

DE BEERS
A DIAMOND IS FOREVER

UP-06

To,

1. The Controller General
Indian Bureau of Mines,
2nd Floor, Indira Bhawan,
Civil Lines
NAGPUR - 440 001
Ph: 712-2560041
2. The Controller of Mines
Indian Bureau of Mines,
6th Floor, Block D
Indira Bhawan, Civil Lines
Nagpur - 440001
Ph: 712-2560961
3. The Regional Controller of Mines
108, Nehru Nagar,
Scheme No. II,
Dehradun - 248 001
Ph:0135 - 2671896
4. The Director (Mines)
Directorate of Geology and Mining
Government of Uttar Pradesh
Lucknow, Uttar Pradesh-226001
Ph: 522-2201510
5. The Director General,
Geological Survey of India
27 Jawaharlal Nehru road,
Kolkata 700016.

Sub: CLOSING REPORT OF RECONNAISSANCE OPERATIONS CARRIED OUT DURING 15th JULY 05 to 19th FEBRUARY 08

(Under Rule 7 (1)(viii) and 7 (1) (vii) of MCR, 1960 and rule 3E of MCDR 1988)

Ref: Reconnaissance permits for an area of 1390 sq km in Chitrakut District of Uttar Pradesh,
Reconnaissance Permit 13/77-5-2005-639/2004 Uttar Pradesh

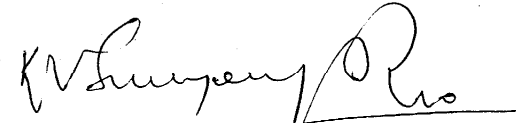
Dear Sir,

Please find enclosed herewith the Closing report of reconnaissance operations for the period of **16th July 05 to 19th FEBRUARY 08** over the above Reconnaissance Permit required under Rule 7(1) (VII) of the Mineral Concession Rules, 1960.

As you are aware that prospecting agencies are working in a competitive environment, we request that the contents of the report be kept **confidential under Rule 7(1) (viii), MCR, 1960.**

We also request you to kindly acknowledge the receipt of this report in the copy of this letter and send it back to us.

Yours faithfully,
Signature :



Name in full : K.V. Suryanarayana Rao
Designation : Technical Specialist-Geology
De Beers India Private Limited

Place : Bangalore

Date :



De Beers India Private Limited

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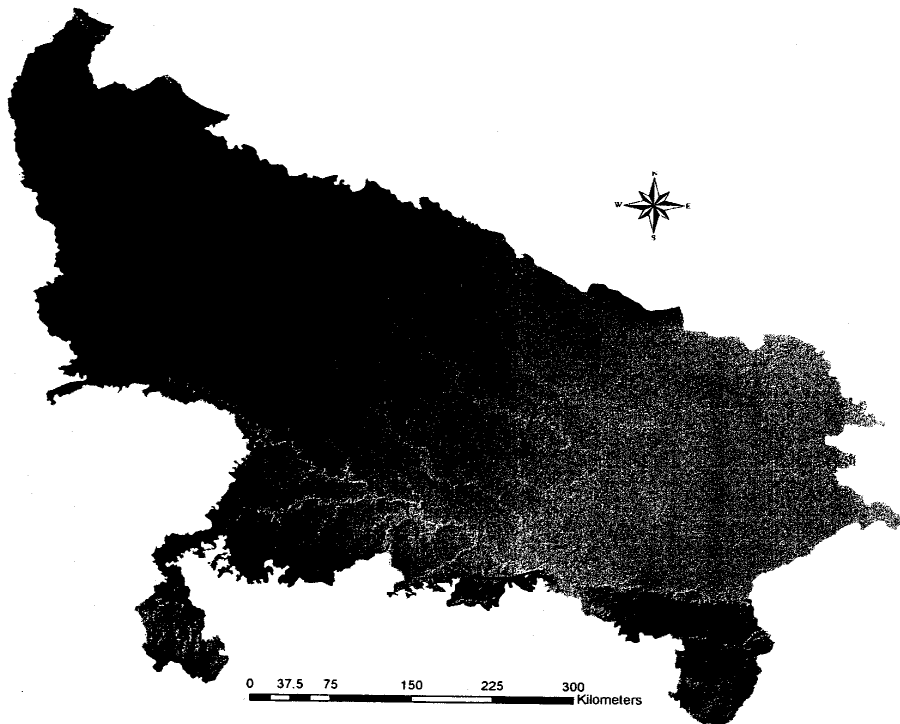
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Closing Report on Reconnaissance Permit 13/77-5-2005-639/2004 Uttar Pradesh

Report for the period
16/07/05 to 19/02/08



In terms of the relevant legislation, the information reported in this document is to be kept strictly confidential by the Uttar Pradesh State Government for a period of two years from the date of expiry of the license.



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Closing Report on Reconnaissance Permit 513/77-5-2005-639/2004 Uttar Pradesh

Report for the period
16/07/05 to 19/02/08

1. Reconnaissance Permit (RP) Status

The RP is 1390 km² in extent and was executed at Lucknow on 15th July 2005. As per rule 7(i) (a) of MCR 1960, it was reduced by 50% on 15th July 2007 and relinquished completely on 19th February 2008. This report summarizes the exploration work carried out in the permit area from 16th July 2005 to 19th February 2008 (Map 1).

