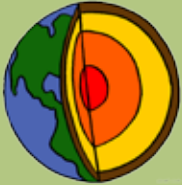


Teachers' Fall 2011 Update

Mineral Resources Education Program of BC (1991 - 2011)

FALL 2011

20 YEARS OF
SUPPORTING
GEOSCIENCE,
MINERAL
RESOURCES
AND MINING
EDUCATION IN
BC SCHOOLS.



LIBRARIANS!

Please share
with teachers in
your school.
Thank you!



MINERAL RESOURCES
EDUCATION PROGRAM OF
BRITISH COLUMBIA
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We are celebrating 20 years!

Since its inception in 1991, the Mineral Resources Education Program of BC (MREP-BC) has been encouraging and supporting teachers across British Columbia in their quest to bring quality geoscience, mineral resources and mining education into their classrooms. MREPBC has reached more than 7,600 teachers and all their students, creating a rippling effect that far surpasses the direct delivery of our acclaimed programs. We have worked to keep our resources current, to respond to changing curriculum and needs of teachers, and to keep our program vibrant.



Central to our efforts are MREPBC's teacher-written, integrative units that are shared with other teachers through in-service workshops. We are delighted to have recently launched our latest – *the Grade 7 Resource Unit: Earth Sciences* (Page 2), now available to assist teachers introducing so many important concepts about our Earth. To complement our resources, we offer a variety of other innovative professional development opportunities such as one-of-a-kind mining and geology field trips, as well as teacher access to industry conferences. If you have kept track, you know that we have run teacher field trips in nearly every region of the province, including two that required charter flights! Based on your feedback, we also re-designed our website. The new version was launched at the beginning of 2011.



Our educational outreach has expanded to student programs. Over the last 8 years we have hosted hundreds of elementary and secondary students at *Mineral Exploration Roundup* (Page 4), one of the largest mineral exploration conferences in Canada. Since 2007, we have welcomed hundreds more to our downtown Vancouver *BC Mining Week Community Fair*. New in 2010, our popular *Kids & Rocks* classroom workshop has reached nearly 1000 children (Page 5).

Still, school education is a continuous endeavour, and our minerals industry's support for teachers and students has only just begun. Now, at our 20 year milestone, it is fitting that we ask you again: *How can we help you?* (See Page 4).

We sincerely thank our teacher-partners, and the many collaborators and supporters from our exploration and mining community who contribute enormously to our outreach efforts. You are the foundation that has allowed MREPBC to flourish and maintain its commitment to BC teachers and their students. And we thank you, BC school teachers, for your inspiring commitment to your students and for choosing to bring only the best material into your classrooms to help you shape the lives of our future citizens.

DIGITAL NEWSLETTER - SIGN UP NOW!

As we strive to reduce our footprint and costs, MREPBC is phasing out mail delivery of the *Teachers' Update* to individuals. We will continue to send one paper copy to each school and school district office through Canada Post. These recipients may also request an electronic version to circulate widely to their staff.

The digital version of our *Teachers' Update* is an even more useful resource than the paper one as original sources cited are all hyperlinked.

You can help us speed up this conversion to paperless by e-mailing your request to: lestrada@bcminerals.ca. Thanks very much for your cooperation!



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INTRODUCING OUR NEW *GRADE 7 RESOURCE UNIT: EARTH SCIENCES*



This is a new MREPBC resource unit kit developed by Pinetree Secondary science teacher Kerry Lockwood in collaboration with Andrea Eisler (Inman Elementary) and Alison Waterhouse (York House School). It provides a collection of engaging and instructive activities and demonstrations, plus a wealth of support materials, to help teach students the fundamentals of geology and to introduce plate tectonics and history of the Earth.

The teacher kit includes: A 300-page instructional binder; a DVD with a comprehensive collection of images and graphics; several posters; *A Field Guide to the Identification of Pebbles*; hand samples (class set) of ten minerals (3 each), twelve rocks (3 each), coal (1); five streak plates; and eleven videos on two DVDs.



