

# **Minutes of the XVI meeting of State Geological Programming Board**

**20<sup>th</sup> September 2016**

State Geological Programming Board Chhattisgarh XVI meeting was held at Raipur on 20<sup>th</sup> September, 2016 under the Chairmanship of Ms. Reena Babasaheb Kangale, Director, Geology and Mining, Chhattisgarh. Representatives of Geological Survey of India, Chhattisgarh unit, Geological Survey of India (Coal wing), Indian Bureau of Mines, Central Mine Planning and Design Institute, National Mineral Development Corporation, Forest Department, Central Ground Water Board, Raipur, Central Institute of Mining and Fuel Research, Department of Industries and finance, Water Resource Department, Chhattisgarh Mineral Development Corporation and Directorate of Geology and Mining, Chhattisgarh participated in the meeting (List of Participants is enclosed).

Shri Jayant Pashine, Additional Director, Geology and Mining, Chhattisgarh offered a warm welcome to all the dignitaries from various departments. Dr D. R. Patel, Joint Director welcomed the Member Secretary of the forum. In inaugural address, Ms. Reena Babasaheb Kangale said that this meeting provides an opportunity to the state agencies as well as central agencies to exchange of information about their activities, achievements and future mineral exploration activities. She said that technical discussions in these programming board meetings are productive but we still need to re-orient and re-align our act as per the need of current times and also as per the requirement of market. Chhattisgarh is a mineral rich state and its contribution to the national economy is considerable. Industries involved in these activities are sizable. We do need a lot of catalytic investigation which will take us to a totally different level.

The basic idea of this meeting is to exchange ideas of various agencies working in the state and avoid duplicating of work being carried out by them. Director gave a brief account of the investigation work carried out during the last field season and also the work proposed during the coming field season.

Shri Jayant Pashine thanks chairman of the board Ms Reena Kangale for his valuable guidance and assured them of compliance of all the guidelines. He presented the minutes of the 14<sup>th</sup> meeting of the SGPB held on 25<sup>th</sup> September, 2014, before the house for approval and the same was unanimously approved by the members without any modifications.

Director, Geology and Mining, Chhattisgarh Ms Reena Kangale asked for presentation of various departments working in the State.

## **16.1 Directorate of Geology and Mining, Chhattisgarh**

Dr D. R. Patel, Joint Director, DGM, CG, presented a brief account of the work done by Directorate of Geology and Mining, Chhattisgarh during F. S. 2015-16 in Chhattisgarh under the jurisdiction of areas of Raipur, Bilaspur and Jagdalpur regional offices. Total 1323 Km<sup>2</sup> Reconnaissance Geological Survey, 211 m<sup>3</sup> pitting/trenching, 7538 meter drilling and chemical analysis of 8220 samples done during this period. Total 2103 lakh tonnes of limestone resources, 14 lakh tonnes of metal grade bauxite resources and 2 lakh tonnes of

dolomite resources are assessed during the period. 176 spot inspections for mineral concessions are done during the period.

During the period Baghmara Gold block of Balodabazar Distt. is successfully auctioned for grant of composite license. This is the first gold block of the country to have successfully auctioned. Two limestone blocks Karhi Chandi of Balodabazar Distt. and Kesla of Raipur Distt. have been allotted for mining lease through E-Auction.

**16.1.1 Regional Office Bilaspur:-** Shri Kailash Dongre, Regional Head elaborated the mineral exploration activities of Regional office Bilaspur. He informed that exploration work for Bauxite in Dandkesra area is completed during the period. Total 1530.60 m drilling is completed and approximately 10 lakh tonnes of bauxite resources are estimated in the area.

During the period exploration for limestone was done in Dhabadih II block of Janjgir Champa District. 1276.60m drilling is done. Reco survey over 405 sq.km. and detailed geological mapping over 3 sq.km area is done. Total 74 million tonnes limestone resources are estimated in this block. Exploration for limestone in Dhabadih-II block of Janjgir-Champa Distt. will be continued in ensuing field season 2016-17.

Director Geology and Mining, CG asked about Geological Reports of Dhabadih I block (Limestone) and Dandkesra (Bauxite) to be submitted by November, 2016.

(Action R.H. Bilaspur)

Director Geology and Mining instructed Shri S.S.L. Nagwanshi, Joint Director (Laboratory) for early completion of chemical analysis of samples of Dhabadih-I block (Limestone) and Dandkesra Bauxite block.

