

MINUTES OF THE 6th MEETING OF THE CENTRAL GEOLOGICAL PROGRAMMING BOARD (CGPB) COMMITTEE-I ON FERROUS MINERALS (IRON, MANGANESE, CHROMITE) HELD ON 14th DECEMBER 2011

The Review Meeting of Central Geological Programming Board Committee-1 (Fe, Mn, and Cr) for the period from June'11 to November'11 was held under the chairmanship of DDG & HoD, ER and Convener of the CGPB Committee-I on 14th December 2011 in the P.N.Bose Committee Room, ERO, Kolkata. The list of participants is given in the Annexure.

06.01.00	<p align="center">WELCOME ADDRESS BY THE MEMBER SECRETARY</p> <p>Shri Eshwara Basappa, Member Secretary of the CGPB Committee-I on Ferrous Minerals and Director-PSS (TC-I), Eastern Region welcomed Smt. Malabika Jha, IAS , Director, DMM, West Bengal and Shri Goutam Dasgupta, Director, and Secrary, CGPB and all the delegates present in the meeting. In his welcome address Shri Eshwara briefly described the term & reference of CGPB Committee –I. He informed that CGPB coordinate between different Earth Science Governmental Agencies and State Government Departments as well as private entrepreneurs for formulation and preparation of programmes in the domain of earth sciences with close coordination between Geological Survey of India, various Ministries, organizations, State DGMs and other stakeholders. CGPB was functioning since 1966 and has been revamped in 2009 to include Public Institutions and private investors. The mandate of the CGPB is to coordinate and evaluate programmes of various departments, define priorities of exploration projects, making necessary arrangements for training of personnel and advice the Government on various steps of the exploration. CGPB is a platform to share ideas and deliberate on the earth science activity conducted in the country. CGPB provides scope to avoid duplication of work by different organizations. However, the benefits of the biannual exercise of CGPB will come only when all its members and other stakeholders actively participate and cooperate and that the renovated CGPB is playing its role to expectations because of cooperation and participation of all the participating members. He requested Dr. S. Madabhushi, DDG & HoD, ER and Convener of the CGPB Committee-I to preside over the meeting.</p>
06.02.00	<p align="center">OPENING REMARKS BY THE CHAIRMAN</p> <p>Dr. Srinivas Madabhushi, DDG & HoD, GSI, ER and Convener, CGPB Committee-I welcomed all the participants from State Departments, PSU & Private/ Multinational organizations and GSI.</p> <p>Dr. Madabhushi informed that iron ore exploration and extraction were present in India from <i>Purana</i> period. GSI is having a legacy of Iron ore exploration since inception. He informed that between 5th and 6th meeting there were some important developments. The MMDR bill 2011 was approved by Cabinet, the draft Sustainable Development Framework document and Report of working group on mineral exploration and development (other than coal & lignite) for the XII five year plan (2012-17) is available in MoM portal. Different state governments are thinking to change the state mineral policy and legislatives in the same line. After</p>