Did you know that the *Pacific Museum of the Earth* (at UBC) is a great complementary field trip for this unit? They have school programs and incredible fossil, rock and mineral collections! Visit: www.eos.ubc.ca/resources/museum.

K-3 INTEGRATED RESOURCE UNIT: KIDS AND ROCKS

Young children are fascinated with rocks! This MREPBC teacher-written resource was developed as a thematically-integrated unit in which children explore and learn about rocks and minerals, and use geological themes for lessons in language arts, music, art, social studies, personal planning, math, and drama. It covers a wide range of interrelated topics from earthquakes and volcanoes to mining communities and careers. This unit validates a child's natural curiosity about the world around them, and introduces them to basic concepts of Earth Science - knowledge that is important to being an informed citizen in today's society.



The kit includes: a 300+ page binder with Blackline Masters; B&W and colour photos of mining; a support package with several posters; colouring books; *It Comes From a Mine, Gold Fever Trail, Rocks & Soils, Let's Go Rock Collecting, Mining Community: Elkford, BC* (books); *A Field Guide to the Identification of Pebbles*; four rocks, one mineral, a streak plate and more!

French translations of the student activity sheets are available.

DISCOVERING DIAMONDS

Discovering Diamonds is a resource unit developed by Ontario's *PDAC Mining Matters* school program and delivered in BC by MREPBC teacher-partners on behalf of *Mining Matters*. This resource uses *diamonds* as an integrating theme through which to study a variety of concepts in senior level Earth Sciences 11, Geology 12 or Geography 12 courses, including the rock cycle, plate tectonics, surface processes, environmental impacts and reclamation, geologic time, et al. Students will learn about Canada's diamond bearing deposits (NWT, ON), diamond formation, and the modern technology being applied to the discovery, extraction, and processing of diamonds.



The kit includes: a 264-page binder with teacher information; Blackline Masters and student activities; four CDs; *Canada's Northern Diamonds* (book); a kimberlite sample; and a small vial of indicator minerals.

GRADE 5 INTEGRATED RESOURCE UNIT ON MINING

Intermediate students enjoy their first opportunity to learn about Earth's mineral resources and the mining process as they investigate BC's natural resources. This MREPBC teacher-written, comprehensive unit uses mining as the theme for learning across the curriculum. Students examine mining in the past, present and future, learning about mining communities, the discovery and recovery of ore deposits, the uses of metals in modern society, mining careers, and mining and the environment.



The kit includes: a 356-page binder with Blackline Masters and student activities; a wealth of digital and multi-media materials on DVD; a support package with several posters and mineral information pamphlets; *Pit Pony* (book); *A Field Guide to the Identification of Pebbles*; colouring books; a class set of hand samples (seven rocks and five ore minerals); five streak plates and more!

French translations of the student activity sheets are available.

BOOK A WORKSHOP!

MREPBC resource units are available to teachers only through half-day (3.5-4 hours) workshops. These can be held *anywhere* in BC on a Pro-D day, during a PSA or other conference, or after school. Registration is open to teachers, teacher-librarians, TOCs and student teachers. Participants must be teaching the grade level or subject intended for the unit. There is a non-refundable \$50.00 registration fee (per teacher), but no charge for resource kit materials, which represent a \$250-\$400 value. To find out more visit:

www.bcminerals.ca/ResourceUnits.asp. To book a workshop for your teachers, call: 604-681-4321 ext 108.

Oct. 21 Pro-D Events and Workshops

FALL 2011

***K-3 INTEGRATED RESOURCE UNIT: KIDS AND ROCKS* TEACHER WORKSHOP, VSB - OCT. 21**

Once again MREPBC teacher-partner Ann Brace will be presenting her popular instructional workshop for the *K-3 Integrated Resource Unit: Kids and Rocks* (see Page 2) at the VSB. This hands-on session introduces the resource, an outstanding literacy unit built around the theme of *rocks*. Hands-on activities and lessons engage children in *learning across the curriculum* (science, safety, personal planning, art, music) and make it even more fun! Registration is through the VSB Web site: <http://www2.vsb.bc.ca/vsbprograms/prod/register.htm?page=workshopdetails&workshopid=1263>. There is a \$50 registration fee. **Deadline: Oct. 14.**



