Appendixes A1-A10

Area A

A1: Survey lines

A2: Bathymetry

A3: Side scan sonar mosaic

A4: Seabed substrates

A5: Dynamic bedforms

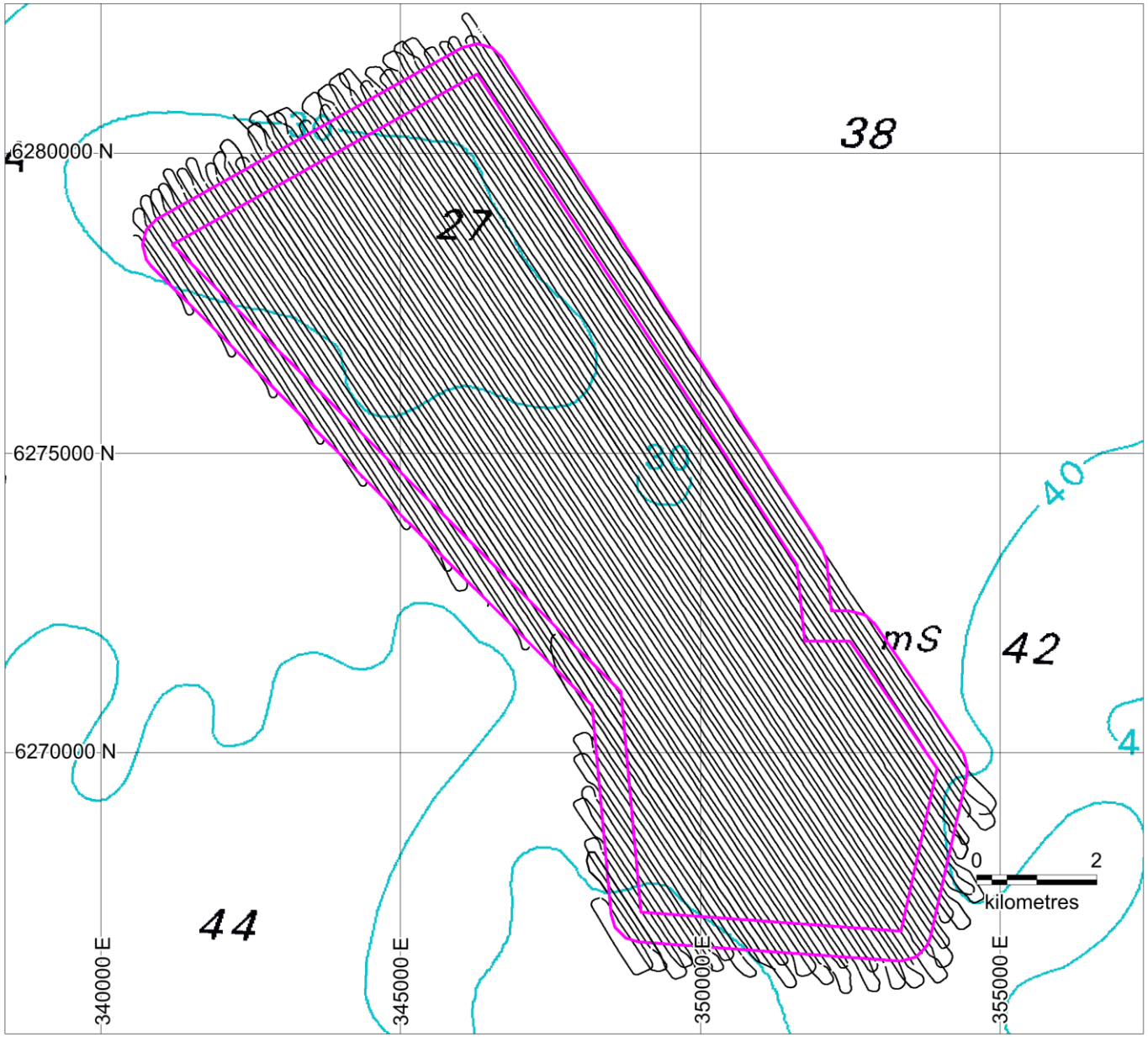
A6: Vibrocore sites

A7: Holocene marine sand bank thickness

A8: Net sand resource area

A9: Seismic profile examples – line extent

A10: Seismic profile examples



Sand resources for energy island
- Danish North Sea

Area A
Survey phase 1A and 1B

Legend

Survey area A incl. 500 m zone

Survey lines (100 m apart)

Projection: ETRS89 zone 32N

Client:

