9.1 The Indian Bureau of Mines (IBM) is a subordinate office under the Ministry of Mines. It is engaged in the promotion of scientific development of mineral resources of the country, conservation of minerals, protection of environment in mines, other than coal, petroleum and natural gas, atomic mineral and minor minerals. It performs regulatory functions, namely enforcement of the Mineral Conservation and Development Rules, 1988, the relevant provisions of the Mines and Minerals (Development and Regulation) Act, 1957, Mineral Concession Rules, 1960 and Environmental (Protection) Act, 1986 and Rules made there under. It also undertakes scientific, techno-economic, research oriented studies in various aspects of mining, geological studies, ore beneficiation and environmental studies.

9.2 IBM provides technical consultancy services to the mining industry for the geological appraisal of mineral resources, and the preparation of feasibility reports of mining projects, including beneficiation plants. It prepares mineral maps and a countrywide inventory of mineral resources of leasehold and freehold areas. It also promotes and monitors community development activities in mining areas. IBM also functions as data bank of mines and minerals and publishes statistical periodicals. It also brings out technical publications/monographs on individual mineral commodities and bulletins of topical interest. It advises the Central and State Governments on all aspects of mineral industry, trade, legislation, etc.

9.3 IBM imparts training to technical and non-technical officials of IBM and also persons from the mineral industry and other agencies in India and abroad.

Organizational Set-up

9.4 IBM is organized into six functional divisions, namely:

(i) Mines Control and Conservation of Minerals Division.
(ii) Ore Dressing Division.
(iii) Technical Consultancy, Mining Research and Publication Division.
(iv) Mineral Economics Division.
(v) Mining and Mineral Statistics Division.
(vi) Planning and Co-ordination Division having two sub-divisions:
   (a) Administration, Establishment matters (including training), Accounts with all other administrative and financial matters; and
   (b) Planning and Co-ordination.

9.5 IBM has its headquarters at Nagpur, 03 Zonal Offices at Ajmer, Bangalore and Nagpur, and 12 Regional Offices at Ajmer, Bangalore, Bhubaneswar, Chennai, Dehradun, Goa, Hyderabad, Jabalpur, Kolkata, Nagpur, Ranchi and Udaipur and 2 sub-regional offices at Guwahati and Nellore.

9.6 IBM has well equipped Ore Dressing Laboratories and Pilot Plants at Ajmer, Bangalore and Nagpur.

Performance of IBM

9.7 Performance relating to various activities of IBM during the year 2008-09 is given below:-
9.10 During the year 2008-09, 387 mining plans were approved and 28 were not approved, 364 schemes of mining were approved and 34 were not approved and 40 final mine closure plans were approved and 04 were not approved. State-wise break-up is given in Table 9.2.

**Technical Studies**

9.11 The performance of IBM with regard to technical studies, investigations and preparation of mineral inventory/maps etc is indicated in Table 9.3.

9.12 During the year 2008-09, 12 Regional Mining Geological Studies were completed. IBM monitors the progress of reconnaissance permits and prospecting licences, the details of which are given in Annexures 9.1 and 9.2.

**Preparation of Mineral Maps**

9.13 During the year 2008-09, 100 multi-mineral leasehold maps of Maharashtra, Tamil Nadu and Rajasthan on a scale of 1:50,000 along with corresponding forest overlays were prepared.

**Mineral Beneficiation**

9.14 Mineral beneficiation studies including mineralogical testing and chemical analysis is intimately related to both conservation and development of mineral resources. During the year 2008-09, 68 ore dressing investigations, 49,108 chemical analysis and 2,366 mineralogical examinations were completed. Besides, 10 in-plant studies were also carried out.

**National Mineral Inventory**

9.15 During the year 2008-09, based on the updated NMI adopting UNFC, a publication “National Mineral Inventory at Glance as on 1.04.2005” was released. Besides, analytical reviews and draft chapters for all the 65 minerals were prepared and the handbook of NMI as on 1.04.2005 is under printing.

**Market survey of Minerals and Metals**

9.16 Market Survey on copper, lead and zinc was taken up and drafting of the report was in progress. Besides, 04 reports on end-use metal consumption for copper-lead-zinc for the quarters ending March, June, September and December 2008 were prepared.

