

**MINUTES OF THE 56th MEETING OF THE STATE GEOLOGICAL
PROGRAMMING BOARD HELD ON 2nd SEPTEMBER 2020 AT BHUBANESWAR**

56.01.00	<p>The 56th meeting of the State Geological Programming Board (SGPB) was organised under the chairmanship of Sri Surendra Kumar, IAS, Principal Secretary to Government of Odisha, Steel & Mines Department on 2nd September 2020 on the virtual platform.</p> <p>The list of the participants is enclosed as ANNEXURE-I.</p>
56.02.00	<p>WELCOME ADDRESS BY THE DIRECTOR OF GEOLOGY, ODISHA & MEMBER SECRETARY, SGPB.</p>
	<p>Sri Manoranjan Panda, Director of Geology, Odisha and Member Secretary, SGPB extended a warm & hearty welcome to Sri Surendra Kumar, IAS, Principal Secretary to Government, Steel & Mines Department and Chairman SGPB, Sri Debidutta Biswal, IFS, Director of Mines, Odisha, Sri Kallola Behera, Dy. Director General, GSI, (SU) Odisha, Sri R. Veenil Krishna, IAS M.D, OMC Ltd. and all the delegates & participants in the 56th SGPB meeting.</p> <p>The Member Secretary accentuated the objective of SGPB meeting and contribution of the different organization for the mineral development of the state. State Geological Programming Board (SGPB) meeting is also assigned with the task of making recommendations to CGPB in Government of India on various issues for improvement of the mineral exploration sector. Consequent upon the Amendment of the MM (D&R) Act-2015, he highlighted the achievements of the Govt. in auctioning 26 mineral blocks successfully in which, the Technical Committee under the chairmanship of DG (O) has evaluated and finalized 24 Geological Reports of expiring leases for an approximate estimated resource value of Rs 6,09,564 Crores. He also informed that as per the decision taken in the 55th SGPB, Directorate of Geology has undertaken 26 investigation programmes (10 at G2 level, 12 at G3 level and 4 at G4 level) during F.S 2019-20 for iron ore, manganese, graphite, chromite, limestone, coal, china clay, fire clay, quartz and quartzite, dimension stone and pyrophyllite. Three outsourced iron ore & manganese ore investigation programmes could not be executed due to want of Forest Diversion Proposal while another outsourced limestone & dolomite investigation received resistance of local people. A total geological mapping of 179 sq km on 1:25,000 scale and 6347meters of drilling have been achieved during this period. He apprised that the Directorate of Geology, Odisha is taking all possible measures to strengthen exploration activities in the State in order to facilitate the process of auction. He further informed the Board that during the period, the Geological Reports of 11 major mineral blocks with an approximate estimated resource value of Rs 12,892 Crores have been finalised where Jagdalpur graphite resource and Khatkurbahal (North) limestone and dolomite resource have VER of Rs 106.5 Crores & Rs 6856.7 Crores respectively. Besides</p>

	<p>Geological Reports of 20 specified minor mineral blocks were readied for auction after required Amendment of OMMC Rule. He also informed that Directorate of Geology has inducted two crawler mounted hydrostatic rigs for strengthening the drilling capabilities & deeper drilling achievement within a time frame. After Amendment of MM (D&R), funding through NMET is a boost for all the exploring agencies. DG (O) is undertaking one NMET approved project in Koraput district & succeeded to locate manganese mineralization at the contact of proterozoics and EGMB which is a new concept. In order to facilitate sharing of expertise and technology and mutual co-operation for mineral development of the state, GSI has accepted the proposal of DG (O) to relook into the Gopur-Gajipur Gold prospect in Keonjhar district where officers of DG (O) and GSI will work together. The Member Secretary congratulated the GSI, AMD, IBM, OMC, CMPDI, MECL, NALCO, IDCOL, DGWD, SAIL,CGWB and Chief Engineer Project Planning for their sincere harmonization with the mineral development of the State.</p>
56.03.00	ADDRESS BY SRI KALLOLA BEHERA, DEPUTY DIRECTOR GENERAL, GSI, STATE UNIT, ODISHA
	<p>Sri K. K Behera Deputy Director General, GSI, (SU) Odisha in his address synopsis the activities and achievements of GSI, Odisha during the year 2019-20. He indicated that GSI had carried out 4 Specialised Thematic Mapping (STM) projects in the Keonjhar, Sambalpur, Sundargarh & Nayagarh districts of Odisha and 3 Geochemical Mapping (NGCM) projects in Koraput & Ganjam districts of Odisha under Mission I. During the investigation positive indication of sulphide mineralization and some anomalous value of total REE have been observed and laboratory study of the samples is under progress. As suggested by SGAT, systematic geophysical survey has been undertaken by the Eastern Region under NGPM. As per suggestion of Director of Mines, more emphasis is given on exploration of the minerals under Mission II. A total of 33 mineral investigations on different commodities like iron, manganese, chromite, basemetal, gold and bauxite have been carried out under Mission-II. Out of these, 11 projects are in G2 stage, 9 in G3 stage and 12 projects in G4 stage and one project under RMT. He informed that, forest clearance and local law & order problems are the hindrance for implementation of the investigation programmes for which 9 investigations could not be executed during 2019-20. He emphasized that after a long period, investigation for copper and gold mineralisation around Mayurbhanj & Anugul districts have been taken up. A resource of 6.76 million tonnes of copper with average grade of 0.57% of Cu at G3 level has been estimated in Madanasahi block of Mayurbhanj district. GSI has launched a prestigious programme i.e. Regional Mineral Targeting since last two years with the concept of integration of geological, geophysical and geochemical data to discover new mineral prospects. Being the Nodal agency, GSI is planning for studying the LANDSAT in the coming years. He further informed that during 2019-20, four geological</p>

