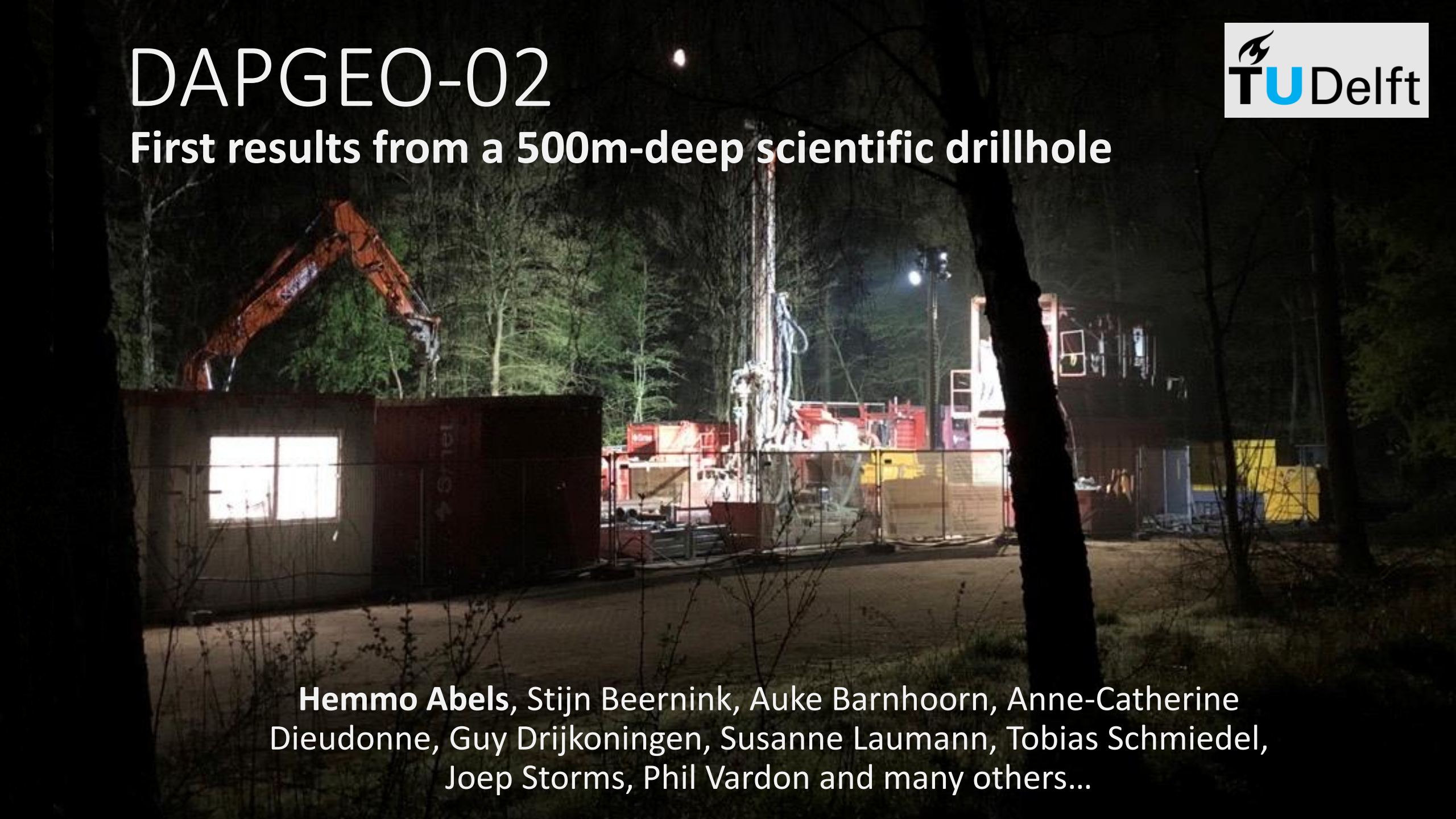
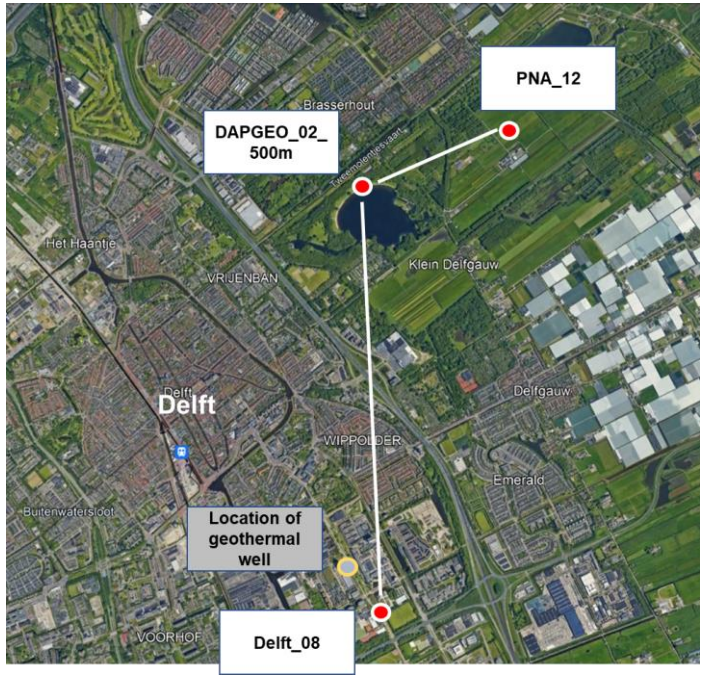
DAPGEO-02

First results from a 500m-deep scientific drillhole



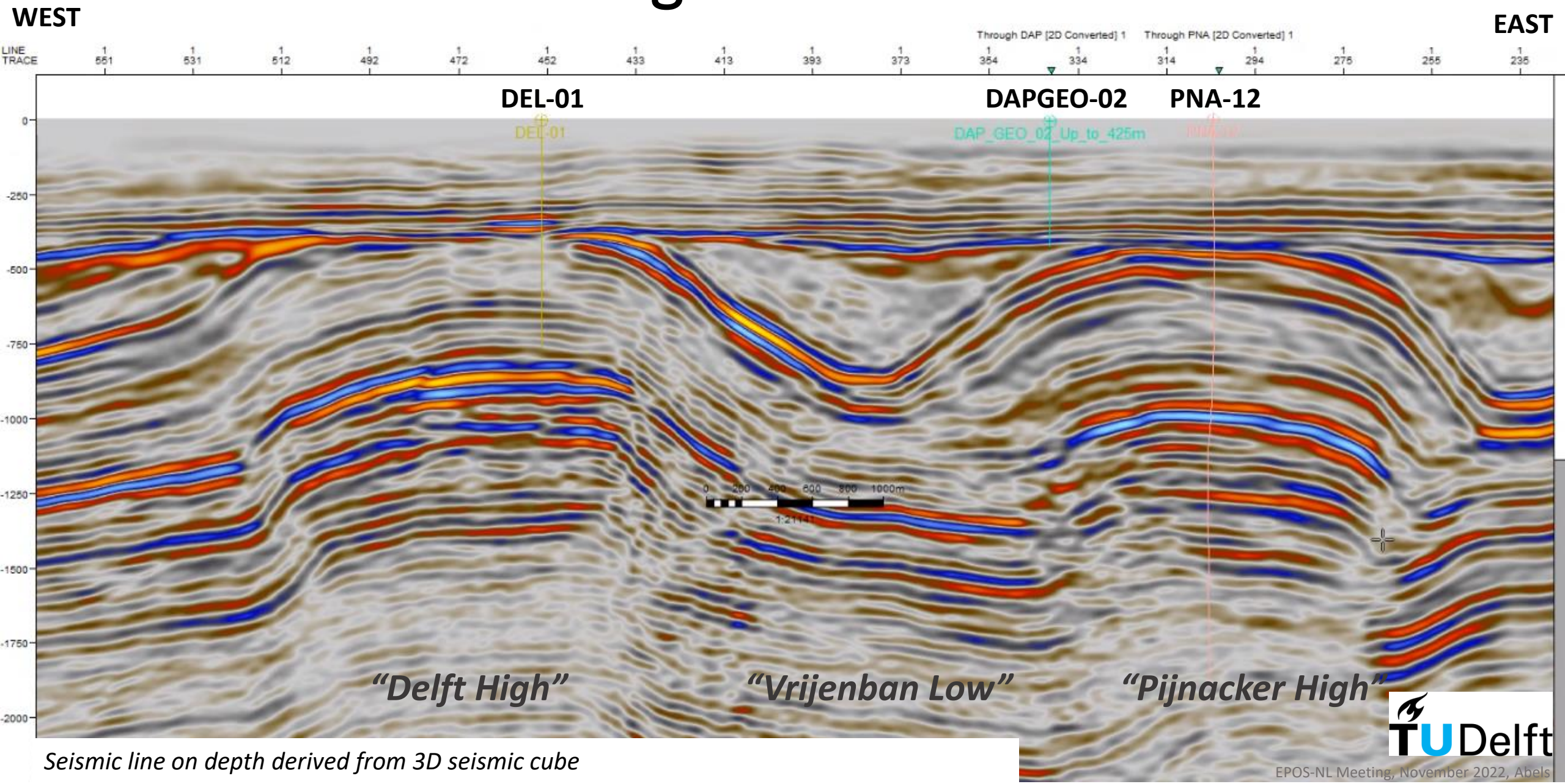
Hemmo Abels, Stijn Beernink, Auke Barnhoorn, Anne-Catherine Dieudonne, Guy Drijkoningen, Susanne Laumann, Tobias Schmiedel, Joep Storms, Phil Vardon and many others…



