

Some observations on the proposed use of the Hamilton Field, East Irish Sea, as a future carbon dioxide storage facility

Peter Croker, The M Horizon (UK) Limited, November 2023

References

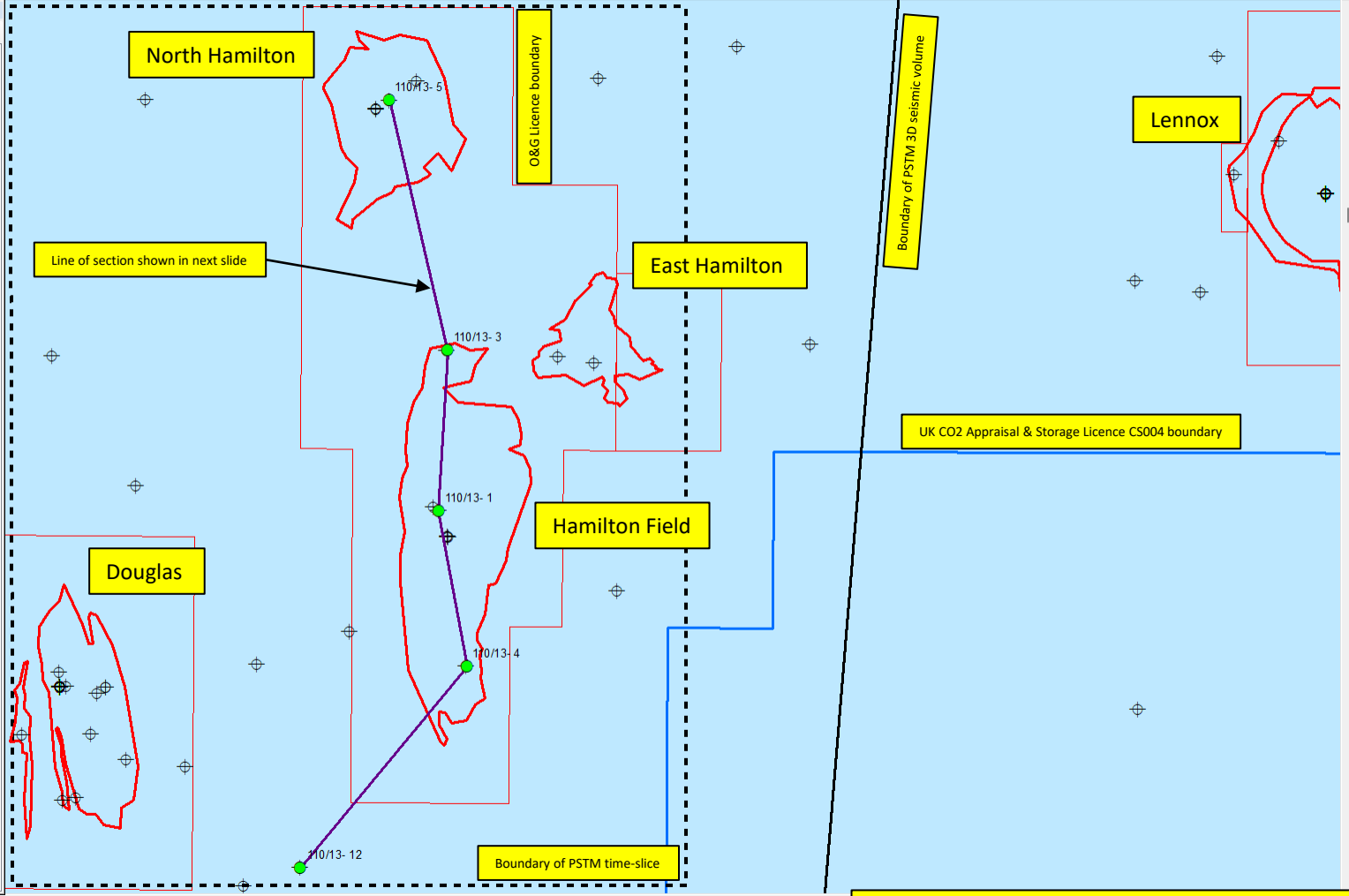
Chedburn et al (2022) The critical evaluation of carbon dioxide subsurface storage sites: Geological challenges in the depleted fields of Liverpool Bay
AAPG Bulletin v. 106, no. 9, pp. 1753–1789