	reports with estimated resource of 267 million tonnes of iron ore and 2.52 million tones of manganese ore are submitted for auction and during 2020-21, four more geological reports with an estimated resource of 290 million tonnes of iron ore are proposed to be submitted for auction. He thanked the Directorate of Geology (O) for all the support and assured to extend all sorts of cooperation in the field of mineral exploration.
56.04.00	ADDRESS BY SRI R.VEENIL KRISHNA, IAS (MANAGING DIRECTOR) OMC,ODISHA
	Sri R. Veenil Krishna, IAS, Managing Director, OMC Ltd & OMECL, Odisha in his address emphasized that as per MMDR Act 2015 Odisha is only state which has successfully completed the recent auction process. He informed that as part of the 5T initiative, agencies should enhance the state resource mapping process. Being the Nodal agency, OMECL will coordinate the process by Geophysical survey. He synopsised the activities and achievements of OMC & OMECL during the year 2019-20. He expressed his concern over the constraints in getting forest clearance for which exploration work in the state is not getting momentum. Further he informed that in the last year, OMC Ltd has achieved drilling target of 78000m. In the current year OMC is planned to achieve much more drilling target in chrome ore zone but due to Covid-19 pandemic situation the progress is not satisfactory. Iron ore and Bauxite blocks have been allotted to OMECL for up scaling of resource which have been approved for NMET funding and hopeful of commencement of drilling very shortly.
56.05.00	ADDRESS BY DEBIDUTTA BISWAL, IFS, DIRECTOR OF MINES, ODISHA
	Sri Debidutta Biswal, IFS, Director of Mines, Odisha in his address stated the importance and significance of SGPB meeting. After Amendment of the Mines and Minerals (Development and Regulations) Act, 2015, 24 expiring leases and two fresh blocks have been successfully auctioned, which strengthened the state economy. The quantity and quality of the explored minerals defined the value of estimated resource. He emphasized to put impetus to explore more and more geologically potential specified minor mineral blocks, so that the blocks will be eligible for the auction. He also informed that with the help of modern technology, the expired or lapsed mining leases need to be explored for future auction. All the members of different organizations are requested to come up with a series of programmes ready, which will be processed to get the forest clearance. He appealed all the member organizations to tap more funds from NMET for intensifying the exploration in the state as Odisha is contributing about 30% share of NMET Fund. (Action: All Members)
56.06.00	ADDRESS BY SRI SURENDRA KUMAR, IAS, PRINCIPAL SECRETARY TO GOVT. OF ODISHA, STEEL & MINES DEPARTMENT AND CHAIRMAN, SGPB.
	Sri Surendra Kumar, IAS, Principal Secretary to Government of Odisha, Steel and Mines Department and Chairman, SGPB welcomed all the dignitaries

	<p>and delegates to the 56th SGPB meeting. He ensured that though Odisha is blessed with sizeable mineral resources, the regional and detailed exploration should be carried out systematically, scientifically and intensively over the entire geologically conducive mineral bearing areas. He emphasized to explore more and more deposits at G2 level for auction. He suggested all the member organizations to strive for the best technology available to make the Geological Reports at par with the international standards with appropriate UNFC/MEMC codification. He also emphasized on exploration of specified minor mineral blocks which can also be leased out through auction process. He informed that SGPB is assigned with the task of making recommendations on various issues relating to mineral development especially in the exploration sector. He requested all the members to come up with new ideas and proposals for sustainable mineral development in the state. He suggested to train every geoscientist to use GIS and reserve estimation software for preparation of Geological Report. He informed that the application of geophysical techniques in the mineral exploration is quite indispensable for detecting subsurface minerals. He also appreciated the effort of Directorate of Geology for discovering of such subsurface graphite mineralization in Hindol area of Dhenkanal district. Finally, he appealed all the members to lay stress on 5Ts governance to achieve more and more target in future.</p> <p style="text-align: right;">(Action: All Members)</p>
56.07.00	CONFIRMATION OF THE MINUTES OF THE 55TH SGPB MEETING
	<p>Member Secretary, SGPB placed the Minutes of the 55th SGPB meeting circulated vide Letter No. 7688/DG, dated 19/09/2019 before the members for confirmation and the Minutes was unanimously confirmed by the Board without any change.</p>

56.08.00	REVIEW OF ACTION TAKEN ON MINUTES OF THE 55TH SGPB MEETING
	<p>The Member Secretary, SGPB, initiated discussion on the follow up action on the Minutes of the 55th SGPB meeting with due permission of the chairman, SGPB.</p>
56.08.01	<p>In response to Para 55.05.00 on Agenda-1: In view of auction process, DM (O) sought cooperation of IBM, Odisha region for auctioning of minor minerals associated with major mineral; Member Secretary, SGPB informed that IBM has not taken any specific action in this regard.</p> <p>In response to Para: 55.08.00 on Agenda-2: (i) Regarding possible mineralisation of REE in Nepheline Syenite; Member Secretary informed that, Nepheline Syenite of Deogarh & Sambalpur districts has been studied by GSI & others will be examined in due course of time. Member Secretary, SGPB informed that the reported alkaline bodies of Kankarkhol and Rairakhhol had already been explored during FS 2015-17 and</p>