***GRADE 5 INTEGRATED RESOURCE UNIT ON MINING* TEACHER WORKSHOP, VSB - OCT. 21**

MREPBC teacher-partner Andrea Eisler will be presenting an instructional workshop for the *Grade 5 Integrated Resource Unit on Mining* (see Page 2) at the VSB. This hands-on workshop introduces rocks and minerals, provides an overview of the comprehensive resource unit contents (mining in the past, present and future), and shares practical examples on implementation. Registration is through the VSB Web site: <http://www2.vsb.bc.ca/vsbprograms/prod/register.htm?page=workshopdetails&workshopid=1264>. There is a \$50 registration fee. **Deadline: Oct. 14.**



***NEW GRADE 7 RESOURCE UNIT: EARTH SCIENCES* TEACHER WORKSHOP, VSB - OCT. 21**

MREPBC teacher-partner, Kerry Lockwood, will be presenting an instructional workshop for the *Grade 7 Resource Unit: Earth Sciences* (see Page 2) at the VSB. This unit provides a collection of engaging activities and demonstrations, plus a wealth of support materials, to help teach students the fundamentals of geology, introduce plate tectonics and history of the Earth. Registration is through the VSB Web site: <http://www2.vsb.bc.ca/vsbprograms/prod/register.htm?page=workshopdetails&workshopid=1265>. There is a \$50 registration fee. **Deadline: Oct. 14.**



***FRASER VALLEY AGGREGATE OPERATIONS* TEACHER FIELD TRIP - OCT. 21**

MREPBC teacher-partner, Andy Warkentin (retired, Mission SD), is taking the lead on this pro-d field trip (8:00am-3:00pm) for Fraser Valley teachers to aggregate quarrying operations near Abbotsford. Stops will include Mainland Sand & Gravel's hard rock aggregate mine on the north side of Sumas Mountain, and Valley Gravel Sales and Lafarge sand and gravel operations west of the airport. This is a great opportunity to observe how these deposits are mined, processed and reclaimed, and to learn about the markets and uses for these resources, and the impacts on the region. Transportation from W. J. Mouat Secondary is provided. There is a \$25 registration fee. To register, visit: www.bcminerals.ca/s/TeacherFieldTrips.asp or see Page 8. **Deadline: Oct. 7.**



***MYRA FALLS MINE* TEACHER FIELD TRIP - OCT. 21**

The Myra Falls Operation and MREPBC invite Campbell River, Comox and other Vancouver Island school teachers who are teaching about mineral resources, mining, geoscience or careers to learn about and experience mineral resource development through a one-day tour of the Myra Falls Mine in Strathcona Provincial Park. Myra Falls mine personnel will be our hosts and guides for the day, providing their expertise on this underground zinc, copper and gold operation. Transportation from Campbell River provided. There is a \$25 registration fee. You can register at: www.bcminerals.ca/s/TeacherFieldTrips.asp or see Page 8. (Lower Mainland teachers are welcome. If interested, please phone the MREPBC office). **Deadline: Oct. 7.**



***STANLEY PARK GEOTOUR* TEACHER FIELD TRIP - OCT. 21**

Geological Survey of Canada (GSC) geoscientists Bob Turner and Marianne Quat are partnering with MREPBC and W. J. Mouat Secondary teacher Chris Loewen to lead a field trip to explore the local geology and geological processes that shape Stanley Park. The trip (7:30am to 3pm) will include various stops and activities along the seawall, and will be an excellent opportunity for those teaching topics in Earth Sciences and those wishing to lead a similar trip for students. There is a \$25 registration fee. To register, visit: www.bcminerals.ca/s/TeacherFieldTrips.asp or see Page 8. **Deadline: Oct. 7.**



