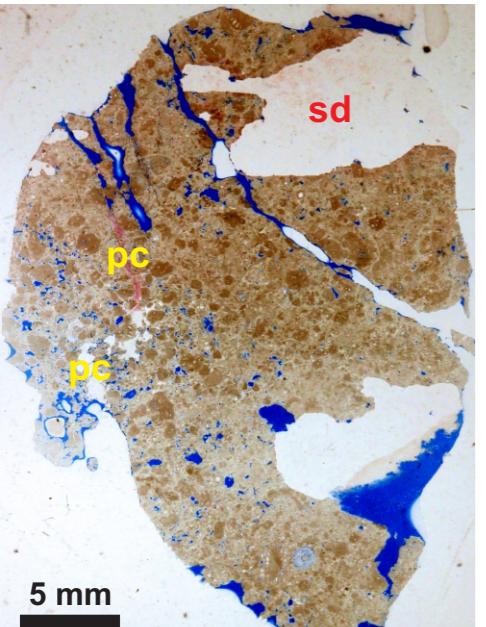
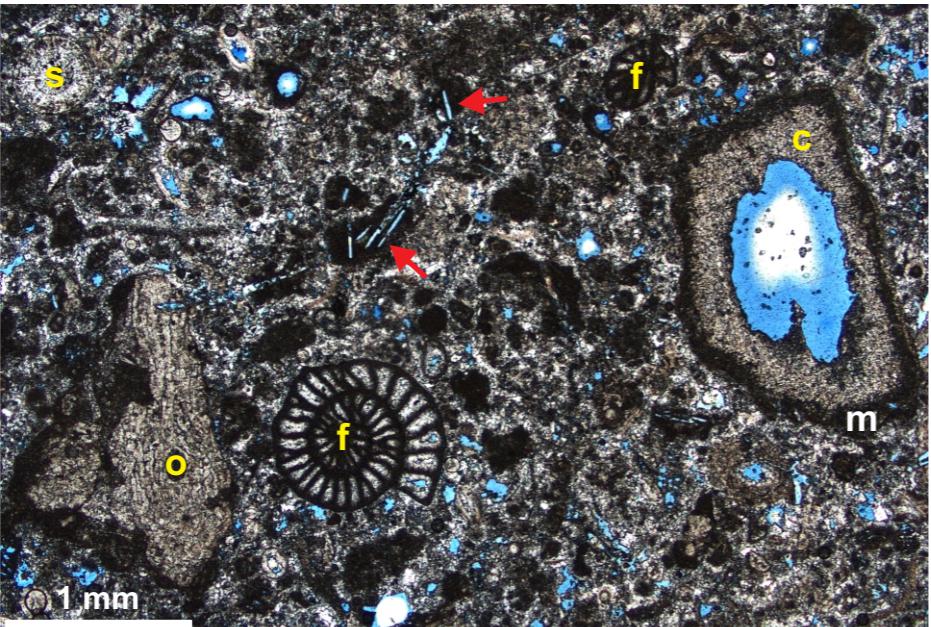


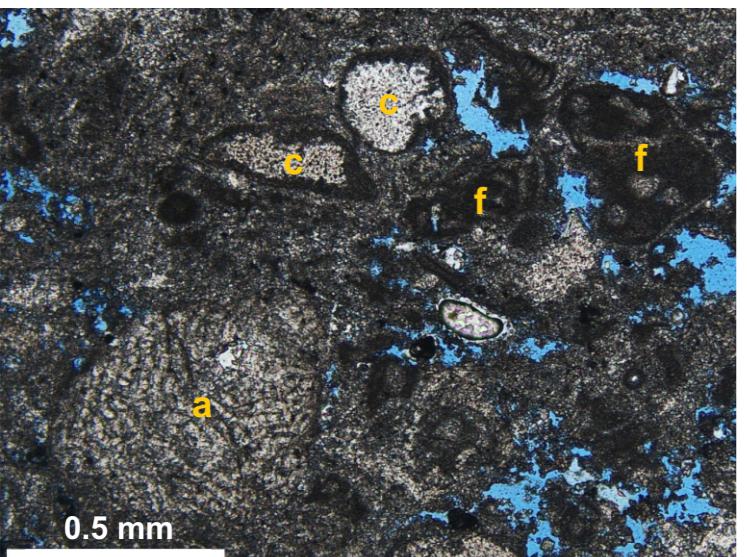
## Example of detailed thin section description (by courtesy of Lundin Energy AS)



