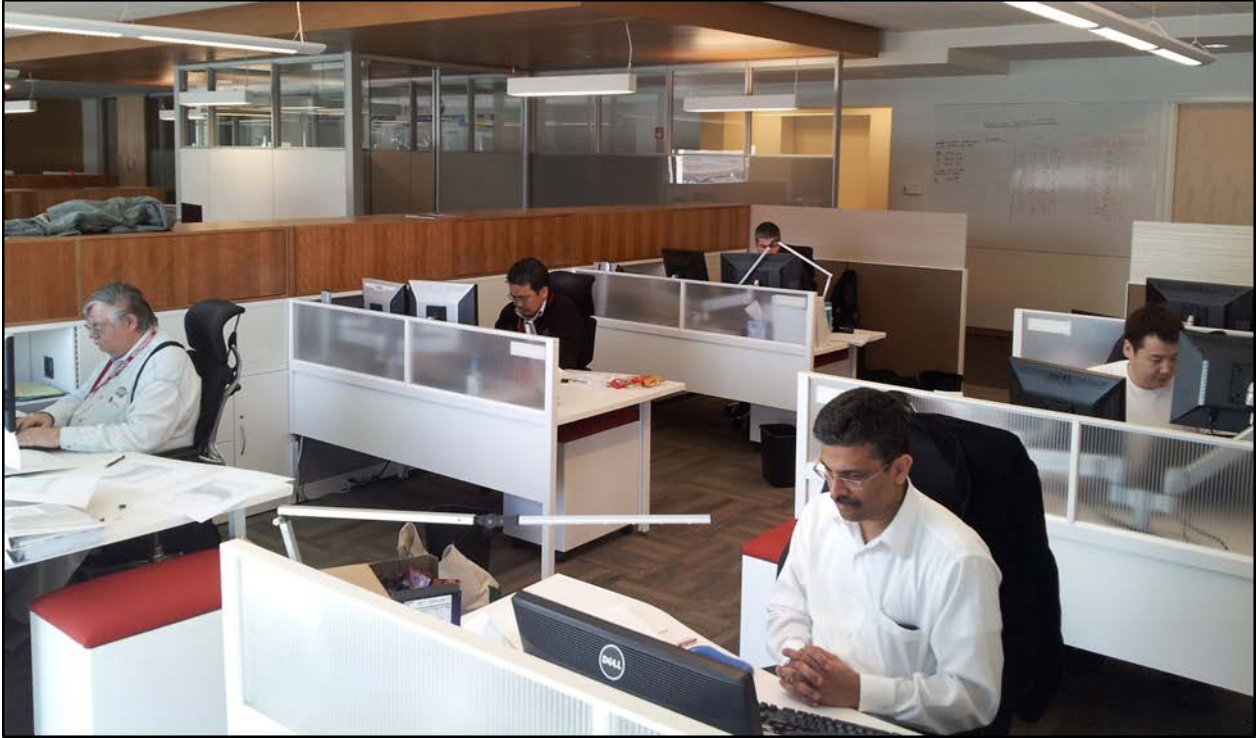
From left: Chryselle Ultima Mancenido, Maria Bianca Isabelle Abriol-Santos, Kristine Sobrepeña, Janelle Iris Marasigan, Harry, Redempta Baluda.



Core inspections, Silangan, 2013 (Mark Murphy).
From left: Claro Jose Manipon, Mike Reynolds (obscured), Janelle Iris Marasigan (? , obscured), Kristine Sobrepeñam, Harry.



Core inspections, Silangan, 2013 (Mark Murphy).
Linley Theodore Garcia (? , obscured), Jamie Ara Aviso-Chan, Noel Oliveros, Claro Jose Manipon, Harry, Redempta Baluda.



Salt Lake City, during the Oyu Tolgoi resource update effort, 2014 (Peter Oshust).
From left: Harry, Oggy Togtokhbayar, Kendal Cole-Rae, Yansan Jamyanbataar, and Abani Samal.



Core inspection, Platreef, 2014 (Doug Reid/Harry's collection).
From left: Danie Grobler, Harry, Adam Cooper, Tim Dunnett, Shane Nielsen.



Core inspection, Platreef, 2014 (Doug Reid/Harry's collection).
From left: Danie Grobler, Harry, Tim Dunnett.



Harry and Ferdi Camisani, Pretoria, 2014 (Douglas Munyawiri).



Harry and Ferdi Camisani at the Nelson Mandela statue, Pretoria, 2014 (Douglas Munyawiri).
Harry coming close to a suspender moment.



Harry and Ferdi Camisani at the Nelson Mandela statue, Pretoria, 2014 (Douglas Munyawiri).



Harry and Ferdi Camisani at the Nelson Mandela statue, Pretoria, 2014 (Douglas Munyawiri).



Harry and Ferdi Camisani, Pretoria, 2014 (Douglas Munyawiri).



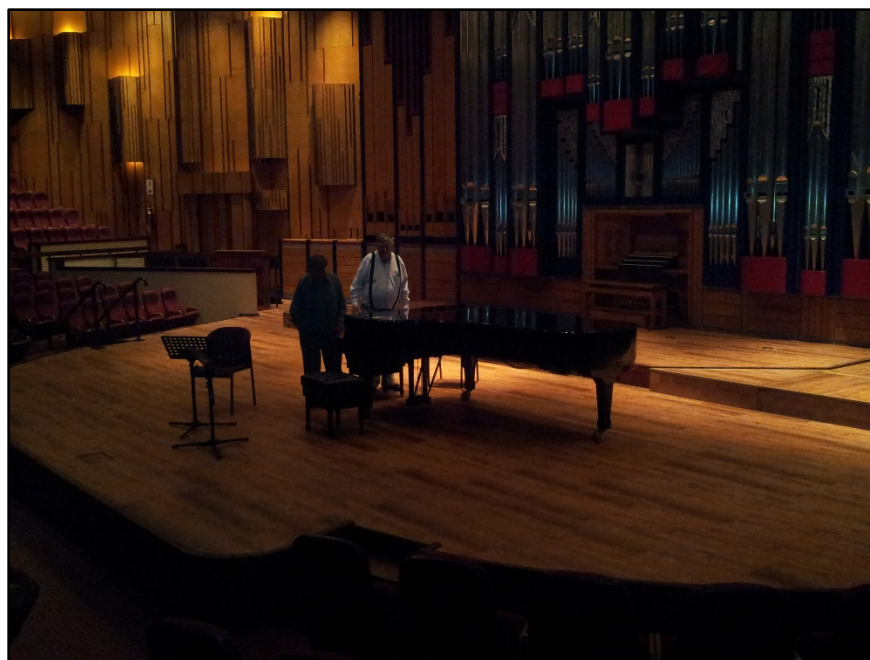
Harry and Ferdi Camisani, Pretoria, 2014 (Douglas Munyawiri).



Harry and Ferdi Camisani, Pretoria, 2014 (Douglas Munyawiri).



Harry and Douglas Munyawiri, Pretoria, 2014 (Douglas Munyawiri).



Harry and Ferdi Camisani, Pretoria, 2014 (Douglas Munyawiri).



Harry and Ferdi Camisani, Pretoria, 2014 (Douglas Munyawiri).



Site visit, Çöpler, Turkey, 2014 (Loren Ligocki).
From left: Loren Ligocki, Emre Tasdildren, Gordon Seibel, James Francis, Ozgur Acar, Harry, unknown.



Site visit, Çöpler, Turkey, 2014 (Loren Ligocki).
From left: Emre Tasdildren, Gordon Seibel, Harry.



Inspecting cross-sections, Çöpler, 2014 (Loren Ligocki).
From left: Gordon Seibel, Harry, Devrim Yavuz, Emre Tasdildren.



The refreshing cuppa, Çöpler site visit, 2014 (Loren Ligocki).
Harry and Gordon Seibel.

Gordon says: Harry had got his tea, and literally just sat down, when a megaphone said that all passengers for the bus we were travelling on had to board immediately. Hence the you-have-to-be-kidding-me look on Harry's face. He said a few pithy Harry words, hence my face.



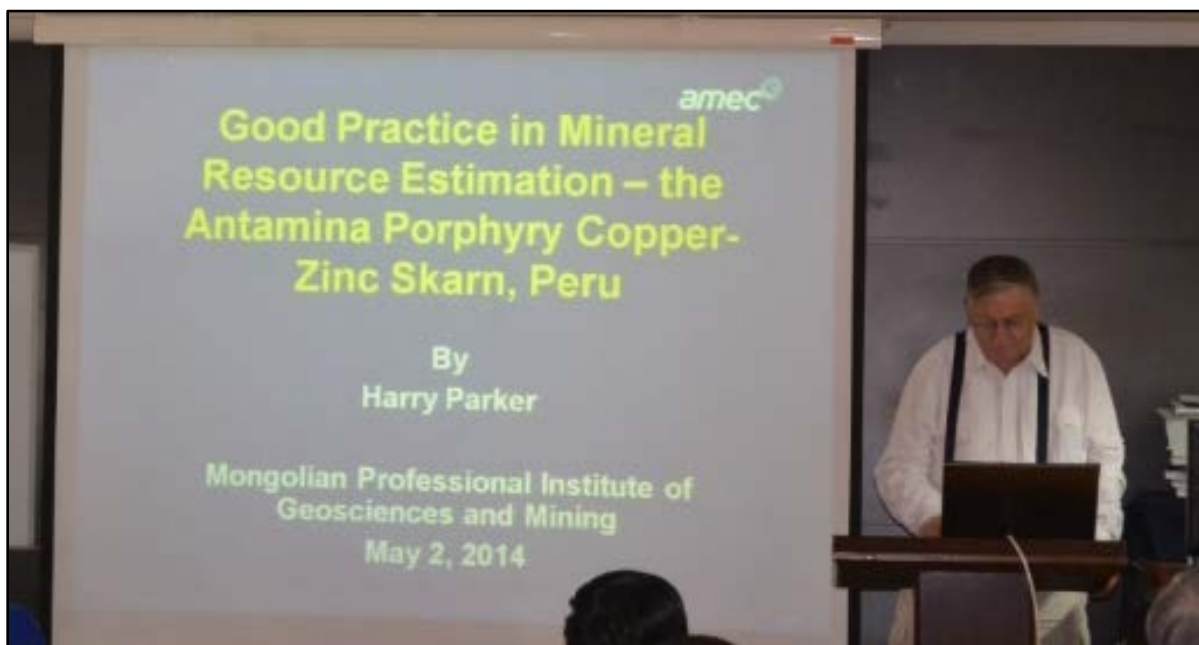
Dinner out, Ankara, 2014 (Barış Yıldırım/Tuğba Özcan).
Harry standing, second from right.



CRIRSCO workshop, Ankara, 2014 (Barış Yıldırım/Tuğba Özcan).
Harry third on left.



Visit to the Ministry of Mines, Ulaanbaatar, Mongolia, 2014 (Gerlee Bayanjargal).
From left: B. Baatarsogt, Oyungerel (Gerlee) Bayanjargal, Harry, D. Gankhuyag, Bat-Erdene Dash.



Workshop, Ulaanbaatar, 2014 (Gerlee Bayanjargal).



**CRIRSCO Committee, Ulaanbaatar, 2014 (Gerlee Bayanjargal).
Harry seated, fourth from right.**



CRIRSCO meeting open session, Ulaanbaatar, 2014 (Gerlee Bayanjargal).



CRIRSCO meeting open session, Ulaanbaatar, 2014 (Gerlee Bayanjargal).



CRIRSCO meeting open session, Ulaanbaatar, 2014 (Gerlee Bayanjargal).
Gerlee Bayanjargal and Harry.



CRIRSCO workshop on "Modifying Factors", Ulaanbaatar, 2014 (Gerlee Bayanjargal).
Harry, centre, seated.



Harry receiving a scroll with his name in Mongolian script, during the CRIRSCO Annual Meeting in Ulaanbaatar, 2014
(Ian Goddard).
Gerlee Bayanjargal and Harry.



Scroll presentation, Ulaanbaatar, 2014 (Gerlee Bayanjargal).
From left: Bat-Erdene Dash, Harry, Gerlee Bayanjargal, Edmundo Tulkanaza.



Harry being presented with a souvenir of the occasion from the Mongolian Professional Institute of Geosciences and Mining, Ulaanbaatar, 2014 (Ian Goddard).
Gerlee Bayanjargal and Harry.



Harry receiving the “The Best Geologist in Mongolia” award from the Mining Ministry, 75th Geologist Day Anniversary Ulaanbaatar, 2014 (Ian Goddard).

It is believed that it is the first time that the award has been given to an American.



Harry receiving the “The Best Geologist in Mongolia” award, 2014 (Gerlee Bayanjargal).



CRIRSCO members congratulating Harry on award, 2014 (Gerlee Bayanjargal).



Harry and Gerlee Bayanjargal, 75th Geologist Day Anniversary banquet, Ulaanbaatar, 2014 (Gerlee Bayanjargal).



CRIRSCO and Mongolian delegates/dignitaries at a banquet dinner, Ulaanbaatar, 2014 (Ian Goddard).
Harry standing, second from right.



CRIRSCO delegates assessing whether there is sufficient lubrication to allow the "CRIRSCO Choir" to perform at peak, Ulaanbaatar, 2014 (Ian Goddard).
From left, Paul Bankes (back to camera), Deborah McCombe (obscured), Roger Dixon, Edmundo Tulcanaza, Ian Douglas, Harry.



Ulaanbaatar, 2014 (Barış Yıldırım/Tuğba Özcan).
Harry and Fatih Konkuk.



The sufficiently fortified "CRIRSCO Choir" singing the Mongolian Geologists Song, Ulaanbaatar, 2014 (Ian Goddard).
Harry to the far right, back to camera.
Ian Goddard says: the audience was appreciative (and polite).
And it's possibly the only occasion the CRIRSCO Committee were publicly captured as being united in singing from the one song sheet—witness Ian Douglas' expression.



"CRIRSCO Choir", Ulaanbaatar, 2014 (Gerlee Bayanjargal).
Harry, foreground, fourth from far right.



Pit visit, Sorowako, Indonesia, 2014 (Tim Kuhl).
From left: Jasman, Tim Lloyd (partly obscured), Harry, Agus Margana, Gde H. Tutuko.



**Pit inspection, Sorowako, 2014 (Tim Kuhl).
From left: Gde H. Tutuko, Kirk Hanson, Harry, Jasman, Abdul Rauf.**



**Laboratory inspection, Sorowako, 2014 (Tim Kuhl).
Abdul Rauf, Harry.**



Laboratory inspection, Sorowako, 2014 (Tim Kuhl).
Jasman, Tim Lloyd (obscured), Harry.



Anoa North hill, Sorowako, 2014 (Gde Tutuko)
Tim Kuhl, Harry, Tim Lloyd, Agus Margana, Abdul Rauf, Gde H. Tutuko, Jasman, unknown.



Harry and Ed Sides, London, 2014 (Steven J. Hansen).

In front of the "Map that Changed the World".

This came with an email chain, abridged here. Harry says, "sorry, I look like a funeral director". He was also very pleased to state that [I have] "five granddaughters aged 2 to 5. Last two were twins. We can have a basketball team about 2028!"



Harry and INTRAW project group in 2015 (Stephen Henley).

Stephen says: After Harry insisted on completing the whole of a strenuous two-mile walk through the gigantic Skocjanske Cave in Slovenia—and enjoyed a hearty lunch in the nearby restaurant afterwards.



Tim Kuhl and Harry enjoying a Singapore Sling in the Raffles Hotel, Singapore, 2015 (Tim Kuhl).



CRIRSCO meeting, Brasilia, Brazil, 2015 (Gerlee Bayanjargal).
From left: Bat-Erdene Dash, Harry, Gerlee Bayanjargal.



CRIRSCO meeting, Brasilia, Brazil, 2015 (Gerlee Bayanjargal).



**Mine tour of Kinross's Morro Do Ouro operation, Brazil, 2015 (Gerlee Bayanjargal).
Harry with Gerlee Bayanjargal.**



**Start of shaft construction, Platreef, 2015 (Doug Reid/Harry's collection).
Shane Nielsen, Danie Grobler, Harry, Stephen Torr.**



**Start of shaft construction, Platreef, 2015 (Doug Reid/Harry's collection).
Harry, Stephen Torr.**



**Start of shaft construction, Platreef, 2015 (Doug Reid/Harry's collection).
Werner van der Berg, Shane Nielsen, Gordon Seibel, Harry, Stephen Torr, Danie Grobler.**



On the veldt, Platreef, 2015 (Doug Reid/Harry's collection).



**Simatai Great Wall of China, September, 2016 (Li Yuwei/Linbing).
Li Yuwei's son Linbing, Harry, Li Yuwei, Peter Stoker, Li Yuwei's wife Jieyu, Li Yuwei's daughter Linsong.**



**By the stream at Gubei Water Town, 2016 (Peter Stoker).
From rear: Li Yuwei (with walking sticks), then Harry with back to camera, distinguished by the trademark suspenders, and Linbing.**



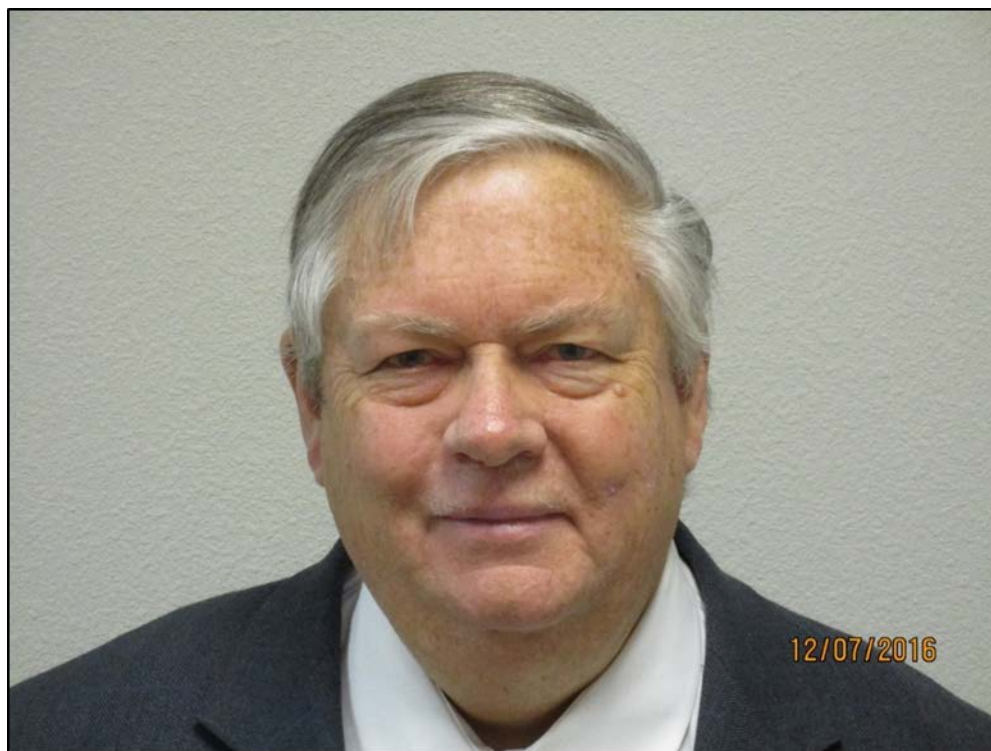
Harry, Li Yuwei, and Peter Stoker, Simatai Great Wall of China, September, 2016 (Li Yuwei/Linbing).



Harry at Simatai Great Wall of China, September, 2016 (Li Yuwei/Linbing).



**Zafranal resource update team, 2016 (Peter Oshust).
From left, Cecelia Artica, Henry Kim, Harry (with super-thrifty haircut), and Peter Oshust.**



Harry in formal mode, 2016 (unknown).



Meeting acknowledging Kazakhstan's joining of CRIRSCO, June, 2016 (Peter Stoker).
From left: Ian Goddard, Roger Dixon, Tatiana Anisimova, Saule Urazayeva, Georgiy Freiman, Konstantin Koshko, Harry, Akbatyr Nadyrbayev, Nikolai Yenshin.



Meeting acknowledging Kazakhstan's joining of CRIRSCO, June, 2016 (CRIRSCO).
Harry in grey suit at photograph centre
Harry was the CRIRSCO Chairman at the time.



Bazarbay Nurabayev, Asset Issekeshiev, and Harry, 2016 (Ian Goddard).



Ian Goddard, Harry, and Roger Dixon, Kazakhstan, 2016 (Ian Goddard).



Nur-Sultan, Kazakhstan, 2016 (Ian Goddard).
Moldir Tuyakbayeva, Ian Goddard, Harry, Roger Dixon, and two translators from KAZRC.



Nur-Sultan, Kazakhstan, 2016 (Roger Dixon)
Harry and Saule Urazayeva



Near Park City, Utah, 2016 (Peter Oshust).
Harry, Oggy Togtokhbayar, and Peter Oshust.



CRIRSCO meeting, Jaipur, India, 2016 (Roger Dixon).
From left, Mr Bakliwal, Abani Samal, Harry, Ian Goddard, Mr T. Victor, Dr Balvinder Kumar, Mr M Raju, and Mr RK

Sinha.

CRIRSCO meeting, Jaipur, India, 2016 (Abani Samal).

From left, Mr Bakliwal, Abani Samal, Harry, Ian Goddard, Mr T. Victor, Dr Balvinder Kumar, Mr M Raju, and Mr RK Sinha.

Abani says: This is the lamp-lighting to inaugurate the 2016 CRIRSCO Annual Meeting



Welcoming gift, CRIRSCO meeting, Jaipur, India, 2016 (Roger Dixon).



CRIRSCO dinner, Jaipur, India, 2016, (Ian Goddard).
From left: David Smith, Deborah McCombe, Harry, Roger Dixon.



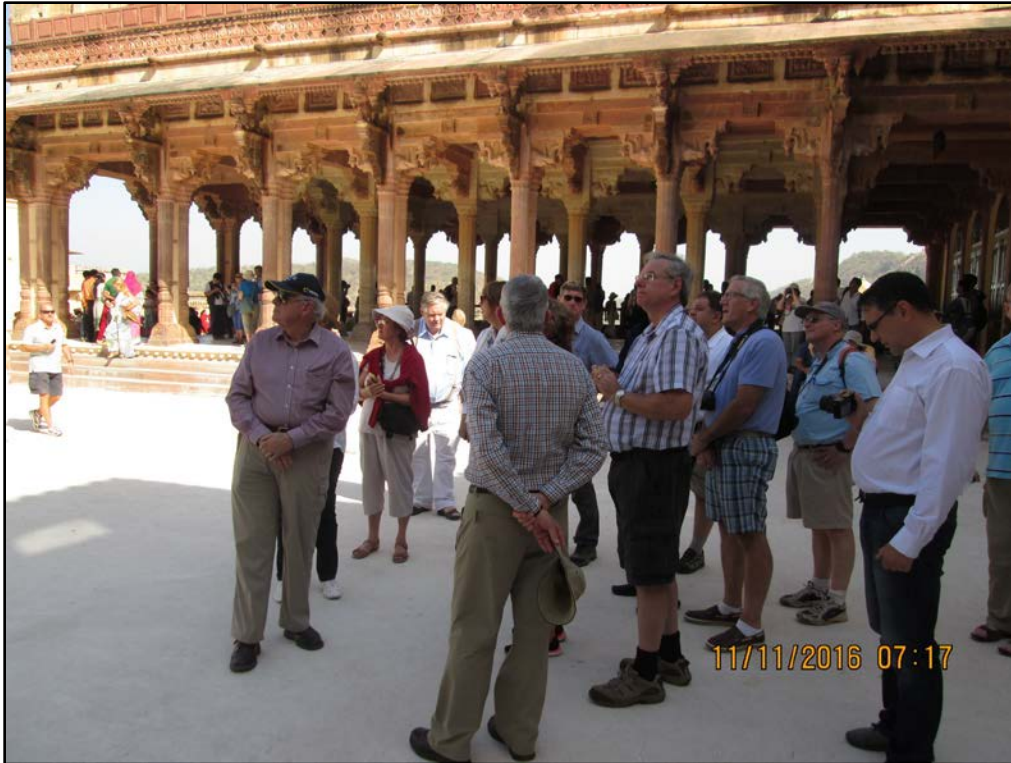
CRIRSCO annual meeting, Jaipur, India, 2016, (Gerlee Bayanjargal).
Gerlee Bayanjargal with Harry.



**CRIRSCO annual meeting closed session, Jaipur, 2016, (Gerlee Bayanjargal).
Harry with microphone.**



**Training session, CRIRSCO, Jaipur, 2016 (Abani Samal).
Harry third from left.**



Touristing after the Jaipur, CRIRSCO meeting, 2016 (Roger Dixon).
From left: Peter Stoker, Tereza Dixon, Harry, Deborah McCombe, David Smith, Paul Bankes, Nikolai Yenshin, Ian Douglas and Ken Lomborg



Touristing after the Jaipur, CRIRSCO meeting, 2016 (Roger Dixon).
Front: Barbara Stoker, Harry
Rear: Ian Goddard, Peter Stoker, Bat-Erdene Dash.



At the Taj Mahal after the CRIRSCO meeting in Jaipur, 2016 (Mark Howson).



**At the Taj Mahal after the CRIRSCO meeting in Jaipur, 2016 (Mark Howson).
Mark Howson, Harry, and Thomas Brenner.**



Underground in the Cerro Martillo stope at El Peñón, Chile, 2016 (Borden Putnam).
Manuel Vicencio, Sebastian Ramirez, Harry, and Fernando Castillo.



With Frank Twite, Kamoā, 2017 (George Gilchrist).
Harry loved that core shed, and it appeared in pretty much all of Ivanhoe's technical reports on Kamoā over the course of a decade.



With Frank Twite, Kamoā, 2017 (George Gilchrist).



With Frank Twite, Kamoā, 2017 (George Gilchrist).



Drill site inspection, Kamoia, 2017 (George Gilchrist).