***KELOWNA GEOLOGY* TEACHER FIELD TRIP - OCT. 21 - CONFIRMED**

MREPBC is partnering with UBC Okanagan geoscientist, Dr. John Greenough, to offer a Kelowna area geology field trip for teachers. Visit great outcrops of an ancient (Tertiary) volcano-sedimentary sequence (fossils) and fluvial (river) sediments, younger (Quaternary) varved (lake) sediments, foliated gneisses, plus much geologic arm-waving to synthesize what it all means. This is a great opportunity to become familiar with the local geoscape and how you can integrate it into your teaching. Bus transportation provided (departure location TBA). There is a \$25 registration fee. To register, visit: www.bcminerals.ca/s/TeacherFieldTrips.asp. **Deadline: Oct. 7**



Have you switched to e-mail notifications yet?

Involve Your Students

NEW PROGRAMS AT BRITANNIA MINE MUSEUM!

Grade appropriate, thematic programs around extraction, mineral formation, remediation and social history have been created to complement a newly redeveloped Museum and visitor experience. The ever-popular underground experience and gold panning are still available, but the museum has expanded their programs to add many interactive learning experiences for K to 12. A visit to the Museum is a great opportunity to cover different curriculum topics (including science, social studies, technology, geology, etc.) in one visit and is lots of fun for your students.

NATIONAL HISTORIC SITE




Visit www.britanniaininemuseum.ca for more details, or contact Fiona McDonald at 1-800-896-4044 x 226 or fiona@bcmm.ca.

THE COAL MINE - PERMANENT EXHIBIT & RELEVANT SCHOOL PROGRAMS AT THE NANAIMO MUSEUM

The Nanaimo Museum hosts *The Coal Mine* - a permanent exhibit about the life and times of coal mining in Nanaimo around the late 1800s. This popular replica allows the public to see and feel what it was like to work and live around a coal mine back then, as well as learn about the role coal mining played in shaping Nanaimo. The exhibit features an interactive mine map, geology components and an interactive children's area. The museum also has very successful programs for school groups, particularly Grade 5 classes. In-house programs are \$50 and classroom programs are \$60. Teachers can also get Classroom Program Kits (before or after their visit) from the Museum (cost is \$20) - the kits are called *A Child's Life Kit* and *Coal Mining Kit*. For more information, or to book your visit, go to: www.nanaimomuseum.ca.



WHERE CHALLENGE, STARTING OCT. 2011

What on Earth is your stuff made of? And WHERE on Earth does it come from? Answer these questions in the Canada-wide contest (ages 9-14) by telling a story about any object in your home or school, the one or more non-renewable Earth resources needed to create it, and WHERE on Earth these resources come from! Both individuals and classes can participate. Entries of all creative types are accepted, but must be submitted in a digital form. Contest usually runs from October to April. For information, deadlines and guidelines visit: www.earthsciencescanada.com/where.



The **Association for Mineral Exploration BC (1912-2012)** will be celebrating **100** years of serving the mineral exploration industry in BC. A **special centennial exhibit** open to the public will be part of **Roundup 2012!**



MINERAL EXPLORATION ROUNDUP, JAN. 23-26, 2012

MREPBC partners again with the *Association for Mineral Exploration BC* (AME BC) to integrate teachers and students into their annual conference held at the Westin Bayshore in Vancouver.

MON., JAN. 23, SECONDARY ROUNDUP ROCKHOUNDS DAY

MREPBC invites *secondary students* from to a one-day program focussed on exploring minerals industry careers.



- Presentations by young professionals working in a variety of fields;
- Presentations by post-secondary students in related programs;
- Exploring the trade show.

* West Vancouver Secondary Jennifer Artibise's Geology 12 students will display their plate tectonic models in the main exhibition hall. (To display your class' projects contact the MREPBC).

NOTE: *Students must be nominated to attend!* To nominate a student, visit: www.bcminerals.ca/s/OutreachPrograms.asp or see Page 8.