	<p>changing the cutoff grade for Iron, reassessment of iron ore reserve becomes a very important issue. The road map of reassessment procedure is a major challenge, which can be formulated in this type of national board meetings. At the same time, the Government adopted UNFC system which makes it statutory for all non-coal major mineral exploitation agencies to report to Indian Bureau of Mines their reserve/resource data as per UNFC. As a result a uniform working procedure is to be adopted starting from the reconnaissance survey to the Mine planning by all concerned in this field. This will also help to assess the potential of a mine for any investor. However JORC is a reporting format where investors need to know what is exploitable and degree of credibility of the data under commercial situations following Australian standards. As JORC is accepted by all the stock markets in the world, the conversion of UNFC to JORC at Geology level should be discussed in a national forum of technical experts of the industry and this Committee meeting gives a scope to expose the views of all concern in this regard. Keeping in view the approach in National Mineral Policy 2008, a concept needs to be build up leading to augmentation of reserves/resources base through improvement in mining methods, beneficiation, utilization of low grade ores and rejects and recovery of associated minerals to achieve the national goal of zero waste mining. Many industries do not opt for low grade ore extraction and concentrate in the creamy portion of the deposit. In the freehold areas, GSI through regional exploration programme will identify new areas of iron ore with +45% Fe. The State Govt. will also take up the job for speedy completion. After regional evaluation, wherever needed, MECL will carry out detailed exploration for conversion of resources to reserves. Exploration will be put on the fast track. In leasehold areas the job will rest with the lessee as per directions issued by State Govt. under Rule 27 (3) MCR. IBM will monitor and take active role in the leasehold areas for proper inventory of iron ore. Government agencies can be entrusted with the job of detailed exploration keeping in view the conservation aspect. To achieve the optimal utilization of iron ore in any deposit the threshold grade to be lowered and grade wise inventory of ores have to be made. Scheduling of deposit is essential through optimization to prevent sub-optimal unscientific mining. Mineral sectoral value addition through latest techniques of beneficiation, calibration, blending, sizing, concentration, pelletisation, purification and general sustainance is the need of the hour for sustainable development.</p>
06.03.00	<p>CONFIRMATION OF THE MINUTES AND DISCUSSION ON THE FOLLOW UP ACTION OF 5TH MEETING</p> <p>Member Secretary, CGPB Committee-I tabled the minutes of the fifth meeting of the Committee-I and the same was passed with the following submissions:</p>
06.03.01	<ul style="list-style-type: none"> • Shri S.S.Bhake, Mineral Economist, IBM informed the house that as follow up action on para 05.03.01, 05.03.02 and 05.03.03 the National Mineral Inventory document for Iron, Manganese and Chromium has been finalized. He informed that fixing of threshold value for Al₂O₃ and SiO₂ for low grade iron ore will be taken care of in the next revision of threshold value. • In reference to action para 05.03.04, Shri Kumar Amitabh,

06.03.02		Geologist, DGM, Jharkhand stated that Geophysical Survey in the Reda-Bendu area of Ranchi district is not required as already the aerogeophysical data analysis had been done by erstwhile AMSE Wing, Eastern Zone, GSI, Ranchi. Shri G. Dasgupta, Director, CGPB Secretariat and Shri B Das, Director & RMH - II ER were in view to drop this point.
06.03.03		<ul style="list-style-type: none"> • With reference to para 05.03.05 Shri Kumar of DGM, Jharkhand stated that a committee comprises of GSI, Rio-Tinto and DGM, Jharkhand has already been formed.
06.03.04		<ul style="list-style-type: none"> • Mr. Brendan Howard, Manger - Business Development, RIO TINTO emphasized upon assessment of stratigraphy, regional structure genesis of mineralisation to be understood before putting final location of drill holes. Dr. Srinivas Madabhushi, Dy D G & HoD, ER and Convener of the meeting enquired about the depth and layout of boreholes to target mineralization and requested DGM, Jharkhand to lead the exploration to decipher mineralisation. (Action: DGM, Jharkhand)
06.03.05		<ul style="list-style-type: none"> • With reference to para 05.03.06, no representative of DGM, Chhatishgarh has turned up and so the item could not be discussed. (Action:DGM, Chhatishgarh)
06.03.06		<ul style="list-style-type: none"> • With reference to para 05.03.07, the Chairman advised all State DGMs to ensure submission of reports of the leasehold areas by the different leases within time and make the agencies convinced so that the reports follow UNFC norms. (Action: All State DGMs)
06.03.07		<ul style="list-style-type: none"> • With reference to para 05.03.08, till date except, DGM, Jharkhand and MOIL, no one sent the five year plan document. The Chairman reiterated to provide the same to all. (Action: All concerned)
06.03.08		<ul style="list-style-type: none"> • With reference to para 05.03.09, and 05.03.10 no representative was present from DGM, Orissa and WR, GSI, no discussion was held.
06.03.09		<ul style="list-style-type: none"> • With reference to para 05.03.11, Dr. G. Narayanachar, Dy. Director (PM), DGM, Karnataka replied that analytical work could not be carried out because of shortage of personnel. (Action:DGM, Karnataka)
06.03.10		<ul style="list-style-type: none"> • With reference to para 05.04.01, Shri S.S.Bhake, Mineral Economist, IBM informed the house that the document for resource inventory and tenement registry and assessment of resources in UNFC compliant format is not ready and will be presented in the forthcoming 50th CGPB meeting. He further informed the house that the competent personnel to be identified and advices from MECL, SEBI and GSI is to be sought. (Action IBM)
06.03.11		<ul style="list-style-type: none"> • With reference to para 05.04.02, on circulation of paper regarding reassessment of iron ore reserve, Shri S. K. Jain, FIMI informed that the matter will be taken up in due coarse. (Action FIMI)
06.03.12		<ul style="list-style-type: none"> • With reference to para 05.04.03, regarding non- receiving of

