

**MINUTES OF THE 18th MEETING OF
STATE GEOLOGICAL PROGRAMMING BOARD
26th JULY, 2018, RAIPUR**

18.1 18th meeting of SGPB Chhattisgarh was held at New Circuit House, Raipur on 26th July 2018 under the Chairmanship of Shri Subodh Singh, Secretary, Govt. of Chhattisgarh Mineral Resource Department. Member secretary & Director Geology and Mining, Chhattisgarh Smt. Alarmelmangai D. was present at the meeting. Members and dignitaries of SGPB, present at this meeting include Dr. Shabbir Hussain, Deputy Director General, Geological Survey of India, Chhattisgarh unit. Representatives of Geological Survey of India, Chhattisgarh unit, Indian Bureau of Mines, National Mineral Development Corporation, Chhattisgarh Mineral Development Corporation, Central Mine Planning and Design Institute, Mineral Exploration Corporation Ltd, Chhattisgarh and Directorate of Geology and Mining, Chhattisgarh participated in the meeting. List of Participants is enclosed.

18.2 Shri Jayant Pashine, Additional Director, Geology and Mining, Chhattisgarh offered a warm welcome to all the dignitaries from various departments.

18.3 In inaugural address, Member secretary Smt. Alarmelmangai D., Director Geology and Mining, Chhattisgarh said that in the new Auction regime, mineral exploration work has become very important. She urged that methodology of exploration work should be reoriented and streamlined according to guideline of new Mines and Minerals Act & Rules. So that more and more mineral block may be available for auction in Chhattisgarh state.

She also said that this meeting provides an opportunity to the state agencies as well as central agencies to exchange information about their activities, achievements and future mineral exploration activities.

Chhattisgarh is a mineral rich state and its contribution to the national economy is considerable. She suggested to all exploration agencies to plan exploration work in such a way that 5 to 6 blocks be prepared for auction every year. During her address, she said that all geological organizations particularly NMDC should be also involved mineral exploration work in Chhattisgarh specially for gold, diamond and base metals as organization has expertise in this field.

18.4 **Member Secretary welcomed the Chairman Shri Subodh Singh, Secretary, MRD, C.G. Govt.** In his address, secretary appreciated the D.G.M. CG for receiving 03 awards at 4th Mining Conclave at Indore by Government of India, Ministry of Mines. He also appreciated the work carried by GSI Raipur, particularly for high valued strategic minerals like lithium, iron, nickel, graphite, gold, glauconite Tungsten etc. He also emphasized the forum to take up such blocks which can be Auctioned in short period.

(Action all members)

18.5 Shri Jayant Pashine, Additional Director, Geology and Mining, Chhattisgarh, thanked Chairman Shri Subodh Singh and member secretary for their valuable guidance and assured them of compliance of all the guidelines. He presented the minutes of the 17th meeting of the SGPB held on 31st August, 2017 before the house for approval and the same was unanimously approved by the members without any modifications.

18.6 Shri Jayant Pashine, Additional Director, invites different organization for presentations of their works in the state.

18.7 Geological Survey of India, Chhattisgarh Unit, Raipur

Dr. Shabbir Hussain, Dy. Director General, informed the house that GSI has completed almost 98% of the area of the country under Thematic mapping programme. GSI is doing Geochemical mapping on national level under NGCM programme in view of vision 2020 to locate potential and prospective area for mineral exploration. The aim of NGCM programme is to prepare potential maps for different elements at national level.

Dr. Shabbir Hussain, Dy. Director General, GSI informed the house that GSI has taken up different projects under five missions in Chhattisgarh during the period. GSI is concentrating on Mission-I & Mission –II, i.e. mapping and exploration. He informed the Chairman that previously GSI has been working only for G-IV level exploration. GSI has started detailed exploration work in G-II level to bring out auctionable block in the state.

