

3rd MEETING OF CENTRAL GEOLOGICAL PROGRAMMING BOARD (CGPB) COMMITTEE –I ON FERROUS MINERALS (IRON, MANGANESE, CHROMITE ETC. 6th JULY, 2010

MINUTES

03.01.00 The 3rd meeting of the CGPB Committee-I on Ferrous Minerals was held on 6th July, 2010 in the P.N. Bose Committee Room of GSI, Eastern Region, Kolkata under the Chairmanship of Shri M.M. Swamy, Dy. DG and HOD, GSI, ER and the Convener of the CGPB Committee-I.

03.02.00 **WELCOME ADDRESS BY THE MEMBER SECRETARY**

On behalf of the Convener, Shri Debasish Roy, Superintending Geologist, Technical Coordination Division-I, ER, GSI and Member Secretary of the CGPB Committee-I on Ferrous Minerals welcomed all the members and invitees in the meeting. The meeting started with self introduction of all the delegates.

03.03.00 **OPENING REMARKS BY THE CHAIRMAN**

Shri M. M. Swamy, Dy. DG, and HOD, GSI, ER and the Convener of CGPB Committee -I chairing the meeting and welcomed all the delegates from state DGMs, PSUs and private/ multinational organizations.

In his opening remark Shri Swamy briefed the terms of references and also the responsibilities vested with this committee. He expressed the concern of the committee on prioritizing the exploration at par with the National development programmes. He also expressed the active involvement of all the state DGMs in formulating their programmes by conducting SGPB meeting before the main CGPB meeting. He insisted for a five year rolling plan on exploration for all the ferrous minerals by all state DGMs and other PSU etc. for mutual understanding and effective implementation. The change in F.S.P. operationalisation from October to September to April to March was also informed by him to the committee.

03.04.00 **CONFIRMATION OF THE MINUTES OF THE 2ND MEETING AND SPECIAL MEETING ON PREPARATION OF BASE DOCUMENT OF COMMITTEE-I, FERROUS MINERALS:**

03.04.01 Member Secretary, CGPB Committee-I tabled the minutes of the 2nd meeting and the same was passed with the following submissions.

a. Shri S.S. Bhake, Mineral Economist, IBM on follow-up action for para 02.06.06 clarified by writing that the resource figures given in NMI is correct, full proof and complied with UNFC guidelines.

b. In this context on the minutes of Special Meeting on 'Base Document' Shri M.S. Jairam, Director, Monitoring, Mineral-I suggested a correction on para 01.05.00 and informed that it should be **IBM and MECL** to set up concentration plant in the left out areas of the leased areas and not GSI and MECL.

03.05.00 **DISCUSSION ON THE FOLLOW UP ACTION OF 2nd MEETING**

Member Secretary, CGPB Committee -I informed that some follow up actions are already communicated by some members though they could not attend the meeting. However during discussion the following follow up action were suggested by the members present in the meeting.

03.05.01 On para 02.05.02 regarding holding of the SGPB meeting representatives from most of the DGM/DMG informed that their SGPB will be completed before August'10, before the main CGPB meeting.

03.06.00 **REVIEW OF WORK FROM NOVEMBER, 2009 TO MAY, 2010**

03.06.01 Dr. B.N.Shankar, Dy Director (PM) of DMG, Karnataka presented the work carried out on regional survey for low grade iron ore in Shimoga district where Fe ranges from 27% to 30%.
Shri M.S.Jairam, Director, GSI advised to carry out investigation as per UNFC norm (G3 or G4).

Shri G.C.Das, Director, Mission-II, GSI, ER suggested for considering the structural parameters while planning for exploration in steeply dipping ore bodies.

Shri A. Mukherjee, Sr. Manager, NMDC suggested to apply Krigging method to identify potential areas of iron ores. He informed that NMDC is ready to help DMG, Karnataka if the results of analyses and the co-ordinates of the samples are provided. Dr. Shankar agreed to utilize this service.

(Action: DMG, Karnataka)

The Chairman suggested that NMDC may extend this facility to all the DGMs. Shri A. Mukherjee informed DGMs to send their request to the Director, Technical of NMDC to get this facility.

