

**Government of India
Ministry of Mines
National Mineral Exploration Trust**

F. No. 6/3/2015-NMET /295

New Delhi, 23rd March, 2022

OFFICE MEMORANDUM

Subject: Scheme for partial reimbursement of exploration expenses for holders of Composite Licences which are granted through auction for exploration of certain minerals -reg.

In pursuance of provisions of NMEP, 2016 to encourage private section participation in exploration to facilitate, encourage and incentivize private sector participation in all spheres of mineral exploration, with focus on deep seated minerals, critical and strategic minerals, a scheme for partial reimbursement of exploration expenses from National Mineral Exploration Trust (NMET) for holders of Composite Licences which are granted through auction for exploration of certain minerals has been approved by the competent authority. The details of the scheme including objective, eligibility criteria, procedure for submission of proposal, scale for reimbursement of exploration expenses etc. are attached as Annexure-1.

2. It is requested that the scheme may be circulated among the holders of Composite Licences granted through auction by the state government for submission of their proposal to NMET through DGM/DMG of the concerned state government.

Encl: As above


(Maneesh Khar)
Director, NMET
23/03/2022

To

1. The Secretary (Mines), Government of Andhra Pradesh.
2. The Secretary (Geology & Mining), Government of Arunachal Pradesh.
3. The Principal Secretary, Department of Mines & Minerals, Government of Assam.
4. The Principal Secretary-cum-Mines Commissioner, Government of Bihar.
5. The Secretary, Mineral Resource Department, Government of Chhattisgarh.
6. The Principal Secretary, Department of Mines & Geology, Government of Goa.
7. The Addl. Chief Secretary (Industries), Government of Himachal Pradesh.
8. The Principal Secretary (Industry & Mines), Government of Gujarat.
9. The Commissioner Secretary (Industries & Commerce), Government of Jammu & Kashmir.
10. The Secretary (Industries, Mines & Geology), Government of Jharkhand.
11. The Secretary, (Industries & Commerce) Government of Karnataka.
12. The Principal Secretary, Industries Department, Government of Kerala.
13. The Secretary (Mines), Government of Madhya Pradesh.
14. The Addl. Chief Secretary (Industries & Mines), Government of Maharashtra.

15. The Commissioner and Secretary, Mining & Geology Department, Government of Meghalaya.
16. The Commissioner & Secretary, Geology & Mining, Government of Nagaland.
17. The Principal Secretary (Steel & Mines), Government of Odisha.
18. The Principal Secretary, Mines & Geology, Government of Punjab.
19. The Principal Secretary (Mines), Government of Rajasthan.
20. The Principal Secretary (Industries), Government of Tamil Nadu.
21. The Principal Secretary (Industries & Mines), Government of Telangana.
22. The Secretary (Mines & Geology), Government of Uttar Pradesh.
23. The Principal Secretary (Mines), Government of Uttarakhand.
24. The Secretary (Industry, Commerce & Enterprises), Government of West Bengal.
25. The Secretary, Department of Industries, Administration of Union Territory of Ladakh.
26. The Principal Secretary, Mines and Geology Department, Government of Sikkim.

Copy to:

1. The Director, Department of Mines and Geology, Government of Andhra Pradesh.
2. Director, Directorate of Geology & Mining, Govt. of Assam.
3. Director, Department of Mines & Geology, Govt. of Bihar.
4. The Director, Directorate of Geology & Mining, Govt. of Chhattisgarh.
5. The Director of Mines & Geology, Government of Goa.
6. Commissioner of Geology and Mining, Govt. of Gujarat.
7. The Director, Department of Industries, Govt. of Himachal Pradesh.
8. The Director, Department of Geology and Mining, Government of Jammu and Kashmir.
9. The Director (Mines), Directorate of Mines, Government of Jharkhand.
10. The Director, Department of Mines & Geology, Government of Karnataka.
11. The Director, Directorate of Mining & Geology, Government of Kerala.
12. The Director, Directorate of Geology & Mining, Govt. of Madhya Pradesh.
13. The Director, Directorate of Geology and Mining, Government of Maharashtra.
14. The Director, Directorate of Mineral Resources, Government of Meghalaya.
15. The Director, Directorate of Mines, Government of Odisha.
16. The Director, Mines and Geology Directorate, Government of Rajasthan.
17. The Commissioner of Geology & Mining, Government of Tamil Nadu.
18. The Director of Mines and Geology, Government of Telangana.
19. The Director, Directorate of Geology & Mining, Government of Uttar Pradesh.
20. The Director, Geology and Mining Unit, Govt. of Uttarakhand.
21. The Director, Directorate of Mines & Minerals, Government of West Bengal.