DAPGEO-02

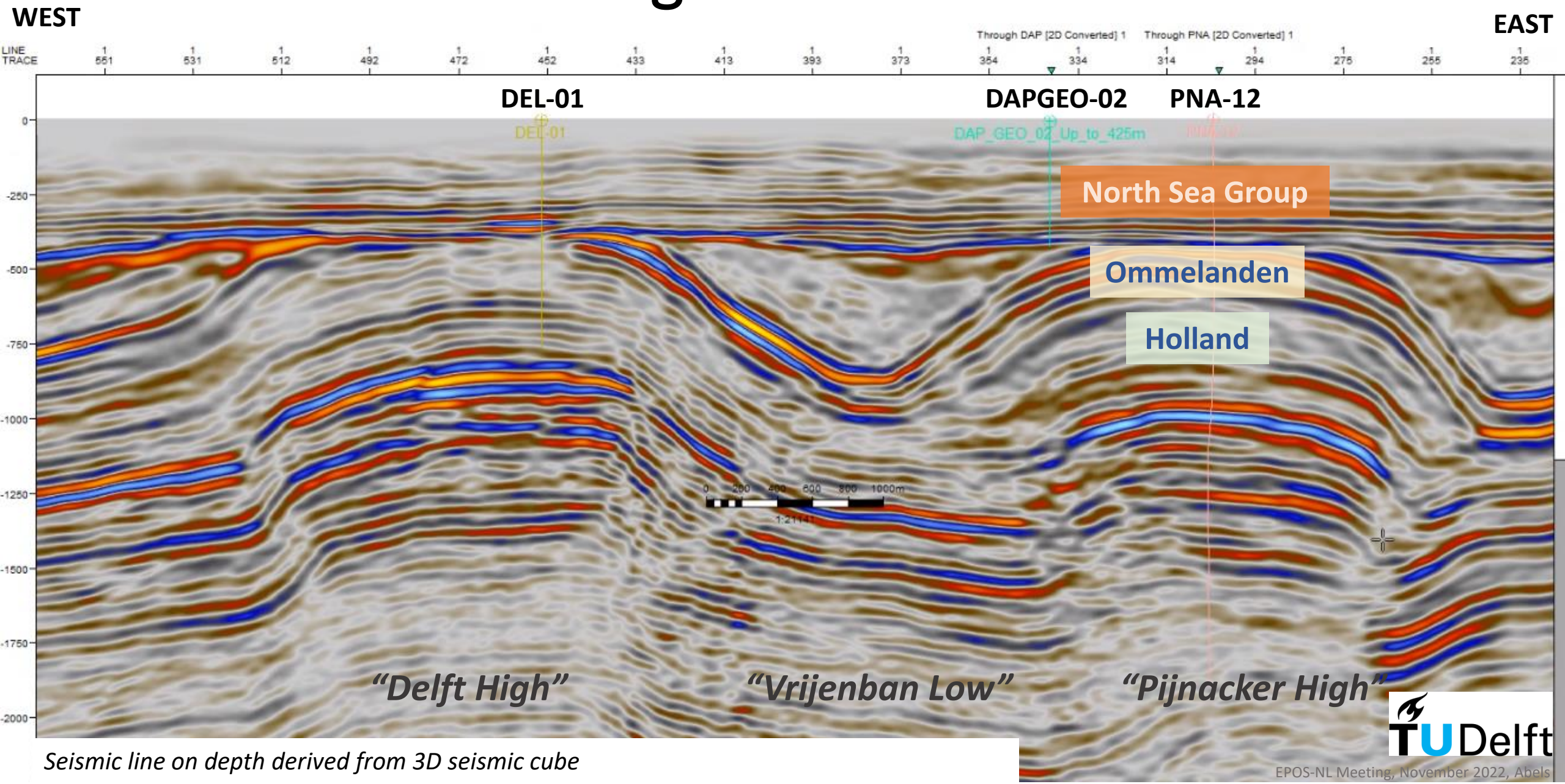
- Drilling in Delftse Hout as on campus first 800m will be destructive drilling
- Funding of EPOS-nl, TUDelft and Covra
- Main targets were Maassluis, Paleogene clays, and chalk
- Cuttings, coring and logging, and fiber optic cable

DAPGEO-02 setting



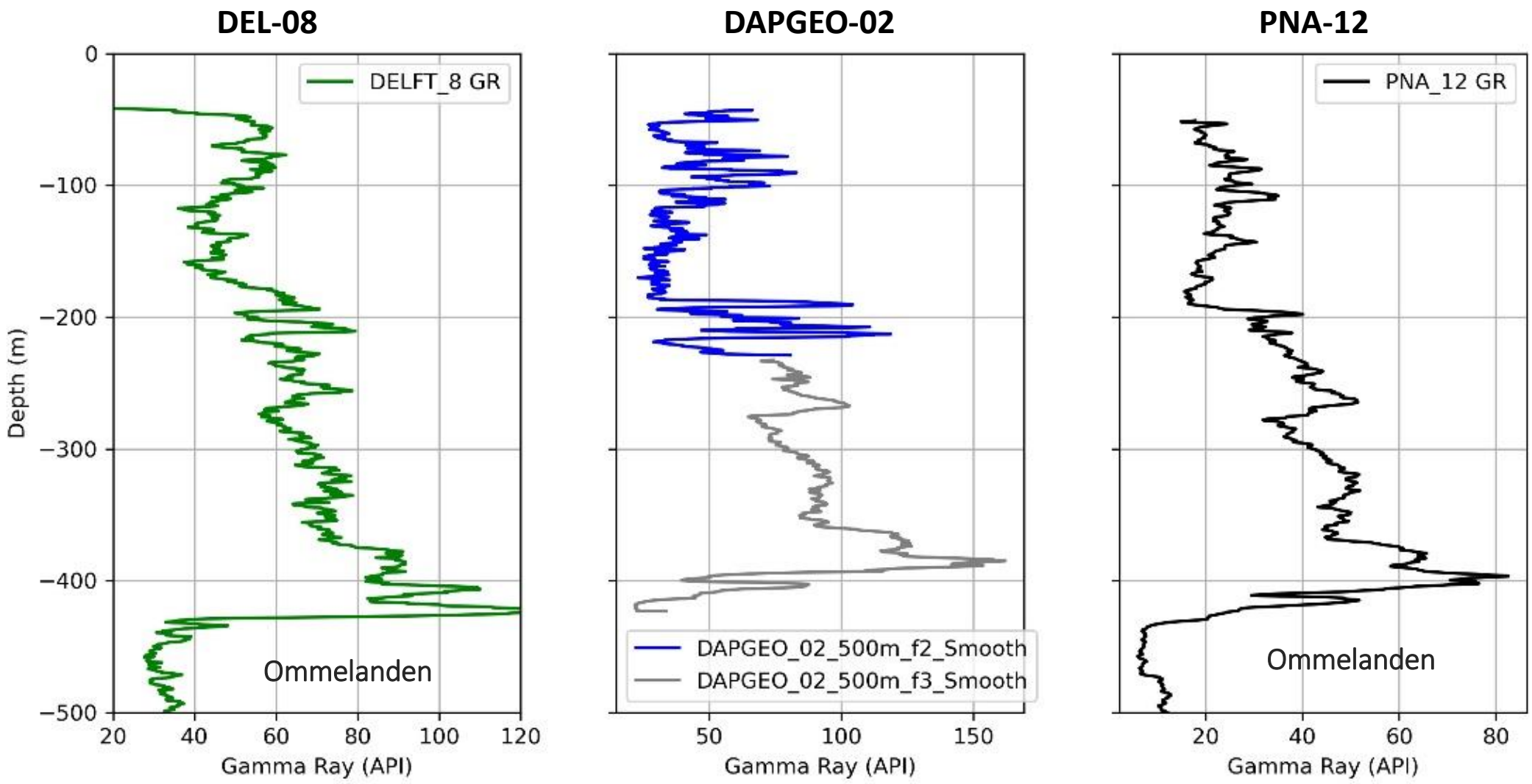
Seismic line on depth derived from 3D seismic cube