Lamuraglia et al (2023) Unmanned Mapping of Ultra-Shallow Water Environment in the framework of CCS Project in Liverpool Bay. Second EAGE Seabed Seismic Today Workshop, 18-20 September 2023, Milan, Italy (expanded abstract)

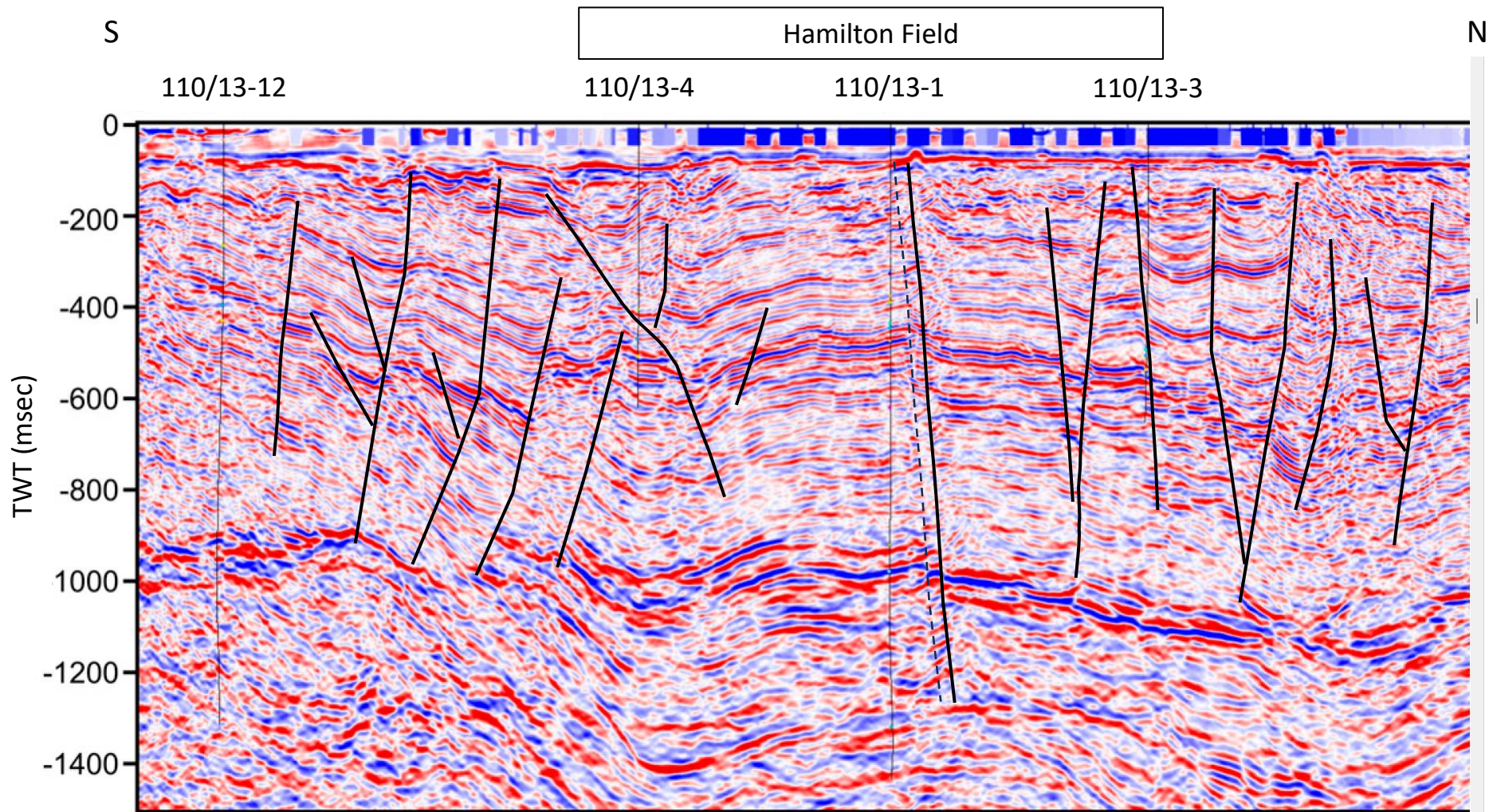
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Location map showing gas fields, wells, 3D seismic, licences and line of N-S section.

