

Mining Plan Format (A & B Category Mines)

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INTRODUCTORY NOTES	
1. 'A' category mines :	all mines excluding 'B' Category mines.
B' category mines :	all 'B' Category mines excluding very small 'B' category mines i.e. manual opencast mines not using explosives and where the average daily employment (as per explanation furnished in MCDR,1988) does not exceed 25.
2. If more space is needed to fill out a block of information, use additional sheets and attach to form. <u>All the plans and sections should be in accordance with MCDR,1988 and or MMR,1961</u>	

1.GENERAL

a) Name of the applicant	
Address	
District	
State	
Pin Code	
Phone	
Fax	
Gram	
Telex	
e-mail	
b) Status of the applicant	
Private individual	
Cooperative Association	
Private Company	
Public Company	
Public Sector Undertaking	
Joint Sector Undertaking	
Other (pl.specify)	
c) Mineral(s) which are occuring in the area and which the applicant intends to mine	

d) Period for which the mining lease is granted / renewed / proposed to be applied	
e) Name of the RQP preparing the mining plan	
Address	
Phone	
Fax	
e-mail	
Telex	
Registration No.	
Date of grant / renewal	
Valid upto	
f) Name of the prospecting agency	
Address	
Phone	
g) Reference no. and date of consent letter form the State Govt.	
2. LOCATION AND ACCESSIBILITY	
a) Details of area (with location map)	
District and State	
Taluka	
Village	
Khasra No./ Plot No./ Block Range / Felling Series etc.	
Lease Area (hectares)	
Whether the area is recorded to be in forest (please specify whether protected , reserved etc.)	
Ownership / Occupancy	
Existence of public road / railway line, if any nearby and approximate distance	
Toposheet No. with latitude and longitude	

Land Use Pattern (Forst, Agricultural, Grazing, Barren etc.)

b) Attach a general location and vicinity map showing area boundaries and existing and proposed access routes. It is preferred that the area to be marked on a Survey of India topographical map or a cadastral map or forest map as the case may be. However if none of these are available, the area should be shown on an accurate sketch map on scale of 1 : 5000.

PART - A

3. GEOLOGY AND EXPLORATION

a) Briefly describe the topography and general geology and local / mine geology of the mineral deposit including drainage pattern.

b) The topographic plan of the lease area prepared on a scale of 1 : 1000 or 1 : 2000 with contour interval of 3 to 10 m. depending upon the topography of the area should be taken as the base plan for preparation of geological plan. The details of exploration already carried out including evidences of mineral existence should be shown on the geological plan.

c) Geological sections should be prepared at suitable intervals on a scale of 1: 1000 / 1 : 2000.

d) Broadly indicate the yearwise future programme of exploration, taking into consideration the future production programme planned in next five years as in table below :-

Year	No. of boreholes	Total meterage	No. of Pits and Dimensions	No. of Trenches and Dimensions
First				
Second				
Third				
Fourth				
Fifth				

e) Indicate geological and recoverable reserves and grade, duly supported by standard method of estimation and calculations alongwith required sections (giving split up of various categories i.e. proved, probable, possible). Indicate cut-off grade. Availability of resources should also be indicated for the entire leasehold.

f) Indicate mineable reserves by slice plan / level plan method, as applicable, as per the proposed mining parameters.

4. MINING

a) Briefly describe the existing / proposed method for developing / working the deposit with all design parameters.

Note : In case of pocket deposits, sequence of development / working may be

indicated on the same plan.

b) Indicate quantum of development and tonnage and grade of production expected pitwise as in table below :-

Year	Pit No. (s)	Overburden	ROM Ore	Saleable Ore	Sub-grade Ore	Mineral Rejects	Ore to Overbuden ratio
First							
Second							
Third							
Fourth							
Fifth							

c) Attach - Individual yearwise plans and sections.