DAPGEO-02 setting

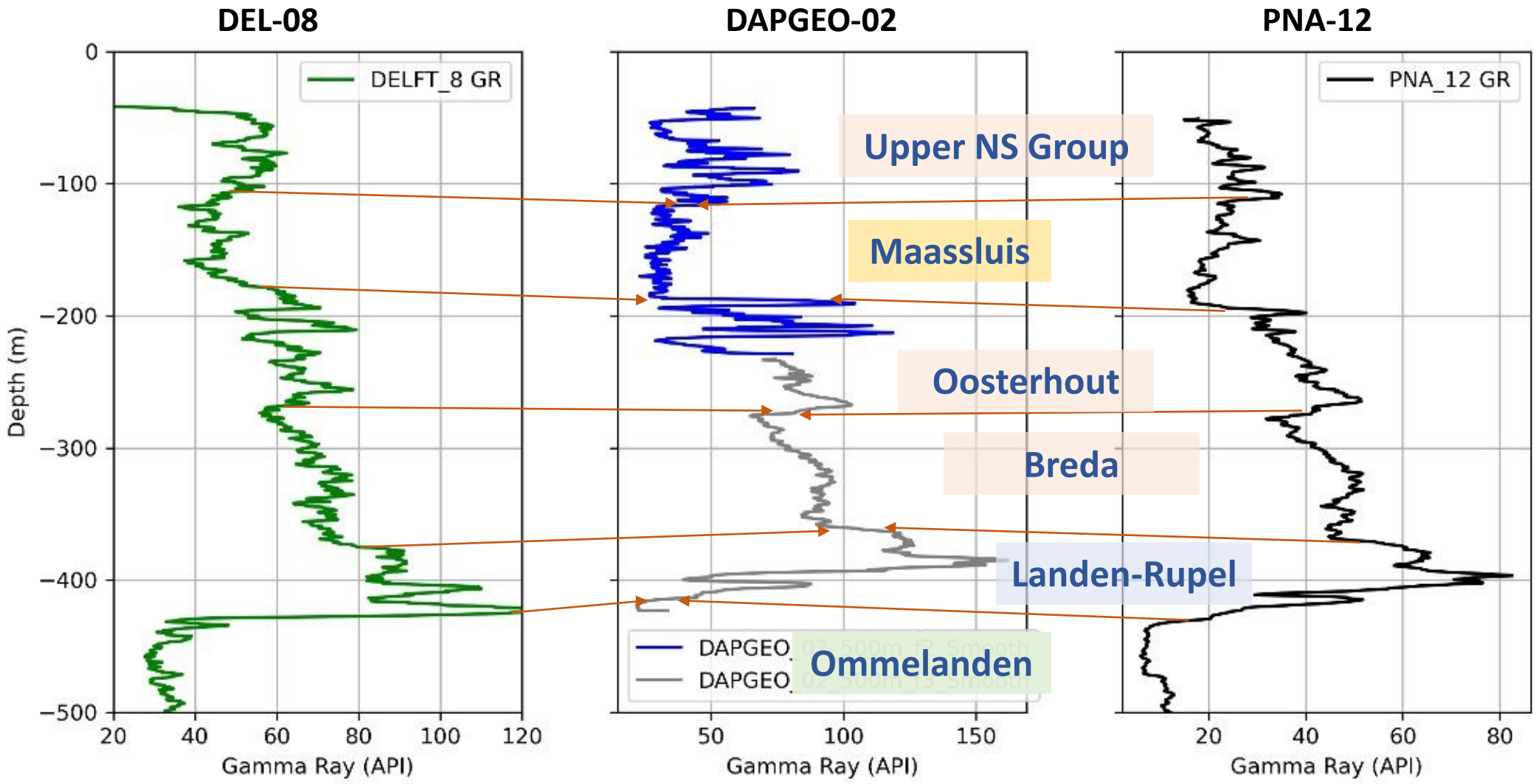


Seismic line on depth derived from 3D seismic cube

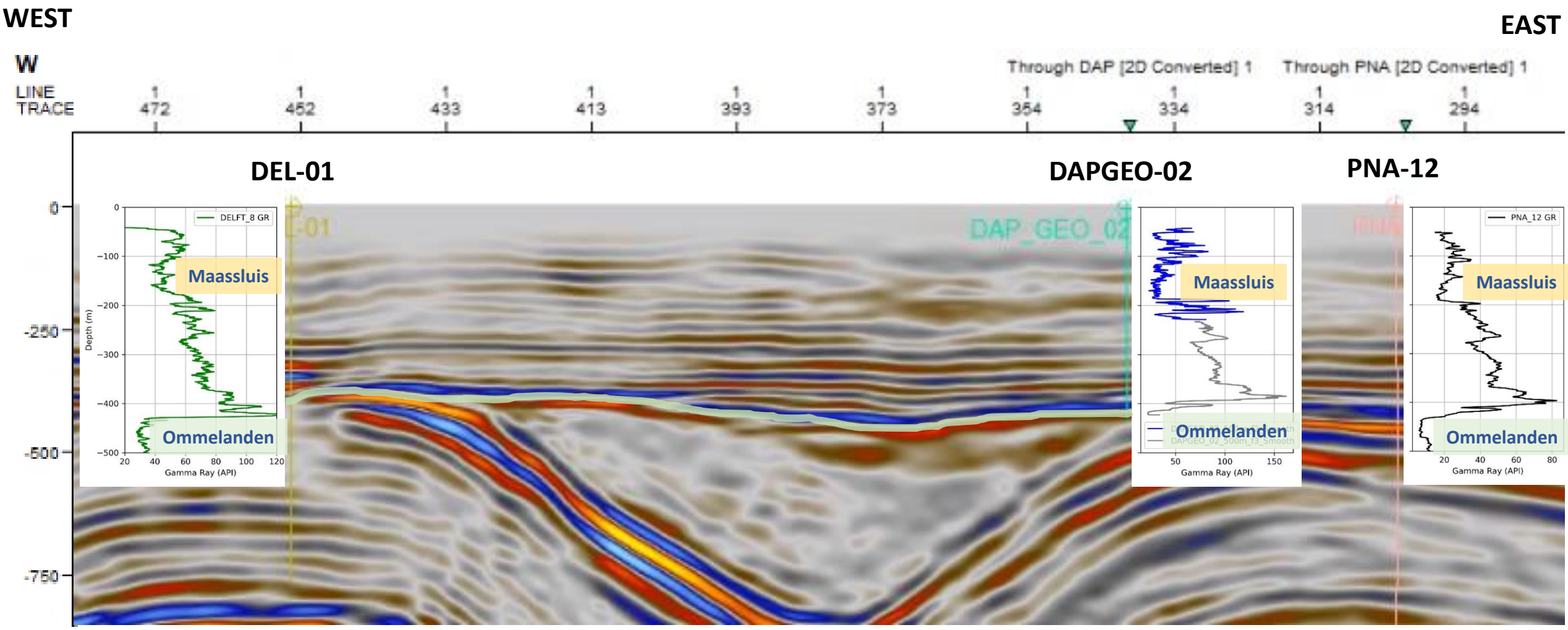
DAPGEO-02 stratigraphy



DAPGEO-02 stratigraphy

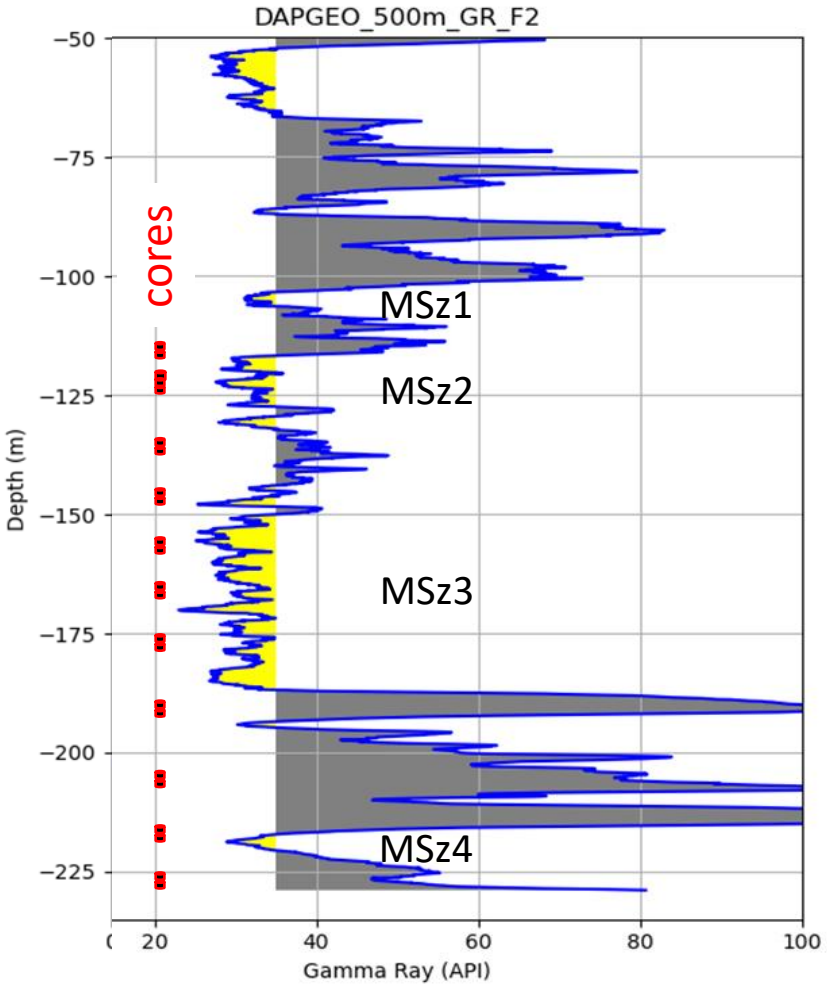


Seismic line on depth derived from 3D seismic cube



"Delft High" *"Vrijenban Low"* *"Pijnacker High"*

Naam	Diepte m-mv	
DAPGEO_02_SCS_1	115.02	115.98
DAPGEO_02_SCS_2	115.98	116.82
DAPGEO_02_SCS_3	122	122.7
DAPGEO_02_SCS_4	122.7	123.41
DAPGEO_02_SCS_5	124	124.72
DAPGEO_02_SCS_6	136	136.69
DAPGEO_02_SCS_7	136.69	137.33
DAPGEO_02_SCS_8	145	145.78
DAPGEO_02_SCS_9	146.02	146.72