Copy for information to:

1. PSO to Secretary, Ministry of Mines, Shashtri Bhawan, New Delhi-110 001
2. PPS to AS, Ministry of Mines, Shashtri Bhawan, New Delhi-110 001

Scheme for partial reimbursement of exploration expenses for holders of Composite Licences which are granted through auction for exploration of certain minerals

1. Background:

The National Mineral Exploration Policy (NMEP), 2016 envisages private sector participation in mineral exploration and to facilitate, encourage and incentivize private sector participation in all spheres of mineral exploration to harness the technical expertise, technological capability and the financial resources of the private sector to discover and exploit the country's vast mineral resources. It also envisages incentive for exploration agencies to mitigate their risk for exploration works.

In pursuance of provisions of NMEP, 2016 to encourage private section participation in exploration, Ministry of Mines constituted a committee of experts for suggesting measures to facilitate, encourage and incentivize private sector participation in all spheres of mineral exploration, with focus on deep seated minerals.

Based on the recommendations of the committee, a scheme for partial reimbursement of exploration expenses for holders of Composite Licences which are granted through auction for exploration of certain minerals has been formulated.

2. Objective:

The objective of the scheme is to provide partial reimbursement of exploration expenses for holders of Composite Licences which are granted through auction for exploration of certain minerals.

3. Eligibility Criteria:

- i. Holders of Composite Licences which are granted through auction.
- ii. Only for exploration of specific minerals viz.
 - a. Copper, tellurium, selenium
 - b. Lead
 - c. Zinc, Cadmium, Indium
 - d. Gold, Silver
 - e. Diamond
 - f. Rock Phosphate
 - g. Apatite
 - h. Potash
 - i. Critical and strategic minerals (Lithium, cobalt, molybdenum, rhenium, tungsten, graphite, vanadium, nickel, tin, platinum group of elements, columbite, tantalite, lepidolite, scheelite, casseterite)
 - j. Elements of the Rare earth Group.

4. Conditions:

- i. Scheme is optional for holder of Composite Licences which are granted through auction after date of notification of the scheme. The scheme will remain in force from 3 years from date of its notification.
- ii. Acceptance/ rejection of a proposal under this scheme or any dispute regarding reimbursement under the scheme shall not have any bearing on discharging the obligation of the holders of Composite Licences as per the terms and conditions of Composite Licence prescribed by the State Government at the time of auction of the concession.
- iii. In case the exploration leads to signing of Mining Lease and production of minerals, then the holder of such Mining Lease shall pay back the amount released by NMET within two years of commencement of production and dispatch of minerals.

5. Procedure for submission of proposal:

- i. Holders of Composite Licences granted through auction shall submit their proposal to NMET through DGM/DMG of the concerned state government. The proposal shall contain (i) General Information (in Annexure-I) and (ii) Project proposal (in Annexure-II) along with (iii) a copy of composite licence.

6. Evaluation, approval and reimbursement:

- i. The project proposals submitted by eligible holders of Composite Licences will be evaluated on technical and cost parameters by the Technical Cum Cost (TCC) Committee of NMET.
- ii. Based on the recommendation of TCC, the Executive Committee (EC) will evaluate and approve the proposals for partial reimbursement through NMET.
- iii. After the approval of EC, necessary sanction order will be issued by NMET for reimbursement of exploration expenses as per the details provided by the holder of Composite Licence (Annexure-I).