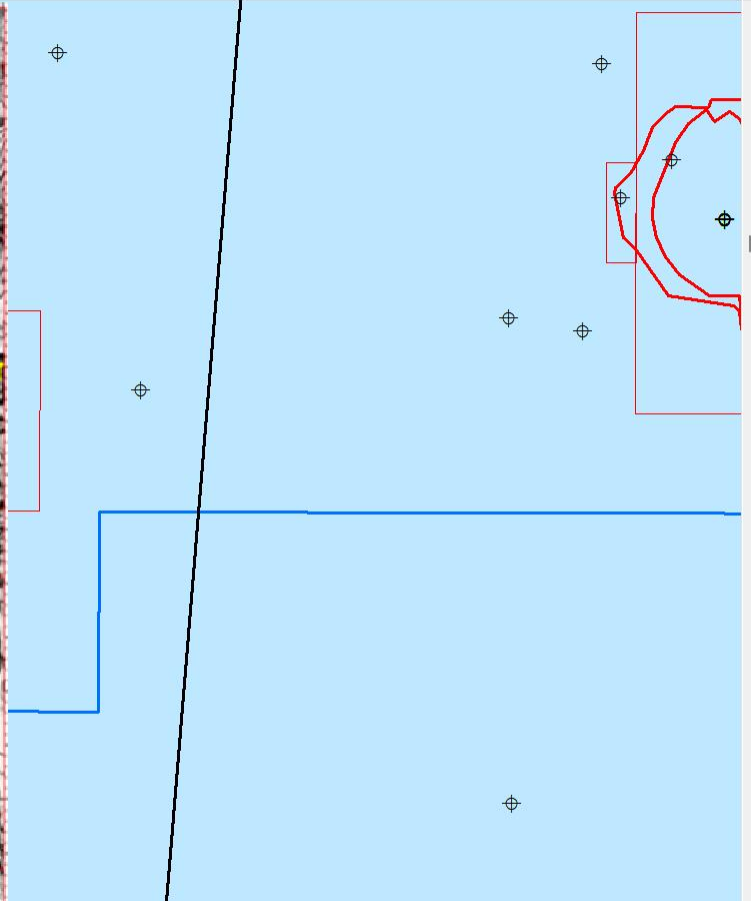
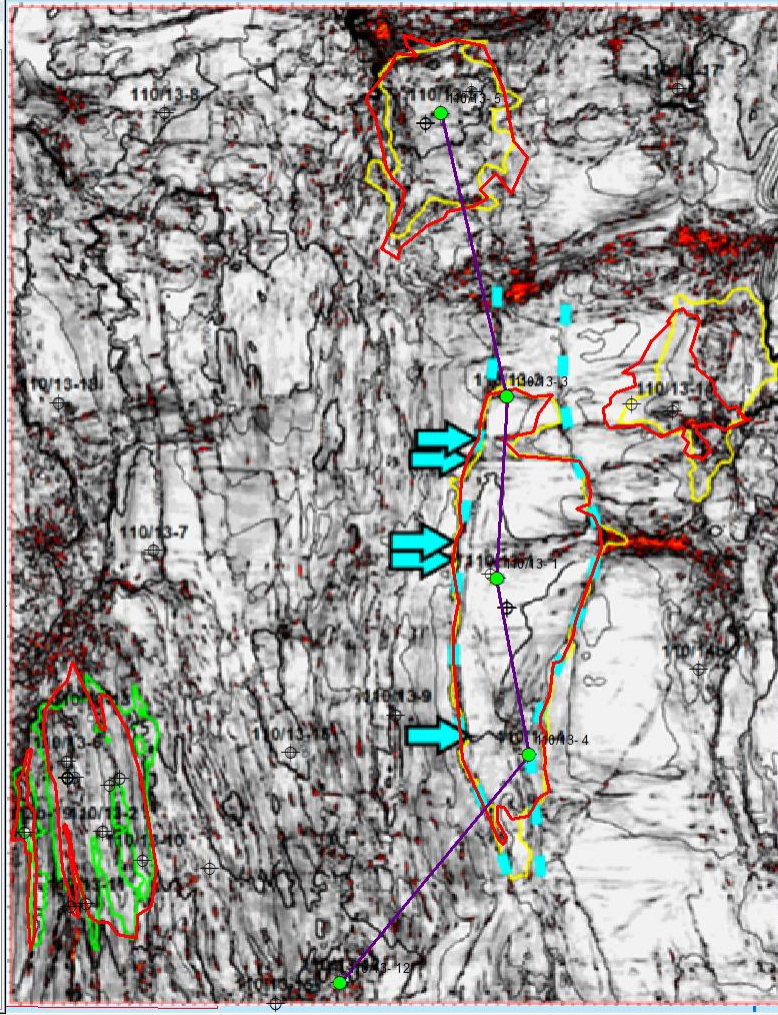