In case of 'A' class mines

Composite plans and yearwise sections

In case of 'B' class mines

d) Attach supporting composite plan and section showing pit layouts, dumps, stacks of sub-grade mineral, if any, etc.

e) Indicate proposed rate of production when the mine is fully developed, and the expected life of the mine and the year from which effected.

f) Attach a note furnishing a conceptual mining plan for the entire lease period (for 'B' Category mines) and upto the life of the mine (for 'A' Category mines) based on the geological, mining and environmental considerations.

g) Opencast mines :

i) Describe briefly giving salient features of the mode of working (mechanised, semi-mechanised, manual)

ii) Describe briefly the layout of mine workings, the layout of faces and sites for disposal of overburden / waste. A reference to the plans enclosed under 4(b) and 4 (d) will suffice.

h) Underground mines :

i) Mode of entry (adit, incline, shaft, ramp / decline)

briefly describe the reason for choosing the mode of entry indicated above (keeping in mind the considerations of systematic mining and prevention of damage to the environment)

ii) System of winding / hoisting

attach a note briefly descibing the system and linking it with :

- it's adequacy for the desired rate of production and raising / lowering of men and material

- the ventilation system

iii) Underground layout

attach a note briefly describing the underground layout using longitudinal sections and level plans where necessary. Indicate :

- sizes and intervals of levels and raises / winzes with proper reasoning

- proposed extent of development, yearwise, for the first five years alongwith the support system

iv) Method and sequence of stoping

- describe briefly the method of stoping to be adopted illustrated by cross sections and longitudinal sections

v) Mine ventilation:

attach a not outlining the steps to be taken for securing an adequate supply of air in all parts of the mine and prevention of noxious gases produced and excessive rise of temperature or humidity so as to ensure adequate ventilation of the mine, accompanied by mine ventilation plan / diagram

i) Extent of mechanization

describe briefly including the calculation for adequacy and type of machinery and equipment proposed to be used in different mining operations.

(1) Drilling Machines

Type	Nos.	Dia. of hole (mm)	Size / capacity	Make	Motive Power	H.P.
1						
2						
3						

(2) Loading Equipment

Type	Nos.	Bucket capacity in Cu.m.	Make	Motive Power	H.P.
1					
2					
3					

(3) Haulage and Transport Equipment

(a) Haulage within the mining leasehold

Type	Nos.	Size /	Make	Motive	H.P.
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		capacity		Power	
1					
2					
3					

whether the dumpers are fitted with exhaust conditioner should be indicated

(b) Transport from mine head to the destination

Describe briefly the transport system (please specify)

- ore transported by : own trucks / hired trucks

- main destination to which ore is transported (giving to and fro distance)

Details of hauling / transport equipment :

Type	Nos.	Size / capacity	Make	Motive Power	H.P.
1					
2					
3					

(4) Miscellaneous

describe briefly any allied operations and machineries related to the mining of the deposit not covered earlier.

(A) Operations

(B) Machineries deployed

Type	Nos.	Size / capacity	Make	Motive Power	H.P.
1					
2					
3					
4					

5. BLASTING

describe briefly

a) broad blasting parameters like charge per hole, blasting pattern, charge per delay, maximum number of holes blasted in a round, manner and sequence of firing, etc.

b) type of explosives used / to be used

c) powder factor in ore and overbuden / waste / development heading / stope

d) whether secondary blasting is needed, if so describe it briefly

e) storage of explosives (like capacity and type of explosive magazine)

6.MINE DRAINAGE

a) likely depth of water table based on observations from nearby wells and water bodies

b) workings expected to be _____ m. above / reach below water table by the year _____ .

c) quantity and quality of water likely to be encountered, the pumping arrangements and places where the mine water is finally proposed to be discharged

7. STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE

a) indicate briefly the nature and quantity of top soil, overburden / waste and mineral rejects likely to be generated during the next five years :

Year	Top Soil	Overburden / waste	Mineral Rejects*
First			
Second			
Third			
Fourth			
Fifth			

* Threshold values in respect of apatite and rock phosphate, bauxite, barytes, chromite, chinaclay / kaoline and sillimanite, limestone, manganese, magnesite, talc / steatite / soapstone, and wollastonite minerals as evolved by IBM may be adopted , as applicable

b) land chosen for disposal of waste with proposed justification

c) attach a note indicating the manner of disposal and configuration, sequence of build up of dumps alongwith the proposals for the stacking of sub-grade ore, to be indicated yearwise.

