

APR 21

**Closing Report on Reconnaissance Permit
G.O.Ms No.212, Andhra Pradesh**

Report for the period of 12/08/2005 to 11/02/2006

1. Reconnaissance Permit (RP) Status

The Reconnaissance Permit for an area of 53 square km was granted by the Government of Andhra Pradesh in the Kurnool District. This area is located approximately 16 km south of Dhone and 35 Km Southwest of Banganapalle. It is easily accessible by road. The RP was executed on 11th August 2005 and it is due for relinquishment on 10th August 2008 (Map1).

2. Geology of the license area

The RP lies in the northern part of the Cuddapah Basin and is covered by Proterozoic sediments of the Cuddapah Supergroup associated with various igneous rocks of the Chitravati Group.

The Cuddapah Basin consists of a 12 Km thick pile of sediments with minor volcanics. It is of composite character as it comprises several discrete sub-basins of deposition. Two lithostratigraphic groups each with distinct rock assemblages and ages constitute the Cuddapah Basin. The lower and older Cuddapah Supergroup occupying the entire basin is overlain in the western part by the younger Kurnool Group lying unconformably over the Cuddapah Supergroup. The former is composed mainly of arenaceous and argillaceous sediments with minor carbonates and the latter essentially consists of carbonate sediments with minor clastics (Raman and Murthy, 1997).

The northern part of the RP consists of shales of the Tadpatri Formation and associated mafic igneous rocks of the Chitravati Group. Major igneous suites associated with the Tadpatri Formation in the area are dolerite, picrite, gabbro sills and basaltic flows. The southern part of the RP is covered by sediments of the Kurnool Group lying unconformably over the Cuddapah Supergroup (Map 2). The Banganapalle quartzite at the base of the Kurnool Group is a major litho unit present at the central part of RP area and is a potential source of detrital diamonds.



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Lithostratigraphy of the Cuddapah Basin

Kurnool Group 500 m thick sequence of quartzite, sandstone, shale and limestone

Cuddapah Supergroup Sequence of argillaceous and arenaceous sequence with subordinate calcareous sediments

3. Geomorphology of the license area

The northern part of the RP is highly elevated compared to the flat terrain in the central and southern parts. Topography and drainage show a direct correlation with each other. High elevated areas are well drained whereas flat areas show absence of drainage (Map 3). Samples were planned and collected keeping geomorphology of the area in mind. Stream sediment sampling was done in well drained high elevated areas, whereas loam sampling was done in flat areas

4. Activities in the area

4.1 Reconnaissance Sampling

Reconnaissance stream sediment and loam sampling was completed with totals of 13 stream and 5 loam samples being collected. All the samples have been processed, analysed and results received.

Stream samples comprise 75 litres of material screened through 10 mm mesh from natural heavy mineral trap sites. This – 10 mm fraction material is further screened to - 2 mm. Loam samples comprise 30 litres of – 10mm material and for further processing all the samples were transported to the De Beers India treatment plant in Peenya, Bangalore.

Sample locations are shown on the attached map (Map 4) and sample details are recorded in Table 1.



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4.2 Reconnaissance Sampling Results

Results were received for all reconnaissance samples in the RP (Map 5 and Table 2), and one sample reported positive with respect to kimberlitic indicator minerals. A single garnet and 16 spinel were reported. No other indicator minerals were recovered.

4.3 Mineral Chemistry

Mineral Chemistry data from the reconnaissance indicator minerals in the RP area is shown in Figures 1-8. The garnet is kimberlitic, but the spinels are of uncertain paragenesis.

4.4 Ground Geophysical Survey

4.4.1 Ground Magnetic Survey

A ground mega block of 18 square km was planned and covered by ground geomagnetic survey (Map 6) carried out with GEM model GSM 18 W magnetometers. A total of 198 line kilometers was covered by this survey with a line spacing of 100 m and station spacing of approximately 5 m. The magnetic survey has a low geomagnetic noise index and therefore provides a good background to discover magnetic kimberlite intrusions. No anomalies of interest were identified and hence no drilling was done in the area.

5. Interpretation

Based on the sampling results received and application of various techniques used in exploration of this RP, it is concluded that there is minimal potential for the discovery of a significant diamond bearing body. Indicator minerals recovered from area are probably transported and likely to be associated with an external kimberlite source. Geophysics does not show any significant anomaly hence this RP is relinquished with no PL applications.



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6. Personnel

Name	Designation	Education
Tarun Rautela	Senior Geologist	M.Sc. Tech-Applied Geology
B. Dutta	Senior Geologist	M.Sc. Tech-Applied Geology
M.P.Unnikrishnan	Staff Geologist	M.Sc. Tech-Applied Geology
G. Mishra	Geologist	M.Sc. Tech-Applied Geology
Anuradha Sarangi	Geologist	M.Sc. Tech-Applied Geology
Girish Menon	Advisor-Security and Liaison	B.A.
A.Chenniah	Field Driver	IX Std.
G.Oblesh	Field Driver	V Std.
G.Padmanabham	Field Driver	VI Std.

Labour

Labourers were employed on a daily basis from local towns and villages to help with the field work.

7. Training

De Beers maintains high operating standards including safety and environmental awareness. To this end, training is an integral part of career development with the organization. The following is a short summary of training completed to date.

All staff including geologists and field drivers received first aid and safety training, including fire fighting. All staff also receives ongoing education in HIV/AIDS awareness and other wellness issues.

All earth scientists attended a course on ArcGIS conducted by ESRI, India.

All field geologists attended a training programme on First Aid conducted by International SOS.

The drivers were put on a training course on Defensive Driving and Road Safety conducted by the Automobile Association of Southern India.



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8. Expenditure

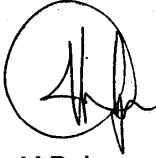
Total expenditure of Rs 11,97,539 has been incurred for the Reconnaissance Permit to date. The expenditure was incurred as follows:

Capital expenditure: Rs 11,12,474

Revenue expenditure: Rs 85,065

9. References

- 1) **P.K.Ramam; V.N.Murthy; 1997:** Geology of Andhra Pradesh, Geological society of India, Bangalore, Page 14-27.



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