

## DIAMOND

### Introduction

Diamond mining in India can be traced back to the 5th Century (B.C). Mining and trading activity of diamonds took place to a large extent in 16th and 17th Century (A.D) in Andhra Pradesh. Golconda was the major trading centre. Before the 19th Century (AD), diamonds were recovered from older conglomerates and quaternary gravel. The diamond producing centres were gravel of river Krishna in Andhra Pradesh, Panna diamond belt in Madhya Pradesh, gravel of river Mahanadi in Odisha and Wairagarh Conglomerates of Maharashtra. The Majhgawan pipe in Madhya Pradesh and Wajrakarur pipe in Andhra Pradesh were also mined for diamond but the Kimberlite nature of these deposits were recognised much later in 1930. At present Majhgawan mine of M/s. National Mineral Development Corporation in Panna diamond belt of Madhya Pradesh is the only mine working on commercial scale in the country. GSI has carried out exploration work in search of deposits of diamond in many parts of India including the potential areas in Andhra Pradesh (Wajrakarur), Chhattisgarh, Jharkhand, Karnataka and Telangana.

A number of diamond occurrences have been located in Anantapur, Kurnool, Krishna, Mehboobnagar and Guntur districts of Andhra Pradesh; Panna and Chhattarpur district of Madhya Pradesh; Raipur district of Chhattisgarh; Chittorgarh, Jhalawar and Kota districts of Rajasthan and Mirzapur district of Uttar Pradesh. Potential occurrences are being explored in the basin of river Mahanadi in Sambalpur district of Odisha. Diamonds as precious stones are mostly used for ornamental purpose. Industrial diamonds are used for drill bits. India was once the single largest exporter of cut and polished diamonds in the world, though its domestic production of raw diamond is very insignificant.

### Basis of Grade Classification

In the inventory as on 1.4.2015, the resources of diamond have been classified into the following grades :

- i) Gem
- ii) Industrial
- iii) Unclassified

### Basis of Categorisation of Resources

As per United Nations Framework Classification (UNFC), resources are broadly classified into 'reserves' and 'remaining resources'.

According to the norms of this system reserves of diamond have been placed under proved (111) and probable (122) categories.

The remaining resources have been placed under measured (331), indicated (332) and inferred (333) categories.

### Salient Features of the Inventory

The total resources of diamond in the country as on 1.4.2015 are estimated at 31,836,091 carats with 756,765 carats gem grade, 840,823 carats industrial grade and 30,238,503 carats unclassified grade. Of these, 959,659 carats (3.01%) fall under reserve category and balance 30,876,432 carats (96.98%) are remaining resources. The entire quantity under reserve category is of 'unclassified grade' and has been estimated in Madhya Pradesh only. Out of the total resources, 30,876,432 carats (96.99%) are in freehold and the balance 959,659 carats (3.01%) are in leasehold (public) areas.

All India scenario of diamond reserves, remaining resources and total resources as on 1.4.2015 vis-a-vis 1.4.2010 have been given in Tables - 1 and 2. The tables give an idea about the significant changes in terms of increase and decrease of resources as per lease status, grade and states. In Table-3 district-wise reserves/ resources as on 1.4.2015 have been given.

The estimated resources of diamond are concentrated only in three states. Of these, Madhya Pradesh is credited with 28,709,136 carats (90.17%) having unclassified grade only, followed by Andhra Pradesh with 1,822,955 carats (5.73%), having 235,165 carats gem grade, 58,423 carats industrial grade and 1,529,367 carats unclassified grade and Chhattisgarh with 1,304,000 carats (4.10%) having 521,600 carats gem grade and 782,400 carats industrial grade.

A small decrease of 85,659 carats diamond resources has been recorded in comparison to the earlier inventory as on 1.4.2010. The entire decrease is of unclassified grade diamonds which is due to revised data supplied by M/s NMDC Ltd. for their Diamond Mining Project main lease (113.532 ha) in Chhattarpur district, Madhya Pradesh.

Diamonds are also recovered from conglomerate and gravel beds at shallow depths by small operators in Panna district on the basis of Annual Permits granted by Diamond Officer, Government of Madhya Pradesh.