06.03.13		<p>information of reassessment of low grade iron ore in leasehold/freehold areas as informed DGM UP in 48th CGPB meeting, the Chairman reiterated all members to go through GSI Portal to get latest information.</p> <p>(Action: All concerned)</p>
06.03.14		<ul style="list-style-type: none"> • With reference to para 05.05.03, regarding geological mapping and search for Au in Ankua PL area, Shri T.S. Suresh Kumar, Chief, Natural Resource Division, Tata Steel Ltd., informed the house that work could not be taken up in time due to non availability of forest clearance. He further informed that the gold occurrence is in ppb level from the available analytical data.
06.03.15		<ul style="list-style-type: none"> • With reference to para 05.05.04, regarding investigation pertaining to Fe, Mn and Cr metals, Shri Kumar Amitabh, Geologist, DGM, Jharkhand informed the house that presently no investigation is being carried out because of law and order situation and they are waiting till the situation improves.
06.03.16		<ul style="list-style-type: none"> • With reference to para 05.05.05, regarding investigation on low grade iron ore at Ammengarh village of Hungund Taluk, Bagalkot district, Karnataka Dr. G.Narayanachar, Dy. Director (PM), DGM Karnataka informed that Supreme Court order is pending and is expected to come in Feb 2012. After getting the clearance the work will commence.
06.03.16		<ul style="list-style-type: none"> • With reference to para 05.05.06, regarding review material for this meeting, the member secretary requested that the review material is to be sent to this committee in time and said that it is mandatory to all members. <p>(Action: All concerned)</p> <ul style="list-style-type: none"> • With reference to para 05.06.00, regarding base document, Dy D G & HoD and Convener, CGPB Group - I, requested all members to kindly go through the base document available in the portal critically and communicate in case of any change or modifications. <p>(Action: All concerned)</p>
06.04.00		<p>AGENDA FOR DISCUSSION IN THE 6TH MEETING</p>
Agenda of DMMWB		<p><i>DMM, Govt of West Bengal</i></p> <p><i>The areas are now being covered in search of possibility of low - grade iron resources by the joint investigation team of GSI and DMMWB seemed to host weak level of mineralization from the angle of field observation. It is apprehended that such a weak mineralization will not attract any interested entrepreneur to exploit such low grade iron occurrence unless we can show the path of making positive business from it. So, we should leave the conventional methodology of metal extraction from such ores to make a venture to show a new way to extract the metal from low-grade iron ores with profit to attract more investment in this sector.</i></p> <p><i>Therefore, in absence of any new method for extracting metal from low-grade iron ores [other than hematite (the most conventional ore)], DMMWB strongly feels that the matter may be looked into as a research item of metallurgy, especially for the case of Lateritic ores. It is also being felt that organization having metallurgy department like IIT, NIT,</i></p>