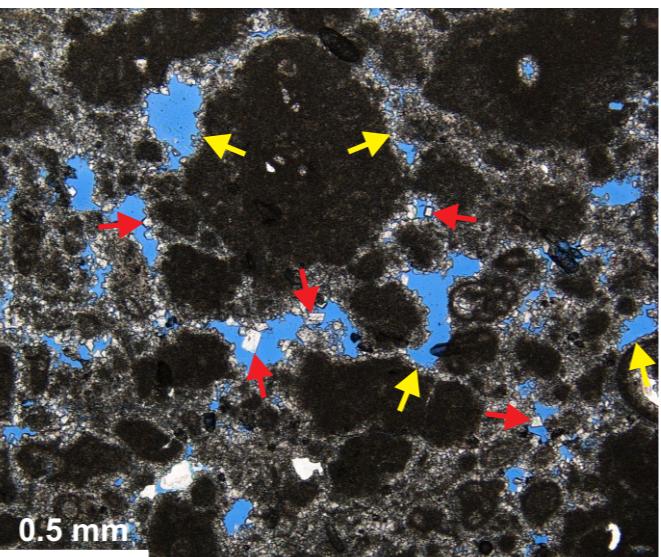
Thin section scan, showing vuggy bioclastic-peloidal facies, with some vugs cemented with saddle dolomite (sd) and poikilotopic calcite (pc), all cut with open fractures.



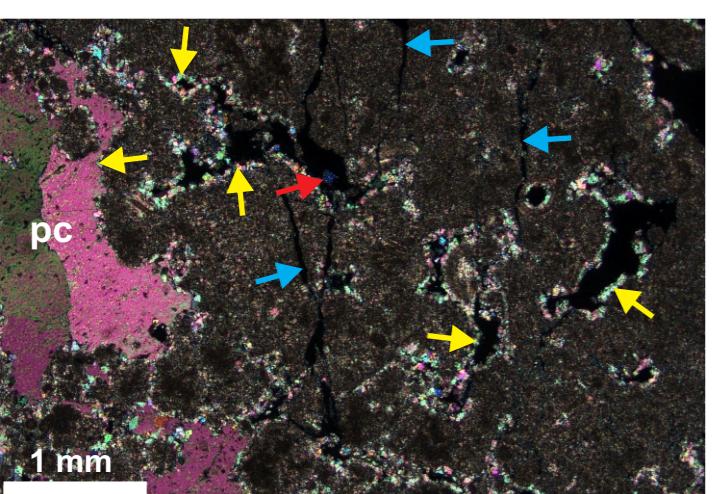
PPL view of bioclastic-peloidal pack/grainstone with foraminifers (f), brachiopod spine (s), crinoid (c) and ?*Girvanella* oncoid (o). The crinoid is partly dissolved and its margin is micritized (m). Arrows point at peloids that comprise needle-like molds after ?anhydrite.



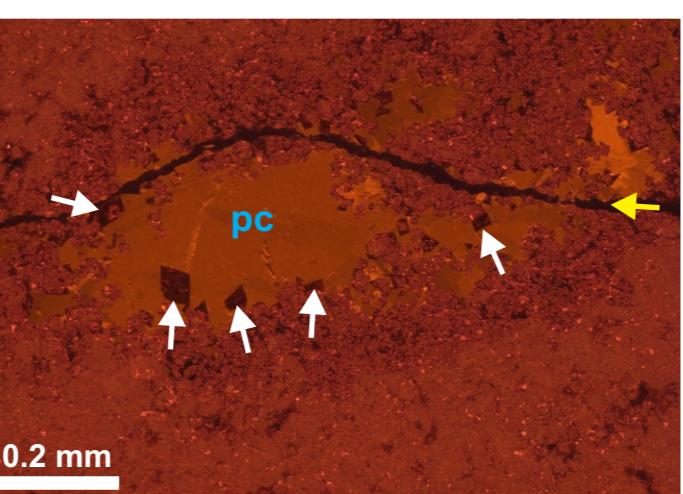
PPL view of small foraminifers with thin micrite envelopes (f), algal colony (a), and microbially coated crinoids (c). Blue epoxy shows dissolution vugs.