---

**Table 9.1**

*Inspection of Mines carried out by IBM during 2008-09*

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>State</th>
<th>No. of Inspections</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Andhra Pradesh</td>
<td>358</td>
</tr>
<tr>
<td>2</td>
<td>Assam</td>
<td>09</td>
</tr>
<tr>
<td>3</td>
<td>Bihar</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>Chhattisgarh</td>
<td>161</td>
</tr>
<tr>
<td>5</td>
<td>Goa</td>
<td>91</td>
</tr>
<tr>
<td>6</td>
<td>Gujarat</td>
<td>169</td>
</tr>
<tr>
<td>7</td>
<td>Haryana</td>
<td>03</td>
</tr>
<tr>
<td>8</td>
<td>Himachal Pradesh</td>
<td>24</td>
</tr>
<tr>
<td>9</td>
<td>Jharkhand</td>
<td>229</td>
</tr>
<tr>
<td>10</td>
<td>Karnataka</td>
<td>286</td>
</tr>
<tr>
<td>11</td>
<td>Kerala</td>
<td>05</td>
</tr>
<tr>
<td>12</td>
<td>Madhya Pradesh</td>
<td>260</td>
</tr>
<tr>
<td>13</td>
<td>Maharashtra</td>
<td>87</td>
</tr>
<tr>
<td>14</td>
<td>Manipur</td>
<td>20</td>
</tr>
<tr>
<td>15</td>
<td>Meghalaya</td>
<td>26</td>
</tr>
<tr>
<td>16</td>
<td>Orissa</td>
<td>146</td>
</tr>
<tr>
<td>17</td>
<td>Rajasthan</td>
<td>471</td>
</tr>
<tr>
<td>18</td>
<td>Tamil Nadu</td>
<td>231</td>
</tr>
<tr>
<td>19</td>
<td>Uttarakhand</td>
<td>28</td>
</tr>
<tr>
<td>20</td>
<td>Uttar Pradesh</td>
<td>02</td>
</tr>
<tr>
<td>21</td>
<td>West Bengal</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>2645</td>
</tr>
</tbody>
</table>
Table 9.2
State-wise Mining Plans approved by IBM during 2008-09

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>State</th>
<th>Mining Plans</th>
<th>Schemes of Mining</th>
<th>Final Mine Closure Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Approved</td>
<td>Not Approved</td>
<td>Approved</td>
</tr>
<tr>
<td>1</td>
<td>Andhra Pradesh</td>
<td>41</td>
<td>03</td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>Bihar</td>
<td>01</td>
<td>00</td>
<td>05</td>
</tr>
<tr>
<td>3</td>
<td>Chhattisgarh</td>
<td>15</td>
<td>03</td>
<td>42</td>
</tr>
<tr>
<td>4</td>
<td>Goa</td>
<td>43</td>
<td>00</td>
<td>01</td>
</tr>
<tr>
<td>5</td>
<td>Gujarat</td>
<td>20</td>
<td>05</td>
<td>37</td>
</tr>
<tr>
<td>6</td>
<td>Himachal Pradesh</td>
<td>06</td>
<td>04</td>
<td>02</td>
</tr>
<tr>
<td>7</td>
<td>Jammu &amp; Kashmir</td>
<td>05</td>
<td>00</td>
<td>06</td>
</tr>
<tr>
<td>8</td>
<td>Jharkhand</td>
<td>20</td>
<td>00</td>
<td>03</td>
</tr>
<tr>
<td>9</td>
<td>Karnataka</td>
<td>50</td>
<td>04</td>
<td>67</td>
</tr>
<tr>
<td>10</td>
<td>Kerala</td>
<td>02</td>
<td>00</td>
<td>03</td>
</tr>
<tr>
<td>11</td>
<td>Madhya Pradesh</td>
<td>56</td>
<td>00</td>
<td>59</td>
</tr>
<tr>
<td>12</td>
<td>Maharashtra</td>
<td>09</td>
<td>00</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>Meghalaya</td>
<td>04</td>
<td>00</td>
<td>01</td>
</tr>
<tr>
<td>14</td>
<td>Orissa</td>
<td>19</td>
<td>01</td>
<td>43</td>
</tr>
<tr>
<td>15</td>
<td>Rajasthan</td>
<td>58</td>
<td>06</td>
<td>19</td>
</tr>
<tr>
<td>16</td>
<td>Tamil Nadu</td>
<td>33</td>
<td>00</td>
<td>27</td>
</tr>
<tr>
<td>17</td>
<td>Uttarakhand</td>
<td>04</td>
<td>02</td>
<td>15</td>
</tr>
<tr>
<td>18</td>
<td>West Bengal</td>
<td>01</td>
<td>00</td>
<td>01</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>387</td>
<td>28</td>
<td>364</td>
</tr>
</tbody>
</table>

Statistical Publications

9.17 IBM disseminates statistical information on mines, minerals, metals and mineral based industries through its various publications. Information on mineral production, stocks, despatches, employment, inputs in mining, mining machinery and related matters received from the mine owners on statutory basis under the MCDR, 1988 and ancillary statistics on metals production, mineral trade and market prices of minerals, revenue from the mining sector, rent, royalty and cess on minerals, etc., from other agencies is compiled regularly by IBM.

