

THIS IS A TRUE STORY.



PHILANTHROPIC IMPACT REPORT

JULY 1, 2012 - MARCH 31, 2014

CONTENTS

- 3 Teck Chair of Mineralogy
- 4 Barrick Gold Corporation Gallery
- 6 Leading Research
- 8 Amazing Acquisitions
- 11 Public Programming
- 13 A Love Story at the ROM
- 14 Outreach
- 16 Funds

Thank you for your generous support of ROM Earth & Space. Your investment in Canada's world museum helps connect people to their world and to each other. Since 1914, philanthropy has been at the cornerstone of the ROM. Donors like you make the Museum an indispensable resource for building community by nurturing discovery and inspiring wonder.

Your investment in ROM Earth & Space has had a great impact on the Museum and has enabled many meaningful activities and powerful initiatives. Together, we've solved an age-old riddle in geologic history of Mars, helped kids "walk on the moon" and acquired rare specimens. Thank you for playing an important role in shaping and growing ROM Earth & Space, helping the ROM build community through its exciting public programs, engaging exhibitions and special events.

ROM Earth & Space helps us understand the Earth and our solar system through the study of minerals, meteorites, rocks and gems. This Centre of Discovery fosters dialogue and debate about the Earth and its resources, which help sustain our modern way of life. Your gift means the world (and the solar system!) to us and we are pleased to bring you a snapshot of the incredible community impact and rich life of the Centre during 2012-2014.

 @ROMEarthSci

"Our donors and sponsors have helped make cutting-edge research, stunning exhibitions and educational programs possible at the ROM. Your philanthropic gifts fuel the acquisition of new specimens and artifacts, which enable us to offer unforgettable experiences, share our collections with the public, and tell fascinating stories about nature and culture."

– Dr. Mark Engstrom, Senior Curator and Deputy Director of Collections & Research, ROM

Teck Chair in Mineralogy

On May 6, 2014, Dr. Kim Tait was appointed the inaugural Teck Chairholder in Mineralogy. Dr. Tait, a ROM Curator of Natural History and Associate Professor of Geology at the University of Toronto, joined the Museum in 2007, and holds a Bachelor of Science in Geology from the University of Manitoba, a Ph.D. in Geosciences from the University of Arizona, and is a Fellow of the Canadian Gemmological Association.

Endowed Chairs are a philanthropic vehicle used to attract and retain the intellectual leadership of the ROM. The capital gift is held in perpetuity, and the income is used to fund curator's salaries and other technical and expert costs. Such positions represent an investment in the future of the ROM, while the generosity of our donors is recognized in perpetuity.

In her new role, Dr. Tait will lead scholarly research, publications and strategic acquisitions. Earth and space are major themes at the ROM that the public can explore through our new ROM Earth & Space Centre of Discovery. Kim will contribute to ROM Earth & Space by developing permanent galleries, major exhibitions, public programming and education.

The Teck Chair is a new position at the Museum, endowed by Vancouver-based diversified resource company Teck, as part of its commitment to support leading-edge research into earth sciences at the

ROM. Dr. Tait's appointment was a result of Teck's support of ROM, first announced in 2007, which also helped to establish the Teck Suite of Galleries: Earth's Treasures, the Teck Digital Education Module in Earth Sciences, and the new Teck Endowed Chair in Mineralogy.



Left: Dr. Kim Tait works on a 4.5 billion-year-old pallasite meteorite.
Right: Springwater pallasite meteorite

Barrick Gold Corporation Gallery

The Barrick Gold Corporation Gallery opened at the ROM on January 14, 2014. Located in the ROM's Teck Suite of Galleries: Earth's Treasures, this interactive gallery features multi-touch, animated displays, multi-media presentations and more. It showcases a range of mineral specimens as well as presentations on the global mining industry, including stories about mining, and how the mining industry impacts our daily lives. Digitally enhanced games and other interactives in this new gallery are some of the most advanced, hands-on, user-driven visitor experiences in the ROM.