8. USE OF MINERAL

a) describe briefly the end-use of the mineral (sale to intermediary parties, captive consumption, export, industrial use)

b) indicate physical and chemical specifications stipulated by buyers

c) give details in case blending of different grades of ores is being practised or is to be practised at the mine to meet specifications stipulated by buyers.

9.OTHER

Describe briefly the following :

a) Site services :

b) Employment potential :

Highly Skilled
Skilled
Semi-Skilled
Un-Skilled
10. MINERAL PROCESSING
a) If processing / beneficiation of the ore or minerals mined is planned to be conducted on site or adjacent to the extraction area, briefly describe the nature of the processing / beneficiation. This should indicate size and grade of feed material and concentrate (finished marketable product), recovery rate.
b) Explain the disposal method for tailings or waste from the processing plant (quantity and quality of tailings proposed to be discharged, size and capacity of tailing pond , toxic effect of such tailings, if any, with process adopted to neutralise any such effect before their disposal and dealing of excess water from the tailing dam).
c) A flow sheet or schematic diagram of the processing procedure should be attached.
d) Specify quantity and type of chemicals to be used in the processing plant.
e) Specify quantity and type of chemicals to be stored on site / plant.
f) Indicate quantity (cu.m. per day) of water required for mining and processing and sources of supply of water. Disposal of water and extent of recycling.
PART - B
11. ENVIRONMENTAL MANAGEMENT PLAN
a) Attach a note on the status of baseline information with regard to the following :
- existing land use pattern indicating the area already degraded due to quarrying / pitting, dumping, roads, processing plant, workshop, township etc in a tabular form.
- water regime
- flora and fauna
- quality of air, ambient noise level and water
- climatic conditions
- human settlements
- public buildings, places of worship and monuments
- attach plans showing the locations of sampling stations
- does area (partly or fully) fall under notified area under Water (Prevention & Control of Pollution), Act, 1974
b) Attach an Environmental Impact Assessment Statement describing the impact of mining and beneficiation on environment on the following over the next five years (

and upto conceptual plan period for 'A' category mines)
i) Land area indicating the area likely to be degraded due to quarrying / pitting, dumping, roads, workshop, processing plant, township etc.
ii) Air quality
iii) Water quality
iv) Noise levels
v) Vibration levels (due to blasting)
vi) Water regime
vii) Socio-economics
viii) Historical monuments etc.
c) Attach an Environmental Management Plan (supported by appropriate plans and sections) defining the time bound action proposed to be taken with sequence & timing in the following areas (or diagrams should be used) :
- temporary storage and utilisation of topsoil
- yearwise proposal for reclamation of land affected by abandoned quarries and other mining activities during first five years (and upto conceptual plan period for 'A' category mines) clarifying the extent of back filling and recontouring and / or alternative use of unfilled / partially filled excavations / road sides / slopes and mine. In case abandoned quarries / pits are proposed to be used as reservoir, their size , water holding capacity and proposal for utilisation of such water be given.
- programme of afforestation, yearwise for the initial five years (and upto conceptual plan period for 'A' category mines) indicating the number of plants with name of species to be afforested under different areas in hectares.
- stabilisation and vegetation of dumps alongwith waste dump management yearwise for the first five years (and upto conceptual plan period for 'A' category mines).
- measures to control erosion / sedimentation of water courses.
- treatment and disposal of water from mine.
- measures for minimising adverse effects on water regime.
- protective measures for ground vibrations / air blast caused by blasting,
- measures for protecting historical monuments and for rehabilitation of human settlements likely to be disturbed due to mining activity.
-socioeconomic benefits arising out of mining.
d) Monitoring schedules for different environmental components after the commencement of mining and other related activities. (for 'A' category mines only)
Note : Ground vibration studies are to be carried out for virgin area / new leases after one year from the commencement of mining activities. (for 'A' category

mines only)

Note : While preparing mining plans various circulars issued by CCOM particularly the Circular No. 2/91 regarding conceptual plan , 5/91 regarding requirement of exploration and existence of mineral, 3/92 regarding generation of baseline data by mechanised mines etc. may also be referred and taken into account.