BASE METAL MINERALISATION

IN THE SOUTHERN GEORGINA BASIN,

CENTRAL AUSTRALIA:

AN ASSESSMENT OF DRILL CORE SAMPLES

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Submitted By

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Report for the Northern Territory Geological Survey

1. Introduction

Japan Oil, Gas and Metals National Corporation (JOGMEC), Mincor Zinc Pty Ltd. and Mincor Resources NL, an affiliate of and the sole shareholder in Mincor Zinc Pty Ltd., entered into a joint venture agreement to carry out lead-zinc exploration in the southern part of the Georgina Basin, Northern Territory on 6th June, 2008.

Prior to entering into the joint venture agreement, JOGMEC investigated some core samples from previous drill holes located in and around the project area to understand characteristics of base metal mineralisation and assess its resources potential.

The results of geological assessment of drill core samples are outlined in this report.

2. Samples

Four drill holes located in the southern part of the Georgina Basin were sampled from the Core Facility Alice Springs of Northern Territory Geological Survey for geological assessment to be undertaken by JOGMEC. With sampling of the drill cores, lithology and mineralisation of the drill holes were examined as summarized in paragraph 3. Polished thin sections were also created and examined under a microscope as the appendix.

The sampled intervals from these drill holes and the polished thin sections are listed in Table 1, and the locations of these drill holes are shown in Figure 1.

Table 1: Sampled unites from drill holes.

Hole Name	Interval (m)	Thickness (m)	Sample Type	Geological Unit	Rock type	Qty. of polished thin section
Baldwin 1	889.2 - 889.4	0.2	1/8 core	Arthur Creek F.	Contact between black, laminated mudstone and dolomitic limestone. Thin layers of sulphide (pyrite, chalcopyrite, galena and sphalerite) occur along bedding.	2
Hunt 1	347.1 - 347.3	0.2	1/4 core	Arthur Creek F.	Contact between black, laminated mudstone and carbonaceous rock. Thin layers of sulphide (pyrite, chalcopyrite, galena and sphalerite) occur along bedding and stylorite.	1
DD92EC1	283.4 - 283.8	0.4	1/4 core	Arthur Creek F.	Nodular bedded sandy to muddy carbonate rock with interbedded black calcareous mudstone (bitumen).	1
	320.0 - 320.6	0.6	1/8 core	Arthur Creek F.	Bioturbated sandy and muddy carbonate rock. Nodular bedded dolomitic sandstone with interbedded black mudstone (bitumen).	1
Hacking 1	656.95 - 657.10	0.15	Core*	Arrinthrunga F.	White, dolomitic limestone. This unit shows relatively higher porosity.	1
	769.30 - 769.45	0.15	Core*	Arthur Creek F.	Sandy carbonate rock. This unit includes several thin layers of calcareous mudstone with a trace of fine pyrite along and across bedding.	1

* No remaining sample.