Out of the 1,822,955 carats of diamond resources in Andhra Pradesh about 1,667,960 carats (91.5%) have alone been estimated in Anantpur district. The balance resources are in Krishna and Kurnool districts. The entire resource of Chhattisgarh is held by Raipur district and that of Madhya Pradesh by Panna and Chhattarpur districts.

**Table - 1 : Reserves/Resources of Diamond as on 1.4.2015 (P) vis-à-vis 1.4.2010  
(By Lease Status/Grade)**

Lease status/Grade	Reserves			Remaining resources			Total resources		
	1.4.2015	1.4.2010	Net change	1.4.2015	1.4.2010	Net change	1.4.2015	1.4.2010	Net change
<b>All India : Total</b>	<b>959659</b>	<b>1045318</b>	<b>(-)85659</b>	<b>30876432</b>	<b>30876432</b>	No Change	<b>31836091</b>	<b>31921750</b>	<b>(-) 85659</b>
Gem	-	-	-	756765	756765	No Change	756765	756765	No Change
Industrial	-	-	-	840823	840823	No Change	840823	840823	No Change
Unclassified	959659	1045318	(-)85659	29278844	29278844	No Change	30238503	30324162	(-) 85659
<b>Freehold</b>	-	-	-	<b>30876432</b>	<b>30876432</b>	No Change	<b>30876432</b>	<b>30876432</b>	No Change
Gem	-	-	-	756765	756765	No Change	756765	756765	No Change
Industrial	-	-	-	840823	840823	No Change	840823	840823	No Change
Unclassified	-	-	-	29278844	29278844	No Change	29278844	29278844	No Change
<b>Leasehold (Public)</b>	<b>959659</b>	<b>1045318</b>	<b>(-)85659</b>	-	-	-	<b>959659</b>	<b>1045318</b>	<b>(-)85659</b>
Unclassified	959659	1045318	(-)85659	-	-	-	959659	1045318	(-)85659

figures rounded off.

NATIONAL MINERAL INVENTORY - AN OVERVIEW

Out of the total resources of diamond in the country about 29,047,514 carats (91%) resources have been estimated under inferred (333) category. These resources are based on a very limited and preliminary exploration. If these areas are examined for further detailed exploration, the confidence level of resource

position of diamond in the country may improve. GSI is doing extensive work in this direction.

A total 21 deposits have been covered in the inventory as on 1.4.2015, for which resources have been estimated (19 freehold and 02 leasehold public).

**Table – 2 : Total Resources of Diamond as on 1.4.2015 (P) vis-à-vis 1.4.2010 (By States)**

(In carats)

State	Total Resources		Net Change
	As on 1.4.2015	As on 1.4.2010	
<b>All India : Total</b>	<b>31836091</b>	<b>31921750</b>	<b>(-) 85659</b>
Gem	756765	756765	No Change
Industrial	840823	840823	No Change
Unclassified	30238503	30324162	(-) 85659
<b>Andhra Pradesh</b>	<b>1822955</b>	<b>1822955</b>	No Change
Gem	235165	235165	No Change
Industrial	58423	58423	No Change
Unclassified	1529367	1529367	No Change
<b>Chhattisgarh</b>	<b>1304000</b>	<b>1304000</b>	No Change
Gem	521600	521600	No Change
Industrial	782400	782400	No Change
<b>Madhya Pradesh</b>	<b>28709136</b>	<b>28794795</b>	<b>(-) 85659</b>
Unclassified	28709136	28794795	(-) 85659

*figures rounded off.*

**Table - 3 : District wise Reserves/Resources of Diamond as on 1.4.2015 (P)**

(In carats)

State/District	Reserves	Remaining Resources	Total Resources
<b>All India : Total</b>	<b>959659</b>	<b>30876432</b>	<b>31836091</b>
<b>Andhra Pradesh</b>	-	<b>1822955</b>	<b>1822955</b>
Anantapur	-	1667960	1667960
Krishna	-	99395	99395
Kurnool	-	55600	55600
<b>Chhattisgarh</b>	-	<b>1304000</b>	<b>1304000</b>
Raipur	-	1304000	1304000
<b>Madhya Pradesh</b>	<b>959659</b>	<b>27749477</b>	<b>28709136</b>
Chhatarpur	-	27400000	27400000
Panna	959659	349477	1309136

*figures rounded off.*