BHP Billiton is proud to support ‘Whistler 2013: Geoscience for Discovery’ (SEG 2013), hosted by the Society of Economic Geologists and the SEG Canada Foundation.

BHP Billiton is the world’s leading diversified resources company. With a world-class portfolio of large, long-life, low-cost, expandable, upstream assets, excellence in geoscience is critical to our exploration and resource development activities.

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**REGISTRATION**
Grand Foyer, Upper Level
Tuesday: 14:00 – 19:00
Wednesday: 07:00 – 16:30
Thursday: 07:30 – 16:30
Friday: 07:30 – 17:30

**EXHIBITION**
Ballrooms B/C & Grand Foyer, Upper Level (Exhibit Hall)
Tuesday: 17:30 – 19:00
Wednesday: 09:00 – 18:00
Thursday: 09:00 – 18:00
Friday: 09:00 – 16:10
*Visit BHP Billiton’s Exhibit for a specialty coffee.

**POSTER VIEWING**
Exhibit Hall, Upper Level
Wednesday: 12:45 – 13:30
16:30 – 18:00
Thursday: 12:45 – 13:30
16:30 – 18:00
Friday: 12:45 – 13:30
14:50 – 16:10

**SPEAKER READY ROOM**
Tantalus, Lower Level
Tuesday: 16:00 – 19:00
Wednesday: 07:00 – 17:30
Thursday: 07:30 – 17:30
Friday: 07:30 – 14:00

**PHONE APP**
Phone App: SEG2013

**INTERNET CAFE**
Valley Foyer, Lower Level
Wednesday–Friday: 07:15 – 18:00

**WIFI**
Network: SEG Network
Password: whistlercc

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**Welcome Reception**
17:30 – 19:00 | Exhibit Hall, Upper Level

**Welcome and Sessions O1**
Tectonics, Terranes and Metallogeny – The Geoscience Building Blocks
Session Chairs: Maurice Colpron & John Chapman
07:45 – 11:50 | Ballroom A, Upper Level
See page 11 for session titles and speakers

**Refreshment Break**
10:00 – 10:30 | Exhibit Hall, Upper Level

**Poster Introduction**
11:50 – 12:00 | Ballroom A

**Lunch**
12:00 – 12:45 | Exhibit Hall, Upper Level

**Poster Viewing with Authors present**
12:45 – 13:30 | Exhibit Hall

**Concurrent Sessions O2**
Russia – China – Mongolia
Session Chairs: Peter Lewis & Nikolay Goryachev
13:30 – 16:30 | Rainbow Theatre, Lower Level
See page 13 for session titles and speakers

**Concurrent Sessions O3**
Arc Terranes: Cu-Mo-Au-Ag
Session Chairs: Jim Lang & Mike Roberts
13:30 – 16:30 | Ballroom A, Upper Level
See page 14 for session titles and speakers

**Refreshment Break**
14:50 – 15:10 | Exhibit Hall, Upper Level

**Poster Viewing with Authors present & Happy Hour**
16:30 – 18:00 | Exhibit Hall, Upper Level

**Session O4**
Metallogenic Provinces and Belts – Regional and Deposit Controls
Session Chairs: Ross Sherlock & Paul Dobak
08:10 – 11:50 | Ballroom A, Upper Level
See page 16 for session titles and speakers

**Refreshment Break**
10:00 – 10:30 | Exhibit Hall, Upper Level

**Poster Introduction**
11:50 – 12:00 | Ballroom A

**Lunch**
12:00 – 12:45 | Exhibit Hall, Upper Level

**Poster Viewing with Authors present**
12:45 – 13:30 | Exhibit Hall

**Concurrent Sessions O5**
Western North America
Session Chairs: Ron Britten & Ian Graham
13:30 – 16:30 | Ballroom A, Upper Level
See page 18 for session titles and speakers

**Concurrent Sessions O6**
Continental Margins: Zn-Pb-Ag-Au, U
Session Chairs: Sarah Gleeson & Andrew Davies
13:30 – 16:30 | Rainbow Theatre, Lower Level
See page 19 for session titles and speakers

**Refreshment Break**
14:50 – 15:10 | Exhibit Hall, Upper Level

**Poster Viewing with Authors present & Happy Hour**
16:30 – 18:00 | Exhibit Hall, Upper Level

**Session O7**
Exploration, Discovery and Deposits
Session Chairs: Dean McDonald & Diane Nicholson
08:10 – 11:50 | Ballroom A, Upper Level
See page 22 for session titles and speakers

**Refreshment Break**
10:00 – 10:30 | Exhibit Hall, Upper Level

**Poster Introduction**
11:50 – 12:00 | Ballroom A

**Lunch**
12:00 – 12:45 | Exhibit Hall, Upper Level

**Poster Viewing with Authors present**
12:45 – 13:30 | Exhibit Hall

**Concurrent Sessions O8**
Metallogenic Provinces and Belts – Regional and Deposit Controls
Session Chairs: Ross Sherlock & Paul Dobak
07:45 – 11:50 | Ballroom A, Upper Level
See page 16 for session titles and speakers

**Refreshment Break**
14:50 – 15:10 | Exhibit Hall, Upper Level

**Poster Viewing with Authors present**
12:45 – 13:30 | Exhibit Hall

**Lunch**
12:00 – 12:45 | Exhibit Hall, Upper Level

**Poster Viewing with Authors present & Happy Hour**
16:30 – 18:00 | Exhibit Hall, Upper Level

**Session O9**
Exploration, Discovery and Deposits
Session Chairs: Tim Beale & John Barr
13:30 – 17:35 | Ballroom A, Upper Level
See page 23 for session titles and speakers

**Refreshment Break**
14:50 – 15:10 | Exhibit Hall, Upper Level

**Poster Viewing with Authors present**
12:45 – 13:30 | Exhibit Hall

**Lunch**
12:00 – 12:45 | Exhibit Hall, Upper Level

**Poster Viewing with Authors present & Happy Hour**
16:30 – 18:00 | Exhibit Hall, Upper Level

**SEG Awards Reception & Dinner**
19:00 – 22:00 | Ballroom A, Upper Level

**SEG Special Event**
18:30 – 22:00 | Brewhouse (See map on pg 1)

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All sessions are held at the Whistler Conference Centre unless noted otherwise.
Welcome!

We enthusiastically welcome you to the SEG / SEG Canada Foundation 2013 Conference in Whistler!

The concept for this Conference has deep roots dating back to the 1998 “Pathways to Discovery” Conference in Vancouver. This was the first and only time that the SEG and AMEBC (formerly the BC and Yukon Chamber of Mines) collaborated, the result being an exceptional mix of research approaches for an industry-savvy and international audience, thus stimulating a new dialogue on mineral exploration strategies and techniques.

Whistler 2013 continues this tradition with its “Geoscience for Discovery” theme which emphasizes the importance of tectonic, regional and district scale geological approaches to mineral exploration. Cordilleran regions in particular have benefited from an explosion of research and understanding of terrane concepts and orogenic processes which are the underpinnings of regional metallogeny and the first layer of knowledge required for exploration decision making.

This Conference brings together industry, university and geological survey researchers and professionals in the minerals sector to explore their passion for Cordilleran tectonics and metallogeny, with an emphasis on the northern Pacific Rim.