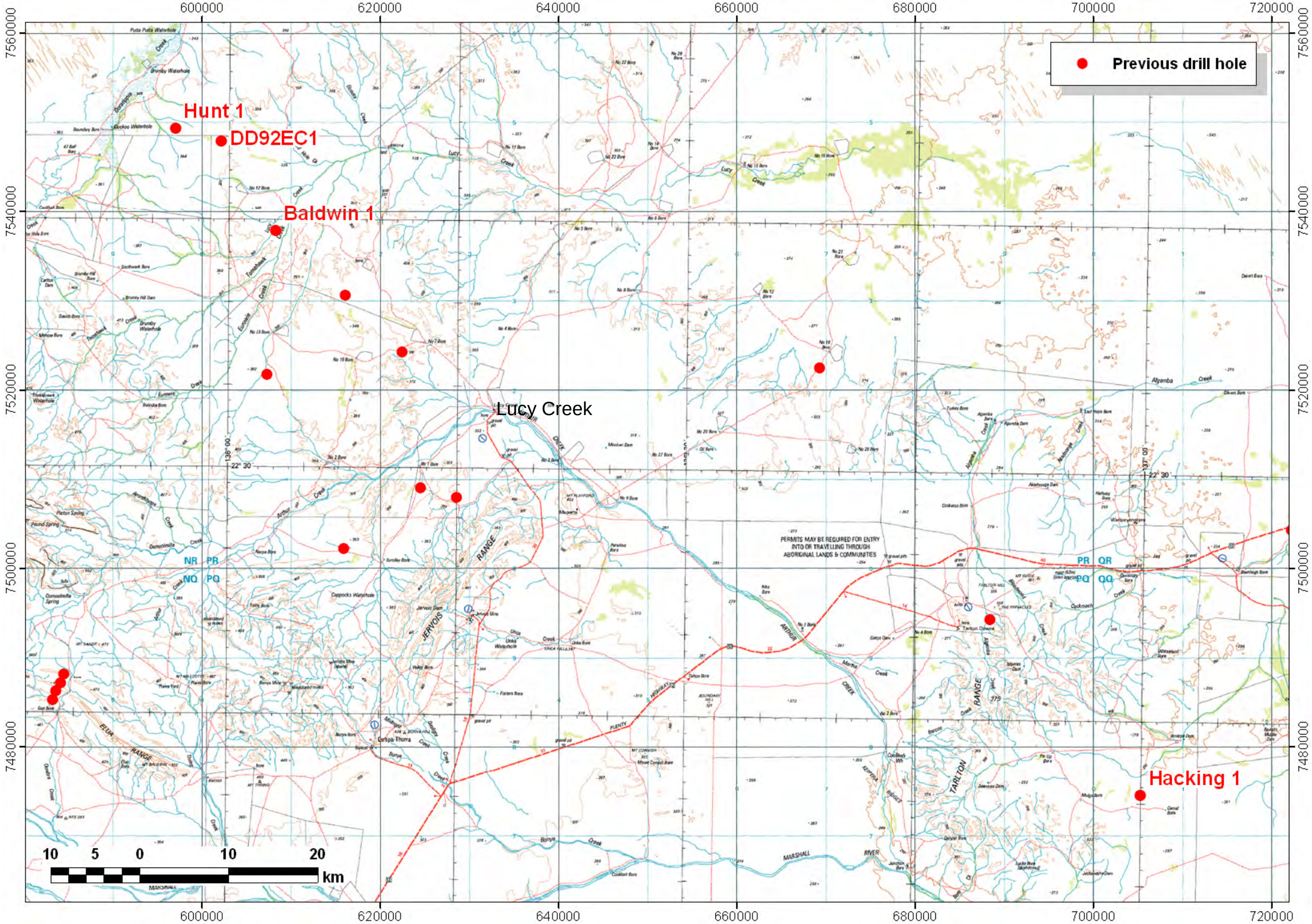


Figure 1: Locations of the previous drill holes.

3. Lithology and mineralisation

Stratigraphy of Georgina Basin sediments in **Baldwin 1** is composed of the late Cambrian Arrinthrunga Formation, the middle Cambrian Arthur Creek Formation, the early Cambrian Red Heart Dolostone and the Mount Baldwin Formation and the late Proterozoic Mopunga Group at the bottom (Pacific Oil and Gas Pty Ltd., 1990).

The Arther Creek Formation is the dominant unit in this drill hole consisting mainly of carbonate rocks (limestone and dolomitic limestone) with silty or sandy parts and interbedded mudstone and sandstone. The Arthur Creek Formation in this drill hole also includes black, planar laminated mudstone lying from approximately 870m to 890m. The largest amount of sulphide in this drill hole concentrates at the contact between this mudstone and dolomitic limestone which shows relatively higher porosity than other parts of Arthur Creek Formation and is located just below the mudstone at 889.3m. At this contact zone, 1 to 2 volume percent of pyrite, chalcopyrite, galena and shpalerite are distributed (Figure 2), and 6,626ppm zinc anomaly was assayed between 889.0 to 889.8m (Pacific Oil and Gas Pty Ltd., 1990). A trace of minor sulphide is also disseminated within mudstone and dolomitic limestone. Sulphide in mudstone is mainly composed of fine-grained pyrite and chalcopyrite which exist along laminae. However, in some parts, sulphide exudes with small-scale slumping texture and cuts laminae of mudstone. And sometimes sulphide is associated with dissolution structure (stylolite) in dolomitic limestone. The amount of sulphide gradually decreases with the increasing distance from the contact between mudstone and dolomitic limestone, and is invisible to the naked eye in a part 5m away from the contact.