(Action J.D.Lab)

Director Geology and Mining, CG asked about progress in respect to report of minor mineral auction block. RH Bilaspur informed that Spot inspection and field work in 9 blocks are complete. Presently the boundaries of these blocks are being fixed on new khasra maps because many khasra nos are changed from original maps since this work is done in 1990-91. This work will be completed soon and report will be submitted within 2 weeks.

(Action R.H. Bilaspur)

**16.1.2 Regional Office Raipur:-**

Shri S.K. Tiwari, Dy. Director, Regional office Raipur informed the house that prospecting for Limestone in Kesla area distt. Raipur was continued during the period under review. During the period. Total 1178.10 m drilling is done and 75.28 million tonnes resources of limestone estimated. Exploration in this block is completed. Prospecting for Limestone in Tekapar-Kalkasa area of Rajnandgaon distt. was continued during the period under review During the period, total 1272.95m drilling is done and total 51.17 million tonnes resources of limestone estimated. Exploration for limestone in this block is also completed. Prospecting for Bauxite in Salgi area, district Kabirdham was continued. 1055.80 m drilling is done and 3.72 lakh tonne of resources of metal grade bauxite are estimated in this block. Exploration for bauxite in Salgi block will be continued during the coming field season.

Prospecting for Bauxite in Daldali area, Distt. Kabirdham was also done during the period. 280.20m drilling is done and 78 thousand tonnes of resources of metal grade bauxite are estimated in this block. Exploration for bauxite in this block is completed.

Director Geology and Mining, CG asked about when Kukurdih and Guma blocks will be completed and report will be available for auction. R.H. replied that it will be completed by March, 2017 and report will be prepared by June, 2017 for its auction. RH Raipur also replied that 25% work in the Sarseni-Guma will be done by April 2017.

(Action R.H. Raipur)

Director Geology and Mining, CG instructed to submit Geological reports of Darai block (bauxite) Distt. Kabirdham by January, 2017.

(Action R.H. Raipur)

During review of progress of Auctionable blocks, DGM suggested that during any exploration/demarcation work if DGPS survey is required, forest personnel should be compulsorily included in the team.

(All Regional Head take action)

### **16.1.3 Regional Office Jagdalpur:-**

Shri Dharmendra Sai, Regional Head, Jagdalpur informed the house that exploration for limestone in Chitapur area in Bastar distt. is done during the period. Total 772.55 meter drilling is done in this block. Around 10 million tonnes of cement grade limestone is estimated in this block. Work in this block is completed.

Exploration for dolomite in Kurundi-Jiragaon-Markel area in Bastar distt. was also done during the period. Total 170.75 meter drilling work done in this block. Around 10 lakh tones of dolomite is estimated in this block. Work in this block is completed.

Director Geology and Mining, CG asked about Geological Reports of Chitapur block (Limestone), Distt Bastar to be submitted by December, 2016.

(Action R.H. Jagdalpur)

Shri Jayant Kumar Pashine, J.D. DGM, CG asked RH Jagdalpur to expedite chemical analysis of limestone samples since it is done in Jagdalpur lab itself.

(Action R.H. Jagdalpur)

Director Geology and Mining, CG asked about minor mineral block to be taken for exploration. He also informed that spot inspection related to auction of minor minerals is in progress. Director DGM asked about the status of G.R. of Chitapur limestone block. R.H. Jagdalpur informed that this will be prepared by December, 2016.

(Action R.H. Jagdalpur)

## **16.2 Geological Survey of India, Chhattisgarh Unit, Raipur**

Mr. V. Mishra, Director, GSI informed the house that GSI has taken up different projects under five missions in Chhattisgarh during the period. GSI is concentrating only on two mission that is mapping and exploration. GSI is doing Geochemical mapping on

national level under NGCM program. The aim of NGCM program is to prepare potential maps for different elements at national level.