### Table 9.3
Technical Studies, Investigations and Preparation of Mineral Inventory/Maps in 2008-09

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item</th>
<th>2006-07*</th>
<th>2007-08*</th>
<th>2008-09</th>
<th>Target</th>
<th>Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mining Geological Studies/ Regional Mining Geological Studies</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>Updation of National Mineral Inventory (NMI) as on 1/4/2005 adopting UNFC.</td>
<td>Data sheets in respect of 4,986 freehold and public sector deposits were updated and data entry of 14,865 deposits completed. Summary outputs for 43 minerals generated.</td>
<td>i) Updation of NMI as on 1.4.2005 was completed in all respects and summary outputs for all the 65 minerals generated. ii) Analytical notes &amp; qualitative analysis were also made.</td>
<td>Updation of National Mineral Inventory (NMI) and preparation of Handbook as on 1.04.2005</td>
<td>An ad-hoc publication “National Mineral Inventory at a Glance as on 1.04.2005” released. Draft chapters for all the 65 minerals prepared and the Handbook on NMI- An Overview was under printing.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Preparation of multi-mineral maps with forest overlays</td>
<td>113 maps</td>
<td>120 maps</td>
<td>100 maps</td>
<td>100 multi-mineral lease-hold maps of Rajasthan on a scale 1:50,000 along with corresponding forest overlays prepared.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>OD Investigations</td>
<td>73</td>
<td>66</td>
<td>70</td>
<td>68 completed &amp; 40 in progress</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Chemical Analysis (No. of radicals)</td>
<td>50,579</td>
<td>46,804</td>
<td>50,000</td>
<td>49,108 completed &amp; 2,724 in progress</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Mineralogical Studies</td>
<td>2,409</td>
<td>2,390</td>
<td>2,300</td>
<td>2,366</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Technical Consultancy Assignments</td>
<td>09</td>
<td>08</td>
<td>05-07</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Mining Research including Environmental Studies</td>
<td>07</td>
<td>09</td>
<td>07</td>
<td>09</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Training</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

*Actual
Consultancy Service

9.19 IBM provides technical consultancy services on prescribed charges for geological appraisals, survey of the areas, preparation of feasibility study reports, environment impact assessment and environment management plan, selection of suitable mining equipment, evaluation of feasibility report prepared by other consultants, financial institutions, etc. During the year 2008-09, 13 assignments were completed and 03 were in progress.

Technical Publications


9.21 Under the series ‘Mineral Facts and Problems” the Monograph on Chromite was under scrutiny and modification. Updation of Directory of Mineral Consumers in India was in progress. Besides, two bulletins on (i) Recent Developments in Blasting Technology and (ii) Application of Rock Mechanics in Surface and Underground Excavations, were at various stages of completion.

Mining Research

9.22 Applied Mining Research is carried out in IBM on various mining aspects so as to help in systematic development of mines and improvement in productivity in mines through evolution of suitable norms. Industry sponsored assignments on environment and rock mechanics on charge basis are also undertaken. During 2008-09, 09 such assignments have been completed and another 06 assignments were in progress.

Training

9.23 IBM imparts training to technical and non-technical officials of IBM and also to persons from mineral industry and other agencies in India and abroad. During the year 2008-09, 16 training programmes were conducted in which a total of 104 IBM personnel and 180 industry personnel participated.

Advisory Role

9.24 IBM continued to advise the Central and State Governments on matters concerning mines and minerals, mining legislation, export and import policies, mineral consumption and industrial utilization, recovery of by-products, demand and supply of minerals, renewal of mining leases. Assistance was also rendered to private parties, institutions and foreign organizations on subjects like mineral production and other statistics.

Computerized On-line Register of Mining Tenement System

9.25 The major works of the project include field works, development of registry component, software for integration with GIS component and launching of the system and also for development of IT infrastructure. The manner of the implementation shall be capacity building in one State i.e. Goa and one district each of remaining 10 mineral rich States.