Our sincerest thanks go to our sponsors, who have been incredibly generous in ensuring the success of Whistler 2013. Because of their contributions, a large contingent of top international students in economic geology will participate in the Conference and many other students will benefit from ongoing programs run by the SEG and SEG Canada Foundation.

On behalf of the Organizing Committee and numerous volunteers, we welcome you to Whistler 2013 in the magnificent Canadian Cordillera.

—Gerry Carlson, Conference Co Chair, President, SEG Canada Foundation; Vice President Exploration, Pacific Ridge Exploration Ltd.

—Craig Hart, Conference Co Chair, Director, Mineral Deposit Research Unit, University of British Columbia

—Brian Hoal, Executive Director, Society of Economic Geologists

Photos courtesy of Tourism Whistler and SEG.
SEG & SEG Canada Foundation

The Society of Economic Geologists (SEG) serves 6,500+ members worldwide who are committed to advancing the science and the discovery of mineral resources through research, publications, courses, and field trips.

SEG Canada Foundation was established in 2000 to facilitate charitable contributions by Canadians and Canadian corporations to support innovative research and education in economic geology by students at Canadian institutions.

Thank You
Thank you to the Conference Executive Committee and the Conference Organizing Committee for planning Whistler 2013.

Conference Executive Committee
- Gerry Carlson, Conference Co Chair, President, SEG Canada Foundation; Vice President Exploration, Pacific Ridge Exploration Ltd.
- Craig Hart, Conference Co Chair, Director, Mineral Deposit Research Unit, University of British Columbia
- Brian Hoal, SEG Representative, Executive Director, Society of Economic Geologists
- John Thompson, Technical Program Chair, PetraScience Consultants Inc.
- Murray Hitzman, Technical Program Associate Chair, Charles F. Fogarty Professor of Economic Geology, Colorado School of Mines
- Ian Walton, Treasurer, Executive VP & CFO, Aurizon Mines Ltd.

Whistler 2013 expresses its sincere appreciation to the many volunteers who have dedicated their time and support in helping host the Conference.

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Contact the Conference Organizer
Sea to Sky Meeting Management Inc.
Suite 206, 201 Bewicke Avenue
North Vancouver, B.C., Canada V7M 3M7
T: +1 604 984 6448
E: seg2013@seatoskymeetings.com
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Conference Information

Internet Cafe
The Internet Cafe is located in the Valley Foyer, Lower Level. Six workstations are available for your use. Please limit your time on these computers if others are waiting. The Internet Cafe is open during the following hours:

- Wednesday: 07:15 – 18:00
- Thursday: 07:15 – 18:00
- Friday: 07:15 – 18:00

Networking Lounge
Garibaldi B on the Lower Level is available for informal meetings and networking. This is a quiet space where you can meet with other Conference participants throughout the Conference. The Networking Lounge is open during the following hours:

- Wednesday: 08:00 – 16:30
- Thursday: 08:10 – 15:30
- Friday: 08:10 – 17:30

Registration
The Registration Desk is located in the Grand Foyer, Upper Level and is open during the following hours:

- Tuesday: 14:00 – 19:00
- Wednesday: 07:00 – 16:30
- Thursday: 07:30 – 16:30
- Friday: 07:30 – 17:30

Speaker Ready Room
The Speaker Ready Room is located in the Tantalus Room, Lower Level and is open during the following hours:

- Tuesday: 16:00 – 19:00
- Wednesday: 07:00 – 17:30
- Thursday: 07:30 – 17:30
- Friday: 07:30 – 14:00

Speakers need to submit their presentation on a memory stick to the Speaker Ready Room the day prior to their presentation. Memory sticks should be clearly labelled with the name of the speaker and a contact number in Whistler.

Conference Evaluation Survey
We rely on your feedback to improve future SEG conferences. You will receive a link to an online evaluation survey via email following the Conference. Please take a few minutes to complete it.

Liability
The liability of Whistler 2013 organizers, for whatever legal reason, shall be limited to intent and gross negligence. The liability of commissioned service providers shall remain unaffected by this. Conference Participants take part in Whistler 2013 at their own risk. Oral agreements shall not be binding if they have not been confirmed in writing by SEG or its agents.

Name Badge
Your name badge is required for admission to all sessions and events.

Phone App
The Phone App will allow you to plan and build a personalized schedule for the Conference. Simply search for SEG2013 in your App store of choice.

Student Awards
Student Awards will be presented during the Farewell Social Event on Friday evening. Presentations and Posters presented by students will be eligible for an award.

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WiFi Internet
Free WiFi internet is offered in the Exhibit Hall and Grand Foyer, Upper Level.

- Network: SEG Network
- Password: whistlercc
Pre-Conference Program
Friday, September 20 to Tuesday, September 24

Pre-Conference Field Trips

Alaska: Tour of advanced and historic gold deposits in eastern Alaska
September 20 – 24
Guides: Curt Freeman, Tom Bundtzen

Vancouver Island – Myra Falls:
Mine tour of Myra Falls with field stops to visit local outcrops of interest in Sicker Group volcanics
September 21 – 24
Guides: Rick Sawyer, Tyler Ruks

Pre-Conference Short Courses

Gold Deposits:
Their Structure and Setting
September 23 – 24
David Rhys, Panterra Geoservices Inc.

Sponsored by:

Understanding Alteration:
Use in Exploration and Development
September 23 – 24
Course Leaders:
Anne Thompson, PetraScience Consultants Inc.
John Thompson, PetraScience Consultants Inc.
Course Presenters:
Bruce Gemmell, Centre of Excellence in Ore Deposits (CODES), University of Tasmania
James Lang, Hunter Dickinson Inc.
Melissa Gregory, Mineral Deposit Research Unit, University of British Columbia
Andrew Davies, Teck Resources Limited

Sponsored by:

Exploration Geochemistry
September 23 – 24
Dave Heberlein, Heberlein Geoconsulting
Fred Blaine, ioGlobal
Pim VanGeffen, ioGlobal
Lynda Bloom, Analytical Solutions Ltd.
Barry Smee, Smee and Associates Consulting Ltd.
Chris Benn, Goldfields Canada
Colin Dunn, Colin Dunn Consulting Inc.
Peter Bradshaw, First Point Minerals Corp.

Exploration Geophysics
September 23 – 24
Peter Kowalczyk, Mira Geoscience
Nigel Phillips, Mira Geoscience

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Tuesday

Welcome Reception  Exhibit Hall, Upper Level | 17:30 – 19:00

Conference Participants and their guests who have pre-registered are welcome to attend.

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Wednesday

Notes: The Session # (e.g. O1.1) refers to the Abstract # online at seg2013.org.
Student presentations are indicated with an asterisk (*) next to the session number.

Refreshments  Exhibit Hall, Upper Level | 07:15 – 07:45

Introduction  Ballroom A, Upper Level | 07:45 – 08:10
& Welcome

Gerry Carlson, Conference Co Chair, President, SEG Canada Foundation;
Vice President Exploration, Pacific Ridge Exploration Ltd.