		<i>JU, BESU etc. may be involved in this issue for the interest of the State and the mineral sector for developing an alternative metallurgical method of extracting iron from low-grade iron ores including laterites and the beneficiation process to upgrade the existing ores to make such occurrences commercially viable. The matter may be discussed in this meeting inviting specific comment of IBM on this issue.</i>
06.04.01		<ul style="list-style-type: none"> • Smt. Malabika Jha, IAS , Director, DMM, West Bengal informed the house that though there are no known occurrence of iron and manganese in West Midnapur district of West Bengal, DMMWB received around ten PL application for Iron and manganese in this district. She sought the opinion of the house regarding the agenda. • Shri S. S. Bhake, Mineral Economist, IBM informed the house that IBM can do the beneficiation study whereas the metallurgical part can be taken up by other organization. • Shri G. Dasgupta, Director, CGPB Secretariat, emphasized on the total chemical analysis for the samples so that other elements present can be checked. • Shri T.S. Suresh Kumar, Chief, Natural Resource Division, Tata Steel Ltd., informed the characterization of the ore mineral is also important for exploitation. • Dr. S. Madabhushi, DDG & HoD, GSI, ER and Convener, CGPB Committee-I stressed upon taking up a collaborative project in this regard from GSI with DMMWB to delineate potential areas where prospecting for low grade iron ore in West Bengal can be taken up in future.
<i>Agenda of SGAT</i>		<i>Reassessment of iron in particular and manganese and chrome ore resources of Odisha.</i>
06.04.02		<ul style="list-style-type: none"> • Shri R Mohanty, member SGAT made a power point presentation on the item which was later supplemented by Shri G. C. Das, member, SGAT. • Shri G. Dasgupta, Director, CGPB Secretariat expressed that the issue was already discussed at length during the 49th CGPB. The chairman decided to send the material to main CGPB for their discussion.
06.05.00		REVIEW OF WORK
06.05.01		<ul style="list-style-type: none"> • The Member Secretary informed that the material pertaining to progress of work during the period from June'11 to November'11 received from different organizations have already been included in the Review Material and called for presentation by the delegates.
06.05.01		<ul style="list-style-type: none"> • Shri S.S.Bhake, Mineral Economist, IBM apprised the house about production of Fe, Mn and Cr grade-wise and state-wise as on 01.04.2010. He also informed that the detail data sheets are available in IBM portal.
06.05.02		<ul style="list-style-type: none"> • Shri T.S. Suresh Kumar, Chief, Natural Resource Division, Tata Steel Ltd., presented the work carried out by Tata Steel. He informed the house the Tata Steel is presently engaged in carrying out investigation in two PL (Ankua PL, Manoharpur district, Jharkhand and Deposit-1 (Bailadila), Daintewada district,

		Chhatishgarh) and one RP for pyroxenite and associated minerals (South Bastar, Daintewada and Bijapur districts, Chhatishgarh). He said that geological mapping could not be initiated in Deposit-1 (Bailadila) PL and the RP of South Bastar because of detrimental law and order and persisting unfavorable security situations in the project area. In Ankua PL area work was initiated.
06.05.03		<ul style="list-style-type: none"> Shri Kumar Amitabh, Geologist, DGM, Jharkhand informed the house that in the Silpunji Kantoria project of West Singhbhum district, DGM Jharkhand in collaboration with NMDC established 2 km long iron ore formation with discontinuous ore bodies having width of about 2 to 5 m. 5 boreholes are proposed in the area each of approximately 50 m depth.
06.05.04		<ul style="list-style-type: none"> Shri, S. K. Sarkar, Manager (Geology), MECL informed the house that out of their two projects on iron ore, the project running in Gua iron ore mine area, West Singhbhum district, Jharkhand was completed after a cumulative drilling of 1840 m and the achievement of the stipulated period is 1017 m. In the other project in Bhilai iron ore mine area, Drug district, Chhattisgarh the investigation was commenced from 05/08/2011 on contractual basis from SAIL and the total progress is 1913 m drilling and 1490 no of sampling.
06.05.05		<ul style="list-style-type: none"> Shri, R. M. Gupte, Chief (Geology), MOIL, Nagpur stated that that presently MOIL is exploring eight deposits in MP and Maharastra and from April 2011 to November 2011 total 5623.30 m drilling was augmented in the total achievement of 80699.34 m drill in 560 no boreholes. He also elaborated projected exploration programme for 12th five year plan.
06.05.06		<ul style="list-style-type: none"> Shri G. K. Gupta, DIC SU: Jharkhand elucidated the work of SU: Jharkhand. The large scale mapping (1:12,500 scale) of Silpunji-Kantoria block, west Singhbhum district, Jharkhand was taken up with the DMG, Jharkhand to trace possible low grade iron ore (>45% to 59%) and associated pockets of manganese, if any in the targeted area. The iron ore lenses have been found in the mapped area at west of Kantoria (1000mx2.5m, 85mx4m), Mereralgara (150mx200m) and west of Hesapi (300mx10m). The Manganese ore occurs as layers and lenses of various sizes within the upper shale formations of the Iron Ore Group of rocks.
06.05.07		<ul style="list-style-type: none"> Shri R C Shukla, Director, GSI Central region informed the house that there are two projects running in Central Region, GSI. The manganese investigation of Parseoni extension area in Maharastra had completed 254.3 cu m of pitting and trenching and average grade of Mn in 7m long of Manganese ore body of T2SP trench is 17.6 %. Drilling is to be initiated by the DGM, Maharastra as a part of this collaborative item. In the project of prospecting for Manganese in Meghnagar tehsil, Jhabua district, MP mineralised zone of 700 m strike length in Mandali- Tuniya Block and 150m in Anas River block with average thickness of 4.5 m was established.
06.05.08		<ul style="list-style-type: none"> Shri A. Tripathy, Senior Geologist, GSI, SU: Orissa presented the work carried out by OP. Orissa pertaining to iron ore investigation. Presently two investigations are being carried out, namely Sagasahi -

