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Pacific Exports
Closing Report on Reconnaissance Permit
Total Grant Area 1101 sq.km.
F 2-35/07/12/2
Report for the period
31/07/2008 to 30/7/2011



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

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Reconnaissance Permit (RP) Status

Initially RP was granted over 1890 Sq Km vide State Govt. order no. f 2 35/2007/12/2 Dt 18/07/2008 for which an agreement was executed at Bhopal On 31st July 2008 . Due to some earthmatic mistake the area was re calculated and replotted. hence the map issued a revised order for the area of 1101 Sq KM and a supplementary agreement was executed on Dt 23rd Dec 2009. The company has carried out RP work over the privisly granted area till the revised order Dt 27/10/2009 and after signing the supplementary deed the RP work done over the 1101 Sq Km area . In this way company has strictly followed the order of the state Govt. issued time to time .The said area and relinquishment was made as per the rule 7 (1)(I)(a)(b) of MCR 1960 finally the area was relinquish except Pl areas applied by the company . (PL list enclosed)

Literature Consultations and data collections

To survey the area concerned published geological literature from different organizations were purchased . Memoirs, Journals, Disst. Resources Map and structural map of the area were purchased from GSI and also help to consult published geological papers were taken from GSI liberally of Jabalpur and Nagpur offices .Toposheets of the area were purchased from survey of India map sale off at Bhopal and Jabalpur .Some revenue map were purchased from SLR office and forest map from forest office at Jabalpur and Katni . Apart from this satellite image purchased for interpretation of the area on the regional scale .Which were very helpful to carry out structural mapping of the area.

Drainages Of The area

The area is mainly drained by Mahanadi , Haren river , with their tributaries and no of Nalas .The Mahanadi is flowing towards north .Haren river is flowing roughly east to west. Ground slop of the area is towards north in general.

Geomorphology of the area

The RP area show undulating topography with long, liner ridges separated by plain areas. The Southern part shows high hills having maximum elevation of 500 Mt. The high hills are formed by Metavolcanics, Dolomite, Phyllite, & Conglomerate. The low lying areas are mainly occupied by phyllite, dolomite/marble and Lime Stone alternate bands. Even in the low lying areas, there are several flat ridge formed by chert bands and some area covered by soil and laterite . The low laying areas are towards north as well as south. The lowest elevation is 418 Mt .Over 50% permit area including the higher topographic hills are variously designated as reserved and protected forest.

Machinery & Equipment use in this work

GPS instrument, Brunton Compass, Geological Hammer, Theodolite, Measurement Tapes, Sample Bags, and Laptop & PC with geological software's like Map source, MapInfo, Arc Info, AutoCAD etc.

Location of Camp

There was following jumping camps were installed in the Area for reconnaissance work in village Chapahani, Bandha, Gopalpur, Umariya, Bansari, Ganeshpur, Bandri, Gaura Khurd, Bhajiya, Bhursa, Kachhri, Barwara Kalan, Barwara Kaln, Vilayta Kalan, Patharhata, Chanidiya, Kurro , Hardua , ponda, Bhitoni, Khurwal, Darshani, Chouthai, Tala kheda , Amoch , Dhanagwan, Mahegwa , Chapara , Madai , Bhoola , Saraswahi , Bijaiya , Tikariya , Sallaya Phatak ,Jhiriya , Imaliya , Sleemnabad , Bandhi , Sansarpur, Gurji , Devri. Nanahwari Etc.

Geological Mapping

The Geological Mapping on 1:50,000 scale and Reconaitary Mapping on 1:250,000 scale was carried out in the Eastern part of the permit area during the period (see enclosed for both the maps).

Results of Exploration

Sampling

Rock Chip Samples :

On the exposed bedrocks, sampling was done by rock chip sampling method. The chipping on exposed section was done by chisel and hammer and samples were collected from all RP area . Entire length of the visual mineralization zone was chip sampled. Sample analysis reports include with this reports.

Result :

The analytical results the collected chip samples are encouraging. The interpretation of chemical data indicates certain areas to be anomalous in iron and manganese mineralization. The important localities are Chaparwah , Mihgawan , Bhula , Sarswahi, Tikariya Bijaiyan, Amoch, Chapra Madai, Tharka, Sleemnabad , Nimas , Kachargawan Darshani, Gurji, Chapwah, Ponda , Bhajiya, Nanwara, Bhursa, Kuro, Parsel, Vilayat Kalan etc. where company has applied for prospecting licenses (PL) in the mining office of Katni and Jabalpur. Applied Prospecting Licenses application list enclosed with this report.

More than 2 Thousands rock chip sample were collected from various location during reconnaissance survey sample sent for chemical analysis

to the lab. Some sample results would found good, therefore company has applied Prospecting License over such areas for detail work. Good Results reports is given with report.

Nature and Structure of the Mineralization

- **Nature of the Mineralization:**

The RP area is dominantly occupied by Mahakoshal Group of rocks which is famous for hosting Iron, manganese, Vanadium and Titanium. Mineralization the volcano sedimentary sequence of Mahakoshal Group has potentially to host various mineral on regional scale. On local level in the RP area, the mineralization is dominantly structurally controlled in nature. Enrichment is noticed along fault zones, fold axes and shear zones.

- **Structure :**

Digital image processing of satellite data was very helpful to know the regional structure of the area which was confirmed by regional mapping of the lithology. Structurally the the archaean granite – gneisses as well as rock formations of Proterozoic Mahakoshal Group are deformed by polyphase folding. The first phase folds are isoclinal, have ENE- WSW striking axial planes dipping steeply southward. The axes of these folds generally plunge eastward, although in some areas westerly plunges are noted. A set of tight, asymmetrical folds with NE- SW axial trace have been superposed on the

first generation folds. Open folds with axial planes and perpendicular to the axial planes of earlier folds represent the folds of third generation. Superposed folding has resulted in large dome basin interference patterns.

Within the RP block the rocks are strongly sheared and mylonitised . The area west of Piparsara is also affected by NS shearing. A major N- S shear zone is probably concealed by alluvium between Devri – Imaliya mineralized zone to the north of the RP block is structurally controlled by N-S to NNW – SSE shear zone it is possible that these shear zone with NS to NNW strike may be important for mineral search in the RP Block .

Amygdular and porphyritic basaltic flows of Deccan Trap age highly fossiliferous Lameta beds are found along the southern periphery of the RP Block .Laterite cap has developed in the northern part of the area north of Devri , to the west and SW of Khitola , West of Pandi , near Mardoh and Ghugri , Near Ghugari and Marodh the Laterite cap is underlain by thick beds of friable magnetite ore and Blue Dust.

The Mahakoshal Group of rocks exhibit polyphase deformation patterns. The first phase of deformation (F1) produced tight, isoclinal folds on ENE-WSW axis with very high dips to south. The second generation deformation (F2) is coaxial to F1 and produced asymmetrical folds. The youngest set of deformation (F3) is represented by open folds on N. S axes.

The superimposition of different sets of folds has resulted in large dome basin interference pattern. The mineralization is noticed along fold axes

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mainly. The fold axes are generally sheared and brecciate, hence good conduit for mineralization. There are numerous faults in the RP area trending in ENE-WSW and N-S direction. Mineralization has been localized along these fault lines also.

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