	<p>FS 2017-18 where maximum REE values of 740 ppm has been observed in drill core data of nepheline syenite near Poipani of Kankarakhol area. Based on STM work, GSI is proposing REE item in Syenite pegmatitic rocks of Nayagarh area during FS 2020-21. Besides, GSI is also planning to probe the Proterozoic granitoid at the interface of Carbonic and Gangpur Mobile belt for its REE potential.</p> <p>(ii) Regarding expeditiously completion of the exploration by MECL in the allotted blocks within the NMET approved time line; Member Secretary, SGPB informed that MECL completed exploration and submitted the GRs of Chandiposi, Purheibahal, Jhumka-Pathariposhi Iron Ore blocks, Tamiya (G-2) & (G-4) and Rengali (G-2) and Sunakhunti Manganese blocks. Exploration in Rengali (G-4), Biarpalli (G-4) & (G-2), Babja (G-2) and Dunguripalli (G-3) manganese blocks has been completed and GR preparation is in progress. The exploration and submission of GR in the above blocks is held up due to country wide lockdown for Covid-19 pandemic. Exploration in Babja (G-4) block could not be taken up on account of the law & order situation in the area. Only Magnetic geophysical survey could be completed. Exploration for iron ore in Malangtoli 'H' block is suspended and in 'C', 'D', 'E' & 'G' block could not commence due to non availability of forest permission.</p> <p>(iii) Regarding mining feasibility, it should be examined by DM (O) while putting smaller mineral blocks into auction; Member Secretary, SGPB informed that the feasibility and prefeasibility study of a mineral block is undertaken after preparation of mining plans. Hence feasibility studies will be done after auction.</p> <p>(iv) Regarding deep borehole to prove the deeper extension of chromite bands in Sukinda Valley where all the potential bands occur under leaseholds; Member Secretary, SGPB informed that during F.S 2020-21, GSI (SU) Odisha has taken up a project on data integration for ferrous group of minerals including chromite. Once the data integration is ready, the gap areas will be identified and the surface and subsurface data from different stakeholders will be collected and further exploration programme can be planned with few deep boreholes. The Working Group on ferrous minerals opined to chalk out a strategy of deep drilling programme after auction of the expiring leases & execution.</p> <p>(v) Regarding 3D ore modeling of iron/manganese ore bodies while exploring at G2 level; Member Secretary, SGPB informed that 3D Ore body Modelling Lab has been established at NMH-II, GSI, Nagpur. Few of the deposits that are explored at G2 Level will be taken up for ore body modeling. Ore modelling of iron or manganese ore bodies will be taken up in the upcoming G2 explored blocks by DG(O). The action taken by MECL was the cost of exploration sanctioned by NMET for earlier project were based on the SOC for MoM projects wherein the cost of 3D ore body modelling was not included in the scope of cost estimate of the proposal. However, 3D ore body modelling</p>
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of the Jhumka-Pathriposhi Iron Ore block has been prepared and provided with the GR. The SOC of NMET implemented w.e.f. 01.04.2020 has made provision for 3D ore body modelling on actual payment basis. Hence forth the 3D ore body model can be provided for G-2 & G-1 exploration projects only on demand of state Directorate of Geology and if the cost estimate for 3D ore body modelling is sanctioned by TCC/EC, NMET.

(Action: All Exploring Agencies)

In response to Para: 55.10.01 on Agenda-3:

To facilitate & expedite the forest clearance proposals one Forest Officer may be entrusted to pursue the FDP proposals of the Govt. agencies; Member Secretary, SGPB informed that a Forest Cell headed by a DFO is functioning under DM (O) to facilitate the FDP issues of exploring agencies.

In response to Para: 55.10.02 on Agenda-4:

(i) In view of the assistance of Australian Govt. for covering the balance hard rock areas of the State, updating the Data Processing Centre (DPC) and providing training facilities for the technical personnel of DG (O); Member Secretary, SGPB informed that a proposal was submitted earlier to GSI to cover the balance area of the state for Aeromagnetic Survey and GSI was agreed to cover the balance area by Heliborne Survey, but informed that Heliborne Survey is being done on prioritized area and it will be covered in due course of time. Required training will be imported by Aerogeophysics Division of GSI.

(Action: GSI & DG(O))

(ii) Regarding preparation of a shelf of exploration projects for funding by NMET. The minerals to be targeted include Gold, Base metals, PGM, Tin, Nickel among others; Member Secretary, SGPB informed that OMECL, MECL, GSI are proposing their exploration programmes to NMET for funding while DG(O) is undertaking in house exploration projects through state funding. During FS 2019-20, 03nos of G4 items for Gold and 04 nos of Basemetal items including three G2 and one G4 item has been taken up. During FS 2020-21, four nos of Basemetal Items including three G2 and one G3 has been taken up by GSI.

On the request of Directorate of Geology, Govt. of Odisha, G2 stage exploration for Gold in Gopur and Gajpur area will be taken up during FS 2021-22. Besides, the Telkoi Valley of Keonjhar district will be taken up for Regional Mineral Targetting.

MECL attending the review meetings organized by Directorate of Mines regularly is requested to grant consent to take up under mentioned blocks for exploration through NMET funding.

1. Kumiyapali block (G-3), Balangir District for manganese
2. Antapali Block (G-3) Balangir District for manganese
3. Amatpani-Giringkela-sargipalli-Baharatpur area (G-4), Sundergarh district for lead & zinc.

MECL received consent for Kumiyapali & Antapali Blocks recently. Consent for Amatpani-Giringkela-Sargipalli-Baharatpur area (G-4) is still awaited.

