GRAND RIVER HERITAGE MINES SOCIETY NEWSLETTER

July, August, September 2000

Tid Bits, by Jean Farquharson

The "old faithfuls" are back with us contributing articles for our newsletter. Always in search of articles on gypsum, I happened upon a book that someone was reporting at my book group. It sounded interesting, and I borrowed it from her and read it. From this comes the information for the article *Alchemy and Alabaster.* Alabaster is a form of gypsum.

Mike O'Byrne has come up with an interesting article about violence and the unions in the mining industry. It reads like one of our modern violence movies!

Ilse discovered stories about mine collapses in Europe. Sinkholes have been occurring in Canada as well; in the Timmins area, a local business is facing sudden collapse in their parking lot. Another entrepreneur reports that people are afraid to come into his office, and he is losing business as a result.

Ilse has also written us a report on spring events.

If you want to see a funny picture, get a copy from your local tourist office of the publication *Tour Paris: Your Guide to the Prettiest Town in Canada & the Country's Cobblestone Capital.* Turn to page 10. There you will find an article about the history of gypsum mining in Paris. Good publicity for our organization!

The GRCA also publicizes our organization by listing us each year in its publication *Grand Actions: A Registry of Accomplishments and Commitments.* They will also publish pictures of our activities if we send them in.

What's New in Mining Town

by Ilse Kraemer

Field trips this spring were literally rained or flooded out. We managed one good field trip in early spring to Peter Piovaty's property on Mile Hill. We wanted to look at early spring vegetation and were surprised about the beauty of hundreds of spice bushes in bloom. The spice bush is a wild allspice bush covered with deep yellow tiny flowers. The botanists discovered many other plants we did not see in the fall. We hiked along the trail through the woods which were sprouting their first tender green leaves. The view was out of this world. The photographers in the group had a field day. This trip occurred before all the rain, and the water level was fairly low.

I hoped to see the mine tunnel which had been opened up when they built the pond, but there was no sign of it. Today it looks quite different. The woodcutters have been in for several weeks with their skidder and removed hundreds of trees. I wonder how much damage was done. I am afraid to have a look, but am glad that we took so many pictures.

Our annual exhibit with the lapidary group in Paris was a success. We combined The mining exhibit with my archeology display, and people really liked it. Cathy MacArthur also had her fossils on display. Thanks to those who took their turn manning the booth.

In May, I gave a short talk about the local mines to members of Heritage Mount Pleasant. I set up a small display of gypsum, pictures of mines and some artifacts. It was well received and members asked a lot of questions.

Many thanks to Howard Parkhill for his donation of beautiful gypsum samples, some from New Brunswick. We will display them at the Caledonia Steam Show.

Last month I was asked to take part in the work of the Official Plan for the City of Brant. They wanted to include all the mines in the area for their records for future planning. Some of these areas should be declared hazard lands.

Some of you may remember Anne Wilson who worked out of the office of the Ministry of Northern Development and Mines in London. She helped us with several things, and even came on a field trip with us. She now works for the Ontario Geological Survey in Timmins, where Kimberlite, a rock formation containing diamonds, was discovered. Who knows? It may become a large industry. Maybe we all can go mining for diamonds instead of gypsum.

Coming Events

We are planning a mining pot-luck dinner day in August or September, and had looked forward to use the lovely woodlot where Alf and Eileen Peart have their mining village and saloon. We enjoyed it so much before. But Alf told Ilse the sad news that vandals had burned down the whole village. All is gone. Only the chimney of the salon is standing. We have to make arrangements for another venue in that area.

We need volunteers to help at the Golden Horseshoe Steamshow on August 5, 6 and 7. Please phone Ilse if you can help, and she will arrange a pass for you.

The summer seems to be a write-off for field trips, but we hope to have some in the fall,

Plans are also underway for a public meeting in the fall.

Our Public and Annual Meeting,

by Jean Farquharson

On April 15th, we met at Enniskillen Masonic Temple in York to hold a public meeting which was also our annual meeting. I chaired the meeting.

The meeting was opened with a background history of the GRHMS and our aims. In the business part of the meeting, Mike O'Byrne presented us with an amended version of the Constitution. Copies were distributed to all members and they were asked to examine it before we vote on it at the next meeting.
There was a formal motion that we affiliate with the Ontario Historical Society.
An election of officers was held after Mike O'Byrne reported the list of candidates prepared by the Nominating Committee.
President (Interim) - Mike O'Byrne
Vice- President - Jean Farquharson

Secretary - Cathy MacArthur
Treasurer - Ilse Kraemer
Directors: Lou Knechtel
Al Farquharson

After the business part of the meeting was adjourned, the program began with Show and Tell. Several members had brought items. A highlight was an 1880-1890 letter book of the Grand River Plaster Company owned by Barbara Topp. She read interesting excerpts from the book. Herb Martindale brought in coal samples from the Lythmore Mine area (Martindale farm). He explained the coal was used as fuel for the dinky train that operated on a 36 inch track between the mine on his property and Lythmore. He explained how the pit props which supported the mine ceilings eventually rotted and collapsed; as a result until about 15 years ago, sinkholes kept appearing in his fields.

