



जवाहरलाल नेहरू एल्युमीनियम अनुसंधान विकास एवं अभिकल्प केन्द्र नागपुर

JNARDDC

JAWAHARLAL NEHRU ALUMINIUM RESEARCH DEVELOPMENT & DESIGN CENTRE, NAGPUR

Autonomous Body, Ministry of Mines, Govt. of India



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An ISO/IEC-17025:2017 & ISO-17034:2016 NABL accredited lab

Ref.No: 702/JNARDDC/TESTING/24-25

Date : Dec 04, 2024

Mr. Ashutosh Temle
General Manager (Mines)
Madhya Pradesh State Mining Corporation Limited
Bhopal

**Sub: Preparation of standard Thin section & Complete Petrological report of 05 Nos.
(Limestone) rock samples Analysis**

Ref: Your Letter No. क्रमांक: पूर्वक्षण/न.क्र. 124/452-453 दिनांक २२.०८.२०२४ / १९.११.२०२४
Your Samples Received On Dated 21.11.2024
Your E-mail message dated 23.08.2024
Our Letter No.421/JNARDDC/TESTING/24-25 dated 27.08.2024.

Dear Sir,

We refer to above. We are enclosing Complete Petrological Analysis Report for the above samples. Kindly acknowledge the receipt.

Kindly note that the sample received from you were given our own code number and then analyzed. Hence the enclosed analysis report carries the JNARDDC sample code number. The customer identification numbers and their corresponding JNARDDC samples code number are given below for your interpretation.

Sl No.	Customer Sample ID	JNARDDC Sample Code No. <u>Complete Petrological Analysis</u>
1	PBH- 1	JNA/24-25/Nov/321
2	PBH- 2	JNA/24-25/Nov/322
3	PBH- 3	JNA/24-25/Nov/323
4	PBH- 4	JNA/24-25/Nov/324
5	PBH- 5	JNA/24-25/Nov/325

Thanking You.

Yours faithfully,

(N.N. Warhadpande)
Incharge (CTSC)

Encl: Analysis Report

जवाहरलाल नेहरू एल्युमीनियम अनुसन्धान विकास एवं अभिकल्प केंद्र, नागपुर

**Jawaharlal Nehru Aluminium Research
Development and Design Centre**
(Autonomous Body under Ministry of Mines, Government of India)
Amravati Road, Wadi, Nagpur-440 023 (INDIA)

Date: December 03, 2024

Petrological Report

Sample No. JNA/24-25/Nov/321

Mineral assemblage: Calcite, Dolomite, feldspar and quartz

Texture: Fine to medium grained

Description:

Megascopically the sample is massive, grey to dark grey in colour. It exhibits fine grain texture with subhedral, anhedral shape. Quartz, feldspar occur as moderately coarse sub-rounded to sub-angular grains. The studies indicate that sample consist of calcite and dolomite as dominant minerals associated with other minerals such as quartz, feldspar. It is observed that at places calcite occurs as very fine cryptocrystalline grain size. The quartz and feldspar are present as fine clasts seen segregating within matrix.

Sample No. JNA/24-25/Nov/322

Mineral assemblage: Calcite, Dolomite

Texture: Fine grained (Micritic)

Description:

Megascopically the sample is light grey in colour. The specimen is composed of very fine-grained microcrystalline aggregates showing variable grain size. The grains are euhedral to subhedral shape and characteristic showing typical microcrystalline micritic texture. The sample contains minerals such as calcite, dolomite associated with plagioclase and quartz. It is observed that the thin edges of slide show bright colors.

Sample No. JNA/24-25/Nov/323

Mineral assemblage: Calcite, Dolomite

Texture: Fine to medium grained

Description:

Megascopically the sample is grey in colour showing alternate dark bands (it may be shale). The specimen is composed of fine to medium grained microcrystalline aggregates showing variable grain size may be of calcite and dolomite. It is observed that the calcite exhibits typical rhombic crystal at places. The grains are subhedral to euhedral shape. Ferruginous stains and patches are seen at places with opaque minerals.

Sample No. JNA/24-25/Nov/324

Mineral assemblage: Calcite, Dolomite, Feldspar, Quartz

Texture: Fine to medium grained

Description:

Megascopically the sample is grey in colour. The specimen is composed of fine to medium grained microcrystalline aggregates. The dark, wavy feature running diagonally across the image could represent a stylolitic crack (vein). Quartz and opaques are present as fine anhedral grains dispersed throughout the rocks. The sample contains minerals such as calcite, dolomite associated with feldspar and quartz. It is observed that quartz and plagioclase occur as fine to moderately coarse sub-rounded to sub-angular shape.