**Drill collar inspection, Kamoia, 2017 (George Gilchrist).
Harry, Paul Kazadi, and Franck Twite.**



Drill site inspection, Kamao, 2017 (George Gilchrist).



SME President's Citation Award, 2017 (Stella Searston).



SME President's Citation Award, 2017 (Tara Davis/SME).



**CRIRSCO annual meeting, Yogyakarta, Indonesia, 2017, (Gerlee Bayanjargal).
Gerlee Bayanjargal with Harry.**



**CRIRSCO executives, Yogyakarta, 2017 (Gerlee Bayanjargal).
From left: Ian Douglas, Harry, Ian Goddard, Neil Wells, Ken Lomborg.**



**CRIRSCO annual meeting, Yogyakarta, Indonesia, 2017 (Roger Dixon).
Sukmandaru Prihatmoko presenting Harry with a memento of the meeting.**



CRIRSCO workshop, Ankara, Turkey, 2017 (Barış Yıldırım/Tuğba Özcan).
Harry standing behind third table from the left.



CRIRSCO workshop, Ankara, 2017 (CRIRSCO).
Harry in centre of photograph, holding the award presented to him by the Turkey National Resource and Reserve Committee for his support setting up the national resource and reserve reporting system in Turkey.



Bariş Yıldırım, Harry, Roger Dixon, CRIRSCO workshop, Ankara, 2017 (Bariş Yıldırım/Tuğba Özcan).
Taken at the first meeting of the Turkey National Resource and Reserve Committee.



Presenting at the CRIRSCO workshop, Ankara, 2017 (Bariş Yıldırım/Tuğba Özcan).



Dinner, Agacli restaurant, 2017 (Barış Yıldırım).
Harry at front left, Barış at front right.



Abdulkерim Yorukoglu and Harry, Ankara, 2017 (Barış Yıldırım/Tuğba Özcan).
The award commemorates the establishment of the Turkey National Resource and Reserve Committee.



Barış Yıldırım and Harry, Ankara, 2017 (Barış Yıldırım).

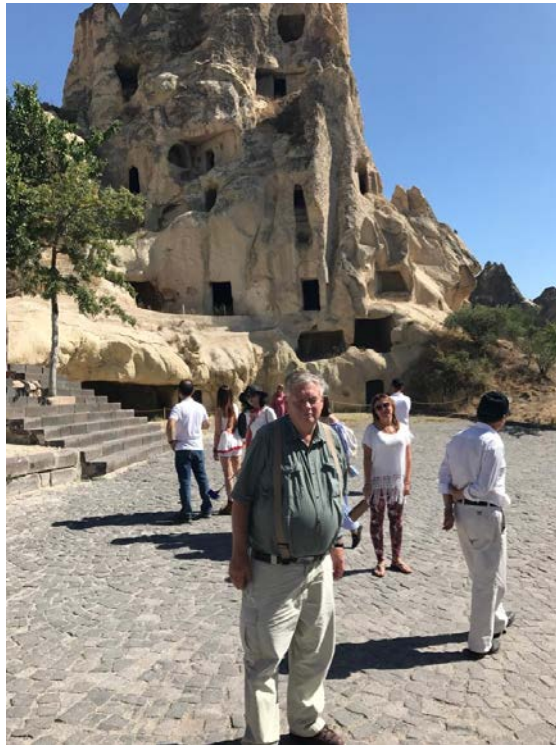


Ankara, 2017 (Barış Yıldırım).

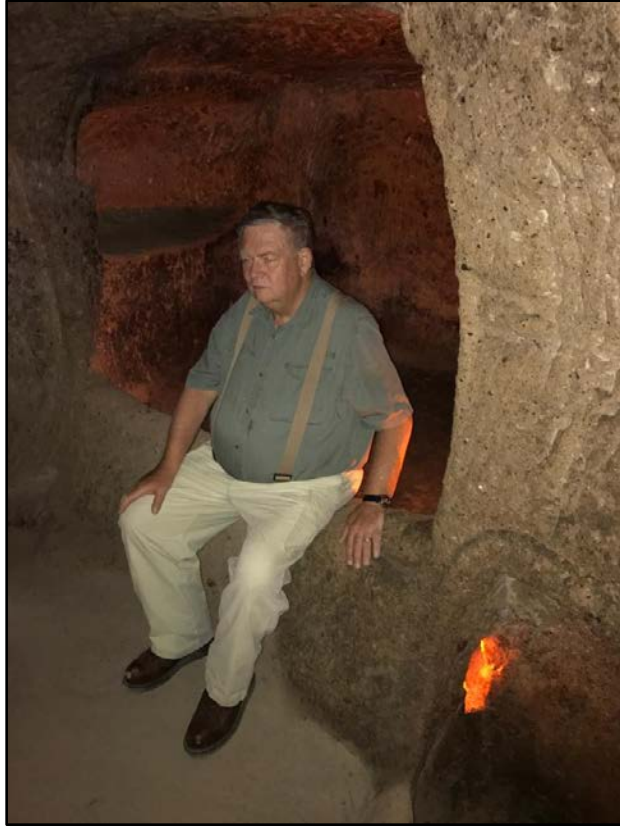
Michael Neumann and Harry, in the bus on the way to dinner at the Kasi Beyaz restaurant.



Ankara, 2017, (Barış Yıldırım).
Harry, Barış Yıldırım and Özge Yıldırım in the bus on the way to dinner at the Kasi Beyaz restaurant.



Kaymakli Underground City, Cappadocia, Turkey, 2017 (Barış Yıldırım).



Kaymakli Underground City, 2017 (Barış Yıldırım).



Ozge Yıldırım, Harry, and Barış Yıldırım, Kaymakli Underground City, 2017 (Barış Yıldırım).



Kaymakli Underground City, 2017 (Roger Dixon).
Harry to centre right.



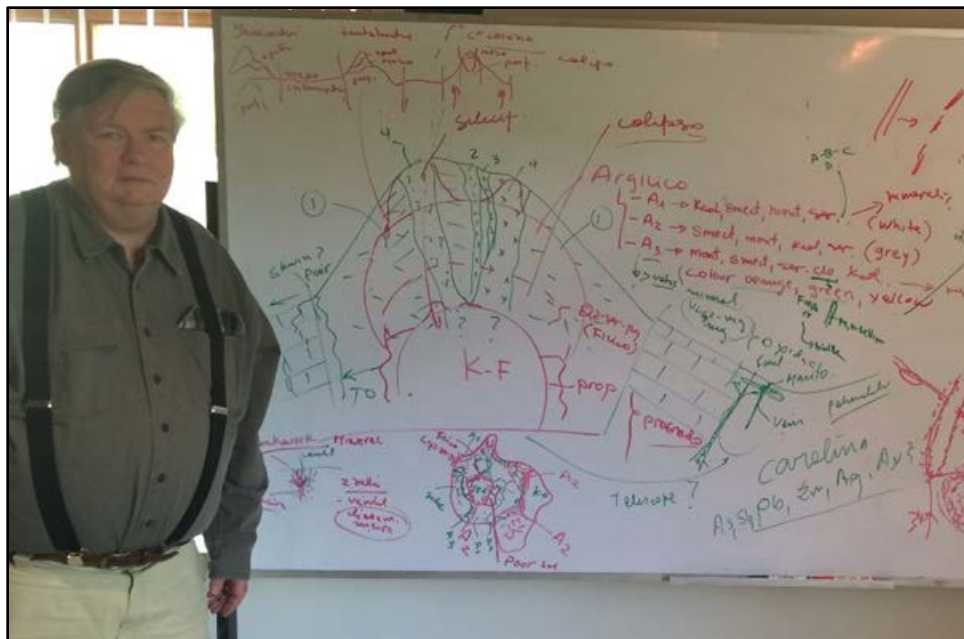
Turkish pottery shop, 2017 (Roger Dixon).
Harry seated, second from right.



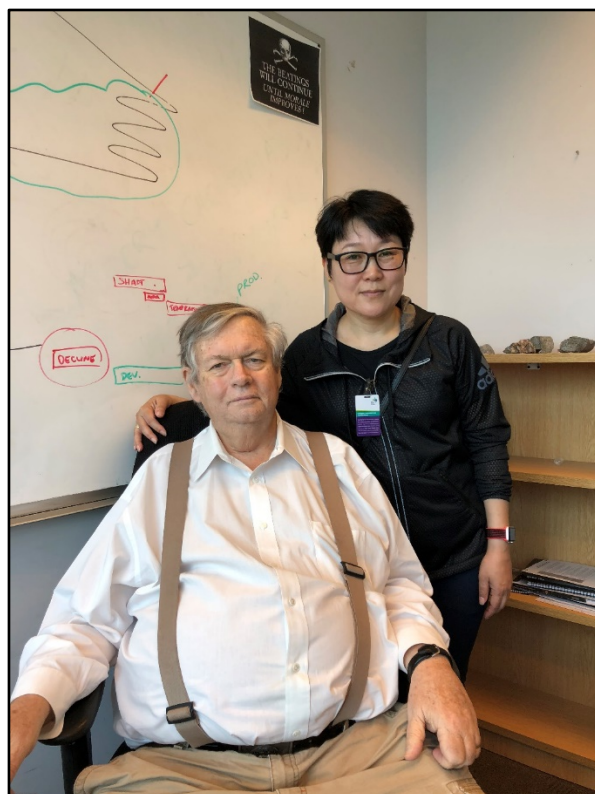
Orapa Mine visit, Botswana, 2017 (Ed Sides).
From left, Matthew Field, Harry, Ed Sides, Lugh the Leprechaun.



Reviewing conference presentation slides, Current Trends in Mining Finance conference, 2017 (Abani Samal).
Harry with Abani Samal.



Still verifying, 2018 (Georges Verly).



Vancouver, Canada, 2018 (Gerlee Bayanjargal).
Harry with Gerlee Bayanjargal.



CRIRSCO-related meeting, Kolkata, India, 2018 (Narendra K Nanda).
Harry at right.



CRIRSCO-related meeting, Kolkata, 2018 (Narendra K Nanda).
Harry at left.
Is he really asleep?



CRIRSCO Annual Meeting, September, 2018, London (CRIRSCO).
Harry seated, at centre of photograph.



Harry, Berat Albayrak, Neil Wells, Ankara, 2018 (Barış Yıldırım/Tuğba Özcan).



Meeting attendees, Ankara, 2018 (Barış Yıldırım/Tuğba Özcan).
Harry slightly left of picture mid-centre, grey suit, maroon tie.



Mesut Soyulu and Harry in centre of photograph, Ankara, 2018 (Barış Yıldırım/Tuğba Özcan).



Harry presenting, Ankara, 2018 (Barış Yıldırım/Tuğba Özcan).



Harry presenting, Ankara, 2018 (Barış Yıldırım/Tuğba Özcan).



Harry in May, 2019 at the time of receiving the AusIMM Institute Medal.

The Institute Medal is the most prestigious award and highest honour conferred by the AusIMM. It is awarded in recognition of eminent leadership of the AusIMM or the resources sector.

The award recognized Harry's contribution to the promotion of excellence in international public reporting standards and in the estimation of resources and reserves.

AusIMM Citation

Dr Harry Parker has an international reputation as an expert in the estimation and Public Reporting of Mineral Resources and Ore Reserves.

Harry has been published widely and is a member of 11 professional organisations. As a consultant, he has provided Competent Persons reports, Mineral Resource modelling and conducted independent audits for an extensive range of mining companies throughout the world in a variety of minerals. Harry has multiple degrees from Stanford and Harvard University.

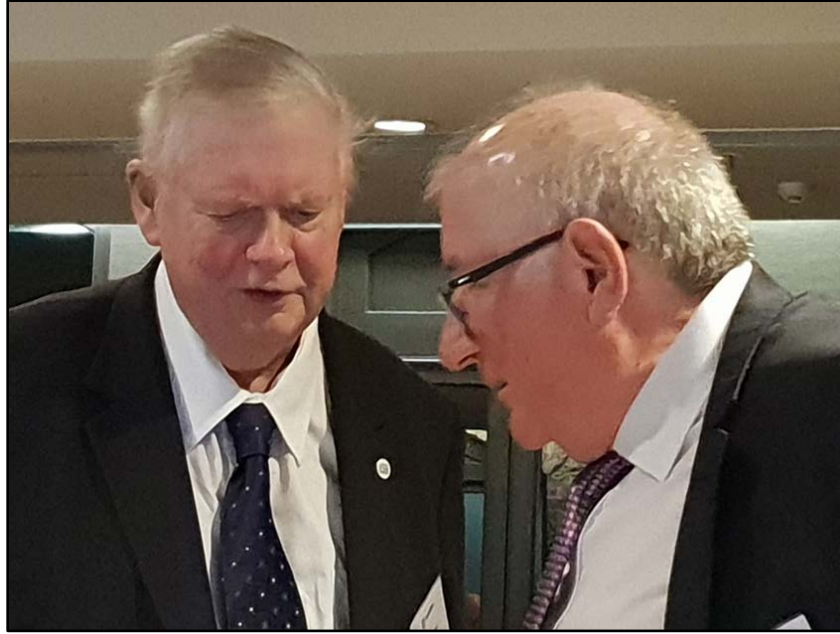
Harry brings an international perspective to the requirements for Mineral Resource and Ore Reserve reporting under various regulatory regimes and is well versed in the similarities—and differences—of these requirements. His contribution to the industry has been immense and includes being a member of the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) for more than 12 years, representing the Society for Mining, Metallurgy and Exploration (SME) of the USA. Harry was Chairperson of SME in 2015–16, and his expertise and knowledge have enabled him to provide exceptional contributions to this body.

In recent years, Harry has played a pivotal role in assisting potential members to meet the criteria for membership of CRIRSCO, such as Mongolia, Brazil, Kazakhstan and Turkey. He continues to assist India and China in this regard.

Harry's position in the minerals sector in the estimation and Public Reporting of Exploration Results, Mineral Resources and Ore Reserves is world-renowned and makes him an ideal recipient for the Institute Medal.



Daniel Guibal and Harry on the AusIMM awards night, 2019 (Peter Stoker/AusIMM).
Both are legendary in Australian geostatistics circles. Daniel was awarded the inaugural Charles Marshall award, which recognises and honours AusIMM members who, as consultants, have made outstanding and sustained contributions to the resources industry. This is not the first occasion that the two have been honoured together; both were inducted as life members of the Geostatistical Association of Australia in 2004.



Harry with Daniel Guibal, AusIMM awards night, 2019 (Mark Noppe).



Harry with Janine Herzog, AusIMM awards night, 2019 (Peter Stoker/AusIMM).



Sue, Harry, Jaya Naidu and Rhonda Scott, AusIMM awards night, 2019 (Peter Stoker/AusIMM).



Harry and Peter Stoker, AusIMM awards night, 2019 (Peter Stoker/AusIMM).



Harry delivering his acceptance address at the AusIMM awards ceremony, 2019 (Peter Stoker/AusIMM).



Harry with the award, 2019 (Peter Stoker/AusIMM).



Harry and Sue in Victoria, Australia, 2019 (Rhonda Scott).



Harry and Sue at Merrig, Australia, 2019 (Rhonda Scott)
Note the kangaroos at rear.



Harry at the Kevington pub, Australia, 2019 (Rhonda Scott).
The Kevington Hotel started as Garrett's Beer House in the Gold Rush of 1862. It is now the last example of a historic hotel left in this part of Victoria, Australia.



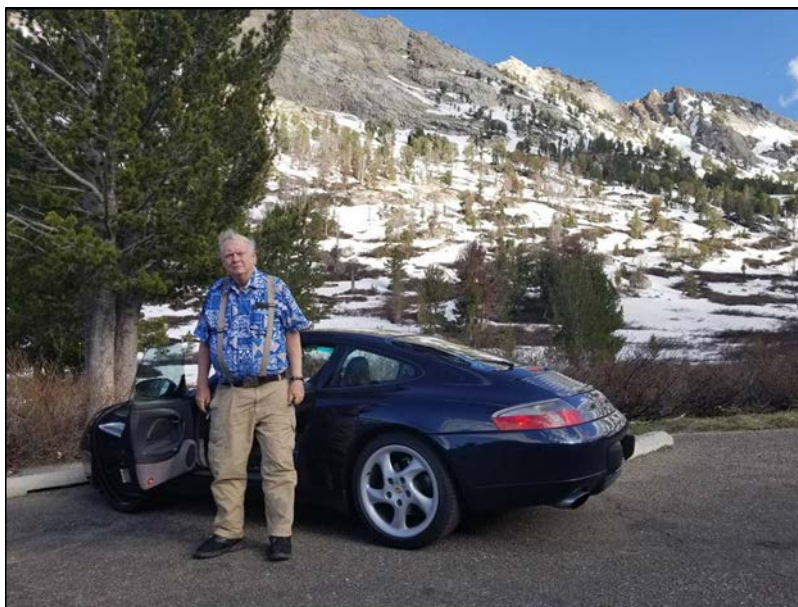
Sparks, Nevada, 2019 (Henry Kim).
Henry says: Harry with his Porsche in front of his favorite sushi restaurant in Sparks, NV. This was on June 18, 2019, before we started our trip to Elko, NV. Harry and I visited Elko four times last year and we always started the trip here.



Star Hotel, Elko, NV, 2019 (Henry Kim).

Henry says: Harry insisted that I have a glass of picon punch.

Wikipedia: picon punch, or simply picon, is a highball cocktail made with an Amaro liqueur, soda water, grenadine, a splash of lemon, and a bit of brandy floating on top. The drink is identified as Basque, but was created by Basque immigrants in the U.S. and taken back to the Basque region in the Pyrenees.



June, 2019 (Henry Kim).

Henry says: Harry always wanted to show me around when we travelled together. He took me to the Ruby Mountains Lamoille Canyon Scenic Byway near Elko, NV in his Porsche.



Lake Tahoe, June, 2019 (Henry Kim).
Henry Kim and Harry.



Sue and Harry at the Alamo, San Antonio, June 2019 (Eric Lipten).



Harry and Sue, River Boardwalk, San Antonio, June 2019 (Eric Lipten).



June 2019 (Eric Lipten). Taken at the Neutral Buoyancy Laboratory.
The NBL is an astronaut training facility and neutral buoyancy pool operated by NASA and located at the Sonny Carter Training Facility, near the Johnson Space Center in Houston, Texas.



CRIRSCO September 2019 meeting, Washington DC (CRIRSCO).
Harry standing, second row, fifth from right.



CRIRSCO meeting, Washington, 2019 (Gerlee Bayanjargal).
Gerlee Bayanjargal with Harry.



**CRIRSCO and Chinese Delegation, Washington, 2019 (Roger Dixon).
Harry second from left, with cane.**



CRIRSCO meeting, Washington, 2019 (Gerlee Bayanjargal).



CRIRSCO meeting, Washington, 2019 (Ian Goddard).



CRIRSCO meeting, Washington, 2019 (Roger Dixon)
From left: Don Hulse, Roger Dixon, Saule Urazayeva, Yoseph Swamidharma, and Harry (asleep)?



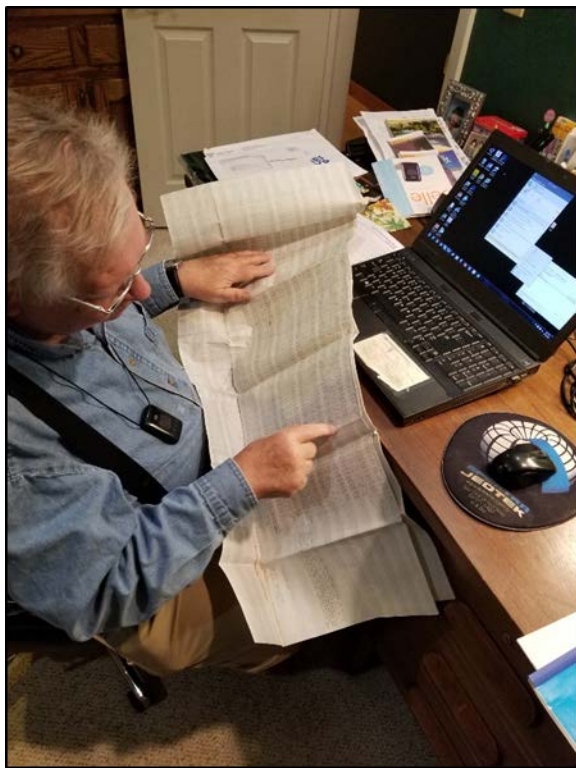
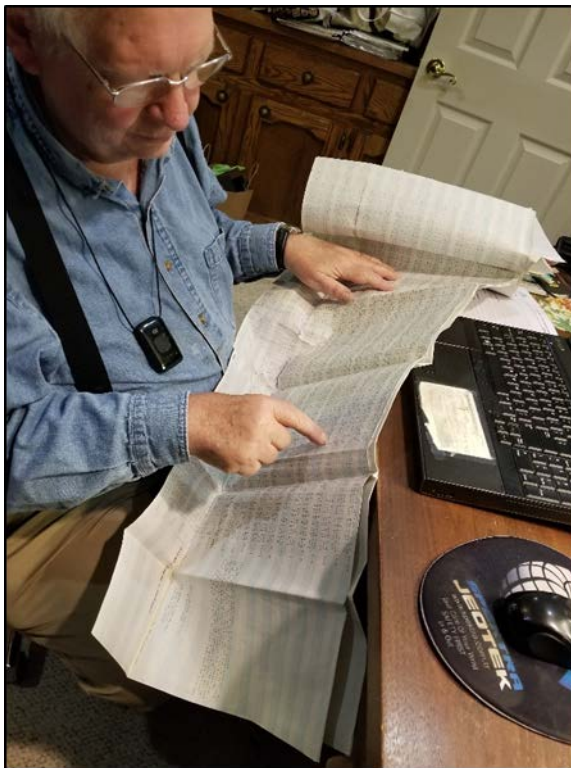
CRIRSCO meeting, Washington, 2019 (Roger Dixon).
Harry front and centre.



Sue and Harry at dinner in Washington after the CRIRSCO meeting, 2019 (Ian Goddard).



CRIRSCO “family dinner”, Washington, 2019 (Gerlee Bayanjargal).
Harry standing, back row, third from right; Sue, seated, front right.



Incline Village, 2019 (Henry Kim).

Henry says: One way to validate a block model! I took these when I was invited over to Harry's home on October 5, 2019. Harry is showing me the print-out of his (first) OK model from 1984, if I remember it correctly. This large sheet of block model print-out was nicely archived in his home office metal cabinet, inside a paper binder labelled “Stanford”.

2020s

The SME had two posthumous awards for Harry in the 2020 awards list, presented in Phoenix, Arizona, in February 2020. Sue and Win attended to accept the awards on Harry's behalf.

A Wood representative, Greg Gosson, was asked to present the inaugural Harry M. Parker Excellence award.

Greg Gosson

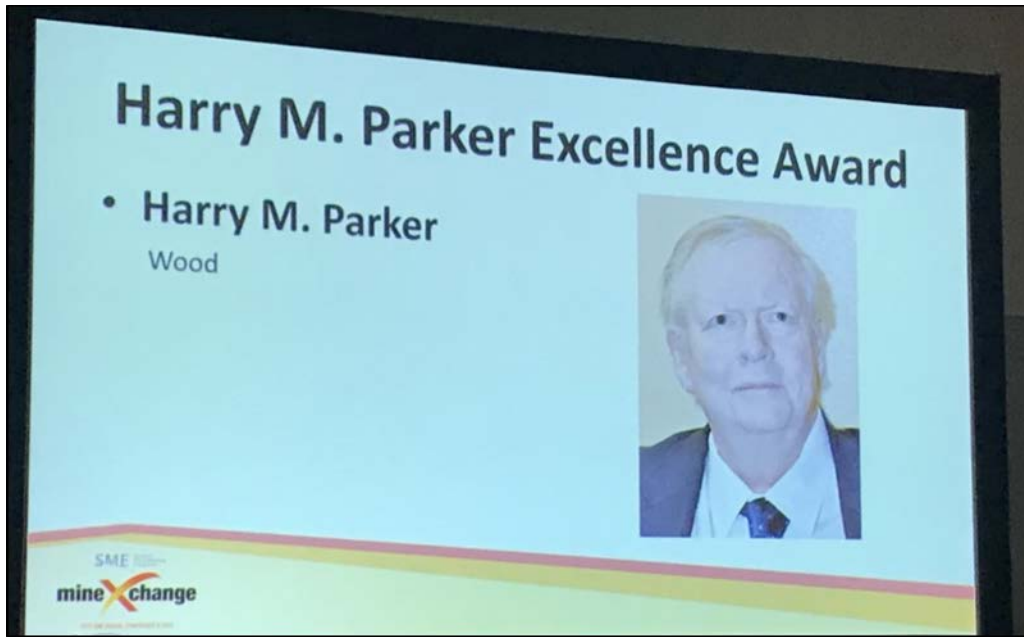
The Harry M. Parker Excellence award is a new award, starting this year, which will be given annually by the SME to the individual who most exemplifies the effort and insight Harry brought to improve the industry.

Harry's work in resource estimation, geostatistics, feasibility reporting and reconciliation improved the investment community's perception of mining ventures. Anything that improved the investment community's perception of mining ventures was a good thing.

I was one of Harry's large extended family at AMEC, now Wood, where he spent much of his time helping to make us all better at what we could do.

So, it is appropriate that we recognize Harry's home family who are receiving this award on his behalf. Harry dedicated so much of himself to advancing standards in the mining industry—and that was time given up by his family.

Sue Parker, Win Parker: thank you for your patience, and your support of Harry, and I apologize for how much of his time you had to share with us.



SME Award Recipient slides, February 2020 (Rusty Hufford).
Harry was the first recipient of the inaugural Harry M Parker Award. In future years, it will be presented to the individual who most exemplified the effort and insight Harry Parker has brought to improve the mining industry.



Win and Sue accepting the Harry M Parker Excellence award, Phoenix, 2020 (Tara Davis/SME).
Win, Sue, Greg Gosson, Brad Atkinson.