DAPGEO_02_SCS_10	155	156
DAPGEO_02_SCS_11	156	157
DAPGEO_02_SCS_12	165	166
DAPGEO_02_SCS_13	166	167
DAPGEO_02_SCS_14	175	176
DAPGEO_02_SCS_15	190	191
DAPGEO_02_SCS_16	205	206
DAPGEO_02_SCS_17	215	216
DAPGEO_02_SCS_18	225	226

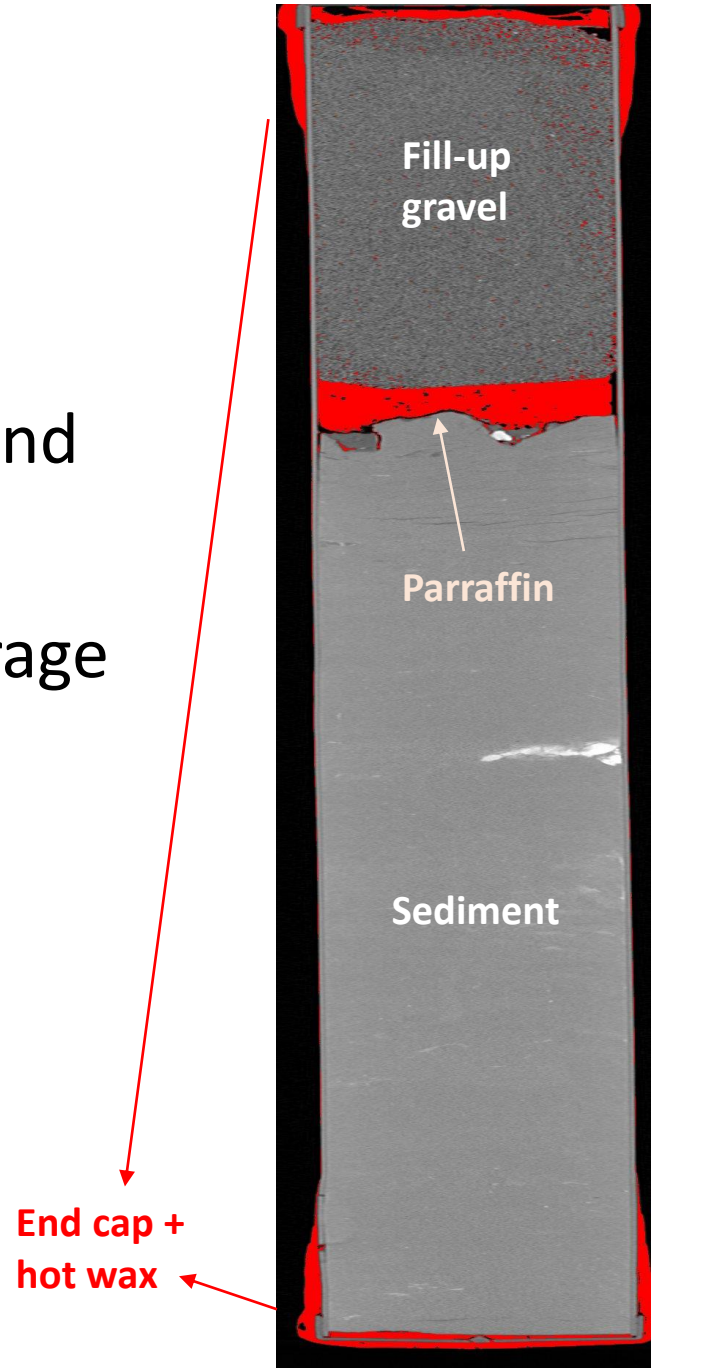


Maassluis Fm

- Waalre + Maassluis from 40m to 230m
- 18 Smet Coring System cores taken, 2 empty
- Core shoe samples and cuttings disintegrated
- Logging: SGR, GR, SP, RES, SPR, IP

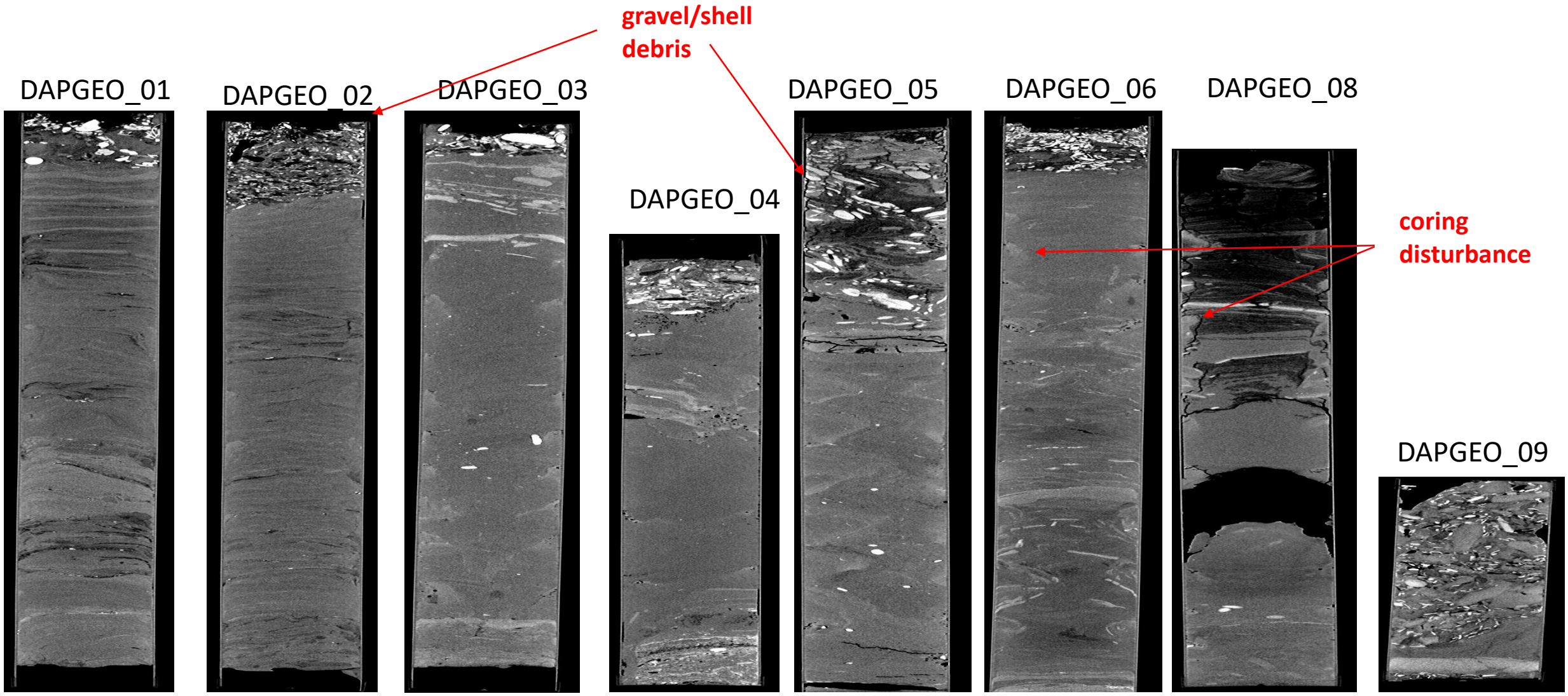
Core preservation

- Sealing by wax
- Tubes filled with coarse sand
- End caps
- Vertical transport and storage
- Fridge at 7 degrees C