4. Considering the agricultural activities during monsoon, preparation of

	<p>proposal for investigation for Copper Ore around South of Kesharpur, Mayurbhanj District is delayed. It will be put up in the forthcoming TCC, NMET for technical evaluation.</p> <p>In addition to above in case DG (O) provides blocks for preliminary detailed exploration of other mineral blocks, MECL is ready to take up exploration through NMET funding.</p> <p>(iii) Regarding preparation of a shelf of projects for possible assistance (technical and financial) by UNDP, Canadian International Development Agency (CIDA) and other world bodies of South Africa, France, US, UK and Russia; Member Secretary, SGPB informed that DG (O) is sharing technical expertise with GSI. In a recent development, GSI has given consent to a proposal by state DG (O) to revisit the gold prospects identified by DG (O) and data sharing is in progress. Assistance from other agencies will be taken care in future as per need.</p> <p>(iv) Regarding taking steps for framing State Mineral Policy in line with NMP 2019; Member Secretary, SGPB informed that the State Mineral Policy is under the process of finalisation by the State Govt.</p> <p>(v) Regarding proving of coal reserves in collaboration with and support of CMPDI; Member Secretary, SGPB informed that the State Directorate of Geology is undertaking exploration of Coal for proving the reserve of coal at the behest of CMPDIL and will also continue in future.</p> <p>(vi) In view of the climatic change and increase in the intensity & frequency of tropical cyclones affecting Odisha and survey along the coast by Marine and Coastal Survey Division (M&CSD) of GSI, Member Secretary, SGPB informed that GSI (SU) Odisha had already taken up geological, geo morphological, bathymetric and coast line mapping of the coastal areas to evaluate coastal response to various geological processes especially in the context of massive coastal erosion along Odisha coast, and to generate baseline data for Coastal Zone management during FS 2014-15. Regarding geophysical survey work, the ER, Kolkata office has been informed for necessary action.</p> <p>(vii) Regarding micro seismic zonation survey by GSI; Member Secretary, SGPB informed that the micro seismic zonation survey work of Bhubaneswar has been taken up during FS 2016-18 and the reports have been circulated and uploaded in OCBIS portal. Besides, the report has also been handed over to the Commissioner, Bhubaneswar Development Authority through ADG & HOD, ER. The micro seismic zonation survey work of Cuttack has been completed. Presently, data compilation and report writing work is in progress. As the reports are circulated, the same will be uploaded in the OCBIS portal for the public.</p> <p>(viii) Regarding priorities of exploration projects to be taken up by DG (O) during the next 5 years as per Vision Document – 2030 for Development of Mineral Sector of Odisha; Member Secretary, SGPB informed that DG (O) is formulating its exploration programmes keeping in view the need of the</p>
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	<p>state & Mineral Auction Policy of the Govt.</p> <p>In response to Para: 55.10.03 on Agenda-5: In view of taking up G4/G3 stage exploration by MECL around Kumiapali and Antapali Block in Balangir district and Amatpani-Giringkela-Sargipalli-Baharatpur area, Sundargarh district and seeks consent of the State Government; Member Secretary, SGPB informed that Kumiapali and Antapali blocks have already been assigned to MECL as per the decision taken in the Committee headed by DM (O).The Amatpani- Bharatpur block will be decided for exploration by the designated committee.</p> <p>In response to Para: 55.10.04 on Agenda-6:</p> <p>(i) Regarding depth of exploration upto 300m or discontinuance of ore body, whichever is earlier in which depth of the ore body has not been established as per MM (D&R) 2018; Member Secretary, SGPB informed that DG (O) is undertaking G2 level of exploration by core drilling upto the optimum limit of mineralisation i.e till termination of the ore body.</p> <p>(ii) Regarding finalisation of depth of exploration in underground mines by IBM depending upon the geological set up of the area; Member Secretary, SGPB opined that since three chromite blocks have been put into the auction, the action will be taken after operationalization of those mines.</p>
56.09.00	PRESENTATION BY MEMBER ORGANISATIONS
	The Member Secretary requested participating organizations to present their exploration activities carried out during 2019-20 and programme of exploration for 2020-21.
56.09.01	<p>Sri K. K. Behera, Deputy Director General, GSI, (SU) Odisha made an elaborate presentation on the exploration activities of GSI (SU) Odisha conducted during 2019-20. He explained regarding the activities of 3 NGCM projects, 3 STM projects and 1 RP project under Mission – I. He also presented on 34 projects under Mission – II which includes 11 projects in G-2(coal-4, Iron-3, Mn-1, Basemetal-3), 9 projects in G-3(Iron-3, Mn-1) and 12 projects in G-4 (Gold-3, diamond-1, graphite-1, bauxite-1, Chromite-1, iron-1, Mn-1, basemetal-1). Four reports (Mendhamaruni block, Kalamang west block, Gandhalpada South-East-Part & Rengalberha North East block) of iron under Mission II have been handed over to state government for auction. He also highlighted 4 nos. of G-2 blocks of Iron i.e. Gandhalpada, Alaghat W, Kedesala and Jumuka pathiriposhi W block will be handed over to State Government for auction. Further, he also added on the quantum of work done and achievements in Madansahi Cu deposit Dudhiasol basemetal, Adash basemetal and Mankarchua gold deposit. He presented a detailed presentation on the programme of the exploration activities for F.S. 2020-21 which includes 49 items. Out of which, 22 projects under Mission – I (15 NGCM project & 7 STM projects) and 20 projects under Mission – II (G2-13, G3-3 & G4-4), 3 projects under M-III & 2 Projects Under M-IV. Geo-environmental assessment Projects in Odisha will also be carried out during the F.S 2020-21.</p>