Craig Hart, Conference Co Chair, Director, Mineral Deposit Research Unit, University of British Columbia

Alex Christopher, Vice President, Exploration, Teck Resources Limited

John Thompson, Technical Program Chair, PetraScience Consultants Inc.

Sessions O1  Ballroom A, Upper Level | 08:10 – 10:00

Tectonics, Terranes and Metallogeny – The Geoscience Building Blocks

Session Chairs: Maurice Colpron, Yukon Geological Survey and John Chapman, Geological Survey of Canada (GSC)

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08:10 – 08:40  01.1

KEYNOTE: Large Igneous Provinces (LIPs) and Metallogeny
Richard Ernst, Carleton University, Canada

08:40 – 09:05  01.2

Tectoids: From Columbia through Pangea to the Present
Alexander Yakubchuk, Orsu Metals Corporation, United Kingdom

Sessions O1 cont’d
09:00 – 10:00  
**O1.3**  
Tectonic and Metallogenic Styles of Late Mesozoic Orogenic Belts Along the North Asia Craton Margin (Eastern Russia and Mongolia)  
Nikolay Goryachev, North East Interdisciplinary Scientific Research Institute FEB RAS, Russia

09:30 – 10:00  
**O1.4**  
Keynote: Tectonics and Metallogeny: The Cordillera of British Columbia, Yukon and Alaska  
JoAnne Nelson, BC Geological Survey, Canada

**Refreshment Break**  
Exhibit Hall, Upper Level | 10:00 – 10:30

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**Sessions 01 (cont’d)**  
Ballroom A, Upper Level | 10:30 – 11:50

10:30 – 10:55  
**O1.5**  
Cretaceous to Tertiary Tectonic and Metallogenic Evolution of the Coast Belt in the Northern Cordillera  
Steve Israel, Yukon Geological Survey, Canada

10:55 – 11:20  
**O1.6**  
Tectonic Evolution and Cretaceous Gold Metallogenesis in Southwestern Alaska – A Review  
Garth Graham, US Geological Survey, USA

11:20 – 11:50  
**O1.7**  
KEYNOTE: Exploration – Evolving to Meet Changing Environments  
Tom Albanese, Rio Tinto Exploration Pty Ltd, Australia

**Poster Introduction**  
Ballroom A, Upper Level | 11:50 – 12:00

**Chair:** Dan Marshall, Simon Fraser University  
**Co Chairs:** Tim Baker, Eldorado Gold Corporation and Victoria Sterritt, Teck Resources Limited

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**Lunch**  
Exhibit Hall, Upper Level | 12:00 – 12:45

**Sponsored by:**

**RioTinto**

**Poster Viewing with Authors present**  
Exhibit Hall, Upper Level | 12:45 – 13:30

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**Refreshment Break**

The O2 and O3 Concurrent Sessions will have a refreshment break at 14:50, located in the Exhibit Hall, Upper Level.

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**CONCURRENT SESSIONS: O2 or O3**  
13:30 – 16:30

**Sessions 02**  
Rainbow Theatre, Lower Level

**Russia – China – Mongolia**  
**Session Chairs:** Peter Lewis, Eldorado Gold Corporation and Nikolay Goryachev, North East Interdisciplinary Scientific Research Institute FEB RAS, Russia

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13:30 – 14:00  
**O2.1**  
Construction of the Asian Continent and Evolution of Its Gold Provinces  
Richard Goldfarb, US Geological Survey, USA

**Sessions 02 cont’d**
14:00 – 14:25
**Tectonic and Metallogenic Development of Mongolia**  
Rodney Graham, Ogallal Exploration LLC, USA

14:25 – 14:50
**The VMS Deposits of Rudny Altai**  
Konstantin Lobanov, Orsu Metals Corp., United Kingdom

15:10 – 15:40
**KEYNOTE: Jurassic to Cretaceous Gold Metallogeny of Northeastern China**  
Gregory Collins, Eldorado Gold, China

15:40 – 16:05
**Major Types and Time-space Distribution of Mesozoic Ore Deposits in South China and Their Geodynamic Setting**  
Jingwen Mao, Chinese Academy of Geological Sciences, China

16:05 – 16:30
**The Jiaodong Gold District and the Importance of Magmatic Exploration Geochemistry in an Orogenic Setting**  
Stephanie Mills, Monash University, Australia

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**Sessions O3**  
**Ballroom A, Upper Level**

**Arc Terranes: Cu-Mo-Au-Ag**  
**Session Chairs:** James Lang, Hunter Dickinson Inc. and Mike Roberts, Kiska Metals Corporation

13:30 – 14:00
**KEYNOTE: Lithospheric Fertilization and Mineralization by Arc Magmas: Genetic Links and Secular Differences Between Porphyry Copper±Molybdenum±Gold and Iron Oxide-Copper-Gold Deposits**  
Jeremy Richards, University of Alberta, Canada

14:00 – 14:25
**Volcano Tectonic Setting of World-class Alkaline Porphyry and Epithermal Au ± Cu Deposits of the SW Pacific**  
Anthony Harris, Newcrest Mining Ltd, Australia

14:25 – 14:50
**Magmatic Evolution During Flattened Subduction and High-sulfidation Epithermal Ore Deposition: Quimsacocha Volcanic Center, Azuay Province, Ecuador**  
Peter MacDonald, Mineral Deposit Research Unit, University of British Columbia, Canada
Thursday

Refreshments  Exhibit Hall, Upper Level | 07:15 – 08:10

Sessions 04  Ballroom A, Upper Level | 08:10 – 10:00

**Metallogenic Provinces and Belts – Regional and Deposit Controls**

**Session Chairs:** Ross Sherlock, Gold Fields and Paul Dobak, Barrick Gold Exploration Inc.

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**EXPLORATION**

08:10 – 08:40 04.1

**KEYNOTE: Cretaceous-Cenozoic Geological Setting of Carlin Deposits in Nevada: Constraints from Patterns of Regional Exhumation and Advective Heat Flow**

Kenneth Hickey, Mineral Deposit Research Unit, University of British Columbia, Canada

08:40 – 09:05 04.2

**From the Outside Looking In: Vectoring Fluid Flow in Carlin-type Gold Deposits Using Light Stable Isotopes**

Jeremy Vaughan, Barrick Gold Corp., USA

09:05 – 09:30 04.3

**Close Time-spatial Relationships among Diverse Quartz-adularia Au+Ag Veins, Quartz-alunite Au+Ag+Cu Deposits and Alteration Zones and Stratiform S° Deposits in Miocene Volcanic Fields, CA-NV, USA**

Peter Vikre, US Geological Survey, USA

09:30 – 10:00 04.4


Claire Chamberlain, Teck Resources Limited, Chile

10:00 – 13:30

**Refreshment Break**  Exhibit Hall, Upper Level | 10:00 – 10:30

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**Sessions 04 (cont’d)  Ballroom A, Upper Level | 10:30 – 11:50**

10:30 – 10:55 04.5

**Tectonic Preconditioning and the Formation of Giant Porphyry Deposits**

Simon Richards, James Cook University, Australia

10:55 – 11:20 04.6

**Metallogenic Provinces and Epochs of Mexico**

Antoni Camprubi, Instituto de Geología, Universidad Nacional Autónoma de México, Mexico

11:20 – 11:50 04.7

**The Silver Metallogeny of Mexico: Flotsam of the Perfect Tectonic Storm?**

Peter Megaw, MAG Silver-IMDEC Inc., USA

**Poster Introduction**  Ballroom A, Upper Level | 11:50 – 12:00

Chair: Dan Marshall, Simon Fraser University

Co Chairs: Suzanne Paradis, Geological Survey Canada and Ben Whiting, Orko Silver

**Lunch**  Exhibit Hall, Upper Level | 12:00 – 12:45

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**Poster Viewing with Authors present**  Exhibit Hall, Upper Level 12:45 – 13:30
Refreshment Break

The 05 and O6 Concurrent Sessions will have a refreshment break at 14:50, located in the Exhibit Hall, Upper Level.