Maassluis Core CT Scans 1/2

White = high density
Black = low density



Maassluis Core CT Scans 2/2

White = high density
Black = low density

Laminated sediments

DAPGEO_10

DAPGEO_13

DAPGEO_14

DAPGEO_15

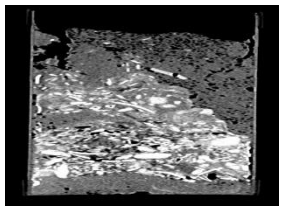
DAPGEO_16

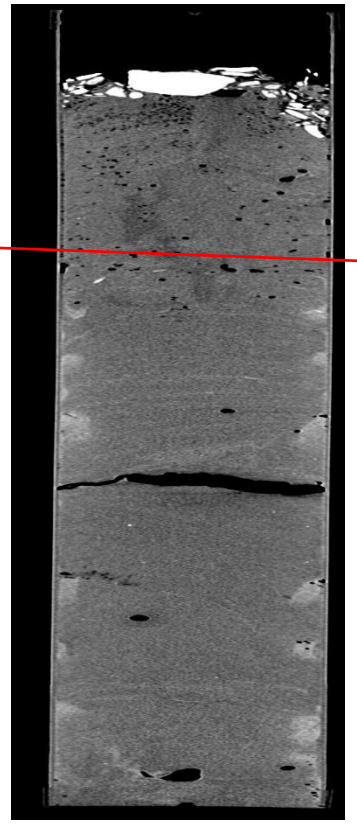
DAPGEO_17

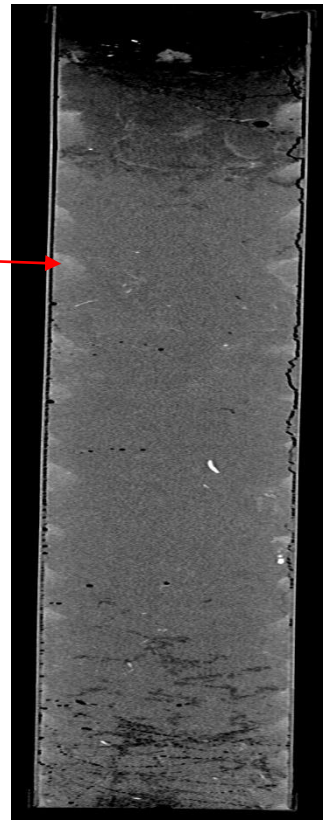
DAPGEO_18

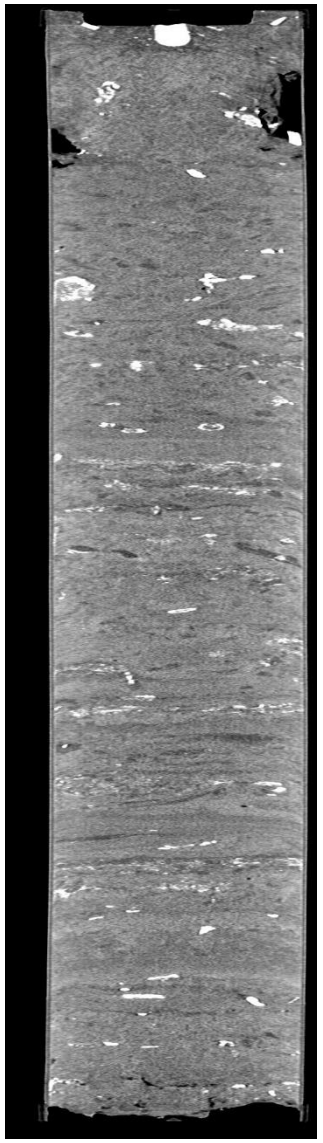
less coring disturbance

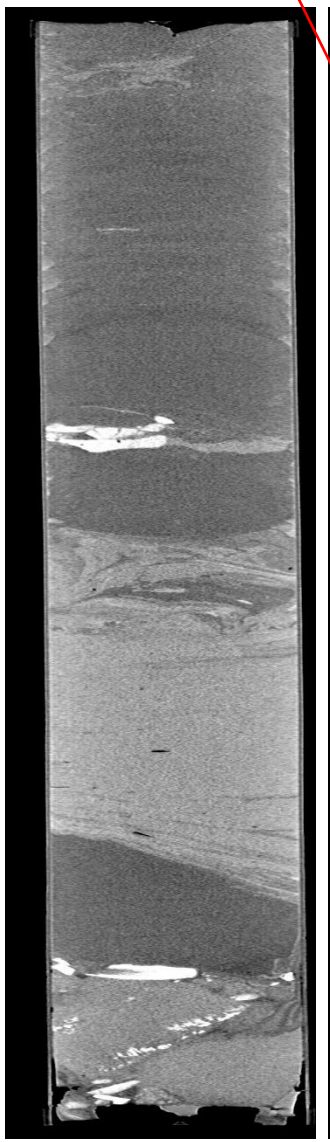
shells

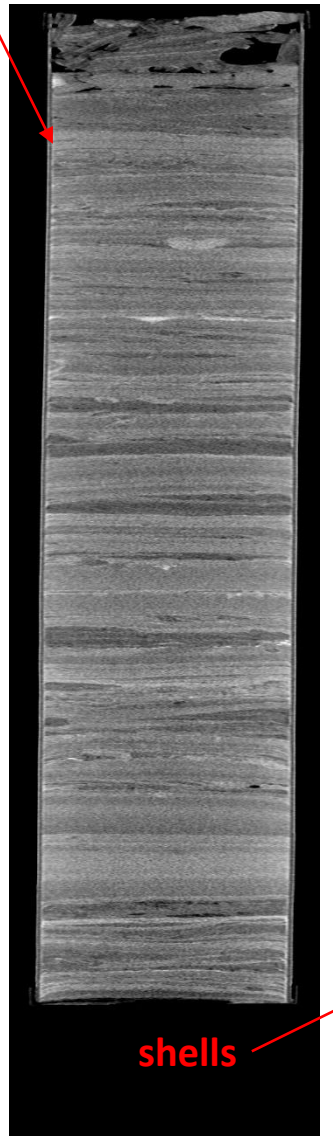


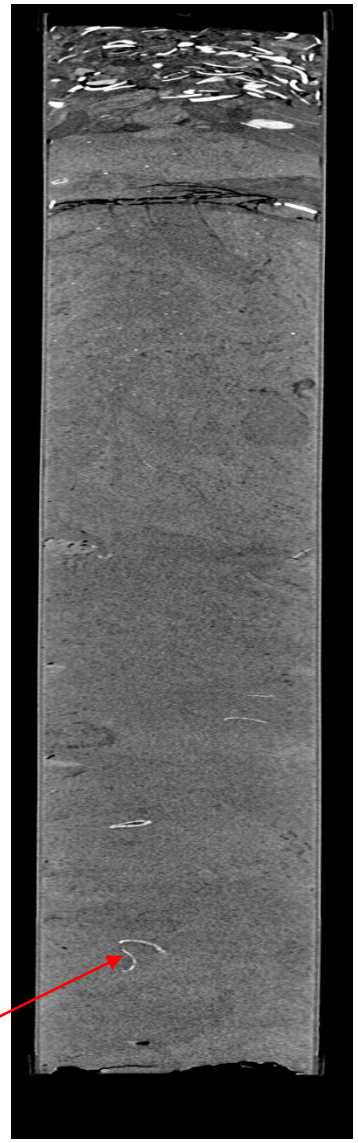






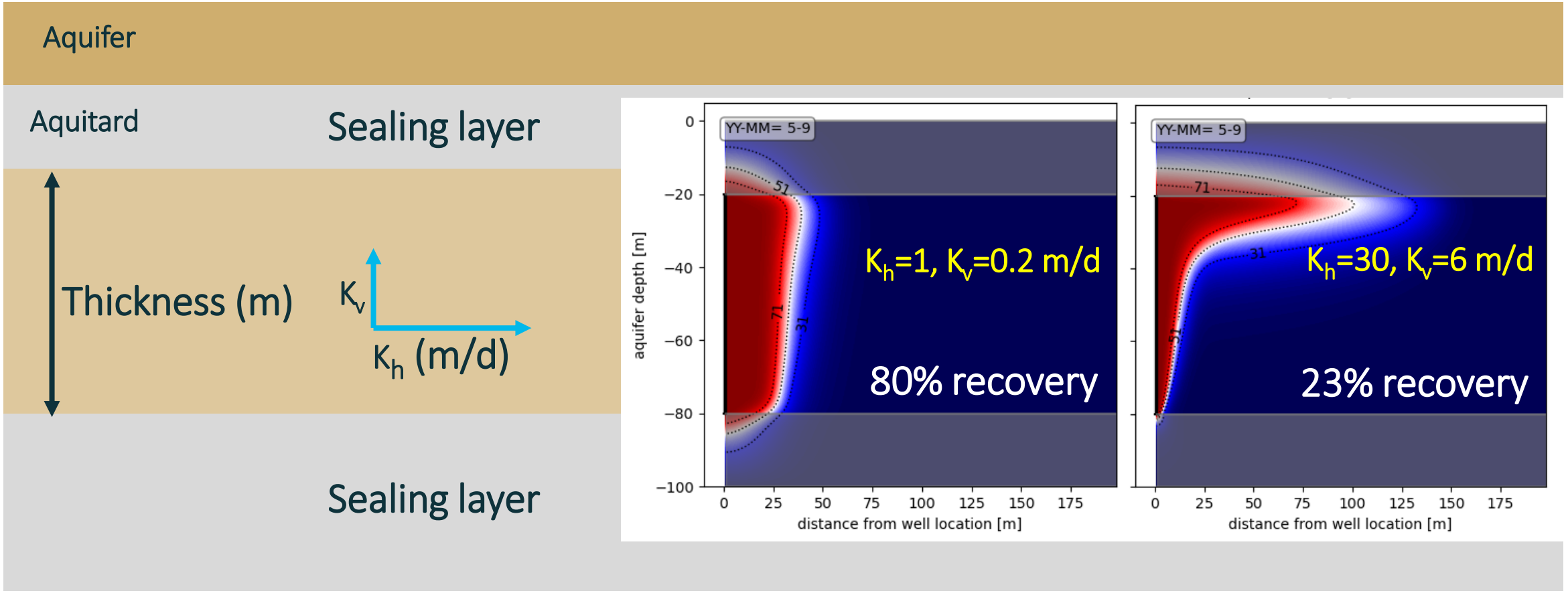




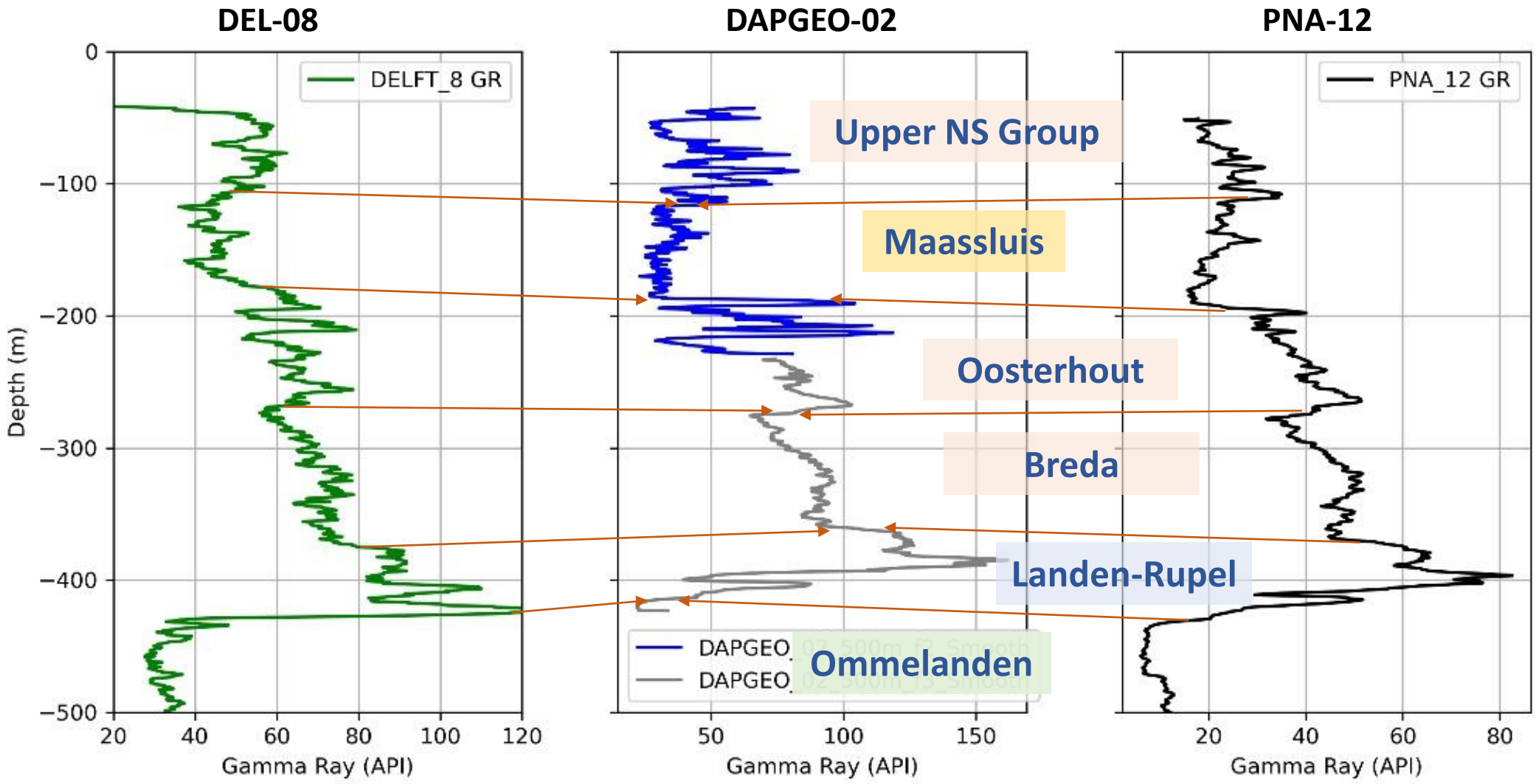


Maassluis

- Sandy Maassluis as main target for HTES
- Reservoir and seal conditions
- Project of PhD Stijn Beernink with TUD and KWR s.t.w.beernink@tudelft.nl
- Biostratigraphy, sedimentology, and stratigraphy