TUES., JAN. 24, ELEMENTARY ROUNDUP ROCKHOUNDS

After working on their Earth Science and mining units throughout the Fall, our invited guests participate in our one-day, hands-on, fully guided program where students meet with geologists, learn about diamonds, pan for gold, view great rock, mineral and fossil collections and more. The students' geology and mining projects are *on display all week!* MREPBC's invited guests for *Roundup 2012* are *four* Grade 4 to 7 classes from:



- Chief Maquinna Elementary, Vancouver;
- Southpointe Academy, Tsawwassen; and
- Summit Middle School, Coquitlam.

NOTE: Interested in *getting your class involved*? Call 604-681-4321 ext. 108.

THURS., JAN. 26, TEACHERS' DAY AT ROUNDUP **TOC**



Teachers' Day gives you direct access to our modern exploration and mining industry and its people for the most current information on the industry in BC and globally. This is beneficial Pro-D if you teach related topics in science, social studies or careers.

- Guest speakers and a question-answer forum;
- Access to technical sessions;
- Self-guided exploration of the trade show;
- Ideas and resources to bring back to your classroom.

AME BC kindly waives fees for teachers to attend. MREPBC will provided a limited number of TOCs. For details, visit: www.bcminerals.ca/s/IndustryConferences.asp or see Page 8.

Involve Your Students

***KIDS & ROCKS* - OUR POPULAR CLASSROOM WORKSHOP IS BACK!**

Ann Brace, a life-long primary teacher, presents a half-day, hands-on workshop for K to Grade 3 students to explore different rocks, their properties, what they are made of and how they formed. Students will observe and test key physical properties of the samples. They will observe and touch, sort and classify, work independently and work together. Each student will have access to a suite of rocks and minerals, hand lenses, magnets, streak plates, and hardness kits during the exploration.




The *Kids & Rocks* workshop is currently available to Lower Mainland schools only. The workshop will be offered beginning mid-October to early December, 2011. Spring offerings are dependant on funding.

- Grades 1 - 3 doing rock units will be given preference in the Fall. K classes are welcome in Spring.
- 2.5 - 3 hours - mornings only.
- \$5.00/student, with a minimum of \$100.00/class.
- 2 - 3 parent helpers must be present.

BOOK YOUR WORKSHOP NOW! CONTACT LESTRADA@BCMINERALS.CA OR 604-681-4321 x 108.

This workshop is made possible by a grant to MREPBC from the *Association for Mineral Exploration BC's (AME BC) Outreach Education Fund*.

MREPBC FIELD TRIP TRAVEL / WORKSHOP SUBSIDIES

 Travel subsidies (up to \$200) are available to teachers for field trips to geoscience or mining destinations, or *Science in Motion* workshops (below). Download the application from www.bcminerals.ca/s/SubsidyApplication.asp.

Field Trips & Classroom Workshops

Field trips and hands-on workshops are a great way to wrap up a unit, start a unit or reinforce learning anywhere along the way. There are many things to do, a few listed below, that support students' learning about Earth Sciences, mineral resources or mining outside of the classroom. A more comprehensive list of suggested destinations can be found at: www.bcminerals.ca/s/FieldTripDestinations.asp.



BEATY BIODIVERSITY MUSEUM, VANCOUVER (UBC)



The Beaty Biodiversity Museum opened its doors to the public in Fall 2010 and now houses UBC's rich biological, natural history and fossil collections. The museum is dedicated to enhancing the public's understanding and appreciation of biodiversity. Educational programs for school groups are available. For more information visit: www.beatymuseum.ubc.ca.

COURTENAY & DISTRICT MUSEUM & PALAEOLOGY CENTRE, VANCOUVER ISLAND

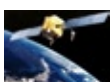
Offers school groups their year-round guided tours of the museum and of the Puntledge River Elasmosaur (Late Cretaceous marine reptile) site to collect fossils. Contact: 250-334-0686 or visit: www.courtenaymuseum.ca.



ELKHORN GYPSUM QUARRY, WINDERMERE

CertainTeed Canada operates this gypsum quarry near Windermere. The Elkhorn quarry welcomes school groups learning about geology and mining to visit their operation. Contact Mine Supervisor Jerry Kohorst at 250-342-9410 ext. 2 to book your visit.