Similar mineralisation is shown in **Hunt 1** which is located 25km north-west of Baldwin 1. In this hole, pyrite, chalcopyrite, galena and sphalerite are distributed mainly at the contact between black, planar laminated mudstone and carbonate rock in the Arthur Creek Formation at approximately 345m, and 820ppm zinc anomaly was assayed between 335 to 340m.

DD92EC1 which is located adjacent to the Putta Putta Fault includes possible fault breccia with limonite and hematite stain approximately between 230 to 240m (238 to 240m at 260ppm Zn; CRA Exploration Ltd., 1993). This brecciated part is shown in the Chabolowe Formation which is composed of calcareous to dolomitic sandstone and mudstone. The Chabalowe Formation grades into the Arthur Creek Formation at approximately 245m. The Arthur Creek Formation in this drill hole is characterised by two-tone mixed rock composed of light gray nodular (boudinage?) sandy to silty carbonate rock with dark gray to black bituminous calcareous mudstone matrix (Figure 3). The highest base metal value in this drill hole is located in such lithology, and 454ppm zinc anomaly was assayed between 320 to 322m. However, any sulphide is invisible to the naked eye in this interval.

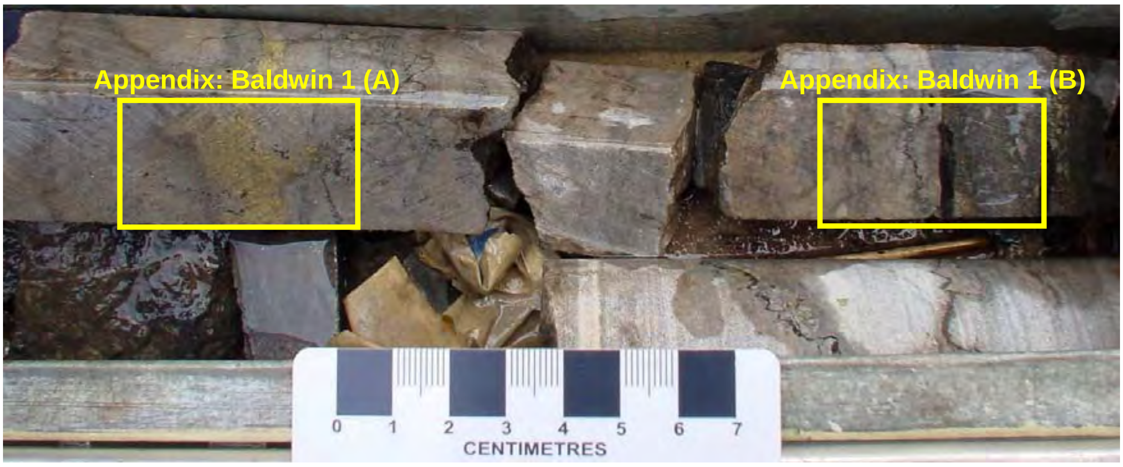


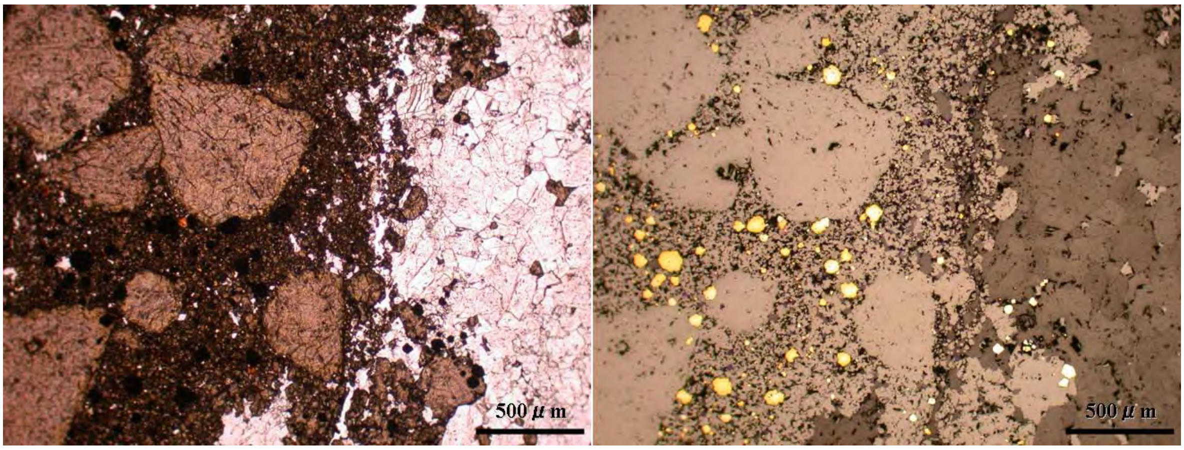
Figure 2: Copper-lead-zinc mineralisation in dolomitic limestone in Arthur Creek Formation (Baldwin 1; approximately 889.3 to 889.5m).

Figure 3: Two-tone mixed rock composed of light gray sandy dolomite with black bituminous mudstone matrix in Arthur Creek Formation (DD92EC1; 284.5m).

4. Interpretation and conclusions

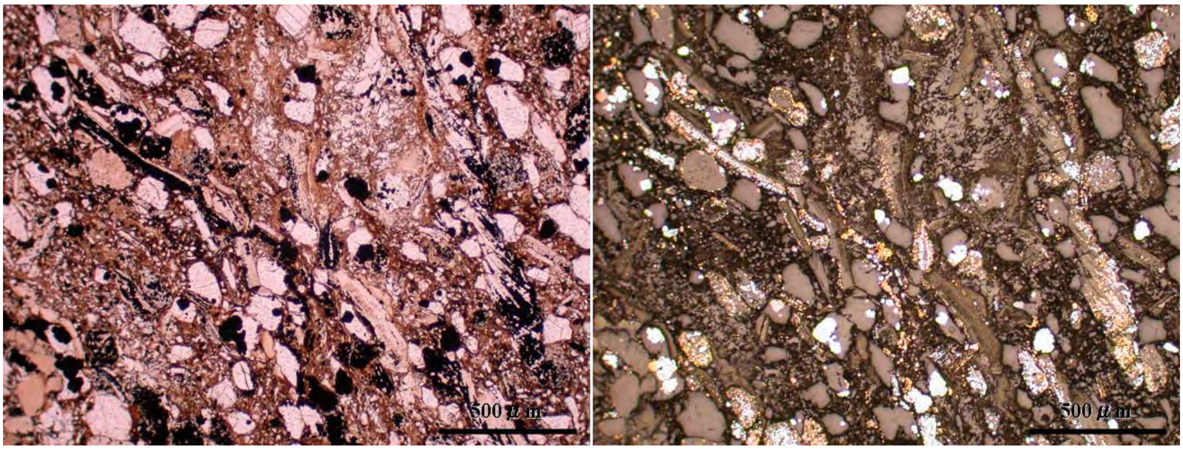
The results of drill core examination show that base-metal mineralisation in these holes seems to be associated with pelitic rocks such as black mudstone and bitumen. This indicates that base-metals were deposited from ore fluid under reductive environment after sedimentation of host rocks in the Georgina Basin. Especially, it would appear that impermeable mudstone layers intersected by Baldwin 1 and Hunt 1 acted as "cap rocks" of ore fluid.