2. Geology and Geomorphology

The RP is underlain by Upper Proterozoic sediments of the Vindhyan Supergroup overlying Archaean basement of the Bundelkhand Craton (Map 2).

The Vindhyan basin is the largest sedimentary basin of the continental part of the Indian plate. It is spread over an area of more than 100,000 sq. km out of which 60,000 sq. km is exposed and the remaining 40,000 sq. km area is hidden below the Deccan Continental Flood Basalts (DCFB) and indo-gangetic alluvium. Exposures of the Vindhyan Supergroup are seen up to Sasram in the east, where its extension is covered by alluvium. The western part of the basin is in faulted contact with the Aravalli Mountain Belt near Chittorgarh. Dholpur is the last exposure of Vindhyan in the north beyond which the Vindhyan sediments are covered by alluvium.

The basin is a sickle shaped synclinerium, separated towards the Northwest from the Aravallis by the Great Boundary Fault, trending roughly NE-SW and in South is bounded by the Son-Narmada lineament.

The Vindhyan are represented by a sequence of sandstone, shale and limestone. They have been divided into the Semri, Kaimur, Rewa and Bhandar groups.

The Panna diamond belt occurs on the northern fringe of the Vindhyan Basin (Map-2). An area 80 km long, 6-10 km wide and trending ENE-WSW reports sporadic diamond mining activities from recent gravels, lateritic soil/cap rocks and conglomerates. Two primary sources have been located to date at Majhgawan (~10 cpht) and Hinota (< 5 cpht).



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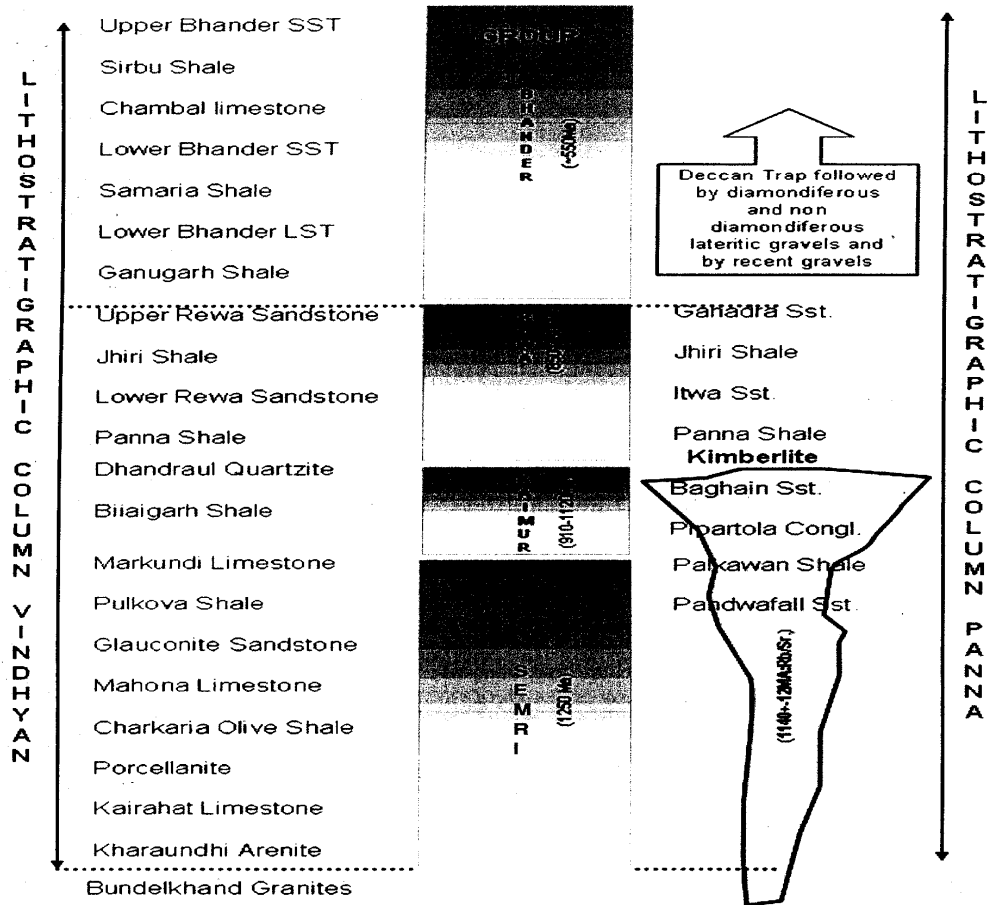
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Lithostratigraphy of the Vindhyan Supergroup



The geomorphology of the RP area is well drained with moderate to gentle slope. The geomorphologic control over the region is dominated by the subdued Vindhyan ridges in the south and the large tracts of flat land in the north of the RP. Streams originating over the Vindhyan hills (Rewa group) have a high gradient in their upstream course and low gradient in the lying tracts downstream to the north (Map 3).