While discussing on the collaborative work of DMG Karnataka with GSI, the Chairman expressed his views that other DGMs may also come out with similar proposals through their respective SGPB meetings. **(Action: All DGMs/ DMGs)**

03.06.02 Kumar Amitav, Geologist from DMG, Jharkhand presented the work carried out in Reda- Bundu area of Ranchi district, Jharkhand where magnetite veins occur as scattered outcrops within schist and gneisses. During discussion, Mr. T. Harding, GM, Rio-Tinto suggested for systematic sampling and application of geophysical surveys to work out the geometry of the ore bodies. **(Action: DGM, Jharkhand)**

03.06.03 During discussion the Chairman informed the house that a state unit of G.S.I is opened and operationalised for Jharkhand at Ranchi on the request of the Govt. of Jharkhand. He requested DGM Jharkhand to utilize this facility and launch many collaborative projects for the betterment of the state.

Discussing on having a deeper borehole, as suggested earlier by Shri Jairam and DGM, Jharkhand during the second CGPB committee meeting, DGM, Jharkhand proposed to undertake this drilling at Megahataburu and Kiriburu area where iron ore is encountered at some places even below the BHQ horizon. Dr. S.K.Pandey, Regional Head, DGM Chhattisgarh suggested for a detailed structural mapping of the area before going for any such deeper borehole. The Chairman also suggested for detailed geological evaluation of the area collating all the suggestions from other geoscientific organizations like NMDC, MECL, TATA, SAIL and GSI before deciding a deeper borehole. Mr. Tony Harding, GM, Rio-Tinto supplemented this proposition.

(Action: DGM, Jharkhand)

03.06.04 Dr. S.K.Pandey, Regional Head, DGM, Chhattisgarh presented the work done on iron

ore investigation in Rowghat area, Chhattishgarh. He informed the problem faced by them initially in getting the forest clearance due to which drilling was delayed considerably. He further informed the house that the area is highly sensitive and at present it is sub-judice under the Honb'l High Court of Bilaspur. Dr. Pandey also informed that DGM, Chhattishgarh has recently notified the area in district Narayanpur for iron ore investigation and requested GSI to collaborate in this project. The Chairman then suggested DGM, Chhattishgarh to come out with a proposal for a collaborative programme with GSI for iron ore exploration in Narayanpur area. Shri M.S.Jairam, Director, GSI informed that this year GSI has not received any proposal of collaborative work on iron ore exploration from DGM, Chhattishgarh.

(Action: DGM, Chhattishgarh)

03.06.05 Dr. S.K.Pandey, Regional Head, DGM, Chhattishgarh informed the house about the meeting of 3rd June, 2010 on the amendment of the existing MMDR act. He pointed out that after the amendment of the act there won't be any area left for GSI and DGMs for their work in the green field areas of the country. He reiterated that as per this amendment, GSI and DGMs have to work only in those areas which are not covered by the RP applications of the private entrepreneurs'. In this context, Shri M.S.Jairam, Director, GSI informed that after every two years the private entrepreneurs' would have to relinquish the 50% of the lease hold areas. He also added that most of the private firms are not submitting the RP reports to GSI and informed that out of 155 RP reports only 95 reports have been submitted. He insisted that the power is with the state DGMs to cancel the RP license if reports have not been submitted. Shri H.C. Daga, Group Executive President, Essel Mining Industries Ltd. (FIMI) added that state DGMs have to withdraw the RP licenses if reports are not submitted within 36 months. The Chairman also agreed upon the point.

(Action: All state DGMs/ DMGs)

03.06.06 Shri A. Mukherjee, Sr. Manager; NMDC informed that in the present day RP reports, there is no provision for mentioning of iron ore pellatisation, beneficiation and mineral conservation etc. Shri Mukherjee suggested that GSI may be empowered to get the RP reports from the private parties. Supplementing this Shri H.C. Daga, Group Executive President, Essel Mining Industries Ltd. (FIMI) suggested for auctioning of iron ore blocks also as in the case of coal. Shri M.S.Jairam, Director, GSI suggested that the private entrepreneurs' should submit the financial commitment, work plan along with the RP application and the same has to be submitted to GSI.

On a query from Shri T. S. Suresh Kumar, Chief (NRD) Tata Steel Ltd about the appropriate address for communication to which the RP holders have to send the RP details, Shri Jairam, Director, GSI informed that RP holders are to address to the ' Director General, Geological Survey of India, 27, J.N.Road, Kolkata-700016'. He further added that GSI is going to open a separate cell for the RP holders to meet the demand. The Chairman also suggested that all the lessees have to submit the RP reports to GSI.