Appendix – Micrograph



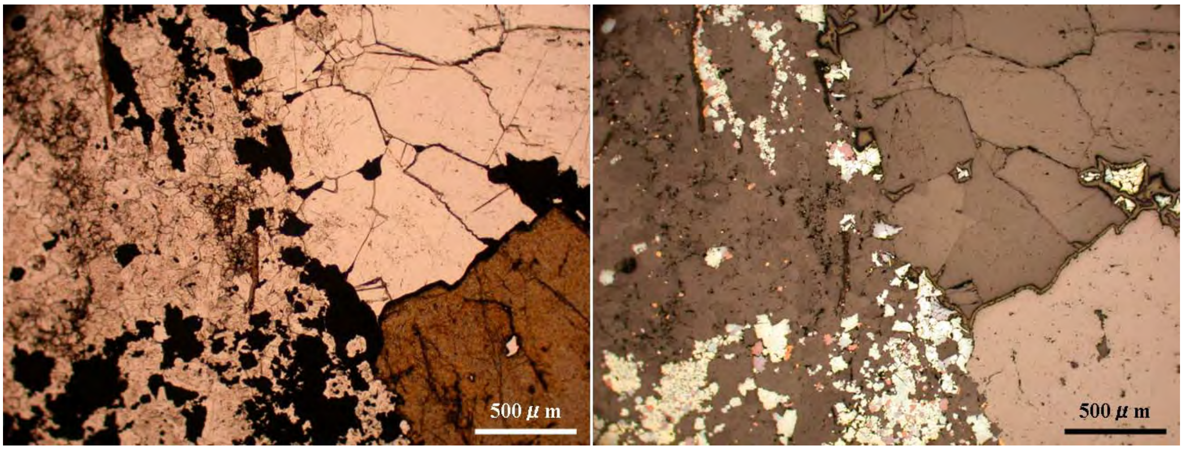
Baldwin 1 (A) (left: plain polarized light; right: reflecting microscope)

Carbonate rock composed of re-clystalised xenomorphic carbonate minerals showing dense texture. Fine grained sulphide minerals (pyrite, chalcopyrite, sphalerite and galena) disseminate with a large amount of spinel group minerals. This thin section contains few allochems (bioclasts).



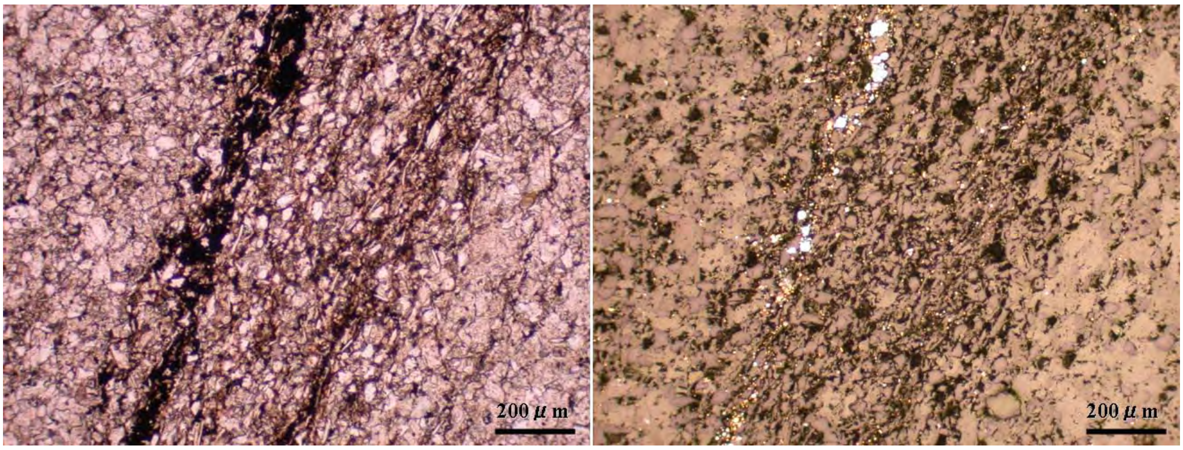
Baldwin 1 (B) (left: plain polarized light; right: reflecting microscope)

Black, organic part is interbedded in re-crystalised carbonate rock with less than 5 volume percent of allochems (bioclasts). Organic part is mainly composed of allochems (bioclasts) and quartz grains with a minor amount of crushed carbonate minerals, spinel group minerals and microscopical feisic and mafic minerals as matrix. Some allochems (bioclasts) and mineral fragments (possibly feldspar and/or pyroxene??) are replaced by fine-grained secondary quartzes and sulphide minerals.