Sample No. JNA/24-25/Nov/325

Mineral assemblage: Calcite, Dolomite

Texture: Fine to medium grained

Description:

Megascopically the sample is grey in colour showing alternate dark bands (may be of shale). The specimen is composed of fine to medium grained microcrystalline aggregates with ferruginous matrix consisting of small, irregular grains. It is observed that the rhombic calcite crystals are present. Bright areas likely represent calcite and dolomite, while darker areas may reflect impurities (iron oxide). The studies indicate that sample contains minerals such as calcite, dolomite associated with quartz.

(The photomicrographs are enclosed along with this report)



गोपाल डवरे
वैज्ञानिक सहायक -II (बॉक्साइट)



प्रविण भुक्ते
प्रधान वैज्ञानिक (विभागाध्यक्ष बॉक्साइट)

Photomicrographs- Sample No. JNA/24-25/Nov/321

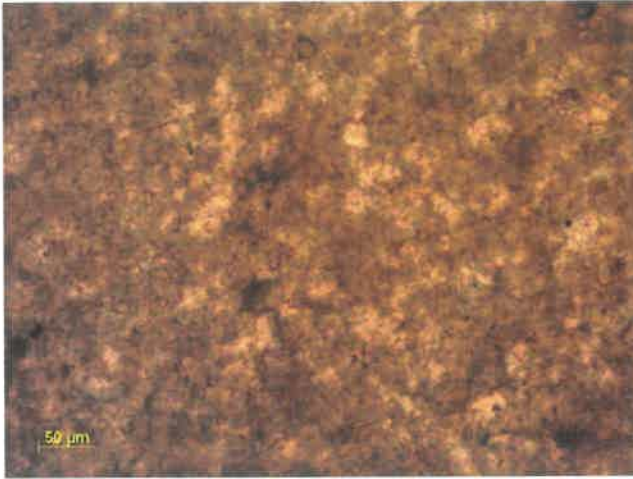


Fig 1: Photomicrograph showing presence of calcite, dolomite and feldspars

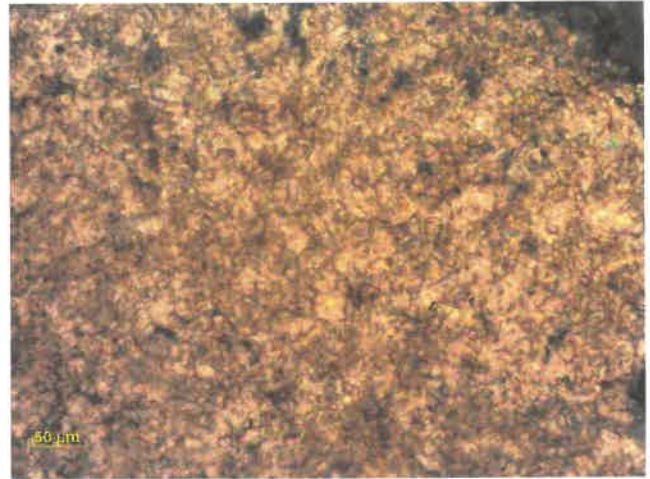


Fig 2: Photomicrograph exhibit microcrystalline texture

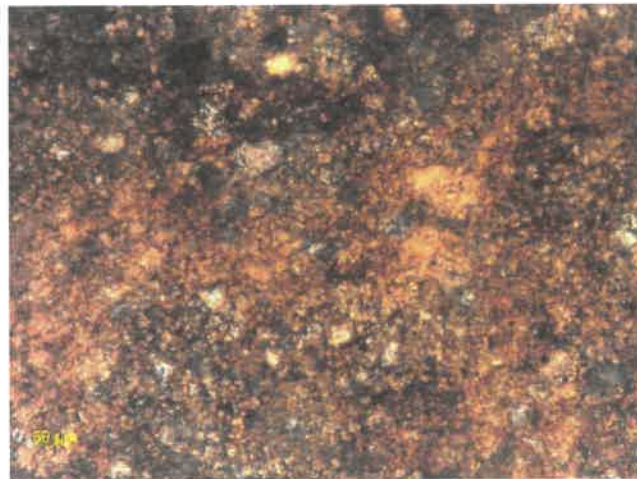


Fig 3: Photomicrograph showing calcite, dolomite and quartz minerals.