Win and Sue accepting the Harry M Parker Excellence award, Phoenix, 2020 (Tara Davis/SME).
Win, Sue, Greg Gosson, Brad Atkinson.



And a standing ovation for Harry (Sue and Win) from those at the luncheon (Tara Davis/SME).



SME Award Recipient slides, February 2020 (Rusty Hufford).
The William Lawrence Saunders Gold Medal was first awarded in 1927 and recognizes "distinguished achievement in mining other than coal".



Sue accepting the William Lawrence Saunders Gold Medal award, Phoenix, 2020 (Tara Davis/SME).
Sue, George Luxbacher.



Sue accepting the William Lawrence Saunders Gold Medal award, Phoenix, 2020 (Tara Davis/SME).
Sue, George Luxbacher.



The awards from the SME displayed in Harry's study, 2020 (Sue Parker).



The awards from the SME displayed in Harry's study, 2020 (Sue Parker).

Adventures, Stories, and Travels with the Maestro



Eric Lipten

This story is set in late 1992 and sets the scene for all of my Harry memories.

While working for Newmont in the Carlin–North Area mine geology department, my supervisor was Ken Paul—a great person, supervisor, and geologist. Ken had previously worked at Bingham Canyon, a copper porphyry open pit mine, and the first open pit copper mine in the world.

While working at Bingham Canyon, a consultant by the name of Dr Harry Parker had worked there extensively with the staff, doing what he could to improve geology and resource model estimates. On occasion, Ken would tell stories about Harry, and provide mentoring using what he learned from Harry.

Working for Ken for some period of time, I was making every effort to learn as much and as fast as I could, including working on my days off to gain specific skills. No doubt Ken found my extra work a bit unusual, but Ken did not discourage my efforts.

One day while driving in the pit, making the rounds, and looking at various geologic and production issues, Ken parked the truck, and had a frank conversation with me. He informed me that I needed to go work for Harry. He told me I was wasting my time staying at Newmont, and I was going to quickly learn and master all that he, Ken, had to teach me, thus there was little future for me at Newmont.

Ken told me that he could not work for Harry because the demands were too much as he was married with two boys. He felt he just did not have what it took to perform as a subordinate working for Harry. But with sincere honesty, he told me that I had the intelligence to work for Harry, and possessed both the drive and the work ethic that Harry demanded. He said frankly, “Eric, you need to go work for Harry at MRDI, and develop all that you can become in this industry. That is where and who you need to go to next”.

He planted the seed within me, but little did I know that I would end up being drawn to Harry some years in the future. Much later in life, I found out that Ken would talk to Harry about me, and Harry must have kept me on his radar screen for some time, as it would be years before the opportunity to work for Harry would come to pass.

Doug Reid

My time spent with Harry was a combination of learning, repeatedly being ordered back to the drawing board, and a lot of enjoyment. Harry would put in 80-hour weeks and expected everyone who worked with him to do likewise.

I was always amazed how he could remember the minute details from meetings, but could never remember that one was planning to take an occasional weekend off.

Malcolm Thurston

In 1997 Harry offered me the chance to work with himself and MRDI (as it was then). It took a while to organize the paperwork but I arrived from South Africa with my family in August 1998. A couple of weeks after landing I began my first job with Harry and MRDI at Greens Creek in Alaska. It was a memorable time, the early start for the ferry from Juneau and the late evenings but during this time Harry shared his approach to resource estimation. Over the next five years I worked with Harry and the MRDI team on more than 30 resource estimation and audit projects across 13 countries.

Harry is a man of his word. In the time it took to move from South Africa to San Mateo the consulting market had softened. On my first day in the office one of my peers told me that I would most likely be repatriated as there was no work. Fortunately, Harry didn't agree and he was able to keep me in work through this crucial time. All I can say is thanks Harry. The move across from South Africa was a transforming one for my family and this would not have happened had it not been for Harry's efforts across this initial period and indeed, across my five years with the company.

Peter Ravenscroft

As a young guy from RTZ head office, I was part of a review team on Bingham Canyon in 1992, where my role was to review resource estimates, on which Harry had spent the best part of three years of typical detailed work.

On Day 1 in the geology office he was explaining his grade zoning methodology, and I brightly asked him if there was any documentation available to back it up.

After a long withering stare, he pulled up the cloth covering that was over the plan table, about 30 x 20 ft of cloth, under which were stacked probably 50 cardboard boxes, all stuffed with the famous Harry memoranda.

“Once you have read through all that”, said Harry, “maybe you’ll have some sensible questions to ask”!

Dana Willis

After the completion of the field work for the first valuation of CVRD in the late 1990s, there was a group of us from MRDI working on the reports in Rio de Janeiro. Besides Harry there was Ian Douglas, Dominique François-Bongarçon, Felipe Guardiano, Mike Pagel, myself, and a variable cast of characters depending on the need for additional technical expertise.

At one point, Ian Douglas’ father, Hugh Douglas, joined the group working out of an aparthotel somewhere near the beach at Ipanema. Hugh, a geologist, was filling the role of mineral economist and was compiling mineral price projections for the valuation exercise. Mike and I were compiling Hugh’s price forecasts for the report (which eventually filled a bookshelf, available in both English and Portuguese) and we came up with a format for the figures displaying pricing forecast data. Before we proceeded to generate dozens of these figures, we put one example together for Harry to review and approve.

Knowing that Harry would have us endlessly modifying these charts and tables until he was satisfied, we decided to do only one and refine it until Harry approved, then generate the rest based on a template. After Mike and I came up with our example, which took some time, we gave it to Harry to review.

Now you have to imagine the scene where we were working. It’s basically a small living room in an apartment, and there are four of us crowded around several small kitchen tables that were pushed together and covered in laptops, reams of paper, a printer, and cables snaking everywhere. Often

one or more people were off using bedrooms as makeshift offices. Add to this a small-room air conditioner that is struggling away to keep us cool and dry, because outside it's hot and humid. But I digress...

We proudly gave Harry our masterpiece of a one-page graph and supporting table, thinking we had found a way to work efficiently and faster (with the idea being to get us out of the cramped room where we were cloistered for 12–14 hours a day for weeks on end). Harry glanced at the piece of paper for maybe, and I'm being generous, 10 seconds, tossed it back at us, and in his usual gruff voice said, "it's wrong", without any explanation.

So, Mike and I scurry back to our table and try and figure out what's wrong. After about an hour of going down a rabbit hole and checking everything, we finally found the error. Now as far as this one page of an enormous report goes, that's the end of the story and we went on to finish the report after six weeks of nonstop work.

But I was still baffled at how Harry had found an error so fast, and it took us so long to figure it out. So, at an appropriate time I asked Harry how he did that, and his answer was simple, "when you see enough data, the answer and errors are obvious" (to paraphrase Harry).

It wasn't until years later that I found myself in a similar situation and Harry's lesson came back to me. That brief episode has remained with me all these years as one of the many teaching moments from Harry.

Stan Nelson

One of my most memorable comments from Harry was regarding Bingham Canyon which for him was a very special place—he said something to the effect of, "I love coming to Bingham Canyon, it's like going to church".

Tony George

I was the project manager on a pre-feasibility study for a Mexican gold project owned by a Vancouver-based junior. Harry was to review their resource model and we got the project kicked off. After a few days I get a call from Harry.

“How's it going?”, I ask.

A grunt from the other end of the line, and then Harry says, "nail down the lid and put the brass plate on, this one's dead".

“Up to me to talk to the client eh?”, I responded.

“Yep, you're the PM man”, is Harry's riposte.

Makes me smile every time I relay this story and see in my mind's eye, Harry in his crumpled clothes and, of course, the American Airlines socks.

Needless to say, the meeting with the client didn't go well. The geologist owners had dedicated years to the project, they saw their baby through rose-tinted lenses, and we didn't complete the study.

As an addendum, after they called in another consulting company, Harry's recommended infill drilling program was (eventually) adopted and the mine did go into production a few years later, but I never heard from the client again.

Pat Stephenson

Harry was complimentary of AMC's “Spotted Dog” paper “Mineral Resource Classification – It's Time to Shoot the Spotted Dog!” by P.R. Stephenson, A. Allman, D.P. Carville, P.T. Stoker, P. Mokos, J. Tyrrell and T. Burrows, presented at the 6th International Mine Geology Conference held in Darwin in August 2006.

He sent me the following request in 2008: “*Could you please send me a copy of the paper and/or slides? I have dog in headlights that needs to become roadkill*”.

Glen Kuntz

In 1993, I was working for Rea Gold as the resource estimator for their open pit and underground gold operations. Ian Smith, who had been at MRDI before starting Rea Gold, called up the Rea Gold Vancouver office, and said that someone from MRDI would be coming up to critique the models I had

done. I'd only heard about Dr Harry Parker at third hand, but what I had heard was enough to make me sweat bullets.

The meeting was set up for 9 am. At 8.45 am, I was called by the secretary to say that there was a Dr Parker on the line for me. "Is that you, Glen?", he said. "I can't get out of bed this morning. My knee has stiffened up".

I wasn't sure what to do, so after a pause, asked if, and how, I could help. I had been seeing a physiotherapist following my own knee replacement, and knew that I could ask a favour of her to do a visit to Harry's hotel room, if Harry was amenable.

Harry was not initially very keen on being seen by anyone Canadian, and was especially disparaging that they were unlikely to give him drugs or other medical support. Eventually, I convinced him that because of my own experiences, my physio was his best bet.

Then I had to convince her to go to a hotel room to treat a man I'd never met either! I managed to find a picture of Harry in a scientific journal, photocopied it, and armed with that, we set off to the hotel.

A small comedy of errors ensued. Harry was completely unable to get out of bed to answer the door. We couldn't get in without the door being opened. So, security was called, and finally we were able to enter. The biggest concern, as to whether Harry was "respectable", was thankfully settled without embarrassment on any side.

Following a cortisone shot, the physio had him up and walking within two hours.

It was an interesting start to the being-reviewed-by-Harry process.

Jill Terry

The R&R Governance audit commissioned by BHP was the first time I worked with Harry. I was delighted to work with a legend!

Harry arrived in Perth in winter (June 2011), not looking terribly fit, or in great health. He embarked on the audit, was based in our Central Park office, and all was progressing well.

He was staying at the Sheraton and after telling us that he'd see us at 8 am the following morning, about mid-way through the audit, he failed to show up. By 10.30 am we were really worried. Couldn't raise him on his phone.

I asked my PA to call the Sheraton to check on him (we were worried he might have passed away in his sleep). He wasn't in his room, thankfully, and about an hour later he turned up at the office, having forgotten to tell us he had a breakfast meeting that went on for a few hours.

We were relieved and never did tell him that we'd called the Sheraton.

Dave Kanagy

A few years ago, a Chinese contingency came to Washington, DC to discuss resource and reserving reporting. Harry called me and asked if I would come and represent the SME, which I did. During the day and a half discussion with them, Harry got into a long explanation of plotting drill holes to take samples on a claim site. He outlined how to go about it, where to place the drill holes, what measures should be used to determine depth, and several other things over my head. The Chinese guests listened in intently and took many notes, all good.

At the end of this long discussion Harry asked if they had any questions. One young member of the group came up to Harry's drawing with the location for about 10 or so drill holes and asked, "why not just drill one hole here", pointing to the middle of the site. Harry turned to her, completely flabbergasted, and said in a loud voice, "that's oil and gas, that's not us"!

It was hard to contain my laughter. That was the Harry I knew, patience, coaching, teaching, embracing, and very steady.

Mark Murphy

I first met Harry many moons ago when working for Snowden—must have been around 2003. Harry was doing an audit on the Koniambo nickel laterite deposit in New Caledonia with Snowden preparing the original estimate. I was assigned to help him out with some simulation work to quantify the estimation confidence. I'd never heard of Harry before this, and still recall

going into a meeting with the results of my first simulations. The sequential Gaussian simulation (SGS) method was not just working, so I made the call to use sequential indicator simulation (SIS) instead as the results were validating a bit better. So, I go into this meeting with Harry, and I think Ian Glacken was a bit concerned that I was going to get a pasting for not following the song sheet. I presented Harry with a scroll where I had compiled all the indicator variograms and results, pointing out the better validation of SIS over SGS. There was a very long a pause while Harry dug out his specs—and then inspected all closely. A pause, and a deep breath... “Nice”, said Harry, “glad to see you’ve got someone here who can make the right decisions”!

Harry had this real knack for encouraging the younger up-and-coming in the industry, even when they worked for the competition. This simulation work went on for some time, and the results ended up as a collaboration paper between Harry and I that we presented in Banff, in 2004. I still get requests once a month or so via on-line forums for the “Conditional Simulation Voyage of Discovery” paper (Harry’s preferred title).

As an aside when doing this work, Harry had me working weekends, one of which was Mother’s Day. So about 2 pm on a Sunday, I invited Harry to a Mother’s Day dinner, which he accepted. At that time, I had this super-compact car (Daewoo Matiz) for commuting, which my sons’ mates often referred to as the ‘clown car’. Anyway, I took Harry down to the office carpark, and that time Harry was a man of some stature and girth. He looked at the Matiz, said after a long pause, “interesting”, squeezed himself into the passenger seat, and we headed off for Mother’s Day dinner at my local Chinese restaurant.

On the trip he suggested somewhat cheekily that I might perhaps want to look at a Saab as my preferred mode of transport, but he seemed entertained by the ride up Perth’s northern freeway in what is essentially a motorized roller skate.

Harry had a great time meeting my family, including my eccentric mother, who used to dye her hair bright pink, my two sons (one of whom has autism), and he took a real shine to my wife Jackie.

Jackie got Harry to agree to be an interviewee for the journalism course she was doing at the time. Unfortunately, we cannot seem to find the article she

wrote entitled “The Clever Mr. Parker”, but we’ll keep hunting. I think there may even be some cassette tapes of the interview somewhere in the garage.

Jeff Volk

I asked Harry to come out to the Goldstrike (*Meikle underground*) mine to review the methodology I was using on a project I was working on. I first met Harry in the early 90s at Goldstrike where he was doing some work for the open pit guys, and we had gone back and forth on resolving issues at the underground mine.

It was springtime, and the access road is a mine road as well, so it was ankle deep in gooey gray magnesian chloride mud. Harry called me from the guard shack and said he was having some issues—could I pick him up (it was still another 1½ miles to my office from there).

Of course, Harry was in his Porsche, and to be honest, the make or color of the vehicle was unrecognizable, being covered in up to four inches of magnesian chloride (I wish I had a photo, but that was early days of cell phone). Anyway, I got him to the mine, and we worked the day in my office.

After work, I invited Harry to join my wife and myself for dinner at a local Mexican joint in Elko. This was my wife’s first-time meeting Harry (note, it was a pre-diet Harry), and he proceeded to order and completely devour two grande-sized main courses, astounding both my wife and the restaurant’s owners.

A few days later, Harry called me and said, “you are not properly handling your high-grade outlier data—Jeff, when I get done with you, your ass will be so sore you won’t be able to sit for weeks”! (We were assessing assay capping parameters at Meikle, which was an extremely high-grade gold mine). I explained to him that in my opinion, they were not outlier data, but part of the overall distribution.

He advised that he would run his Monte Carlo analysis and get back to me. He called me the next day and said, “Jeff, you can sit down now—you’re OK with how you are handling your data”.

Eric Lipten

Circa 1996, after working in Peru at the Yanacocha project for Newmont, I found myself getting married and undergoing many life changes. At this time, I decided to explore employment opportunities after spending over two and half years being involved with the startup of three gold mines in the Yanacocha District. I was considering several opportunities, of which working for MRDI based on a recommendation about Harry from Ken Paul.

The week I meet Harry and interviewed with the MRDI staff was 10 days of intense travel (I was strong, and tireless back then). I left Cajamarca, Peru for another country in South America that shall remain nameless. I reviewed a property, and faxed a handwritten report to my supervisor. Remember these were the days before laptops were common, no email, internet, or cell phones. One still used pay-phones in airports!

I flew to Champaign Illinois, grabbed a suit, and other clothes, and met up with my elderly parents, and we flew to Reno, Nevada for my sister's wedding on a Friday for the pre-events, wedding on Saturday, and flew back with my parents on the Sunday. I gave my mother my business class seat, and my father and I sat in economy. I digress but my mother was asking were the propellers were as she had not flown since the 1950s, before I was born. There are good stories here but I shall stay focused on Harry! We got back to Paxton Illinois, and I repacked and flew to San Francisco for the interview at MRDI.

Needless to say, the meeting with Harry was a constantly-moving event, because his schedule was rather dynamic to say the least. At the last minute, he requested an early-morning breakfast interview at a hotel that was next to the MRDI offices in San Mateo. I was all suited up, and was met by a large, gruff, rather frumpily-dressed man with a firm handshake, carrying a large L.L. Bean boat bag full of stuff. I recall he pulled out a, lined yellow paper pad with questions listed and started firing away.

Harry was not at all what I expected. We had breakfast, and he grilled me throughout the meal with lots of questions about my experience, in geology, QA/QC, resource modeling, geostatistics, etc. He then proceeded to interrogate me on all of the countries I'd traveled to at that time, and my ability to handle difficult situations. After going through the list of countries and

military experiences, he appeared impressed that I had qualifications for the “coping with travelling” requirement in spades. I think he was struck by the fact that I had been to many places that he had not!

We then proceeded to exit the restaurant, which was within easy walking distance of the MRDI office next door. Harry insisted that he gave me a ride. I opened the front passenger door of a rather harshly-treated Volkswagen car. To my shock, there was an oily, dirty chainsaw in the front seat, the passenger seat was stained with oil and flecked with wood chips, oil was on the floor, and a gas can and bar oil can for the saw were also on the floor.

Harry nonchalantly put his LL Bean boat bag in the back seat. He told me to grab the chainsaw and we proceeded to place it in the hatchback area. I held it at arm’s length trying not to touch it. I expressed my discomfort at the oil and possible staining of my suit, and said I would walk to the office and meet him there. Harry would not hear of it, and after rummaging around, found something to put on the seat. He continued asking questions while I was most preoccupied with not getting oil and/or wood chips on my shoes and suit. I was wondering if this was like interviews that Admiral Rickover did to people by having them sit on a chair with all the legs sawn to different lengths to deliberately make the interviewee uncomfortable!

We completed the short drive to the MRDI office, where I was taken to a meet the “crew” of David Laing, Frank Howald, Susan Meister, Ian Douglas, Pete Christian, and many others. Almost all had warnings after the “formal interview” questions about working for Harry. It was apparent if I took the job it would be unlike any previous employment experience. The demands would be high and strenuous. But it was an impressive group of people! I had dinner with Ian Douglas that evening, and more interviews the next day.

I went to the airport to return home not really sure of the experience, or having a solid feeling of how it went. It felt similar to the military with combat-line troops looking for fresh meat to throw into the action. My flight was delayed out of SFO, so I missed my flight to Champaign, Illinois. I ended up late at night going through a huge warehouse at O’Hare airport to find my checked bag, and riding in a van on its way to Champaign. The van dropped me off along the I-57 exit for Paxton, and I hiked to my parents’ house. As I recall, I got home waking the folks on my entry at 4:00 am. That day I had to get them packed up, and we were flying on different routes and planes to

Peru for my wedding that weekend. Needless to say, a job opportunity, while important, was not the highest-priority item on my mind at that point in time.

A few weeks later I received a call from Harry offering me a job. I was rather surprised! I thought about it a few days and declined the offer for various reasons. The primary reason as I recall was that the cost of living in the Bay Area was most intimidating.

Then Ani (my wife) and I ran into a serious issue. Ani had studied in the USA on a student visa that had restrictions. She had not fully realized the implications of this. So, after months of her visa application in progress, on the day before we were due to travel to USA to start a new life, we were informed that Ani would not get a visa, and she would have to stay in Peru for another 18 months. Meanwhile I had transferred from Yanacocha to Nevada, my belongings had already been packed and transported, and my replacement had relocated to Peru from Nevada. Talk about a bad experience! I left for my parents' place as per the original flights, and Ani went back to her parents' house. I immediately started contacting immigration attorneys for advice. It was not promising from the two attorneys I discussed the matter with.

I called Harry, described the situation, asked would he consider still hiring me if he had not filled the position, and furthermore could I have all the work in Peru and South America? It was a huge, bold ask on my part, but I was desperate. He was most sympathetic, offered me the job, and said, "I'll have you on a plane to Chile in two weeks. You can have all the work in Peru and take time to visit your wife as you travel back and forth. But you have to make the additional travel costs on your dime and time". I was most relieved for the favor and grateful to him for not holding a grudge for declining the job offer the first time. Little did I know what I was getting into for the next three years!

But true to his word, I was on a plane to Chile to work at Escondida, and from there I went to Peru to work on the Cerro Corona project. This is how a long-term friendship and my Harry adventures started.

Brent Cook

I worked off and on as a consultant to MRDI in the 90s and got to know Harry pretty well.

He taught me real due diligence, patience, and pride in a job well done.

I came on to help with the privatization of CVRD in Brazil. A massive job entailing travel to most of its mines and exploration properties.

I recall our local organizer, Miles Thompson, warning Harry that we were doing this during Carnival and things could get complicated. Harry's reply was, "well, we'll take off whatever day it is that they do that thing". If you know anything about Brazil, you know that "thing" lasts weeks and virtually no one works and everyone travels. Somehow, we pulled it off though.

Glen Kuntz

In 1996, I was in Colombia reviewing an asset that Rea Gold were considering acquiring. Like many in the Buritica area, it was an artisanal operation, with a number of adits driven into hillsides. MRDI did a lot of the consulting work for Rea Gold, so I was armed with the MRDI checklist, as blessed by Harry. This checklist was legendary, and the volume of information that was expected to be collected in an eight-hour site visit was possibly achievable by Harry (or maybe God), but not normal mortals. I collected what data I could, all of which was in Spanish. The channel sample data were collected along the line of each adit, and because of how the adits were tunneled, some of it was recorded with a negative elevation, some with a positive elevation. I faxed what data I had compiled, including the elevations, to Harry.

He ran his basic checks with his trusty Fortran compiler, and was astounded to generate reasonable variograms with quite long ranges. He was ebullient that this might be a really nice deposit and worth acquiring. Being Harry, though, he called me up and asked me if the elevations were correct. A board meeting was called for the next day.

I was extremely tired from the long days on site, but that question on the elevations nagged at me. After a night's sleep, I checked and rechecked. To my horror, I had made a mistake. The sample points should have been

changing by about 2 m, but somehow, I'd translated them to something more like 10–20 m. Enough that that difference changed the variograms from a couple of tens of metres of horizontal continuity to hundreds of metres of horizontal continuity.

By the time I logged into the board meeting by phone, it was in full swing, and Ian Smith and Harry were both enthusiastically pumping the project. I did the only thing I could, and told them that I had made a big mistake. Harry was silent for a minute, then said, "well, in some ways that's good. The continuities were all wrong for a narrow vein gold deposit".

I apologized again, and told them one of my family's mottos: best to eat crow when it is young and tender, then to wait and have to consume it old and stringy.

Ken Moss

Harry requested that I make him a series of section plots, with geology and drill holes every 100 ft, covering the deposit, a set each for gold, silver, and copper. He wanted the sections on 11 x 17-inch paper. There were over 200 sections and we had a 42-inch roll plotter. I wished him luck, but I was not going to trim 700 sections to 11 x 17-inch size.

Harry told me to go and buy an ink-jet plotter to do the job. My boss said no. Harry then said not to worry. He would drive to Elko. Travel to and from plus purchase time would be about four hours. He would make the purchase and then back bill the company plus 35% management fee. He said he would see us later that afternoon.

My boss gave in, told me to take the company truck and buy the #*% plotter, hurry back, and get to work.

Harry, with few exceptions, looked out for the worker bees.

Peter Ravenscroft

Harry listed the 1996–1997 Kelian litigation as the toughest job he did.

I was the one who asked him to come and lead CRA's technical team in a litigation focused on resource estimates. It split the geostatistical world into two camps, with friendships and mutual respect put to one side as some of the biggest names in the field joined each side.

I was the client representative, and my role was to coordinate with Harry and his team. Never shy to put a useful pair of hands to work, Harry co-opted me shamelessly, and after about ten 12–14-hour days in a row, I reminded him that I was, in fact, the client. He muttered something about lazy fat-cats and gave me an afternoon off.

Ed Orbock

When taking one of Clayton Deutsch's geostatistics courses, Clayton asked each class member why they were taking the course.

When it came my turn to respond, I stated that I wanted to be able to hold an intelligent conversation with Harry on geostatistics, and maybe win on a few arguments.

Clayton wished me luck, because "Harry has been known to change the rules".

Willie Hamilton

On my first resource assignment with AMEC in December 2004, I flew to Arizona and was picked up by Harry in a Chrysler PT Cruiser at the airport. Harry was excited to test out the PT Cruiser as it was a hot commodity at the time of its release. He drove us to Wickenburg so that we could work on the Rock Creek resource update. I would later find out about his black Porsche stories.

Harry had previously worked with Robert Prevost of NovaGold on the model and had admiration for him. Robert had recently been diagnosed with Lou Gehrig's disease so was having difficulty with his physical functions. Harry had Kevin Francis and I attend meetings and perform our work in Wickenburg to make communications easier with Robert. During our time in Wickenburg, we attended the home of Robert Prevost and visited with his

friendly young family. After this project, Harry kept in contact with Robert and shared some special updates with us as he became aware of them.

Harry will be remembered as being a pioneer in applied geostatistics, but those of us who had the pleasure of working with him also witnessed sincere kindness and support when it mattered most.

Eric Lipten

One Sunday middle of the night while asleep with my wife the home phone rang (no cell phones in those days). I bolted awake, and I was wondering who would call at 1 or 2 am other than some family emergency. It was, of course, Harry!