<p>56.09.02</p>	<p>Dr. P C Mishra, Deputy Director Geology, Directorate of Geology made an elaborate presentation of work undertaken during 2019-20 in respect of coal, iron ore, manganese ore, chromite, limestone, graphite, china clay, fire clay, decorative stone, pyrophyllite, quartz & quartzite and geophysical survey for chromite.</p> <p>Dr. Mishra mentioned that Coal exploration in Madhupur Block of Ib valley coal field conducted 2360.70m drilling in 5 boreholes. Drilling in this block is completed and the resource estimation is under progress. Exploration for manganese at G2 level was carried out around Roida-D in 100mx 50 m grids & will be continued in the next field season, whereas, investigation for manganese at G4 level was carried out around Tentuliguda, Koraput district under NMET funding. Exploration for graphite at G2 stage in Khalpadar Block, Rayagada district was carried out and will be continued in the next FS. Drilling by Outsourcing agency for graphite around Karabira of Dhenkanal district is continuing and till now achieved 686m of drilling in 10BHs. Investigation for graphite at G4 stage aided by geophysical survey was carried out but could not be continued due to onset of monsoon. Limestone exploration was carried out around Telipadar Block, Balangir district (G2 level). Exploration China clay at G2 stage was carried around Dumuria of Mayurbhanj district and will be continued in the next field season. Geophysical survey for chromite around Mathkargola of Dhenkanal district was undertaken at G4 stage. Investigation for Decorative stone was carried out in Endrima of Gajapati district and Paburia of Kandhamal district in G3 stage and identified 3 prospecting blocks. Investigation for assessment of quartz and quartzite was taken up around Kadalimunda, Balangir district, Burbuda of Subarnapur district, Debjharan of Kalahandi district, Kanktora- Bhikampali of Jharsuguda district, Soroda of Sundargarh district and Purunapani of Mayurbhanj District at G-3 stage. Investigation for Pyrophyllite around Jamudiha of Keonjhar District was carried out at G3 stage. Investigation for fireclay at G4 stage was carried out around Bhairpur of Dhenkanal district. Assessment of pyroxenite/ serpentinite in the contact of Ultramafic was carried out around Kaliahata area at G3 stage. Sri Mishra briefly outlined the exploration programmes of the Directorate of Geology, Odisha for 2020-21. The programme comprises Coal – 1, Iron & Manganese ore -4 (3-G2 and 1-G4) Limestone – 2 (1-G2 and 1-G4), Decorative stone/ Artisan grade stone – 2 (all are at G3 stage), Quartz & quartzite – 1 (G3 stage), Graphite – 4 (2-G2, 1-G3 and 1-G4), China clay-1(G2), Soapstone-1(G3). He mentioned that the proposed Annual exploration programme was placed in the house for approval before finalization.</p>
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56.09.03	Sri S.K. Sinha, GM, Exploration, OMECL presented the work undertaken during 2019-20 by OMECL with the approval of NMET. 8 bauxite blocks, 8 iron blocks , 1 fireclay and 1 soapstone were allotted to OMECL. Forest clearance proposal submitted for 5 bauxite blocks and REC of MoEF & CC has approved Stage -1 clearance for all the blocks and Stage-2 clearance for one block (Keluamali). Geological mapping and surface sampling have been carried out in 8 iron, 4 bauxite, 1 fireclay and 1 soapstone blocks. Final approval of drilling in Keluamali bauxite block (Kalahandi) has been issued by concerned District Collector. Other 4 FC proposals of bauxite blocks are in progress for approval of NPV and plantation scheme. All the blocks will be explored upto G2 stage as per UNFC.
56.09.04	Sri S.N. Bohidar, GM (Geology)/ HOD (Exploration), CMPDIL presented the work undertaken by CMPDIL during 2019-20 in Talcher and IB valley Coalfields. He informed that CMPDIL has achieved 99,328.60 m of drilling in total 106 blocks which includes CIL block - 18,188.6m (44 blocks) , Non CIL block – 81,140 m (62 blocks) against a total target of drilling 1,37,500m during 2019-20. He also presented a detailed programme of exploration of CMPDIL to be carried out during 2020-21 with a drilling target of 1, 51,300 m. CMPDIL have to prepare five GRs i.e. 4 blocks from Talcher coal field and 1 from Ib valley coal field. He also informed the house regarding the Law and Order problem and forest clearance issue which is the main cause of shortfall of drilling meterage.
56.09.05	Mrs. Tilotama Basa, General Manager (Geology), OMC Ltd. outlined the review of work of OMC during 2019-20 in their leaseholds of chromite, iron ore and bauxite prospects and also the programme of work for 2020-21. She briefly presented the exploration of chromite in south Kaliapani, Sukrangi & Saruabil-Sukrangi mining leases in Jajpur district and Bangur mining lease in Keonjhar district, iron ore in Bonai - Keonjhar belt & bauxite in Kodingamali area. She informed that a total of 78,184m has been drilled during 2019-20. Mrs. Basa added that exploration work will continue in different lease holds of OMC as per the quantity envisaged in exploration programme for 2020-21. As mentioned, 1,34,200 meters of core drilling is proposed to be undertaken in Chromite, Iron, and Bauxite Mining Leases and PLs of OMC Ltd. for assessment of ore reserves subject to availability of required forest permission.
56.09.06	Sri M.W Wadaskar, Sr.Manager (Geology), MECL presented the exploration activities of MECL in Odisha during 2019-20. He highlighted the quantum of work done for Iron ore in Malangtoli 'H' & Bolani 'E' Block of M/s SAIL in Sundargarh & Keonjhar districts, Manganese ore in Tamiya block, Babja block, Bairapali block, Dungripali block & Rengali block of Balangir district. He also briefed the house regarding their mineral exploration programme for F.S.2020-21.
56.09.07	Sri S.R. Mazumdar, Sr. Mining Geologist, IBM presented the review of work done by IBM, Bhubaneswar during 2019-20. He stated that IBM has done