H.R. MACMILLAN SPACE CENTRE, VANCOUVER



A destination for students learning about Earth from the perspective of space. Two workshops support Grade 7 Earth Science topics - the *Earth's Crust Planetarium Show* and the *Rocks 101* workshop. For more information, visit: www.spacecentre.ca.

SCIENCE IN MOTION: CLASSROOM WORKSHOPS

Prince George-based *Science in Motion* offers six, hands-on science workshops for K-7 students (Rocks & Minerals, Dinosaurs, Weather, Simple Machines, Forensic Science, and Insects). MREPBC subsidies (above) are available for the *Rocks & Minerals and Dinosaurs* workshops only. To book a workshop contact Cheryl at 250-962-6174.



YUKON DAN - GOLD PANNING IN YOUR CLASSROOM!



If you are teaching about BC's Gold Rush, rocks and minerals, or mining this fall, this is the workshop for you! Professional gold panning champion, Yukon Dan Moore delivers engaging educational workshops for your class. Find out more at: www.yukondan.com or call Dan at 604-948-4941.



Have you switched to e-mail notifications yet?

Conferences, Workshops & Field Trips



To register for MREPBC's events, see Page 8. You can also now register for events *online* and pay by credit card. The MREPBC is pleased to provide TOC support where indicated (**TOC**). For details on these and other upcoming pro-d opportunities, visit: www.bcminerals.ca or contact the MREPBC office.

FIELD TRIP FAIR FOR TEACHERS, VANCOUVER - SEPT. 26

In-service and pre-service teachers are invited to attend the 9th Annual BC Field Trip Fair at Science World. Learn about the many field trips available for classes to parks, museums and historic sites throughout the province. For more information, or to search the field trip database, visit: www.bcfielddtrips.ca.



BRITANNIA MINE MUSEUM - EPCOR STUDENT TEACHER FIELD TRIP, BRITANNIA BEACH - OCT. 1



MREPBC teacher-partner Bruce Kiloh will lead this field trip for student teachers to the *Britannia Mine Museum (BMM)* and the *EPCOR Water Treatment Plant*. The trip will introduce these unique mineral education venues to help integrate mining into their future teaching plans, and will model how to run a successful class field trip. There is a *refundable* \$25 registration fee. To register visit: www.bcminerals.ca/s/TeacherFieldTrips.asp or see Page 8. **Deadline: Sept. 23.**

MINERALS SOUTH 2011, KIMBERLEY - NOV. 15-17, 2011 **TOC**

This year, the *East Kootenay Chamber of Mines (EKCM)* will be hosting this southeast BC conference on mineral exploration in Kimberley. The *EKCM* has kindly waived the conference registration fee for *three* teachers to attend the event on either Nov. 16 or 17. This is a great venue to learn about the regional geology, types of ore deposits and ongoing mineral exploration in the area. To register visit: www.bcminerals.ca/s/IndustryConferences.asp or see Page 8. **Deadline: Nov. 7.**

Resources for Teachers

ROCKSTAR 101 - INTRODUCTION TO ROCKS

This image-packed presentation, developed by MREPBC, is an introduction to the rock cycle, the different rock types and basic geological processes, plus a rock quiz. Available in easy to project PDF format at: www.bcminerals.ca/i/pdf/RockStar101-IntroductiontoRocks.pdf.



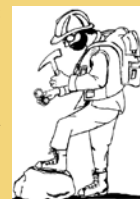
ROCKTOBERFEST, PORT MOODY, OCT. 29-30

Mark your calendars! The Port Moody Rock and Gem Club will be hosting the *Rocktoberfest Annual Show* at the Kyle Centre in Port Moody. 10am to 5pm, Sat. & Sun. For more information, visit: www.portmoodyrockclub.com/annual_show.php.