Danish Energy Agency

GEUS

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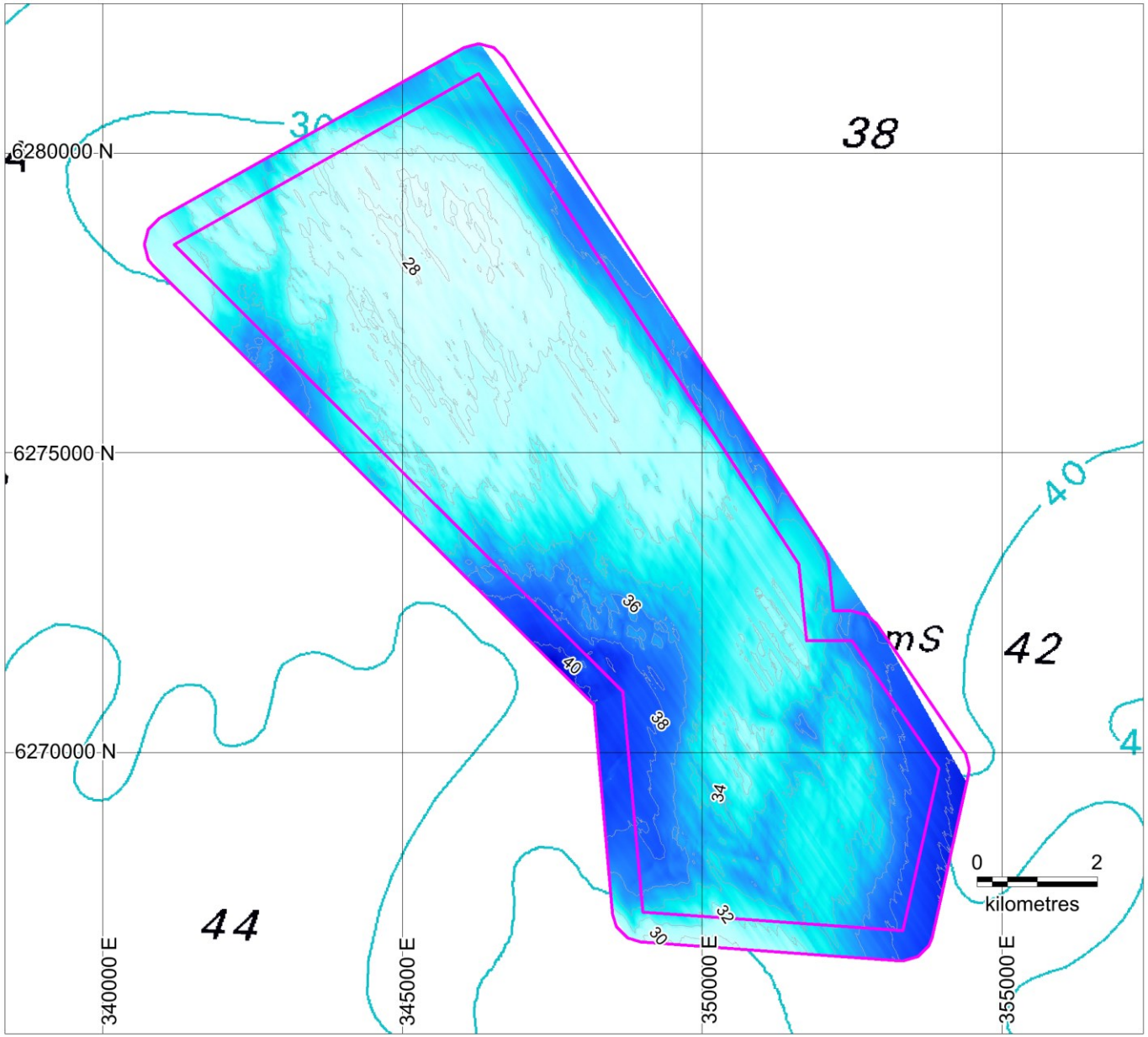
Appendix A1:

Survey lines



Sand resources for energy island
- Danish North Sea

Area A
Survey phase 1A and 1B

Legend

Survey area A incl. 500 m zone

Depth (m DVR90)