The generous \$3M gift from Barrick Gold Corporation will also fund educational programming at the ROM with a new education coordinator role in mining and Earth Sciences, and a classroom in the Museum's Learning Centre, which welcomes over 120,000 students each year.

The Barrick Gallery includes an interactive wall, a touchable wall of gold ore and cases with specimens and objects and videos. Produced by the Royal Canadian Mint, the gallery features an authentic \$1M gold coin, made from 99.999% pure gold; the coin weighs in at 100 kilograms, and is legal tender in Canada. In 2007, the Guinness Book of World Records confirmed this coin was the largest of its kind in the world. At the heart of the gallery is the *Challenge of Mining* game. Featuring a multi-touch table, it challenges players to "manage" a successful, ethical and productive mining operation.

Driven by ROM curatorial content, the development of the Barrick Gold Corporation Gallery was supported by a Community Advisory Council, formed to provide feedback on the accuracy of the science and descriptions of mining in the gallery. This Council included leaders in mining-related fields from mining companies, professional associations, universities, and environmental and Indigenous organizations.

BARRICK GOLD FAMILY DAY

To celebrate the opening of the gallery, the ROM hosted Barrick Gold Corporation employees and their families on Sunday, February 23, 2014. Approximately 200 guests from Barrick enjoyed complimentary admission to the Museum and curatorial tours of this exciting new gallery. Families participated in fun activities such as a make-your-own-planet craft and experienced tactile learning with two touch tables of meteorites, rocks and minerals. Many guests also tried their hand at the gallery's interactive *Challenge of Mining* game.



Barrick Gold Family Day

Leading Research

The ROM is the largest field research museum in the country and is a world leader in several research areas, including earth sciences. The ROM originates new knowledge that furthers global understanding of how the Earth and its cultures have evolved.

ROM RESEARCH ON METEORITE BY DR. KIM TAIT SOLVES AGE-OLD MARTIAN PUZZLE

In a major discovery released in *Nature* on July 24, 2013, Dr. Kim Tait and colleagues solved an age-old riddle in the geologic history of Mars. The study involved a Martian meteorite, from the ROM's collection, named NWA 5298. It was found that this space rock started as a 200 million-year-old lava flow on Mars. This conclusion has settled a long-standing debate about the age of this type of Martian meteorite and indicates that at least some of the Martian surface is young—by geologic standards. The team conducted geochronological testing on tiny crystals found in NWA 5298 by examining their precise composition.

With the team's research findings, Tait and her colleagues provide a much clearer picture of the Red Planet's evolution that can now be compared to that of the Earth and other rocky planets in our Solar System and beyond. The team, which included scientists from the ROM, the University of Western Ontario, the University of Wyoming, University of California, Los Angeles, and the University of Portsmouth, also discovered crystals that grew while the meteorite was launched from Mars towards Earth. This discovery allows them to narrow down the timing to less than 20 million years ago, while also identifying possible launch locations on the flanks of the supervolcanoes at the Martian equator.



Clockwise from top left: The ROM holds 15 Martian meteorites in its collection of "space rocks;" Kim Tait and technician Ian Nicklin use a diamond-wire saw to cut paper-thin rock slices for study; ROM Earth & Space recently acquired a powder diffractometer, a tool for studying the crystal structure of minerals; ROM researchers travelled to a remote region of the Yukon in 2012 to research phosphate minerals.

Amazing Acquisitions

MARTIAN SHERGOTTITE NWA 7042

NWA 7042 is the fourth largest Martian shergottite in existence and will be the centrepiece of the world's most impressive and extensive collection of Martian meteorites on public view at the ROM. This acquisition was made possible thanks to funding from the Louise Hawley Stone Charitable Trust. NWA 7042 will be used intensively in our research programs, which have already yielded important new understandings about Martian geochronology. It will be used in research that will create an invaluable new set of standards for interpreting data from instruments in the Mars Science Laboratory (MSL) onboard the Mars rover Curiosity; this data set will not only contribute directly to the success of the MSL but to future planetary missions launched by NASA and the European Space Agency.