18.8.1 Mission 1: Project STM:- Shree Yogesh Pandey, Director(G) informed the house that 04 project has been taken up in the Specialized Thematic Mapping (STM)

I Specialized Thematic Mapping around Pithora - Dongripali - Sohagpur area in part of Toposheet S. No. 64K/12 to characterize the different units of basement gneisses and rocks of Sonakhan Granite-Greenstone belt in Mahasamund district Chhattisgarh covered 350 Sq. km.area on 1:25000 scale..(Item No.-003/TM/CR/CG/2017/01)

II Specialized Thematic Mapping to characterize the lithological assemblages of Chhotanagpur Gneissic complex in part of T. S. No. 64M/6 and 11 in Balrampur district, Chhattisgarh covered 350 Sq. km.area on 1:25000 scale.
(Item No.-004/STM/CR/CG/2017/02)

III Specialized Thematic Mapping around Devsara, Kusumi, Balrampur district, Chhattisgarh T. S. No. 64M/15 to characterize the lithological assemblage of Chhotanagpur Gneissic complex and to search for bauxite and other possible mineralization covered 350 Sq. km. area on 1:25000 scale
(Item No.-005/STM/CR/CG/2017/03)

IV Specialized Thematic Mapping around Champa-Nilkanthpur –Ghonsara in Balrampur and Jashpur district, Chhattisgarh T. S. No. 64M/16 to characterize the lithological units and structural framework of Chhotanagpur Gneissic complex (CGC) and to search for bauxite and other possible mineralization covered 350 Sq. km.area on 1:25000 scale
(Item No.-006/STM/CR/CG/2017/04)

18.8.2 Mission 1: Project NGCM:- The main purpose of this project to prepare geochemical data base that can be used in different purpose viz. mineral exploration, forestry,

agriculture, health hazard etc. Shri Yogesh Pandey Director, GSI Raipur informed the house that under this mission 12 projects have been taken in different part of Chhattisgarh State.

- I.** Geochemical mapping in Rajnandgaon and Balod district of Chhattisgarh, on Toposheet no. 64 D/13. A total of 728 no of samples were collected for various purposes. (Item no. 16/GCM/CR/CG/2017/11)
- II.** Geochemical mapping in Amgaon-Nandgaon-Khiragarh belt, Rajnandgaon and Balod district of Chhattisgarh, on Toposheet no. 64 D/14. A total of 728sq km area was covered on 1:50,000 scale. (Item no.17/GCM/CR/CG/2017/12)
- III.** Geochemical mapping in Toposheet no. 64 H/05 in parts of Durg and Balod district of Chhattisgarh. An area of 728 Km² was covered and a total of 182 composite samples were collected. During the course of Geochemical mapping, small patch of Glauconitic limestone of Chandi formation was observed near Rahud village. (Item no.18/GCM/CR/CG/2017/13)
- IV.** Geochemical mapping in Toposheet no. 64 H/7 in parts of Balod and Kanker districts of Chhattisgarh. The area is represented mainly by Dongergarh granites of paleo-proterozoic age. Total 728 sq km was covered and a total of 182 nos. of composite samples were prepared for various purposes.
(Item no.19/GCM/CR/CG/2017/14)
- V.** Geochemical mapping in Toposheet 64J/13 in part of Surguja and Korba district of Chhattisgarh. During the course of geochemical mapping whole area of Toposheet 64J/13 covered by survey on 1:50,000 scale. and a total of 728 nos. of sample were collected. Out of which 182 nos of composite samples were prepared for the various purposes.
(Item no.20/GCM/CR/CG/2017/15)
- VI.** Geochemical mapping in Surguja metamorphic belt, Surajpur district of Chhattisgarh, on Toposheet no. 64 M/05, covered 728sq km area on 1:50,000 scale. (Item no.21/GCM/CR/CG/2017/16)
- VII.** Geochemical mapping in Balrampur district of Chhattisgarh, on Toposheet no.64 M/06. A total 728sq km area was covered on 1:50,000 scale. (item no. 22/GCM/CR/CG/2017-18/17)
- VIII.** Geochemical mapping in Raigarh and Surguja district of Chhattisgarh, on part of Toposheet no. 64 N/01, covered 728sq km area on 1:50,000 scale.
(Item no.23/GCM/CR/CG/2017/18)
- IX.** Geochemical mapping in Korba and Raigarh districts of Chhattisgarh, on Toposheet no. 64 N/03. A total of 728sq km area was covered on 1:50,000 scale.
(Item no.24/GCM/CR/CG/2017/19)