MIHR'S SPEAKERS BUREAU

Between Grade 5 teachers teaching a mining unit, and high school social studies, science, and career teachers, there is always a demand for guest speakers from the minerals industry to visit classes. To serve this need the *Mining Industry Human Resources (MiHR)* sector council launched an official *Speakers Bureau* for teachers last year. This online system allows educators to book engaging and experienced industry speakers for in-class presentations. To book a speaker, visit: <http://speakers.acareerinmining.ca>.



How can we help? Teacher Feedback

MREPBC needs your feedback and guidance on how to improve our program!

What should we change or add to make what we have even better?

We have designed a quick *questionnaire online* to get your feedback. Here are a few examples of things we would like to know:

- What subjects/grades you teach and which area in BC?
- Do you feel like you have a strong enough background to teach the Earth Science or mining topics to your students? How can we help you strengthen your knowledge?
- Do you feel that there is sufficient Earth Science or mining related pro-d opportunities (via MREPBC or others) in your area?
- Do you take your students on geology or mining related field trips? If not, what keeps you from going?
- We know resources in French are scarce - what are the most useful materials that you would need translated into French?

Fill
out the *feedback form*
at: www.bcminerals.ca/s/Newsletter.asp



COPPER MOUNTAIN MINE RE-OPENS!

Exploration around Copper Mountain near Princeton started in 1884 and mining began in 1923. Copper ore was mined there by Granby Consolidated Mining, initially from underground workings. Mining proceeded in open pits but operations were suspended in 1957. Copper Mountain re-opened in 1972 and continued until the mine's permanent closure at the end of 1996 due to rising production costs and a crash in copper prices.



Copper Mountain Mine, currently owned by Copper Mountain Mining and Mitsubishi Materials, went into operation again in June 2011 producing copper concentrate and recovering gold and silver as by-products. The projected mine life is 17 years. It is expected to produce 105 million pounds of copper per year during the first 12 years.

Copper concentrate produced by the mine is trucked to Vancouver, then shipped to Japanese smelters for refining and use in global markets. China, in particular, has a high demand for copper and is currently seeking to obtain between 35-45% of what the world's producers can provide.



Copper Mountain Mine is located about 20km south of Princeton, BC and is easily accessible through paved roads. It currently employs 273 people on site but the operation can also create approximately four times as many indirect jobs (more than a 1000) in and around Princeton.



You can learn more about the Copper Mountain Mine at www.cumtn.com or by visiting MREPBC's interactive Mining in BC map at www.bcminerals.ca/s/CurrentOperations.asp.

Conservation News

METAL RECYCLING - COPPER (Cu)

In a world with a growing demand on natural resources, copper is one of the kings. Versatile copper is one of the most sought-after metals in our society due to its unique properties (conductivity, malleability, resistance to corrosion, etc.) that make it useful in a variety of technologies and products we use every day. Electrical wiring, plumbing, computers, wind turbines and hybrid cars, to mention a few, all contain copper as an essential ingredient.



Copper is **mankind's oldest metal**. Neolithic man first used copper around 10,000 years ago as a substitute for stone. We have been *mining* copper for the last 7,000 years. However, what happens when the world's population expands, and the demands on natural systems rise at an unprecedented rate? Do we keep mining for new material to satisfy *all* demands? If so, for how long can our current lifestyle be sustained and how long can unmined resources last at this rate?

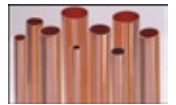


The most effective way to achieve a balance is to reduce our consumption. In addition, there are other ways, like reusing and recycling, in which we can recover some of the resources we need. Copper is one of the most readily recyclable metals. It is not easily degraded and its valuable properties are retained after recycling. That means we can use it over and over again and still retain most of its quality. In addition to the benefits of a smaller footprint, this makes



economic sense. Recycled copper retains up to 90 percent of its original value, making it cheaper to recycle already existing copper rather than mining new ore.

Given how many consumer goods we want to discard, there is always an available supply of copper for recycling. Between 80 to 85 percent of copper in any product can be recycled. How that recycled copper is used in new products depends on its purity after processing it.



As our technologies become more efficient at recycling, how much "new" versus recycled copper would we need to meet our needs? According to the International Copper Study Group (ICSG), about 35 percent of copper demand was met by recycled copper in 2008.

