# Tamil Nadu Mines and Minerals

## Policy Note, 2018-2019

# INDUSTRIES DEPARTMENT

## MINES AND MINERALS

### POLICY NOTE
### 2018-2019

### DEMAND No. 27

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# INDUSTRIES DEPARTMENT

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## 1. DEPARTMENT OF GEOLOGY AND MINING

Tamil Nadu is one among the 12 mineral rich States in the country and it has multiple mineral resources in many parts of the State. Industrial minerals like lignite, limestone, garnet sand, silica sand, quartz, feldspar, graphite, oil and natural gas, magnesite, dunite and decorative cum ornamental stones like black and multi colour granite and common use minor minerals like blue metal, gravel, brick earth, sand, clay are available in different parts of the state.

Minerals play a vital role in the economic development of a nation and infrastructure development like construction of buildings, roads, railway projects. In order to cater the raw material requirements for the industries with uninterrupted supply of minerals, grant of mineral concessions are indispensable by adopting scientific exploration and eco-friendly methods. (The details of Industrial Mineral, occurrence and usage are enclosed in Annexure)

The department has 54 Geologists, 7 chemists, 4 surveyors and Ministerial wing of 163 staff and with this strength, it has achieved a revenue collection to the Government exchequer to the tune of Rs.1,106 crore during 2017-18.

The activities of the department of Geology and Mining are Exploration,



Administration and Regulations pertaining to mines. The main objective of the department is to augment optimum mineral revenue to the state exchequer through proper conservation by effective mineral administration and scientific exploration.

## 1.1 The objectives of the department

(i) Exploration of new mineral deposits by adopting modern techniques.

(ii) Ensuring economic exploration of minerals with proper protection of environment.

(iii) Prevention of illicit mining and transportation of minerals by taking stringent action.

(iv) By effective mineral administration, ensuring the revenue augmentation.

(v) Creation of employment opportunities.

## 1.2 Main functions of the department

1. Mineral exploration and evaluation of minerals.
2. Mineral administration.
3. Revenue generation
4. Geotechnical studies in the hilly areas of Nilgiris and Kodaikanal.

### 1.2.1 Mineral Exploration and Evaluation of Minerals

As per the Mines and Minerals (Development and Regulation) Amendment Act, 2015, now the grant of mineral concession for major mineral shall be through auction process for both patta and poramboke lands. For this purpose, the mineral bearing areas have to be explored as per the Mineral (Evidence of Mineral Content) Rules, 2015 and thereafter the areas



have to be divided into mineral blocks for auction.

To identify the mineral resources it is essential to carry out mineral exploration programmes. The department is in the process of developing the facilities for mineral exploration activites in co-ordination with the Geological Survey of India (GSI) by utilizing the National Mineral Exploration Trust Fund (NMET).

Recently, two Molybdenum mineral blocks in Dharmapuri district and one block in Krishnagiri district are identified and process for auction is being initiated.

### 1.2.2 Mineral Administration

The mineral administration involves granting of mineral concessions for both major and minor minerals as per the Act and Rules for

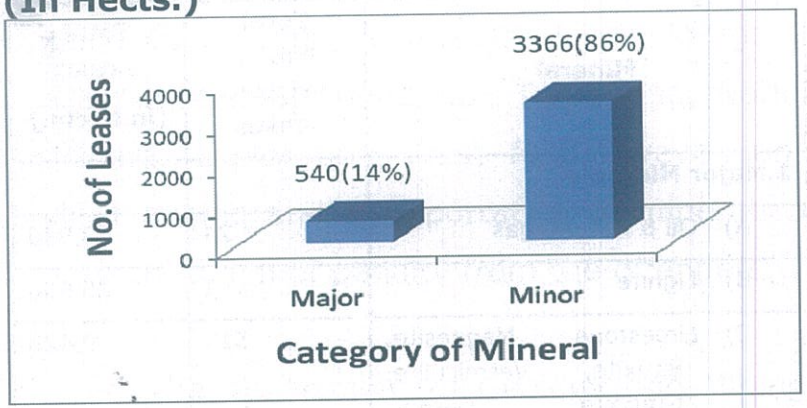
the conservation and development of the minerals. Further, the mineral administration involves collection of royalty / seigniorage fee, District Mineral Foundation Trust fund, National Mineral Exploration Trust fund, prevention of illicit mining and transportation of minerals and also collection of penalty from the offenders.