- X. Geochemical mapping in Toposheet no. 64N/04 in parts of Raigarh, Korba and Janjgir-Champa district, Chhattisgarh, A total of 728sq km area was covered on 1:50,000 scale. (Item no.25/GCM/CR/CG/2017/20)
- XI. Geochemical mapping in Toposheet no. 64 N/08 in Raigarh district, Chhattisgarh. A total of 728sq km area was covered on 1:50,000 scale and collected 728 stream sediment samples for various purposes. (Item no.026/GCM/CR/CG/2017/021)
- XII. Geochemical mapping in Toposheet no. 64 O/3 in part of Mahasamund and Raigarh district of Chhattisgarh, .A total of 728sq km area was covered on 1:50,000 scale.(Item no.027/GCM/CR/CG/2017/22)

18.8.3 Mission II - Natural Resource Assessment:-

Precious Metal & Mineral

- I. Reconnaissance survey for kimberlite clan rocks in Mahasamund, ,Gariaband and Raipur district, Chhattisgarh (Stage-4) Toposheet no. 64K/04: A total of 700 sq.km area were covered and ground check-up were carried out in the intersecting lineament zones, aero magnetic and radiometric anomaly zone and also in the higher concentration of Ni, Cr, Co, Nb areas. A total of 150 stream samples were collected for heavy mineral separation and study. .(Item no.069/ME/CR/CG/2017/60,F.S.2017-2018)
- II. Reconnaissance survey for kimberlite clan rocks in Balodabazar, Janjgir-Champa, Mahasamund and Raigarh district, Chhattisgarh(Stage-4) Toposheet no. 64K/14: The item was taken up in order to locate Kimberlite rock in T.S. 64K/14 based on the presence of established kimberlite bodies in T.S. No. 64K/15 i.e. the Basana Kimberlite Field and magnesia chromites reported by the earlier workers in Banglpali and Kesharpur in 64K/10 and K/11. Studies in 700 sq. km. was explored by systematic ground surveys supported by stream sediment sampling. (Item no.070/ME/CR/CG/2017/61,F.S.2017-18)
- III Reconnaissance survey for kimberlite clan rocks in Mahasamund and Balodabazar district, Chhattisgarh(Stage-4) Toposheet no. 64K/15:Total 700 sq. km. area is taken up for reconnaissance mapping and systematic investigation through multidisciplinary methods in 1:50000 scale. Aeromagnetic data, NGLM data, ASTER data, NGCM data received and layer stacked with drainage map, geological map and demarcated 6 no. priority blocks for detailed investigations. (071/ME/CR/CG/2017/62,F.S.2017-2018)
- IV Reconnaissance survey for kimberlite clan rocks in Gariaband and Dhamatari district, Chhattisgarh(Stage-4) Toposheet no. 64L/03: During the field 2017-2018, maps integrating PGRS and aeromagnetic data were prepared for 700 sq.km.in T.S.No. 64L/03And priority blocks were demarcated for detail study. (Item no. 072/ME/CR/CG/2017/63, F.S.2017-2018)

- V Reconnaissance survey for gold and associated sulphide mineralization in Dongripali ,Jamjuri and Kurlpali area Mahasamund district, Chhattisgarh The item carried out large scale mapping in 1:12500 in and the study area , the meta-gabbro,amphibolite ,BIF of Bengpal Group, Phyllite of Tonidonger Group, granite and quartz veins of Dongargarh Group exposed in the area are potential for sulphide and gold mineralisations. (Item no.183/ME/CR/CG/2017/117, F.S.2017-2018)

18.8.3 Non Ferrous Minerals Project:

VI. General Exploration for Bauxite ore in Sardhapat block of Jashpur district Chhattisgarh (STAGE:G-2) (item no.179/ME/CR/CG/2017/113),

The G-2 level bauxite exploration carried out in Sardhapat block. Bauxite is pinkish grey, bouldary and its texture is massive to pisolitic. It occurs in the form of isolated pockets within laterite. Bauxite is grey to pinkish grey, bouldery, and texture is massive to pisolitic. A total of 85 nos of borehole were drilled. The SiO₂, Fe₂O₃,TiO₂ ,LOI V and Ga content analyzed in BRS samples and results 2.21%, 6.47%, 9.36%, 24.74%, 671 ppm and 39ppm respectively .Alumina percentage is 56.73%. (BRS/02) The area mainly comprises of Precambrian meta-sediments and meta-basics, deccan trap rocks and laterite of recent age.