(Action: All Private Entrepreneurs' including MNCs)

03.06.07 Shri R.S. Kalamkar, Dy Director, DGM, Maharashtra presented the collaborative work carried out with GSI, CR, Nagpur on manganese investigation in Parseoni area. Shri M.C.Patel, Superintending Geologist, GSI, CR also presented the work done in this area. During deliberation on a query from Dr. Madhukar, DGM, A.P. on the work done by MOIL; Shri Kalamkar, informed that the present investigation was carried out in the area adjacent to the extension area of MOIL. Shri Kalamkar further informed that drilling will be performed in next F.S.

- 03.06.08 Shri A. Mukherjee Sr. manager, NMDC presented the work done in Karnataka. During deliberation on a query of Dr. Madhukar, DGM, A.P. about the total reserve of iron ores, Shri A. Mukherjee informed that it is about 1400-1500 million tones.
- 03.06.09 T. Suresh Kumar, Chief (NRD) Tata Steel Ltd informed that the work done had already been communicated to the committee.
- 03.06.10 Shri Ajit Sahu, PL, Rio Tinto informed that no work on ferrous minerals was carried out during the period. Mr. T. Harding, GM, Rio Tinto gave a presentation on iron ore beneficiation technique adopted by M/s Rio-Tinto in Australia and Canada. He informed that Rio Tinto is beneficiating iron ore of 37-40% Fe and enriching it up to 66% Fe. Mr. Harding emphasized on the scope of optimizing the iron ore resources in India through such beneficiation.
- 03.06.11 Shri S.K.Jena, Superintending Geologist, GSI, Op: Orissa presented the work done on iron and manganese investigations in Orissa where both iron and manganese mineralization is controlled by dome and basin type superposed fold structures. Shri Jena further informed a reserve up to 9.1 million tones (UNFC, 332) of iron ore up to 74m depth including all types of ores. He also informed occurrence of some bauxitic ore bodies with rich Al₂O₃ content within aluminous laterite. Dr. Madhukar explained occurrence of similar situations in Deccan Trap.
Shri G.C.Das, Director, Mission-II, GSI, ER and Shri T. Suresh Kumar, Chief, TATA Steel requested IBM to specify the limits of other constituents like Al₂O₃, SiO₂ etc while fixing the threshold value for iron ore as 45% Fe.
(Action: IBM)
Deliberating on manganese investigation in Orissa, Shri Jena informed that the data quality of the investigations was checked with the available data from existing manganese mines of the adjacent areas. He informed a reserve of 0.043 million tones of manganese ore in Damurda- Lasarda areas of Orissa with an average 30.44% Mn with 20% Mn cut-off.
DGM, Jharkhand was advised for planning of any iron ore exploration programme adjacent to the areas where GSI, Op: Orissa has already established better results.
(Action: DGM, Jharkhand)
- 03.06.12 Dr. S.B.Ray, Director, GSI, Op: Orissa presented the ongoing investigations on chromite where chromite values are ranging from 15.25% to 53.14% Cr₂O₃ with an average of 46.89%. He informed that a new block NW of Tangeria area for chromite investigation will be taken up in F.S. 2010-2011.
Shri M.S.Jairam, Director, GSI, CHQ suggested for detail exploration on chromite in Sukinda valley by MECL as the issue was one of the agenda of the meeting by DGM, Orissa.
On the suggestion from Shri T. S. Suresh Kumar, Chief, Tata Steel for utilizing gravity data of GSI and NGRI for chromite exploration, the Chairman then suggested DGM, Orissa to submit a proposal for GSI to conduct gravity survey in Sukinda valley followed by exploration by MECL.
(Action: DGM, Orissa and MECL)
- 03.06.13 Shri A.K. Grover, Director, Op: Rajasthan, GSI, WR presented the work on iron ore investigation in Bagholi area of Rajasthan. He informed that boreholes were drilled based on the geophysical anomalies and the first borehole had gone barren. He further informed that two more boreholes were going on where the ore bodies were yet to be intersected. During discussion on a query from Shri G. Dasgupta, Director, CGPB Secretariat, New Delhi regarding analyses of drill core samples for gold, Shri Grover