		East block, Sundergarh district and Damurda-Champuasahi area, Kendujhar district. In Sagasahi -East block 1200 sq m area was established as mineralised zone with thickness varying from 44.20 m to 86.30 m. A total of 566.10 m drilling was completed. In Damurda-Champuasahi area mineralisation zone over a strike length of 700m with average width over 10m across the strike was established.
06.05.09		<ul style="list-style-type: none"> Shri S. K. Guru, Senior Geologist, SU: Orissa presented the work on Mn ore investigations in Damurda South Block and Balagorha-Champuasahi area, Bonai-Kendujhar Belt, Kendujhar district. He mentioned that in Damurda south block, the ore resource estimated from boreholes drilled during the period F.S 2009-10 is 0.972 million tons with 20% cut off and average grade of Mn being 28.91% (Resource calculated as per G3 level investigation (UNFC-333). In Balagorha-Champuasahi area a zone of 300 m X 30 m mapped as manmanganiferous laterite.
06.05.10		<ul style="list-style-type: none"> Shri A. Tripathy, Senior Geologist, GSI, SU: Orissa informed the house that SU: Orissa has taken up one chromite investigation in FS 2010-12 in the transition zone of Eastern Ghat Mobile Belt (EGMB) and Iron Ore Super Group (IOSG) of rocks, south of Sukinda ultramafic complex to the south of Raibola- Kanheipal, Dhenkanal district, Orissa. He stated that band and laminae of chromite occurs within weathered & silicified serpentinite. Chromiferous ultramafic occur for about 2 km with average width of the ultramafic around 100m. Aerial extent of the chromiferous ultramafic zone and occurrences of a 1.10m thick chromite band at a depth of 52.00m (vertical depth) in Borehole no. TBH-2 indicates a promising prospect for chromite. The incidence of PGE concentration in the ultramafic also can be looked for future potentiality.
06.06.00		DISCUSSION ON TOR
06.06.01		<ul style="list-style-type: none"> Shri G. Dasgupta, Director, CGPB Secretariat, emphasized that the CGPB is a platform for strengthening the partnership of GSI with state, PSU and Private Stake holders.
06.06.02		<ul style="list-style-type: none"> Mr. Brendan Howard, Manger - Business Development, RIO TINTO showed interest to collaborate with GSI on regional geological understanding. Technological know-how on regional geophysical survey, exploration of concealed deposits and the sustainable mining technique is in RIO TINTO and they are interested to collaborate with appropriate Indian counterpart. However they are not getting permission to start their own job in some states even after pursuing for last seven years.
06.06.03		<ul style="list-style-type: none"> Shri, Purushottam Mohanta, AGM, SAIL informed the house that stringent forest law is the main problem for exploration as most of the leasehold areas of SAIL is under forest cover.
06.06.04		<ul style="list-style-type: none"> Shri T.S. Suresh Kumar, Chief, Natural Resource Division, Tata Steel Ltd., informed that for conceptual studies TATA can participate. He requested to repeat the training given by RTI, ER