18.8.4 Project, Industrial & Fertilizer Minerals:

I. General exploration for limestone in Laladhurwa-Jogipali block, Raigarh district of Chhattisgarh: (Item no. 86/ME/CR/CG/2017/75),

The study area comprises of Limestone deposit belonging to Charmuria Formation of Raipur Group of Chhattisgarh Super-group. It is Meso to Neo Proterozoic in age. The Limestone is bedded striking NNE-SSW and dipping 5° westerly. In the study area 523 no. core samples were generated.

II. Reconnaissance survey for graphite in Kennapara, Tolkipara and Manikpur area, Surguja district of Chhattisgarh:(Item no. 87/ME/CR/CG/2017/76),

The study area is comprised of Chhotanagpur Gnessic Complex. Older metamorphic like quartz sericite-schist, graphite schist ,quartzite, calc-silicate and younger intrusive like pegmatite and quartz veins. A total of 107 sq. km. area has been covered by LSM along with collection of 39 nos. of BRS and 20nos. PCS samples.46.52 cu.m.of trenching has been carried out and 15 nos. of trench samples have been collected. In this study area graphite is present within graphite mica schist.

III. Reconnaissance survey for Glauconite and associated mineralization around Bhalukona, Khairmal area, Mahasamund district of Chhattisgarh:(STAGE:G-4)

During the course of investigation, 200 Km² covered by areal reconnaissance survey on T.S. No.-64K/15 and 64K and geologically mapped in 100sq. km on 1: 12,500 scale. The mapped area is mainly represented by reddish brown and grayish white glauconite as well as non glauconite quartz arenite and green to reddish –brown shale. Geologically, the study area, contact between glauconite and non glauconite horizons has been marked Khairamal to Rajadih to Bhalukona to Beldih villages.

Secretary MRD CG Govt. appreciated that GSI has been included some other major minerals like Graphite, Glauconite, Tungsten and Lithium in his exploration programme which are some different rather than traditional core minerals like coal, iron, limestone and dolomite. He has taken keen interest in findings of glauconite deposits in Chhattisgarh and asked to GSI for their location, kind of mineral, level of exploration work and submission of their geological reports. The GSI ensured that all the findings will be reported up to September 2019 that is his departmental time line. Secretary sir also commented on Lithium project of GSI and said that findings of Lithium as a strategic mineral it is good for our state.

(Action GSI).

18.8.5 Project-Strategic Minerals (REE & RM)

I. Reconnaissance for tungsten and associated mineralization in Nawadih-Pendri-Uskoni-Aturi area in T.S. No 64M/07 Balrampur district of Chhattisgarh: (Item no. 080/ME/CR/CG/2017/71)

The investigated area is bounded by latitude 23°24'46.6" and 30°00'00" and longitude 83°18'7.1" and 83°24'23.5". The studied area mainly consists of granite, orthogneiss and meta –sediments of Chhota nagpur Gneissic complex and belong to Late Archean to Early Proterozoic in age. A total of 109 nos. of bed rocks sample were collected from the investigation area to assess the potentiality of tungsten and associated mineralization. 57 nos. analysis results have been received they reveal low value of tungsten (W<20ppm). The highest value of tungsten is 153.6ppm from sample of pegmatite from Pendari area.