Photomicrographs- Sample No. JNA/24-25/Nov/322



Fig 1: Photomicrograph showing microcrystalline aggregates



Fig 2: Photomicrograph showing presence of fine-grained calcite, dolomite.

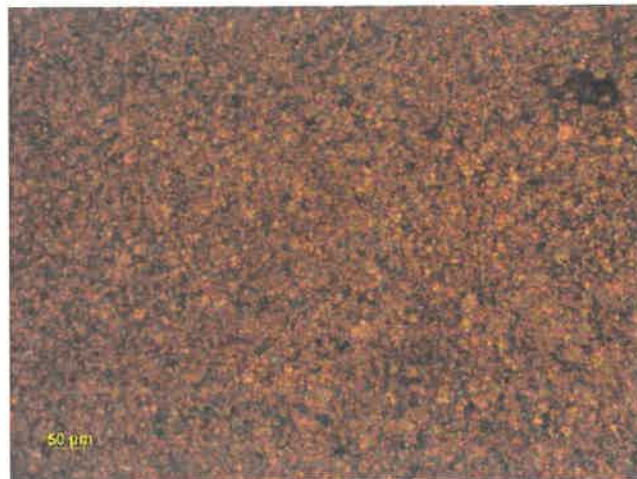


Fig 3: Typical micritic texture in specimen

Photomicrographs- Sample No. JNA/24-25/Nov/323

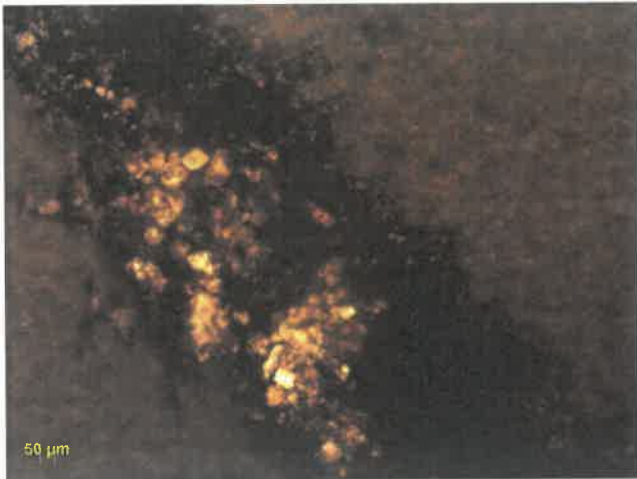


Fig 1: Photomicrograph showing rhombic calcite mineral grains



Fig 2: Photomicrograph showing presence of subhedral to euhedral crystals.

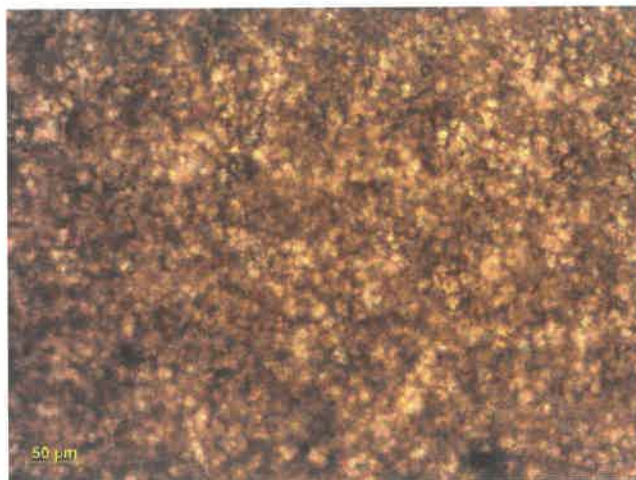


Fig 3: Photomicrograph exhibit microcrystalline minerals mainly of calcite and dolomite.