		GSI to the geologists of TATA to the other private entrepreneurs as there is a need as well as demand for such type of training for the industry personnel.
06.07.00		CONCLUDING REMARKS BY THE CHAIRMAN
06.07.01		<ul style="list-style-type: none"> • Dr. Srinivas Madabhshi – Chairman expressed his satisfaction on fruitful & meaningful discussion on ferrous group of minerals and conveyed his sincere thanks to all the participants. He requested all the State Departments, PSU and Private Entrepreneurs to interact with State Units of GSI as well as Convener of CGPB Committee – I for future planning of work under one umbrella. He requested State Units of GSI to interact with the State DGMs in SGPB meeting and the out come of SGPB meetings may be communicated to this committee. He advised all to give presentation in power point format in forth coming meetings with updated account of their work. The Chairman showed his displeasure about poor attendance.
06.08.00		VOTE OF THANKS
06.08.01		<ul style="list-style-type: none"> • The meeting ended with a vote of thanks proposed by Shri Eshwara, Member Secretary, CGPB- Committee-I.

LIST OF PROBABLE PARTICIPANTS

6TH MEETING OF CGPB COMMITTEE-I held on 14.12.2011

Sl.No.	Name of Participants
1.	Dr. Srinivas Madabhushi ,Dy.D.G. and HoD & Convener, CGPB Com.I
2.	Shri Eshwara Basappa, Director, PSS (TC-I) & Member Secretary, CGPB Com. I
3.	Smt. Malobika Jha, IAS, Director, DMM, West Bengal
4.	Shri S. K. Jain, Executive Director, FIMI
5.	Shri G. K. Gupta, DIC, GSI, SU: Jharkhand, ER, Ranchi
6.	Shri Goutam Dasgupta, Director, CGPB Secretariat, DGCO, New Delhi
7.	P Mahadeo, AGM, Mining, SAIL
8.	Shri B. Das, Director, RHM-II, GSI, ER, Kolkata
9.	Dr. S.S.Bhake, Supdt. Mineral Economist, IBM, Nagpur
10.	Shri S.K. Sarkar, Manager (Geology), MECL, IBDC, Nagpur
11.	Shri R.M. Gupte, Chief (Geology), MOIL, Nagpur
12.	Shri T.S. Suresh Kumar, Chief, Natural Resource Division, Tata Steel Ltd., Jamshedpur
13.	Dr. G. Narayanachar, Dy. Director (PM) of Department of Mines & Geology, Govt. of Karnataka
14.	Dr. R. C. Mohanty, Member, SGAT
15.	Shri, G. C. Das, Member, SGAT
16.	Mr. Brendan Howard, Manger - Business Development, RIO TINTO
17.	Shri Kumar Amitabh, Geologist, Dept. of Mines & Geology, Director of Geologist, Govt. of Jharkhand
18.	Shri, S. Das, Sr. Geologist, DMM WB
19.	Shri S. K. Guru, Sr. Geologist, GSI, SU:Orissa, ER, Bhubaneswar
20.	Shri A. Tripathy ,Sr. Geologist, SU: Orissa, GSI, ER, Bhubaneswar

21.	Shri P.S. Gandhi, Senior Geologist, Geodata Division
22.	Shri S.S. Sarkar, Senior Geologist, TCD-I
23.	Dr. S.R. Basir, Senior Geologist, TCD-I
24.	Shri P Ghosh, Senior Geologist, TCD-I
25.	Shri, Sandip Bardhan, Senior Geologist, TCD-I
26.	Dr Sudip Bhattacharyya, Senior Geologist, Geodata Division