II. Reconnaissance survey for REE and associated minerals in and around Gobra-Salebhat area, Gariaband district of Chhattisgarh: (Item no. 178/ME/CR/CG/2017/112)

During the course of survey, 05 sq km area covered by detailed geological mapping on 1 : 5000 scale and collected 25 nos. of petrographic samples and 283 nos of BRS/ channel/pit/ SSS samples

18.8.6 Misson-III Project Geo-Informatics:-

Mineral belts of Kimberlite and Iron ore (North, South and Central blocks) have been submitted on 11.01.2018 and 20.03.2018 respectively to M&C Division.

During the discussion Dr. Shabbir Hussain, Dy. Director General, inform to member secretary that GSI very soon published the Kimberlite and iron ore deposit map of Chhattisgarh. (Action GSI).

18.9 Indian Bureau of Mines:-

Mr. B.L. Gurjar, R.C/M, IBM, Raipur, informed that 115 mines were inspected in Chhattisgarh for the implementation of MCDR 2017 and for approval of Mining plan and Scheme of Mining. 61 mines inspections were carried out for the disposals of mining plan/scheme of mining in Chhattisgarh state. 47 Mining plan approved during the year and 13 Mining plan disapproved. During the year 2017-18 mines were awarded 5 star rating and 8 mines 4 star rating out of 101 participating mines of Chhattisgarh in 3rd conclave.

He also suggested that the DGPS demarcation of mining lease area should be inspected by DGM officers.

Shri Anurag Diwan, joint Director DGM raised the issue of publication of ASP of ROM of Iron ore at the earliest.

(Action IBM and DGM)

18.10 Central Mine Planning and Design Institute-RI-V Bilaspur:-

Shri J. Santosh Kumar Choudhari, CMPDIL, RI-V- Bilaspur informed the house about the activities of Coal Exploration in Korba, Mand-Raigarh, Bistrampur, Sonhat and Ramkola-Tatapani Coalfields. The work carried out through departmental resources and outsourcing and a total of 4,44,32,3.40 m drilling was completed. Prospecting report of 05 blocks, Shivsager Block, Sigmouza Jampa and Sundergarh Coalfield are finalized by CMPDI and 02 Geological Report of Baisi West block and Ghugra Central coalfield are finalized by MECL during 2017-18. Coal resources estimated in this block are 675.7146 million tonne.

Member secretary showed displeasure that senior ranked officers should have participated in this forum. She also raised this issue that, though the CMPDI has been authorized to do DGPS based demarcation of SECL coal mines but most of the coal mines survey is pending. During the discussion, Shri Anurag Diwan, joint Director mining DGM asked to provide the updated details of coal resources of Chhattisgarh.

(Action CMPDI)

18.11 National Mineral Development Corporation Ltd.:-

Shri R.K. Dewangan, NMDC informed the house that exploratory drilling work carried out in the existing mining leases of Bailadila area for quality control as well as for establishment of additional resource/reserves proving. Total 10085.10m drilling is done.

NMDC that they have submitted application to 'The Secretary, Mineral Resource Department, Mahanadi Bhavan, Govt. of Chhattisgarh, Naya Raipur on 12.12.2017 for

reservation of Baloda-Belmundi Diamond block (156.80sq.km), Saraipali Tehsil, Mahasaund district, Chhattisgarh under Section 17A(2A) of MM(D&R) Amendment Act, 2015 for prospecting and mining operation.

Member Secretary advised why NMDC authority, doesn't participate in exploration work in Chhattisgarh as national exploration agency especially for Gold, Daimond and Base Metal, as they are doing in Karnatka and elsewhere. NMDC representative committed to revert soon on this matter.

Mr Diwan pointed out that BHQ has long been reported to contains gold, hence NMDC should take up the same atleast as R&D work.

(Action NMDC)

18.12 Mineral Exploration Corporation Ltd.:-

Shri Pradeep Kulkarni, MECL informed the house that exploratory drilling work carried out in coal and non coal mineral commodity. Exploratory drilling in coal, as per MoU with CMPDIL, done in various coalfield of Chhattisgarh state. In other commodity, MECL also carried out exploration work for Bauxite and Limestone. During the year 2017-18, MECL has taken 02 project of Bauxite and 02 project of Limestone through NMET fund.

During the discussion, about non potentiality of Sendurkhar bauxite block, merely on the basis of five boreholes was not found satisfactory to this conclusion. It was suggested by the member secretary that further exploration work has to be done.