	<p>regular inspections of 201 mines for mineral conservation & systematic development of mines and protection of environment under MCDR, 1988. Out of 13 mining plans received with PMCP, 7 have been approved, 6 plans were rejected by IBM. Out of 54 schemes of Mining received with PMCP, 35 schemes have been approved and 16 schemes were rejected & 3 were withdrawn. Out of 7 FMCP received, 3 approved and 4 rejected. During the year 2019-20, 10 Stopping Application received, out of which 08 Stopping Permission is granted and 02 application are under process at COM (EZ). Further he informed that the order for forfeiting of Financial Assurances in the form of Bank Guarantee in respect of 08 Non-working mines issued on 31.03.2020. The total amount for which order for forfeiting of Financial Assurances issued is Rs 15,71,62000/.</p>
<p>56.09.08</p>	<p>Sri Debasis Mohanty, Geologist, O/o - Chief Engineer, PPF & Inv. Deptt. of Water Resources, Odisha highlighted the achievement of the Department for F.S. 2019-20. He presented the work done in Kalhandi, Padampur, IB (Sundargarh), Ganjam, Mayurbhanj and Cuttack Investigation Divisions. He mentioned about 91 numbers of boreholes drilled in year 2019-20 and 16 numbers of boreholes to be drilled in year 2020-21.</p>
<p>56.09.09</p>	<p>Sri G. B Mohapatra, Member, SGAT participating in the discussion appreciated the work of GSI & DG (O) in the mineral development of the state and suggested for systematic Marine & Coastal Survey along with seismic micro zonation of Puri coast to mitigate the effect of coastal erosion & suggest remedial measures.</p> <p style="text-align: right;">(Action: GSI)</p> <p>Dr Faruque, Member, SGAT suggested that lithium is found associated with Mathili cassiterite and in pegmatites of Bengpal Group of rocks from which lepidolite can be extracted. Exploring agencies have to examine the lithium potentiality of those stratigraphic horizons.</p> <p style="text-align: right;">(Action : All Stake holder)</p> <p>Sri S K Mohanty, Member, SGAT briefed the recent move of MoM, GoI to bring some amendments to the MMDR Act encouraging private participation in regional exploration which may not be in the best interest of the state and the country. In order to achieve a holistic development of the mineral sector, robust monitoring mechanism should be in place because private players will undertake the exploration and resource estimation. With this backdrop, it is submitted that SGPB may recommend to the MoM, GoI for retaining G3 level of exploration for auctioning of PL-cum-ML blocks. Board should seek clarity on role of Govt. agencies and robust monitoring mechanism while finalising this amendment.</p> <p style="text-align: right;">(Action: DG (O), DM (O) & S & M Deptt.)</p> <p>Odisha is contributing majority of total NMET fund and matching grant is not being availed from NMET for undertaking exploration in the state. States</p>

	<p>like Telengana and Chhattisgarh are moving aggressively in getting projects from NMET and their execution, though their contribution is comparatively low.</p> <p>Hence, it is submitted that SGPB may look at it and State's Govt. agencies/ PSUs may intensify their efforts to get large number of projects from NMET. NMET fund may be availed to undertake detailed work of capital intensive exploration projects on various critical and strategic commodities like Li, K, REE, cobalt etc. etc. These projects can be taken up parallelly with conventional exploration of bulk minerals like iron ore, bauxite, manganese etc.</p> <p style="text-align: right;">(Action: All Stake Holders)</p>
56.10.00	DISCUSSION ON AGENDA ITEMS OF THE 56TH SGPB
56.10.01	<p>AGENDA BY SOCIETY OF GEOSCIENTIST AND ALLIED TECHNOLOGISTS (SGAT):</p> <ol style="list-style-type: none"> 1. BASE METAL AROUND PANPOSH: West of Gangpur Group the sedimentary sequence of the Ichha nala with the Sargipalli lead deposit is a fault bounded wedge and abuts against the Gangpur Group with a prominent fault. This fault has also brought up a basement slice of granite along its contact. The small chalcopryrite-galena-sphalerite dispersions in quartz-calcite veins in some excavation off Panposh belong to which sequence? The assumption of metallogenic equivalence of Gangpur group and the ore bearing Ichha nala formation needs a close study. <p style="text-align: right;">Participating in the discussion, TC, Odisha of GSI, informed that GSI has a proposal to examine the metallogenic potentiality of Gangpur Group and data base compilation is under progress. (Action: GSI)</p> 2. GOLD AROUND SURIAGORA: Gold mineralisation associated with cherty phyllite lithounits of Iron Ore Group of rocks in the neighbouring Kunderakocha area in Bihar was reported by GSI (Dunn, 1942). Gold was also being mined in this area in the early 20th century. The Iron Ore Group of rocks form of a narrow zone within Singhbhum granite and continues upto south of Jashipur in Mayurbhanj district. GSI has mapped the Gorumahisani schist belt between Suriagora and south of Gorumahisani covering an area of 150 sq km in parts of toposheets no 73J/3 and 73J/7. An old working for gold was recorded near Suriagora. Though no visible gold mineralisation was recorded, the dissemination of fine specks of sulphide minerals were noticed at a few places within metachert, metabasalt and meta-ultramafites. Illegal panning of gold has been reported from Suriagora and Gohaldongri areas. A follow up studies can be proposed in this belt for gold. <p style="text-align: right;">GSI informed that Gold investigation proposals have been included in the Field Programme. (Action: GSI)</p> 3. GRAPHITE EXPLORATION: Graphite occurrences where the ore body is continuing at deeper level may have to be explored apart from the routine exploration. Further geological and geophysical exploration may be carried out at the abandoned mines. The association of vanadium and nickel with graphite may have to be looked into. Area under forest cover also needs to

be relooked. (Area of reported occurrences of graphite Sargipalli, Titlagarh, Tumudibandh, Nishikal, Muniguda and Dhandatapa may be considered)A comprehensive data base may be prepared for the ease of exploration.

Initiating the discussion, DG (O) informed that detailed exploration for the reported graphite occurrences around Muniguda have been initiated since 2016-17 and two auctionable blocks have been submitted to Govt for auction, out of which Jagdalpur block is already auctioned. Further, two G2 level of explorations i.e one in Khalpadar near Muniguda of Tumudibandha belt and another around Hindol of Dhandatopa belt are under progress. TC, Odisha of GSI also informed that GSI is compiling the exploration data base for the graphite belts of Odisha and seeks assistance of DG (O). In reply DG (O) assured to provide the available data to GSI on requisition.

(Action: GSI & DG(O))

3. **EXPLORATION FOR LITHIUM BEARING MINERALS:** In view of rapid transformation currently underway in Electric vehicles and Digital devices, the coming years will witness huge business interest and investment in production of Lithium batteries in India and other major markets around the world. Though lithium is known to be associated with brines, pegmatite and some lithium bearing sedimentary rocks and evaporites, preliminary exploration may be planned for establishing association of lithium with pegmatites in Odisha specifically in manganese deposits of southern part of Odisha (Koraput district).

GSI informed to include lithium investigation in its FSP while OMECL shared about the lithium concentration in the pegmatites of Malkangiri district. DG (O) informed that GSI and DG (O) have reported many pegmatites, during course of different investigation programmes and those data can be utilized. OMECL offered to collaborate with GSI to undertake lithium exploration. OMECL offered to have a discussion with the experts in the domain and urged to share the data & relevant maps with OMECL.