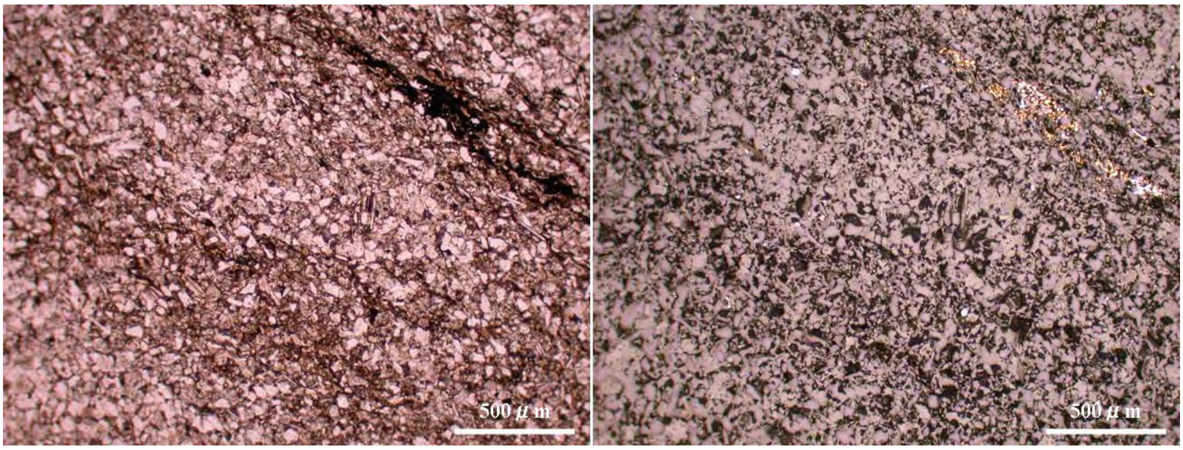
Hunt 1 (left: plain polarized light; right: reflecting microscope)

Carbonate rock composed of re-clystalised xenomorphic carbonate minerals. Both finer- (left half of the photographs; av. 0.1mm in diameter) and coarser-grained (right half of the photographs; av. 0.5mm in diameter) parts are seen in this section, and more than 50 volume percent of sulphide minerals concentrate in the finer-grained part. Two thin-layers which are composed of coarse (max. 4.0mm in diameter) carbonate minerals and minor spinel group minerals are included in this section.



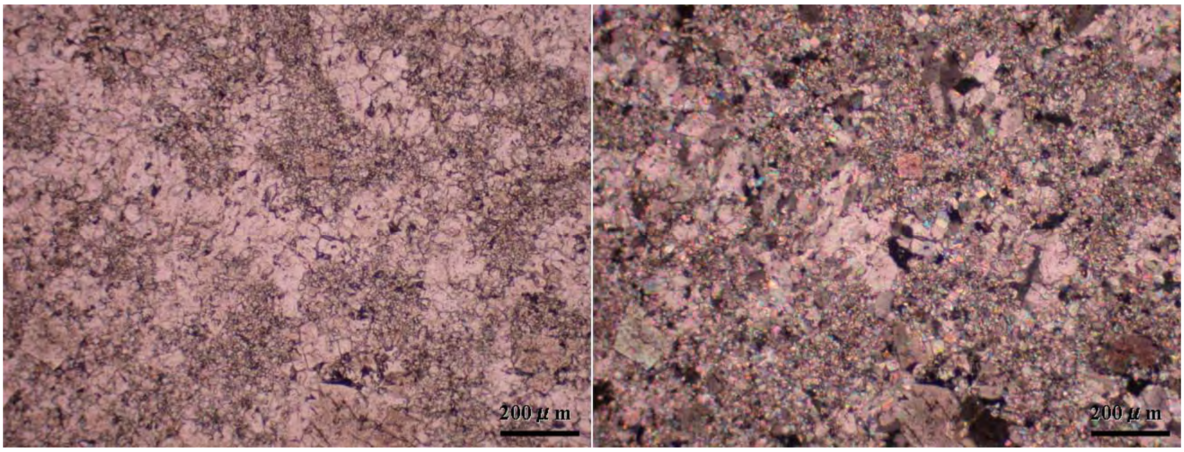
DD92EC1 (283.4m) (left: plain polarized light; right: reflecting microscope)