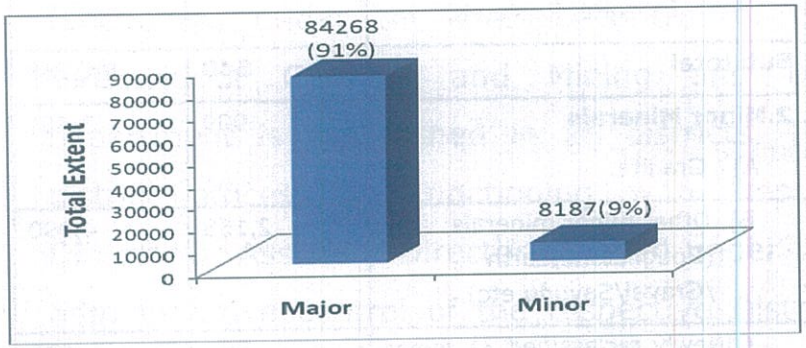
The department of Geology and Mining is functioning under the overall control of the Director of Geology and Mining and this department is established in 28 districts. The district offices are functioning with Deputy Director or Assistant Director as head under the administrative control of the respective District Collectors.

The details of existing major mineral and minor mineral leases and their extent are furnished below:

| Mineral | Total No. of existing leases | Total extent (in hects.) |
|---|---|---|
| **1.Major Minerals** | | |
| A) Oil & Natural gas | 24 | 48,940 |
| B) Lignite | 1 | 25,900 |
| C) Limestone, Magnesite, Bauxite, Vermiculite, Graphite, Garnet, Ilmenite, Rutile etc., | 515 | 9,428 |
| **Sub total** | **540** | **84,268** |
| **2.Minor Minerals** A) Granite | 909 | 3,461 |
| B) Other minor minerals (Roughstone,Earth /Gravel/Savudu etc) | 2,156 | 4,090 |
| C)Newly reclassified 31 minor minerals viz., Quartz, Feldspar, Gypsum, Fireclay, Lime Kankar, Silica Sand, etc.,) | 301 | 636 |
| **Sub total** | **3,366** | **8,187** |
| **Grand total** | **3,920** | **92,455** |

**Graphical Representation of Lease Vs. Area (In Hects.)**




*Note:*

1. *86% of Minor Mineral leaseholds accounts for only 9% of the Leased out land.*
2. *14% of Major Mineral leaseholds account for 91% of the Leased out land.*



### 1.2.3 Mineral Revenue

The department has taken effective measures to increase the mineral revenue for the State exchequer and in the financial year 2017-18 the revenue realized is Rs.1,106 crore. Further, by way of effective monitoring, 144 illicit mining cases were detected, 17,340 vehicles were seized and a sum of Rs.49.62 crore was collected towards penalty during the year 2017-18. Besides 8,171 criminal action / FIRs were filed and 35 cases booked under Goondas Act.

### 1.2.4 Geotechnical studies in the Hill areas of the Nilgiris and Kodaikanal

The main objective of the Geotechnical studies is to prepare thematic maps, zonation maps etc., and find out the vulnerable zones for landslide. Further, these studies provide

technical guidance regarding preventive measures for safeguarding the lives and properties in these areas to the district administration.

This Department is processing the application made by the individuals and Government bodies after examining the safety and suitability of the site, furnishing their feasibility reports on the construction activities proposed in the hilly areas

Further, Micro level Landslide Hazard Zonation project in Nilgiri district and Kodaikanal taluk are proposed to be taken up, on collaborative basis with Geological Survey of India, Southern Region, Chennai which will guide the district administration for taking remedial measures to safeguard the life and property of the public.



## 1.3 District Mineral Foundation Trust (DMF)

As per Section 9-B of Mines and Minerals (Development & Regulation) Amendment Act, 2015, District Mineral Foundation Trust (DMF) has to be established in all the districts. Accordingly, the Managing Committee and the Governing Committee of DMF Trust under the Chairmanship of the District Collector with the Committee members have also been established in all districts of Tamilnadu having mining leases. The objective of the District Mineral Foundation is to develop the mining areas.

The lessees who were granted mining leases before 12.01.2015 have to pay 30% on royalty / seigniorage fee and the leases granted after 12.01.2015 have to pay 10% on royalty/seigniorage fee to District Mineral Foundation.

Accordingly, 60% of the District Mineral Foundation fund collected shall be utilized for high priority items such as 1) drinking water supply, 2) health care, 3) education, 4) welfare of women and children, 5) aged and disabled people, 6) skill development and 7) sanitation. The remaining 40% of the fund will be used for other priority items such as 1) physical infrastructure, 2) irrigation development, 3) energy and 4) watershed development, 5) environment preservation and 6) pollution control measures etc.