(Action: OMECL , GSI & DG(O))

4. **POTASH BEARING MINERALS:** In view of deficiency of fertiliser minerals, association of potash bearing minerals may be explored in the Nepheline syenite bodies currently considered as a potential source of potash. Hence, exploration including reserve estimation of nepheline syenite rocks in Koraput and Raikhol, Sambalpur district should be undertaken.

DG (O) informed about the occurrences of Nepheline syenite in Raikhol, Koraput and near Talcher within the Gondwana. DG (O) urged the exploring agencies to take up such investigation for enriching the state's mineral share.

(Action: All Stake holder)

6. **BASE METAL, GOLD AND REE EXPLORATION:** On the basis of the reinterpretation of high resolution aero-geophysical survey of 75,000 sq km area (80m height and 250m interval) carried out by Geoscience, Australia during 1993-98 (DG O) and field work carried out by the geologists of RSAS,

	<p>GSI, Bangalore during F.S. 2018-19 (reports available in GSI portal), three areas can be taken up for Mineral Exploration (G4) in Odisha.</p> <ol style="list-style-type: none"> 1. Basemetal (Cu) Investigation in Bhuasuni Granite, Mayurbhanj Dist. (T.S. No. 73 J/12) 2. Investigation for Gold in Deogarh amphibolite-quartzite sequence in Sonamunda area, Deogarh District (T.S. No. 76 C/10) 3. Shear controlled multimetal (Fe-Cu-REE) mineral investigation in Hilag-Telibhanguni-Bhagamunda area (T.S.76C/7),Deogarh District. <p>Two STM programmes north of Similipal Complex & another in Deogarh Supracrustal have been taken up by GSI. Since the STM programmes are two year programme, target area will be finalised for G4 level exploration. DG (O) suggested to share the data of AMD.</p> <p style="text-align: right;">(Action: GSI, AMD & MECL)</p> <p>7. STRATIGRAPHIC BOREHOLES: There is a possibility of striking BHJ underlying iron ore associated with Upper Shale Formation within Koira valley. Stratigraphic reassessment by number of boreholes may solve the issues.</p> <p>In reply to the suggestion, TC, Odisha informed that as per recommendation of SGPB, GSI has taken up a research item in Bonai-Keonjhar belt.</p> <p style="text-align: right;">(Action: GSI)</p> <p>8. It is suggested to hold the SGPB meet prior to the CGPB meet so that the suggestions if any can be considered by GSI for the follow up FSP.</p> <p>G.P Mahapatra, Member, SGAT, suggested that, SGPB should be held in the month of December but DG (O) declined the proposal as Field Season of DG(O) is from November to June. Sri Mahapatra, urged to convened another SGPB in December, but DG (O) expressed his inability to hold another SGPB in the mid of Field Season.</p> <p>K.C Das, Sr. Geologist, GSI, added that CGPB is urging to hold SGPB before the committee meeting so that the recommendations of SGPB can be compiled in respect of each committee which will be submitted to the main CGPB.</p> <p>DG (O) informed that, DG (O) is regularly convening the SGPB before committee meeting except the current year because of COVID-19.</p> <p>9. All exploration activities undertaken by GSI such as Geophysical Mapping, National Geological Mapping, STM, petrological items etc within the state of Odisha, may be discussed in SGPB for an appropriate planning and execution by other agencies. The status map of updated Geophysical map of the state of Odisha by GSI may help in avoiding any duplication in plan of action.</p> <p>K.C Das, Sr. Geologist, GSI, informed that Eastern Region has included one such item in the FSP.</p> <p style="text-align: right;">(Action: GSI)</p>
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56.10.02	<p>AGENDA BY INDIAN BUREAU OF MINES</p> <ol style="list-style-type: none"> 1. Action plan for revival of Non-working mines in the state may be prepared as per D.O letter of Secretary Mines to the Chief Secretary of Odisha State. 2. Information on NMET fund reconciliation as per supplied format may be provided on Monthly basis. 3. Indian Bureau of Mines is forwarding soft copy and hard copy of draft MP/MMP/RMP for comments of state government. The comments/suggestion/views of State Government will be helpful for better governance of the mineral sector. 4. Information on Auction Blocks/ DMF/PMKKY etc may be provided regularly 5. Report of exploration as carried during the year 2016-17 onwards by all Government agencies (State Govt./GSI) may be provided to IBM as per Rule 72 of MCDR 2017 <p style="text-align: right;">(Action: DM(O),DG(O), GSI,IBM)</p>
56.11.00	<p>After detailed deliberation on the activities of the exploration agencies during 2019-20 and their programme of exploration for 2020-21 in the State, the Annual Field Season Programme of the Directorate of Geology, Odisha, has been approved by all the members as no overlapping or duplication is found in the field programme.</p>
56.11.01	<p>Sri K. K Behera, Deputy Director General, GSI, (SU) Odisha briefed the deliberations of all the member organizations and appealed to execute the mandate of the SGPB for mineral development of the state.</p>
56.12.00	<p>VOTE OF THANKS</p>
	<p>Dr P. K Chand, Deputy Director, Geology, DG (O) proposed Vote of Thanks. He thanked hon'ble Principal Secretary to Govt., Steel & Mines Department and Chairman SGPB for his active participation, keen interest and valuable guidance. He further thanked all the members of SGPB for their active participation and hearty cooperation.</p>