THE KIRWIN COLLECTION

Douglas Kirwin, a professional geologist with more than 40 years in the mineral exploration industry, collected a staggering 25,000 ores and minerals while on his world travels. Many of his pieces are from mines that have since closed or are otherwise inaccessible due to access restrictions. "My extensive collection of international ores and minerals represents my life's work and passion," says Kirwin. "My legacy will be cared for and shared with future generations at the ROM."

Kirwin's wish is becoming a reality, thanks to a Love the ROM Campaign gift from Yamana Gold Inc.—a Canadian-based gold producer. Yamana's generous investment in ROM Earth & Space will help to support the costs associated with cataloguing, digitization, storage and analysis of this exceptional collection for students and professionals. "By acquiring this collection, the ROM will become a serious international resource for mining companies and educators who wish to teach their staff and students both the fundamentals and the fine points of ore deposits, refining future mining exploration in Canada and abroad," said Kim Tait, Curator of Mineralogy at the ROM.

As part of their extraordinary \$3M gift to the Love the ROM Campaign, Hatch generously contributed a leadership gift in support of the acquisition of the Kirwin Collection, the Director's Fund, a Managing Director of ROM Earth & Space and a university graduate and post doctorate fund. The acquisition of this incredible collection was also generously supported by AMC Consultants, Gordon Bogden, Scott Hand, Hatch, Louise Hawley Stone Charitable Trust, Rock of Ages Gala, Francine and Robert Ruggles, Prospectors and Developers Association of Canada (PDAC), Christopher Wansbrough, Women in Mining, Toronto Chapter and Yamana Gold Inc.

SHARING OUR WORLD-CLASS COLLECTIONS

ROM Earth & Space sent out research loans to 12 individuals and a total of 86 samples from March 1 to May 14, 2014.



Top: Martian Shergottite NWA 7042. Bottom: Specimens from the world-renowned Kirwin Collection, which are currently being packed up in Thailand for shipment to the ROM.



Public Programming

ANIMATING ROM EARTH & SPACE

In 2014, Hatch funded the position of Managing Director of ROM Earth & Space for \$500,000. The Managing Director is the keystone that holds ROM Earth & Space together and the driving force behind its strategic partnerships. This individual will provide a direct conduit for public participation in the animation and daily life of the Centre by developing exciting programs and educational projects. The Managing Director works with ROM experts and external partners to create opportunities for visitors to learn about and participate in the research that the team is conducting around the globe.

MARCH BREAK TRULY ROCKED

The ROM was full of exciting March Break activities for the entire family, including some that featured genuine space rocks. The Museum's Passport to the World program invited kids to take a global adventure through the ROM and learn more about the world around them. In 2014, March Break visitors had the chance to "Walk on the Moon" and leave Earth for a space mission that included standing on the actual piece of the moon from the ROM's own Mineralogy collection.

MEMBERSHIP AND FAMILY-THEMED PROGRAMMING

ROM Earth & Space offered a variety of special programming at the Museum, including: Space (May 5-6, 2012), March Break 2013: Minerals in Everyday Life, Meteor-right OR Meteor-wrong (March 11-15, 2013), ROMining (March 8-16, 2014); Summer Club tours; and behind-the-scenes tours for Patrons.

ROM ROCK, FOSSIL, MINERAL, METEORITE AND GEM ID CLINICS

ROM Earth & Space continues to offer these highly popular ID Clinics for the community. Visitors can bring their rock, mineral, gem, fossil or suspected meteorite specimens to the Museum for identification by ROM experts. Since 2009, 904 people have attended 30 Rock, Fossil, Mineral, Meteorite and Gem ID Clinics and ROM curators have identified 2,234 specimens.