27.0
28.0
29.0
30.0
31.0
32.0
33.0
34.0
35.0
36.0
37.0
38.0
39.0
40.0
41.0

Projection: ETRS89 zone 32N

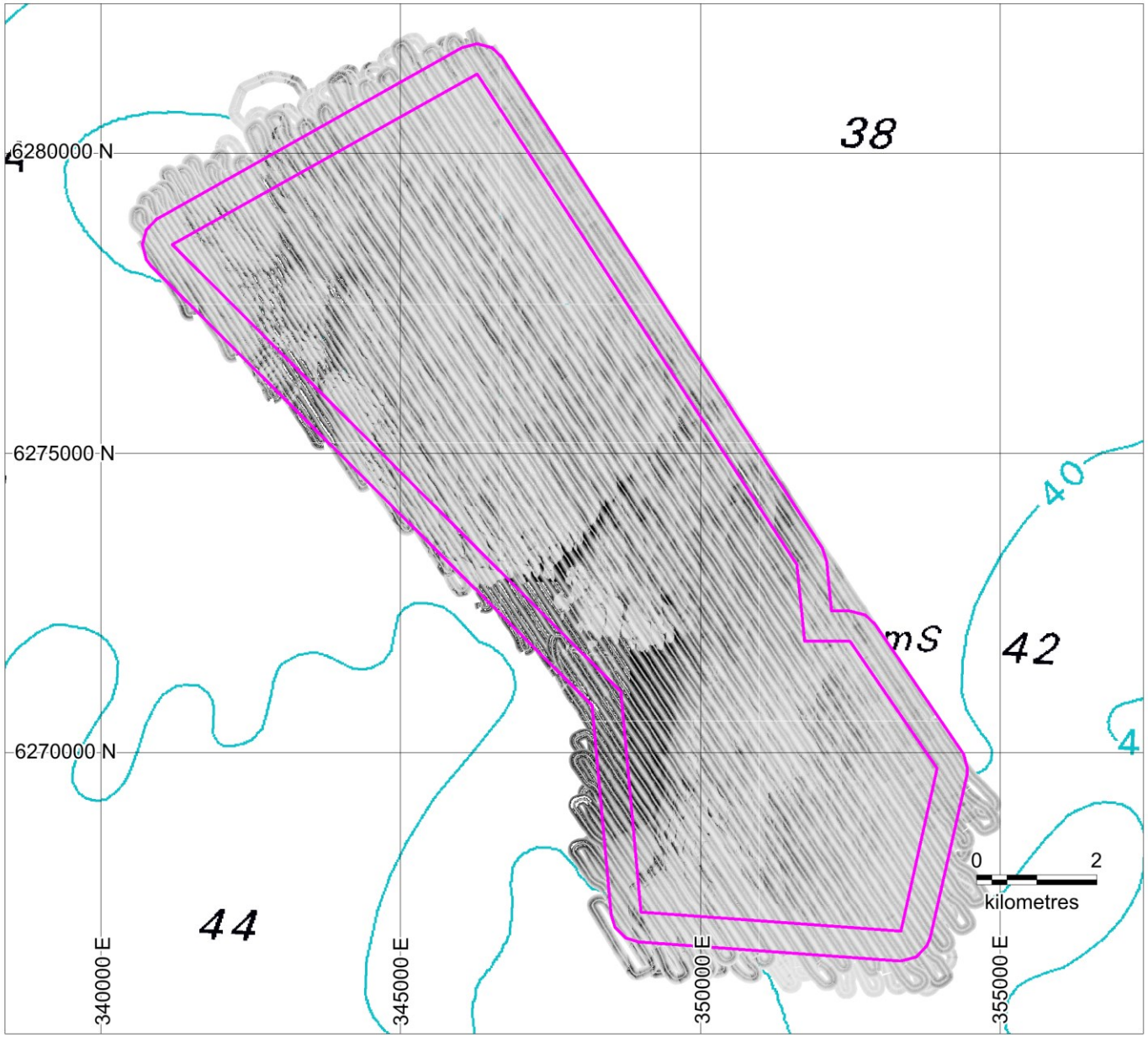
Client: Danish Energy Agency

GEUS

Version: NNP 06-10-2022

Appendix A2:

Bathymetry



Sand resources for energy island
- Danish North Sea

Area A
Survey phase 1A and 1B

Legend

Survey area A incl. 500 m zone

Projection: ETRS89 zone 32N

Client:

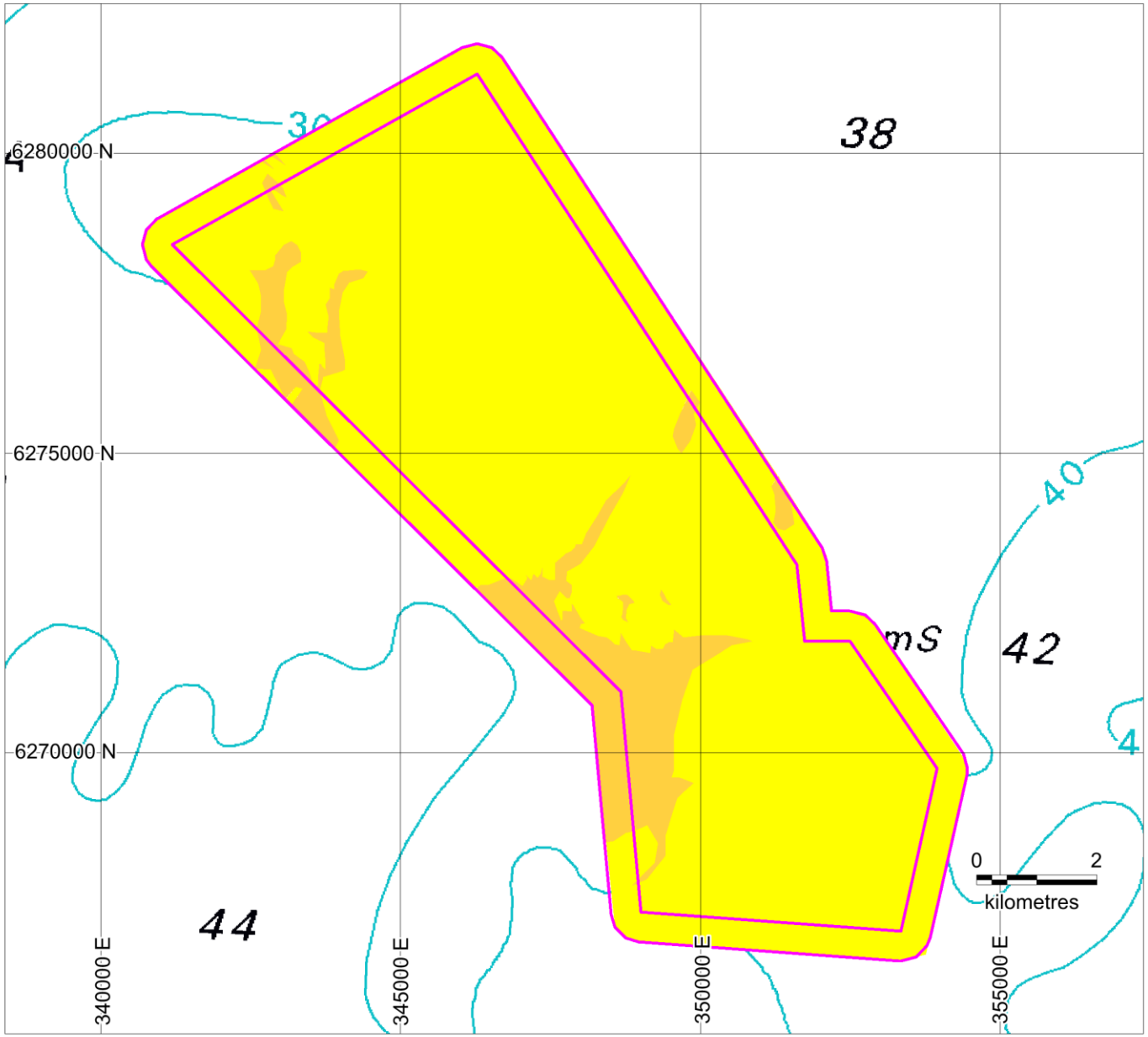
Danish Energy Agency

GEUS

Version: NNP 06-10-2022

Appendix A3:

Side-scan sonar mosaic



Sand resources for energy island - Danish North Sea

Area A
Survey phase 1A and 1B

Legend

Survey area A incl. 500 m zone

Substrate types

Type 1b - Sand, dynamic

Type 2 - Gravelly sand

Projection: ETRS89 zone 32N

Client: Danish Energy Agency

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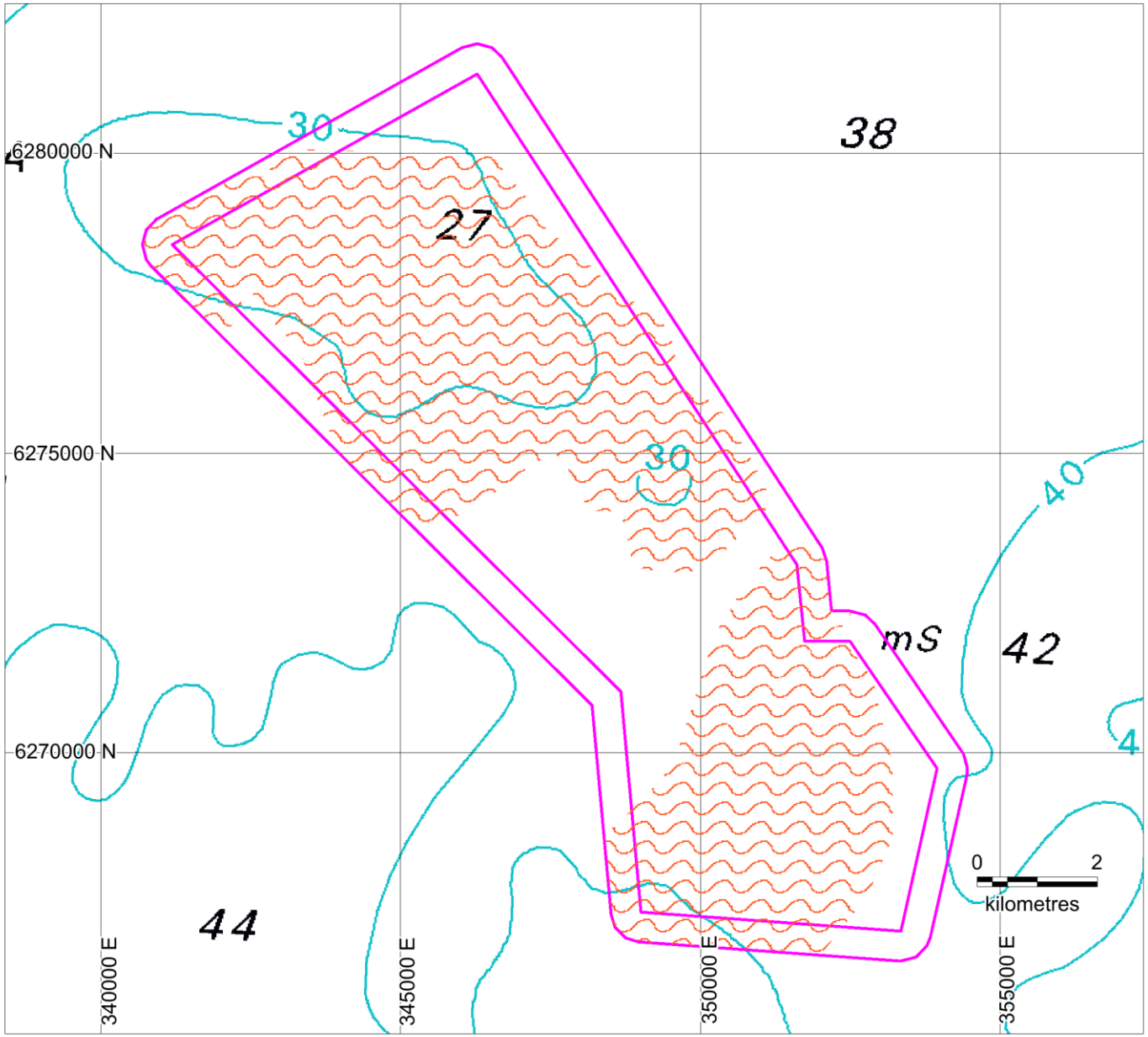
Version: NNP 06-10-2022

Appendix A4:

Sea bed substrate types



Sand resources for energy island - Danish North Sea

Area A
Survey phase 1A and 1B

Legend

Survey area A incl. 500 m zone

Sand wave bedforms

Projection: ETRS89 zone 32N

Client: Danish Energy Agency

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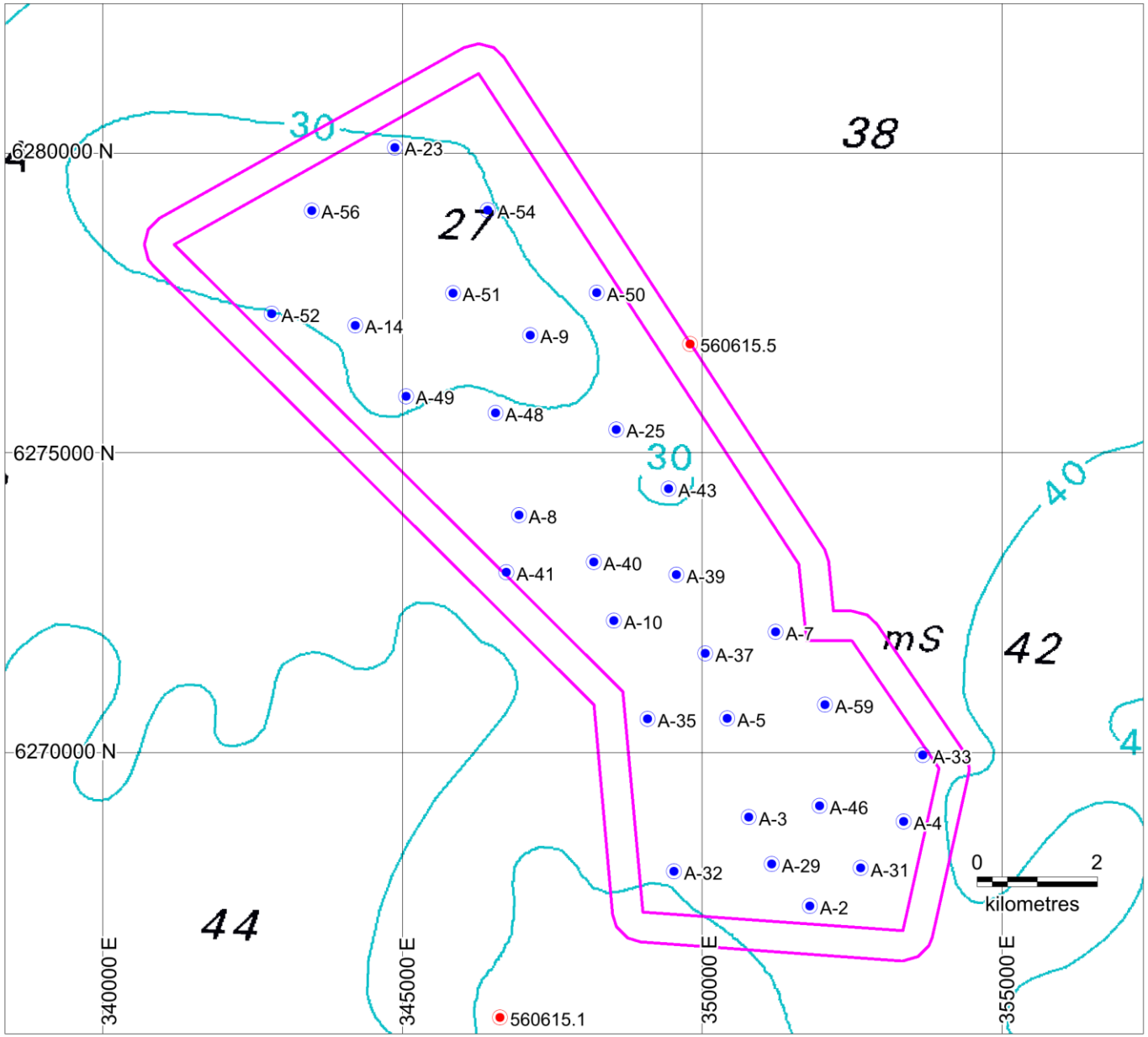
Version: NNP 06-10-2022

Appendix A5:

Dynamic bed forms



Sand resources for energy island
- Danish North Sea

Area A
Survey phase 1A and 1B

Legend

Survey area A incl. 500 m zone

Vibrocore

Archive core

Projection: ETRS89 zone 32N

Client:

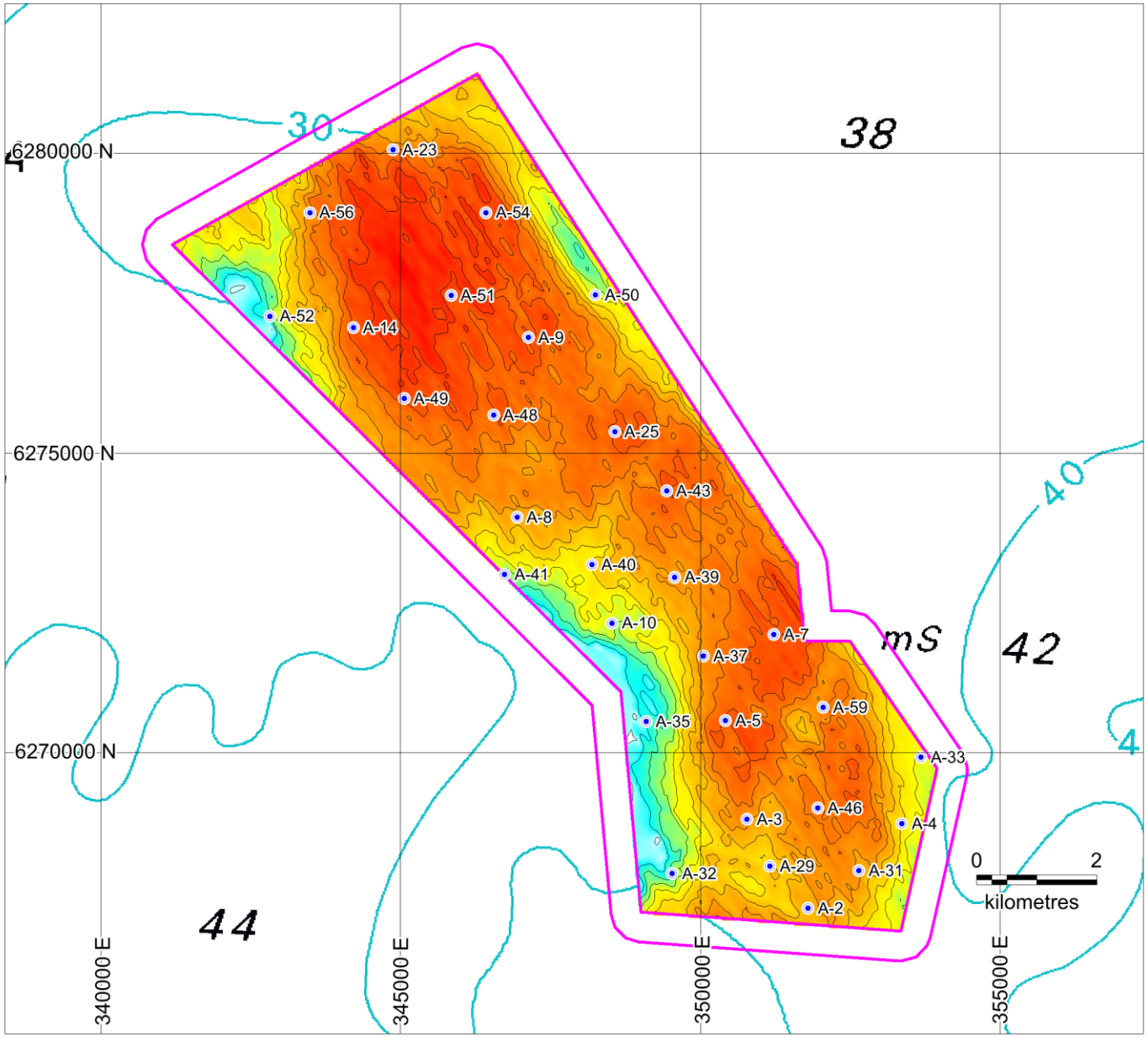
Danish Energy Agency

GEUS

Version: NNP 06-10-2022

Appendix A6:

Vibrocore positions



Sand resources for energy island - Danish North Sea

Area A
Survey phase 1A and 1B

Legend

Survey area A incl. 500 m zone

Vibrocore

Sand resource thickness

12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0

Z-units:Meters

Projection: ETRS89 zone 32N

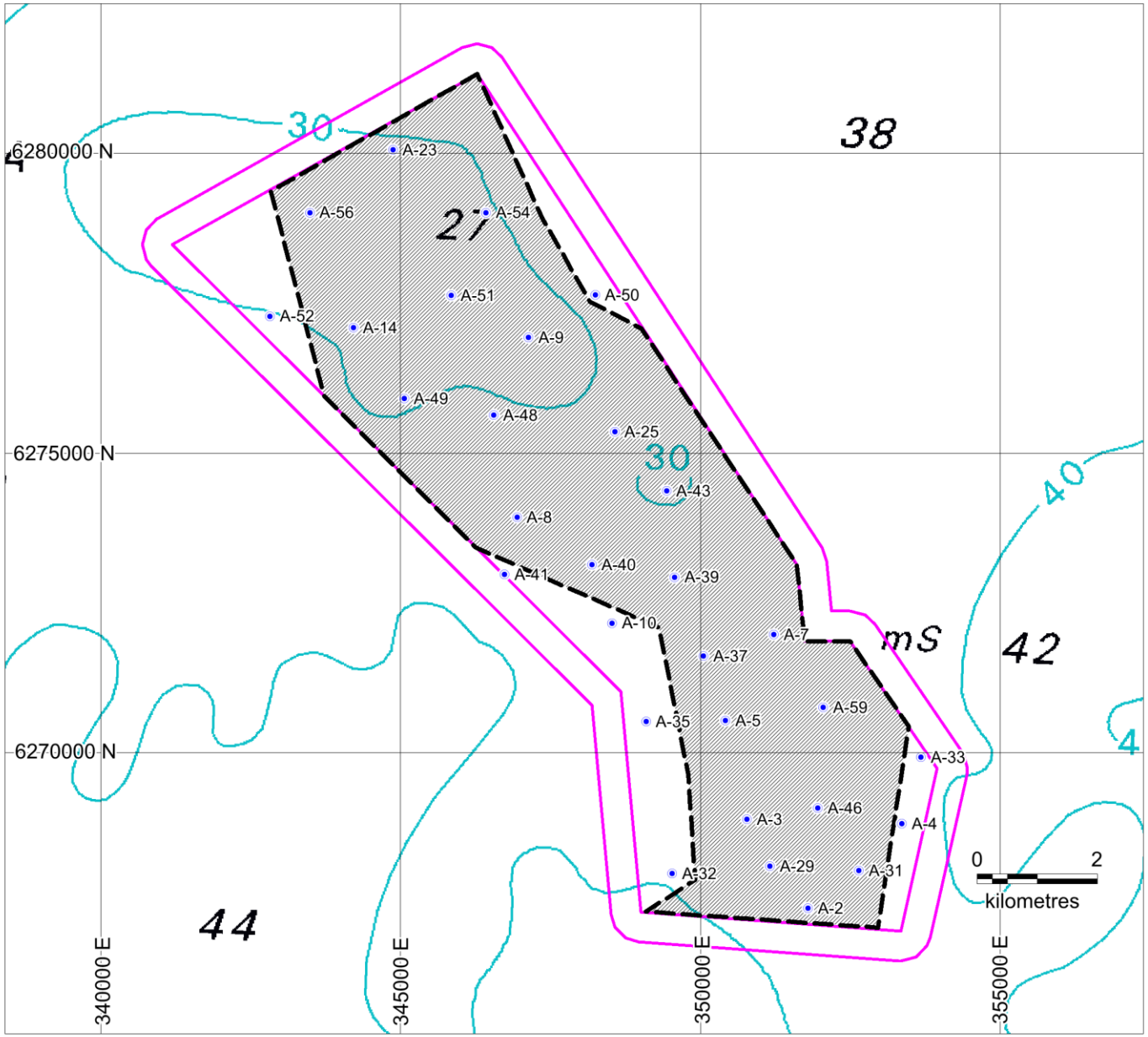
Client: Danish Energy Agency

GEUS

Version: NNP 06-10-2022

Appendix A7:

Sand resource thickness



Sand resources for energy island
- Danish North Sea

Area A
Survey phase 1A and 1B

Legend

Survey area A incl. 500 m zone

Vibrocore

Net sand resource area with suitable sand thickness and grain size

Projection: ETRS89 zone 32N

Client:

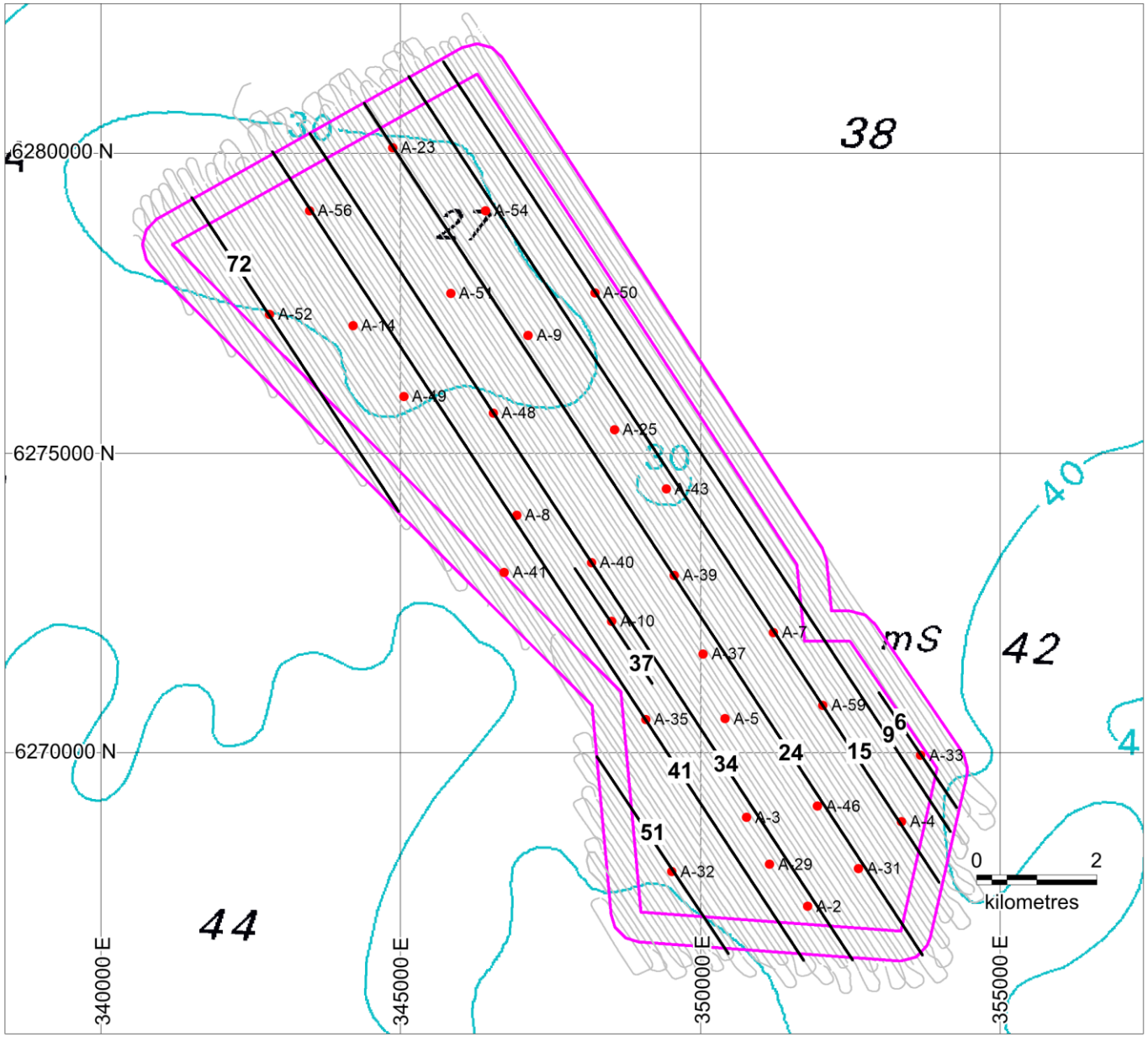
Danish Energy Agency

GEUS

Version: NNP 17-11-2022

Appendix A8:

Net sand resource area



Sand resources for energy island - Danish North Sea

Area A
Survey phase 1A and 1B

Legend

- Survey area A incl. 500 m zone
- Vibrocores
- Survey lines (100 m apart)
- Seismic profile examples