He commenced giving orders. “Eric, I need you to go to the office, go to this drawer in my file cabinet and get this file and fax it to me at this number”. I said, “Harry, it is 1 am on a Sunday morning. Can’t this wait until the morning, and where are you”? Harry was in South Africa.

There was a pause, then, “oh sorry, man, to wake you”. Another pause. “But can you go and fax me the file”? I laughed and said, “sure”. You just can’t stop an unopposable force. He no doubt sized me up and knew I was not an immovable object. “Harry, it will take me about an hour to get it to you. How do I reach you if I can’t find it”? The file was sent.

A couple of years later Harry called me and explained that he needed a file that was in storage. I was expecting another file cabinet document finding event. Oh no, this was really special.

Unbeknownst to me, MRDI had two rental storage units filled with furniture and boxes filled with old project files. There were thousands of boxes. I was given the unit keys and the code to the facility by the office manager. I went over there and opened the two units. I wish I had a picture of the look of shock on my face. It was an immense undertaking! There were piles of boxes that had fallen, and files strewn everywhere. After looking for hours in what I thought was a valiant (but futile) effort, I went back to the office and gave Harry a report. I expressed in all honesty my opinion that the task could not be accomplished.

Well the unopposable force cannot be stopped! Harry would not hear of the search being halted, and ordered me back the next day with some directions as to what the box looked like, and the date on the documents in the box. After two more days, and a massive amount of digging, I found that damn box and sent him his file.

Harry had a photographic memory. I learned to never doubt his recollections. I thought my memory was great, but his was better.

Bruce Davis

There was a restaurant in Tucson called Li'l Abner's. At the time this happened, the menu consisted of two items: a one-pound steak and a two-pound steak. Harry and his family were in town for a conference, and they went to dinner at Li'l Abner's. Harry had the two-pound steak. As they were leaving after dinner, they ran into some clients of Harry's who were just arriving. They asked Harry to join them. Harry was reluctant at first, but Sue told Harry to go ahead and sit with his friends. When it came time to order, the group insisted that Harry get something. Harry ordered the two-pound steak, and by all accounts he ate it all.

Doug Reid

We did a day site visit to a Nevada operation in 2019 to look at their blast-hole modeling, but Harry was more interested in the geology.

After a mandatory stop at McDonalds for breakfast, he had a healthy lunch, and we spent a wonderful day looking at the various pits. Harry was in fine form.

We got back to Reno later than expected, and he insisted on a stop for dinner at John's Oyster Bar. He ordered a dozen oysters, his favourite lobster louie sandwich, and finished with a big piece of pecan pie.

When we arrived at the Wood office and Harry was getting in his jeep, he remarked that he didn't feel well. I suspected that the pie had messed up his blood sugar. I offered to drive him home, but he refused and we went our

separate ways. I emailed Harry and texted Sue later that evening to ensure he made it home safely.

Harry remarked a few days later, “boy, Sue tore into me that night, but man, the meal was worth it”.

Eric Lipten

Once the construction was completed at Antamina, and Bechtel pulled out, the good meal service disappeared. To be honest, the food, while not the worst, was pretty darn close under Antamina administration. I’m being very kind here! However, a department could order a catered event from the kitchen for special events as long as the department could pay for it.

Unlike most departments, the Geology Department had a very nice under-cover area at the core shed for putting up tables and chairs and grills to cook food. For some reason when I had that area built, lighting was included for night-time activities. As I recall, but my memory could be failing me, the first departmentally-sponsored barbecue was for a mine tour, and Harry was present with the department staff. He really enjoyed the combination of core reviews and food.

The Antamina kitchen had choices for how many, and types of, meat dishes and sides/accompaniments for any catered event. The ultimate was a five-meat meal with beef steak, sausage, chicken, pork, and shrimp or fish. One could even substitute kabob for one of the meats. It was good eating, especially when compared to the dining hall food which was bland, repetitive, and of dubious quality.

The core shed feasts became such a morale booster that the frequency of finding a justification for a “special” event was becoming more common the longer I was department head at Antamina. The event justifications certainly became elevated when Harry was on site. He was a strong influencer and he always wanted “the five-carne barbecue”. He would lobby me for one at every chance. He would then go to my secretary Jessica and get her to change it from a two-carne to a five-carne event. Nobody could say no to the unopposable force!

We held such events for mine tours, for birthday parties, for starting a model cycle, for finishing a model cycle, for getting half-way through a model cycle, you name it. We always had a Harry reason. I can still hear that gruff voice, “Eric it’s time for a five-carne barbecue. Jessica, please organize a five-carne barbecue.” I have no doubt it improved his ranking with the staff.

They knew I would deny them if they asked directly, but they also knew that I could not control Harry.

Chris Wright

The first time I met Harry was at a party in Scott Ansell’s backyard and Harry offered my wife and me a ride home in the black Merc that the Swissotel was sending to pick him up. Great first impression, totally reflective of his character.

Peter Oshust

The ever-thrifty Harry went to a hairdressing academy in Vancouver, and came back sporting the \$10 special. He was very pleased with the bargain. That’s the cut he is wearing in the Zafranal resource update photo (*see photo in HMP in Pictures*).

Ken Moss

I was watching Harry work. He had chosen a couple of blocks and was hand-calculating the estimates. I inquired as to why; didn’t he trust the Med System calculations?

He said, “no, they must be verified”.

I then asked how many times he had checked their works.

Harry replied, “many times, probably more than 50. Those times, it was correct, but the algorithm could have changed”. He needed to be sure.

Harry was a master of billable hours. Any consultant would be well paid to work for Harry and learn.

Bill Shaw

Harry audited the Century Zinc resource estimation in 1995. That work was done by a small consulting company Mining & Resource Technology (MRT) based in Perth that at the time comprised Bob Adam, Dr Sia Khosrowshahi and myself with perhaps five others.

The audit process was long and intense. We involved Professor André Journeel, whom Harry knew well and worked with enthusiastically. There were many detailed technical discussions, around the geology, assay methodologies and additional checks that were carried out, including simulation of the frequency of faulting at various scales, and the expected impact on dilution during eventual mining.

At the end of this long process we had an informal dinner at which Harry was glowing in his praise of the process and, dare I say it, the work.

At the client meeting the next day we were very expectant. Harry's summary for the client was typically gruff, "the work was satisfactory".

We loved him all the more for it, later on.

Alessandro Silva

I had done a presentation on the use of simulations at a Brazilian mine. Afterwards, we'd all gone to lunch.

Harry came up to me and said, "I really liked your simulation work! I liked the way you deal with the rocks as proportions". Harry took a business card from his pocket, and scribbled. As he did so, he added, "as an indicator this should be 1-i for each rock and how do you handle this as percentages was clever". And he wrote the equations on the business card.

I was very young and I thought, "oh, wow, this is perhaps the most important master class that I will ever have". And I gave him my business card.

Did I get that business card that he'd written the equations on? No, he just got out a pristine, new, unedited one, and handed that to me!

All I could think of was, "ohhhh no!!! I would love to have the one you just demonstrated the equations on! Please give it to me"!

Harry said as he handed over the clean business card, “I will still think about your work, but that was nice to watch”. He put the card with the equations in his pocket, and added, “I will keep that because I still need to think a bit more about those equations”.

That was message for a lifetime: the best resource geologist ever, key note speaker, showed by example that it does not matter where, when, or from whom, one should always just keep learning, and keep studying.

Glen Kuntz

Rae Gold went bankrupt on 24 December, 1997. Harry was the one to call me up to tell me that my job was gone. He was so upset, and hugely apologetic for that call having to be made on Christmas Eve, of all days.

“Harry”, I said, “it’s just another day”.

Harry went silent.

Harry hadn’t realized that I am Jewish.

Mark Murphy

Second time I met Harry I had moved to Rio Tinto (Iron Ore) in 2007 and Rio was running an in-house “Orebody Knowledge” course on the Australian Gold Coast (*this was the Duke-Rio course*), with Harry presenting some of the geology and geostatistics, along with John Vann, and a line of industry experts.

It was a bit of dream team course, taking geologists, engineers, and metallurgists through a whole simulated feasibility study process. It was great fun and you can no doubt predict Harry’s opening line following on from John’s geostatistics presentation.

“Well, thanks John, but (trademark pause), an ounce of geology is worth a pound of geostatistics”.

Susan Meister

In the early days of MRDI, Sue and Harry hosted Christmas parties in their home in Castro Valley, CA.

The party was great and definitely geared towards the kids, including a visit by Santa Claus, who was none other than Harry.

He was fully dressed in red outfit and white beard and his “ho, ho, ho” was quite distinctive.

My daughter was maybe four or five at the time, and she said afterwards that she thought “Santa” was actually Harry.

She had met him a few times working in the office on the weekends (she came in with me). It was pretty hard to hide his distinctive voice.

Malcolm Thurston

Harry was a considerate person. Harry was very demanding on the work side but there was no doubt there was a gentle and considerate side to him that many of us were able to experience. Three examples spring to mind. During our first Christmas in San Mateo, Harry invited us to the Christmas office party at his house. Lo and behold, mid-way through the function, Harry appeared as Father Christmas and gave out toys to the children present.

A second recall is Harry organizing a flight home for me to attend my daughter’s birthday. This was during my first year in the US, and she was turning seven. I never did find out what he told the client.

Another memory is the farewell gift he gave me on leaving. I have moved a great deal of times in my career, and only once before did someone take the time to acknowledge my time with the company.

Glen Kuntz

For the period I worked for Rea Gold, Harry would review my models about every six months, and review my reports. Anyone who has been edited by Harry knows that the pages come back with more text in edits than you had

on the page to start with. Harry's favourite red ink pretty much obscured everything, and many comments were rather emotive.

During a meeting in the MRDI office in San Mateo, after about three years of Harry edits, Susan Meister asked me how I managed to be so impervious to Harry's comments. "You never react to them", she said.

I looked at her, and said, deadpan, "I'm red/green colour-blind, Susan. I don't see red ink as red".

Harry looked completely stunned for a minute, then started laughing.

However, he went out and specially bought a pen colour that I could see, and from that point on, all my documents were reviewed in purple ink.

Dana Willis

MRDI's team of six consultants and about 16–18 contract consultants had just finished the field portion of CVRD's valuation. Broken up into teams of one MRDI employee and 3–5 consultants, we had ranged all over Brazil for brief visits to all of CVRD's operations and exploration offices. My team had just finished the industrial mineral projects (potash, kaolinite, and bauxite) and had returned to Belém to consolidate our notes that were ultimately going to form the basis for the valuation report. All of us were staying in a large, chain hotel in downtown Belém, the capital city of the State of Pará, near the mouth of the Amazon River. Harry was also staying at the same hotel, having been working on another part of the project.

Being the junior guy on this project, one of my responsibilities was to compile everyone's writing, and act as an editor, including on Harry's sections. Harry was camped out in his hotel room with the air conditioner on high, the temperature as low as it would go, not quite freezing, but close. Just to add some flavor to the scene, even though we were in a major chain hotel, the whole place reeked of mildew, and the outside walls of the hotel were streaked with black mold, not surprising given the location. Although I'd worked on and off with Harry in Brazil, this was my first major project in MRDI working closely with Harry, and it goes without saying, he could be a bit intimidating.

Harry would sit at his computer and bang away with two fingers, typing at an impressive speed. But far more impressive was when I got his text to edit, there was little for me to do because it was essentially complete. Oh, maybe, a comma here or there, but compared to everyone else working on the project, Harry's written word went from his brain to his fingers, to paper, so to speak, without the intervention of mere mortals. For context I have had a long and painful experience trying to learn how to write, and have had many a painful editorial experience. At some point while we were in Belém I asked Harry how he wrote so well and efficiently. His usual laconic reply was "It's just pabulum". He did expand the lesson to explain that after writing for many years it just became second nature, and I would add that the depth and breadth of his knowledge on the subject was such that the words just flowed. It was this lesson that stuck with me as I became more experienced, but my writing skills never reached a fraction of Harry's, but he did inspire me to do better.

Also, during our time in Brazil, I was exposed to the full force of Harry's working habits, which have always impressed me, and were beyond my abilities to match. Harry could, and did routinely, sit and work focused on something for 10, 11, 12, hours without a break or distraction. He was the most focused person I've ever known. Admittedly there were few cell phones (we rented some for that project), no internet, and I don't recall much in the way of emails, we mainly relied on faxes, so many of the distractions we have today weren't available. However, I suspect that Harry would have ignored them all anyway.

Jay Melnyk

Anytime anyone quotes Harry, they use their "Harry voice". It can't be helped, and then everyone else that knew him has to respond in their "Harry voice". It always puts a smile on my face!

Eric Lipten

MRDI had a job for a mining company reviewing an old property in the Appalachian Mountains. Ted Eggleston and I were reviewing all the

historical documents, and developing an assessment of the property at the client's office located at the Denver Tech Center over a two-week period. Harry was present for the kickoff meeting outlining the work, and arrived for the last day to review and present the findings.

We had a rental van. Ted departed at lunch time for his house in southern Colorado, and Harry and I had a flight to San Francisco at around 5:30 pm, if my memory serves. I was of course the Harry-handler responsible for all the logistics. I had asked around for the driving time and traffic conditions to the new Denver airport. I factored in the time to gas the vehicle, rental vehicle return, transport from the remote rental car location, check-in, security and etc. I informed Harry as to our departure time from the office; 2:30 pm.

Harry always cut the time tight, and I am the exact opposite. I prefer to arrive for check-in early so I do not miss the flight and have no stress. I gave him my recommended departure time from the office with this in mind. Well, in that characteristically gruff voice, he said it was "too early". I was adamant about my calculation and outlined the justification. He would hear nothing of it and waved me off.

Harry began schmoozing with all the client executives after the meeting. I had calculated in a little Harry time, as this was not my first rodeo with him. The departure time came and passed. I went looking for Harry, reminded him that it was time to go, but was waived off as the schmoozing continued. I grabbed his bags and mine and loaded them into the vehicle. I backed the vehicle up as close as I could to the office doors. More time passed, and no sign of Harry. I went looking for him and again reminded him it was getting late. He was quite adamant that I was allotting too much time, and, "not to worry he would be out shortly".

Well, a significant amount of time passed, to the point where I felt we were getting into the danger zone, and my discomfort was rising. Still no Harry! More time elapsed, so this time I went looking for him. I told in no uncertain words that we departed now, or I would leave his bags in the office and go to the airport without him. He glanced at his watch, became alarmed, and went racing out to the vehicle.

Now at this time, there was no smart phones, no GPS units with traffic avoidance, and no C-470 tollway to the airport. We pulled out of the parking

lot of the office campus, and as I looked to the right down the road at the entrance to the expressway. It was backed up at least a mile or more! We were just screwed as it was Friday afternoon rush hour traffic in Denver.

Harry muttered some expletives, told me we would have to navigate by alternate back roads, and grabbed a map. I turned left, and he started firing off navigation directions. As we sped down back roads, he was rattling off turns, street names, and distances to the next turn. He was impressive at the navigation I must say! We would have made a great road rally race team.

During a long stretch, however, he fell silent. I called out for the next turn directions, and heard nothing. I looked over, and Harry had fallen asleep. I yelled and no response. I nudged him awake. He snorted, "I'm awake". I said, "Harry, I need the next turn, I think we passed it!" He pulled up the map, asked a question about the most recent street we'd passed, located himself on the map, and adjusted the route, firing off more directions. Again, I was truly impressed! Needless to say, though, I made sure he did not fall asleep again.

We gassed the vehicle, turned it in, and jumped in the rental agency shuttle bus to the terminal. As we were in line, Harry said to me, "Eric, I'll get you upgraded with me and we'll get pie in business class". Meanwhile, I am thinking sh**, we will be lucky to even get on the plane as we are running so late, never mind the seating class.

Of course, there were long lines for the check-in. We finally got to the counter, and Harry says, "I'd like to get upgrades for myself and my companion", At which point, the check-in agent (a nice woman) smiled kindly, informed him the plane was over-booked, that there were no seats, that we were both late, and had to hurry as if we did not get on board, we would definitely lose out seats.

Oh man, I was hustling and Harry looked a bit stressed. "Pie, upgrade, yeah right", I thought to myself. Well we got to the gate. Most people had boarded. I presented my boarding pass, and sure enough Harry meet someone he knew on a different flight, and was talking away. He had lost all focus on getting on the flight. I said "HARRY", but he waived me off saying, "I'll be there in a minute". I told the boarding agent to keep an eye on him and found my seat. A few minutes later when the attendant announced that it was time to close the door, I looked and found an open seat where Harry should be.

I bolted out of my seat, yelling at the flight attendant at the door to give me a couple of minutes to find the lost passenger. Well sure as heck he was still chatting away exactly where I had left him. I grabbed his arm and said, “now, move it, the door is closing”. His eyes popped open and off we went.

Most people have a Dr Parker flying story if you flew with him often enough. And that is mine.

I avoided flying with Harry as much as possible. The only thing worse than flying with him was actually sitting *next* to him on a flight, as he was inevitably going to have you working the entire flight unless he fell asleep!

Tony Brown

It was early 80's and I was a relatively new arrival at Fluor in San Mateo. I was scheduled to go on a site visit to a uranium mill in Wyoming with the infamous Doctor Harry Parker who I knew by reputation only.

As I was standing in the lobby waiting for the great man to appear, it became increasingly obvious that we had very little time to make our flight. Eventually, the elevator doors opened and out he came, slightly rumpled, battered small suitcase, necktie askew.

He grunted at me that he would drive and led me to his pride and joy, a blue Porsche in the parking lot at the rear of the building. We squeezed in, and set off, but almost immediately Harry announced that we were low on fuel. We pulled into the local 76 gas station and Harry rushed a couple of gallons into the tank before departing at breakneck speed to the airport.

We parked as close to the terminal as possible, and, as you could in the old days in the absence of security checks, ran through the terminal, pausing only at the gate agent, and down the gangway to the plane. We managed to stack our bags in the overhead bins and collapsed, breathless, into our seats.

A surreal calm ensued.

Harry was looking at his watch. One minute passed, two minutes passed, and eventually five minutes elapsed before they closed the door to push back.

“Sh**,” said Harry, “I could have filled it up”.

Roger Dixon

Through the years we attended a total of 13 consecutive CRIRSCO meetings and various other conferences and events on behalf of CRIRSCO. On most occasions when the business was over, we would be exposed to the traditional tourist shops. Silver in Peru, emeralds in Columbia, pottery in Turkey and India; Harry always seemed to buy more than anybody else often having to ship it back to the USA; but always for some member of the family. The best was in Mongolia where he bought two rocking horses for his granddaughters, which obviously had to be wrapped and shipped back home.

Borden Putnam

Harry was not satisfied in confirming the client’s laundry was clean; he wanted to know where it was washed.

Ted Eggleston

On an audit Harry and were on a cable ferry across a river between Carajás and Salobo. The ferry maybe moved a mile an hour, so the crossing took the better part of an hour. While crossing, we saw lots of local birds and other native fauna. About midway, two dugout canoes full of forest dwellers rowed up the river—a scene straight out of National Geographic. We watched them until they were out of sight. Harry turned to me and remarked, “this is what geology is all about”.

Same trip, different day. We flew in a helicopter from Carajás to the Serra Pelada airstrip where we were met by three truckloads of army guys, maybe 60 in all. We had to drive through the Serra Pelada garimpo [*illegal mine camp*] at Serra Pelada where about 3,000 garimperos [*illegal miners*] were waiting with their machetes, shotguns, and revolvers. It was a very tense situation. We were about one heartbeat from being in the middle of a major gunfight. Both sides really wanted to rock and roll but automatic weapons trumped machetes, so we were allowed to pass. After we returned to

Carajás, Harry commented to me that the situation in Serra Pelada "seemed a little tense".

Eric Lipten

Harry and Sue were very busy professionals so vacations were a rare event as I recall. There was the Thanksgiving trip to the brother-in-law's turkey farm in Virginia every year and the occasional trip to Hawaii where the Parkers had a condominium.

One day, while I was working away in my office in San Mateo, Harry showed up in an unusually happy and jubilant mood. My guess is he looked around for Neil the resident IT person who had a purple Volkswagen van. Yep, it was a rather hippie-like transportation vehicle that Harry preferred for travel to the airport.

Well, Harry must not have found Neil, so he popped into my office and asked me to drive him and Sue to the airport in their Volkswagen car. Yes, the same car previously described with the chainsaw on the seat. I proceeded to the parking lot where Sue was waiting. I jumped into the rear seat; Sue was driving. The Parkers were as giddy as newlyweds going on the delayed honeymoon! I had never seen Harry like this before.

As we were driving down 101, Harry was waving a thick wad of free drink coupons that he had accumulated from all his travels. Airlines did things like that long ago. He and Sue were talking about the drinks and various such things, and giggling like a couple of kids. I was in shock—it sure sounded like they were going to get tipsy on the flight! Sue pulled up to the departure area at SFO, they jumped out, grabbed their bags and handed me the VW keys. Harry gave instructions to park the car at the office, and leave the keys on his desk.

I got back into the VW, adjusted the seats and mirrors (as you do), and headed out. The departure road crossed over 101 and then turned left and went down a fair bit of an incline to merge into 101 south-bound. Off I went, being cautious. As I got to the 90-degree turn, I touched the brakes and felt little positive response. I recall jamming that pedal to the floor in panic and pumping it, as I accelerated due to gravity down the incline, and trying to

merge into traffic. After a 10–15-minute-long, and absolutely terrifying drive, I arrived at the office, still mostly scared out of my wits.

I called Harry on his cell, explained the situation, and informed him that I was taking the car to the shop for repairs, and that we would sort the bill out on his return. I'll never forget his gruff voice, "Eric are you sure there is an issue with the brakes"? I replied, "oh yeah, and I'll never let you drive the car again until it is repaired". He put up a bit of a fuss. I replied that I was far more knowledgeable on vehicle maintenance and operation than he was and insisted. Harry acquiesced and said, "do whatever you think is best, Eric".

Later, upon his return, and having driven the repaired car, he told me, "wow, it is amazing how good the car stops now".

I shook my head having just learned another amazing thing about Dr Parker. He was not mechanically or vehicularly aware!

Chris Wright

I remember walking up and down the 120 stairs from the office to the cafeteria at Antamina for months thinking Harry was going to fall, and not being sure I was going to be able to catch him. I only remember picking him up off the ground once.

Alessandro Silva

I will never forget the first slide of his presentation in a 2005 conference, "in audits, trust no one, believe nobody, check everything". He always strove to meet this standard.

Mark Pearson

I was doing a summary of a resource for a deposit overseas. The deposit was large and low grade and I had been asked to summarize the deposit by 'depth below surface'. This was before the days where one had to run a preliminary shell over the deposit to determine if the material had a reasonable expectation of eventual economic extraction.

As I was doing this, I got a call from the principal owner who was yelling and screaming about how long this was taking. I listened to this for probably five minutes before finally being able to say that this is what Dr Parker had asked for. There was silence on the other end before the owner finally said, “okay”, and promptly hung up.

I worked on another project which had the same issue (low grade, big and deep) and in this case, we did run a shell on this. It knocked out a large portion of the low-grade material. This was a precursor to the “reasonable prospects for eventual economic extraction” requirement, and illustrated that Harry was ahead of his time in reporting.

Peter Stoker

His role as a trusted consultant to Robert Friedland led to the only time I have ever worked on the same project as Harry. I was retained by Ivanhoe Australia to conduct a high-level review of two mineral resource estimates for the Merlin molybdenum/rhenium project in northwest Queensland, and Harry was retained by Ivanhoe itself to do the same.

There was an independent qualified person estimate for Canadian reporting (a low-tonnage, high-grade estimate) and an in-house high-tonnage, low-grade, estimate.

The answer clearly lay somewhere in between, as we both agreed.

Dana Willis

After MRDI finished their work on the first CVRD valuation study, all of the MRDI consultants went back to other projects. At the time the Century Zinc litigation was drawing in a lot of people from the office in San Mateo, CA, and Harry was leading the project, working in Australia.

Although the background is a bit murky, I suspect that CVRD wasn't happy with the overall valuation of their company because the value was probably significantly less than they thought it should be (the Brazilian government was selling some of their stake in CVRD and taking CVRD public). As a result, CVRD went back to the consortium, headed by Rothschilds, and

claimed that they had a new gold discovery post-valuation that they felt should be included. Because I was the only geologist who had worked on the valuation that wasn't otherwise engaged (I think everyone else was in Australia on the Kelian litigation) I was tasked to go back to Brazil, meet with CVRD, gather information on the new discovery, do a valuation, and write a report.

While I was in New York waiting for my flight to Rio de Janeiro, Harry contacted me from Australia and told me to put together a list of code words, code names, and numerical factors and send it to him before I boarded the plane. Suddenly I found myself being a junior spy. Our concern was that the work had potential economic value and our communications could be compromised, so anything I sent to Harry had to be encoded. So, this trip could prove to be more exciting than a simple valuation and site visit. Harry also told me to never let my computer out of my sight, so it went everywhere with me, including to the bathroom and meals.

Not having any training in spy craft, I had to come up with a code in short order. I wish I still had a copy of the memo I sent Harry, but I do remember a few key code words and phrases, namely Harry's code name was "God" and if I found myself in trouble and needed urgent help the code phrase was "I'm in River City". Having sent the memo off to Harry, I began my second trip to Brazil, solo.

I won't go into the full story, it's long, remembered in vivid detail, but was by far the most exciting and frightening week of my professional career. After I had returned to Rio de Janeiro from Carajás, where the discovery was located, I had to write up the report and put a valuation on the properties that were presented to me (turns out there wasn't a single discovery, but multiple properties for inclusion in the valuation). While in Carajás, CVRD gave me a stack of documents on my last day that I had to sign for, and buried in these documents were some reserve and resource tables of let's say, questionable veracity. But because the documents were in Portuguese (which I had learned just enough after 95 days in Brazil to recognize key technical words) I had signed the receipt without having read and understood every page, which is never a good idea, ask any lawyer.