North-south seismic line with fault interpretation across the Hamilton Field from the prestack time migration seismic volume. Note fault (zone) interpreted just north of 110/13-1 well and possible associated seabed anomaly. Seismic section from Chedburn et al (2002).

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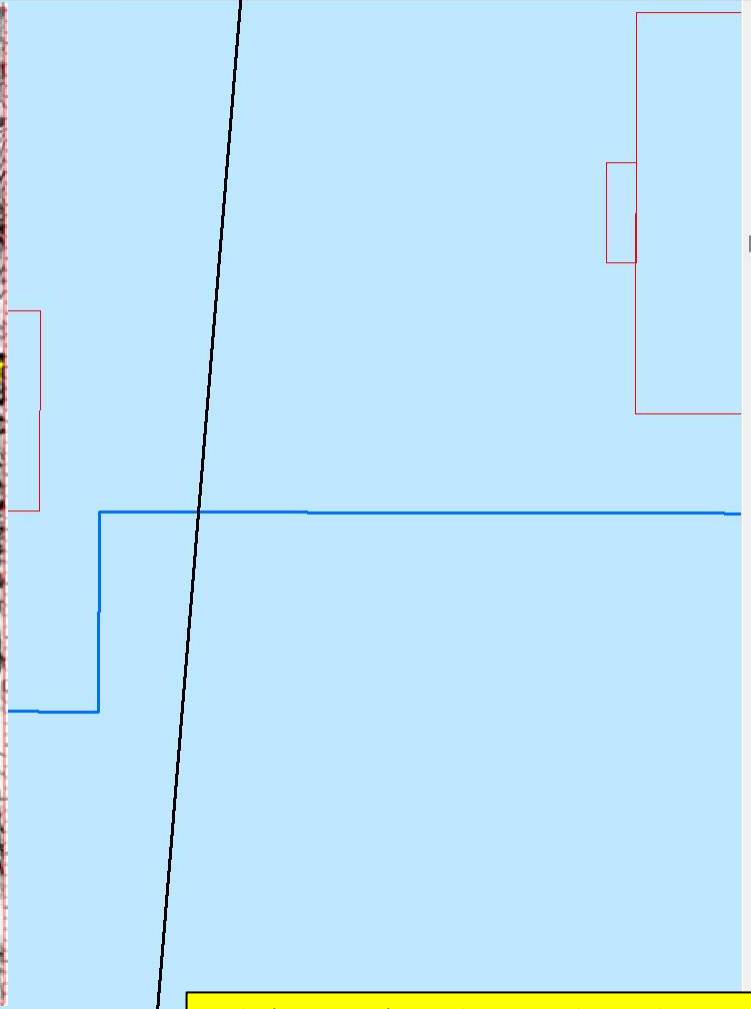