- 16.2.1 Mission 1A: Mapping:-** Specialized thematic mapping in Bilaspur-Raigarh-Surguja metamorphic belt in Patrapara-Rajpur-Toni area of Balrampur and Surguja Distt. on 1:25000 scale, T. S. No. 64-M/7:- This area is the western continuation of Chhota Nagpur granites-gneiss and metasediments. Total 525 sq km area mapped on 1:25,000 scale. The significant finding of the field work has been finding of sulphide zone in form of sulphide veins.
- 16.2.2** Specialized thematic mapping in Mahartola-Motimpur-Nawagaon area, Rajnandgaon and Kabirdham distt.:- total 525 sq km area was mapped on 1:25,000 scale (Toposheet no. 64 G/1 & 2)
- 16.2.3** Project NGCM :- The main purpose of this project to prepare geochemical data base of India that can be used in different purpose viz. mineral exploration, forestry, agriculture, health hazard etc. Shri Mishra, Director, GSI Raipur informed the house that under this project one sample collected per sq km and one composite sample have to be taken at 2x2 sq km grid and analyzed for 64 elements.
- 16.2.4** Geochemical mapping in Bilaspur-Raigarh-Surguja metamorphic belt, Surguja Distt of Chhattisgarh and Palamu distt of Jharkhand. (Toposheet no.. 64 M/10, 64 N/10 & 64 N/6 (part). Geochemical mapping of 800 sq km area was carried out on 1:50,000 scale. Geochemical samples were collected from this area.
- 16.2.5** Geochemical mapping in Bilaspur-Raigarh-Surguja metamorphic belt, Surguja Distt of Chhattisgarh. (Toposheet no.. 64 M/11, 64 N/11 & 64 N/6 (part). Geochemical mapping of 800 sq km area was carried out on 1:50,000 scale. Geochemical samples were collected from this area. 200 nos. of composite, 10 nos. of soil “C” horizon, 10 nos. of Regolith.
- 16.2.6** Geochemical mapping in Bilaspur-Raigarh-Surguja metamorphic belt, Surguja, Ambikapur Distt of Chhattisgarh. (Toposheet no.. 64 M/15, 64 N/5 & 64 N/6 (part). Geochemical mapping of 812 sq km area was carried out on 1:50,000 scale.
- 16.2.7** Geochemical mapping in Bilaspur-Raigarh-Surguja metamorphic belt, Surajpur and Balrampur Distt of Chhattisgarh. (Toposheet no.. 64 M/7, 64 I/16 & 64 N/2 (part). Geochemical mapping of 808 sq km area was carried out on 1:50,000 scale.
- 16.2.8** Geochemical mapping in Toposheet no. 64 L/6 and 64 L/5 (part), Raipur Distt of Chhattisgarh. Geochemical mapping of 814 sq km area was carried out on 1:50,000 scale. Geochemical samples were collected from this area. 814 nos. of unit cell samples for petrology were collected. The area exposes rocks.
- 16.2.9** Geochemical mapping, belt in parts of Gariaband and Mahasamund Distt of Chhattisgarh. (Toposheet no 64 L/6 and 64 L/5 (part) Geochemical mapping of 804 sq km area was carried out on 1:50,000 scale. Various type of Geochemical samples were collected from this area.
- 16.2.10** Geochemical mapping, belt in parts of Gariaband and Mahasamund Distt of Chhattisgarh. (Toposheet no 64 L/8 and 64 L/5 (part) Geochemical mapping of 818 sq km area was carried out on 1:50,000 scale. Various type of Geochemical samples were collected from this area.

