EDUCATION – A TOOL FOR OUR INDUSTRY
By Arloa Woolford and Jackie Dorr

Our country has an abundance of natural resources and our ability to utilize them in an environmentally sound way is essential to our continuing to provide people with the necessities of life, as well as fueling the many innovations that have made life easier for everyone.

Due to a lack of factual education there are large numbers of people who do not understand that everything they use comes from a natural resource and they all need minerals and rocks in one way or another.

We strongly feel that this lack of basic science knowledge stems in large part from the absence of Earth Science curriculum from required subjects in our schools. Earth Science imparts the knowledge of where things come from, how minerals and rocks are formed, their properties that determine many of their uses and how these raw materials form the basic ingredients of what we use every day. From the toothpaste we brush our teeth with to what goes into the automobiles we drive, the roads we use, the buildings we live and work in - they all require minerals that come from the ground. Even the food we eat requires minerals that are present in the ground or added to it for better agricultural yields year after year.

We all know education makes a difference, otherwise we’d still be carving out pictures on rocks to communicate and document history. Early education opens the possibility of “what if.” Informing students about the importance of minerals and mining opens their minds and allows them to explore, research and discover new ways to better mankind.

For the past twenty-plus years, WIM-EF has been offering teacher workshops, visiting classrooms and service groups, and introducing facts about minerals and rocks to large numbers of people. We are not the only group that does this; many state mining associations, other non-profit organizations and individual mining personnel have realized that education is the best way to help change the negative perception of the mining industry. For many of our workshop attendees, their first response before the class was that all mining was bad, destroys the Earth and we can do without the raw materials that come from mining. By the time they complete the sessions, the majority of them tell us that they did not realize why we mined, and they now have a greater understanding of the role minerals have in our everyday lives and their contribution to our high standard of living.

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A guiding principal of all our workshops and activities is to present factual information about our mining industry and to show not only how rocks and minerals were deposited in the ground, how the effects of wind, water, heat and pressure change the composition of rocks, but more importantly why and how the geological features of the land determine where mines will be explored, permitted and operated.

The mining companies of today are a far cry from what they were even a few decades ago, with strict environmental protections in place as well as reclamation of mine sites. Many companies have gone even further and have spent considerable time and money in reclaiming many old mining sites that were abandoned during the late eighteen hundreds thru the middle nineteen fifties. Native seeds and plants are now in use, wildlife has returned in large numbers to reclaimed mine sites, resort areas with golf courses have been developed, and new lakes and hiking trails are being utilized by thousands of citizens.

Education of our younger generation is the key to changing the general public’s mostly negative perception of the mining industry. Imparting factual information about the industry will go a long way in changing how our citizens react to proposed new mines, new processing plants, or new oil and gas exploration; an informed citizenry can react with knowledge rather than by emotion. Society can be hostile when uninformed. Knowing that the companies which are providing raw materials can only explore and produce where the actual natural resource is located is an important factor for an informed public, and for ensuring a continued supply of products and energy to the nation.

Our online resources open the door for educators to easy, fun and inexpensive mineral education for their students and we encourage every mining company and supplier to become an active proponent of early mineral education in the schools in their areas. Encourage your employees to visit a local school to talk to students or even present one of the activities to the classroom. Most of the activities do not require a geologist or an engineer, and they could easily be the spark for one or two students to decide to pursue a degree in science or engineering.

Visit our website www.womeninmining.org and look through the many hands-on activities we have available.

REMEMBER, EDUCATION LASTS A LIFETIME. BE THE SPARK THAT OUR YOUNG PEOPLE NEED.
FROM THE PRESIDENT
Stephen Tibbals

As with all the Women in Mining chapters, the National organization’s fiscal year is coming to a close. In our non-student chapters, this is generally marked by the election of officers for the coming year and the payment of dues. Can’t get away from dues! I would like to encourage all members to participate in the governance of your chapter and, in time, to participate in the organization at a national level. It may seem easier to let someone else make the decisions, but the reality is, we often ask the officers of our chapters for way too much. I personally believe everyone should take their turn at the reins. So I encourage everyone to step up and take your turn. You will find you are a better person because of it!