7. Scale for reimbursement of exploration expenses:

- i. The exploration expenses incurred by holders of Composite Licences towards geological mapping, sampling and geochemical analysis will be reimbursed up to 50% of the direct costs as per the SoC of NMET with a maximum ceiling of ₹0.5 Cr.
- ii. The exploration expenses incurred by holders of Composite Licences towards geophysical investigations will be reimbursed up to 50% of the direct costs as per the SoC of NMET with a maximum ceiling of ₹1.0 Cr.
- iii. The exploration expenses incurred by holders of Composite Licences towards exploratory drilling will be reimbursed up to 50% of the direct costs as per the SoC of NMET with a maximum ceiling of ₹2.5 Cr.
- iv. The expenses incurred for any other activities as part of the exploration will not be considered for reimbursement. However, it will be the responsibility of holders of Composite Licences to complete the exploration activities as per the best-in-class industry standards.

8. Other conditions:

- i. NMET will monitor progress of project work on its own/ by Officers of Central Government/ by any other entity engaged/ decided by NMET/ Ministry of Mines.
- ii. The reimbursement towards exploration cost will be considered only for the prospecting stage of the Composite License.
- iii. Holder of Composite Licences shall make the exploration expenses for carrying out exploration activities through a dedicated bank account & maintain duly audited books of accounts.
- iv. The holder of Composite Licences shall have to share geological and geophysical data/results of the detailed exploration campaign along with a geological report with Directorate of Geology and Mines of respective State, Indian Bureau of Mines (IBM) for National Mineral Inventory (NMI) and Geological Survey of India (GSI) for uploading the same in the NGDR for future reference or any other mechanism as specified by NMET from time to time.
- v. The recovered cores from the exploratory drilling activities will be handed over by the holder of Composite Licences to DMGs/DGMs of the concerned state for future reference.
- vi. The reimbursement shall be made in maximum four instalments. The amount reimbursed in each installment will not be more than 50% of expenditure incurred.
- vii. Reimbursement will be settled through bank transfers only, in the dedicated bank account as furnished by the holder of Composite Licence (Annexure- I).

Ministry of Mines/ NMET reserve the right to modify the scheme as may be necessary from time to time.

Annexure- 1 (i)

Details required for partial reimbursement towards exploration expenses for holders of Composite Licences which are granted through auction

S. No.	Particular	
1	Name of Holder of Composite Licence	
2	Legal Status of Claimant (Power of Attorney/ Affidavit/ Registered Deed)	
	i. Postal Address:	
	ii. Telephone Number (Office):	
	iii. Fax Number (Office):	
	iv. Mobile No.:	
	v. Telephone Number (Residence):	
	vi. E-MailId:	
3	ITR Details (For the period of exploration)	
4	Details required for PFMS	
	Type of Registration	Institution /CPSE/SPSE/Private etc.
	PAN Number	
	Agency Name	
	Act/Registration No. (if available)	
	Date of Registration (if available)	
	Registering Authority (if available)	
	State of Registration	
	TIN Number	
	TAN Number	
	GST Number	
	Block No/Building/Village/Name of Premises/ Road/Street/Post office	
	Area/Locality/ City	
	District/State	
	Pin Code	
	Contact Person	
	Designation	
	Mobile No.	
	E-mail	
	Bank Account Number	
	Name as per bank A/C	
	IFSC Code	
	Branch & Bank Detail	
	ITR Details (For the period of exploration)	
5	Details of Composite Licence	
	i. Block Name/project	
	ii. Block area (sq. km)	
	iii. Survey of India Toposheet Number(s) along with Lat. and Long.	
	iv. Village (s)	
	v. Taluka (s)	
	vi. District (s)	
	vii. State	
	Mineral commodity	

Date:

Signature:
Name:
Designation:

Proposal _____ for _____ Block,
_____ District, _____ State for
Reconnaissance Survey (G4 Stage) under NMET.

(Basemetals/ Ferrous/ Non-Ferrous/ Industrial/
Strategic & Critical/ Precious metals etc.)

