

## **Mineral Wealth of J&K State with special reference to sapphire mineral of Paddar Area and impact of article 370 in mining purpose.**

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**ABSTRACT:** The Jammu and Kashmir state has a rich source of mineral wealth with the growing demand of minerals all over the world. The J&K State lacks mineral exploitation due to article 370. Due to this article 370 central govt. has no interference in the state for exploitation of these minerals, and state govt. has no such advanced technologies or methods to explore these resources up to the limit.

The minerals are non-renewable resources and are estimated to be used up within 50 years. Our overall relation with the natural environment also needs to be carefully looked into. We have viewed from a wider perspective. To evaluate these deposits the appropriate methods are followed. The first task is geological interpretation of the study area which has been one of the major works. The second task is to interpret geochemical soil data. The processing of geochemical soil data requires the most commonly used methods of spatial analysis. Finally, the integrated interpretation maps coming from the combination of the different maps verified during field work.

**KEYWORDS:** Mineral wealth, mineral exploitation, Art. 370, Geochemical soil data.

**INTRODUCTION:** PADDAR STUDY AREA.

The mines are located at a height of 3060m above sea level on the mountain top above Sumcham village about 40 km. Paddar is a rich source of sapphire, the blue-green variety of the mineral corundum, the hardest mineral known after diamond, sapphire is aluminium oxide ( $Al_2O_3$ ) which is deposited in rhombohedral form. The word "sapphire" derives from the Latin word sapphires, sapphire from Greek sapphires some linguists purpose that it derives from Sanskrit Shanipriya from Shani meaning "Saturn" and priya meaning "dear" i.e. literally dear to Saturn. Kashmir sapphire is known as King of Sapphires. Its deep blue color with cornflower tinge is its specific color characteristics the velvety touch called as mercurial colour resembles to the neck of the peacock which provides the only distinguished characteristics of stone from the rest of the world. The majority of the crystals ranges from 0.8 inches to 1.5 inches in length are very much transparent but the crystals which are beyond 2 inches in length are mostly opaque and translucent. The sapphire crystals are usually embedded in the fine matrix of kaoline transversing the pegmatite. Sapphire is a gemstone. It is typically blue in colour but natural fancy sapphire also occurs in yellow, purple, orange and green in colour. The variety in colour is due to trace amounts of elements such as iron, titanium, chromium, copper, magnesium.

❖ **IDENTIFICATION:**

<input type="checkbox"/> COLOUR	Typically Blue, but varies
<input type="checkbox"/> CRYSTAL HABIT	As crystal massive and granular
<input type="checkbox"/> FRACTURE	Conchoidal
<input type="checkbox"/> HARDNESS	9.0
<input type="checkbox"/> LUSTUR	Viterous
<input type="checkbox"/> SPECIFIC GRAVITY	3.95- 4.03

❖ **OPTICAL PROPERTIES:**

<input type="checkbox"/> <b>REFRACTIVE INDEX</b>	<b>Uniaxial in nature n</b> <b>N<sub>w</sub>=1.768-1.772</b> <b>N<sub>e</sub>=1.760-1.763</b>
<input type="checkbox"/> <b>BIREFRINGENCE</b>	<b>0.008</b>
<input type="checkbox"/> <b>PLEOCHROISM</b>	<b>Strong</b>
<input type="checkbox"/> <b>MELTING POINT</b>	<b>2.030-2.050 deg. Celsius.</b>
<input type="checkbox"/> <b>SOLUBILITY</b>	<b>Insolube</b>

❖ **USES:**

- The natural sapphire are cut and polished into gemstone and worn in jewellery
- They are also used in laboratories, industries, or decorating purposes in large crystals boules.
- Sapphire are also used in some non-ornamental application such as infrared optical components high durability windows, wristwatch crystals and movement bearing and very thin electronic wafers, which are used as the insulating substances of very special purpose solid state electronics.

❖ **LOCATION:** 33.15 N- 76.09 E

Height: 3060m from sea level.

❖ **DISTRIBUTION IN THE WORLD:**

Sapphire are found in Australia, Sri Lanka, Thailand, China, Madagascar, East-Africa and in North-America. Every sapphire mine produce a wide range of quality of Sapphire. Paddar receives the highest premium although Sri Lanka, Burma, Madagascar also introduces large qualities of fine quality gems.