- 16.2.11** Geochemical characterization of the abiotic environment in parts of Dhamtari, Gariaband and Kanker Distt of Chhattisgarh. (Toposheet no 64 L/4 and 64 H/12 (part). Geochemical mapping of 808 sq km area was carried out on 1:50,000 scale.
- 16.2.12** Geochemical characterization of the abiotic environment in parts of Raipur, Kalahandi and Koraput Distt of Chhattisgarh and Orrissa. (Toposheet no 64 I/9 and 64 H/12 (part). Geochemical mapping of 828 sq km area was carried out on 1:50,000 scale.
- 16.2.13. Mission II A Economic Geology:-** Preliminary investigation for iron ore in Ranidhara-Magarkund area, Kabirdham Durg districts (Economic Geology Project) Toposheet no.64 G/1 (part):- Large scale mapping of 100 sq. km. is done on 1:12500 scale. Additional 50 sq. km area is mapped in presently ML/PL free area of Toposheet no 64 G/1 on 1:12500 scale. A total of 50 no BRS, 20 no PS and 10 no ORM have been processed and submitted for analysis.
- 16.2.14** Search for kimberlite clan rocks in Mahasamund, Balodabazar and Janjgir-Champa districts (Economic Geology Project) (Toposheet no. 64 K/10 & 11) Aerial reconnaissance of 700 sq. km. is done in Toposheet no. 64 K/10. Large scale mapping on 1:12500 of 50 sq. km. is done. A total of 145 polished mounted grains were submitted to SEM lab.
- 16.2.15** Search for kimberlite clan rocks in Mahasamund distt. (Economic Geology Project) Toposheet no.. 64 K/8, 12 (part) and 16 (part):-A PGRS study of 1400 sq. km area was carried out. Reconnaissance survey of 700 sq.km area is done. Various type of samples for petrological and petrochemical studies were collected.
- 16.2.16** Ground evaluation of Geochemical anomalies of REE in and around Balodabazar, Lawta and Rasera area, Balodabazar Distt, Chhattisgarh. (Toposheet no.. 64 K/2) Large scale mapping on 1:12500 of 100 sq. km. is done. Various type of samples for petrological and petrochemical studies were collected.
- 16.2.17** Preliminary investigation for Gypsum in Akola- Patora- Bhusandi- Karesara and adjoining areas. Bemetara districts (Economic Geology Project) Toposheet no. 64 G/5 & 9:- Large scale mapping of 100 sq. km. is done on 1:12500 scale. A total of 30 nos. BRS, 15 nos. PCS and 45 nos. core samples have been processed and submitted for analysis. Ferruginous shale is the only lithounit observed in the mapped area. Gypsum horizon of 81.86 % to 83.61 % is intersected in 02 zones between 82.5m to 96m depth in BH no 5 near Bemetara.
- 16.2.18** Exploration for Limestone in Kharri-Parsadih block. Raigarh districts, Toposheet no. 64 O/2:- A G2 level investigation program has been taken up with the objective of assessment of limestone in Kharri- Parsadih block. Detailed mapping of 8.5 sq. km. is done on 1:4000 scale. A total of 50 no of boreholes on 400m grid interval are drilled in this block. CaO content varies from 39 to 46.31%. Silica from 13.31 to 19.28% and MgO from 1.15 to 1.57%. During discussion it has been suggested to drill the B.H. at 200 mts. grid interval.
- (Action GSI)
- 16.2.19** Assessment for bauxite ore in Damchun block, Balrampur distt. (Toposheet no. 73 A/3) A G2 level investigation program has been taken up for G2 level investigation of Bauxite in Damchun block, Balrampur distt. There has been some hinderence in exploration work in this block due to strong oppose of local villagers against exploration work.

**16.2.20** Assessment for bauxite ore in Bamhantara block, Kabirdham distt. (Toposheet no. 64 F/3) A G2 level investigation program has been taken up for G2 level investigation of Bauxite in Bamhantara block, Kabirdham distt. A total of 1277.6 m drilling (80 boreholes) is done in this block. Initially drilling is done on 100 m grid interval. After assessment and evaluation drilling at 50 grid is done. In this block  $Al_2O_3$  values varies from 28.05% to 58.60%.

**16.2.21 Project Geoinformatics:-** Compilation of new series (Second edition) of Geological Quadrangle Maps on 1:250000 scale. Compilation and Digitization of Mineral belt Maps of Central Region on 1:50000 scale.

**16.2.22** Maintenance of LAN/WAN and uploading of unpublished reports onto GSI portal. LAN/WAN of GSI, CG. Unit Raipur is working properly for transmission and retrieving of data and remote printing from one end to different user ends and vice versa.

Director Geology and Mining, CG asked GSI about the two projects given to them by DGM, CG. Director GSI informed that limestone exploration work in Kharri area of Raigarh distt is completed and they will submit the report by October, 2016.

(Action GSI)

During discussions GSI shown interest on taking exploration for Tungsten in Raigarh Distt. This is one of the seven programs proposed in Chhattisgarh under NMET. There are 100 such programs are proposed nation wide. Beside Tungsten, other minerals are Gold (Sonakhan), Diamond (Tokapal, Mahasamund, Rajnandgaon), Graphite (Balrampur distt) and Glauconite (Mahasamund distt).

Director GSI also informed that GSI is preparing Mineral Belt Maps of different parts of state.