As on 31.03.2018, an amount of Rs.264.64 crore has been collected towards the DMFT Fund in the State. In the first phase of implementation 109 project have been taken up to the value of Rs.2.81 crore by the concerned District Collectors as per the norms prescribed.



## 1.4 National Mineral Exploration Trust

As per section 9C of Mines and Minerals (Development and Regulations) Amended Act, 2015, the Central Government have established a trust called National Mineral Exploration Trust (NMET). Every mining lease / prospecting licence cum mining lease holder has to contribute 2% of royalty in addition to the royalty paid with effect from 12.01.2015.

The prime objective of the National Mineral Exploration Trust is to carry out regional and detailed exploration programmes and the fund thus collected will be utilized for identification, exploration, extraction of mineral deposits and giving priority to undertake exploration of strategic minerals by adopting advanced scientific technology.

The state Government has collected an amount of Rs.29.69 crore upto 31.01.2018.

In the recent meeting conducted on 07.03.2018 at Nagpur, the NMET Committee has sanctioned a project for G-3 level exploration for Dunite in Namakkal District.

## 1.5. Mining Surveillance System

The Mining Surveillance System (MSS) is a satellite based monitoring system, which creates triggers for any major mining activity, within 500 meter radius from the existing mining lease boundaries.

The Mining Surveillance System (MSS) is one of the best systems which help to identify and curb illegal mining / quarrying activities in the mineral rich areas.

In the system, geo-referenced cadastral maps of mining lease areas are superimposed on the latest satellite imageries (CARTOSAT and USGS) which enable surveillance of an area



within 500 meters radius from the existing mining lease boundaries.

If any unauthorised activities are noticed, the automatic software image processing technology will generate triggers and it will be studied at Remote Sensing Control Centre of Indian Bureau of Mines, Udaipur (Rajasthan) and then transferred to district level officials of department of Geology and Mining for field verification.

The district level officials have to make field check and report back to Indian Bureau of Mines through online or by using the user-friendly mobile app developed for this purpose within 7 days from the date of intimation of "Triggers". Accordingly, 29 Triggers were reported in the State of Tamil Nadu and all the Triggers were verified at field level and reported to Government of India.

The major mineral viz., beach mineral deposit area in Radhapuram taluk of Tirunelveli district is demarcated and uploaded in the MSS system to study the feasibility of extending MSS to monitor beach mineral deposit areas in the entire coastal area of Radhapuram taluk, Tirunelveli district, Tamilnadu.

Further, as per the instruction of the Government of India to implement the MSS for minor minerals, a special training was conduted by the BISAG in Ahmedabad. The officials of the Department of Geology and Mining also attended the training with relevant minor mineral lease datas in respect of Kanchipuram district and the same was uploaded in the MSS system as first phase of implementation.

## 1.6 Desilting of water bodies

Considering silt deposited in the water bodies, subsequent reduction of water holding



capacity of the tanks and the reduction in monsoon rainfall, the State of Tamil Nadu in G.O.Ms.No.50 Industries (MMC1) Department dated 27.04.2017 have made amendments to Rule 12 (2) of Tamil Nadu Minor Mineral Concession Rules, 1959 for desilting of tanks by creating additional employment opportunities and with a view to attain the original storage capacity of the tanks and to develop the agricultural fields by making use of the silt removed from the tanks. Further, the procedures for the grant of permission for removal of silt from the tanks are simplified and to provide the same to the farmers, potters and public for domestic purposes free of cost.

Till 31.03.2018, 4,49,36,165 cubic meters of silt / savudu / gravel / clay have been removed from the 42545 water bodies belonging to PWD and Rural development departments.

The total number of beneficiaries is 4,97,835 including farmers, potters and common public.

## 1.7 Star Rating of Mines

Awarding of Star rating to the mines of major minerals has been introduced by Government of India.

1. A 'Star Rating' will be awarded to the mining leases for their efforts and initiatives taken for implementation of the Sustainable Development Framework (SDF).
2. One to five stars would be given to the mines.
3. The best performing leases would be given 5 Stars.
4. The star rating scheme is designed to have a built in compliance mechanism for environment and safeguards forest and will help in recognizing good performers in the sector while encouraging all mining lease holders to strive for excellence.



The Government of India have awarded star ratings to two major mineral lessees operating in Tamil Nadu under this scheme.

Similarly action will be taken for extending the star rating awarding scheme for minor minerals in consultation with Indian Bureau of Mines, Southern region.