I gave a slide presentation, showing outings at the various gypsum mine sites, and also outings in the Belfountain area. We displayed panels showing information about the various mines and field trips and samples of gypsum from these mines. People were allowed to brows and ask questions. At least twenty people attended the meeting.

Employee Relations - The Miners' Way, by Michael O'Byrne

Employee relations in the mining industry has been traditionally extremely violent. One has only to read about the Molly Maguires who achieved notoriety in the Pennsylvania coal fields, which in turn led to the violent organizing struggles experienced by the United Mine Workers and the Western Federation of Miners.

Harry Orchard, perhaps Canada's most infamous export, was violent in the extreme. In 1906, he and an accomplice placed a bomb in the Vindicator Mine at Cripple Creek, Colorado, that exploded and killed two men. He planned but aborted the attempted murder of the governor of Colorado. He shot and killed a deputy in Colorado. He and an accomplice blew up the railroad station at the Independence Mine in Colorado, which killed 14 men. He attempted to poison the manager of the Sullivan and Bunk Mine, which failed, but eventually he succeeded in blowing him up. He was involved in blowing up the massive Bunker Hill Mine concentrator, and he achieved infamy by blowing up the former governor of Idaho. It was during the murder trial arising from the death of the former governor that all of Orchard's previous exploits came to light.

Orchard may have been a hired hit man for the union. It was an extremely violent time, and one could argue that the mine owners were as violent if not more so than the union. The mine owners considered themselves more respectable and most often had the authority of the state or federal government on their side.

The Alchemy of Alabaster

by Jean Farquharson

Greed for gold and power and the lust for beautiful things has driven many people in the world for thousands of years. It was thus in 18th century Europe, a time when alchemists were the early chemists and apothecaries. It was they who developed the early sciences - laboratories and equipment, and technology, including glass, enamel and ceramics.

Our story begins when a 21 year old prisoner escapes from his castle prison and flees through Dresden's narrow, medieval streets. Johann Frederick Bottger had been held for 2 years as prisoner of Augustus II, King of Poland and Elector of Saxony. His crime? Foolishly he had claimed he was close to discovering the secret that almost every European ruler craved - the formula that would turn base metal into gold.

Augustus had kept as his prisoner the alchemist who had promised to supply him with limitless wealth. Wealth meant many of the beautiful things Augustus craved; but even more, wealth meant power to build armies to expand boundaries and take over other states before other rulers took him over. The valuable Bottger was hunted down and recaptured before another ruler could take control of him. Bottger was returned to his prison laboratory to continue his quest.

An older scientist named Tschirnhaus became interested in this industrious and gifted student and visited Bottger regularly, telling him about his quest for the secret of porcelain. The only true porcelain was made in the Far East, but was too fragile to be transported to the West overland, and sea routes were not yet established. A little reached Europe by Arab traders. Such rare and costly items were one of the most coveted rarities from the Orient. Gradually a China mania developed in the courts of Europe. Augustus became fascinated by the exquisitely decorated objects from China.

Tschirnhaus, among others, began to attempt making porcelain, but without complete success in finding the right formula. When Bottger did not succeed in producing gold, Augustus was convinced to let him try to find the elusive formula for porcelain. He set him up with new larger laboratories and kilns.

Systematically, Bottger began to select and test the materials available to him in various proportions. One component was kaolin or china clay, a fine greyish earth, a decomposed feldspathic product which results when granite has decayed after weathering. Its main component is kaolinite, a hydrated aluminum silicate consisting of microscopic flakes that gives the clay its plasticity, ideal for modelling. When fired at high temperature, kaolin turns pure white, another important factor.

Because kaolin does not melt, it needed another fusible substance to fill in the pores of the clay and give the body its glassy quality. Among the minerals Bottger systematically tried mixing with the clay were various types of alabaster, a form of gypsum, keeping accurate records of the results. With the proportions of clay and alabaster at the ratio of 7:1, 8:1 and 9:1, Bottger succeeded where everyone else had failed. The samples remained in shape, intact, and were white and translucent. His experimenting continued, and finally Augustus set him up to manufacture porcelain.

This was not the end of their troubles. For this formula, others were prepared to lie, cheat, steal and even kill to possess. If you want to read the whole story, read *The Arcanum* by Janet Gleeson.

Time Bombs in Europe's Mining Areas, by Ilse Kraemer

The Toronto Star had a small write-up about a massive cave-in of a magnesium silicate mine in Austria. This mine was opened in 1901 and constantly worked. One night in 1998, people heard a terrifying rumble when the mine caved in. The collapse sent tons of mud and water down the shafts where 11 miners worked. All were killed. A huge crater 100 metres wide formed in the village and filled with water. It swallowed houses and other buildings. This mine will never be opened again.