I spent four days in Rio holed up in a hotel room working on the report, barely sleeping or eating, when I discovered this questionable table. To my horror,

I realized the impact these reserves and resources would have on the valuation if they were uncritically used, but I had accepted them from CVRD without comment or discussion, and could not go back and challenge them at this point (hence my sleepless nights). Realizing that I was in trouble I did the only thing I could think of, I sent Harry a one-line fax that read, “Dear God, I’m in River City”.

As promised Harry was immediately on the phone (it was the middle of the night in Rio and the middle of the afternoon in Australia). I described the situation and Harry calmly came up with a course of action which I followed. Namely write the report and use what data MRDI could demonstrate from prior work was valid information and discount the value of the aforementioned reserve and resource statement.

On completing the report, I went to Rothschilds Rio office and presented my report to the managing director. Before he would accept the report, he asked me to go into a vacant office and produce two different versions of the report. He wanted two versions with slight differences in wording, that did not affect the conclusions or content, so he could tell if and who had leaked the report to the press. Only I was to have the list of changes that made each version unique, not even the managing director knew which version was which (see, this is a spy story). Finishing editing the report I gave the managing director the two copies and headed to the airport. I remember when the wheels finally left the runway, I felt a great sense of relief and weight lifted my shoulders (there’s a lot more to this story, but that’s for another time and place).

But wait you may say, what happened next? Nothing. I never heard from the managing director again, and I suspect that because the additional valuation MRDI placed on the CVRD mineral assets was essentially a rounding error in the total valuation of CVRD, and not the significant increase that was desired, the report was quietly filed away. My personal lesson was that I told Harry the truth in a time of great stress, instead of covering up my error, and he fully understood, remained calm, and came up with a solution.

Harry had my back and it was a lesson in leadership that I apply to this day.

Doug Reid

On another occasion, with most of the US and Canada celebrating the July 1/July 4 holiday season, I was attending a family reunion on a farm in Saskatchewan. I got “the call” and a few minutes later found myself sitting on a rock pile in the middle of a wheat field discussing variograms and some tests that Harry urgently required.

When he learned I hadn’t brought my computer, he responded, “oh dear, this is bad, Doug, this is very bad”.

Peter Ravenscroft

As a thank you for the Kelian experience, I engaged Harry and his team to do a resource audit at Diavik in 1997–1998, where I was leading the geological team. Their first diamond job, and my first time of being thoroughly Parkered; it was an educational experience for us all.

The finest moment was when Harry insisted on surveying drill collars—holes had been drilled from the ice surface through 15 m of water, and on completion of the hole the casing had been cut off at lake bottom. Unperturbed, Harry hired a small team of divers who combed through murky summer lake water and located around half of the collars!

Bruce Davis

When the Fluor office in Tucson closed, I was transferred to the Redwood City office. I was given a cubicle not far from Harry's office. One day not long after I arrived, Harry walked by my cubicle chuckling. He made several passes back and forth past me over the next couple of hours. Every time he was chuckling, so I finally got the idea he wanted me to ask him why. When I asked, he said, "I got to wear my favorite shirt today". I didn't see anything unusual and asked, "so"? He pulled up his sweater. Underneath was a shredded shirt that exposed his belly. He said, "I wore a sweater today. This is my favorite shirt, but it got ripped. I still like to wear it, so I put on a sweater".

Larry Smith

Harry was on a mineral resource audit, in the client's offices. He'd been putting on a bit of weight, and his shirt was pulled rather taut and tight across his middle. He leaned back in his chair, stretched, and "ping" went a button, flying over the conference table. All present found it very funny.

Eric Lipten

While living in Peru, I had a 1984 FJ60 Toyota Landcruiser, the long-body type that could haul 10 people. What a beast of a vehicle! It had been the vehicle used by President Alan Garcia for his presidential campaign. It needed a lot of love when I purchased it, and gave me a project to work on in Peru.

It was perfect for the Peruvian mountain roads. Ani and I had a dream to drive all around South America when I finished work with Antamina, and then drive back to North America with the Landcruiser. A once in a lifetime experience. Now it is done frequently by the Overlanders and Youtube van video bloggers.

Well, one day on the way to the mine, driving with Ed Isaaks as a passenger, the driver's-side rear axle snapped at the outer bearing mount, taking the wheel and brake assembly with it. We were on a very steep, curvy part of the road heading to the mine with steep drop-offs. If I do say so myself, I did a darn good job of getting the vehicle stopped in what was a very dangerous situation. The wheel and brake assembly went down into the canyon, and were never found.

A new axle was many thousands of dollars, not including shipping it to Peru from Japan, and the long delay. It was going to cost something like US\$10,000 or more. I could not locate a used axle in Peru, and, trust me, I had everyone I knew looking all over Peru. Stealing one was not an option, though that was the suggested Peruvian option for solving this type of issue. I even looked for a second Landcruiser to purchase for parts. But they were rare.

There was a Landcruiser shop in California that specialized in new, used, and replacement parts. I was planning to ship a used replacement in from

them, but unfortunately Peru, the year before, had passed a law forbidding the importation of used parts.

I was not about to lose this vehicle so I had a cunning plan. My wife was in the USA, and I had a used axle shipped to her. She purchased a large duffle bag, and put it on the plane as checked luggage. Peru had a Customs system in place at the time of a push-button for a random X-ray check of the bags. Sure enough, she got the red light, bags were inspected, and she had to surrender the axle. I always wonder where it wound up!

I called Harry as he was coming down in a few days, and asked if was willing to try. It was a huge ask, and I knew it. He did not pause a second. “Eric, have it shipped to me, and have a duffle bag shipped to me, and I’ll try getting it through”. Well Harry lugged that axle and he got the green light through Customs. I could have kissed Dr Parker! One of the other consulting geologists brought the lost brake parts, but that was relatively easy, as they were new, and not subject to prohibition.

I am still grateful that Harry transported that axle to Peru. To be honest, I think he loved riding in that Landcruiser and was looking forward to more adventures in Peru in the vehicle.

The Landcruiser is still in the family. My brother-in-law has it, and it is as strong as ever. It even saved his life as he was able to go off-road during an attack.

I hope one day my son, brother-in-law, and I will make some of the trips I made with Harry and relive those wonderful memories of seeing dinosaur footprints, and various amazing geological and archeological locations in Peru. Harry loved archaeology, and we visited many sites together.

Mark Murphy

In 2010, I started working for AMEC (well AMEC/Minproc) in Perth as the Technical Director for Mining and Geology, and we put in a pitch to prepare an updated resource estimate for the Silangan Project deposits in 2013, which are in northern Mindanao in the Philippines. We won the job largely based on having Harry on the team, as some of the client’s senior management had worked with Harry before, and were keen to have the HMP

stamp on the block cave study associated with the work. Harry nominated himself to “check the geology and logging”, while I took on review the data gathering process along with Jani Kalla, who I was working with at the time.

The client had laid out perhaps a dozen holes for Harry to log and assigned three or four young attractive female geologists to assist and learn. One afternoon I walked by, and there was Harry logging core with one attendant holding the water and acid bottle at the ready, a second with the client log at hand, a third with core handling duties, and the fourth moving the pedestal fan around to keep Harry cool calm and collected in the tropical heat.

When asked at the end of the day how did it go the Harry comment was (again after that long pregnant pause), “man, I could retire here”.

Roger Dixon

When in China after a two day mine visit, coming back through Beijing international airport Harry's signature suspender braces became detached from his trousers, so Tereza [*Roger's wife*] had to quickly pull up his trousers and reconnect the braces.

Bruce Davis

Harry and I were in Reno for a short course given by Andre Journal. Harry had me rent a car. When we went to get the car in the lot, we did not notice there were almost identical cars just a few spaces apart. We got in the first one. The key didn't fit quite right, but the car started. We used it to drive around town and after a few days went to turn it back in. When the agent checked the mileage, he asked, "did you drive this car 5,000 miles?" I gave him a confused “no way”! Harry, who was in a hurry, said, "what's the problem? He got the unlimited miles".

Willie Hamilton

I worked at the Antamina mine in Peru on two occasions with Harry. Harry was able to assemble very talented teams of resources modelers and complete challenging/complicated resource models.

I got to learn first-hand about all of the “Harry” checks on resource updates. I was astonished at all of the checks and double-checks completed to ensure data was clean. I now have an appreciation for the need to receive quality work from resource modelers, otherwise my mine planning work would be of no value.

The highlight of my Antamina trips with Harry was not the long hours of satisfying work, but rather the hikes that were completed before the sun came up. Kevin Francis, Steve Blower, Harry and I would head out each morning to hike up the nearby peaks before breakfast. At times, it was hard to believe we were paid to be at such beautiful locations.

Eric Lipten

During the second Antamina model update (the geology department was responsible for the geologic model, the resource estimation and as it turned out the model valuation), I ended up staying at the remote mine camp for a total of four months and three weeks. Harry would pop in for a week or two to review work.

In the middle of this endurance work period, I just needed a break and to go see my wife. Harry wanted a break and had other work to do. I said, “well let’s take four days and drive to your apartment in Trujillo”.

We drove through the Andes and down the Cañón del Pato, which was a road made from an old railroad route. It was rough driving on the roads, dust and the ever present crazy Peruvian drivers and buses. It was a heck of a trip, but amazing scenery through a remote part of Peru. Harry was always up for a good adventure, but this was a full day of driving each way, and only two days in Trujillo. Harry had a remarkable time enjoying the drive from the mine, crossing the continental divide of the Andes, then down Cañón del Pato to the coast, and then on the Pan American to Trujillo, with the usual stops by Peruvian police wanting a “tip”.

We arrived at the apartment. He set up camp in the guest bedroom, and started working reviewing a paper by Vivienne Snowden. He always took a break for food. Next thing I knew, I was pressed into service working on spreadsheets, figures and doing various tasks. The unopposable force was in play again! The two days passed quickly working (not my plan for the

days). Harry wanted to go shopping for gifts for his nieces and we quickly ran around Trujillo, getting things on the last evening. We then did a return trip to the mine. Road trips with Harry were always an enjoyable experience.

When the modeling ended, he wanted to make another trip in my Landcruiser on the way out to see more of the Andes and various archeological sites. Three of the Antamina geology staff joined in the travel, and we departed the mine early, taking a route to various archeological sites and arriving in Huaraz that night. The group had dinner, and we departed ways with the staff. Harry and I did another drive to Trujillo via Cañón del Pato the next day. We spent a couple of days relaxing and touring archeological sites in Northern Peru, including going to Lambayeque to see Señor Sipan. *[Señor Sipan is the name given to the first of several Moche mummies discovered in 1987 in an unlooted tomb]*. Harry loved it.

My wife, Harry, and I went to Lima. We went shopping, visiting various silver manufacturers. At Delepina we held a solid silver geology hammer (see *photo in HMP in pictures section*). I could not talk him into buying it, but he was definitely tempted. There were only ever four made, and that was the last one. I was called into work, and had to run to the office, leaving Ani and Harry to continue shopping. We then had dinner together. Harry was a man of fine taste and he loved the old-world craftsmanship still present in Peru at that time. He was going on at dinner about how you just don't see that level of silver work in Europe or USA, and how we needed to take advantage of the opportunity. He got Ani's mind all convinced that we needed a sterling silver set for entertaining guests. I was trying my best to defer this topic at dinner. But the unopposable force!

When we got into the elevator after dinner, he told me, "Eric, you are moving up in the world, and you have to entertain properly. You need a silver set". He had Ani convinced. I was in trouble. He was really becoming irritating because a silver set was big money. Harry left on the plane that night, and I felt relieved.

However, Ani forced me to go shopping for silver place settings the next day. Yes, we did buy a set and that is an entire other story. That two hundred-piece Camuso set sits in the safety deposit box, having only been used a few times. Lord, that man!

The other part of the story was that one of the geologists we drove out of Antamina to Huaraz was Manuel. We left him in Huaraz and he was supposed to be going to his home and family in Arequipa in Southern Peru. When we were in Trujillo several days later, we ran into Manuel on the street. He had been exploring the beaches of Northern Peru, doing what some geologists do best, and was rather embarrassed. Harry always ribbed him when he saw him over the years.

Larry Smith

One thing no one could seem to mimic with Harry was his ability to sleep, yet still stay connected to the conversation. Normal human beings just cannot do both simultaneously.

John Vann

During the time we spent on the 20-something Duke-Rio courses, in total Harry and I spent about six months (when summed) living in hotels together, if you count the preparation weeks etc. It was illuminating on many levels. His intellectual capacities and curiosity never failed to impress me. Nor his dry humour. The courses were five and a half days long, and we worked long hours, but we had one evening off where we set the students to a task and the faculty (including me, Harry, and several Rio people) went off for a restaurant dinner away from the course venue. One of these dinners, Harry was doing his usual falling asleep thing: nodding, head down, eyes closed. He was always seemingly subliminally aware of conversations when he was in that state. On previous occasions I had seen Harry mathematically correct someone from this state, "that's not right, you need to divide by the variance!" etc. But on this occasion, after a few wines, someone asked the perennial question (for a table full of world-traveler geologists and engineers) "where are the most beautiful women in the world?"

Members of the party started calling out countries, while Harry nodded into his soup. Colombia ... Thailand ... Sweden ... Venezuela...

Harry sat bolt upright. "Venezuela! I once dated Miss Venezuela!"

We all fell off our chairs in laughter.

Harry looked hurt, “I was younger then”.

Eric Lipten

One day Harry, Felipe Guardino, and I had a scheduled conference call with a client to review some project work. Harry was flying into the Bay Area and arrived at the office shortly before the call. Felipe and I briefed him on the project status.

The conference call kicked off with us all gathered in a small office around the speaker phone. I was on the left, Harry in the middle, and Felipe on the right. We had a little agenda, presented the findings and project status, with recommendations for advancing the work. Harry impressed me with how fast he had absorbed the briefing Felipe and I had given him, and how he flipped through all the project documents answering technical questions. He was sharp as all get out.

However, Harry was tired from his flights. The client was talking on, and asking questions that Felipe and I answered, and then he asked a question of Harry. And to Felipe’s and my horror, Harry had fallen asleep. We gave him a nudge. He came awake and answered the question perfectly! I was stunned. Felipe was also.

After the meeting ended, Felipe and I talked about the sleep event. We concluded that even when asleep he was still listening and processing. It was an amazing experience. Never meet anyone like that before or since!

Malcolm Thurston

There was a rumour that Harry dozed in meetings. I can say with confidence that he would often close his eyes but dozing was not his thing. It was at Greens Creek where I came across Harry’s inclination to close his eyes during a presentation. I was giving feedback on one of the estimation runs I had done. Harry was in the room, but his eyes were closed as if he was sleeping. As I reached the conclusion of the presentation, one of the team asked a question I wasn’t able to answer, and I politely noted that Harry would get to that later. Harry immediately “awoke” from his sleep and without

missing a beat spoke to the topic at hand, and had clearly taken in every part of my feedback.

Mark Pearson

We were doing a review of practices for a bank that would go on to take over a bridge loan. There were about 30 people in the conference room at the mine site, and Harry was sitting with his head down and being contemplative to the point where we were not sure if he was paying attention. This had been going on for about 20 minutes, when, still with his head down, he summarized the full conversation, and added in the areas where people had left out critical details.

I was at the time reasonably new to the position, but to be able to see how he managed to parse the information and summarize the critical message was a real eye opener in how far I had to go and how much I had to learn.

Roger Dixon

In a large workshop in Mongolia in 2014, Harry was taking his customary snooze whilst I was giving a presentation on environmental and social issues relative to reporting resources and reserves. When I was asked a particularly difficult question from the audience, I thought now I have got him, and referred the question to Dr Parker. No problem. He gave a grunt, shook his head and proceeded to answer the question.

John Barber

The deposit we were working on was a polymetallic intrusive-hosted type. The geos, from both the client and AMEC, are going on and on about some fairly arcane (to a mining engineer), but important issues regarding flow banding and metal distribution.

Harry was sitting there, hands folded across his abdomen, chin on his chest, eyes closed. To the uninitiated, he's asleep; but we AMEC-ers knew better.

After the second or third lap around the arguments, with no conclusion, and people getting frustrated, voices becoming more animated, Harry cleared his throat, raised his index finger, and sat up.

The room went quiet, and Harry offered his opinion. After a couple of questions from the client side, that was the end of the discussion.

To my amateur ears, his opinion was somewhere between the client's and the AMEC geologists' arguments, made a lot of sense, and seemed to satisfy both sides.

It was typical of how I saw Harry work. Look at the facts, cut away all the fluff, and arrive at the correct answer.

Michael Drozd

Harry Parker was a giant of the industry but also a true character of our industry. I was in an interview with Harry and one other for AMEC. It appeared that Harry was sleeping through my interview, but after the other interviewer was done asking questions, Harry had some very pithy questions on items discussed during a time I could have sworn he was snoring. I learnt to never underestimate Harry. He made our industry better.

Mark Murphy

My second-last encounter with Harry was a remote one where he nominated me to be on the review team for Vale's Sorowako deposit in Indonesia, which is something Harry had been affiliated with for several years. An enjoyable job where I got to meet two of Harry's long-term colleagues, Ted Eggleston and Ralph Penner—great guys.

Thinking the client wanted an actual audit, rather than just a tick box review, there was some blow-back from my report on a few items of critique, and as always Harry was very supportive of sensible suggestions. He was always very generous, but also not afraid to tell you when you had it wrong.

Martin Staples

I worked with Harry on Nchanga (Zambia) in 1987. As well as the resource estimation we did some mining and software stuff.

We took a version of COPOR, the Fluor cone pit optimizer, and converted it to run on a VAX 11/780. That meant a good bit of Fortran coding which I did under Harry's guidance.

The panel caving work involved using the old IBM system that I was running to model and predict the cave using punch cards that I had to have sent to Kitwe to be run to a Datamine-based system. However, there was nothing in Datamine that could cope with the panel shapes we had and so Harry and I wrote a whole suite of Datamine processes that modelled rhomboids instead of rectangles. We then modelled the deposit, estimated the grades, and had to factor the grades in our model to match the official survey-developed Ore Reserves. We then wrote the mixing algorithms and came up with the system to manage, predict and deplete the cave at Nchanga.

It was great fun and I learnt a lot. None of that would have happened without Harry's drive and power to persuade people to let us do it.

Eric Lipten

MRDI was awarded a huge project reviewing all the ZCCM properties and write a Competent Persons Report for the privatization of the ZCCM assets. Harry had spent a fair bit of his career working for ZCCM and living in Zambia. There were a few MRDI staff members that had worked there over the years. They were wise to the situation and the perils of being Harry's right-hand person!

As I recall, Harry went to Susan Meister to oversee the whole project. Well she managed to pawn it off on me. She looked way too happy after she had dodged that bullet! Harry handed me a long list of consultants and an approximate time frame with the job of organizing it all.

Honestly, I had no clue. I tried my best at organizing the review and making a schedule. Now this review required 28 people or more coming and going at various locations all over Zambia. I had never been there, knew nothing

of the logistical requirements, what ZCCM could provide, distances, security issues and so on.

Harry blew into San Mateo and looked over my plan and really raised heck with me. He knew exactly what he wanted but I was unable to read his mind! He was really ripping into me and it was bad to the point I must have started to break down. He must have sensed it as I muttered about never being there, and trying my best. Well after the abuse ended, and I guess he felt sorry for me, he laid it out, and divided it up to the point I could get it organized. He even got a map out and located housing and facilities.

Now I had warned Harry my record in Africa was not good as I had been in a few countries where coups, civil wars, and just wars in general broke out. Now I'm not saying I'm cursed, and having been in the military I did tend to end up in places like that. But I felt like I had some bad karma with Africa. He was not persuaded, and had me on the team.

Off to Zambia we went. Luckily for me, a group of us novices traveled together with Rob Taylor who had worked there and knew the ropes. We meet up with other members of the team in Johannesburg. We overnighted and then flew to Zambia and then within Zambia. Harry was in his element. He loved Zambia and ZCCM.

We had a central work area and housing area. The teams would go to the various sites and compile the data and their draft reports. I had various sites assigned to me. It was long days, and I was also assigned assisting with reviewing peoples' draft reports and figures. Harry was in his office from early in the morning to late in the evening pounding out text and editing. It was impressive how he could concentrate for such long days, and pound out text with two-finger typing. He would find errors in peoples' work, yet he had not been to those sites for the review!

Harry would hold court after dinner in the covered sitting area outside our housing building, which was an old ZCCM medical clinic. He would tell stories, and others would tell their stories. It was interesting at first, but as weeks passed it was getting old. I had never known Harry to be a story teller in the past or since. He knew many of the ZCCM staff and would get invited out for various events. There was the blowing up of termite mounds, and the village party for the tumbling team for which he bought uniforms.

Us minions were left working on the report. He like some Zambian beer, and warned us to check for floating material in the bottles before drinking. Rob and I stopped in a shop one day to buy something, and I saw a poster from the beer company. As I recall it had a lion on it, and said the name of the beer with “One nation, one beer”. I bought it for Harry. He loved it.

Well after 10 weeks (maybe more), I told Harry I had to get home for a few days. He was not happy at all and told me I had to stay to the end. I explained that between the previous travel, this project, and my wife planning to travel back to Peru to visit family for an extended holiday, I would not have seen her for over six months. Harry replied, “well, Eric I’ve been married for (I can’t recall the number) years and it will be okay”. I said, in return, “well Harry, I have not been married that long, and it is not okay. The wife is unhappy. Don’t make me quit, but I have to get back for a quick visit”.

Well he let me go for the break. I know he was unhappy but the request in my mind to stay was unreasonable. I felt sorry for Sue Parker!

Within a few hours of my departure from Zambia, there was a coup attempt. Harry called me when I arrived in California to tell me my record of issues in African countries was intact!

After we all departed Zambia with the work completed, I thought my life could return to “normality”. Harry, though, had other plans. I had to edit and assemble the final report. That was a horribly frustrating experience! I had the London bankers, the ZCCM executive staff, the ZCCM London lawyers, the various consultants and then Harry to deal with. It went on for months with typically two to three conference calls a week to discuss items in the report. I was slowly going crazy.

I had one of the London lawyers tell me that “here we use the Queen’s English”. Oh, I was annoyed. I had David Laing bring in his Oxford English dictionary for my use. You know, the two-volume set with the magnifying glass. I also had the London MRDI office purchase and send me the Oxford four-volume set on the Queen’s English grammar. The pissing match was definitely now on with those bankers and lawyers. There were arguments on the definition of words and commas.

Then there was Harry who would edit the report one way, and then on the next version would edit it back the way it was before. This went on for three

months, until I resolved all the issues with the various parties, and cut Harry off by showing him that he was editing his own previous edits. I was never so happy to send that three-volume report off for publishing and then shipping all over the world.

I have to admit when it was done Harry told me, “good job Eric”. A rare complement, and he laughed when I beat on the London lawyers about the proper use of words and grammar according to the Queen’s English!

Ken Moss

Harry was looking at our sections and noticed that most of the reverse-circulation drill holes had similar traces. He requested an explanation.

We explained that we took all the drill holes with down-hole surveys, and checked the droop by azimuth, rock unit, and drill type. We found the diamond drill holes had no consistent droop or azimuth change, and all of them had down hole surveys, so they were removed from consideration.

We then showed the RC holes all dropped and there was no consistent change attributable to azimuth or rock unit. We took the average dip–droop and applied that droop to all of the holes.

Harry told us that we had no knowledge of an individual hole down-hole location and without specific knowledge the collar data should prevail. The database was revised, a few thousand holes, and replotted with actual data.

A couple of months later, we had another high-level review. Harry looked at all of the straight holes and remarked that all of the down-hole surveyed holes drooped. Why didn’t we use the average and make the locations as realistic as possible?

My boss then got his diary, he kept a daily diary, and read the instructions related above. Harry said that he had changed his mind. Thankfully, we still had the previous database, sections and plans, so all was well, and we proceeded on with the work.

Ted Eggleston

I was once in Bolivia using a sonic drill to sample an active tailings pond. Some of the samples were from the semi-dry surface, some were from a barge in the actual pond. After giving Harry a day to review an action plan for determining vertical sample locations an active tailings pond, which was quite unorthodox, I called Harry and asked simply, “what will my peers comments be”? His response was, “you have no peers, to my knowledge, this has never been done before”. Then, off the top of his head, he proceeded to give me a list of six or so things to do to test my ideas, and he wanted the memo by the end of the week because he had some time to look at it.

Ken Moss

The APCOM convention was to be held in Phoenix, AZ and I was trying to get the company to send me. I asked Harry to explain to my boss how important these meetings were for professional development.

Harry said, “Ken, this meeting is so important that if the company will not sponsor you, your best interest will be to take vacation time, and pay the registration fees and expenses to attend the conference”.

Everyone laughed, especially my boss, and I accused Harry of being a traitor.

Jeff Volk

Harry and I both used to attend the University of Alberta Centre for Computational Geostatistics courses run by Clayton Deutsch as members. Clayton and his students were discussing conditional simulation results using data from a mine, the name of which I can’t remember. Although a highly academic institution, it has put out some of the top mining geostatisticians in the world.

Anyway, they were giving presentations about case studies and how great their results were. All of a sudden, Harry stands up and asks, “what about

the reconciliations”? Everyone was silent, and Clayton said they hadn’t really looked at that aspect.

Harry asked, “Clayton, do your geologists ever talk to your metallurgists”? Clayton said, “not regularly”.

Harry asked, “how about the mining engineers—do your geologists communicate with them”? Again, the answer was no.

Jeff says: Although not humorous, having worked in the mining business all my career, this is the biggest issue at any producing mine – lack of communication between critical disciplines as related to the resource and reserve process.

Doug Reid

My wife and I were approaching our 30th wedding anniversary and planned to go to Hawaii. I told Harry that I was taking a Thursday and Friday off for the trip. I presumed he would understand that I was also taking Saturday and Sunday off.

I got “the call” on the Saturday asking if we could meet in the office to discuss a project. I explained I was in Hawaii for the wedding anniversary.