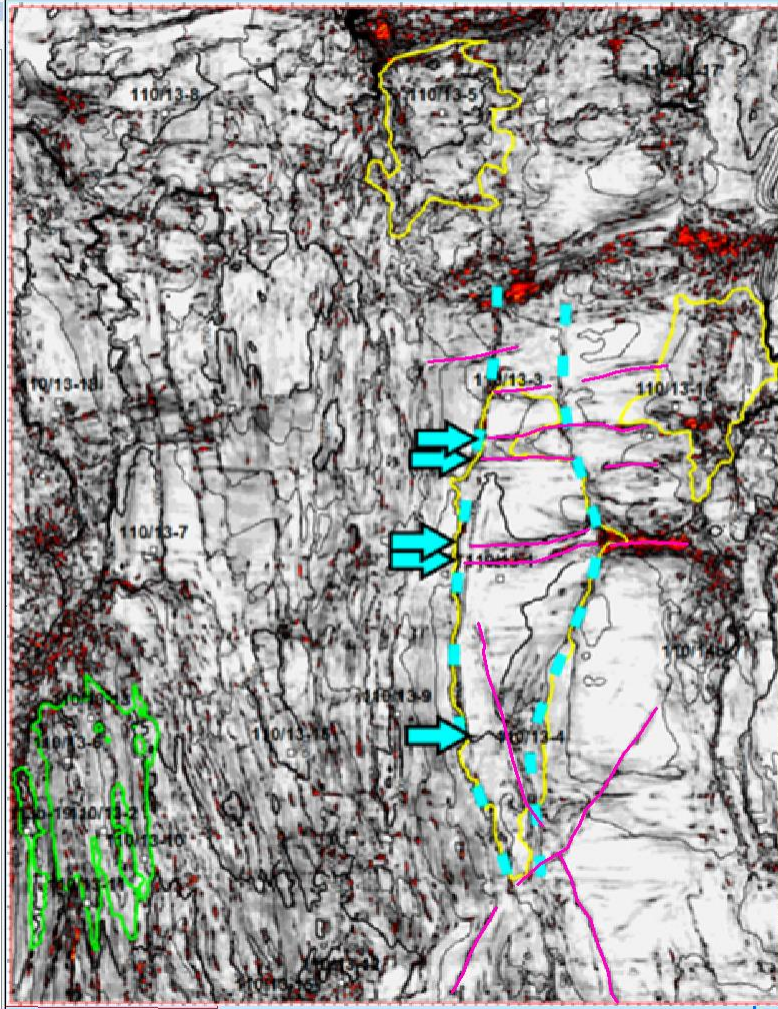


Coherency extractions of seismic variance attribute applied to time slice at 500 msec from the 3D seismic volume, which allows for the identification of faults and potential leakage pathways in the overburden of the Hamilton Field, East Irish Sea (Figure 6A of Chedburn et al, 2022).