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CONCURRENT SESSIONS: 05 or 06  13:30 – 16:30

Sessions 05  Ballroom A, Upper Level

Western North America

Session Chairs: Ron Britten, First Point Minerals Corporation and Ian Graham, Discovery Harbour Resources Corporation

13:30 – 14:00  05.1
KEYNOTE: Metallogenic Framework for the White Gold and Dawson Range Districts of West-central Yukon and Eastern Alaska
Murray Allan, Mineral Deposit Research Unit, University of British Columbia, Canada

14:00 – 14:25  05.2
The Flame Discovery, Keno Hill District, Yukon
Alan McOnie, Alexco Resource Group, Canada

14:25 – 14:50  *05.3
Porphyry Cu-Mo Exploration of the Hualapai Mountains, Northwest Arizona, USA
Kevin Meazell, University of Nevada, USA

15:10 – 15:40  05.4
Geology, Geochemistry and Age of Intrusion-Related Mineralisation in Eastern Mexico
Morgan Poloquin, Almaden Minerals Ltd., Canada

15:40 – 16:05  *05.6
Tracking the Source and Evolution of Gold-mineralizing Fluids in the Carlin and Battle Mountain – Eureka Trends, Great Basin, Nevada
Edine Bakker, Institute of Geochemistry and Petrology, ETH Zurich, Switzerland

16:05 – 16:30  05.7
Geology of the Morelos Skarn-hosted Gold and Gold-copper-silver Deposits, Guerrero State, Mexico
Alejandro Kakarieka, Torex Gold Resources Inc., Canada

Sessions 06  Rainbow Theatre, Lower Level

Continental Margins: Zn-Pb-Ag-Au, U

Session Chairs: Sarah Gleeson, University of Alberta and Andrew Davies, Teck Resources Limited

13:30 – 14:00  06.1
KEYNOTE: SEDEX Deposits in the Northern Cordillera: Where Are We in the Basin, and What Role Does Water Column Euxinia Really Play?
Sarah Gleeson, University of Alberta, Canada

14:00 – 14:25  *06.2
Genesis and Structural Architecture of the CSA Cu-Ag Mine, Cobar, NSW, Australia
Roisin Kyne, University of Tasmania, Australia

14:25 – 14:50  06.3
Revised Geologic and Metallogenic View of the Carbonate-hosted Nanisivik Zinc District, Nunavut, Canada
Elizabeth Turner, Laurentian University, Canada

15:10 – 15:40  06.4
An Overview of the Structure, Stratigraphy and Zn-Pb-Ag Deposits of the Red Dog District, Northwestern Alaska
Scott Blevings, Teck Resources Limited, Canada

15:40 – 16:05  *06.5
Sedimentary Rock Hosted Stratiform Copper-silver Mineralization: Timing, Fluid-flow and Deposit Genesis in the Redstone Copperbelt, Northwest Territories, Canada
Jack Milton, University of British Columbia, Canada

16:05 – 16:30  06.6
Carbonatites in Western North America – Occurrences, Metallogeny and Exploration Strategies
Leo Millonig, University of British Columbia, Canada

Poster Viewing with Authors present & Happy Hour  Exhibit Hall, Upper Level  16:30 – 18:00

Happy Hour is complimentary for Conference Participants.

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FREEPORT-MCMORAN COPPER & GOLD
THURSDAY
17:30 – 22:00

BHP Billiton Student Networking Event
Garibaldi, Lower Level
17:30 – 19:00

Registered Student Conference Participants are welcome to attend.

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SEG Special Event
Brewhouse, 4355 Blackcomb Way (map on pg.1)
18:30 – 22:00

The SEG Special Event is a ticketed event. Please bring your SEG Special Event ticket with you to the event for admission.

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Whistler 2013: Geoscience for Discovery
Friday

Refreshments
Exhibit Hall, Upper Level | 07:15 – 08:10

Sessions 07
Ballroom A, Upper Level | 08:10 – 10:00

Exploration, Discovery and Deposits
Session Chairs: Dean McDonald, Hecla Mining Company and Diane Nicholson, Hunter Dickinson Inc.

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08:10 – 08:40

KEYNOTE: Anglo American Exploration — A Decade of Discovery
Graham Brown, SEG, United Kingdom

08:40 – 09:05

The Brucejack High-grade Gold Project
Warwick Board, Pretium Resources Inc., Canada

09:05 – 09:30

Mapping the Hydrothermal Plume of Porphyry Cu Deposits Using Lithogeochemistry and SWIR Mineralogy
Richard Tosdal, PicachoEx LLC, USA

09:30 – 10:00

KEYNOTE: Goldrush — Discovery Details and Some Lessons Learned from the Latest Giant Gold Deposit Discovered in Nevada
Kevin Creel, Barrick Gold Corp., Chile

Refreshment Break
Exhibit Hall, Upper Level | 10:00 – 10:30

Sessions 07 (cont’d)
Ballroom A, Upper Level | 10:30 – 12:00

10:30 – 10:55

Metallogeny of the Megashear Gold Belt, Sonora, Mexico: An Emerging World-Class Orogenic Gold Province
John-Mark Staude, Riverside Resources, Canada

07:6

Discovery and Geology of the Resolution Porphyry Cu-Mo Deposit, Arizona
Hamish Martin, Resolution Copper Co., USA

11:20 – 11:50

KEYNOTE: Exploration and Discovery of the White, Coffee and QV Gold Deposits: Opening New Gold Districts in West-central Yukon
Shawn Ryan, Ryanwood Exploration, Canada

Poster Introduction
Ballroom A, Upper Level | 11:50 – 12:00

Chair: Dan Marshall, Simon Fraser University
Co Chairs: Christa Sluggett, Geoscience BC and Murray Allen, Mineral Deposit Research Unit, University of British Columbia

Lunch
Exhibit Hall, Upper Level | 12:00 – 12:45

Sponsored by:

Anglo American

Poster Viewing with Authors present
Exhibit Hall, Upper Level 12:45 – 13:30

Sessions 08
Ballroom A, Upper Level | 13:30 – 14:00

Exploration, Discovery and Deposits
Session Chairs: Tim Beale, Iron Creek Capital Corporation and John Barr, Anglo American Exploration (Canada) Ltd.