Harry’s reply was, “I thought you were taking two days off, how much time do you need for an anniversary? Well, I suppose it’s ok, but can we please meet on Monday”?

Alessandro Silva

During the Gramalote audit in Colombia in 2013, Harry was still following his check everything mantra. He never said, “oh that is too hot or too steep for me! I will stay down here”! Instead, he was out in the field, actively scrambling around on the outcrops, and carefully examining the core. He was an inspiration when it came to showing how to undertake a careful review of facts, circumstances, and interpretations.

Stella Searston

I was talking to Harry generally about working life in early 2019, in the hopes that I could goose him into recording a lot of his stories, even going so far as to get him a voice recorder that could be dumped to Word.

I mentioned that I couldn't always remember the multiple projects I'd worked on when it came time each year to update the resume, and I didn't believe most in the industry tracked it that well.

Harry did his little "huff" grunt, then sent me an Excel spreadsheet. Every single job he had ever done that was longer than half a day, all the way back to 1965, captured in that one document.

Eric Lipten

I remember working on a project that was rather poor in nature. I asked why waste time and the client's money? Harry's advice, "the poorer the project and more challenged it is; it is still deserving of your best efforts".

Roger Dixon

Harry and I along with others visited Turkey to help them with their quest to join CRIRSCO. After the business was completed, we were taken on a trip to Cappadocia where we visited the Kaymakli Underground City. The tunnels between chambers were as small as 1.5 m high and wide so one had to crouch and waddle which did not suit Harry; however, he was determined to do it. Waiting for him coming through the tunnel, I could hear a series of grunts as he inched his way through, culminating almost in him popping like a cork into the chamber. What we would have done if he had got stuck, I do not know. Anyway, he made it!

Susan Meister

My daughter came to work with me on quite a few Saturdays. To keep her occupied, I made spiral-bound books with blank pages so she had a place to draw and color (besides the whiteboard on my office wall). One weekend

she gave Harry one of her artistic masterpieces. He hung it on the wall in his office and I didn't think much of it. Years later I was in his office in Sparks and that 'masterpiece' was on his wall.

Roger Dixon

We will never forget the night in 2014 in Ulaanbaatar, Mongolia when Harry was awarded a prestigious Geologist of the Year award and the whole of the CRIRSCO Committee, fuelled by vodka, serenaded him on stage with the Mongolian Miners song, a song which he would play back to us whenever he got the opportunity.

Glen Kuntz

I was looking at an underground asset in the Val d'Or region of Quebec as a possible acquisition. On the site visit, again armed with the Harry checklist, I had done what data collection I could.

A conference call with MRDI staff was organized to help fill in the gaps on the more detailed points of modelling and underground operations. However, the management spoke very little English, and the French they spoke was very colloquial Quebecois French. Harry said he had practically no French. An impasse arose where neither side could follow or understand the other.

Harry went silent for about a minute. Then he cleared his throat, and began asking questions in English, with a strong Inspector Clouseau-style French accent. Unbelievably, this seemed to help both sides.

Shortly, between Harry's Franglais questions, and the Quebec French answers, we had gathered the information we needed.

Larry Smith

One of Harry's favorite tactics, especially at large meetings, was to take on the aspect of a dozing crocodile waiting in the shallows for the floundering wildebeests to stop thrashing to and fro. Finally, the long pause in the

conversation came, they reached a perhaps predictable impasse, and Harry sprung the particularly apt question.



Source: http://www.123mobilewallpapers.com/wp-content/uploads/2014/07/crocodile_hunting_wildebeest.jpg

Bob Taylor

Thank you, Harry, for the time you bought me and all our reserve audit team, tickets to the “skimpy waitress’s last night performance” at the camp bar, Mt. Whaleback, Western Australia. That was in our iron ore days.

Eric Lipten

The mining industry was in a significant downturn in late 1998. Work was drying up and layoffs were periodically happening at MRDI. It got rather distressing for us grunt workers. A group of us would go on occasion for a walk down the street to buy a soda and purchase a lottery ticket. It was the first time I ever purchased a lottery ticket! Slowly the group and office were thinning out from the layoffs. I could see I was next in line.

Luckily for me, I was approached about a few possible positions at a project going into construction in Peru called Antamina. I knew the project as I had interviewed there at the same time that I had interviewed for MRDI in 1996. I was offered the job, but turned it down as Ani wanted to live in USA to pursue her medical studies, and obtain her medical license.

I received an offer for a Senior Geologist role, not the Chief Geologist position I was hoping for. However, I figured something was better than nothing. I had to break the news to Harry. I made an appointment and

explained the situation. I also told him I was disappointed about not getting the Chief Geologist position. He asked me if I knew who got it and he gave me great advice. “Eric take the job. You will get the position eventually. You will learn a lot and develop. It is a great place to be during this downturn. Then you come back. I’ll always have a position for you”. And I said “Harry, I hope you can make yourself available to help me on this project”. Well as a good consultant, he said, “yes, of course”.

Antamina turned out to be a horribly difficult project for many reasons. The geology was poorly understood, the deposit under drilled, the resource estimation was not well done and it was complex, and the metallurgy was complicated beyond belief. In other words, a perfect opportunity for Harry and me to apply our skills.

After sorting out the terrible data situation, the overly-simplistic geological interpretations, and getting the deposit relogged, I knew this deposit was like nothing I had ever seen before. It needed the master, Dr Parker, to work on it.

The Antamina executive staff, however, were frugal, like most mine engineering executives are. Antamina was challenged by having four partners with no single managing partner. I had an ally in the Noranda VP Mike Knuckey. When I asked to bring Harry on to help with the first resource estimate, the Teck executives did not want to pay for any consultants. No amount of my explanation that Antamina was very complex, and required a real expert in the way of Harry to assist me, was helping. I was getting no support. I went to Mike and said, “I need Harry Parker to help me”. He looked at me in surprise, and said, “you can get Harry Parker to work on the project”? I replied, “I sure hope so, I worked for him for three years”. Mike said, “go get him Eric, I’ll take care of the rest”.

Well I contacted Harry, explained the challenges of the deposit (little did we know then how complex Antamina really was) and he agreed. I was concerned as Harry’s health was not the best and Antamina is located between 4,000 m and 4,600 m above sea level in a remote part of Peru.

Susan Meister called me up and chewed me out. She was the longest working of Harry’s minions, and was very concerned about his health. She told me in no uncertain terms that if I killed him, many people would never

forgive me. I told Susan that I too was concerned, and was putting everything in place to avoid risk to Harry.

Antamina made Harry do a stress cardiac test, and stay a couple of days in Huaraz to get some altitude acclimatization. I carried a large oxygen cylinder in the truck, a portable one to supply oxygen when we walked in the field, and a cardiac defibrillator unit with me. Frankly, if anyone was at risk, it was me carrying all that gear! I have to say Harry was one tough hombre. The geology of the Andes really excited him and the deposit got the juices flowing. He probably also could intuit that huge amount of consulting work was likely to be coming his way.

Harry came for that first modelling exercise, and there are so many stories I could tell from all the years at Antamina that there just is not enough time or space. The staff loved him. Harry and I were very proud of that first model. I think we both felt it was our best work ever, and we had cracked the deposit's secrets. Little did we know how much more challenging it would become.

Over the years, the Antamina model updates would become huge exercises with major teams of consultants working jointly together with the Antamina staff. We had at one time Harry, Ed Isaaks, Neil Schofield, and many others. The consulting bill alone for some model updates was as much as US\$1.7 million. Harry claimed Antamina was the first deposit to exceed US\$1 million in costs for a resource estimate. The geology and resource models became unbelievably complex, not from our desire to make them so, but because obtaining a robust estimate required such.

I had to write down 60% of the reserve at one point when production started, and it was obvious that the first model (the one we were so proud of) was not even close to what was needed. It was immediately clear that our understanding of the deposit and model methods were lacking. Proper assay data had not been collected. The drill spacing was inadequate, given the variability of the deposit. The metallurgical testing was inadequate.

The pushback on me from the partners was immense. Some demanded firing of the messenger. Harry was present when all this was occurring and wanted to explain it, but I had to pull him aside and tell him it was my deposit and I was responsible, not him. He was the hired consultant. Harry liked having his finger in the pie and I think wanted to help and defend me. Finally,

when all the dust settled and reason prevailed, it was agreed that a massive drill program was required.

I outlined my proposal. Harry was concerned. He took me into my own office, and told me such a large drill program had never been undertaken, especially in such terrain and in an operating mine. He was concerned that I was way over-committing, did not know what I was doing, and was going to get myself in deep trouble professionally. I explained to him that I would run the drill program like a military operation, relying on my military experience. He was neither satisfied nor pleased.

I ran that drill program just like a military operation. The drill meters ramped up, the safety issues and operational bottle necks were solved, and the program was completed ahead of schedule. Not only were the mine executives and the owner partners shocked, but so was Harry. He pulled me aside when it was done and I recall he said something like, “I never would have believed it could be done Eric. I’m truly impressed. I thought for sure you were over committing and would fail”. I was honored to hear that from him. Harry was nothing but honest and straight-forward on praise and criticism (although he definitely weighed more on criticism).

Almost every year, the Antamina modeling event would occur. I would tell my staff that Harry was coming. My secretary Jessica would start ordering the massive amounts of printer paper and toner, plotting paper, mylar, and plotter ink cartridges that would be needed. She would order the hundreds of three ring binders and hundreds of the black paper spring clips that Harry liked to have available in every size that had ever existed. Antamina made sure that he wanted for nothing. I would ask him for his supply list in advance if there was something out of the ordinary. It was very much like planning for a military invasion! At a remote mine site in Peru supplies are not readily available in a timely fashion.

As much as Harry loved ZCCM, he told me Antamina was his favorite place. He lost weight, got in shape for his Mount Kilimanjaro summit trip. He did spend a few days in the mine clinic during early trips. Eventually, however, he got in better shape so that was not an issue for most trips.

Harry loved working at Antamina, and Antamina’s executives and the various department staff members loved him. He was known and respected by the

mine engineering, metallurgy, marketing and other departments. It reminded me of the old E.F. Hutton commercial. They listened when he talked.

Michael Drozd

My only other notable memory is my telling Harry that I thought that the geologist and metallurgist should be more inclusive. What I got was a “duh” look. I’m pretty sure what the industry got was geometallurgy. I’m guessing that conversation was one of the reasons Harry usually wanted me as his metallurgist.

Dana Willis

This reminiscence is tied to the Juneau, Alaska airport ticket counter. I had joined MRDI about three months previously, and had planned and paid for my first trip to Alaska some months before being hired. As part of my hiring agreement with MRDI with Borden Putnam and Susan Meister, I was going to take my vacation as planned. After being in Alaska for a little over a week, with a trip to Kodiak to help my sister-in-law’s sister and brother-in-law repair their house, my brother and I set off for Glacier Bay for a multiday sea kayak camping trip. After our trip we flew back to Juneau and were connecting to Anchorage to rejoin my sister-in-law for a flight back to San Francisco the following day.

At this point in my MRDI career I hadn’t worked with Harry, but certainly knew who he was, and was respectfully intimidated. What I didn’t know was that Harry had been working on the AJ Mine in Juneau (a location and project he enjoyed) and he was in the Juneau airport ticketing area at the same time as I was, he was heading back to San Francisco through Seattle. He spotted me and came over to ask what I was doing in Juneau, and was greatly disappointed when I told him I was on vacation. “Vacation!? You just started working!” At this point I was probably looking for a rock to crawl under, I felt like I had now earned the reputation as a slacker in his eyes, which was not a good thing. He immediately said, “Come with me, I need to change your seat and talk to you on the plane”. Unfortunately, we were on different flights heading in different directions and I had to timidly point that out.

But ultimately my early vacation didn't prove detrimental to working with Harry, and I later worked with Harry as one of his clients.

Ted Eggleston

Everyone who worked closely with Harry knew that he was a brutal editor. His reviews brought most of us to near-tears at times. Once I progressed to the point where my work bled relatively little, I had the privilege of doing a lot of peer reviews for Harry and he, quite honestly, expected me to perform the same level of review the he provided. And it wasn't always text. He once handed me four or five pages of algebra and asked me to proof that. As I recall, it took a couple of hours and he had one superscript off a bit in the final equation.

Eric Lipten

Harry told me a story about a plane trip with both of his children when they were babies/toddlers. He had planned it all out with the correct number of cookies, and little activities to keep them occupied and feed. The flight ended up circling for weather and he ran out of activities and cookies. The kids started crying. His advice was, "Eric, don't run out of cookies and things when you fly with your son and plan for delays". Good advice.

Graham Wood

The greatest compliment that Harry ever paid to me was when he asked me to check his maths, and then thanked me profusely when I found an error.

Scott Long

In the days of MRDI, whenever anyone sought employment at MRDI, they would speak with everyone who was in the office and then later everyone would share their impressions of what they thought. The partners would decide if they wanted to hire of course. Some young graduate student, probably fresh out of Stanford was doing the rounds and was sitting in

Harry's office going through this process. Harry called me in while this young fellow was there.

Very unusual. He had a draft of a recent report of mine before him. "This table in your report, Scott, you did not put any units on the elements in headings of the columns".

That certainly was an oversight, but why in the world would he bother to call me in rather than just mark it up?

Uh oh... Harry begins speaking in a loud, intimidating manner, brandishing his words with his index finger, as the poor job applicant seated opposite him turns paler than that dead cowpoke on some street in Laredo, "F! You get an F"!!!

I think that poor applicant decided then and there to just leave the building and seek employment elsewhere.

Malcolm Thurston

Finally, but by no means least, Harry took care to maintain friendships with the many people he had met over his time in the industry. He did this through holidays and week-ends together or breakfasts and dinners he arranged as he travelled the world doing what he did best.

Stella Searston

Email to Harry:

Harry, hi. Have been sick, and not on top of emails. Do you want anything else on this topic?

Harry's response:

No. Sorry you are sick. Heat warm milk, add whiskey. Breathe the vapors. If does not work, tough.

Eric Lipten

In August of 2018, on my way to the Phoenix mine via Reno, Nevada, I called Larry Smith to tell him I would be in town and ask if he and Jane would like to get together, and also to check to see if Harry was around.

Larry told me that Harry was in hospital, not doing well, and we should visit upon my arrival. Of course, I agreed. I got into Reno, acquired the rental car, met up with Larry, and we proceeded to drive to the hospital to see Harry.

Sue was in the room. Harry was giving a hospital staff member “direction” on trying to get a table positioned so he could get a laptop into position and work. Tubes were connected to him; he was in the usual hospital gown and not looking well at all. I would have not expected anything different from Harry other than trying to work on the laptop! He was obviously frustrated with the staff member unable to position the table properly, so he ordered me into action and dismissed her. I complied and got him set up.

He was lucid, sharp, and he, Larry, and I had good conversation on various professional and personal matters. He was doing better than I had been led to believe from previous conversations with those that had visited recently. Apparently, he had made a close to miraculous turnaround. I could only stay a couple of hours as I had to get to Battle Mountain and prepare for work at the mine very early in the morning.

My mind thought about Harry for most of the trip across Nevada and how much I owed this great man both personally and professionally. I wondered what I could do for him as I owed him so much, and loved him dearly. He was not failing me in my expectations that he was working even while very ill.

The next weekend I drove to Reno from Battle Mountain to visit again. Harry was out of the hospital, and in an affiliated rehabilitation facility. He was getting physical and occupational therapy. Sue looked exhausted. I told her I would spend the afternoon and attend his needs. Sue looked relieved and left for some well needed rest.

It was an afternoon discussing geology, and estimation, various projects and having me review some work! He lit up when discussing mining-related matters. He also educated me on his therapy and I was impressed he was really being diligent at his therapy. I wheeled him to the dining hall and was

happy to assist him with dinner. It was the most personal moment I had spent with Harry, other than seeing each other naked in the shower hall in Zambia. Yikes!

Harry and Sue made frequent trips to MD Anderson in Houston in the following months. I had recommended it for his treatment, but I am sure I was not the only one. I coordinated with Harry to come to Houston to visit during one of his trips as I live in San Antonio, just a few hours away. He wanted to tour the space center with me. I am a rather serious space historian for the early programs, and collector of flown artifacts and space art.

I left home after work on a Friday evening and was fighting the traffic across San Antonio when I saw the cell light up identifying Sue. She told me Harry had taken a turn for the worse, and had ordered an ambulance to come and take him to the emergency room. She wanted me to cancel my trip. Heck, I was already 25% of the way there, so I offered to come and help in anyway. Sue was adamant, so I turned around and headed for home sad and concerned that maybe I had seen the last of the great man that I respected so much. As fortune would have it, he recovered, and I would be blessed with further opportunities.

A few months later, in the spring of 2019, Sue and Harry were back in Houston. I traveled for the weekend to visit, and managed to talk them into seeing the CNN 50th anniversary film on the Apollo 11 mission. They both enjoyed the film. The next day we toured the space center. Sadly, the control room was closed for renovation, but we toured the buoyancy tank training facility and watched astronauts training for a mission. We toured the lunar receiving area where numerous lunar rocks are on display. Harry and I discussed the “Lunar Granite”. I’m sure Sue ignored us! We visited the Saturn V on display, and sat and listened to a talk by the astronaut with the most space flights. Harry tired and called it quits, but he wanted to do more. I think we all enjoyed the day, and I was happy I could return something to a person I owed so much to.

A few months later, Sue and Harry were back in Houston. A previous attempt to visit and stay with me had been canceled due to health reasons. The stars aligned this time however, and they came over and stayed in my guest bedroom. I offered to give them my standard tour for visitors of San Antonio.

First the Alamo, and second the San Fernando cathedral where the remains of the defenders of the Alamo are interred in a sarcophagus in the church entrance. Few people visit, but, in my opinion, one should pay one's respects to Travis, Bowie, Crockett and the rest. We then headed out to the World Heritage site and San Antonio Missions National Historic Park. We did the usual tour of the museum, watched the film, and participated in a guided tour of the mission. The tour guide was a historian and it was a great experience.

We departed for home, but Harry wanted a Starbucks iced coffee. I was surprised as this was the man that always made fun of the frappuccino buyers. He told me that recently had found that he needed a boost in the afternoons. I was in shock!

I told them the last part of the tour was attending the laser show on the San Fernando Cathedral at night. I expected Harry not to be interested, but Sue lit up like the fourth of July. She had wanted to see it but was afraid to ask. Harry agreed to go. Being an experienced tour guide and learning from my past mistakes, we headed out for dinner at the River Walk with my family. I brought folding chairs and we prepared for the show. It is an amazing thing to see. There are three shows a night. I fully expected to see Harry fall asleep. Well not this time; he was wide awake to my amazement. To my further surprise, Sue wanted to stay and see it again, and Harry really enjoyed the show and agreed.

After 24 years I saw a new side of him. To be honest it was not something that I would have thought would appeal to Dr Parker, but it is an amazing blend of history, science, archeology with technology overlain on the architectural elements of the San Fernando Cathedral.

The next day we had brunch at a local restaurant that is fantastic. I commented to Harry that this was the first time ever that I had not seen him crack open the laptop and work for the entire weekend. He informed me he needed help, and access to my internet, so he could submit his expense account.

And that is the last meeting I had with my friend, mentor, supervisor, and consultant. I miss him very much. He drove me to be a much better professional than I thought I could be. We shared great times together, we

bumped bellies and heads together in disagreements, and solved difficult projects together.

Even when he was being his most demanding and at times abusive and blunt self, I knew it was not personal. I am enriched for having known Dr Parker. Sue relayed to me just before his passing he was concerned about me. I cry as I type this and will probably never get over his passing. May there be a laptop in the next realm, and I hope you find peace, Harry.

I never could understand what drove him to such levels of work. I hope I brought a little joy during our friendship over the years. I know I brought some frustration and amazement.

My only regret is we did not take the Porsche on the road trip to see all 50 states. I'll try and make that journey for you, Harry, but not in a Porsche!


Harryisms



Ak Sug, 2012 (Doug Reid/Harry's collection).

Harry was legendary amongst working colleagues for his quotes, aphorisms, and turns of phrase.

Trust no one, assume nothing, check everything!



CONCLUSIONS

- Resource and Reserve Modeling is a Serial Process
- Even Small Errors (10%) Can Make Big Impact on Profits; Nearly Everything is Potentially Material
- **ASSUME NOTHING; CHECK EVERYTHING**
- **TRUST NO ONE**

Spell checking is exempt, of course—everthing?

From Harry's 2004 presentation to the Geostatistical Association of Australia on being inducted as a Life Member.

But the first documented usage of the slogan, according to Harry, was 2003, at the International Conference on Public Reporting, Reston, Virginia; "in the pre-grandpa days".

*Rule number 1. Avoid orebodies only
one drill hole wide*



**Gentlemen, no matter
how much we flush – this
is not going to go down**

**They want someone to blow
sunshine up their skirts**

*These guys are just like hire cars – the client
drives where he wants*

*We call them the way we see them. We are not a rental
company*

He likes to pass gas in our general direction

That guy... You could stick your hand up
his a** and move his lips

*These guys are still loading their
guns with silver bullets*

Forget about going home, you are
going to help me with this project!

There's 24 hours in a day, man

**I'VE BEEN MARRIED FOR 45 YEARS ... SO A
FEW DAYS HERE OR THERE DOES NOT
MATTER**

If it's not written down - it never happened - stop the rot

They are not geared up for rocket science –
if the world was flat these boys would sail
over the edge

***Nail down the lid and put the brass plate
on, this one's dead***

On describing a lengthy report:

pabulum for the masses

Need fresh blood

There's another squeal left in the pig

*We are like doctors, we have an
obligation to our patients*

You only go around once, so go
for the gusto

They need to take their bras off and
hang 'em on the rafters

**It passed the thump test (judging
the quality of a report by the
sound of it makes when dropped
on the floor)**

Financial Audits: follow the money

*Resource/Reserve Audits: follow the
metal*

*I honestly think if you guys rub the hair of your bellies off on
the drafting boards, you will find ways to add value*

I once dated Miss Venezuela

Tell him to buy a double latte
and get in gear—fix the
problem

Give the client more than he paid for

I used the heft test

(looking at a set of cross sections, juggling them up
and down, and then visually estimating the tonnes and
grade within 10%)

Generate work and more clients

This is a real thumb-suck

I will make you a laundry list
(very bad sign)

**Your man [*insert name*] should
apply for job at McDonalds in
Elko. Their minimum educational
requirement for geologists is MSc**

**You can get it from me, but do not bust a
gut**

*That guy needs to have an
accident on the stairs*

**THERE IS SOME GENUINE WALLET
FUMBLING GOING ON HERE**

**We have to keep pumping out the
pabulum for the masses**

“Tim, when are you going to stop wearing that yuppie jacket? Oh, and do you mind getting me a Frappuccino when you stop by Starbucks?”

Your job is to get the other consultant sacked!

I never really liked that guy – not enough dirt under his fingernails

I think we can pablumate for another hour or two, here

I’m not sure he has the mental capabilities to appreciate that

The best French movie I've seen is Mr
Bean

Larry, please tell the Smog Zone that we
do not appreciate the bureaucracy

When is the Smog Layer going to get
what the Consulting Group is all
about?

On the origins of the name AMEC (apparently it had no actual meaning):

AMEC, we stand for nothing

They should have had AMEC on this—
they've just assembled a motley crew

These guys need to learn who's the
hydrant and who's the dog

These guys remind me of fish that
drops in a boat – just flapping around
and they can't get out

We would like to walk through the
data in blue suede shoes, not boots
and machete...

*Please review and get back to me. Greg
should get [name redacted] into office and
Georges should hold the hose. Guillermo
can turn on the water. Tomasz can give him
a towel. I leave it to you guys to deal
with them on block variance*

Geologists are like trappers; they can live off the land. Mining engineers are like ranchers; they go outside occasionally, and when it's tough they get off their horses. Metallurgists are like farmers... always complaining.

You guys are taking this thing too far—you're using samples from the next county

Any work out of scope get a change order and make them pay!

Harry's ways of saying "this is cr**"

Typical Joe six-pack = Bunch of yuppies =
Bunch of yahoos = Bunch of cowboys

On working on the never-ending challenges and surprises of Antamina.

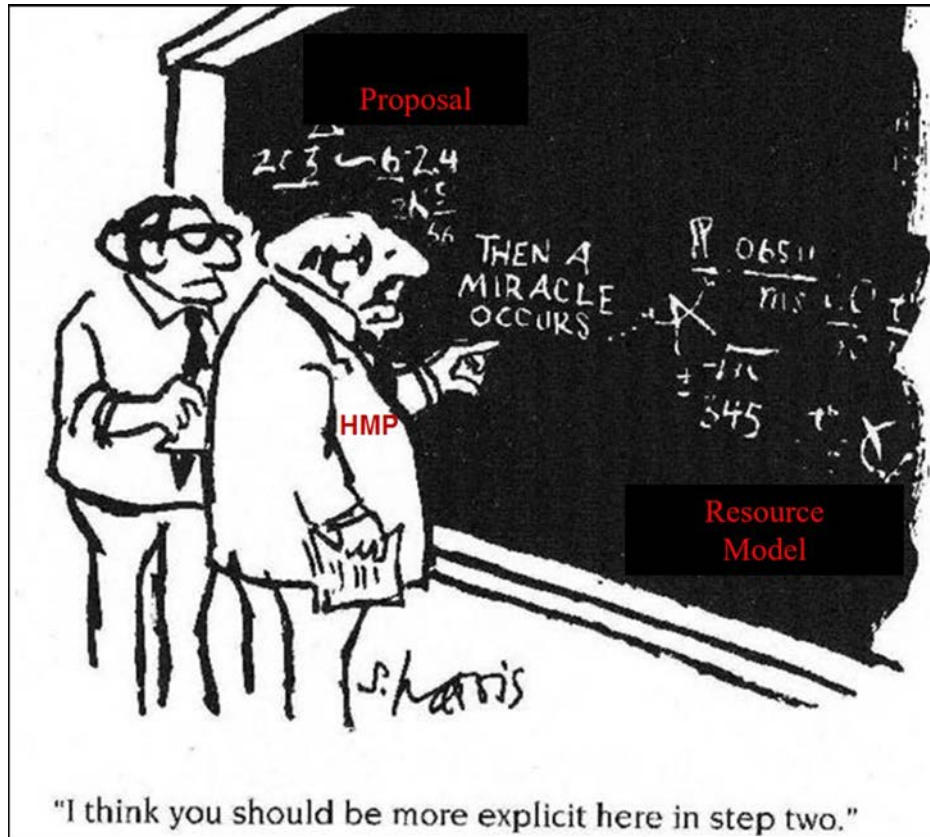
**This damn deposit is like a girl in the old days,
you keep lifting one petticoat after another but we
never see any leg. When do the petticoats end,
Eric?**

Harry's Core Terms



Silangan, 2013 (Mark Murphy).
Jamie Ara Chan, Janelle Iris Marasigan, and Harry.