By

_____ Agency

Place:
Date:

Summary of the Block for Reconnaissance Survey (G4 Stage)
GENERAL INFORMATION ABOUT THE BLOCK

	Features	Details
	Block ID	
	Exploration Agency	
	Commodity	
	Mineral Belt	
	Completion Period with entire Time schedule to complete the project	
	Objectives	
	Whether the work will be carried out by the proposed agency or through outsourcing and details thereof. Components to be outsourced and name of the outsource agency	
	Name/ Number of Geoscientists	
	Expected Field days (Geology) Geological Party Days	
1.	Location	
	Latitude	
	Longitude	
	Villages	
	Tehsil/ Taluk	
	District	
	State	
2.	Area (hectares/ square kilometres)	
	Block Area	
	Forest Area	
	Government Land Area	
	Private Land Area	
3.	Accessibility	
	Nearest Rail Head	
	Road	
	Airport	
4.	Hydrography	
	Local Surface Drainage Pattern (Channels)	
	Rivers/ Streams	
5.	Climate	
	Mean Annual Rainfall	
	Temperatures (December) (Minimum)	
	Temperatures (June) (Maximum)	
6.	Topography	
	Toposheet Number	
	Morphology of the Area	
7	Availability of baseline geoscience data	
	Geological Map (1:50K/ 25K)	Available / Not Available

	Geochemical Map	Available / Not Available
	Geophysical Map (Aeromagnetic, ground geophysical, Regional as well as local scale GP maps)	Available / Not Available
8.	Justification for taking up Reconnaissance Survey / Regional Exploration	Details should be furnished with surface/ subsurface (pits/old work) geological, geochemical. Geophysical data. In case of exploration proposed near the active mine area, sufficient justification should be given by collecting surface samples in suitable location which represent the mineralisation from the area proposed for current exploration work along with analytical data

Detailed description on the following titles to be made in the proposal.

1. Block Summary

Physiography

Background Geology (Regional Geology, Geology of the Block).

Mineral potentiality based on geology, geophysics, ground geochemistry etc.

Scope for proposed exploration.

Observation and Recommendations of previous work.

2. Previous Work

Previous Exploration in adjoining area (Regional area); All the sample (bed rock/trench/groove/soil), borehole location should be plotted on the geological map and analytical data should be discussed briefly

Previous Exploration in the proposed block area: All the sample (bed rock/trench/groove/soil), borehole location should be plotted on the geological map and analytical data should be discussed briefly

3. Block description

Block Corner points Cardinal Points	Latitude	Longitude
A		
B		
C		
D		
E etc.		

4. Planned Methodology

5. Nature Quantum and Target

G4 stage GR should be submitted for G3.stage proposal and G3 stage GR for G2 proposal
Succinct details of the previous stage exploration

Nature and Quantum of work proposed

Components	G4 Stage
Aerial reconnaissance	Remote sensing, airborne geophysical survey etc.
Geological Survey	i) 1.25K/ 12.5K ii) Assessment of lithology, structure, surface mineralisation and analysis of old history of mining, if any.
Geochemical Survey	i) Regional Grab / chip / Stream Sediment / Soil Sampling ii) Recording of broad geomorphology, drainage, etc.
Geophysical Survey	Aero-geophysical / Regional ground geophysical survey (Refer another table below)
Pitting/ Trenching	Five to ten to expose mineralised zone. The location of Pitting and trenching should be judiciously planned to cover the entire mineralised body, to delineate the strike extension and also for planning scout boreholes. Sample length to be specified
Scout drilling / Systematic drilling	Few boreholes if required along the positive profiles delineated by surface sampling/pitting trenching
Grab and Chip sampling	A few samples from bed rock (few representative samples from all the exposed rocks in the area for first-hand information and more

	samples from rocks which host the mineralisation). Few representatives samples to be subjected to Davis tube recovery test in case of BMQ.
Core sample	Sample from mineralised zones as well as hanging wall/footwall side to be collected. Sample length to be specified
Petrographic and mineragraphic studies	Principal rock types, mineral assemblage, identification of minerals of interest
Synthesis of all available data	i) Integration of regional geophysical, geological and geochemical data. ii) Synthesis of all available data and Report writing

Borehole spacing (As per MEMC, 2015)

