

and Dr. B.N. Upreti of Nepal respectively. Dan Clark of Australia narrated the palaeoseismological investigations on the Hyden fault scarp of seismically active area within the Australian intra-plate region. The group European palaeoseismologists and their project popularly known as EUROPAL EOS has a unique function to train young researchers in palaeoseismological studies. The status of palaeoseismic studies in Portugal, Spain, UK, Italy, Greece and other European countries were elaborated at the conference.

The conference cum ILP meeting included a field excursion to Hope Fault and Marine terrace at Kaikoura Peninsula and the Conway coast, organized by Dr. Mrs. Jocelyn Campbell and Dr. Kelvin Berryman respectively. The ~220 km long Hope Fault is a part of Marlborough Fault Zone which is one of the most active elements of this Zone. The Hikurangi Subduction Zone where downbuckling Pacific Plate forms the accretionary margin along the east coast of the North Island extends past Kaikoura to terminate close to the mouth of the Conway River. The trench site at the Hope Fault shows excellent event horizons and obvious strike-slip and oblique slip displacements. The area is one of the most promising ones for the study of almost all palaeoseismological features related to the tectonics of strike-slip environments. The field trip to Kaikoura Peninsula and the Conway coast aimed to introduce participants to the spectacular Late Quaternary coastal geology characterized by the episodic upliftment of the coastal landscape in the vicinity of Kaikoura and south of the Conway coast, including the important Haumuri Bluff locality. The rugged coastline and the high Kaikoura

Ranges reflect the rapid tectonic uplift. Recent integrated work included geomorphology, detailed stratigraphic observations, accurate altitude data, radiocarbon dating and amino acid as well as thermo-luminescence (TL) geochronology to calculate terrace ages and deformation rates.

The scientific and geological study of the past (historical) earthquakes is palaeoseismology, which is a fast developing discipline in geological sciences all over the world. The science of palaeoseismology is still evolving and has to yet build up a global database of the palaeoearthquakes using various modern techniques. It includes the geological field-study using trenches and also geochronology, which can date the seismic events. The accuracy of the field study on the size and the recurrence of the past earthquakes is based on the availability of reliable geological records, materials where liquefaction and surface ruptures occur and also on the season when earthquake strikes. By studying all these factors, a complete database can be prepared, and the recurrence time for each active fault can be calculated. Ultimately the probability of large earthquake in a given area is assessed which is extremely important in urban and semi-urban conglomerations. Therefore, the science of palaeo-seismology and its applications assumes paramount importance not only for scientists but also for the town planners, architects, engineers and builders.

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## REPORT ON THE INTERNATIONAL CONFERENCE ON DIAMOND AND GEMSTONES, 9-15 FEBRUARY 2002, RAIPUR, CHHATTISGARH

### Introduction

The 'Conference on Diamond' was proposed in view of recent discoveries of diamondiferous kimberlites in Mainpur Kimberlite Field (MKF) and the confirmation of the ultramafic body at Tokapal as kimberlite. This conference was approved in the Annual General Meeting of the 'South Asian Association of Economic Geologists' (SAAEG) and the author was given the responsibility of organising the conference as Convenor.

### The Venue

Raipur, the Capital of newly formed Chhattisgarh State

was identified as the suitable venue to organize this conference due to its nearness to the newly discovered kimberlite fields. As approved, a headquarter activity of the SAAEG the "International Conference on Diamond & Gemstones" along with allied programmes was organized during February 9-15, 2002 under the joint auspices of the Geological Survey of India (GSI), Directorate of Mining and Geology (DMG), Chhattisgarh and the Government Engineering College, Raipur.

### Programme

The Conference on the diamond and gemstone

industry was combined with an Industrial Exhibition, a Gemmological Trade Fair and a Round Table Conference followed by a field workshop.