Be More Explicit Here



"I think you should be more explicit here in step two" is the secret code for we did not have a clue whether we could do what Harry said we could, but that never stopped Harry.

Also synonymous with "a step above a voyage of discovery".

Going to Give Them a Haircut

A downgrade to the reserve or resource, or both, is imminent. Always accompanied by a glint of mischief in Harry's eye, and a slight smile.

Voyage of Discovery



Testing a Harry hypothesis from first principles with no clear idea of the end goal, the effort it will take, and the frustrations that are undoubtedly going to be lurking on the way, is Harry's "voyage of discovery". All voyages of discovery are, by definition, novel and ambitious projects, with arbitrary, but strict, near-term deadline deliverables.

Most have no budget and other clients (paying clients) must frequently be put on hold while those involved complete the voyage. A voyage of discovery will again, by definition, result in budget and schedule over-runs.

Note 1: However, Harry has mastered the art of doubling or tripling the budget, is capable of making the client feel they got a great deal during the voyage, and everybody eventually leaves the conference room smiling.

Note 2: Harry's definition of a successful voyage of discovery was starting a project with a \$120,000 budget, and concluding it, two years later, for a total cost of \$2 million.

I Want You To...

Emphatic instruction, usually verbally, remotely, and hurriedly delivered (with boarding announcements in the background) to undertake a major work program.

Typically, the work program (aka rabbit hole that you are about to disappear down) consists of a study type that you have never heard of, have no idea how to complete, and haven't a clue why anyone would ever even want to undertake it anyway. It is generally assigned based on Harry's memory of a site inspection (*conducted circa 2.15 pm on Monday 15 March, 1978, at the Blue Sky mine, when he was looking at core metre 56.89 of drill hole BSM933, collared on the ninth level of the underground workings in the fifth stope in that sequence...*) that could have relevancy to a problem or issue he is contemplating.

Budgetary and schedule considerations are considered as irrelevant to this instruction as they were to a voyage of discovery.

Note 3: Although Harry was known to give up hours of his own to support the work program if he truly was obsessed with the outcome.

I want you to... type instructions did have a habit of lurching sideways however, and morphing into a voyage of discovery.

Use Common Sense

I have no time to explain to you how to do this right now, so I am sending you out there to do whatever you can to figure out what do to until I show up, and see how far you got on your own. At which time, we will fix whatever you did (or did not do).

Usually subtext for Harry himself not having, as yet, envisioned a way to get to where he wants to go, and he is leaving you to find a way to confirm that his hypothesis or analogue applies to the project under consideration.

Could be employed with the “be more explicit” instruction.

Soldier On

It doesn't matter if you don't understand the why or how. I asked you to do this task, and you will finish it. Meaning, when *things* get hopeless, don't *be* one of the hopeless.

Also frequently accompanied by the exhortation “don't get lost in the weeds”.

Tough

Usually used when Harry has left you alone to do a work program, has found a fault, still hasn't explained exactly what it is he is envisaging, but now requires you to re-do a minimum of approximately three months' worth of work.

Typically accompanied by the instruction “Have a presentation ready by 8 am tomorrow and we will discuss”, usually with the added rider of “as I have a plane to catch”.

Being “sent to the showers” is a likely outcome, as is being left with the threat of a “laundry list” of things to fix and things to do.

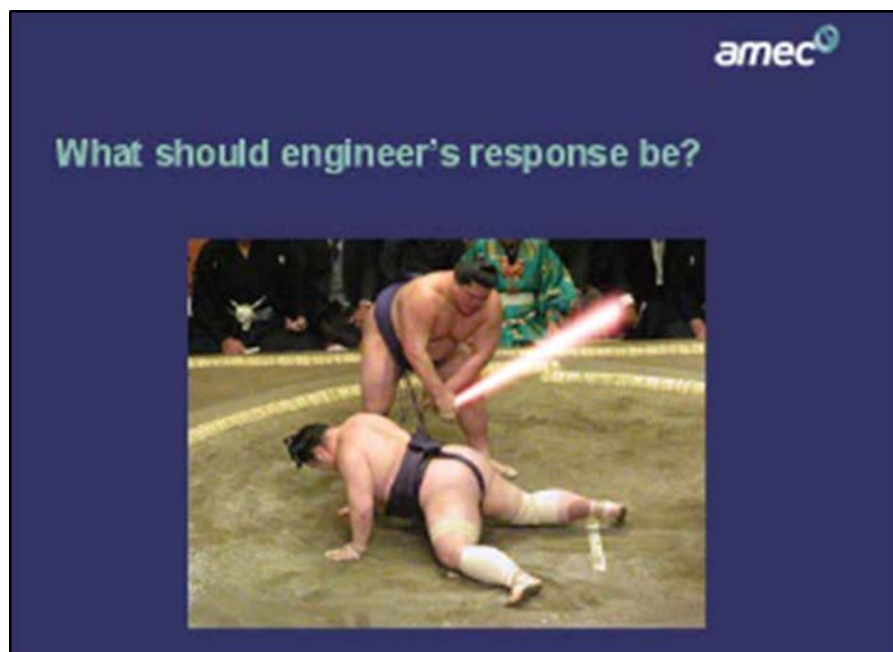
Being Harried



Harry in CRIRSCO mode (Roger Dixon).

Dilution

Harry's (in)famous dilution presentation in Santiago



With thanks to Pat Stephenson, who was the originator of these images in the legendary "Spotted Dog" powerpoint presentation in Darwin, Australia.

Carol Doda

The official story:

We once all went out to the club in San Francisco, where Carol Doda *[the topless burlesque dancer who made breast implants famous in the US]* was performing. She came over to our table and chatted. She finally asked us what we do for a living.

We said we were mining engineering consultants.

“Well then, I better go take my clothes off”.

She knew engineers and consultants have to see everything.

Source: https://en.wikipedia.org/wiki/Carol_Doda

The unofficial story (as told by Harry in an email to Charles Pineo):

Once had to buy drinks for *[name redacted]* and *[name redacted]* and their hired “escorts” for a night on the town. For *[name redacted]*, had to take some of their people to the Condor Club to see Carol Doda disrobe. Recall getting that done for \$8 per drink, one drink per person. Suppose could not do that today.

Charlie puts some context on Carol Doda: I was drafted out of Stanford grad school [Mineral Engineering] in September 1969. A good friend from Dartmouth took me “out on the town” in San Francisco before I returned East to enter the Army. We stopped in at the Condor Club where Carol Doda was performing. She was an institution in San Francisco for decades.

Harry's Cars

Harry had a long car correspondence with Roger Cooper, and exchanged many views on cars, actual car ownership, and fantasy car ownership. The following is compiled from a number of email exchanges in 2019.

Herewith a beginning of summary of cars I have owned.

1951 Cadillac Limousine, black, had every power option available. Owned 1965. Cost about \$50. Lent to a student who drove it in spite of water leaks. Engine threw a rod and had to junk it.

Car number 2 was a 1969 Plymouth Barracuda Hatchback. Very nice car with 318 V8. Was a wedding present from my Mother. In 1971 my wife was driving a little fast, and hit an oil slick that formed on the cold-mix road after hot day/thunderstorm. Unfortunately, my Mother was in it and got head cut on the dome light. Car was totaled. I went to dealers on a bicycle to look for another car.

Now my car number 3. So, in 1971 after my wife totaled the Barracuda, we decided to go down market and bought a Plymouth Duster coupe. This had a six-cylinder engine. We put helper leaf springs on the back and towed a U-Haul from Minnesota to California. Took four days in 1972. The Duster held up well and lasted until 1977 when it had 130,000 miles and water circulation problems. We took some of the left-over insurance money and went to Hawaii, did some trekking and observed lava flows.

Car number 4 (Grandma's chariot). In 1971, I was exploring for zinc in southern Kansas near where my grandmother lived. She was pretty elderly, and we had to put her in a nursing home. That left her car, a 1951 Ford four-door. I purchased it from her conservator for \$100, spent another \$100 on tires and drove it to Virginia and back for Christmas. We noted the engine was leaking oil, but we did not replace it or fix it well enough. After Christmas, we drove north toward our home in northern Minnesota. About 20 miles out of Des Moines (capital city of Iowa) the engine failed. A rod had been thrown through the block. A farmer stopped to help. I said I needed to get the car off the freeway and junk it. He said he would take the car and use the chassis

to make a farm wagon. I said fine, and he took us to the airport. We went up to the check in desk and asked about flights (me to Minnesota and Sue to California, where she was attending graduate school). Turned out they had flights leaving for both places within a few minutes. We bought tickets and got on the planes. We were both airborne less than an hour after the car met its end. The Ford was a flat-head six. It was a “deluxe” model, but when we got it floorboards were rusted so much you could see the pavement. We put a layer of newspapers down.

So now we are at car number 5. My wife had graduated with MSc and got a job as a counsellor in the schools. Me, I was working $\frac{1}{3}$ time on my thesis. So, we had positive cashflow. I was attracted to Porsches and there was an announcement on TV that exchange rates were to be changed—a revaluation of the German Mark. So, went to the Porsche dealer and bought a brown 1973 911T, just a basic version without a radio. Sue never liked the color much. I drove it to Maine and back. Got across the country in four days. Nevada had no speed limit in those days. I recall cresting Golconda Summit at 90 mph, leaving a lot of Cadillacs behind bogged down by their air conditioners. The Porsche had no air conditioner. After I got back, the wife and I were washing the car, and she suggested she go to dealer and see if we could trade for a different color. That will be car number 6—next story.

Now I think we are up to car number 6. 1973 Porsche 911 Targa. We traded in the brown coupe late in the year. The Targa was blue, and we drove it across the country to Cleveland and then back through Michigan and Minnesota. Sue got hit in the back and wrecked the front. We ended up with a shimmy above 70 mph. I sold it to a guy in 1984 for \$5,000—about half the original price. We were on a four-day week then. Sure wish I had kept it now.

Now car number 7 was a Dodge Omni, bought in 1977 and died in about 1982. Replaced the Plymouth Duster (130,000 miles). Too small for us as the family grew (Win arrived in 1979). Was red with white interior. Kids fought over back seat.

Car number 8 was a Volvo Sedan that replaced the Omni. Lasted until about 1992. Daughter Meg leaned to drive it. Sat on four phone books to see over the steering wheel. Got her licence ok, and took some twin brothers to a

concert. Car was poorly maintained and had to be repaired. I was not very impressed by Volvo. Cost us \$13,000.

Car number 9 was a Mazda coupe—bought about 1984 and was a nice work car. Was hit and totaled at an intersection in 1989. Got \$500 for cut on Win's finger.

Car number 10 was a Volkswagen Fox—good work car with excellent heater and air conditioner. Nice to have German workmanship back in the family. I think we donated it to charity in late 90s.

Car number 11 was a Nissan Pathfinder bought about 1992. Bought on a rainy day at end of month. Price went down \$500 every 15 to 30 mins. Kids loved to take the car skiing. Finally donated it to charity about 2006.

So, Car number 12 was the 1999 Porsche 911 model 996 C2. Ordered it from the factory. At height of dot.com boom there were very few cars on the dealer's lots to choose from. Blue coupe with grey interior. Now has 80K miles after 20 years. Two years ago, a cylinder cracked. We pulled the engine and bored it out. Put sleeves around the cylinders and raised displacement from 3.4 to 3.6 liters. Fortunately had good bonus to pay the \$27k bill. Last year restored the finish and took out little pits, repainted over chips on door. Didn't get to drive it much, but plan to do so starting in April.

Car number 13 was 2006 Jeep Wrangler—long wheelbase but still two-door and trail-rated *[known to all in the AMEC Reno office as the Yellow Hurricane]*. One wreck in 2016 when I ploughed into back of stopped car on the freeway. Took a few months to repair, but is OK now, except for water leak in radiator or cooling system that must be fixed. We are at 118 K miles. Lots of issues with bearings and seals; dead mouse inside trunk attracted a bear that ripped the canvas top off. Left muddy paw print on fender.

Car numbers 14, 15, 16 were a succession of Subarus my wife drives. Number 15 was totaled in a winter skid into oncoming traffic. They are good cars, but only the Jeep can handle snow drifts until roads are plowed.



The Yellow Hurricane, February 2017 (Doug Reid).
Yes, the plows hadn't been out. But I had to come into the office.

Dear Roger,

Well, in the early 80s I drove a Cushman Trackster. Had two tracks and a joystick. To turn, one track went forward and the second backward. It was great for hauling freight and snow mobiles around in the woods. It could blaze a trail through small aspens. It had relatively low wt/sq inch and didn't get stuck as bad as other models of the day.



Source: <http://libwww.freelibrary.org/digital/item/zoom/41763>

I am still waiting for a Panamera convertible from Porsche.

Barf Bags

Harry: Well, guess I became an official barf bag collector in 1978.

Scott Long

Back when there was the MRDI office in San Mateo, one day some Dutchman who, I think may have been in the Guinness book of world records for having the biggest airline vomit bag collection, was flying into SFO and wanted to stop by to see Harry's collection.

Which was not organized, naturally.

So, Harry hauled a dozen or so cardboard boxes full of these bags into the office and everyone sorted them out on the big table (actually three high tables put together, maybe 12 feet long and three feet wide) where the plots from the three plotters would be worked on).

Some of these bags were pretty funny. There was an Australian one that doubled as film mailer, very enterprising. There was one showing a diagram of the airsick victim vomiting into their hands and then emptying hands into the bag, very nice. Most just had nice airline logos, many extremely obscure from tiny airlines that only existed for a short time.

The Dutchman showed up wearing a ball cap that had something like "I buy barf bags" printed on it. A real style statement, that.

I recall later that day Harry was very pleased there was at least one barf bag that this Dutchman did not have. "He wanted it **bad**", he beamed. "I didn't trade with him."



Roger Cooper

When I bought my new turbo Passat in Salt Lake City, I was amused to find it came with a VW-branded barf bag. Obviously, that went straight to Harry!

Stan Nelson

And of course, we should not go without adding something about his rather extensive barf bag collection. I remember discussing a bag from Air Force One, and one from the Space Shuttle—I believe he was missing one of the two for his collection. It would be fun to know if he ever obtained one.

Eric Lipten

One day Harry came up to the MRDI office in San Mateo with a sense of urgency. He ordered a couple of us to get down to his car and bring up the boxes. We dragged up a lot of boxes. He then had us clear off the large layout drafting tables in the office bullpen. Then he told us to get the airsickness bags out and organized. It was his famous air sickness bag

collection. Now some of you may know Harry collected air sickness bags. Yes, a rather strange thing to collect but hey people collect anything! In reality it makes sense given his lifestyle of flying all the time! I was informed by Harry that some people collect airline salt and pepper sets, othesr the drink swizzle sticks, and sundry such things. Well who was I to say anything, since I collect coins and flown space artifacts! His collection was at least low cost from a personal collecting perspective.

The urgency was the “Dutchman” who was another large airbag collector was coming to review Harry’s collection and swapping was going to occur. I hid in my office during the event. When it was done, we boxed up the collection and put the boxes back in the car.

As Harry told it the Dutchman was the number one collector in the world and he was behind but up there with him. I commented that it was too bad that I did not know him in the past as I had access to Air Force One in the day, and shall we say liberated a few items. I looked through my Air Force One collection but I had no air sickness bag. I did have playing cards, drink coasters and a few other things. Pity I could not help his collection.

I then asked if he had any flown space air sickness bags. He said no and but the Dutchman had a Space Shuttle bag. Well, I no longer had a contact on Air Force One, but I knew many of the astronauts and the dealers for flown space artifacts. I wrote them all looking for an Apollo, Gemini or Mercury program bag. Sadly, I had no luck finding a bag from those space programs.

Whenever I flew up until Harry’s passing, I would collect what I thought were unusual air sickness bags and always get multiples so he had trading material. He always appreciated it, dropping me a thank-you email. I would even recruit others to collect for him if I knew they were flying on an airline of potential interest. Even on one of our last visits just before his passing he told me he was working on getting a bag from the ISS from an astronaut. I’m not sure he got it.

Ring Tones

Harry did not like to be put through to voice mail, or to be left waiting too long while the phone was ringing. Many of his colleagues in the cellphone age had distinctive ringtones for Harry.

One would answer, and there would be that gruff voice: “This is Harry”. As if he was ever able to be mistaken for anyone else!

And, a curt “bye” always ended the call.

John Barber

My ringtone for Harry was the Submarine Crash dive claxon.

Doug Reid

I was in the middle of Zambia (must have been near the only cell tower for miles), confirming drill collar locations, when my antique car horn ringtone (set for Harry’s calls) went off at high volume. I lost half my crew as they scattered for the trees.

Stella Searston

My ringtone for Harry was Speedway.

The Music of the Pipes

Classic Harry story:

Went on a site visit to a silica sand operation once.

Asked the owner whether he had instrumentation in the plant.

He said, “I don’t need any, I just listen to the pipes”.

Harry On



2008 (Larry Smith)

Harry on Safety

Harry was always safety pro-active. This is an example of an email sent out to all AMEC staff.

A message from Harry Parker:

Unoperative fire extinguisher at a mine whose name I must withhold. I called this to mine's attention. They will dig out extinguisher and build a little shelter for it in the spring.



Message to staff: we must be vigilant and call to our client's attention safety issues.

Harry Parker

Harry would often get involved in email round-robins with staff. What follows is a snap-shot of some of his thinking and relating his experience with real examples, from over the years.

Harry on the Future of Geostatistics #1

“Personal Statement” when awarded Honorary Life Membership of the Geostatistical Association of Australia in 2004.

“I have now been involved in using geology and geostatistics for resource modeling for about 30 years. Like the late Haddon King, I have found that understanding the geological controls (not the exploration geologist’s guides) on ore occurrence to be of tantamount importance. In general, an ounce of geology is worth a pound of geostatistics; this may be disappointing to geostatisticians with no geological background. Tough.

Where geostatistics really shines is in the assessment of the impact of mining selectivity on tonnage, grade and metal content of resource models. Conditional simulation is the coming tool for this purpose, and it is a major goal to see this tool used on all “bankable” feasibility studies. In addition, conditional simulation should be used to support resource classification and risk assessment.

I have fought hard and continue to fight for training personnel to perform geostatistical studies that are rigorous in their documentation, as the devil is often in the details. Resource models should be transparent in all aspects. I despise black-box software and consultants that hide behind proprietary methodology. I have always been free in explaining methodology and in giving away software; I have never lacked for work. The publicly-available GSLIB package is a notable step in the right direction.

The academic community has much to offer geostatistics; it is a shame that research and training in the universities is so poorly supported by the mining industry, including consulting organizations. Many of the advances made in mining geostatistics during the 1970s and 1980s resulted from collaborative research. If geostatistics is to flourish, these ties must be re-established. Otherwise, the field will continue to develop at a snail’s pace, led by the whims of resource modeling software vendors.”

Harry on Stationarity and Small-Block Kriging

Harry's emailed response to Susan Meister after being provided with a copy of an article entitled "A Study on Kriging Small Blocks" by Margaret Armstrong and Norman Champigny, published in CIM Bulletin, Vol. 82, No. 923, 1989.

"Well some day when I exit stage left in the direction of twilight's last gleaming, I will take some of this on.

Block size should reflect observed trends in grade. Small blocks permit fine tuning the selection of composites to maintain stationarity in the kriging neighborhood.

I have long felt that many sacred cows of the eastern hemisphere do not hold up when there is non-stationarity in the chosen kriging neighborhood".

Harry on the Future of Geostatistics #2



Harry on Log-Normality

Harry's emailed response to Charles Pineo on the subject of log-normal.


“Lognormal worked fine for sedimentary deposits, Witwatersrand, and is still used there, though modified. When we got into hydrothermal deposits with boiling and other disequilibrium, non-stationarity of mean and variance caused problems. Hence outside of Witwatersrand, no one uses the approach anymore.

I basically left lognormal alone after 1981. We use more general approaches to convert raw data to gaussian or indicator distributions. Much more emphasis today on domaining by rock-type, structure, alteration. Also, consideration of selectivity versus production rate. That was not much problem for uranium, because of use of scanners and probes to segregate ore and waste on the one cubic yard scale.

There is technology on the horizon to achieve ore sorting for small volumes. Could result in significant increase in average ore grade from both open pit and underground deposits”.

Harry on Competency


Excerpts from a CRIRSCO presentation in 2009




Personal Experience: What Does Five Years Provide?

- Opportunity to work on 5 to 10 deposits and to gain experience in ore controls **(not guides)** in an operating environment where resource models are validated through reconciliation with mine production
- Opportunity to observe mining selectivity, contact dilution and ore loss, effectiveness of stope/slope designs
- Opportunity to observe mine/mill reconciliation

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Projects That Went Off The Rails

- Continuity of sedimentary iron formation applied to hydrothermal replacement deposit; contact dilution lowered head grade 10%. **Forecast profit greatly reduced.**
- Inadequate drilling led to inaccurate prediction of top of ore. Ore production ceased for several months while stripping caught up. **Told them to buy a diamond drill, but they bought a haul truck.**
- RC drilling below water table compounded by drilling down high-grade structures led to over-estimation of grade and continuity – **US\$100 million write-off**

COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS




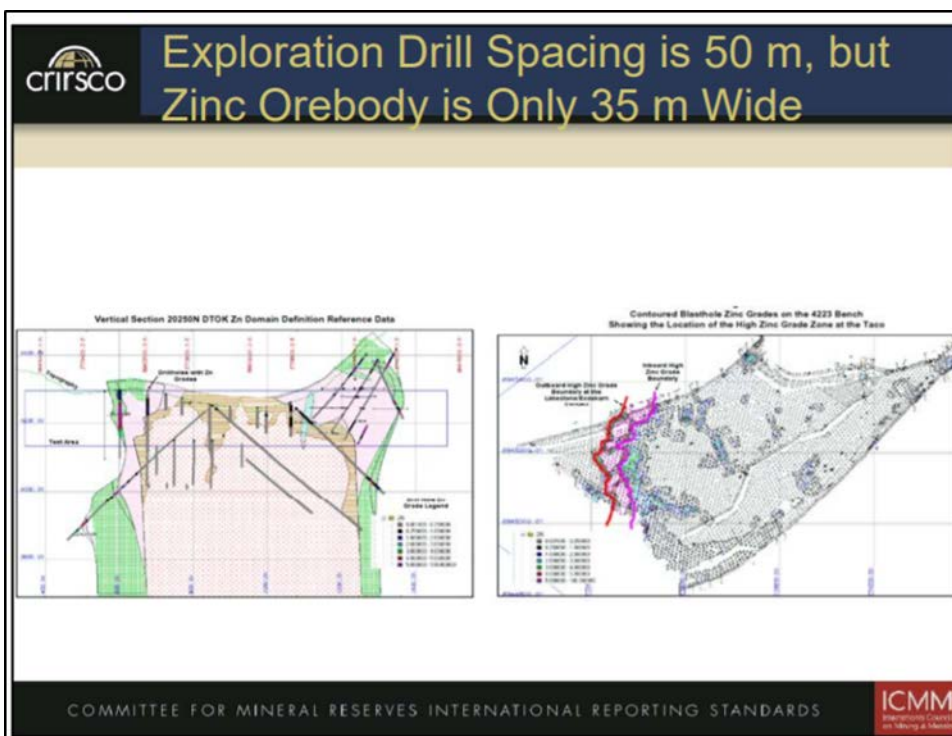


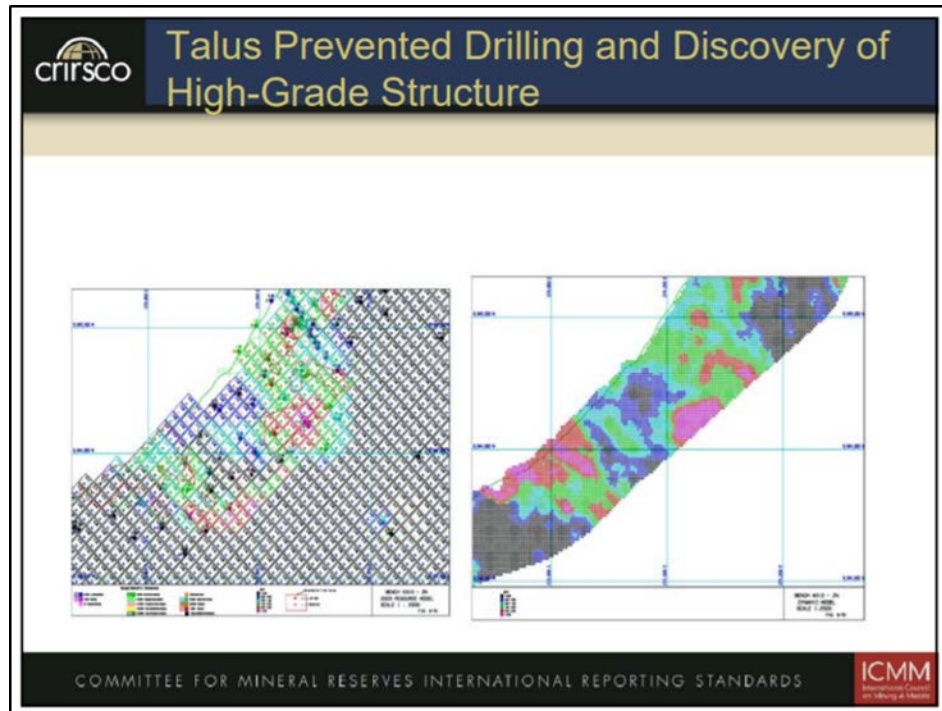
Warning

- You can self-nominate yourself as having relevant experience from other types of deposits, and I have done so
- I usually lived to regret this later
 - Had I seen blast-hole grades at Tintaya, Peru I would have fought harder for more exploration drilling to support Measured and Indicated resources at Antamina in 2000.
 - Unfortunately I did not see Tintaya until 2003

COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS







Harry on Sample Size Limitations in Composites

This is an amalgam of notes derived from various emails on the subject.