❖ **MINING:**

Sapphire are mined from alluvial deposists or from primary underground working. Sapphire form different geographical location may have different appearance or chemical impurities concentration and tends to contain different types of microscopic inclusions. Paddar Sapphire particularly classic metamorphic that not have been subjected to heat treatment.

❖ **MINERAL WEALTH OF J&K STATE:**

The Jammu and Kashmir state has rich source of mineral and fossil fuel resources. The mountains surrounding the different valleys of the state have various mineral wealth. The first survey of the mineral wealth in the state

was made by a renowned geologist Mr. Middlemiss in 1924 in collaboration with the govt. of Jammu and Kashmir but an intensive mineral survey was taken up in the year 1956, when systematic investigation began, as a consequence of which mineral exploitation in the state was organised and developed. The state is absolutely rich in the following minerals which are discussed below:

1. **ARSENIC ORE:** The mineral is found in Ladakh region. This mineral is used in medicines in the form of ore known as orpiment a form of which can be extracted from these places which needs proper exploitation.
2. **BORAX:** Large deposits of borax which is used in the manufacture of paper, ceramics and glass occur in Ladakh district. Borax deposits of Pugga Valley in Ladakh are quite large.
3. **Bauxite:** It is significant aluminium metal, which is used in the manufacture of utensils and refractory bricks million of tonnes of this mineral can be found in Jammu i.e. Udhampur region.
4. **Coal:** Coal found in the state is of the semi-anthracite quality and about 10% of the production is in the form of steam coal. Generally the coal is of high heat value with ash content of 20 to 30% and calorific value of 6000 kcal/kg. Extraction is uneconomical due to thin seam and high cost of mining. Presently coal is extracted from Melka, Moghla, and Kota mines falling in Rajouri and Udhampur district. Kalakote coal has good quality coal.
5. **Copper Ore:** Copper ore are found at Aishmugam, Shubbar area of Anantnag, Lashtil hill, spurs Baramulla, Handwara, Sumbal, Kangan and Lolab valley in the province of Kashmir region.
6. **Gold:** Gold is found in Kargil, Ladakh and Sonamarg.
7. **Gypsum:** Gypsum deposits occur at Buniyar in distt. Baramulla and in area of Ramban and Assar in distt. Doda. It is used in making of plaster of Paris manufacturing of cement and gypsum boards, pharmaceutical industries, ceramics industry.
8. **Iron Ore:** Iron Ore occur in Sharda khrewa haral Handwara, Uri Tehsil, Gurez Sopore Tehsil and Lolab Valley in Kashmir.
9. **Limestone:** All the three regions of the state i.e. Jammu, Kashmir and Ladakh have deposits of different ages and grades of list. The list of Kashmir is of high quality and i.e. used for manufacturing of cements at Wuyan and Khrewa. These deposits exist in Anantnag, Ancharbal, Doru, Verinag, Biru, Sonamarg, Wuyan, Khrewa.
10. **Magnesite:** Magnesite is used in the manufacture of glass. Millions of tons of magnesite are found in Anantnag.
11. **Marble:** Marble mine is situated in Kupwara. This marble is of high quality used for decoration and building.
12. **Mica:** Mica deposits are found at Doda, Ramban and Reasi.
13. **Petroleum:** Petroleum reserves are found at Ramnagar, Katra, Udh, and Surinsar.
14. **Graphite:** Graphite is used for manufacturing of lead pencils and is found in Bandipora, Uri, Karnah, Malogam, in the province of Kashmir region.
15. **Uranium:** Uranium is found in Ladakh.
16. **Sulphur:** It is found in Pugga valley in Ladakh in Spring water, it is found at Anantnag and Khrewa.

❖ Impact of Article 370 in Mining purpose or conclusion

Article 370 of the Indian Constitution is an article that given autonomous status to the state of J&K. The article which was introduced as a temporary provision continues to hold even after 70 years of independence. Art. 370 which allows J&k assembly to define who is permanent resident, who is eligible to vote and work for the state, who can own land and get admission in colleges and universities. Due to this article, the central govt. has no interference in the state without any consult of J&k state govt. So article 370 plays a important role not to develop the state mining work purpose upto that extent as other state posseses or to develop. Due to this article 370 state govt. has no such advance high technologies, financial assistance to explore these mineral resources upto the limit as it may be explored in other states.

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