

superior quality imported coal with medium coking Indian coal for the steel industry, there is ample justification for import of coking coal especially for conservation of our residual resource of prime coking coal. In the non-coking coal sector also, import especially for coal deficient states also appears to be a justifiable cost effective proposition given the comfortable position of our foreign exchange reserves. Another alternative demanding serious consideration is the possibility of Indian agencies, both with public and private participation taking up

mining prospects in foreign countries for export to India.

In conclusion, the coal scenario in India may be compared with a person having large financial assets invested in long term investment schemes is constrained to take loans to meet day to day requirements as very limited liquid cash available for immediate utilization.

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10th INTERNATIONAL PLATINUM SYMPOSIUM

The 10th International Platinum Symposium was held in Finland in the University of Oulu Campus during 7th - 11th August, 2005. It was held under the title "Platinum Group Elements from Genesis to Beneficiation and Environmental Impact". A total of 196 participants from 25 countries attended the meeting.

The Symposium was inaugurated by Prof. Lauri Lajunen, President, University of Oulu. The technical sessions started with a tribute by Prof. Oskar A.R. Thalhammer (Leoben, Austria) to Prof. Eugen F. Stumpfl, well-known for his outstanding contributions in the field of Economic Geology and also for long years of service as the editor of *Mineralogy & Petrology*.

Regular sessions started with a keynote address by Prof. A.J. Naldrett on *Rediscovery of Bushveld Complex*. He summed up the available information on the world's best-known layered complex hosting the richest platinum deposit of the world. Following his address, there were a dozen papers dealing with various aspects of the Bushveld complex, such as *Chalcophile element distribution* (J.E. Mungall), *Pressure fluctuations and the formation of Merensky Reef and PGE-rich chromite layers* (R.G. Cawthorn), *Source of Merensky and Platreef* (F.J. Kruger), *Divergent behaviour of platinum and palladium in the Northern limb of Bushveld* (D. Hutchinson), *A new facies of PGE-enriched Merensky Reef* (A.H. Wilson), *Multiphase emplacement of Platreef* (J.A. Kinnaird), *Variations in PGE-mineralization within the Platreef* (D.A. Holwell), *Geochemistry of the Platreef* (T.D. Manyeruke), *Exploration and geochemistry of Merensky succession* (R.T. Brown), *The Blue Ridge UG2 chromitite* (C.A. Lee), *Sodic and hydrous mineral inclusions in chromite* (J.E. Mungall). In addition, W.D. Maier gave an overview of *Exploration targets of sulphide deposits in Southern and Central Africa*.

The second day's sessions began with another keynote address by L.J. Cabri on *Current developments in quantitative process mineralogy of PGE-bearing ores from different deposits*. There were separate sessions on experimental petrology/geochemistry, layered intrusions of Skaergaard, USA and Canada, Ophiolites and Alaskan-type ultramafic complexes. In the first session, *Effects of oxygen and sulphur fugacities and solubility of platinum in sulfide melt* (R. Fonseca), *Implications of high platinum metal partition coefficient for the genesis of Pt-rich sulfide horizons* (I.H. Campbell), *Mobility of palladium in basalt* (S.A. Wood) and *Os-isotope systematics of young basalts and their mantle sources* (C. Balthaus) were discussed. In the second session, *The role of immiscible iron and silica-rich metals in the differentiation and mineralization of Skaergaard intrusion* (J.K. Jakobsen), *The evolution of the Platinoval Reef* (J.C. Anderson), *PGE distribution in the layered series of Skaergaard* (P. Momme), *Fluid and melt inclusion evidence for PGE transport in Stillwater Complex* (J.J. Hanley), *PGM distribution in chromitite layers of Stillwater* (G. Garuti) and *PGE and PGM in the basal zone of Duluth Complex* (M.J. Severson) were dealt with. In the 3rd session, *PGE geochemistry and ore forming processes of River Valley Intrusion and Nipissing Gabbro suite of Sudbury* (L.S. Jobin-Bevans), *Ni-Cu-PGE mineralization in the Shakespeare intrusion* (R.A. Sproula), *Hydrothermal enrichment of PGE mineralization in Lac des Iles* (J.G. Hinchev), *Ferguson Lake Cu-Ni-Co-PGM deposits* (S.B. Ballantyne), *PGM studies of the Voisey's Bay Ni-Cu-Co deposit* (Humnicki), Labrador, and a general *Comparison of layered mafic intrusions in North America and Fennoscandia* were discussed (Easton).