Photomicrographs- Sample No. JNA/24-25/Nov/324



Fig 1: Photomicrograph exhibits micritic texture with presence of calcite and quartz

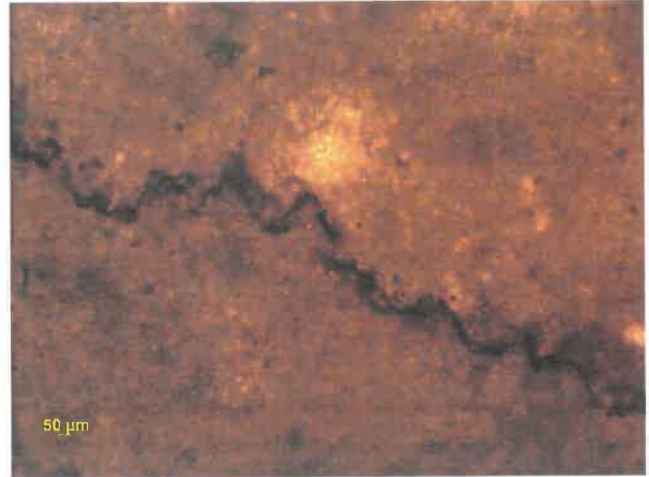


Fig 2: Photomicrograph exhibits stylolitic crack (vein)

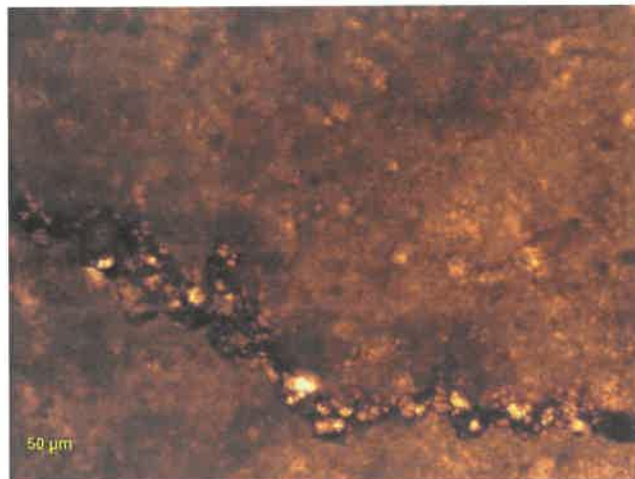


Fig 3: Photomicrograph showing stylolitic crack with calcite, dolomite mineral.

Photomicrographs- Sample No. JNA/24-25/Nov/325

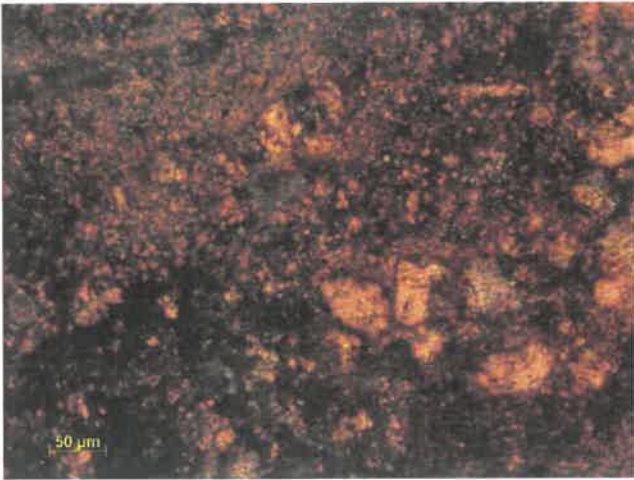


Fig 1: Photomicrograph showing calcite mineral grains

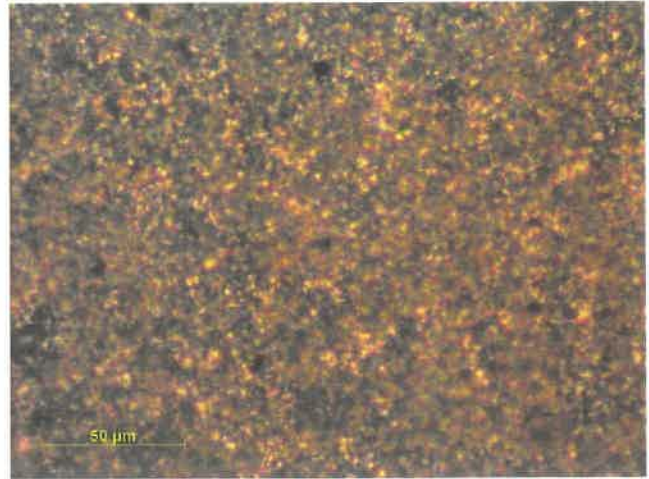


Fig 2: Presence of subhedral to euhedral crystals in specimen.



Fig 3: Photomicrograph showing calcite mineral (rhombic).