ROM REVEALED WEEKEND

The ROM offered free general admission, family activities and unique behind-the-scenes experiences in honour of our Centennial on May 3 and 4, 2014. ROM Earth & Space curators and technicians participated in the "Wild Wonders" tour of the Louise Hawley Stone Curatorial Centre with complete open access to the entire collections on the lowest level in the Museum. Visitors were able to see the moon, meteorites from the Toronto area, and learn about research and collection programs. Our curators also contributed a session to ROM Ideas, the 2014 ROM Research Colloquium. Speakers included:

- Ian Nicklin: "A Brief History of the ROM's Gem and Mineral Collections"
- Brendt Hyde: "ROM Research on Earth and Space"
- Kim Tait: "Meteorites and Mars"

SCHOOL VISITS

Each year, more than 140,000 students from Ontario come to the ROM on a school visit. Since 2009, 20,428 students from 257 different schools have participated in the ROM's Earth Sciences core curriculum. Current topics include Grade 4: Rocks & Minerals; Grade 9: Out of the Earth! Minerals, Fossils, Fuels, and Human Systems; and Grade 12: Earth History, Earth Materials.



A Love Story at the ROM



Ellen and Kyle met in line with hundreds of others at the architectural opening of the ROM's Michael-Lee Chin Crystal on June 2, 2007. The line was long and they stood for two hours talking as they waited to see the new ROM. Two hours was long enough for them to find a spark!

It was fitting then that almost six years later, on June 24, 2013, Kyle surprised Ellen in the Teck Suite of Galleries: Earth's Treasures at the ROM by proposing marriage. Pre-arranged by Kyle and ROM curatorial staff, a special case was used in the Gallery of Gems and Gold to place the engagement ring inside along with a personal message.

The ROM is thrilled to have a special place in the life of this happy couple and to have participated in this magical moment. Ellen and Kyle later sent an email, saying, "We would like to thank the ROM, and especially the Gems and Minerals department for making this possible." As a community builder the ROM is happy to roll out this new and "engaging" program offering our patrons a unique way to propose marriage to your loved one. For more information, please email: naturalhistory@rom.on.ca.

Outreach

MEDIA

ROM Earth & Space was officially launched on March 19, 2014. In conjunction with the announcement, Dr. Kim Tait had a behind-the-scenes interview with CBC Reporter Sharon Martin, showing viewers rarely seen collection storage areas in the basement of the ROM. We also welcomed *The Toronto Star* for a photo shoot of the 1967 Stanley Cup ring for a series they were doing in conjunction with ROM's Centennial. The ring, along with the Agoult meteorite was featured in *The Insider's Guide to the ROM* that ran April 11, 2014.

SYMPOSIA AND EXHIBITIONS

ROM curators participated in several national and international mineral symposia and exhibitions where the ROM's collections are made available to a wider audience. Some events included: the Detroit Gem and Mineral Show, the Scarborough Gem and Mineral Show and the Tucson Gem and Mineral Show. Dr. Kim Tait also gave a talk on "Rare minerals from northeastern Yukon" at the ROM's 34th Annual ROM Colloquium. This free symposium highlighted fascinating discoveries by Museum curators and experts on February 1, 2013.

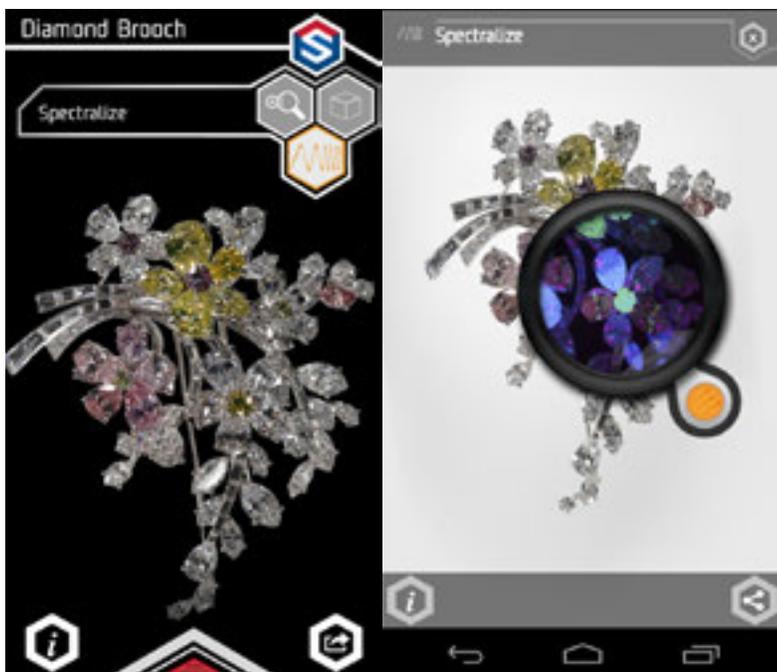
PARTNERSHIPS

ROM Earth & Space offers tours for community partners including OCAD University, George Brown College and the Canadian Gemmological Association. International students and researchers from the University of Toronto are also regularly in the lab.