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13:30 – 14:00

KEYNOTE: A Comparison of Carlin-type Deposits in Nevada and Yukon
Greg Arehart, University of Nevada, Reno, USA

Sessions 08 cont’d
FRIDAY 14:00 – 20:00

14:00 – 14:25  08.2
Use of Stable Isotopes in Mineral Exploration: Teaching an Old Dog New Tricks
Shaun Barker, University of Waikato, New Zealand

14:25 – 14:50  *08.3
Mineralization and Alteration of the Late Triassic Glacier Creek Cu-Zn VMS Deposit, Palmer Project, Alexander Terrane, Alaska
Nathan Steeves, University of Ottawa, Canada

Refreshment Break & Poster Exhibit Hall, Upper Level
Viewing with Authors present  14:50 – 16:10

Sessions O8 (cont’d) Ballroom A, Upper Level | 16:10 – 17:35

16:10 – 16:40  08.4
Geology and Exploration of the Blackwater Gold-Silver Deposit
Mark Petersen, New Gold Inc., USA

16:40 – 17:05  08.5
Regional Metallogeny and Genesis of a New Deposit Type – Disseminated Awaruite (Ni-Fe Alloy) Mineralization Hosted in the Cache Creek Terrane
Ron Britten, First Point Minerals Corp., Canada

17:05 – 17:35  08.6
KEYNOTE: Metallogenic and Jurisdictional Inequalities Around the Northern Pacific Rim: Implications for Discovery
Richard Sillitoe, Consultant, United Kingdom

Farewell Garibaldi Lift Co., 4165 Springs Lane (map on pg.1)
Social Event  17:35 – 20:00

The Farewell Social Event is a ticketed event. Please bring your Farewell Social Event ticket with you to the event for admission.
The SEG Student Awards will be presented at this event.

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Post-Conference Program
Friday, September 27 to Thursday, October 3

Post-Conference Field Trips

Porphyry Systems of Central and Southern BC: Tour of Central BC porphyry deposits from Prince George to Princeton
Guides: Jim Logan, Tom Schroeter
September 27 – October 2

Bralorne: One day tour of BC’s most prolific and recently reactivated gold mine
Guide: Matt Ball
September 28

Nevada – Carlin Trend: Tour of Northern Nevada with a mix of classic Carlin deposits and recent discoveries
Guides: Moira Smith, Dave Rhys, Marcus Johnston
September 28 – October 3

Post-Conference Short Courses

Mineral Exploration Applications of Stable Isotopes
Shaun Barker, University of Waikato and MDRU-UBC
Larry Cathles, Cornell University
David Cooke, University of Tasmania
Kurt Kyser, Queens University
Greg Dipple, MDRU-UBC
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Exploration Targeting Best Practice Using Geofacets
Peter Kowalczyk, Mira Geoscience
Dianne Mitchinson, Mira Geoscience
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Posters

Network with Poster Presenters and Conference Participants in an informal setting while perusing the Posters on display. *Posters are only on display for one day each* at the Conference.

Location: Exhibit Hall, Upper Level

Hours
- Wednesday: 12:45 – 13:30, 16:30 – 18:00
- Thursday: 12:45 – 13:30, 16:30 – 18:00
- Friday: 12:45 – 13:30, 14:50 – 16:10

Digital Posters

Posters are also available in digital format via the Digital Poster stations. The Digital Posters provide an opportunity to search posters by author or title and see all posters throughout the Conference if you miss a poster on the day it was displayed. Three Digital Poster stations are located in the Exhibit Hall (labelled DP-1, 2 & 3 on the Floor Plan).

Poster Authors

Set up of Posters will take place on the morning your Poster is on display between 07:15 and 07:45. If your Poster is scheduled to be on display on Wednesday, you may set up your Poster on Tuesday between 14:00 and 17:00.

Posters must be removed at the end of each day. Posters on display on Friday should be removed no later than 16:15. Any Poster not removed will be discarded.
### Listing of Posters by Day

**NOTES:** The Reference Number for the poster indicates the day it is on display, and its poster board location.

P1 – Wednesday Posters; P2 – Thursday Posters; P3 – Friday Posters

Example: P1.01 = A poster presented on Wednesday, on Poster Board #1.

### WEDNESDAY: POSTER SESSION P1

**Exhibit Hall, Upper Level**  
12:45–13:30, 16:30–18:00

**Chair:** Dan Marshall, Simon Fraser University  
**Co Chairs:** Tim Baker, Eldorado Gold Corporation and Victoria Sterritt, Teck Resources Limited

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<td><strong>Modern Stratiform Volcanogenic Ore Formation in the Atlantis II Deep – The Red Sea</strong></td>
<td>Tea E. Laurila, University of Ottawa, Canada</td>
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<td><strong>The Archean Coté Gold Deposit, Ontario, Canada: A Large Tonnage, Low-Grade Deposit Centred on a 2740 Ma Magmatic-Hydrothermal Diorite Breccia Complex</strong></td>
<td>Laura R. Katz, Laurentian University, Canada</td>
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<td><strong>Variations in Whole Rock and Mineral Chemistry around the VHMS Deposits of the Que-Hellyer Volcanics, Tasmania, Australia</strong></td>
<td>Selina W. Wu, University of Tasmania, Australia</td>
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<td><strong>Quartz Paragenesis at the Veladero Deposit, Argentina: New Insights into Lithocap Alteration in the High-Sulfidation Epithermal Environment</strong></td>
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<td><strong>Stable Te Isotope Variability in Ore-forming Systems: Causes and Magnitude</strong></td>
<td>Andrew P. Fornadel, Iowa State University, USA</td>
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<td><strong>Major Ore Types of the Lalor Gold-Rich Massive Sulfide Deposit, Snow Lake, Manitoba</strong></td>
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<td>Nuru M. Said, University of Western Australia, Australia</td>
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<td>Alexandra de Joux, Edinburgh University, United Kingdom</td>
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<td>Yuling Xie, University of Science and Technology Beijing, China</td>
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<td><strong>Trace Element Partitioning Between Gahnite, Garnet, and Biotite in Gahnite-Bearing Rocks: Implications for Metamorphic Processes and Exploration for Pb-Zn-Ag Mineralization</strong></td>
<td>Joshua J. O’Brien, Iowa State University, USA</td>
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<td>Xiaofeng Li, Chinese Academy of Sciences, China</td>
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<td>Xuan Liu, Institute of Geology and Geophysics, Chinese Academy of Sciences, China</td>
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P1.19  New Insights on West African Tectonics and Iron Mineralization Based on Zircon U-Pb SHRIMP Geochronology and Structural Mapping
Bert De Waele, SRK Consulting, Australia

P1.20*  Resolving the Timing of Fluid Flow within Metamorphosed Terranes: U-Pb Age Depth-Profiles of Zircon from the North Caribou Greenstone Belt, Canada
Colter J. Kelly, University of Ottawa, Canada

P1.21  The Izok Volcanic-hosted Massive Sulphide Deposit, Nunavut, Canada: A New Interpretation of the Rhyolitic Stratigraphy and Implications for Exploration
Kimberley Bailey, MMG Limited, Canada

P1.22*  Tracing S and Fe Isotope Variations at the Hart Komatiite-hosted Ni-Deposit, Abitibi Greenstone Belt, Ontario, Canada
Russel S. Hiebert, University of Manitoba, Canada