Type of deposit	Bedded Stratiform and Tabular deposit of regular habit minerals to be identified	Bedded stratiform and tabular deposits of irregular habit (Minerals to be identified)	Lenticular bodies occurring en echelon Lenses, pockets. (Different minerals)
G4 Stage	Scout drilling, if necessary (In line with grid specified by the Central Government / IBM time to time).	Scout drilling, if necessary (In line with grid specified by the Central Government / IBM time to time).	Scout drilling, if necessary (In line with grid specified by the Central Government / IBM time to time).
Remarks	For shallow surficial deposits continuing to a depth of up to 6 m from surface pitting in grid spacing for various levels of prospecting may suffice. For deposits continuing further in depth, drilling is recommended.	For shallow surficial deposits continuing to a depth of up to 6m from surface pitting in grid spacing for various levels of prospecting may suffice. For deposits continuing further in depth, drilling is recommended.	-----
(Vertical depth of intersection of mineralised zone should be specified (first level), number of boreholes, approximate borehole spacing, approximate length of boreholes may be specified)			

Geophysical Studies

General specifications of geophysical studies for various commodities is practice by GSI are as below, however, the parameters likely to vary depending on the local geological set-up. In general, after delineation of surface indication of mineralization and surface mineralization control, areas are selected for regional ground geophysical data acquisition and its studies.

Commodity	Parameters	Technique	G4 stage (Reconnaissance Survey)
Chromite	Method	Gravity	1-2 km or GPM data can be used
	Spacing		
	Method	Magnetic	1-2 km or GPM data can be used
	Spacing		
Manganese	Method	Gravity	1-2 km or GPM data can be used
	Spacing		
	Method	Magnetic	1-2 km or GPM data can be used
	Spacing		
Basemetals	Method	Gravity	1-2 km
	Spacing		
	Method	Magnetic	1-2 km
	Spacing		
	Method	Electrical Resistivity, IP, SP	Profiles as per objective
	Spacing		
Iron Ore	Method	Magnetic	1-2 km grid, Regional
	Spacing		
REE & RM	Method	Gravity	--
	Spacing		
	Method	Resistivity	--
	Spacing		
	Method	Radiometric	--
	Spacing		
Gold/ PGE & Ni/ Basemetals	Method	IP / Resistivity	Traversing, 200 m – 400 m traverse interval, 10-20 m Station interval
	Spacing		
	Method	Magnetic	Traversing, 200 m – 400 m traverse interval, 10-20 m Station interval
	Spacing		
	Method	SP	Traversing, 200 m – 400 m traverse interval, 10-20 m Station interval
	Spacing		
Graphite	Method	SP	Traversing, 200 m – 400 m traverse interval, 10-20 m Station interval
	Spacing		
	Method	Gravity	Traversing, 200 m – 400 m traverse interval, 10-20 m Station interval
	Spacing		
	Method	Magnetic	Traversing, 200 m – 400 m traverse interval, 10-20 m Station interval
	Spacing		

Diamond	Method	Gravity	Random grid, 1-2 Km
	Spacing		
	Method	Magnetic	Random grid, 1-2 Km
	Spacing		
	Method	Resistivity	Random grid, 1-2 Km
	Spacing		
Gemstone	Method	Methods, profiles, spacing will be as per the nature of host rocks	
	Spacing		
Potash and Phosphorite	Method	Methods, profiles, spacing will be as per the nature and association of these deposits 2D & 3D Seismic, radiometric survey	
	Spacing		
Tin, Tungsten and Molybdenum	Method	Methods, profiles, spacing will be as per the nature and association of these deposits	

6. Manpower deployment
7. Break-up of expenditure
8. References

List of Plates

Plate 1: Geological map on 1:50,000 with location index.
 Plate 2: Geological map/s on 1:50,000.
 Plate 3: Ground geophysical map/s (NGPM) on 1:50,000.
 Plate 4: Aeromagnetic map/s.
 Plate 5: Proposed block boundary over Geological map.
 Plate 6: Proposed block boundary over Land use/ Accessibility map. Not required at this stage.
 Plate 7: Proposed block boundary over topographic map on 1:50,000.
 Any other relevant plates.