Measures for Abatement of Pollution and Environmental Protection

9.26 The IBM undertakes inspections/ studies for the enforcement of provisions of MCDR, 1988 which include provision on protection of mines environment. During inspection it ensures that mine operators are taking due care for preservation and utilization of top soil, storage of overburden/waste rocks, reclamation and rehabilitation of land, precaution against ground vibration, control of ground subsidence, abatement measures against air, water and noise pollution, restoration of flora etc. in addition to other conservation and developmental measures. Necessary guidance to mine managements/ operators are also given for systematic and scientific development of mine including protection of environment. While approving the mining plans and the schemes of mining, IBM ensures that environment impact assessment studies have been carried out and to that effect environmental management plan has been incorporated for its effective implementation. Besides provision for submission of progressive mine closure plan and final mine closure plan has been introduced for ensuring reclamation and
the rehabilitation of mined out areas. IBM also ensures that
mining operations are carried out in accordance with
the approved mining plan/scheme of mining.

9.27 As a result of follow up for implementation of
environmental management plan extensive
afforestation has been undertaken in the mines by the
mine owners. During the year 2008-09, about 3.77
million saplings have been planted over an area of 1,134
hect. in and around mine areas. Thus, so far, 90.41
million saplings have been planted over an area of about
37, 404 hect. with a survival rate of 67 percent.

9.28 Simultaneous reclamation in working mines, and
reclamation of abandoned mines are required to be
carried out. During the year 2008-09, simultaneous
reclamation/ rehabilitation is going on in 67 working
mines covering an area of about 524 hect., taking the
cumulative figure upto 1,202 working mines covering
an area on about 11,771 hect. So far, 53 abandoned
mines covering an area of 660 hect., have been
reclaimed/ rehabilitated.

9.29 IBM continued to take initiative to organize Mines
Environment and Mineral Conservation (MEMC) Weeks
every year in important mining centres through its
regional offices to promote awareness amongst mine
owners for minimizing environmental pollution. During
the year 2008-09, twelve such weeks were celebrated
in which 989 mines participated.

Revenue Generation

9.30 IBM generates revenue through promotional
activities. Revenue generated during 2008-09 is of
the order of Rs. 196.17 Lakhs comprising Rs. 36.12
Lakhs from the consultancy work in mining and
geology; Rs. 109.48 Lakhs from Mineral beneficiation
assignments; Rs. 12.77 lakhs from mining research
assignments; Rs. 14.91 Lakhs from processing of
mining plans/schemes of mining and compounding fees
& fines; Rs. 10.99 Lakhs from training and balance Rs.
11.90 Lakhs through sale of publications, mineral maps,
mineral inventory data etc.

Computerization

9.31 The Regional/Zonal offices and Headquarters of
IBM have been linked through a sophisticated system
based on client server architecture established with the
help of BRGM, France, which includes new databases
required by IBM. IBM has well established LAN facility,
besides Wide Area Network (WAN) system to
communicate and exchange data from Regional, Zonal
offices and Headquarters. WAN through leased lines
of BSNL has been established between IBM Head
Quarters at Nagpur and Ajmer, Bangalore and Kolkata;
between Ajmer Zonal Office and Regional Office; and
between Kolkata regional office and Guwahati sub-
regional office.

9.32 IBM is maintaining a website (http://ibm.gov.in)
linked with the site of Ministry of Mines. This website
provides information on the main functions and
activities of IBM. This website has been linked to the
Grievance Portal of DoPT and also to the website of
CVC, New Delhi.

9.33 IBM has implemented “IT Infrastructure Security
Policy (version 1.0 of 2006)” with a view to implement
information security to safeguard information
infrastructure from possible attack through internet or
corruption, compromise of data etc.,

Workshops on review of threshold value of Minerals

9.34 With a view to review the threshold value of
important minerals including base metals, five
workshops were organized at Udaipur, Nagpur, Goa,
Bhubaneswar and Bangalore. A total of 290
representatives from various mining companies, mineral
administrators, R&D laboratories and academicians
from universities participated in the workshop. Detailed
discussions were held on new R&D developments
towards utilization of low-grade minerals and suggested
threshold value for important minerals specific to
concerned regions. The views of the participants were
considered by the Core Committee to review the
threshold values.

The final report on Threshold Values of Minerals along
with draft directives to be issued to the mine owners /
lessees under Rule 54 of MCDR, 1988 for
implementation of the threshold values of 16 minerals
was submitted to the Ministry for approval of the
Central Government. The proposed threshold values
have also been put on the website on 27.02.2009
inviting views from mine owners, mining industry, state
govts. and other stake holders.