His Excellency Mr. Dinesh Nandan Sahaya, Governor of Chhattisgarh, inaugurated this mega-event at 12.30 afternoon on February 9, 2002. He spoke about the role of India in the introduction of 'Diamond' to the world and remaining the sole producer till the beginning of the 18<sup>th</sup> century. He added that the gemstones have a special significance in the Indian life style and therefore, the gem mining and trade is considered an important industry. He was optimistic about the future of the diamond industry in India, when new technologies and advancement are being introduced.

Mr. Devendra Bahadur Singh, Honourable State Minister for Mineral Resources, Government of Chhattisgarh recalled the glory of Indian diamonds of lore – the famous Koh-i-noor, Regent, Great Mughal, Akbar Shah, Nizam, Hope etc. He was optimistic that the recommendations from the round table conference would go a long way in charting the course of diamond exploration and industry for the country to regain its past glory once again.

Speakers from GSI, NGRI, IBM, DoS, State DGMs'/DMGs', Mining Companies (national and multinational), Universities (national and foreign), GJEPC, GII, freelance geological consultants etc. made their presentations. The event was witnessed by representatives of a number of corporate bodies, company nominees and freelance consultants.

A large gathering of about 200 delegates from the country and abroad acquainted themselves with the status of diamond and gemstone related activities in India during the conference. Participants from Rio-Tinto, De Beers, BHP-Billiton, Australian Indian Resources, Germany, Belgium, Australia took an active part in the proceedings.

A total of 53 presentations were made, which included 38 related mainly to Indian kimberlite clan of rocks and diamond, covering prognostication of the areas, investigations, prospecting and exploration techniques (including geophysical and geochemical), petrography, case studies and mining. Eleven presentations dealt with gemstone related case studies, inclusions, gem testing, treatment of diamond, gem winning, marketing and trade. Mineral policy, legislation and socio-economic impact of mining were discussed in four presentations.

Based on the guidelines formulated, the presentation of Dr. S.K. Verma, NGRI was adjudged the best and therefore

awarded the "Best Presentation" trophy sponsored by Mark D. Small of OROPA, Australia.

An Industrial Exhibition was organised to project mainly the modern equipments of survey, exploration, mining and mineral industry products. Jindal Steel and Power, RIO-TINTO, De Beers, B. Vijaykumar of Chhattisgarh Exploration, DGM, Madhya Pradesh and DGM, Chhattisgarh, NMDC, exhibited projects, capabilities, products and mineral wealth.

A Gemmological Trade-Fair was organized to exhibit the down-stream products and for awareness of the common man, wherein a number of jewellers and traders from the country participated. Gem testing laboratory of GSI exhibited the replicas of world famous Indian diamonds that included the Great Mugal, Koh-i-Noor, Regent among others.

A Round Table Conference on Mineral Policies and Investment opportunities in mineral sector was aimed at providing the much needed opening to the prospective and established entrepreneurs, investors, exploration and mining companies for free interaction with the representatives of the Central and State Governments.

The conference was followed by field workshops in the Mainpur Kimberlite Field (MKF) and Tokapal Kimberlite Field (TKF) in the Bastar craton. MKF is the most potential diamondiferous field in the country, while Tokapal crater facies kimberlite is the largest pipe in the world in surface area. Microdiamond testing in bulk samples of kimberlites from Tokapal area was suggested.

The proceedings of the conference are to be brought out in a volume by January 2003 after peer review and editorial scrutiny.

The Abstract Volume (502p) of the conference is available on sale for Rs.500/- in India and for US\$ 40 abroad. Recorded video CDs of inaugural function, deliberations, abstract volume, annual general meeting and round table conference can also be supplied (Rs. 250 or US\$ 20 per CD inclusive of handling and postage) on request, which may be obtained from the undersigned on advance payment. It may be concluded that the conference had achieved its objective of focussing national and international attention on the recent developments in the diamond and kimberlite exploration scenario in India and the steps to be taken to further intensify the efforts.

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