In the final session of the day, an account of *Guli Massif and Siberia with a specific reference to the Dunite Complex* (J.F. Mckelson) and *Os-isotope systematics* (O.A.R.

Thalhammer), *Petrogenesis and PGM of the ophiolitic chromitites of SW Turkey* (I. Uysal), *PGE distribution and mineralogy of Loma Caribe peridotite, Dominican Republic* (F. Zaccarini), *PGE geochemistry of Alaskan-type complex in the eastern Egyptian desert* (H.M. Helmy), *PGE and Os isotopic systematics in chromite ores from the ophiolitic belt of Eastern Cuba* (F. Gervilla) and *New compositional Os isotopic data of chromitites of dunite massifs of Russia* (Malich) were presented.

The subsequent sessions on the 3rd and 4th day comprised of presentations pertaining to PGE deposits of Russia, Finland, Brazil, China, Spain and Australia. Of the nineteen presentations, as many as nine dealt with geology, geochemistry and mineralogy of layered complexes from Kola Peninsula, Fennoscandia and Russia. Four presentations discussed the Finnish examples which also included a review by T.T. Alapieti. Two each referred to examples from Brazil and China (E.M.B. Macambira and H.M. Prichard) and one each from South Western Spain (R. Pina) and Western Australia (Seat).

In addition to a keynote speech (P.J. Sylvester) on the *Synthesis and evaluation of a fused pyrrhotite reference material for PGE and Au analysis by LA-ICP-MS*, there were three presentations dealing with *Aspects of quantitative determinations of PGE employing LA-HEX-ICP-MS* (R.A. Cox), *ID-ICP-MS* (M. Lonngren) and *NiS-Te coprecipitation ICP-MS* (V. Balaram). Other interesting papers presented discussed use of PGE metals as automotive exhaust gas catalysts and alterations of the detrital PGM related to hydrothermal and epigenetic processes (Melcher).

There were more than 95 poster presentations which covered a large number of examples of mafic-ultramafic complexes from various parts of world with evidence of

PGE-mineralization. Indian case studies presented included Hanumalpura Complex near Chennagiri (T.C. Devaraju), Vedavathi River (P.V. Sunderraju) (both from Karnataka), Sukinda Chromitite deposit, Orissa (A.K. Sen) and Sittampundi Complex, TN (M. Hanuma Prasad). There were also pre- and post-symposium Field Excursions to the layered complexes in the Northern part of Finland and adjacent Kola Peninsula, Russia, and Laboratory Workshops.

The organizers (T.T. Alapieti and his team) have brought out a very informative and elegant looking 617-page compendium of extended abstracts of all the keynote addresses, oral and poster presentations. On the whole the entire programme was conducted in an impressive manner. The salubrious climate of the Oulu University Campus and ideally planned and equipped Saalasti Hall, the venue of the symposium, greatly facilitated the long and stimulating deliberations.

On the 3rd day there was IGCP-479 business Meeting to discuss and take stock of the activities over the last three years and to plan future programmes. On this occasion, an offer was made to host the next International Platinum Symposium at the National Geophysical Research Institute (NGRI), Hyderabad, India, sometime in December, 2007 or January, 2008.

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INTERNATIONAL SYMPOSIUM ON BAUXITE, ALUMINA, ALUMINIUM, DOWNSTREAM PRODUCTS AND FUTURE PROSPECTS - ICSOBA-2005

The above symposium organised by the International Committee for Study of Bauxite, Alumina and Aluminium (ICSOBA) in association with Indian Bureau of Mines (IBM), is scheduled during 28-30 November, 2005 at Nagpur. For further details, please contact: Dr. A.K. Nandi, Convenor, ICSOBA 2005, Mineral Information and Development Centre, 206, Gulmohar Apartments, Tilak Nagar, Nagpur - 440 010, India. **Phone:** +91 712 2544317 (O), 2542580 (R), 2247445 (R); **Fax:** +91 712 2541017; **Mobile:** +91 9823015772, 9890673142; **Email:** info@icsobaindia.com; aknandi@sify.com; **Website:** www.icsobaindia.com