It is also marked by the scholarship committees for each chapter getting down to business. If you have never been on a scholarship committee, it is one of the more important committees we have. The fun job of giving out scholarships to the deserving graduates is only the last step in the process. Before giving out a scholarship, applications have to be distributed, retrieved and reviewed. This is a job that is done months ahead of when the actual scholarships are awarded.

Before being sent, out last year’s application forms need to be updated. Then, there is the interesting job of convincing the school counselors that they should actually hand out your applications and not just to the two or three “favorite” students that always seem to get 90% of the scholarships. In Nevada, we have always looked more for the student that doesn’t necessarily have the best grades, but is the one that is the most interested in going into a career in mining and who can be helped the most with the funds we distribute. Enrolling at a University is not a requirement to be awarded a Nevada chapter scholarship. Applicants need to be enrolled in an accredited institution, major in something related to the mining industry, and express a desire to work in the mining industry in the essay section of the application.

Once the scholarship applications are received, our committee looks at each one and ranks them so that they can be presented and voted on by the membership. And then there are the dues … as I said, you just can’t get away from dues.
The California Chapter of WOMEIN IN MINING continues to be a great resource for educators. Because most of our members are located in the Southern California area, we are able to meet the many requests we have from that area for classroom lessons that teach students and teachers about the value of minerals and the need for mining. In addition, we have mineral associations that value our participation with a booth where we often teach how toothpaste or silly putty is made. We have had a busy three months and we value and appreciate every one of our members.

Meetings
On January 27th - WIM held a Chapter Meeting at the Victor Valley Gem and Mineral Club. After our extensive meeting, Cyndy Mandell and Lois Papner gave us instructions on how to make a silver spiral cage necklace. Each necklace contained one polished rock or a crystal and it was fun to take a rock and turn it into a fancy necklace. It was even more fun to wear it home.

L-R, Rhonda Wright, Kim Critchfield, Darlene Bray

Dinah Shumway, Lois Papner

(cont. on page 12)
# REGISTRATION FORM

**WOMEN IN MINING**  
2014 National Meeting  
June 5-7, 2014  
Hosted by Denver Chapter

Name_________________________________________ Date ________________
Address_________________________________________ State ___________ Zip ___________
Phone_________________________________________ Cell__________ Fax__________
Email_________________________________________ WIM Chapter_____________________

**Full Registration**
Includes Thursday lunch and workshop, Education Foundation meeting and evening reception,  
Friday field trip with bus and lunch, Saturday lunch with guest speaker, and Saturday closing  
dinner with guest speaker.

Early full registration received by May 1 / After May 1* $175/200* ______  
Student registration (Sponsored by Denver Chapter) no charge

**Guest - Spouse/a la carte Registration Form**
Registrations received by May 1 / Registrations received at P.O. after May 1*

Name_________________________________________  
Address_________________________________________ State ___________ Zip ___________
Phone_________________________________________ Cell__________ Fax__________

Evening Reception - $25/$30* $______  
Thursday Professional Development Workshop & lunch - $35/$40* $______  
Friday Coalfield Tour & lunch - $55/$60* $______  
Saturday lunch with speaker - $25/$30* $______  
Saturday banquet - $65/$70* $______

Total a la carte $________

Total All Reservations $________

Mail check(s)* to:  
WIM Denver Chapter  
P.O. Box 260246  
Lakewood, CO 80226-0246

Credit Cards:  
VENMO allows you to deposit money directly from  
your account (free) or to use a credit card (add 3%  
fee). Contact Amanda at Amanda.e.adams@mwhglobal.com to initiate the  
process, which will then generate a separate  
email to you with instructions in how to pay.  
If using VENMO, also email your  
completed registration form to:  
csiserotta@msn.com with SUBJECT LINE:  
“Registration - 2014 WIM Annual Meeting”

MAKE CHECKS PAYABLE TO WIM DENVER CHAPTER
WOMEN IN MINING NATIONAL ANNUAL MEETING

Meeting Location: Loveland, Colorado
Embassy Suites Loveland - Hotel, Spa and Conference Center
4705 Clydesdale Parkway Loveland, CO 80638
Tel: 970-593-6200
Fax: 970-593-6202
Website: www.embassysuitesloveland.com