Mr Diwan raised the issue of borehole spacing being taken up by MECL and GSI for Bauxite and Limestone blocks. He emphasized for G-2 level exploration, strict compliance of guidelines under NMET rules in this regard along with local geological condition and practice being adopted by DGM

He further requested before chair to direct all agencies to shale scheme of prospecting and annual reports as mention MCDR.

Raising the surface right issue in development for resources, Mr Diwan suggested for more and more vertical enhancement rather than lateral for this context.

(Action MECL & DGM)

18.13 Chhattisgarh Mineral Development Corporation:-

Shri A.P. Shah AGM, CMDC, elaborated the mineral exploration activities of CMDC in the year 2017-18. CMDC carried out investigation for Bauxite, through outsourcing. Altogether 03 project of Bauxite have been taken for G-2 level exploration. Out of these, 02 projects (Bhursipakri & Mukam) are in Kabirdham district and 01 project (Uranga) in Surguja district.

Shri P.S. Yadav, General Manager CMDC has informed the house that the prospecting of Uranga block is completed and the geological report submitted to DGM for Auction.

(Action DGM)

18.14 Directorate of Geology and Mining, Chhattisgarh

18.14.1 Regional Office Jagdalpur:-

Shri D. Sai, Regional Head, Jagdalpur informed the house that survey and investigation for limestone in Chapka-Ichhapur block in Bastar district was done. During the period 143 sqkm Reconnaissance survey (1:50,000 scale), 3.51sq km detailed geological mapping (1: 4000 scale) and 1113.15 m drilling completed. Around 105 million tonnes of limestone resources estimated in this block. Work will be continued in this block in next field season.

18.14.2 Regional Office Bilaspur:-

Shri Kailash Dongre, Regional Head, Bilaspur elaborated the mineral exploration activities of Regional office Bilaspur. He informed that exploration work for Bauxite completed in Sarbhanja area. Total 1377.50m drilling completed and approximately 3.00 lakh tonnes of bauxite deposits are estimated in the area. Exploration work in Patharai and Pathrai East for Bauxite also completed. Total 985.45m drilling completed and 6 lakh tonnes of bauxite deposit are estimated in the area.

During the period exploration for limestone carried out in Kutela, block Raigarh district, Ghutiya block Janjgir-Champa district and Rahtator-Manwa block Bilaspur district of Reconnaissance survey over 290 sq km and detailed geological mapping over 2.60sq km area and 1000.50m drilling work done. Total 81.90 million tonnes limestone resources are estimated and work is completed.

Exploration for 04 bauxite block (NMET) in District Surguja and 02 limestone block (NMET) are proposed ensuing field season 2018-19.

18.14.3 Regional Office Raipur:-

Shri S.K. Tiwari, Regional Head Raipur informed the house that Exploration for limestone in Sarseni-Guma area district Balodabazar-Bhatpara was continued during the period under review. During the period, total of 1014.50m drilling work done and 135 million tonnes resources of limestone estimated. Exploration for limestone in Kathiya-Pachari area of Raipur .was completed during the period under review. During the period, total 1679.80m drilling work done and 180 million tonnes resources of limestone estimated. Exploration work is completed.

Exploration of limestone in Sarseni-Guma block of distt. Balodabazar-Bhatapara work will be continued in next field season.

18.15 An absence of representation of coal wing of GSI, Atomic mineral Directorate for exploration and Research, Central Mineral and fuel research institute, were taken not seriously by chairman and directed to ensure their presence through proper authority next time.

At the end of meeting Mr. Diwan, Joint Director, DGM has suggested that like CGPB and the state SGPB, major private exploration agencies should also be invited as special invitees in this forum to share their experiences.

(Action DGM)

18.16 The proposed field programmes for 2018-19 has been approved by all the members of unanimously as there was no overlapping or duplication found in the field program.

The meeting concluded with vote of thanks by Shri Mahesh Babu, Joint Director, DGM to Chairman and members of Board for their active participation.

Director
Geology and Mining
Chhattisgarh