- informed that it was tested and in most of the iron ore samples have no trace of gold. He then informed about the investigation in the Jahazpur belt where the average thickness of iron ore is 50m and the true BIF was encountered.
- 03.06.14 Shri T.Rajeshyam, Director, GSI, presented the work done on the collaborative iron ore investigation with APMDC in Bayyaram-Nilvancha-Sitanagar and surrounding areas of Andhra Pradesh. He informed that the law and order situation of the area is critical and only a preliminary work could be done up to March, 2010. Shri M.S.Jairam, Director, Monitoring, GSI informed the directives of Ministry of Mines to GSI to continue the investigation as per the directives of APMDC. As it is a collaborative programme, the Chairman suggested APMDC to take care of the safety of officials of GSI while continuing the desired investigation. This was agreed by all the members unanimously. Dr. Madhukar, Jt. Director, DGM A.P. agreed with the Chairman and informed that the matter will be discussed in the next SGPB meeting of A.P.
(Action: DGM, A.P.)
- 03.06.15 Shri M.C.Patel, Superintending Geologist, Op: Madhya Pradesh & Chhattishgarh, GSI presented the work of the Chhattishgarh Mineral development Corporation (CMDC) sponsored iron ore investigation. He informed that there was no progress in the beginning due to forest problem. Drilling is now started in the leasehold areas of CMDC. On a query from the Chairman regarding completion of the drilling target by this F.S.; Shri Patel informed that two rigs are working in full swing and the drilling target will be completed by September, 2010. The Chairman suggested GSI, Op: Chhattishgarh to write to the DDG and HOD, GSI, CR, Nagpur requesting to deploy another rig to complete the target by end of this F.S. **(Action: GSI, Op: Chhattishgarh, Raipur)**
- 03.06.16 Shri J.N.Ray, DDG and HOD, GSI, NER informed that one investigation on iron ore in the area bordering Assam and one investigation on PGE in Nagaland- Manipur areas are taken up. The work done of these items were presented by Shri Piush Sakkhar, Geologist, GSI, NER and he informed that very preliminary stage of work was carried out. Few samples were analysed which showed low grade iron content with an average 30% Fe. He further informed that the area is under critical law and problem as well as thick vegetation, thus causing main hindrance in mapping the area. On a query of the Chairman about the availability of earlier geological maps for the area, Shri M.S.Jairam, Director, Monitoring, GSI informed that Shri M.G.Rao of GSI mapped the area long back and suggested that those maps may be consulted for carrying out further work. The Chairman agreed with the views of Shri Jairam.
(Action: GSI, Op: AMN, NER, Shillong)
- 03.06.17 Representative of MECL presented about the drilling activity in different mines of SAIL like Gua iron ore mine, Rajahara mines etc.
- 03.06.18 During discussion on the 'Base Document' on Iron, Manganese and Chromite, the chairman explained the importance and the attempt made to prepare the document incorporating all the data available with GSI and also the data received so far from different member organizations. He also informed that copies of the document have already been sent to all the members through e-mail and requested the members to send the suggestions and comments on this document to the committee for further corrections/modifications.
The highlights of this base document was then presented by the Member Secretary.
- 03.06.19 Shri Debasish Roy, Member Secretary presented the salient features on which the 'Base Document' of the ferrous minerals was prepared. Shri M.S.Jairam, GSI informed that the data on total potential area out of which the area being explored by different agencies and state governments is very much essential to formulate the future work plan which is possible only with the co-operation of all the state DGMs, IBM, PSUs etc. He also

explained the way of calculating the total potential area. He emphasized the facts that state DGMs and Private parties are not providing the detail information of the work being done in the left out areas along with the stage of investigation under UNFC. Shri D. Roy, Member secretary also emphasized that in the last special meeting for formulation of the document Mr. Sengupta, Superintending Geologist of IBM attended the meeting and so far data sent by him before the committee has been incorporated into the document. Shri M.S.Jairam, GSI informed that private entrepreneurs', state DGMs , MNCs and other organizations should inform about the different stages of investigation carried out by them with latitude –longitude of the area with respect to the total potential area. This desired data is not provided by most of the members till date. He emphasized that every state should prepare their own status map on present exploration so that future planning would be made out of that. Most of the representative from state DGMs and private entrepreneurs and PSUs emphasized that it is not clear in UNFC up to what level the lessees will have to do exploration. Shri Jairam then requested NMDC, TATA, MECL and SAIL to supply information on the work done with stage of investigation out of the total potential area.