Proposal for _____ Block, _____ District,
_____ State for G3 or G2 Stage Mineral Exploration
under NMET.

(Basemetals/ Ferrous/ Non-Ferrous/ Industrial/
Strategic & Critical/ Precious metals etc.,)

By

_____ Agency

Place:
Date:

Summary of the Block for G3 or G2 stage exploration

	Features	Details
	Block ID	
	Current Exploration Agency	For G3 or G2
	Previous Exploration Agency	G4/ G3 stage GR Producing Agency
	G4 stage Geological Report (Previous stage Geological Report)	G4 stage GR should be submitted for G3 stage proposal and G3 Stage GR for G2 proposal
	Commodity	
	Mineral Belt	
	Completion Period with entire Time schedule to complete the project	
	Objectives	
	Whether the work will be carried out by the proposed agency or through outsourcing and details thereof. Components to be outsourced and name of the outsource agency	
	Name/ Number of Geoscientists	
	Expected Field days (Geology, Geophysics, Surveyor)	
1.	Location	
	Latitude	
	Longitude	
	Villages	
	Tehsil/ Taluk	
	District	
	State	
2.	Area (hectares/ square kilometres)	
	Block Area	
	Forest Area	
	Government Land Area	
	Private Land Area	
3.	Accessibility	
	Nearest Rail Head	
	Road	
	Airport	
4.	Hydrography	
	Local Surface Drainage Pattern (Channels)	
	Rivers/ Streams	
5.	Climate	
	Mean Annual Rainfall	
	Temperatures (December) (Minimum) Temperatures (June) (Maximum)	
6.	Topography	
	Toposheet Number	
	Morphology of the Area	
7	Availability of baseline geoscience data	

	Geological Map (1:50K/ 25K)	Available / Not Available
	Geochemical Map	Available / Not Available
	Geophysical Map (Aerogeophysical, Ground geophysical, Regional as well as local scale GP maps)	Available / Not Available
8.	Justification for taking up G3 or G2 stage mineral exploration	Details should be furnished with surface, subsurface geological, geochemical, Geophysical data along with resource data (resource, average grade, cut-off, strike length, depth extension already proved with the confidence level). In case of exploration proposed near the active mine area, sufficient justification should be given by collecting surface samples in suitable location which represent the mineralisation from the area proposed for current exploration work along with analytical data

Detailed description on the following titles to be made in the proposal.

1. Block Summary

Physiography

Background Geology (Regional Geology & Geology of the Block).

Mineral potentiality based on geology, geophysics, ground geochemistry etc.

Scope for proposed exploration

Recommendations of G4 Stage Mineral Exploration Report.

Objectives

2. Previous Work

Attach Complete Previous Geological Report (G4 Stage); G4 and G3 stage reports for G2 stage.

Previous Exploration in adjoining area (Regional area): All the sample (bed rock/trench/groove/soil), borehole location should be plotted on the geological map and analytical data should be discussed briefly

Previous Exploration details in the proposed block area All the sample (bed rock/trench/groove/soil), borehole location should be plotted on the geological map and analytical data should be discussed briefly

3. Block description

Block corner points / Cardinal Points	Latitude	Longitude
A		
B		
C		
D		
E etc.		

4. Planned Methodology

5. Nature Quantum and Target

G4 stage GR should be submitted for G3 stage proposal and G3 stage GR for G2 proposal Succinct details of the previous stage exploration

Nature and Quantum of work proposed

Components	G3	G2
Aerial reconnaissance	Required if not covered in previous stage	Use G3 stage work
Geological Survey	RF 1:5,000/2,000	Use G3 stage 1:2,000 maps
Geochemical Survey	Geochemical sampling (Chip/Channel/Pit/Trench/Core/Soil)	Detailed Geochemical sampling Channel/Pit/Trench/Core/Soil) insystematic manner
Geophysical Survey	Detailed ground geophysical work, borehole geophysical logging. (Refer another table below)	Borehole geophysical logging Special geophysical traverses for problem solving, if required (Refer another table below)
Pitting/ Trenching	Pitting/ trenching to expose mineralized zone	Refine: Systematic pitting and trenching at regular interval along each borehole profile for surface/ subsurface correlation, resource calculation and also to define the ore