The Joe Six packs tend to use $\frac{1}{2}$ to $\frac{1}{3}$ of a nominal length for variography. I would do this in a porphyry Cu, but for gold see below. I know of no rigorous study defending a $\frac{1}{3}$ rule.

The more careful practitioners, particularly in gold vein or massive sulfide environments will do a study of sample length or composite length versus grade, and also standard deviation or co-efficient of variation versus length.

Most software now has stitching capability, where short length composites are added to longer length composites. Gemcom will accumulate the length between hanging wall and footwall of a wireframe and then divide it into composite intervals that are approximately the nominal composite length.

This is OK if wireframe is thick. If wireframe is thin, can get intervals of relatively widely varying length.

In general, I think the support issue is overblown, but did note at Greens Creek that composites of varying lengths from few ft to 20 ft gave a lousy variogram. When we normalized to 8 ft composites, we got beautiful variograms.

A more important problem is that veins often have high grade selvages. If short-length composites are created when a hole exits the vein, and these are high-grade, there can be a bias in the block model, because in general length is not taken into account in kriging. MineSight has a hokey option to weight the kriging weights by length. Stitching is a way to avoid this problem, and we did it on Kupol and Greens Ck.

Finally, a related problem is to look at length of intercept versus grade. If there is a narrow high-grade zone, and octant search or a maximum number composites/hole is small, then a few composites for the narrow high-grade zone may be unduly projected in kriging into wider zones, which may have lower grades. I have seen this in gold and nickel laterites. The flip side is in some deposits like Jerritt Canyon, wide high-grade zones may be related to extensive brecciation and "plumbing". If one is not careful, these high-grade composites may have undue influence on narrow, lower-grade areas.

Harry on Block Model Size

A 2008 email on the subject. Which starts: "I am at The Raffles, a good place to feed and think".

There are a number of considerations, as follows.

Standard geostatistical thinking from eastern hemisphere (EH) would dictate using a large block, that would be maybe $\frac{1}{3}$ to $\frac{1}{2}$ the hole spacing and for which an estimate would not be conditionally biased. This is typically measured by having a kriging efficiency that is high. (block dispersion variance (BDV) – kriging variance (KV))/BDV—say maybe 80% or better and a slope of regression line above 0.8 (0.9 for Measured, according to

Professor Krige). Ed Sides, would you please correct me if I have gotten this wrong? The kriging efficiency and slope are put out by our Single Block Kriger program. Block estimates are typically smoother than the selective mining unit (SMU) distribution, and as such often useless for mine design and production scheduling.

However, the EH people often ignore stationarity issues. We western hemisphere (WH) people have to deal with hydrothermal deposits formed under severe disequilibrium conditions; we have strong grade trends—see porphyry deposits for examples—and these can best be dealt with using smaller blocks. However, I have been impressed with the amount of unfolding being used in the EH practitioners to try to sharpen domaining and composite selection. They are ahead of us in this regard, although we have made some attempts at Antamina for lead and soluble Cu, Zn and Ambatovy (Ni, MgO, Al, etc).

We also have to deal with definitions of domain boundaries, and in a big (as in no. variables) model, it can be simpler to structure the model with small blocks, with one domain per block.

Sometimes, we might use sub-blocks for domaining, and a larger "parent" block for grade estimation. This is popular in packages of EH origin, e.g. Datamine and Vulcan.

I have been concerned for a long time about conditional bias, even though I sometimes choose to ignore it on a local scale. If we use small blocks, we can produce an "image" of a deposit that has the same degree of roughness we expect from SMUs. These block estimates will be conditionally biased, but we get our recoverable reserves right. That is, blocks estimated to be high-grade will on average actually be lower grade, and blocks estimated to be lower grade will on average be higher grade. In the case of Antamina, that great laboratory in the sky, there is definite conditional bias at the scale of a block. However, over 100 days' production, it is cancelled out.

I have yet to see an EH geostatistician admit/show impact of conditional bias tends to disappear on scale which block model will be used for planning, i.e. quarterly or annual production increments. We should however warn people that our models are good for such purposes and not weekly or monthly scheduling, unless drill density is increased so we can predict individual SMUs accurately.

A parenthetical issue is that no matter what block size, if we have too wide spaced drilling, we will underpredict small high-grade zones that may have appreciable metal content. This will lead to underestimation of the amount of high-grade present. EH geostatisticians will attribute this to conditional bias. My view is that the global mean will be biased low, and there is no way to help this unless we drill closer spaced holes and find the high-grade snaking between the holes. This has given rise to positive reconciliation at Kelian, Antamina and Yanacocha.






A way around the block size issue is to do conditional simulation; multiple-indicator kriging (MIK) or uniform conditioning (UC). The latter two methods are OK for univariate deposits. The former must be used where there is more than one grade variable. We have some experience with this at Bingham Canyon. I would like to see us push ahead with conditional simulation (CS). Nodes can be reblocked however we want, AND we can evaluate uncertainty at all desired scales.

What is the gospel according to Clayton pablumating on this topic?

And ends with “Must go to feed...”

Harry on High Reliability Organisations

“High Reliability Organizations” are:

-  Preoccupied with failure;
-  Reluctant to simplify interpretations;
-  Sensitive to operations;
-  Committed to resilience;
-  Deferent to expertise.

In our culture we have some of these features.

Most of us keep good notes, and strive to build verification and validation into our models; these tend to trap expected failures, but do they really confirm

unexpected failures do not exist? We need to be cognizant of these risks. These are the risks we don't notice when we are out in the whitecaps.

Simple interpretations often do not hold up. Again, we need to let the data speak to us. In many cases we need to be using the principles of multiple working hypotheses. We have to recognize that most giant ore deposits (and many also rans) are there because of multiple controls, and the interplay of the controls may vary according to position in the deposit. This has been borne out at Bingham Canyon where position in the grade shell overwhelms rock type in the middle of the deposit, but on the ends lithological control (dykes) is clear. In Carlin-type gold deposits structure is a clear control, but only to deliver solutions to permeable limestone debris flows.

We have to be sensitive to our client's needs. We are spending their money, and yet we have to be professionals. We can identify risks, but in the end, those are borne by the client. We have to look at the human resources we have to perform a project and bring in reinforcements or figure out a way around problems.

This brings us to resilience and tenacity to keep on a problem until we have a solution. I suppose that is our most important trait. I will always remember Hank DaSilva's refusal to give up when sorting out a Vulcan problem at Olympic Dam. I remember Scott Long's detailed sampling study at Greens Creek to prove the sample size had to be increased.

Deference to expertise is what the peer review, senior advisor and mentoring is all about. We must do better in this area to reap the rewards that come in a high reliability organization.

Harry Opining

Question:

Optimization of smaller pits vs. block size; larger block sizes dictated by statistical requirements early in a project could make an initial Whittle shell either absurd or non-existent. Perhaps there is a necessity to use several block sizes up to the point of feasibility where more definite decisions can be

made? Does this give the engineers a clearer picture of possible options in the early stages?

Harry's response:

Reblocking to larger block at Nchanga open pit (Zambia) made it impossible to get slope constraints properly respected by Lerchs–Grossmann (LG) algorithm.

Question:

Percentage models (i.e. where you calculate a whole block but assign it a percentage that is within the geological boundary and thus a percentage outside as well)—how much can these alleviate the block size issue by using larger blocks particularly for UG projects and what are the issues of percentage models? Similarly, what are the issues of sub-blocking? How do these processes impact internal discretization within the block, if at all? Given the differing philosophies of sub-blocking between say Datamine and Vulcan, are there any impacts from these different approaches? Any comments on the example recently of a project where the resource was done initially at very small sub-blocks and then reblocked to the mining block size. What are the pitfalls, experiences here?

Harry's response:

I leave to the Gen X and Y folks. I do not like [name redacted]'s method of reblocking because there is no change of support check to see if they have got dilution/ore loss right.

Question:

Some of the Jo'berg-based practitioners are investigating different types of blocks—non-orthogonal axes, (rhombs would suit certain geological structures for example) and radial grid blocks. These are done on equal volumes etc. in much the same way that stereo-nets have that kind of option. Thoughts?

Harry's response:

Was done in 70s/80s by Gecamines (Zaire), Surpac and a few others. At Nchanga, Datamine built a custom model for block cave with rhombohedral

blocks. MRDI checked the entire system in 1988. This worked fine and I think is still in use *[as at 2008]*.

I also used to do irregular panels in 2D to represent stope blocks for tabular deposits. This is the so-called Gooseberry krige (after Gooseberry Mine, near Reno). Used at Konkola in 1989 and 1994.

I am now of the opinion, probably easiest to point krige a model and then define stopes to capture point estimates that would be averaged.

Professional Associations



CRIRSCO Executive 2017 (CRIRSCO).

Ian Douglas (Deputy Secretary), Harry Parker (Past Chairperson), Ian Goddard (Chairperson), Neil Wells (Deputy Chairperson), Ken Lomborg (Secretary).

Harry's AusIMM Acceptance Presentation



Thank you

Standards for Public Reporting of Exploration Results, Mineral Resources and Ore Reserves have grown from 6 to 13 countries/regions during the past 10 years.

This was a team effort that has taken place over many years. It has been a distinct pleasure to be part of the team:

- Peter Stoker, Ian Goddard and Pat Stephenson from Australia
- Ferdi Camisani and Roger Dixon (RSA); Niall Weatherstone and Neil Wells (UK and Europe); Jean Michel Rendu (USA); Edmundo Tulcanaza (Chile); and Deborah McCombe (Canada)
- Financial support from the ICMM initiated by Leigh Clifford

What was needed

International Standards for Public Reporting
Exploration Results, Mineral Resources and
Ore Reserves

- Prior to the 1989 JORC Code, there were no widely accepted definitions.
- Mining was viewed by investors as a “horse race”. The investor wanted a sound management and a good run for his money.
- From the 1990s mining became increasingly international:
 - BHP expanded into South America
 - RioTinto and CRA merged

What was done

Establish country and regional ‘National Reporting Organizations (NROs)’ sponsored by professional societies.



NROs are members of the Committee for Mineral Reserves International Reporting Standards (CRIRSCO).

- CRIRSCO becomes tight-knit group agreeing to common definitions and standards
- Typically the local codes are 95% compatible with the CRIRSCO template
- Professional societies and NROs promote training of Competent Persons
- Major efforts by companies to vet and train Competent Persons
- Public reporting is now a “manufacturing process”.

Ausimm

CRIRSCO members as at July 2018

2018 CRIRSCO Committee

India and China likely to Join in 2019.

Ausimm

Evolution of Standards

1989 JORC Code

IDENTIFIED MINERAL RESOURCES (in situ)	ORE RESERVES (mineable)
INFERRED	
INDICATED	PROBABLE
MEASURED	PROVED

Consideration of economic mining, metallurgical, marketing, environmental, social and governmental factors

2017 SME Guide

MINERAL RESOURCES		MINERAL RESERVES
Inferred		
Indicated	Probable	
Measured	Proven	

Consideration of mining, processing, metallurgical, economic, marketing, legal, environmental, infrastructure, social, and governmental factors (the "Modifying Factors")

Increasing level of geological knowledge and confidence

- Steady over many years.
- Discussed at NRO and CRIRSCO meetings; consensus required to make changes.

Summary

Support of AusIMM and other professional and industry organizations was key.

- Incubate and sustain the NROs
- Promote standards to:
 - members through conferences, 'road shows', etc.
 - explorers, developers, miners
 - securities regulators and
 - investors

Once again, thank you

To AusIMM, for an award that came as a great surprise.

To the people with whom I have worked on many projects in Australia and throughout the world.

These people have turned public reporting from a horse race into a manufacturing process.

- **John Cottle** – Olympic Dam Mineral Resources using kriging (1984)
- **Peter Dowd** – [Geostatistics](#)
- **Kathy Ehrig, Shane O'Connell** – [Geometallurgy](#) and Mineral Resources Olympic Dam
- **Steve Hunt and Stewart Eldridge** – Reconciliation and audits
- **Grant Nicholas** – Snap Lake capacity simulation
- **Bernie Peters** – Integrated development plans for [Oyu Tolgoi](#), [Platreef](#), [Kamoa-Kakula](#)
- **Andrew Ross, Ivor Jones** – [Koniombo](#) Mineral Resources
- **Bill Shaw, Sia Khosrowshawhi** (Century Zinc Mineral Resources and conditional simulation)
- **Ian Smith** – ZCCM (Zambia) operational audits and mine planning
- **Pat Stephenson** – Who 'shot the spotted dog'
- **Peter Stoker** and **Ian Goddard** – stalwarts of JORC and CRIRSCO
- **Jill Terry** – Competent Person training and reporting
- **John Vann** – Mining geology and [geostatistics](#)

CRIRSCO Honorary Representative

March 2019. Harry Parker awarded Honorary Representative title.

The Chairperson of CRIRSCO, Neil Wells, announced that Dr Harry Parker, a former Chairperson and representative of the SME of the USA, has been awarded the title of Honorary Representative of CRIRSCO. Dr Parker has gratefully accepted the honour.

Mr Wells said that Harry has been a magnificent contributor to the organization over 12 years and has international respect for his expertise in the estimation and reporting of Exploration Results, Mineral Resources and Mineral Reserves. He has been particularly active in assisting countries, such as Mongolia, Kazakhstan and Turkey, in their joining CRIRSCO and is currently advising India and China in their efforts to become Members. We hope that we can continue to call on Harry for advice and assistance in the future, even though his term as SME representative has come to an end.

Eurogeologists



FÉDÉRATION EUROPÉENNE DES GÉOLOGUES
EUROPEAN FEDERATION OF GEOLOGISTS
FEDERACIÓN EUROPEA DE GEÓLOGOS

*From the Treasurer:
EurGeol Ruth Allington*

efg.treasurer@eurogeologists.eu

+44 7771 782524 (mobile)

Mrs Sue Parker
PO Box 4411,
Incline Village,
NV 89450
USA

03 January 2020

Dear Mrs Parker

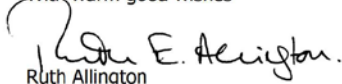
Condolences - Harry

On behalf of the European Federation of Geologists, we are writing to express heartfelt condolences to you and your family following the death of Harry in December.

Harry made a lasting impression on all those in the EFG who met him during his long and distinguished international career, both through participation in PERC/CRIRSCO meetings in Europe and through Harry's membership of the advisory panel for the INTRAW project 2014-2016. He was a consummate professional, combining his wealth of expertise and experience with his considerable and unique communication skills – particularly his special gift of listening more and speaking and writing sparingly, only after first giving his response careful consideration. In this way he taught, encouraged and inspired mining professionals at all stages of their careers. He was also wonderful company and his dry sense of humour and timing when telling a story would light up a dinner or drinks gathering. One occasion that will live long and fondly in the memory of all who were there was an 'ice breaker' dinner for the INTRAW project at which all present were asked to introduce themselves and tell everyone about their hobby – Harry revealed his passion for collecting 'barf bags' and treated us to anecdotes about how he came by some of his favourites!

He will be sorely missed but very warmly remembered. We hope that our condolences and reminiscences, alongside the many others you will surely receive, will be a comfort to you and your family at a painful and sad time.

With warm good wishes


Ruth Allington

For and on behalf of the Board of the European Federation of Geologists:

Marko Komac (President)
Michael Neumann (Vice-President)
Gabriele Ponzone (Secretary General)
Ruth Allington (Treasurer and Past President)
Pavlos Tyrologou (External Relation Officer)

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Intraw



Mrs Sue Parker
PO Box 4411
Incline Village
NV 89450, USA

Matlock, England, 22nd December 2019

Dear Mrs Parker,

I am writing on behalf of colleagues in the Observatory as well as former colleagues in the INTRAW project, for which Harry was an important member of our advisory board - as well as for myself as someone who has known and worked with Harry for many years.

We were very saddened to hear the news of Harry's death two days ago. Rarely do we see someone of his dedication and integrity, and who has contributed so much to the development and application of scientific methods in the mining industry. On a personal basis, I recall also his immense kindness. I first met Harry in Zambia in the 1980s, where he was respected and loved by the engineers and geologists he trained, especially for his patience and understanding of the cultural complexities of building and managing a multi-ethnic team, as much as for his ability to teach highly complex technical matters. His low-key good humour always helped to overcome obstacles. Since then I met and worked with Harry on many occasions, and have great respect for his dogged determination to overcome (or simply ignore!) difficulties which would have stopped a lesser person. A classic example was a field trip after an INTRAW project meeting in Slovenia in 2015, when he insisted on completing the whole of a strenuous 2-mile walk through the gigantic Skocjanske Cave - and enjoyed a hearty lunch in the nearby restaurant afterwards.

Harry was much loved by all who knew and worked with him. While we and I know that there are no words we can say to lessen your pain, we all send you our deepest sympathy.

Yours sincerely

Stephen Henley
President, International Raw Materials Observatory
185 Starkholmes Road, Matlock DE4 5JA, UK

Rue Vautier 54, 1050 Brussels, Belgium
intraw.eu



Dr Harry Parker: A mentor and guide for the Mining Engineers Association of India (MEAI)

The news of the sad demise of Dr Harry Parker shocked the world mining community and the members of MEAI with whom he was intimately associated over the last five years. His association with MEAI started in 2016 with the signing of a memorandum of understanding (MoU) with CRIRSCO on 24 February, 2016 in Phoenix, USA during his tenure as Chairperson of CRIRSCO.

He was the distinguished mentor and guide to the National Committee for Reporting Exploration Results, Mineral Resources and Reserves in India (NACRI), in helping it develop mandatory documentation to file an application for the membership of CRIRSCO. His relentless struggle to promote excellence of the mineral industry professionals will be remembered for several years to come by the mineral industry. During his first ever visit to India; he delivered series of lectures during a two-day training program held at Hyderabad, on 10–11 June 2016.

In the later part of that year he actively participated in the CRIRSCO Annual Meeting, where he helped the mining industry professionals in India to realize the important role of the CRIRSCO for the mineral industry of the country. Despite his ill health, he continued his work in India, which led to the admission of NACRI as the 14th member of CRIRSCO.

Between 2015 and 2019, he worked with many industry professionals from India, notably three Presidents of the MEAI viz. Mr T Victor, Mr Arun Kothari and Mr Sanjay Pattnaik. Dr P V Rao and Dr Abani Samal worked closely with him during his five-year association in preparing India to join as a member of the CRIRSCO.

The members of MEAI and NACRI convey their deep sympathy and heartfelt condolences to his wife Sue Parker, children and grandchildren. We pray for his soul rest in peace.

Mining Engineers Association of India (MEAI)

National Committee for Reporting Exploration Results, Mineral Resources
and Reserves in India (NACRI)



Dr Harry Parker's sad and untimely demise on December 19, 2019 shocked the world mining community as well as the members of Mining Engineers' Association of India (MEAI) with whom he was intimately associated for over five years. His formal association with MEAI commenced in 2016 with the signing of MoU between MEAI and CRIRSCO on February 24, 2016 in Phoenix, USA during his tenure as Chairperson of CRIRSCO. He was the distinguished mentor and guide to National Committee for reporting mineral Resources and Reserves in India (NACRI), who steered it successfully in developing the mandatory documentation to file NACRI membership application with CRIRSCO. His relentless struggle to promote excellence in mineral industry and professional development of mineral industry professionals will be reminisced for several years to come by the global mineral industry.

Dr Harry Parker obtained his higher education from world's foremost institutions viz. B.Sc. and PhD. Geology from Stanford University (1967, 1975), AM Geology from Harvard University (1969) and MSc. Statistics from Stanford University (1974).

During his illustrious professional career, Dr Harry Parker served as Exploration Geologist in The Hanna Mining Co. (1968–75), General Manager Geology and Geostatistics in Fluor Corporation (1975–89), and Technical Director, MRDI and AMEC/ Wood Plc. (1989–till demise). He gained his international reputation as an expert in the estimation and Public Reporting of Mineral Resources and Ore Reserves at a young age.

The Society for Mining, Metallurgy and Exploration (SME) honoured Dr Harry Parker with several awards and recognitions including distinguished member (2013) and William Lawrence Saunder Gold Medal (2020). He was awarded the prestigious AusIMM Institute Medal 2019 in recognition of his eminent leadership of the resources sector. The award recognizes his contribution to the promotion of excellence in international public reporting standards and in the estimation of resources and reserves. He was an Honorary Life Member of GAA (Geostatistical Association of Australasia). He has been published widely and continued to be a member of 11 professional organisations worldwide.

Dr Harry Parker wrote in his personal statement, I quote:

“I was involved in using geology and geostatistics for resource modeling for over 30 years. Like the late Haddon King, I have found that understanding the geological controls (not the exploration geologist’s guides) on ore occurrence to be of tantamount importance.

In general, an ounce of geology is worth a pound of geostatistics; this may be disappointing to geostatisticians with no geological background. Tough. Where geostatistics really shines is in the assessment of the impact of mining selectivity on tonnage, grade and metal content of resource models. Conditional simulation is the coming tool for this purpose, and it is a major goal to see this tool used on all “bankable” feasibility studies. In addition, conditional simulation should be used to support resource classification and risk assessment.

I have fought hard and continue to fight for training personnel to perform geostatistical studies that are rigorous in their documentation, as the devil is often in the details. Resource models should be transparent in all aspects. I despise black-box software and consultants that hide behind proprietary methodology. I have always been free in explaining methodology and in giving away software; I have never lacked for work. The publicly available GSLIB package is a notable step in the right direction. The academic community has much to offer geostatistics; it is a shame that research and training in the universities is so poorly supported by the mining industry, including consulting organizations. Many of the advances made in mining geostatistics during the 1970s and 1980s resulted from collaborative research. If geostatistics is to flourish, these ties must be re-established. Otherwise, the field will continue to develop at a snail’s pace, led by the whims of resource modeling software vendors.”

I was truly inspired by his simple to read and easy to understand publications on geostatistics during the late seventies and thereby encouraging me to pursue my doctoral thesis in geostatistics from IIT, Kharagpur, India. I always felt honoured to know and work with Dr Harry Parker in person, an eminent, illustrious and renowned mining geologist and geostatistician in the world; and an equally delightful human being.

Dr Harry’s short but noteworthy association with NACRI and MEAI in India has been exemplified through some of the memorable photographs captured

on different occasions. He was always willing to be with us in India, even on short notice, and steadfastly drove NACRI towards getting recognition of CRIRSCO as Indian NRO. Dr Harry Parker has been a true friend of India and we, from NACRI and MEAI, will remain grateful to him.

I had the privilege of meeting with Dr Harry Parker's wife Ms Sue Parker in Phoenix, USA during SME Conference in 2016. The MEAI members were indeed looking forward to receive both Mrs and Dr Harry Parker in India to participate in the formal celebration of India becoming a member of CRIRSCO, in year 2020. On behalf of the members of MEAI and NACRI, I wish to convey our deep sympathy and heartfelt condolences to his wife Mrs Sue Parker, children and grandchildren. Pray for his soul rest in peace.

Dr PV Rao

Co-Chair, NACRI

India



PAN-EUROPEAN RESERVES &
RESOURCES REPORTING COMMITTEE
www.percstandard.eu

PERC asbl no. 0.521-825-257 registered Bruxelles 7 March 2013

PERC
EFG Office
c/o Service Géologique de Belgique
13, Rue Jenner B-1000 Bruxelles
Belgium

From: Dr. Edmund Sides, Honorary Secretary, PERC
On behalf of the PERC Executive and Trustees

Email: secretary@percstandard.eu

6th January 2020

To: Mrs Sue Parker
PO Box 4411
Incline Village
NV 89450, USA

Dear Mrs. Parker,

The PERC Executive and Board of Trustees have asked me to express our sincere condolences to you and your family on Harry's recent death.

Over the past decade or more, most of us who are involved with PERC have come in contact with Harry through his work with CRIRSCO (Committee for Mineral Reserves International Reporting Standards) which he played a key role in establishing and developing. The current widespread adoption and recognition of CRIRSCO-based reporting standards, of which PERC is one, owes much to Harry's consistent promotion of high professional standards and persistence in encouraging wider adoption in new countries around the globe.

Those of us who worked with Harry on projects appreciated his thoroughness in getting to the bottom of things and his frequent short, and often humorous, phrases to sum up particular situations. I don't think that anyone who met or worked with Harry will forget about him in a hurry.

Our thoughts and sympathies are with you and your family at this time.

Yours sincerely,

Edmund Sides (Honorary Secretary, PERC)

M: +44 7460 756 399;

Email: secretary@percstandard.eu



PERC is a member of CRIRSCO
Page 1 of 1

Acknowledgements

We would like to thank everyone who contributed stories, memories, anecdotes, Harryisms, photographs, and memoria to this volume.

Many people globally joined in the sleuthing to identify photographic locations and recognizing those captured within the photographs; their help was also invaluable in providing context. Our sincere thanks to all of those who helped out here. And our apologies to those who we could not identify; we really did try.

It is good to know that the volume that resulted from all of the contributions has sufficient “heft” for a memorial to someone as singular as Harry.

Larry and Stella.