## 1.8 Online Mining Tenement Registry System (OMTRS)

Online Mining Tenement Registry System is a geographical information system which is based on geo-referenced cadastral maps with mining lease areas and details displayed online.

In the first phase, for the preparation of online mining tenement registry in four districts viz., Trichy, Coimbatore, Salem and Tirunelveli,

the Government have sanctioned Rs.1.08 crore. The work was completed and uploaded in the Tamil Nadu State Data Centre.

## 1.9 E-governance

For ensuring transparency in mineral administration such as grant of mineral concessions, creation of data base management for the existing mineral resources of the state, it is imperative to adopt the technology driven monitoring system through e-governance.

To simplify the process of grant of mineral concession from the stage of application to grant of lease till the issue of permits, the department of Geology and Mining has started the process of computerisation and customisation through the Government of India authorized agency WIPRO in Tamil Nadu.

As per the request of the department M/s. WIPRO Limited, is developing e-permit

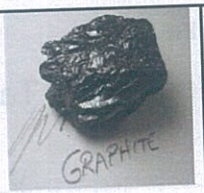


module for both major and minor minerals in the State of Tamil Nadu which is nearing completion and is expected to be launched soon.

## Annexure

Occurrence of Industrial Minerals in Tamil Nadu and their usage.

| Name of the mineral | Mineral Image | Place of Occurrence | Usage |
|---|---|---|---|
| Magnesite |  | 1. Salem<br>2. Namakkal<br>3. Karur | 1. The refractory material.<br>2. Magnesium cement. (Sorel Cement)<br>3. Catalyst and filler. |
| Dunite |  | 1. Salem<br>2. Namakkal<br>3. Karur | 1. The refractory material.<br>2. Catalyst and filler.<br>3. Using as flux in the Iron & Steel industry. |

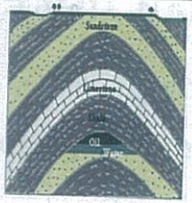
| | | | |
|---|---|---|---|
| Graphite |   | 1. Sivagangai<br>2. Madurai | 1. Insulator.<br>2. Electrode.<br>3. Atomic reactor<br>4. Crucibles<br>5. Carbon brushes. |
| Lignite |  | 1. Cuddalore<br>2. Ramanatha puram | 1. Fuel.<br>2. Power station. |
| Bauxite |  | 1. Salem<br>2. Namakkal | 1.Making Aluminium.<br>2. Used as metal alloy for aircraft. |
| Limestone |  | 1. Ariyalur<br>2. Perambalur<br>3. Trichy<br>4. Tirunelveli<br>5. Virudhu nagar<br>6. Madurai<br>7. Salem<br>8. Karur<br>9. Dindigul | 1. Cement.<br>2.Chemical Industries.<br>3. Metal Industries<br>4. Pharmaceuticals. |



| | | | |
|---|---|---|---|
| Quartz |  | 1. Salem<br>2. Namakkal<br>3. Karur<br>4. Dharmapuri | 1. Silicon Chips.<br>2. Glass Industries. |
| Feldspar |  | 1. Salem<br>2. Namakkal<br>3. Karur<br>4. Dharmapuri | 1. Ceramic article.<br>2. Decorative titles. |
| Garnet Sand |  | 1. Kanya kumari<br>2. Tirunelveli<br>3. Tuticorin<br>4. Trichy | 1. Abrasives.<br>2. Semiconductor. |
| Silica Sand |  | 1. Naga pattinam | 1. Glass Industries.<br>2. Foundry moulding catalysts. |

| | | | |
|---|---|---|---|
| Fireclay |  | 1. Ariyalur<br>2. Cuddalore | 1. Refractory.<br>2. Ceramic article<br>3. Decorative tiles. |
| Molybdenum |  | 1. Dharmapuri<br>2. Krishnagiri | 1. Electrical conductor.<br>2. Used in petroleum industries.<br>3. Heating Elements. |
| Gypsum |  | 1. Perambalur<br>2. Coimbatore | 1. Plaster of Paris.<br>2. Manure.<br>3. Pesticides<br>4. Cement. |
| Calcite |  | 1. Salem | 1. Cement.<br>2. Chemical industries.<br>3. Metal Alloy<br>4. Pharmaceutical. |



| | | | |
|---|---|---|---|
| Petroleum and Natural Gas |  | 1. Naga pattinam<br>2. Tiruvarur<br>3. Tanjavur<br>4. Ramana-thapuram<br>5. Pudhukottai | 1. Fuel.<br>2. Power station. |