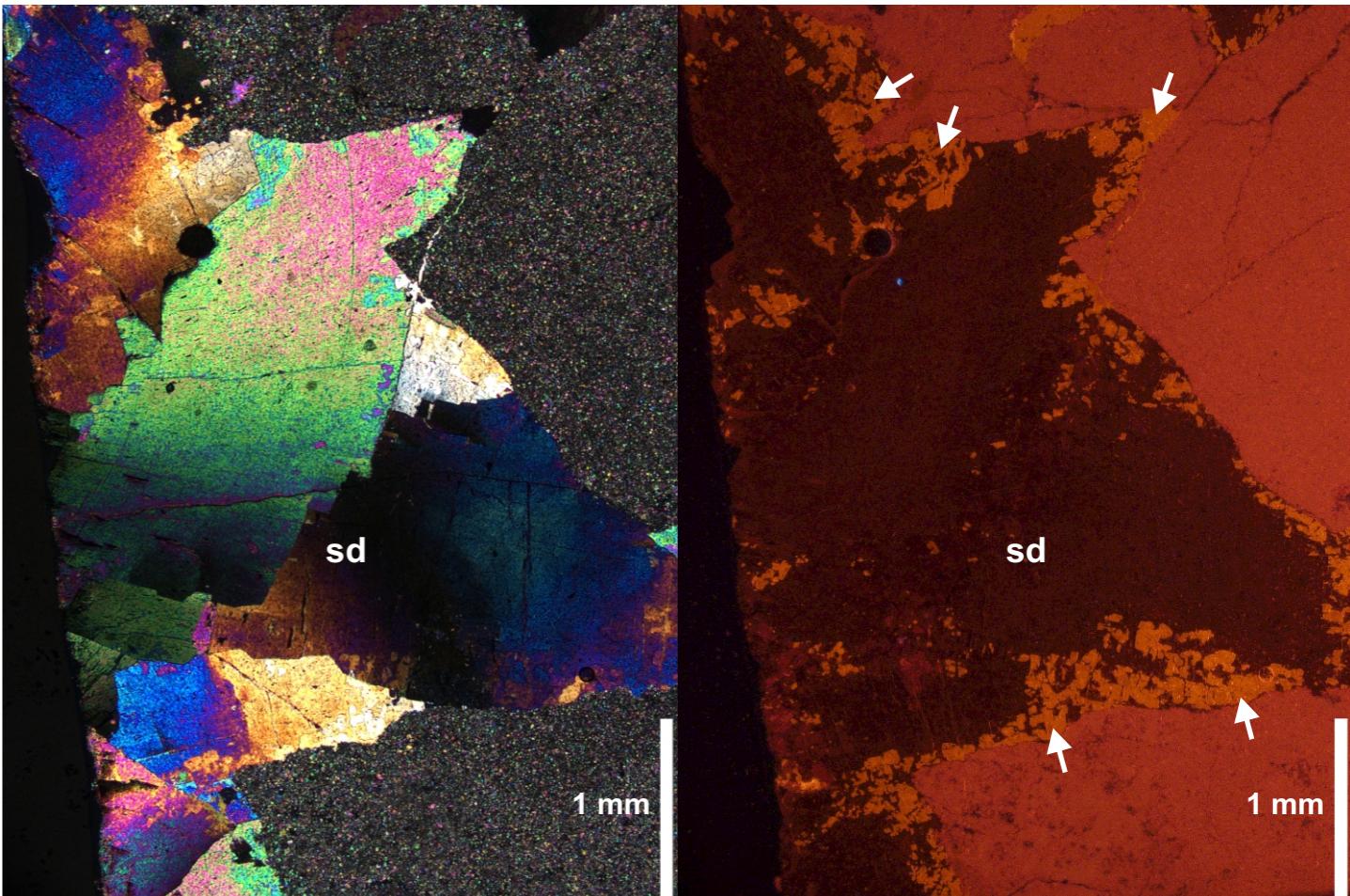
PPL view of peloid-dominated pack/grainstone, with many interparticle pores lined with a continuous rim of turbid dolomite (yellow arrows), post-dated by isolated, clear dolorhombs (red arrows).