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3. Activity during the period from 16 July 05 to 19 February 2008

3.1 Pre-field operations

Purchase of topo sheets (on 1:50000 scale) for the license area from the Survey of India and converting them into digital form.

Study of Land sat TM data and production of digital images.

Mobilisation of vehicles, laptop computers and other field equipment.

Training of geologists and field drivers for sampling in different geomorphological terrain.

3.2 Reconnaissance Sampling

A total of 83 reconnaissance samples were collected in the RP area (Map 4 & Table 1).

Stream samples comprised 75 liters of unscreened material, collected from natural heavy mineral trap sites and field screened to -2.0mm.

The samples were sent to the Peenya Sample Treatment Center in Bangalore and examined the concentrates in the Bangalore Mineralogical Lab, India.

3.3 Sampling Results

Results were received for all reconnaissance samples in the RP (Map 6 and Table 3), and 14 samples were reported positive with respect to visual kimberlitic indicator minerals. A total of 29 spinels and 2 garnets were reported. No illmenite or clinopyroxene were recovered

3.4 Follow up Sampling & Results

Total 13 follow-up samples were collected and received the results (Map 5 & Table 3).

3.5 Mineral Chemistry

Mineral Chemistry plots are shown in Figures 1 – 8. Note that additional grains were probed, so totals reported as visual recovery and numbers of grains probed do not necessarily correspond.

The mineral chemistry of a single garnet grain recovered from the area is not encouraging.



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The spinel chemistries indicate the presence of a dominant non-kimberlitic population with a subordinate mantle-derived population.

3.6 Airborne magnetic survey Conducted

Airborne Geophysical Survey was conducted with the following specification.. The flight plan of the survey has been attached (Map 7).

Survey Specification

- Survey Type: Stinger mounted sensor on Fixed Wing Survey Aircraft
- Aircraft: Shrike Aero commander 500S, owned and operated by Fugro Airborne Surveys
- Line Spacing: 200m
- Survey line direction: North-South
- Tie Line Spacing: 2000m
- Tie Line Direction: East-West
- Aircraft Flight Height: 120m

Physical Property being measured

- The cesium vapor magnetometer sensor measures the total intensity of the earth magnetic field
- The end result of the survey is a map which can be interpreted to reveal the special distribution and relative abundance of magnetic minerals in the rocks at the surface of the earth (top 10km).
- Magnetic minerals are minerals with iron in three chemical composition such as minerals in the Chromites family i.e. Magnetite Spinel, Ilmenite.

The airborne geophysical data released from Government of India on 3rd Jan 2008 was studied (Map 8) and found no interesting anomalies to follow up or to drill.

5. Remarks

Airborne Geophysical Survey was planned in the retained RP and completed flying during May-June 2007. Government of India retained the data for want of security clearance and released the data on 3rd January 2008 to De Beers India Private Limited.

5. Personnel

De Beers maintains high operating standards including Environmental, Community, Occupational Health & Safety and Environmental (ECOSH) awareness. Through effective management practices the group aims to ensure the health and safety of its employees (Photographs 1 & 2).



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Photo 1: Geologist is sampling with the help of police protection and rehabilitating the sample site after the sampling



Photo 2: First Aid training to the local field workers.

The following is a short summary of training completed by De Beers's employees during reporting period.

Earth Scientists attended a programme on XSIMS database management.



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Earth Scientists also attended a programme on Data mine solutions which will enable them to effectively organize data from drilling programmes.

GIS Manager attended a conference on G.I.S data standard and interoperability at map India 2006 conference, New Delhi, India.

Earth Scientist completed a short time assignment for drilling and petrology training in Canada and South Africa.

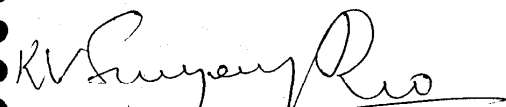
Name	Designation	Education
K.V.S. Rao	Technical Specialist-Geology	M.Sc. Tech – Applied Geology
Anand Kumar	Geophysicist	M.Sc.(Tech.)-Geophysics
Tarun Rautela	Senior Geologist	M.Sc. Tech – Applied Geology
Gargi Mishra	Petrologist	M.Sc. – Applied Geology
Rekha K.R.	Kimberlitic Mineral Analyst	M.Sc Geology
Shobha N.	Kimberlitic Mineral Analyst	M.Sc. Geology
Sanjay Deogiri	ICT Manager	B.Sc. Electronics, MCSE
Girish Menon	Security Adviser	Graduate
Gajanana Naik	Treatment Plant Supervisor	Graduate
Venu Kumar	Field Driver	Grade 12
B Srinivas	Field Driver	Grade 10
B S Dinesh	Field Driver	Grade 10

6. Expenditure

Total expenditure of Rs. 4, 90, 23, 364/- has been incurred for the exploration in Reconnaissance Permit area during the reporting period.

7. References

- Recent Advances in VINDHYAN GEOLOGY by Geological Society of India.
- GEOLOGY AND EVOLUTION OF THE INDIAN PLATE by S.M. Naqvi.



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