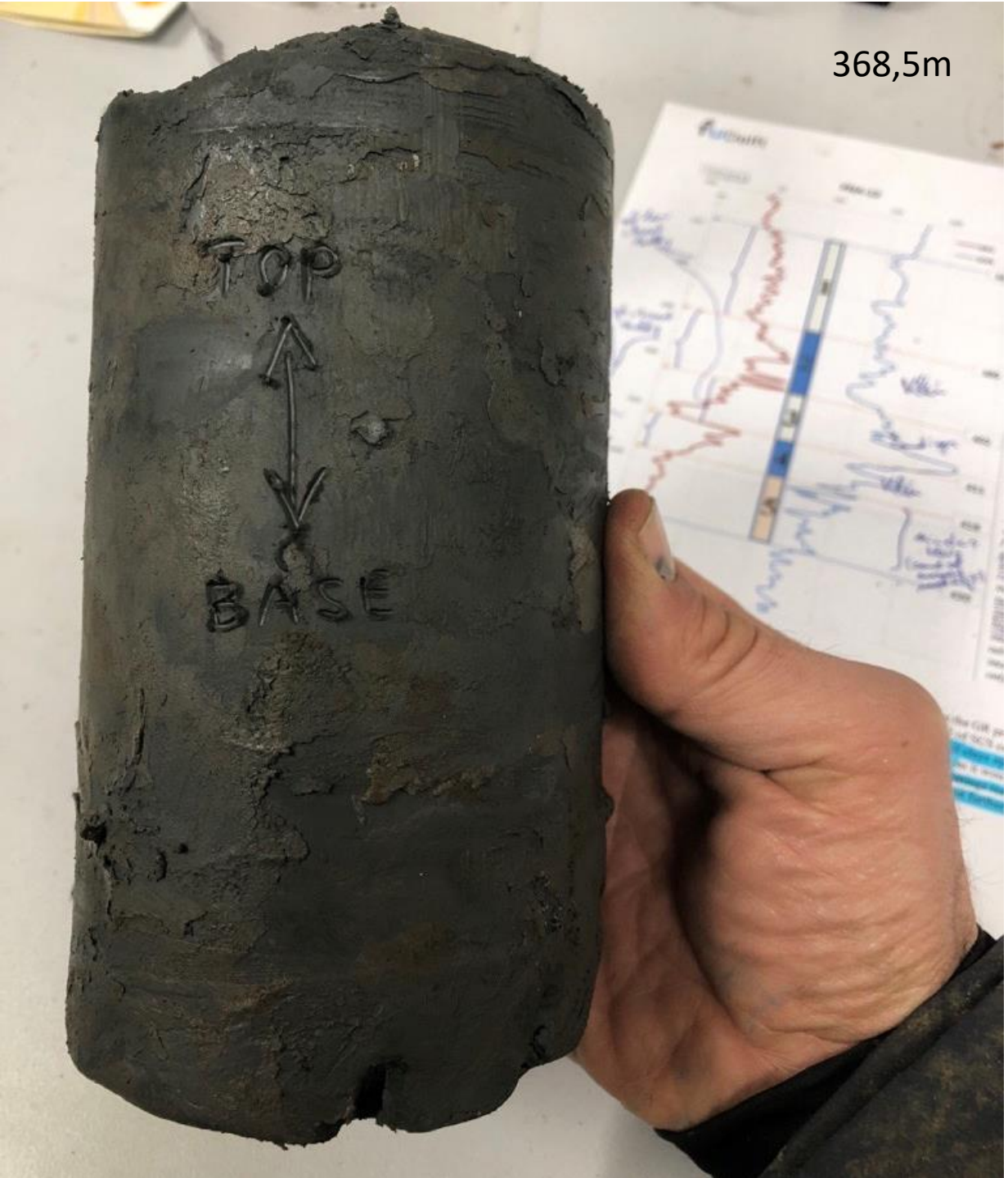


DAPGEO-02 stratigraphy



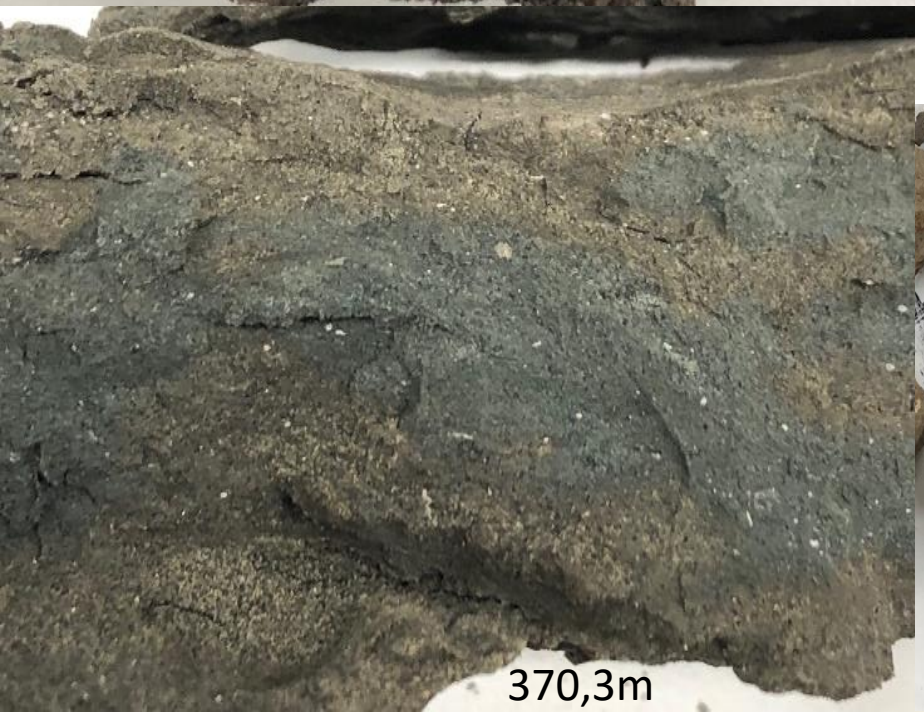
Coring is …

… not boring



Clay!