Accommodations
- Complimentary cooked-to-order breakfast
- Spacious two-room suites
- High-speed Internet access, two dual-line phones, voicemail, data ports, two remote-controlled flat screen TVs, wet bar, microwave, refrigerator, coffeemaker, hairdryer and iron with ironing board
- Evening Manager’s Reception
- Rocky River Bar & Grill full-service restaurant
- Fitness Center and heated indoor pool
- Shuttle to nearby restaurants and shopping

Room rate
Ask for the Special "WIM" Rate. Room rate is $139 + tax for double or additional $15 per person for 3rd & 4th person. Please make your reservations by May 1, 2014 in order to receive special rate.

Driving Directions
Located just south of the Ranch, Larimer County Fairgrounds and the Budweiser Events Center. From the North or South: Take I-25 to the Crossroads Boulevard exit (Exit 259), go East to Crossroads Blvd. and turn left (North) onto Clydesdale Parkway. Hotel will be straight ahead after roundabout.

Super Shuttle
Special $54/person Round Trip rate with Embassy Suites-Loveland code “ESLOV”. Registration must be made at least 24 hours in advance. There are 17 shuttle runs per day. For reservations call 1-800-258-3826.

PLEASE NOTE MAY 1 DEADLINE FOR HOTEL ROOM RESERVATIONS. LIMITED NUMBER OF ROOMS AVAILABLE AT THIS RATE.
DENVER CHAPTER REPORT
By Karen Jass and Jackie Dorr

On the evening of January 9, three Denver Chapter members, Amanda Adams, Karen Jass and Jackie Dorr, visited with Girl Scout Troop 1359, of Crowne Point Academy, to talk about the use of rocks in toothpaste.

Having just come from the teachers training (during the December NSTA workshop), instructors Jackie Dorr and Amanda Adams changed gears to instruct the girls (ages 5-9) in what products are used to make toothpaste.

The girls used calcium carbonate (ground up limestone) and sodium bicarbonate (baking soda) with water as the base – and of course with a taste at this phase of experimentation (note the facial response to this!).

Next we added color and flavoring (a wide assortment of combinations) and then another taste (much better this time). There were lots of questions, mostly how to get into an underground mine, but a great opportunity to engage girls in experimental science using rocks!

This exercise is on the WIM website, under Education, then “Alphabetical List of Activities,” select “Toothpaste with a Twist.”

President Adams notes that this dovetails into the WIM overriding goal to educate both the members and the public about the mining industries. WIM's stated objectives are:

- To educate members of the technical and other aspects of the mineral resource and related industries through informative and educational programs.

- To institute and promote such educational, scientific, legislative and other programs as will foster public awareness of the economic and technical interrelationship of mineral production with the national economy and the public good.

- To preserve the heritage, and maintain the history of mining and mining people.
January 15 – Our dinner speaker was Mr. Dave Thomas, author of “Of Mines and Beer.” Mr. Thomas is a director of the Gilpin Historical Society, an executive brewing consultant for Ecolab, and senior malting adviser for Colorado Malting Company. He spoke about his book “Of Mines & Beer.” The group had a lively discussion on the 13 breweries that made beer during Colorado’s historic gold and silver rush years (1859–1898) for the thousands of miners at elevations between 7,000 and 13,000 feet.

January 18 – The Annual Meeting Planning Committee met at President Amanda Adams’ home. Committee assignments were made for lodging and transportation, speakers and field trips.

February 11 – Annual Meeting Planning Committee met in Downtown Denver.

February 19 – Our dinner speaker was Mr. Stephen Hart who spoke to us about “Colorado's 'Lost' Radium Boom: Early 20th Century Mining and Processing Landscapes on the Colorado Plateau and in Denver.”

March 19 – Our speaker was Mr. Richard W. Jolk whose topic was, “The Importance of Mining- It’s all Relative.” Mr. Jolk spoke to us about the importance of mining in a “relative way,” specifically how it relates to a growing world, to the nation, a company, region, community and individual. His talk was accompanied by slides from his work around the world. Mr. Jolk is a co-founder and principal of “Mineral Property Development, Inc.” which specializes in assisting owners in managing the valuation and development of their mineral properties. Specific areas of technical expertise include mineral processing and extractive metallurgical operations, and mine project economics.