Shri Anurag Diwan, Joint Director, DGM asked that can there be a provision of prospecting scheme on work done under NMET by different agencies so that it can be monitored properly and it is done in stipulated time.

Director DGM, informed that all the work conditions and term are decided by executive committee of NMET constituted by central government. For provision of prospecting scheme and other terms we have to ask executive committee. We don't have right to modify any term. Director DGM, asked Shri Anurag Diwan to prepare a specific proposal for prospecting scheme to be sent to the committee.

(Action J.D.Mining)

Director DGM, asked GSI that as per the provisions of NMET, data repository has to be prepared and shared with state. What data GSI has prepared in this regard so far. GSI informed that based on their studies maps are prepared and published.

Dr. D. R. Patel, J.D. DGM, asked GSI to close the borehole spacing at least 50 m. instead of 100mts because bauxite of this area is derived from Basalt and it is very irregular and lensoid in nature.

Shri Anurag Diwan, Joint Director asked GSI why they are inclined towards the extreme end of the norms of borehole spacing. If we drill at 100m interval, the level of confidence will be less. This will adversely affect the value of mineral block during auction. Since these projects are going to be funded by NMET. There is no constraints of funds for these works. This will definitely increase the confidence level of report and will eventually help in pricing of mineral block and successful auction of block.

(Action by GSI)

During discussion DGM informed that 100 blocks across India are selected from OGP areas for detailed exploration under NMET funds. Out of these 100 blocks, 07 blocks are from Chhattisgarh state (for F.S. 17-18). Average area of individual block is 100sqKm. She asked OIC, Geology to bring out the details of these blocks. She asked GSI to take up remaining area of Sonakhan belt for further detailed exploration. GSI people replied that as per their knowledge they have given area of tungsten in Raigarh district.

(Action OIC Geology DGM)

Director, Geology and Mining asked everybody present in the meeting to give their suggestion and view on taking up of these areas. It was concluded that gold of Sonakhan and Diamonds prospects of Mahasamund district may be taken up for further works by DGM.

NMDC also expressed interest in taking up areas of Diamond potential for further work. Director DGM, CG expressed that now Govt, of India's focus is on high value deep seated mineral deposits.

DGM, CG said we will involve external agencies in exploration in deep seated high value mineral so that our limited exploration resources are not stacked into this. Plus we will get benefit of experience and expertise of external agencies.

**16.3 Coal Wing, Geological Survey of India, Kolkata:-** During the period regional and promotional exploration program for coal were continued in Chhattisgarh in the Mahanadi Valley basin (Mand Raigarh Coalfield) and Son Valley basin (Tatapani-Ramkola Coalfield).

#### **16.3.1 Mand Raigarh Coalfield**

(I) **Purunga block:-** was commenced in May 2014 and was continued with 6018.45m drilling in 12 boreholes. 12 nos. of regional coal seams and a few local coal seams ranging in thickness from 0.51m to 12.85m have been intersected. During the period an area of 8.0 sq km was geologically mapped in 1:10000 scale and a total of 3638.52m geophysical logging was done in this block. This work is completed on 26 April, 2016.

#### **16.3.2 Son Valley Coalfield (East) Chhattisgarh:-**(Tatapani-Ramkola Coalfield, Surguja Distt.)

(II) **Pipraul Block:-** This project was commenced on 08-11-2013. During the period under review a total 2795.40m drilling is done in five boreholes. 2204.55m geophysical logging was also done in this block.

(I) **Sendur block**:- This project was commenced in December, 2015. During the period under review a total 981.25m. drilling is done in this block in 2 boreholes. During the period an area of 2.0 sq km was geologically mapped in 1:10000 scale.

During discussions matter of delay in grant of forest permission for exploration was raised in detail. It was informed that many such projects are stuck in want of forest clearance. Director, DGM assured members that she will raise this issue with P. S. Forest. DGM, CG also told that Baghmara gold block which is auctioned needs permission from forest. She informed the Conservator of forest Shri Rajesh Nanhoria that the required application is registered with forest department and necessary formalities required by FMIS is also fulfilled. Forest Department has asked for DGPS survey to be done in presence of forest representative. We have requested CCF that permission for forest clearance may be granted on the basis of DGPS survey already done since coordinates fixed by this survey coincide with latest coordinate system. She informed C.F. that the Composite License granted is time bound and company has to finish exploration work in three years. The LOI for this block is already issued on 28<sup>th</sup> April, 2016 and by April, 2019 this exploration work has to be completed and prospecting report submitted.