P1.23  Kupol LSe Vein District, Russian Federation: Integration of Exploration Datasets to Understand Post-Mineral Disruption of the Vein-Alteration System
Peter S. Fischl, Kinross Gold Corp., Canada

P1.24  Ag-Pb-Bi Minerals of the Pingüino In-bearing Polymetallic Epithermal Deposit, Deseado Massif, Patagonia, Argentina
Sebastian M. Jovic, Instituto de Recursos Minerales - Universidad Nacional de La Plata – CONICET, Argentina

P1.25*  Zonation and Paragenesis of Alteration and Mineralization in the Gecko Corridor, Tennant Creek Mineral Field, Northern Territory, Australia
Lauren Burley, EGRU, School of Earth and Environmental Sciences, James Cook University, Australia

P1.26*  Lithogeochemistry and Sulfur Isotopic Composition of Hydrothermal Exhalites Associated with the Lemarchant Volcanogenic Massive Sulfide (VMS) Deposit, Tally Pond Belt, Central Newfoundland
Stefanie Lode, Memorial University Newfoundland, Canada

P1.27  Pre-Metamorphic Re-Os Isochron Ages from Low Concentration Au Rich Sulfides and Native Au From Obuasi, Navachab, and Geita, Africa
Ryan Mathur, Juniata College, USA

P1.28  The Porphyry Cu-Au Deposit at Kiselaq, Tulare District, Serbia
Dragan Dragic, Dunav Minerals, Serbia

P1.29*  Mineralogical, Stable Isotope, and Fluid Inclusion Studies of the Oganchinskoe Au-Ag Epithermal Deposit, Kamchatka Peninsula, Far East of Russia
Daria Bukhanova, Kamchatka State University, Russia

P1.32*  Integrated Studies on Collision-related Sharang Porphyry Mo Deposit in Tibet, China: Geology, Geochronology and Geochemistry
Junxing Zhao, Institute of Geology and Geophysics, Chinese Academy of Sciences, China

P1.34  Evaluation of Soil Gas Hydrocarbon (SGH Analysis of Lake Sediments for Mineral Exploration: A Case Study Over the “Ring of Fire” Deposit Area, Ontario, Canada
Richard Dyer, Ontario Geological Survey, Canada

P1.35  Late Variscan Magmatic Activity in Southern Daxinganling, China: Use of the Daitongshan Copper Deposit and Lamahanshan Polymetallic–Silver Deposit as Example
Zhenhua Zhou, Institute of Mineral Resources, Chinese Academy of Geological Sciences, China

P1.36*  In situ LA-ICP-MS of Sulfide Minerals in VMS Deposits throughout the Bathurst Mining Camp, New Brunswick, Canada: Volatile Trace Element Concentrations and Distribution with Implications for their Syngenetic to Polyphase Metamorphic History
Azam Soltani Dehnavi, University of New Brunswick, Canada

P1.37*  Exploring Organic Content as a Potential Vector for Gold Mineralization in the Ankerite Horizon at the Dome Mine, Timmins, Ontario, Canada
Neil R. Banerjee, Western University, Canada

P1.38  Copper Isotopic Vectors to Supergene Enrichment: Leached-cap Iron Oxides From the Quellaveco Porphyry Copper Deposit, Peru
Ryan Mathur, Anglo American, Chile

P1.40*  Hydrothermal Fluid Evolution at the Lagunas Norte High-Sulfidation Au Deposit, Peru
Harry Hanneman, Colorado School of Mines, USA

P1.41*  Structural Controls on the Formation of the El Limon Au Vein Associated to the Major Otu Shear Zone Fault System, Zaragoza - Antioquia, Colombia
Fabio A. Mendoza Villero, Universidad Nacional de Colombia, Colombia

P1.42  Isotope Systematics of the Hugo Dummett Cu-Au Porphyry Deposit (Oyu Tolgoi, Mongolia)
Reimar Seltmann, CERCAMS, Natural History Museum, United Kingdom

P1.43*  The Yanque-Dolores Polymetallic District: A Key for Exploration in the Andahuaylas-Yauri Region (Cuzco, Peru)
Nicola Mondillo, Dipartimento Scienze della Terra, dell’Ambiente e delle Risorse, Italy
POSTERS

THURSDAY:  POSTER SESSION P2
Exhibit Hall, Upper Level  
12:45–13:30, 16:30–18:00

Chair: Dan Marshall, Simon Fraser University
Co Chairs: Suzanne Paradis, Geological Survey Canada and Ben Whiting, Orko Silver

P2.01  Copper and REE-Th Metallogeny in Lemhi County, Idaho: Magmatism and Repeated Hydrothermal Activity along a Paleozoic Continental Margin  
Virginia S. Gillerman, Idaho Geological Survey (University of Idaho), USA

P2.02  A New Sedimentary Rock-Hosted Gold Belt, Western Timok, Eastern Serbia  
Richard Tosdal, PicachoEx LLC, USA

P2.03* The Juruena Gold Deposit, Northwestern Sector of the Alta Floresta Gold Province, (MT), Brazil: An Example of Paleoproterozoic Gold-Rich Porphyry System?  
Andersson Acevedo Serrato, Universidade Estadual de Campinas, Brazil

P2.04  SEDEX Targeted Geoscience Initiative-4 – Developing New Exploration Concepts and Methodologies  
Suzanne Paradis, NRCAN-Geological Survey of Canada, Canada

P2.05  A Mother Lode in the Silver State: Designation of the Argentoro Mineral Belt in Central and Western Nevada, USA  
Marcus K. Johnston, Renaissance Gold Inc., USA

P2.06* Trace Fossils in the Red Dog Zn-Pb-Ag Deposits: A New Tool for Understanding the Timing Between Sedimentary Deposition, Diagenesis, and Mineralization  
Merilie A. Reynolds, Department of Earth and Atmospheric Sciences, University of Alberta, Canada

P2.07  Carbonate-hosted Nonsulphide Zn-Pb Mineralization in Glaciated Regions of British Columbia, Canada  
Suzanne Paradis, NRCAN-Geological Survey of Canada, Canada

P2.08* A Stratigraphic Framework for Late Cretaceous and Eocene Au-Ag Mineralization in Central British Columbia  
Esther-Jeanne Bordet, University of British Columbia Mineral Deposit Research Unit, Canada

P2.09* Middle to Late Jurassic Metamorphic Fluid Source for Orogenic Gold in the Klondike-White Gold District, West-central Yukon, Canada  
Reid Staples, Simon Fraser University, Canada

P2.10* Regional Metamorphism and Deformation of the North Caribou Belt (W. Superior Province) and the Relationship with the Lode Gold Mineralization at Musselwhite Mine  
Émilie Gagnon, University of Ottawa, Canada
P2.11 Geological, Geochemical, and Geophysical Characterization of the Pebble Porphyry Cu-Au-Mo Deposit, Southwestern Alaska, USA: Implications for Regional Exploration
Karen D. Kelley, U.S. Geological Survey, USA

P2.12* Characterization of Carbon in Archean Graphitic Argillites of the Abitibi Greenstone Belt, Timmins – Kirkland Lake, ON
Julia Pickering, University of Ottawa, Canada

P2.13 Geology and Age Relationships of Contrasting Styles of Cu-Mo-Au Porphyry Mineralization at the Woodjam Project, Horsefly, British Columbia
Amelia Rainbow, Gold Fields Canada, Canada