The CO Mining Exhibit Foundation
WIM actively supports the Colorado Mining Exhibit Foundation (CMEF), which has set up a second “Teacher’s Corner” exhibit, this time at the Western Museum of Mining and Industry in Colorado Springs. The first Teacher’s Corner was at the National Mining Hall of Fame & Museum in Leadville. The project is an example of how mineral industry outreach groups can cooperate to maximize impact on target audiences.

The Foundation provided the 9 ft x 9 ft space frame, Velcro exhibit and graphic material promoting the CMA/CSM summer teacher’s course and the SME/MEC public education program www.mineralseducationcoalition.org. The function of the display is to answer the question, “Now that I have learned about mining in the past, where can I get impartial information on modern mining, reclamation and safety?”

CMEF is always working to expand partnerships with mineral industry groups such as Women In Mining www.womeninmining.org, NMA, MMSA, SME, CMA and science teacher organizations such as NSTA. If you would like to help with funds, displays, large mineral samples, and/or volunteer time, please contact Guy Johnson, Exhibit Coordinator, Colorado Mining Exhibit Foundation GPJ222@aol.com.
The Nevada Chapter of Women In Mining gathered in Winnemucca, NV on January 16 for their first meeting of the year. We gathered at The Flyin’ Pig, a local BBQ joint and one of our regular meeting locations. We had very good attendance (about 1/3 of our membership, including all of our officers). The discussion focused on regular business and ideas for increasing the visibility of the Chapter in the community by working with schools and teachers to offer more educational activities and opportunities. In general over the past few years, the Nevada Chapter has focused on fundraising for our scholarship fund; however, many members have shown an interest in getting more involved in our communities and working with the schools to offer educational activities to our students and teachers so we are starting to explore what interest and opportunities are out there.

We are now busy nominating new officers for the coming year and preparing to distribute our scholarship applications to schools and students in the Northern Nevada region. We will have another meeting in early April to elect and install the new officers.

Fundraising Activities & Scholarships

The Nevada Chapter has continued to offer bartending services at local events such as weddings, company parties and community events in order to benefit our Scholarship Fund. It’s often easy for our members to think that all we do are bars (because we do a lot of them!) but Arloa recently informed me that since Nevada’s scholarship fund was formed (formerly under the Winnemucca Chapter) in the early 1980’s, we have awarded over $70,000 in scholarships to students pursuing mining related degrees or trade certifications.

We’ve had a very busy first quarter, offering bar services for five events. Our first event on February 1 was the annual dinner and fundraising auction for Ducks Unlimited. On February 8 we hosted a bar at the annual Lincoln Day Dinner for the Humboldt County Republican Central Committee. On March 7 and 8, WIM hosted bars for the annual photography symposium that takes place in Winnemucca, Shooting the West. Thank you to all the members who have volunteered throughout the quarter to help with these bars: Brenda Heintz, Sharon McAllister, Julie Pugh, Megan Tibbals, Stephen Tibbals and Arloa Woolford.
Meetings, continued
On February 26th - WIM had the pleasure of holding their meeting at the Jurupa Mountains Discovery Center in Riverside. Those in attendance had a chance to tour the amazing displays. It was a dark and cloudy day right before the big rain hit the area. The museum is on 82 acres and has a 50-year history. It has many beautiful plants and lots and lots of rocks on the ground, many of which are petrified wood. This is a great place for a group to meet and explore. They have a covered picnic area and several museum displays that are awesome. We were all surprised at the many displays of rocks and fossils, and the museum gift shop had many goodies for sale. A meeting followed the tours and as everyone left they were planning when they could visit the facility again.

On March 27th - Our Annual Meeting will be held at the CEMEX Riverside Plant in Victorville. Along with having the election of officers we will be shown how to teach future students the “Pet Rock” activity as well as “Penny’s Secret.” Gena Oliver will be showing us how to make the collecting of rocks more fun by turning them into a “pet!” Dinah Shumway will be teaching us about “Penny’s Secret” which deals with mined metals that are used to make products and in particular, the penny coin. This activity brings to light some factors considered in the manufacture of a penny. (Editor’s Note: this report was received prior to press time, hence the future tense.)
Educational Events
January 23rd – Carla Turner and associate Jimmy Rogers taught young students from Lucerne Valley School how toothpaste is made and what minerals are necessary for toothpaste to be effective.