ROM Earth & Space continues to foster strong partnerships with a variety of organizations, including: Prospectors and Developers Association of Canada (PDAC); Women in Mining (WIM) Canada; Canadian Mining Hall of Fame (CMHF); and Mining Matters (a charitable organization dedicated to bringing knowledge and awareness about Canada's geology and mineral resources to students, educators and the general public).

SOCIAL MEDIA

ROM Earth & Space is highly active on social media and the ROM blog, engaging the community in a rich multi-directional conversation about current events, our collections and more. For instance, the Centre participated in Twitter's #askacuratoraday with staff answering the public's mineralogy and geology related questions. Blog posts also dealt with a range of exciting topics including Curiosity's progress on Mars, "Spinel: A Misunderstood Gemstone," Canadian diamonds, meteorites, etc.



SCOIFYROM

is an exciting new smartphone application that allows visitors to experience ROM objects in fun and interactive ways, including X-raying a mummy and skinning a dino. This unique app lets visitors uncover exclusive ROM research and curatorial secrets.

SCOIFYROM: SHINE ON YOU CRAZY DIAMOND

Condensed ROM blog post by Katherine Dunnell, Mineralogy & Geology Technician.

Gems, and most especially diamonds, appeal to virtually everyone. So when I was asked to select an object from Mineralogy for the ScopifyROM project, I chose a diamond brooch made by the renowned Italian jewelry house Bulgari. What more is there to love about diamonds other than their intense beauty, which is after all skin deep? Well, as ScopifyROM demonstrates, beneath the “wow” factor of this stunning piece lies a multitude of treasures to discover about diamonds.

One of the most significant elements of this brooch is that it is set en tremblant, meaning it is designed to tremble as the wearer moves, drawing the eye to the sparkly coloured gemstones. With the 3D Scan mode within ScopifyROM, visitors are able to see “the fire” as the brooch is spun around. This is an interactive piece of jewelry, and it is fabulous that ScopifyROM allows visitors to interact with it without risk to the object.

ScopifyROM highlights the phenomenon of fluorescence in diamonds, which is how ultraviolet light affects a diamond. Some diamonds appear to glow blue, green, yellow, orange, or a combination of colours when exposed to UV light. Fluorescence only occurs in 30%-35% of diamonds with varying strength, so the intensity as well as the colour can help “fingerprint” each gemstone. Now, using the app’s Spectralize filter, visitors can examine the brooch in UV light and determine which, if any of the diamonds fluoresce.

Katherine Dunnell

 @geokatgirl

Funds

THE ACTIVITIES OF ROM EARTH & SPACE ARE GENEROUSLY SUPPORTED BY A COMMUNITY OF DONORS WHO INVEST IN THE FOLLOWING FUNDS:

- Barrick Educational Classroom and Lab Fund
- Barrick Gold Corporation Gallery Fund
- Barrick Mining & Earth Sciences Education Coordinator Fund
- Chair of Mineralogy Endowment Fund
- DMV Acquisitions & Research Fund
- Dr. Max Hans Frohberg Fund
- Earth Sciences Equipment Fund
- Earth Sciences Gallery Endowment Fund
- Gems and Minerals Fund
- Hatch Managing Director Fund
- Hatch Post Doctorate Fund
- Hatch University Graduate Fund
- Kirwin Collection Fund
- Teck Earth Sciences Endowment Fund
- Teck Endowed Chair in Mineralogy Fund
- Thayer Lindsley Geological Trust Fund

[Thank you again for your generous support. For more information about ROM Earth & Space or this report, please contact:](#)

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