XPL view of peloid-dominated pack/grainstone, with many interparticle pores lined with a continuous dolomite rim (yellow arrows), post-dated by isolated dolorhombs of larger size (red arrows). Note that cracks do not contain dolomite rims (blue arrows). Larger vug is cemented with poikilotopic calcite (pc).



CL view of dissolution vug lined with isolated non-luminescent dolorhombs (white arrows) and occluded with poikilotopic calcite (pc) having dull to bright orange luminescence. Calcite is cut by a fracture (yellow arrow).



XPL and CL views of vug with clear saddle dolomite (sd) that has typical undulose extinction. The crystals are generally non-luminescent, but their margins are calcitized, as evidenced by dull orange patches (arrows).

<b>Core facies:</b>	Peloid-bioclast packstone-grainstone.
<b>Microscopic description:</b>	Peloid-dominated grainstone-packstone with abundant small foraminifers and rare other bioclasts, including crinoids, ? <i>Girvanella</i> algae, and brachiopods. Peloids are poorly sorted and up to 1 mm across. Some of them contain thin, straight pores which can be molds after anhydrite needles. Bioclasts are up to 2 mm. All grains are randomly oriented.
<b>Depositional texture:</b>	Peloid-small foraminifer grainstone-packstone with rare other bioclasts.
<b>Depositional setting:</b>	Well-washed lagoon (peloids, small foraminifers) influenced by normal-marine water (crinoids).
<b>Diagenesis:</b>	<ul style="list-style-type: none"> <li>- Foraminifers and crinoid margins are micritized. Interparticle pores are lined with early-marine isopachous cement rims, which are now completely dolomitized along with the entire fabric. Dolomite replacing grains is cryptocrystalline, whereas that replacing cements is fine-crystalline (crystals &lt;0.1 mm across). Both types display homogeneous dull red luminescence, with rare micron-scale bright red luminescent spots.</li> <li>- Some interparticle pores and dissolution vugs are lined with isolated clear, non-luminescent dolorhombs up to 2 mm across.</li> <li>- One dissolution vug is cemented with clear saddle dolomite up to a few mm across, characterized by undulose extinction and non-luminescence. Most crystals of saddle dolomite are patchily calcitized especially along their margins, which is manifested by patches of dull orange luminescence within an overall non-luminescent mass.</li> <li>- Many other dissolution vugs, interparticle pores, and molds after ?anhydrite needles are partly to completely filled with non-ferroan (pink-stained) poikilotopic calcite lacking zonation and having dull orange luminescence. The cement has planar crystal terminations towards open parts of the voids. This seem to be the latest cement phase.</li> </ul>
<b>Porosity:</b>	Porosity is excellent and includes mainly dissolution vugs and interparticle pores, with minor fractures, intraparticle pores in foraminifers, and molds in crinoids and after ?anhydrite needles.
<b>Diagenetic sequence:</b>	Micritization -> early-marine cement rims -> fabric-replacing dolomite and/or fabric dissolution (relative timing inconclusive) -> isolated euhedral dolomite and/or saddle dolomite (relative timing inconclusive) -> poikilotopic calcite and calcitization of precursor dolomite -> fracturing.
<b>Reservoir quality:</b>	Excellent.