February 6th – Dinah Shumway attended a Joint Societies Meeting (co-sponsored by SME, IGS, & AEG-IE) and she represented WIM in a booth at the event which held at Cal State University, San Bernardino.

February 19th – Darlene Bray, Julia Bonser, Angelica Wong, Laura Mogg and Jackelin Simmons taught teachers at the Mojave Desert AQMD MEEC Conference at the CEMEX River Plant in Victorville. They instructed the teachers on how toothpaste is made and also presented the Chocolate Chip Cookie Mining lesson.
Educational Events, continued

February 20 – Cyndy Mandell and Lois Papner represented WIM at Topaz School in Mrs. Vicaro’s fourth grade class. The goal was for the student/scientists to make the best tasting, smelling, and appealing toothpaste to sell to the world and make Cyndy Mandell a millionaire. As you can see they learned that toothpaste is made from rocks and that rocks are mined. They learned about Mohs Hardness Scale and that your teeth have a hardness of 5. Many exclaimed that they had a “really fun time”.

February 26 – Denise Talvitie (left) taught young students at the Mojave Desert Elementary School. She used the Chocolate Chip Cookie Mining lesson to teach them what the process is when people decide to mine, from purchasing equipment to reclamation. Many of the students learned what it means to be a miner.

March 8 and 9 – Gena Oliver and Juanita Czupor taught how to make toothpaste and silly putty at the Turlock Gem, Jewelry and Rock Show. It was held at the Stanislaus Fairgrounds in Turlock and put on by the Mother Lode Mineral Society of California. It was a family event with exhibits featuring dinosaur fossils, shark jaws, jewelry and polished stones.
EDUCATION FOUNDATION UPDATE

As reported in the October 2013 edition of the NQ, the WIM Education Foundation was selected as the recipient of the 2013 Minerals Education Coalition Partnership Appreciation Award. The award was recognized at the SME Foundation Dinner on Sunday, Feb. 23, 2014 and presented at the SME Awards Dinner on Wednesday, Feb. 26 during the SME Annual Meeting in Salt Lake City, Utah. Beth Price has been instrumental in correlating all of WIMEF’s activities and lesson plans to national education standards. She graciously accepted the award on our behalf.

MEC is the entity resulting from the merger of the Mineral Information Institute (Mii) and the SME GEM Committee in 2011. It is SME’s program designated to generate an enlightened and supportive public that appreciates the importance of mining and minerals.

WIM-EF was recognized for partnering with Mii to create the 21-page “Mining Careers” booklet which has been used extensively in presentations and career days activities. The Minerals Education Coalition continues to feature this booklet on their website www.MineralsEducationCoalition.org. WIM-EF also partnered with Mii in the production of the Teacher Helper Packet “Creating A Universe: How We Use the Elements For Life and Living.” The 12-page WIMEF booklet contains activities such as mineral identification, the rock cycle, minerals in cosmetics, and the minerals used to create spectacular fireworks displays.

“The award acknowledges a non-SME individual or organization that has exemplified support for the MEC’s mission, either through the development and use of educational materials with K-12 teachers and students, or public outreach and awareness about mining and minerals.”
In Memoriam

**Beverly Matz** was one of the “founding mothers” of the WIM Denver Chapter. She was a National Quarterly Journal editor for many years and a National Representative for several terms. She received the Denver Chapter Hall of Fame Award in 1979, and helped in the formation of the WIM National Organization during in the early 1980s. Along with several other “old timers,” Bev helped compile the “History of WIM” that is found on our website.

**Ann Pierce Dorr** was a long-time member of the former WIM Washington, DC, Chapter. She was a prolific author of science books and her accomplishments involving mining and minerals outreach endeavors were many. Her son, John Van N. Dorr III, wrote to WIM saying, “You may know that Ann was very pleased by and appreciative of WIM’s efforts to secure both a place for women in the mining professions and to actively represent their contributions.”