The representatives of the PSUs informed that every information related to mining/ exploration etc. had already been given to IBM and suggested that IBM can pass on those information to GSI.

The Chairman finally suggested that a request is to be made to IBM to furnish the full details of information from the lessees about exploration on ferrous minerals to this committee so that a comprehensive future plan of action may be formulated and included in the 'Base Document'.

(Action: IBM)

03.06.20

CONCLUDING REMARKS BY THE CHAIRMAN

In his concluding remarks on all day long deliberations, Shri M.M. Swamy Chairman expressed his sincere thanks to all the member organizations and special invitees to attend this meeting. He pointed out that the 'Base Document' is of a dynamic process and is kept open for upgradation. He also requested IBM to send the desired information from the lessees in preparation of the document. He expressed his satisfaction as the discussions were held in a cordial atmosphere. He also thanks Mr. Tony Harding, GM, Rio-Tinto and members of TATA for attending the meeting.

LIST OF PARTICIPANTS

Convener: Shri M.M. Swamy, Dy. Director General, GSI, ER
Member Secretary: Shri Debasish Roy, Superintending Geologist, Technical Coordination Division-I,
GSI, ER

Sl.No.	Name, Designation and Organization
1.	Shri Mukul Tiwary, Dy. Director General, GSI, Op: WB-A&N, ER, Kolkata.
2.	Shri L.S.Jain, Dy. Director General, GSI, OP: Orissa, ER, Bhubaneswar.
3.	Shri J.N.Ray, DDG and HOD, GSI, NER, Shillong.
4.	Shri H.C. Daga, Group Executive president, Essel Mining Industries Ltd.(FIMI).
5.	Shri G.C.Das, Director, Mission-II, GSI, ER, Kolkata
6.	Shri R.S. Kalamkar, Dy. Director, DGM, Maharashtra.
7.	Dr. S.K.Pandey, Regional Head, DGM Chhattishgarh.
8.	Shri K.Balasubramanian, Jt. Director of DGM, T.N.
9.	Dr. G. Madhukar, Jt. Director, DGM, A.P.
10.	Shri A.K.Mehrotra, Sr. Manager (Geology), MECL, Nagpur.
11.	Shri G. Dasgupta, Director, CGPB Secretariat, GSI, New Delhi.
12.	Shri M.S.Jairam, Director, Monitoring Division (Mineral-I), GSI, CHQ, Kolkata.
13.	Dr. B.N.Shankar, Deputy Director, DMG, Govt. of Karnataka.
14.	Mr. Tony Harding, GM, Rio-Tinto Exploration Limited (RTEL).
15.	Shri Ajit Sahu, Principal Geoscientist, Rio-Tinto Exploration Limited (RTEL).
16.	Shri T.S. Suresh Kumar, Chief (NRD) Tata Steel Ltd, Jamshedpur.
17.	Shri A. Mukherjee, Sr. Manager, NMDC, Hyderabad.
18.	Shri S.K. Deo, Manager, SAIL.
19.	Shri Kumar Amitav, Geologist, DMG, Jharkhand.
20.	Shri T. Rajashyam, Director, GSI, Op: A.P., SR.
21.	Dr. S.B.Ray, Director, GSI, Op: Orissa, Bhubaneswar.
22.	Shri S.K. Jena, Superintending Geologist, OP: Orissa, GSI, ER, Bhubaneswar.
23.	Shri M. C.Patel, Superintending Geologist, GSI, CR, Nagpur.
24.	Shri A. K. Grover, Director, GSI, Op: Rajasthan, WR, Jaipur.
25.	Shri Pius Sakkhar, Geologist, NER, Shillong.
26.	Shri R. Chakraborty, Senior Geologist, GSI, CHQ, Kolkata.
27.	Shri Kamalesh Mukhopadhyay, Senior Geologist, TC-I, GSI, ER, Kolkata.
28.	Shri P. Ghosh, Senior Geologist, TC-I, GSI, ER, Kolkata
29.	Shri S.Ray, Senior Geologist, TCD-I, GSI, ER, HQ, Kolkata.