Silty to sandy carbonate rock composed of fine-grained, re-clystalised xenomorphic carbonate minerals and trace fine-grained crystals of quartz, feldspar and spinel group minerals. Bituminous mudstone (central band in the photographs) is dominated by microscopical minerals including xenomorphic plagioclase, acicular or fragmentary orthopyroxene (?), xenomorphic carbonate minerals and a small amount of rounded sulphide minerals (pyrite, chalcopyrite and sphalerite). This thin section contains few allochems (bioclasts).



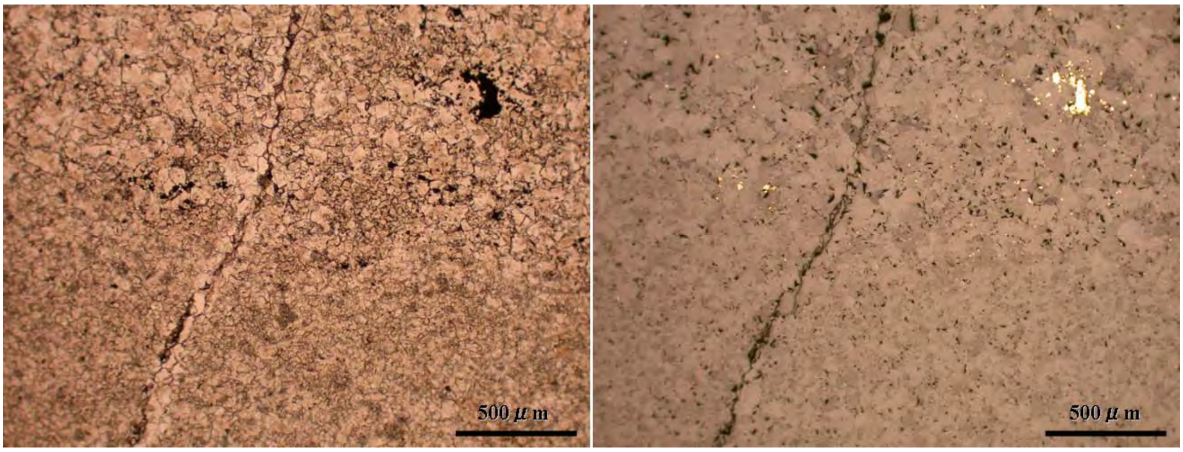
DD92EC1 (320m) (left: plain polarized light; right: reflecting microscope)

Sandy carbonate rock. Lithology of this thin section is similar to the sample from 283.4m of DD92EC1, but is relatively coarse-grained and quartz rich. Sulphide minerals in this thin section occur in the muddy part (bitumen).



Hacking 1 (656.95m) (left: plain polarized light; right: cross polarized light)

Fine-grained carbonate rock. Almost all fragments are re-clystalised xenomorphic carbonate minerals.



Hacking 1 (769.30m) (left: plain polarized light; right: reflecting microscope)

Stratiform carbonate rock composed of re-clystalised xenomorphic carbonate minerals. Both finer- (bottom half of the photographs; av. 20 μm in diameter) and coarser-grained (upper half of the photographs; av. 50 μm in diameter) parts are seen in this section, and a trace of sulphide minerals are included in the coarser part. Fine carbonate minerals veinlet intersects the bedding at the central part of the photograph. The veinlet does not include any sulphyde.