P2.14 Alkaline Ultramafic Rocks of Southeastern Illinois and Western Kentucky and their relation to REE Mineralization at Hicks Dome (IL) and Related Diatremes
Richard H. Fifarek, Southern Illinois University, USA

P2.15* Metallogeny and Gold Distribution of the Potato Hills Trend, Dublin Gulch, YT
Fraser A. Kirk, Memorial University, Canada

P2.16 Slab Breaks and Early Mesozoic Paired Alkaline Porphyry Deposit Belts (Cu-Au ± Ag-Pt-Pd-Mo) in the Canadian Cordillera
James M. Logan, BC Geological Survey, Canada

P2.17 Regional Metallogeny Patterns as Revealed by the Distribution of Heavy Mineral Concentrates and Silt Chemistry in Stream Sediments from the Mackenzie Mountains, NWT
Hendrik Falck, NWT Geoscience Office, Canada

P2.18* Post-Mineralization Exhumation, Weathering, Denudation, and Burial of Carlin-Type Au-Mineralization in the Cortez Hills District, Nevada: Implications for Depth of Formation
Trenton T. Newkirk, University of British Columbia, Canada

P2.19* The Chromite-Bearing Ultramafic-Mafic Complexes of the Vizcaíno Peninsula (Baja California Sur, Mexico): Re-Visited for Platinum-Group Minerals
Luis A. Jiménez Galindo, Facultad de Ingeniería, Universidad Nacional Autónoma de México, Mexico

P2.20* MacMillan Pass SEDEX Mineralization: The Geochemical Characterization of a Vent Complex
Joseph Magnall, University of Alberta, Canada

P2.21* The Potential for Ni-PGE Sulphide Mineralization in Palaeogene Lavas and Magma Conduits of Western Scotland, UK: A Noril’sk Analogue?
Hannah S. Hughes, Cardiff University, United Kingdom

P2.22* Orebody Characterization and the Structural Features that Govern Copper and Cobalt Mineralization in the Eastern Limb of the Lufilian Arc, Democratic Republic of Congo
Russell D. Johnson, University of the Witwatersrand, South Africa

P2.23 Geology of the Epithermal and Porphyry Mineralization in Taviche Mining District, Central Oaxaca, Mexico: Geochemical, Geochronological and Isotopic Contribution
Jesús Castro, Geoconsulting Ingenieros, SC, Mexico

P2.24 Chemical and Physical Variations in the Late Triassic Nicola Group, Quesnel Terrane, British Columbia and Implications for Porphyry Cu-Au Exploration
Thomas Bissig, Mineral Deposit Research Unit, Canada

P2.25* Metallogenic Evolution of the Archean Slave Craton with a Focus on Under-Evaluated VMS Deposit Potential
Luke Ootes, Northwest Territories Geoscience Office, Canada

P2.26 Deep Magnetic Imaging near the Pebble Porphyry Cu-Au-Mo Deposit in Southwestern Alaska: Implications for Exploration
Eric D. Anderson, US Geological Survey, USA

P2.27 Structural Control of Mineralization Recognized by Magnetite-Destructive Faults of the Western Yukon and Eastern Alaska Cordilleran Hinterland
Matias G. Sanchez, Mineral Deposit Research Unit, Canada

P2.28* Characterization of the Nonsulfide Zinc Prospects in the Reef Ridge-Type (Alaska): A Possible New Genetic Model?
Licia Santoro, Dipartimento Scienze della Terra, dell’Ambiente e delle Risorse, Università di Napoli Federico II, Italy

P2.29 The Source of Metals in Sedimentary Rock Hosted Stratiform Copper-Silver Deposits
Jack E. Milton, University of British Columbia, Canada

P2.30* Geology and Mineralogical Features of the Archean Au-Sb Engenho D’água Mineralization, Rio Das Velhas Greenstone Belt, Quadrilátero Ferrífero, Brazil
Andreia C. Beleque, Universidade de São Paulo, Brazil

P2.31* Widespread Cretaceous Tectonism and Mineralization of the Northern Canadian Cordillera: Results From Zircon (U-Th)/He Thermochronology
David Schneider, University of Ottawa, Canada

P2.32 Mesozoic Tectonics and Geochronology of Orogenic Gold Metallogeny in California
Ryan D. Taylor, US Geological Survey, USA
P2.33 Petrogenesis and Metal Budget of Eocene Igneous Rocks from Magmatic Systems Concurrent with Carlin-Type Gold Deposition in Nevada, USA: A Melt Inclusion Study
Celestine N. Mercer, U.S. Geological Survey, USA

P2.34* Trace Element Characteristics and Pb Isotopic Compositions of Pyrite in the Howard’s Pass Zn-Pb District, Selwyn Basin, Yukon
Michael Gadd, Queen's University, Canada

P2.35 Geological Setting of Carlin-Type Gold Mineralization in the Rackla Belt of East-Central Yukon
David Moynihan, Yukon Geological Survey, Canada

P2.36 Regional Exploration Using the Jurassic - Triassic Unconformity
Jeff W. Kyba, Regional Geologist, Canada

P2.37 Polymetallic Veins at Port Radium, Great Bear Continental Arc, Northwest Canadian Shield: Genetic Implications of Age Constraints from the Diabase Swarms Emplaced at 1740 and 1590 Ma
Sunil Gandhi, Sunil Gandhi Consulting, Canada

P2.38* Trends in Metal Enrichment in Framboids from a Metal-Rich and a Metal-Poor Estuary
Daniel D. Gregory, University of Tasmania, Australia

P2.39 Effects of Oxidation and Weathering on Pyrite Chemistry, and Implications for Evaluating Regional Gold Fertility of the Selwyn Basin, Yukon
Patrick J. Sack, Yukon Geological Survey, Canada

P2.40 Lateritization Neglected as a Gold Metallotect for the Past Fifteen Years: Bridging a Generational Knowledge Gap in Tropical Gold Geochemistry
Danae A. Voormeij, Mynah Exploration Inc., Canada

P2.41* REE-Be-U-Enriched Fluorite Mineralization of the Round Top Laccolith, Sierra Blanca Peaks, Trans-Pecos Texas
L. Christine O’Neill, The University of Texas at Austin, USA

P2.42 Magmatic-Hydrothermal Origin of the Carlin-Type Gold Deposits in Nadaleen Trend, Yukon
Morgan G. Li, Kinkarso Tech Ltd, Canada

P2.43* Regional Mineral Exploration in Porphyry Systems Using ASTER: An Inexpensive and Reliable Methodology for Targeting Alunite
Doug L. Standart, University of Texas at El Paso, USA
P3.11 Application of Visible-Near Infrared and Short Wave Infrared Spectroscopy to SEDEX Deposit Exploration in the Selwyn Basin, Yukon
Jan M. Peter, Geological Survey of Canada, Canada

P3.12* Au Mineralization at 3Ace, Southeast Yukon
Shaunaugh C. Whelan, University of Alberta, Canada

Shaun L. Barker, University of Waikato, New Zealand

P3.14 Structural Evolution of the Sisson W-Mo Deposit, New Brunswick, Canada
Robert J. Duncan, Mineral Deposit Research Unit, Canada