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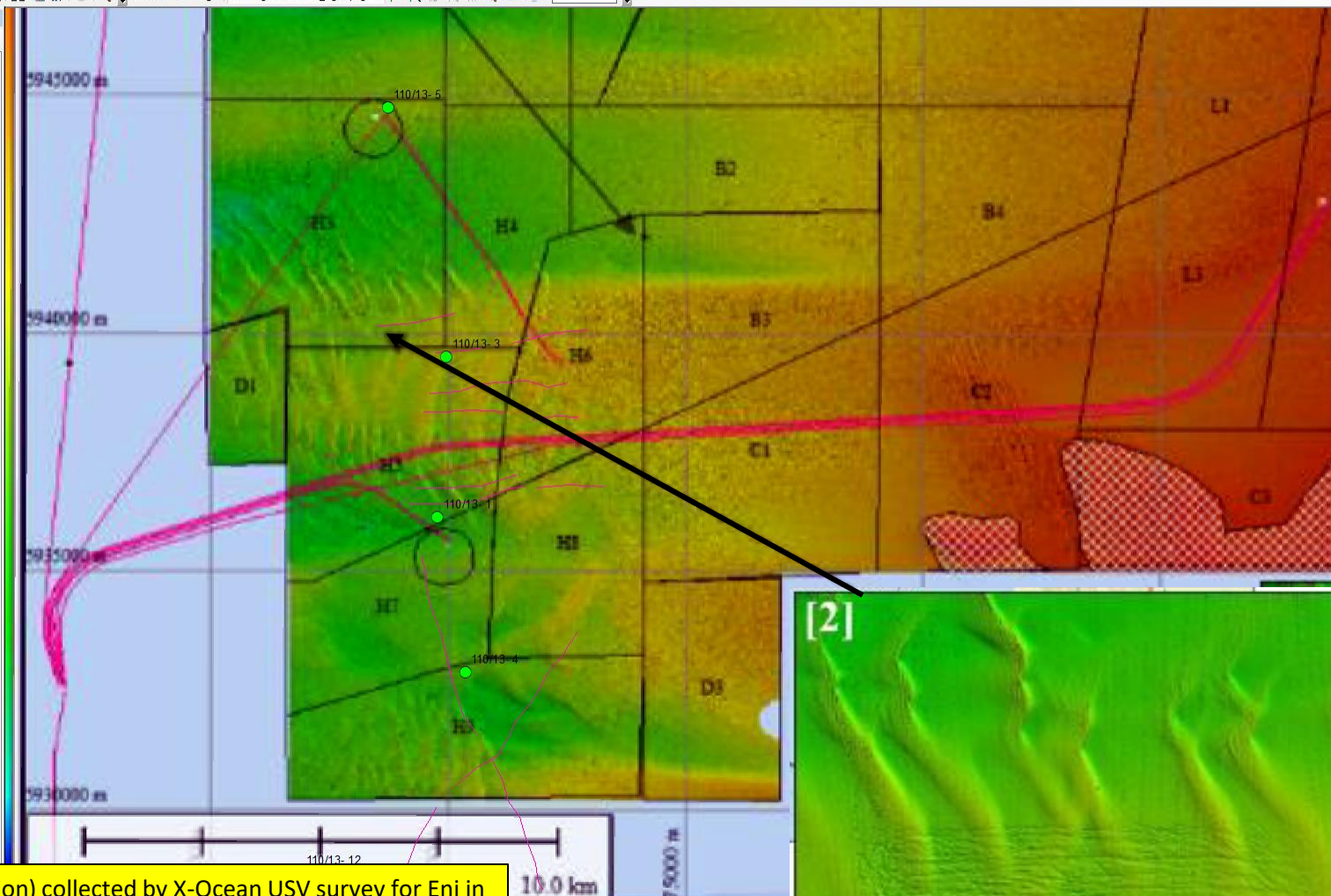
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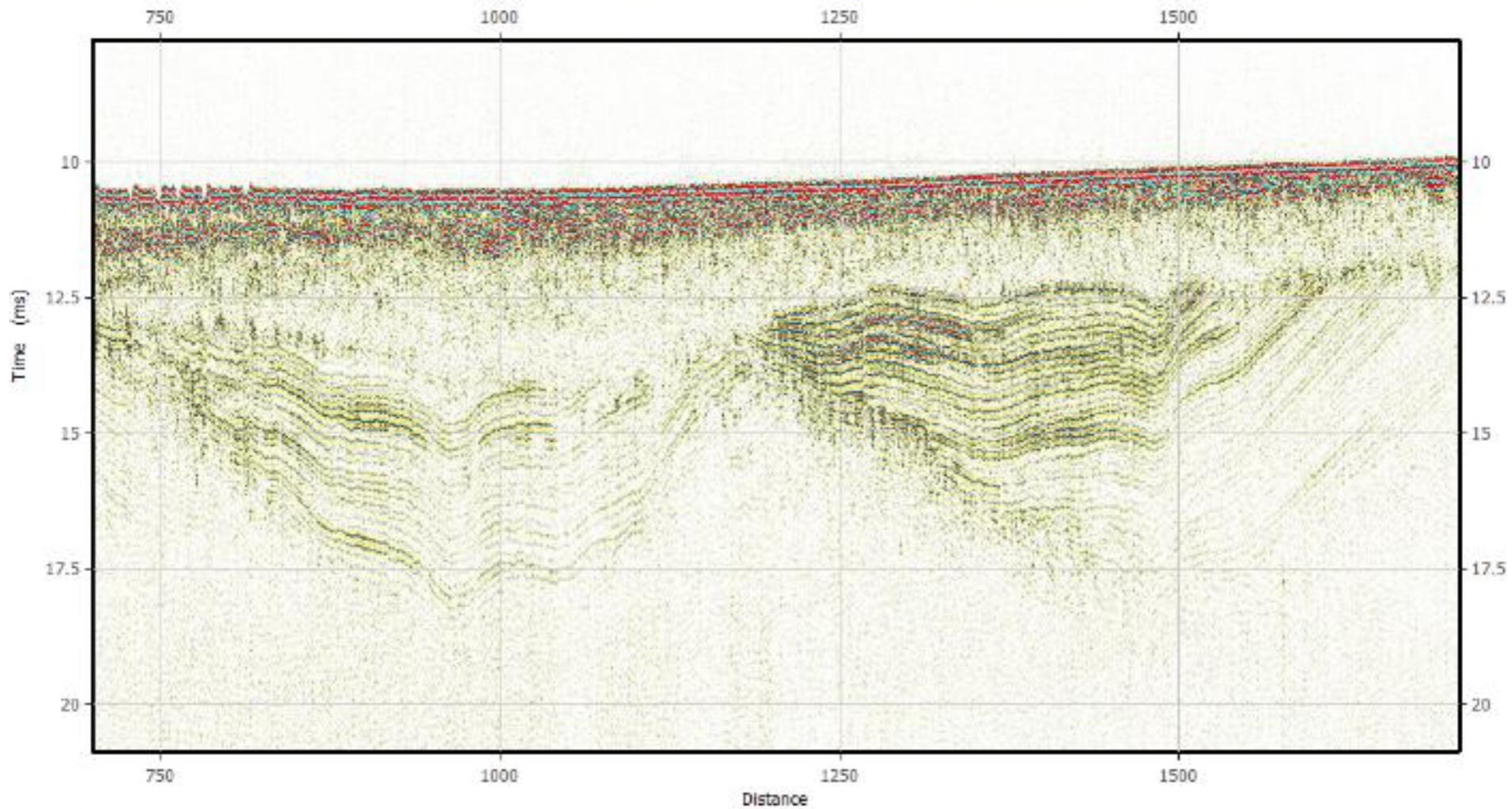
Faults (in magenta) extending across the Hamilton Field interpreted from the 500 msec timeslice (Figure 6A of Chedburn et al, 2022), picked by this author.

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MBES bathymetry (1m resolution) collected by X-Ocean USV survey for Eni in the East Irish Sea (Figure 4a of Lamuraglia et al, 2023), with interpreted fault traces added. Inset [2] shows detail of area with clear E-W trawl marks.



Example of Sub-Bottom Profiler data acquired with Eni MBES survey (Figure 4b of Lamuraglia et al, 2023). Note indications of shallow gas plumes and seabed pockmarks on the left-hand side of the profile.