		body in soil covered area
Scout drilling / Systematic drilling Only Systematic drilling	Refer – another table below	Refer – another table below
Grab and Chip sampling	Systematic sampling of few representative samples to be subjected to Davis tube recovery test in case of BMQ	Refine Sampling: Systematic sampling
Petrographic and mineragraphic studies	Rocks of the deposit (host rock for mineralisation), alterations connected with mineralisation, target mineral phases (ore and gangue metal/mineral), paragenesis, primary secondary zones	Petrographic character of rocks including grain size, texture, controls of mineralisation etc.
Synthesis of all available data Not required in the quantum of work	i) Integration of regional/ detailed geophysical, geological and geochemical data, if not done earlier. (should be given in soft copy in shape file) ii) Synthesis of all available data and Report writing	i) Integration of detailed geophysical, geological and geochemical data, if not done earlier. (should be given in soft copy in shape file) ii) Synthesis of all available data and Report writing

Borehole spacing (As per MEMC, 2015)

Type of deposit	Bedded Stratiform and Tabular deposit of regular habit (Minerals to be identified)	Bedded stratiform and tabular deposits of irregular habit (Minerals to be identified)	Lenticular bodies occurring en echelon Lenses, pockets. (Different minerals)
G3 Stage	800 m to 400 m	400 m or closer	Borehole spacing along strike may be kept 200-100 m or closer interval
G2 Stage	200 m or closer	200 m to 100 m or closer	Borehole spacing along strike may be kept 100-50 m or closer
Remarks	i) For shallow surficial deposits continuing to a depth of up to 6 m from surface pitting in grid spacing for various levels of prospecting may suffice. For deposits continuing further in depth drilling is recommended. ii) Abiotic geo- environmental studies, Geo-technical studies and bulk Beneficiation studies	i) For shallow surficial deposits continuing to a depth of up to 6 m from surface pitting in grid spacing for various levels of prospecting may suffice. For deposits continuing further in depth drilling is recommended. ii) Abiotic geo-environmental studies, Geo-technical studies and bulk Beneficiation studies to be conducted at G2 stage. iii) 10% internal check samples of drill cores is	i) Exploratory mine openings-open pit or underground with bulk determination of grades wherever necessary at G2 stage. ii) Abiotic geo- environmental studies, Geo-technical studies and bulk Beneficiation studies to be conducted at G2 stage. iii) 10% internal check samples of drill cores is recommended at G2 stage.

	to be conducted at G2 stage. iii) 10% internal check samples of drill cores is recommended at G2 stage. iv) 5% external check samples of drill cores is recommended at G2 stage.	recommended at G2 stage. iv) 5% external check samples of drill cores is recommended at G2 stage.	iv) 5% external check samples of drill cores is recommended at G2 stage.
	(Vertical depth of intersection of mineralised zone for different level boreholes should be specified, number of boreholes (first, second, third), borehole spacing, approximate length of different level of boreholes may also be specified)		

Geophysical Studies

General specifications of geophysical studies for various commodities is practiced by GSI are as below, however, the parameters likely to vary depending on the local geological set-up and nature and behaviour of ore body.