ANNEXURE-I

LIST OF PARTICIPANTS OF 56TH SGPB MEETING HELD ON 2ND SEPTEMBER 2020

**CHAIRMAN: SRI SURENDRA KUMAR, IAS, PRINCIPAL SECRETARY,
STEEL & MINES DEPARTMENT, GOVT. OF ODISHA**

MEMBER SECRETARY: MR. MANORANJAN PANDA, DIRECTOR OF GEOLOGY, ODISHA

Sl. No.	Name	Designation	Organization
1.	Sri S.K. Popli, IFS	Special Secretary to Govt. of Odisha	Steel & Mines Department
2.	Sri R. Veenil Krishna, IAS	Managing Director	Odisha Mining Corporation Ltd.
3.	Sri D. D. Biswal, IFS	Director of Mines, Odisha	Dir. of Mines, Odisha
4.	Sri K.K. Behera	Dy. Director General	GSI, SU: Odisha
5.	Sri R.N. Praharaj	Director	Odisha Mining Corporation Ltd.
6.	Sri J.P. Mohakul	Director	GSI, SU: Odisha
7.	Sri K.C. Das	Sr. Geologist	GSI, SU: Odisha
8.	Sri A.K. Rout	JDG	Dir. of Geology, Odisha
9.	Sri N. Sahu	JDG	Dir. of Geology, Odisha
10.	Sri M.R. Mohapatra	JDG	Dir. of Geology, Odisha
11.	Sri R.K. Kar	DDG	Dir. of Geology, Odisha
12.	Dr. P.C. Mishra	DDG	Dir. of Geology, Odisha
13.	Sri N.N. SinghDeo	DDG	Dir. of Geology, Odisha
14.	Dr. P.K. Chand	DDG	Dir. of Geology, Odisha
15.	Sri S. Mishra	DDG	Dir. of Geology, Odisha
16.	Sri M.K. Oram	DDG	Dir. of Geology, Odisha
17.	Sri S.P. Nanda	DDG	Dir. of Geology, Odisha
18.	Sri D.K. Sahoo	DDG	Dir. of Geology, Odisha
19.	Sri K. Nayak	DDG	Dir. of Geology, Odisha
20.	Dr. S.M. Monalisa	DDG	Dir. of Geology, Odisha
21.	Sri S.K. Dalai	DDG,	Dir. of Geology, Odisha
22.	Dr. S.A. Jena	DDG	Dir. of Geology, Odisha
23.	Sri Bikash Ch. Sahoo	DDG	Dir. of Geology, Odisha
24.	Sri Satyajit Rout	Geologist	Dir. of Geology, Odisha
25.	Mrs. S. Sahoo	Geologist	Dir. of Geology, Odisha
26.	Mrs. Lajwanti Devi	Geologist	Dir. of Geology, Odisha
27.	Mrs. S. Dash	Geophysicist	Dir. of Geology, Odisha
28.	Sri S. Pradhan	Geologist	Dir. of Geology, Odisha
29.	Dr. T. Basa	General Manager (Geology)	Odisha Mining Corporation Ltd.
30.	Sri J.P. pattanaik	AGM (Geology)	Odisha Mining Corporation Ltd.
31.	Sri S.K. Nayak	DGM (Geology)	Odisha Mining Corporation Ltd.
32.	Sri Pinaki Mallick	DGM (Geology)	Odisha Mining Corporation Ltd.
33.	Sri B.K. Panda	Sr. `Manager (Geology)	Odisha Mining Corporation Ltd.
34.	Sri S.K. Patel	Sr. `Manager (Geology)	Odisha Mining Corporation Ltd.

35.	Sri Chologanga Dev Nayak	Manager (Geology)	Odisha Mining Corporation Ltd.
36.	Sri S.K. Patel	Sr. `Manager (Geology)	Odisha Mining Corporation Ltd.
37.	Sri R. Sahoo	Manager (Geology)	Odisha Mining Corporation Ltd.
38.	Smt. S. Mahanta	Manager (Geology)	Odisha Mining Corporation Ltd.
39.	Sri T.K. Kandeyang	Manager (Geology)	Odisha Mining Corporation Ltd.
40.	Sri T. Sainger	Manager (Geology)	Odisha Mining Corporation Ltd.
41.	Sri S. Mishra	Manager (Geology)	Odisha Mining Corporation Ltd.
42.	Ms. K. Patel	Manager (Geology)	Odisha Mining Corporation Ltd.
43.	Sri D. Nayak	Manager (Geology)	Odisha Mining Corporation Ltd.
44.	Sri T. Panigrahi	Manager (Geology)	Odisha Mining Corporation Ltd.
45.	Sri P. Nayak	Manager (Geology)	Odisha Mining Corporation Ltd.
46.	Sri S. Sinha	GM, Exploration	OMECL
47.	Dr. P.K. Nayak	Manager (Geology)	OMECL
48.	Sri Vinod R.V.	Manager (Geology)	OMECL
49.	Sri R. Behera	Dy. Manager (Geology)	OMECL
50.	Sri S.K. Sahoo	Dy. Manager (Geology)	OMECL
51.	Dr. A.K. Das	Chief Engineer, PPF & I	CEPPF&I, WR Deptt., Bhubaneswar
52.	Sri J.P. Behera	Dy. Director Geology	CEPPF&I, WR Deptt., Bhubaneswar
53.	Sri D. Mohanty	Geologist	CEPPF&I, WR Deptt., Bhubaneswar
54.	Dr. Bibhuranjan Nayak	Sr. Pr. Sc	CSIR-IMMT
55.	Sri G.C. Sethi	Dy Controller of Mines	IBM, Bhubaneswar
56.	Sri S.R. Mazumdar	Sr. Manager (Geology)	IBM, Bhubaneswar
57.	Sri Sudhansu Sekhar Khora	Dy C.F. (IT & GIS)	PCCF
58.	Sri Sailananda Bohidar	GM (Geology)	CMPDIL
59.	Sri G.P. Mohapatra	Representative, SGAT	SGAT, Bhubaneswar
60.	Dr. Faruque	Representative, SGAT	SGAT, Bhubaneswar
61.	Sri S.K. Mohanty	Representative, SGAT	SGAT, Bhubaneswar
62.	Sri M. W Wadaskar	Sr. Manager (Geology)	MECL