(Action Forest Deptt.)

During discussion Anurag Diwan, Joint Director, DGM asked GSI coal wing about status of Pipraul and Sendoor coal blocks of Balrampur district since Secretary MRD has asked to expedite work in these blocks. . GSI coal wing informed that Pipraul block is completed and Sendoor block will be completed in march 2018. Due to non availability of analysis results from CMFRI, preparation of report is delayed.

(Action CMFRI)

During discussion it was mentioned that during field season 2004-05 a new area of coal was discovered in Shankargarh tahsil of Balrampur Distt. After preliminary works it was handed over to GSI coal wing. After drilling a few boreholes, GSI could not complete that work because of want to forest permission. During discussion Director, DGM mentioned about non availability of forest permission for Kerwa coal block of CMDC , Korba district. All the formalities related to forest permission have been done but despite that permission from forest is still pending.C.F. informed about the process of getting permission in forest. Necessary help is asked from forest to expedite the process since many such applications are pending with forest and many projects are stuck due to it.

( Action forest )

Conservator of forest discussed about the modalities of forest permission. He also described about the importance of density of forest during permission process. Density of 0.4 and less is only given the permission. About orange area he said that normally orange area does not have dense forest permission are given after due processing. C.F. informed that as per guidelines of Supreme Court forest is defined as having 200 trees per hectare. He described that in 10.0 sq km area, permission for 20 boreholes can be given forest permission (state government) and for more boreholes the case is referred to MOEF. Shri Anurag Diwan, Joint Director said that as per new notification area actually affected by drilling is calculated for it, not the whole area where prospecting is done. On this matter C.F. said that he is not aware of it and more clarifications is needed on this matter.

(Action DGM and Forest)



Director DGM, suggested that a proper representation should be given to P.S. forest in this regard. She asked Shri Sanjay Khare, Asstt Geologist, DGM to make a brief presentation on it within a month.

(Action Sanjay Khare, Asstt. Geologist )

#### **16.4 Indian Bureau of Mines, Nagpur:-**

**16.4.1** Mr. B. L. Gurjar, Dy Controller (Mines), IBM, Raipur, informed that 53 mines were inspected in Chhattisgarh for implementation of MCDR 1988 and for approval of Mining plan and scheme of mining. The mines inspected were of minerals Bauxite, Dolomite, Iron ore, Limestone, Quartz & Quartzite in different distt. of the state. 29 site inspections were carried out for approval of mining plans/scheme.

During the year 2015-16, intermediate updation of national mineral inventory in respect of all minerals in the state of Chhattisgarh were taken up and completed. During the year 2015-16, 27<sup>th</sup> Mines Environmental and Mineral Conservation Week was organized under the jurisdiction of Raipur Regional Office between 11.1.2016 to 21.1.2016.

During discussion Dy Controller (Mines), IBM asked state govt to fix area of leases by DGPS survey. During discussion it was understood that at this moment it is not possible because leases are granted on Khasra Maps and geographic controls of Khasras are not available so far in the state.

Director DGM, asked IBM to give consent on use of some suitable limestone deposits (high grade) of Bastar area for cutting and polishing purpose as the matter is pending for last four years proposed under rule 59 of MCDR.

(Action IBM)

IBM officials asked that in Geological report submitted to IBM signature of State Govt Authority is not there. A photocopy of report is submitted without sign which is not acceptable. Shri Anurag Diwan, Joint Director, DGM, replied that he will take care in future reports which are forwarded to IBM. Director, DGM asked IBM officials about pending cases related to C.G with IBM (One case of J.K.Cement, one case of moulding sand). Shri Gurjar (IBM) said that he will see the matter and take necessary action.

(Action IBM)

#### **16.5 Atomic Mineral Directorate of Exploration and Research-**

Representative from Atomic Mineral Directorate were not present for presentation of their work. A brief account of work done and future proposals are given here on the basis of papers send by them.