Commodity	Parameters	Technique	G3 stage (Preliminary Exploration)	G2 stage (General Exploration)
Chromite	Method	Gravity	1-0.5 km grid / 500-200 m	Along traverses at 50-20 m Station interval
	Spacing			
	Method	Magnetic	1-0.5 km grid / 500-200 m	Along traverses at 50-20 m Station interval
	Spacing			
Manganese	Method	Gravity	1-0.5 km grid / 500-200 m	Along traverses at 50-20 m Station interval
	Spacing			
	Method	Magnetic Resistivity	1-0.5 km grid / 500-200 m	Along traverses at 50-20 m Station interval
	Spacing			
Basemetals	Method	Gravity	200 m-500 m grid / 200- 100 m	---
	Spacing			
	Method	Magnetic	200 m-500 m grid / 200- 100 m	----
	Spacing			
	Method	Electrical, IP, SP, Resistivity	Profiles as per objective	
	Spacing			
	Method	Seismic	Profiles as per objective	
Iron Ore	Method	Magnetic Gravity	200 m-1 km grid, Semi Regional 500-200 m	50 m-100 m traverse interval, 10-20 m station interval
	Spacing			
REE & RM	Method	Gravity	200 m-1 km grid, Semi Regional 500-200 m	50 m-100 m traverse interval, 10-20 m station interval
	Spacing			
	Method	Resistivity	200 m-1 km grid, Semi Regional 500-200 m	Traversing, 50 m-100 m traverse interval, 10-20 m station interval
	Spacing			
	Method	Radiometric	200 m-1 km grid, Semi Regional 500-200 m	Traversing, 50 m-100 m traverse interval, 10-20 m station interval
	Spacing			
Gold/ PGE & Ni/ Basemetals	Method	IP / Resistivity	Traversing, 100 m-200 m (50-25 m) traverse interval, 10-20 m (3-5 m) station interval	Traversing, 50 m-100 m (25 m or lesser) traverse interval, 10- 20 m (3-5 m or closer) station interval
	Spacing			
	Method	Magnetic	Traversing, 100 m-200 m traverse interval, 10-20 m station interval	Traversing, 50 m-100 m traverse interval, 10-20 m station interval
	Spacing			
	Method 3	SP	Traversing, 100 m-200 m traverse interval, 10-20 m station interval	Traversing, 50 m-100 m traverse interval, 10-20 m station interval
	Spacing			
Graphite	Method	SP	Traversing, 100 m-200 m traverse interval, 10-20 m station interval	Traversing, 50m-100 m traverse interval, 10-20 m station interval
	Spacing			
	Method	Magnetic	Traversing, 100 m-200 m traverse interval, 10-20 m station interval	Traversing, 50 m-100 m traverse interval, 10-20 m station interval
	Spacing			

	Method	Resistivity	Traversing, 100 m-200 m traverse interval, 10-20 m station interval	Traversing, 50 m-100 m traverse interval, 10-20 m station interval
	Spacing			
Diamond	Method	Gravity	Random grid, 1 km – 500 m / 500-200 m	Traversing, 50 m-100 m Traverse interval, 10-20 m Station interval
	Spacing			
	Method	Magnetic	Random grid, 1 km – 500 m / 500-200 m	Traversing, 50 m-100 m Traverse interval, 10-20 m Station interval
	Spacing			
	Method	Resistivity	Random grid, 1 km – 500 m / 500-200 m	Traversing, 50 m-100 m Traverse interval, 10-20 m Station interval
	Spacing			
Gemstone	Method	Methods, profiles, spacing will be as per the nature of host rocks		
	Spacing			
Potash and Phosphorite	Method	Methods, profiles, spacing will be as per the nature and association of these deposits. Seismic /2D Seismic / 3D Seismic/Radiometric survey		
	Spacing			
Tin, Tungsten and Molybdenum	Method	Methods, profiles, spacing will be as per the nature of host rocks and nature of these deposits To delineate the shear zones & lithological boundaries		

Note: if further refinement or closer interval data is required at G2 stage exploration it will be decided based on the inference made from G3 stage exploration with proper justification.

6. Exploratory Drilling (Refer another document on exploratory drilling)
7. Manpower deployment
8. Break-up of expenditure
9. References

List of Plates

- Plate 1: Geological map on 1:50K and 1:25K/ 12.5K/ 10K with location index.
Plate 2: Geochemical map/s on 1:50K and 1:25K/ 12.5K/ 10K. (any other sample data collected in random or local grid may be plotted over geological map)
Plate 3: Ground geophysical map/s (NGPM) on 1:50K and 1:25K/ 12.5K/ 10K.
Plate 4: Aeromagnetic map/s.
Plate 5: Proposed block boundary over existing Geological map.
Plate 6: Proposed Borehole Location Map.
Plate 7: Tentative Geological Borehole Sections.
Plate 8: Proposed block boundary over land use/ Accessibility map
Plate 9: Proposed block boundary over topographic map on 1:50,000.

Any other relevant plates.