The balance we achieve depends on you. Do your part by knowing what, how and when to recycle. But, most importantly, practice responsible consumption - think about needs versus wants and keep yourself informed about what is in your products and where they come from.

Based on the original article "Can Recycled Copper Help Support the World's Growing Demand?" written for Copper Investing News, August 2, 2011; copperinvestingnews.com.

For more info on copper visit: www.icsg.org or www.copper.org.

DID YOU KNOW......that some species of bacteria have adapted to use metals as their source of food/energy? And, because of this fascinating ability, these metal-eating bacteria can potentially help us clean-up highly acidic, contaminated sites with excess metals! When we use the organisms' "services" in this way, we call it *bioremediation*.
www.geobacter.org/Bioremediation



Have you switched to e-mail notifications yet?

Registration

Materials for Order

STUDENT TEACHER FIELD TRIP - OCT. 1, 2011

I would like to attend the BMM - EPCOR field trip.
 Register online at www.bcminerals.ca/s/TeacherFieldTrips.asp
 or fill out the form below. **Deadline: Sept. 23.**

PRO-D FIELD TRIPS - OCT. 21, 2011

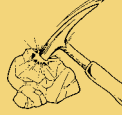
Myra Falls Mine Teacher Field Trip
 Stanley Park Geotour
 Fraser Valley Aggregate Operations Field Trip
 Register online at www.bcminerals.ca/s/TeacherFieldTrips.asp
 or fill out the form below. **Deadline: Oct. 7.**

MINERALS SOUTH - NOV. 2011

I would like to attend *Minerals South in Kimberley* on
 Nov. 16 Nov. 17 (check one)
 I will require a TOC (My principal's and superintendent's contact information is attached.)
 Register online at www.bcminerals.ca/s/IndustryConferences.asp
 or fill out the form below. **Deadline: Nov. 7.**

MINERAL EXPLORATION ROUNDUP 2012

I would like to nominate a secondary student(s) (name(s) attached) to attend Roundup (Mon. Jan. 23)



I would like to attend the *Teachers' Day* (Thurs., Jan. 26)
 I would like to attend *Roundup* for my own professional development on _____ (date)
 Register online at www.bcminerals.ca/s/IndustryConferences.asp
 or fill out the form below. **Deadline: Jan. 13.**

FREE RESOURCES

Don't forget to order your *free* MREPBC-developed materials!
 Download supplementary resources and activities for your classroom, or explore our new *interactive Mining in BC Map* at www.bcminerals.ca/s/CurrentOperations.asp



Please send me:

- Mining in BC* poster
 - Mining in BC* bookmarks _____ copies
 - I am an Exploration Geologist* colouring book
- Please send a single copy free of charge.

You may pick up additional copies from the MREPBC office at no charge or order additional copies for the cost of postage (approx .50¢ per copy)

- Minerals of Canada* poster (appropriate for all)
- From Northern Lights to Urban Trails* poster (appropriate for all)
- Cutting Edge* poster (appropriate for all)



DIGITAL NEWSLETTER!

- Want to receive the *Teachers' Update* by e-mail?
- Want to unsubscribe from the newsletter?

Drop a line to lestrada@bcminerals.ca or visit www.bcminerals.ca/s/Newsletter.asp.



You can also download the electronic version *in full colour and with live links* at: www.bcminerals.ca/s/Newsletter.asp.

You can now register *online* at www.bcminerals.ca and pay by credit card. You can also scan this form and/or send the required details via e-mail to: lestrada@bcminerals.ca. Or, you can pay by cheque, making it payable to: **Mineral Resources Education Program of BC** and sending it to: **900 - 808 West Hastings Street, Vancouver, BC V6C 2X4**
 For any other questions, please phone: 604-681-4321 ext 108.



Registration/Contact Information

Name: _____ E-mail: _____
 School Name and Address: _____
 _____ Postal Code: _____
 Grade Level: _____ Subjects Taught: _____
 School Phone: _____ School Fax: _____