Gemological Properties, Lithology and Petrography of Buddhist Carving Stones from Pornpimolkeasaluk Company Limited

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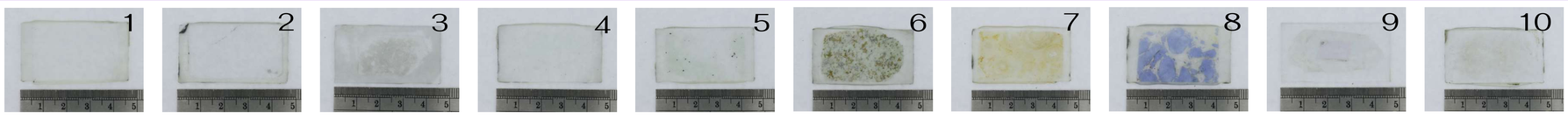
Introduction

Buddhism is the predominant region in Thailand. Sacred icons and Buddha images are traditionally crafted from various materials, including stone, minerals, and wood. This study focused on the identification of 10 stone and mineral samples (coded PJ01 to PJ10) utilized for carving Buddha statues. The investigation encompassed physical and optical properties, including; color, luster, specific gravity (SG), lithology, and petrography.

Meterials and Methods

- Collect rock and minerals from Pornpimolkeasaluk company limited
- Study Gemological and physical properties e.g. specific gravity, luster, color, magnetism, and react with HCl
- Prepare 10 thin sections of rocks and minerals
- Study Lithology and Petrography

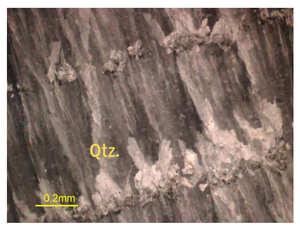
Results



Thin section of studies sample

PJ01

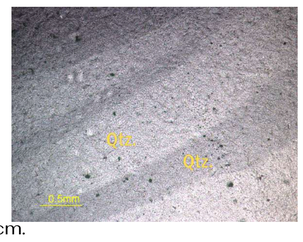




Rock name : Rose quartz
Remark : pale pink color, S.G. 2.67
Texture : microcrystalline fibrous arrangement
Constituents : quartz (Qtz)

PJ02

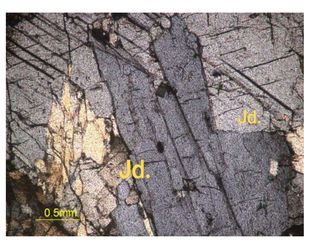




Rock name : Rock crystal
Remark : colorless, S.G. 2.65
Texture : polycrystalline aggregate
Constituents : quartz (Qtz)

PJ03





Rock name : Jade (Jadeite)
Remark : white with apple green color, S.G. 3.32
Texture : elongated fibrous with opaque mineral
Constituents : jadeite (Jd)

PJ04

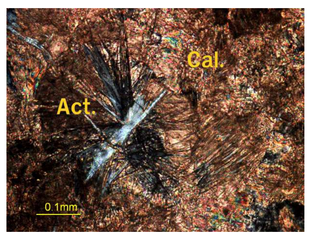




Rock name : Serpentine
Remark : grayish green color, dull-vitreous to greasy luster, S.G. 2.57
Texture : finer to courser fibrous massive aggregate
Constituents : serpentine (Srp)

PJ05

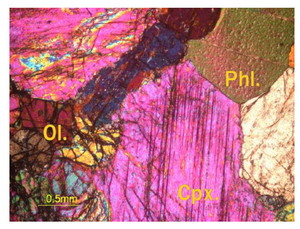




Rock name : Metabasite
Remark : dark green color, reac with HCl
Texture : coarse-grain of primary mineral replace by actinolite fibrous, epidote, chlorite, and calcite
Constituents : actinolite (Act), calcite (Cal)

PJ06

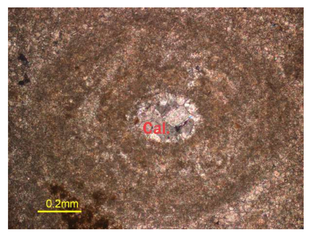




Rock name : Lherzorite
Remark : dark greenish brown color, dull vitreous luster
Texture : porphry to equigranular
Constituents : olivine (Ol), orthopyroxene (Opx), clinopyroxene (Cpx), phlogopite (Phl)

PJ07

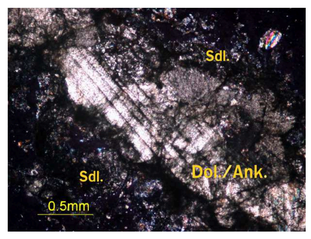




Rock name : algal ball limestone
Remark : light yellowish brown color, strong react with HCl
Texture : oncoids densely packed in finer carbonate matrix
Constituents : oncolitic limestone, carbonate matrix

PJ08

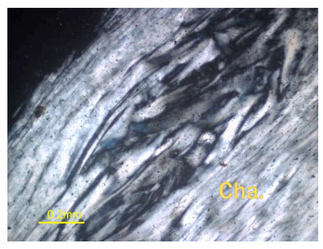




Rock name : Sodalite with dolomite/ankerite
Remark : milky white matrix with deep blue equent crystal
Texture : euhedral to subhedral sodalite in dolomite/ankerite matrix with minor amount of calcite
Constituents : sodalite (Sdl), dolomite (Dol), ankerite (Ank)

PJ09

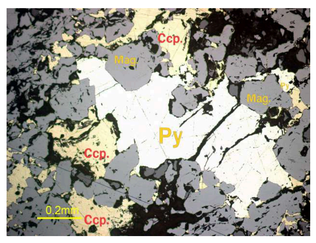




Rock name : Charoite
Remark : vivid whitish purple-violet color, vitreous luster
Texture : fibrous aggregate, anomalous blue of chlorite alteration
Constituents : charoite (Cha)

PJ10





Rock name : Fe-skarn rock
Remark : black color, S.G. 4.60, magnetism
Texture : coarse-grained, interlocking crystalline
Constituents : magnetite (Mag), pyrite (Py), chalcopyrite (Ccp)

Conclusion

Based on the gemmological properties, lithology, and petrography analyses, the specimens utilized for carving consist of high-quality minerals and rocks characterized by well-formed crystals and aesthetic coloration. Furthermore, the exceptional proficiency of the artisans elevates these Thai Buddha sculptures, endowing them with distinctive beauty and unique artistic identity.

Acknowledgement

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