Focus, a European magazine, reports a massive cave-in this year in the Rhur industrial area in Germany. A terrific noise woke people in the early morning hours. A huge crater appeared, filled with water, and swallowed houses, garages, and trees.

This was a coal mine. Mining started in this area in the year 1298, and a lot of "wild" mines existed besides the registered ones. The sinkholes were 15 metres and 7 metres deep. At the time of the cave-in, metre-high dust and water spouts were shooting out of the watery hole. Cracks appeared in the ground all over the area. 30 people had to abandon their houses forever.

The underground area is a network of over 1000 kilometres of tunnels, and 50 to 70 collapses happen in a year. In many areas, the earth sinks down only a few inches, but the danger of massive cave-ins is always present.

This reminds me of all the cave-ins and sinkholes we have seen in our area along the Grand River.

A terrifying report reached me from my home city, Hamburg, Germany, in April. I remember many times over the years being awakened by rumblings and shakings of the house. "Earthquakes," we thought. In early April this year another "earthquake" happened, worse than ever before. Houses started to shift. Walls developed cracks, and people were very concerned. Scientists started to investigate and found out that in an area more than the distance from Brantford to Paris, the land had sunk down a few feet and is slowly sinking more and more.

Sixtymetres underground, huge deposits of salt and gypsum are slowly wasted out or dissolved, leaving large caves. As long as these caves are filled with water, nothing will happen. But Hamburg alone, a city of a few million people, has no water supply but deep wells. The more water is drawn out of these cavities, the more prone they are to collapse. Experts can predict mathematically how much more the area will sink down over the years. We only hope that our family home does not disappear into one of these cave-ins. People feel very uneasy about the future of this area.

The Largest Salt Mine In the World

Harry Frechette has contributed an interesting article from the London Free Press, written by Norman DeBono. Here is a summary of the article.

DeBono describes a tour he took of the 40-year old Sifto salt mine in Goderich which covers 7.5 square kilometres, and will produce more than 5 million tonnes this year.

Tour visitors are led into a room crowded with overcoats, hard hats, tool belts, lights and air packs. Every visitor must wear this self-rescue air pack, which gives one air for 90 minutes after a disaster if one is moving, and longer if one is at rest awaiting rescue. As this is explained to the chatty visitors, a hush descends on the crowd. They enter the elevator, which DeBono describes as "like something out of a science fiction film series *Alien*. The elevator is big, dark and is hit by a blast of cold air and an incessant scream from machinery somewhere. The eerie feeling is hard to shake as you descend. ... The descent quickens and you reach speeds of 240 metres per minute."

As you step off the elevator, only parts are lit. The elevator shaft is poured concrete, but the mine itself is carved out of the salt bed. "Ribbons of salt run everywhere through the walls of the mine, [broken only by layers of shale] and the ceilings are nothing but black, covered by the soot of diesel exhaust from heavy machinery."

You have descended 510 metres (1700 feet) under the ground. The salt beds start at about 240 metres and reach to about the 600 metre depth. They extend past Seaforth and Sarnia and across the lake well into Michigan.

The walls of the mine are covered with round, red circles marking blast holes. Workers put as many as 22 charges in the holes 4 metres in depth, to loosen the entire face of the section. After the blast, chunks of salt are loaded and delivered to a primary crusher, then to another where it is crushed into pieces smaller than 7 centimetres, and then fed into the mill, where it is processed for a variety of uses: road salt, chemical and industrial uses such as water softeners, making aluminum, and in tanneries to treat leather.

Table salt, however, is produced in a separate elevator plant in Goderich, also owned by Sifto. Here a hole is drilled about 240 metres down into the salt bed, and water is pumped in and brine pumped out and processed, producing about 125,000 tons per year.

People living in the area report that their homes shake a little every night as a result of the blasts. What about cave-ins? Experts report: "The first three years, they get closure of about 1/3 metre per year, and after that the closure reduces to almost zero."

How do they get the machinery into the mine? Pickup trucks are lowered into the mine in the elevator, hung by a bumper, after first draining all the fluids. Heavy machinery is taken apart and reassembled inside the mine. Only equipment with diesel fuel is used as it is less likely to cause explosions during blasting.

This newsletter is edited by Jean Farquharson. We are not responsible for errors. We are looking for more information about the mining industry in Southern Ontario. Submissions are welcome. Please send **correspondence** to Jean Farquharson, R.R.3, Paris ON N3L 3E3. Phone 519/442-2156. Fax 519/442-2373. For **membership inquiries**, contact Ilse Kraemer, 23 KingsHill Lane, Brantford ON N3T 6A3. Phone 519-756-6634.