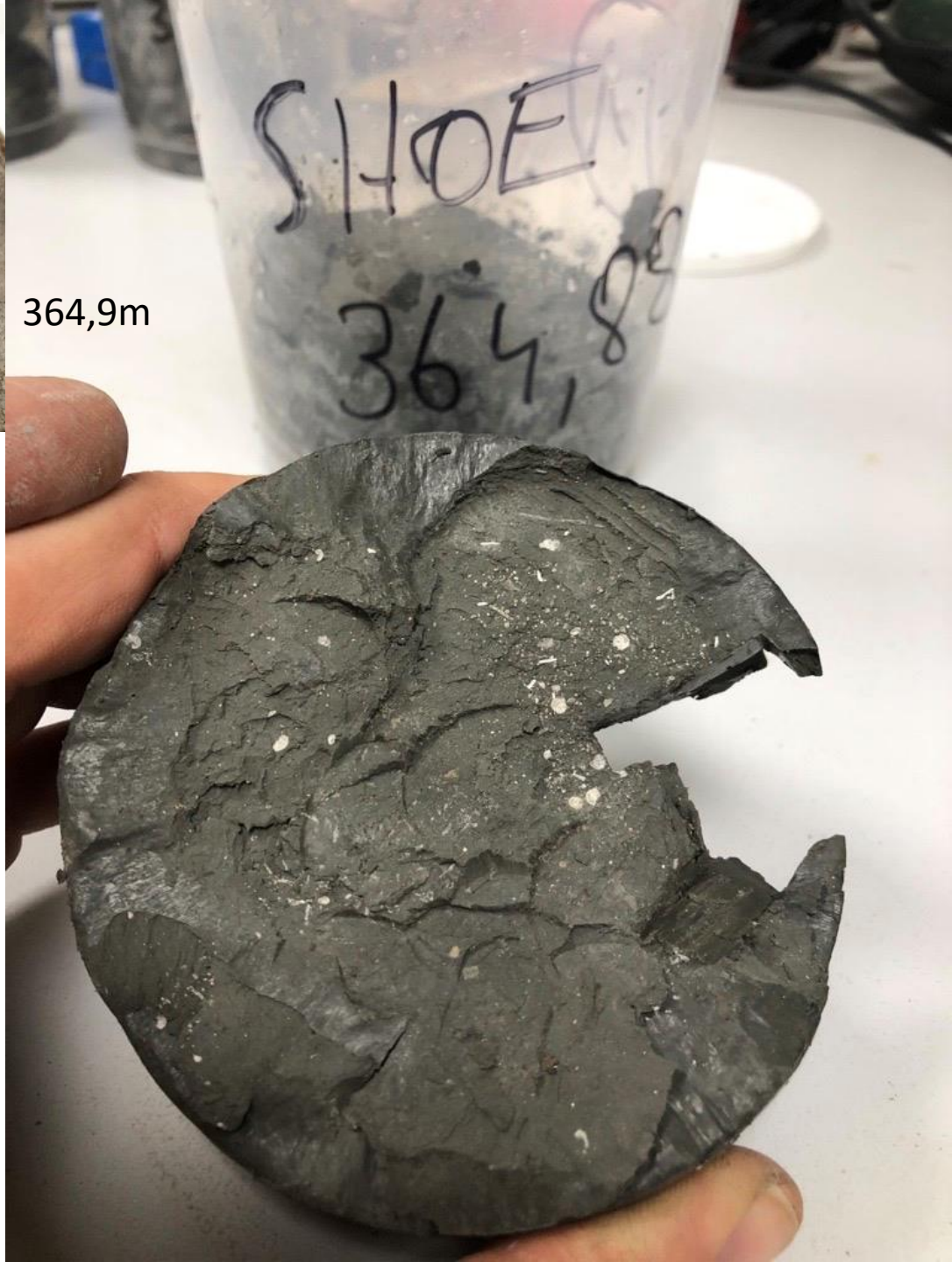
Sands



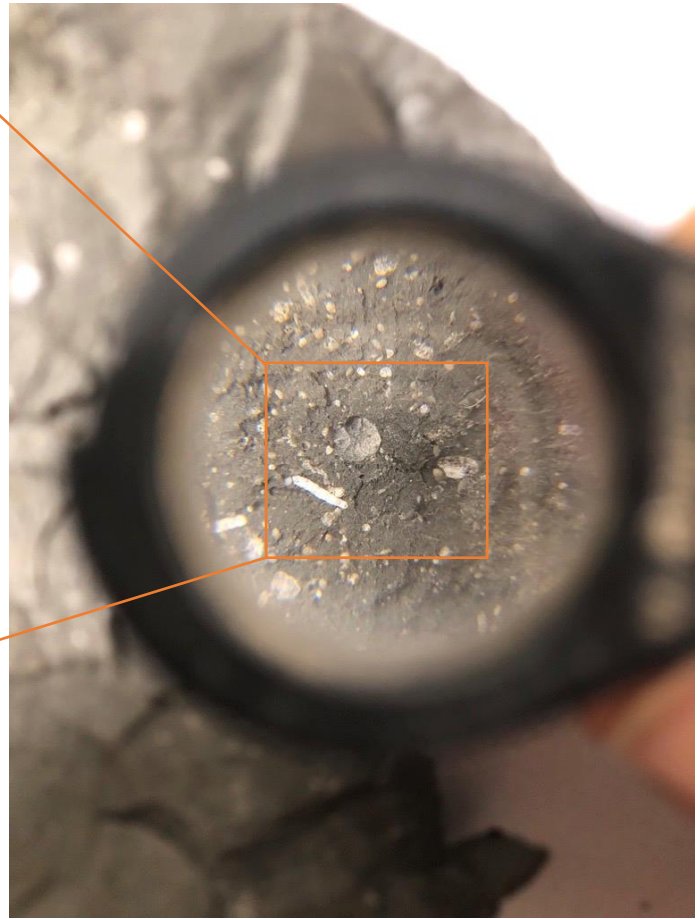
Septaria

Glauconite

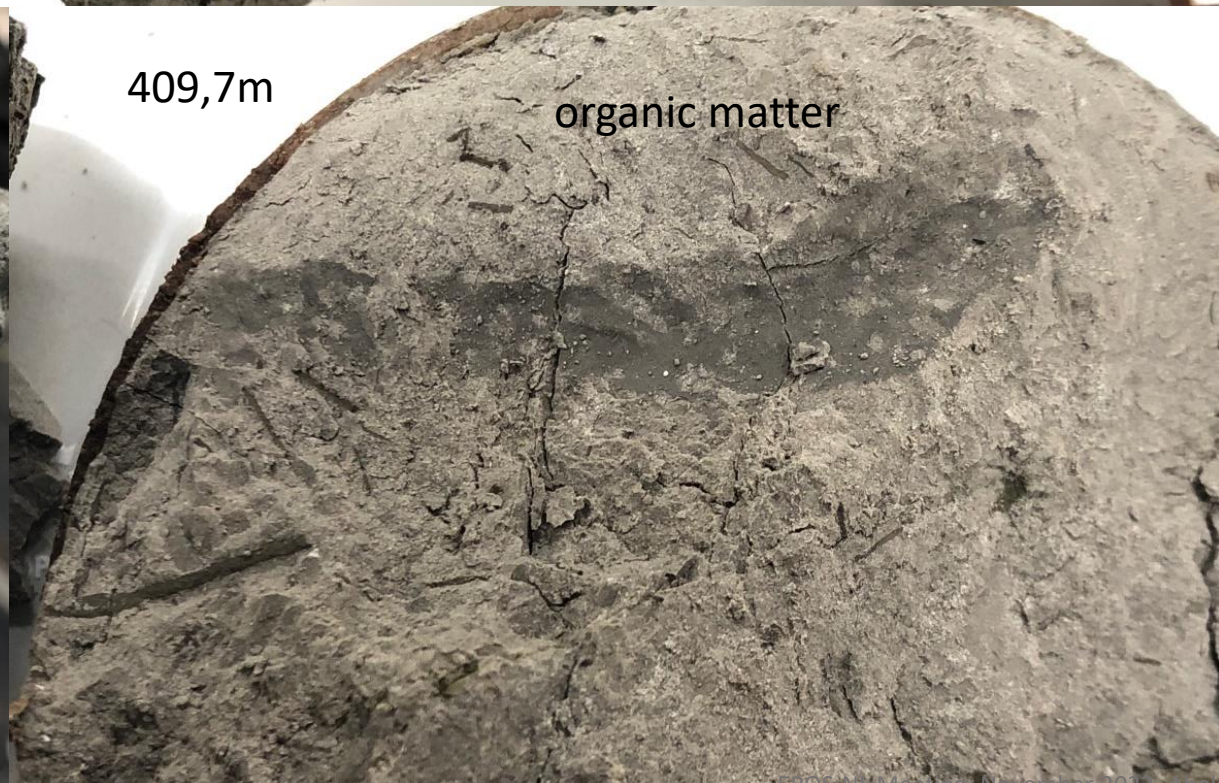
Fossils



benthic formaminifer?

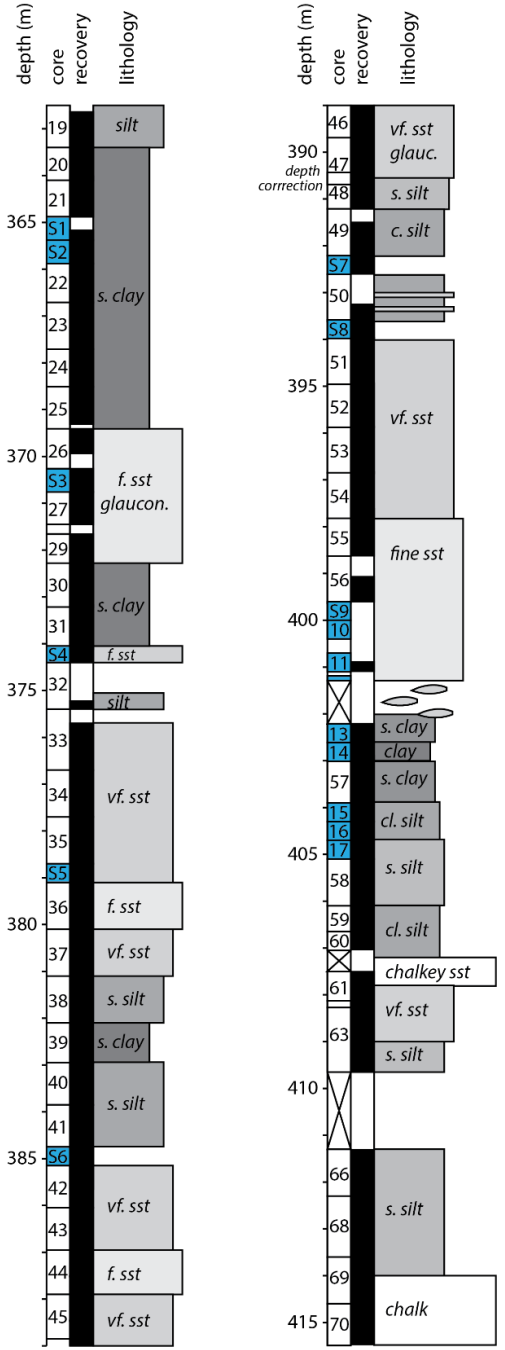


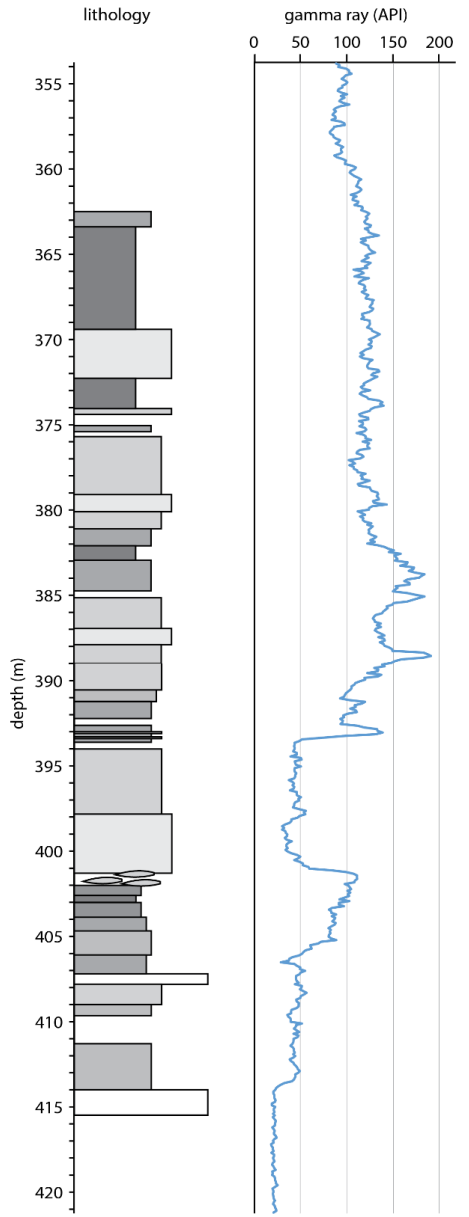
Burrowing



Paleogene Clays

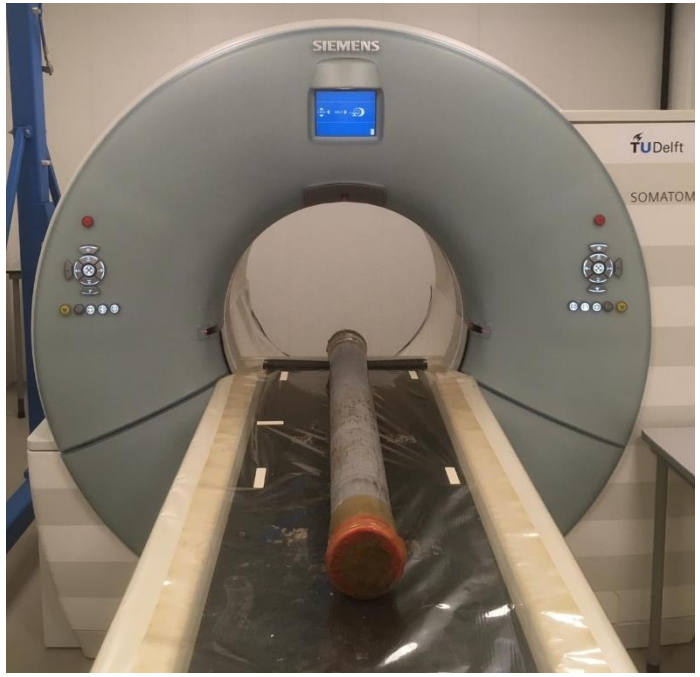
- 69 cores of which 17 are with ‘shelby tube’ system
- Core shoe samples and cuttings
- Storage of radioactive waste→ cores not opened
- Shoes indicate dynamic sedimentary history
- Biostratigraphy needed to place in time





Data and sample access

- We are working on easy open access of all data on 4TU
- Sample requests and ideas can be submitted to h.a.abels@tudelft.nl



THANK YOU!