

microsections in beautiful interference colors may be obtained on a screen, using the magnifier of the instrument as an objective.

REFERENCES

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PROCEEDINGS OF SOCIETIES
NEW YORK MINERALOGICAL CLUB

American Museum of Natural History, New York City, February 16, 1938

The meeting was called to order by first Vice-President Olaf Andersen at 8.15 P.M. with 135 members and guests present. Professor S. J. Shand of Columbia University addressed the Club upon "Mineral Deposits of South Africa." Dr. Shand began with a summary of the general geology of South Africa and the neighboring states and indicated in general the relation of the deposits to the various formations. He then spoke upon specific deposits and gave interesting details of occurrences and associations which are not generally known. The Rand quartzites were described as containing, among other minerals, zircon, chromite, platinum, and osmiridium; and most interesting, small green diamonds, as primary minerals. He spoke of pyrite, chloritoid, muscovite, and tourmaline among the secondary minerals and then gave the data on the gold occurrence with the evidence relating to the controversy as to its origin. One very interesting specimen showed a streak of rounded pellets of carbon with a concentration of minute but visible gold flakes in the immediate vicinity.

Platinum was next discussed including two types of occurrences in the Bushveld, both in the norite and in dunite pipes cutting the latter and carrying up to 8 oz. a ton in their richest portions. Chromite and tin were also discussed, and a very unusual occurrence of the latter described. This was in the northern part of the Complex, where surface exposures of granite showed rings of rock impregnated with small black tourmaline needles and masses up to 20 feet in diameter. Within these rings were rich aggregates of cassiterite and mica, running as high as 80% cassiterite. Two of these pipes, most of which are now mined out, extended as much as 700 feet in depth.

Lead, zinc, manganese, copper, iron, coal and oil deposits were referred to briefly, and a new occurrence of zunyite described. Diamonds and their history received only a brief mention since they are so well known, but the members were interested to hear that the grease tables are so effective in retaining all of the diamonds which flow over them that it is rare to find a crystal farther down than the first ten inches of the table.

The crocidolite asbestos deposits were described but their origin was not explained. The "Tiger's eye" semi-precious gem material develops naturally from the fibrous crocidolite through oxidation and leaching of the other elements, leaving the silica to form a pseudomorph of the asbestos fibers. Other types of asbestos and the South African occurrence of stichtite were briefly mentioned and a fine specimen of this attractive mineral displayed.

Pegmatites are abundant in South Africa and show many of the characteristics of the American pegmatites. In the eastern Transvaal, pegmatites cut granite and basic schists,

with interesting variations in their composition. In the granite, the pegmatites are rich in muscovite, and one crystal was mined which measured 16 by 10 feet. The pegmatites in the basic schists, on the other hand, are deficient in silica and fine large corundum crystals occur in the feldspar. Several have been collected that measured two feet in length, though most of the weathered-out crystals are now gone. Some show fine color and Dr. Shand exhibited two fine red translucent specimens, but said thus far nothing of gem quality has been obtained. Along the margins of some of these dikes, in the schist, good emerald crystals have been mined.

Complex pegmatites are also to be seen in Namaqualand which contain beryl, chrysoberyl and associated lithium minerals, but none of these minerals are present in commercial amounts. Later Dr. Shand added a few remarks on some interesting rocks, especially soda-rich rocks some containing remarkably large nepheline crystals. A manganiferous pectolite and rich eudialyte-bearing rocks were shown; rocks that are similar to those of Magnet Cove. The talk was well illustrated by specimens and maps and was very informative because of the many sidelights which were the results of personal experiences in the field.

At the conclusion of Prof. Shand's lecture, L. N. Yedlin showed some polished specimens of Franklin minerals.

Meeting of February 18, 1938

The Club held a special meeting in the Auditorium of The American Museum of Natural History on the evening of Feb. 18th to hear an address by Mr. H. S. Spence of the Canadian Bureau of Mines and Resources. This talk was sponsored by the club, the American Museum and the New York Academy of Sciences. Nearly one thousand members of the combined organizations and their guests were present. Mr. Spence spoke upon "Mining Radium in Canada's Subarctic" and illustrated it with specimens, slides and moving pictures. The display included several fine specimens of pitchblende and native silver, and included one of the first specimens found by Labine. The slides and moving pictures showed the different settlements passed on the trip to Great Bear Lake and the development of the property to its present state. At the end he spoke for a few minutes upon the recovery of radium from pitchblende and showed pictures of the various stages in the process.

F. H. POUGE, *Secretary*

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, December 2, 1937

A stated meeting was held with Mr. Trudell in the chair, and 47 members and 28 visitors in attendance.

Dr. Harry H. Hess addressed the society on "Mineral Collecting in Russia" descriptive of trips to the Kola Peninsula and the Ural Mountains during the International Geological Congress in Moscow. Localities visited included the deposit of metamorphosed coal on Lake Onegin, and feldspar quarries on islands in the lake; the Chibine complex where deposits of apatite and lovorrite (a titanosilicate of cerium) in the alkaline syenites are being exploited; and deposits of chromite, magnetite, platinum, gold, nickel, and asbestos in the Urals. Specimens were exhibited.

Dr. Berliner exhibited flexible sandstone (locally called "limber-grit") from Rural Hall, North Carolina. Mr. Morgan reported finding beraunite at Hellertown, Pa.

LOUIS MOYD, *Secretary*

Academy of Natural Sciences of Philadelphia, January 6, 1938

A stated meeting was held with Mr. Trudell in the chair, and 43 visitors and 26 members present.

Mr. Adolph Meier and Mr. Harold Tomlinson described the occurrence of harmotone and montmorillonite near Glen Riddle, Delaware County, Pa. Dr. Edgar T. Wherry presented a résumé of the annual meetings of the Geological Society and the Mineralogical Society held in Washington.

Academy of Natural Sciences of Philadelphia, February 3, 1938

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with the president, Mr. Trudell, in the chair; 53 members and 25 visitors were present.

Mr. Arthur Montgomery addressed the society on "Uta Phosphates and Montana Amethysts." During the summer of 1937, Mr. Montgomery, working with Mr. Edwin Over, reopened the old variscite mines at the edge of the Great Salt Lake desert, in Fairfield Co., Utah.

The phosphate minerals occur as nodules replacing limestone along a steeply pitching fracture zone. The earliest mineral of the phosphate series is variscite, which may be replaced by wardite, gordonite, and finally by pseudowavellite. Owing to the inaccessibility of the locality, some difficulty was experienced in transporting mine timbers and other equipment.

Later in the season, Messrs. Montgomery and Over worked a pegmatite about 25 miles S. E. of Butte, Montana. Large vugs in the dike, some over fifteen feet in diameter, were lined with amethyst, smoky quartz, tourmalinated quartz and feldspar crystals. In closing, the speaker said that because of the past season's success, he would continue his work of developing localities containing unusual mineral species. Mr. Montgomery illustrated his lecture with many beautiful polished sections of the phosphate nodules and with crystals from the Montana locality.

Mr. John Boyle reported on the finding of quartz crystals and etched quartz at the Gaylor Quarry in Saratoga Springs, N. Y. Mr. Stephen Varni exhibited a 264 carat cut emerald from the Urals.

LOUIS MOYD, *Secretary*