##### **16.5.1 Uranium investigation-**

**16.5.1.1** Khairagarh Basin:- Reconnoitry drilling of 14 boreholes (3633.25m) at Nalpani and Bhimdo area indicated significant uranium mineralization hosted in conglomerates of Bortalao formation (Khairagarh Group) and Pitepani metabasics of Nandgaon Group.

**16.5.1.2** Surguja Shear Zone:- Detailed Geological mapping, detailed radiometric checking and systematic sampling in Surguja crystalline were carried out to establish sub-

surface continuity of shear controlled 'vein type' uranium mineralization. Drilling in 19 boreholes (total 5425.75m) was done. Significant uranium mineralization was intercepted in association with shear zone rocks. Reconnaissance radiometric survey and geological mapping (1:50000scale) along Dugru granite dome (Chhotanagpur Granite Gneiss Complex) in north Surguja Shear Zone, Balrampur Distt was carried out, covering an area of 180 sq. km.

#### **16.5.2 Rare Metal Rare Earth (RMRE) Investigations-**

These investigation include reconnaissance survey, detailed evaluation and assessment of Columbite-Tantalite along with recovery operations in parts of Bastar and Dantewara Distt.

All the assignments taken up during field season 2015-16 would be continued during the field season 2016-17 based on the results of this year.

#### **16.6 Central Mine Planning and Design Institute-RI-V Bilaspur**

Shri M. Satyanarayana, HOD, CMPDIL, RI-V- Bilaspur informed the house about the activities of Coal Exploration in Korba, Mand-Raigarh, Bistrampur, Sonhat and Tatapani-Ramkola Coalfields. The work carried out through departmental resources and outsourcing. Total 4,79764.78 m drilling was carried out in 36 coal blocks/mines of various coalfields. Prospecting report of Renki block of Korba coalfield, Syang Combined, Chira Combined and Banai block of Mand-Raigarh coalfield and Ghughra west block of Sonhat coalfield is finalized during 2015-16. Total Coal reserves proved in these block are 3478.99 million tonnes.

During coming field season (2016-17) CMPDI Ltd will drill 4,03200 meters in various coal blocks of the state.

During discussion Shri Satyanarayana asked about G.R. of Saidu coal block. Dr D.R. Patel informed him that the report is already sent to CMPDI, Bilaspur and Ranchi.

#### **16.7 National Mineral Development Corporation Ltd.**

Shri Vivek Kumar Shrama, Manager (Geology) NMDC informed the house that exploratory drilling work carried out in the existing mining leases of Bailadila area for quality control and additional reserve proving. Total 5705.40m drilling is done. Besides NMDC has filed 4 PL applications for iron ore in Dantewara distt. Now these applications have become ineligible per new MMDR (Amendment) Act, 2015.

NMDC proposes to drill 9800m for Iron ore during coming F.S. 2016-17.

#### **16.8 Central Ground Water Board**

Shri O.N. Tiwari, Regional Director, CGWB Raipur, elaborated on ground water exploration & Monitoring in Chhattisgarh State. During the period under review aquifer mapping in three dimensions is initiated by the board. Shri Tiwari informed that ground water maps of all the districts are under preparation and it will be provided as soon as it is published.

As annual action plan of CGWB for 2016-17, it proposes to carry out aquifer mapping in 7936 sq. km area in different distt of the Chhattisgarh. In addition to it CGWB proposes to drill 48 Exploratory/Observation wells.

#### **16.9 Chhattisgarh Mineral Development Corporation**

Shri Sunil Kumar Pandey, Asstt Geologist of CMDC elaborated the mineral exploration activities of CMDC. In the year 2015-16 CMDC carried out investigation for Bauxite, through

DGM in Dandkesra area in Surguja distt. and Bamhantara area in Kabirdham distt. Exploration work for bauxite is being done by GSI and the work both these blocks is completed.

During coming F.S. (2016-17) CMDC proposes exploration of bauxite in Uranga block of Surguja and Pandripani, Bhurskipakri and Mukam blocks of Kabirdham distt. In addition it proposes to carry out exploration for coal in Kerwa block of Korba distt.

**16.10** The proposed field programs for 2016-17 has been approved by all the member Unanimously. As there was no overlapping or duplication found in the field programme.

The meeting concluded with vote of thanks given by Shri D. Mahesh Babu, Joint Director, D.G.M. to Chairman and members of Board.

**Director  
Geology and Mining,  
Chhattisgarh**

## List of Participants

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