P3.15 Copper Isotope Systematics of the Red Chris and Casino Porphyry Deposits: Contrasting Response to Secondary Modification Processes in Two Cordilleran Mineral Systems
John B. Chapman, Geological Survey of Canada – Natural Resources Canada, Canada

P3.16* Platinum Group Element Mineralization in the DJ/DB Zone of the Turnagain Alaskan-type Ultramafic Intrusion, North-central British Columbia
Sarah Jackson-Brown, University of British Columbia, Canada

P3.17 New Technology for Imaging Key Vectoring Parameters Between Boreholes
Robert L. Gordon, Caracle Creek Consulting, Canada

P3.18 Rapid Mineralogical Analysis in Support of Mineral Exploration
Brian Curtiss, ASD – a PANalytical Company, USA

P3.19 The Kiyuk Lake Deposit — A New Style of Gold Mineralization in the Western Churchill Province of Southern Nunavut, Canada
Dennis Arne, CSA Global, Canada

P3.20 Application of Mass-Dependent and Mass-Independent S Isotopes in the Exploration for Magmatic Ni-Cu-PGE Deposits
Michael Lesher, Laurentian University, Canada

P3.21 A Practical Method to Enhance Discovery in Geochemical Data Using Statistically Derived Relative Values (R), and Geologically Conceived Discrimination Factors (D)
Colin L. Godwin, Dept Earth, Ocean & Atmospheric Sciences, University of British Columbia, Canada

P3.22 Geology of the Kwanika Porphyry Deposits in British Columbia with Emphasis on the Alteration, Sulfide and Geochemical Zonation Patterns
Myron Osatenko, Micron Geological, Canada

P3.23 Geology and Genesis of the Newton Bulk-Tonnage Au-Ag Deposit, Central British Columbia
Lindsay McClenaghan, Mineral Deposit Research Unit, University of British Columbia, Canada

P3.24 Geology and Discovery History of the Large “La Preciosa” Epithermal Silver-Gold Deposit in Durango, Mexico
Ben Whiting, Belcarra Group, Canada

P3.25 Maalinao-Caigutan-Bijoy (MCB), a Very Young Porphyry-High Sulfidation Epithermal Cu-Au Deposit in the Northern Luzon Central Cordillera, Philippines
Leonardo L. Subang, Freeport-McMoRan, Philippines

P3.26 Late Jurassic Fault-Hosted Gold Mineralization of the Golden Saddle Deposit, White Gold District, Yukon Territory
Leif Bailey, University of British Columbia, Canada

P3.27 Relationships Between Calc-Alkalic and Alkalic Mineralization at the Southeast Zone (Cu-Mo) and Deerhorn (Cu-Au) Porphyry Deposits: Woodjam Property, Central British Columbia
Irene del Real Contreras, University of British Columbia, Canada

P3.28* Allanite and Apatite Compositional Variations and Implications for the Magmatic-Hydrothermal Evolution of the Mineralized Veins in the Hoidas Lake REE Deposit, Saskatchewan
Krisztina Pandur, University of Saskatchewan, Canada

P3.29* Magmatic Controls on the Formation of the Nechalacho Rare Metal Deposit (Thor Lake, NWT, Canada)
Volker Möller, McGill University, Canada

P3.30* Sulfide Paragenesis and LA-ICP-MS Arsenopyrite Geochemistry at the Meliadine Gold District, Nunavut: Implications for Re-Os Arsenopyrite Geochronology and Ore Deposit Genesis
Christopher Lawley, Natural Resources Canada, Canada

P3.31 Portable X-Ray Fluorescence — an Integral Part of Specialty Metals Exploration Strategies
George J. Simandl, British Columbia Geological Survey, Canada

P3.32 Platinum Group Element Geochemistry and Platinum Group Minerals within Ultramafic Arc Magmas: The Giant Mascot Ni-Cu (-PGE) Deposit, Hope, B.C.
Matthew J. Manor, University of British Columbia, Canada

P3.33 Early Halo Type Porphyry and Breccia Cu-Mo Mineralization at Copper Creek, Pinal County, Arizona
K. Brock Riedell, Consulting Geologist, Canada

P3.34 Geology of the Kwanika Porphyry Deposits in British Columbia with Emphasis on the Alteration, Sulfide and Geochemical Zonation Patterns
Myron Osatenko, Micron Geological, Canada

P3.35 The High Lake East Volcanogenic Massive Sulphide Deposit, Nunavut, Canada: Timeline to a New Discovery
Trish Toole, MMG Limited, Canada
**Exhibition**

Visit the Exhibition to discover new products and services from some of the industry’s leading organizations.

**Location:** Exhibit Hall, Upper Level  
**Hours**  
Tuesday: 17:30 – 19:00  
Wednesday: 09:00 – 18:00  
Thursday: 09:00 – 18:00  
Friday: 09:00 – 16:10

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**P3.36** Technology Platforms Supporting Future Mineral Exploration  
James S. Cleverley, CSIRO Minerals Down Under, Australia

**P3.37*** Gravity Model of a Cu-Mo Porphyry Deposit at Copper Flat, Hillsboro New Mexico  
Adrian E. Gutierrez, University of Texas at El Paso, USA

**P3.38** SEM-Based Quantitative Mineralogy in Economic Geology – The Black Butte Cu-Co Deposit as an Example  
Garth E. Graham, U.S. Geological Survey, USA

**P3.39*** Rapid Oxidation and Secondary Mineral Growth on Drill Core from the Goldrush Complex Carlin-type Gold Deposit, Eureka County, Nevada  
Devon L. Smith, University of Nevada, Las Vegas, USA

**P3.40** Fire Assay or Aqua Regia Digestion: Choosing the Optimal Method for Au Analyses in Geological Materials  
Matthew I. Leybourne, ALS Geochemistry, Canada

**P3.41** Promontorio Ag, Pb, Zn, Au Diatreme Breccias  
Tom Richards, Society of Economic Geologists, Canada
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SEG Student Chapters
SEG Student Chapters will be displaying their programs during the Conference. Visit booths and poster displays in the Grand Foyer, Upper Level.

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Posters

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As the global exploration industry confronts the twin megatrends of increasing raw material demand and depletion of near-surface deposits, we need to build a capability to meet these challenges. Doing so will require the best new science and tools, and new ways of applying them. Also needed are new concepts and technologies from fields that we currently do not even consider.

The goal of SEG 2014 is to provide a forum to bring together the key work that is contributing to this new capability. This is a meeting where the broadest spectrum of economic geology stakeholders can interact, covering topics that range from advanced academic studies to practical applications.

Key sub-themes of SEG 2014
- **Fundamental Advances in Economic Geology** – including relevant science not necessarily considered traditional economic geology
- **Mineral Systems Science** – focusing on how the various process components that make orebodies fit together across different scales
- **Deposit Footprints** – emphasizing how these can be expanded and discriminated from false positives
- **Innovations in Exploration Technology** – finding new tools and smarter ways of applying old tools
- **Exploration Management, Targeting Science and Mineral Economics** – optimizing the business of mineral exploration and its interface with science
- **Case Studies of 21st Century Exploration Success** – learning from actual examples of success
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