Projection: ETRS89 zone 32N

Client: Danish Energy Agency

GEUS

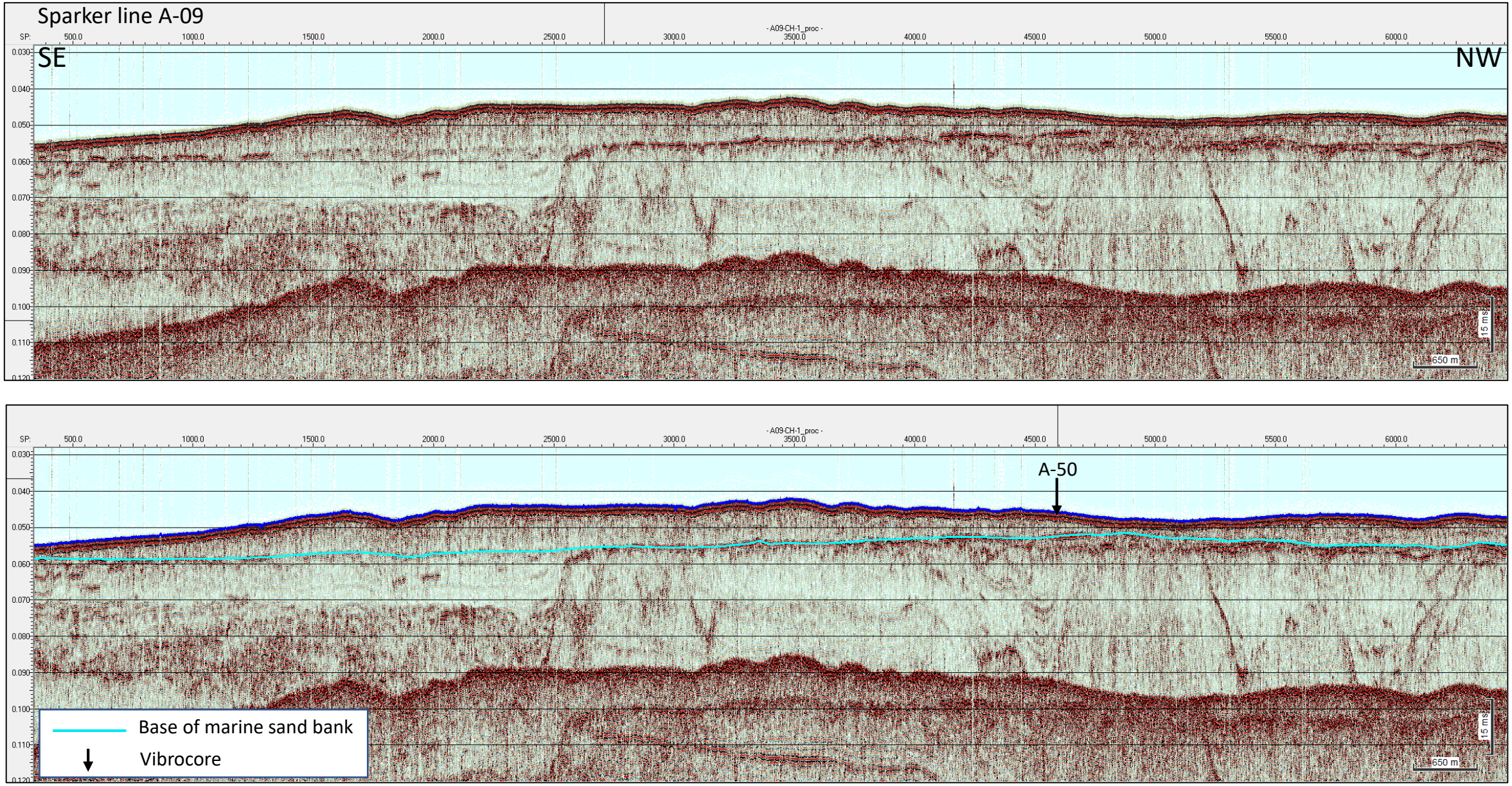
Version: NNP 28-10-2022

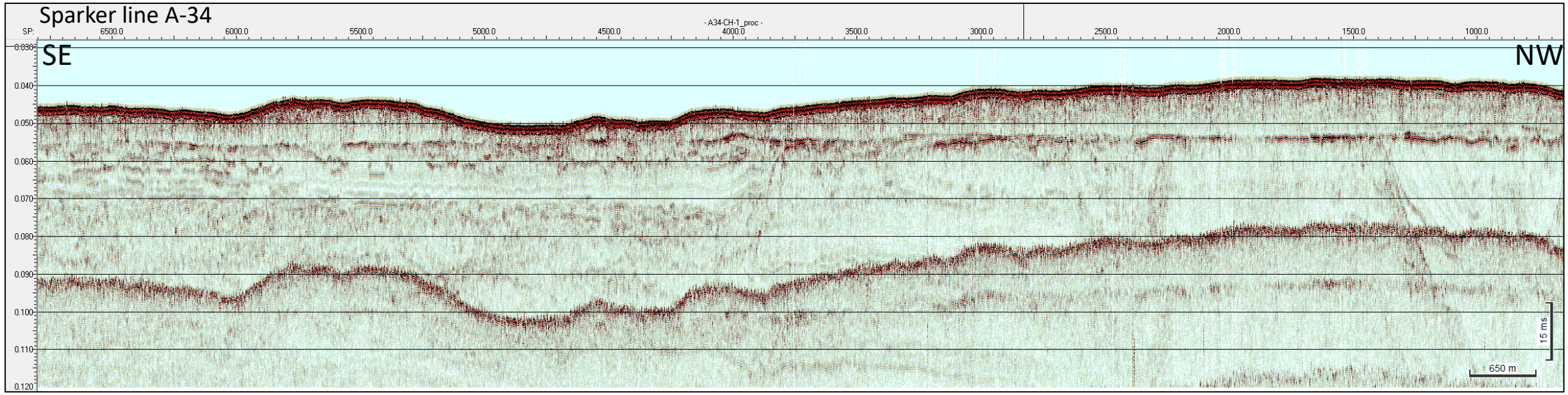
Appendix A9:

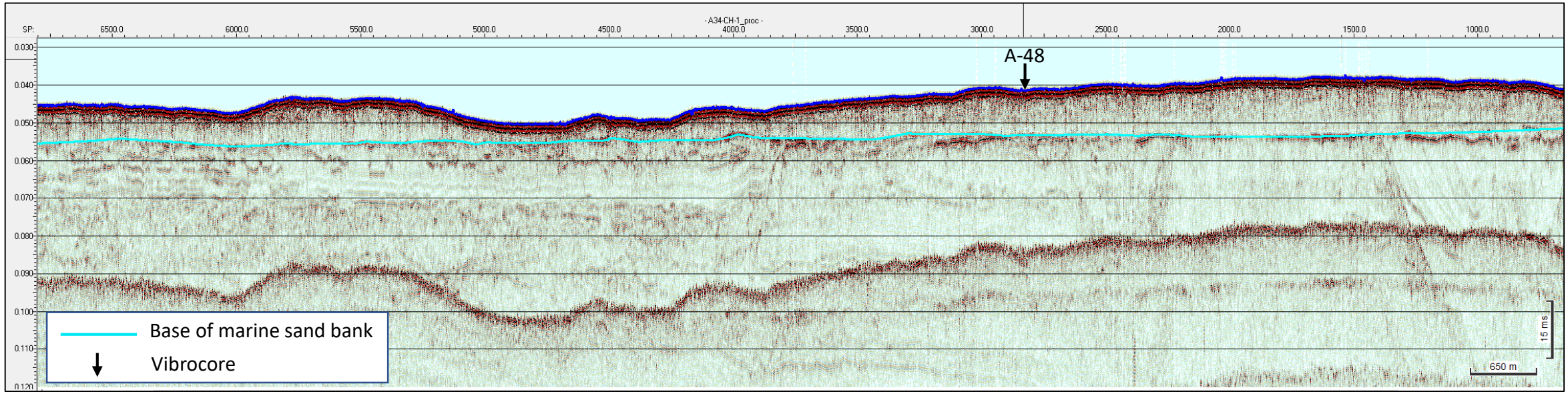
Seismic profile examples

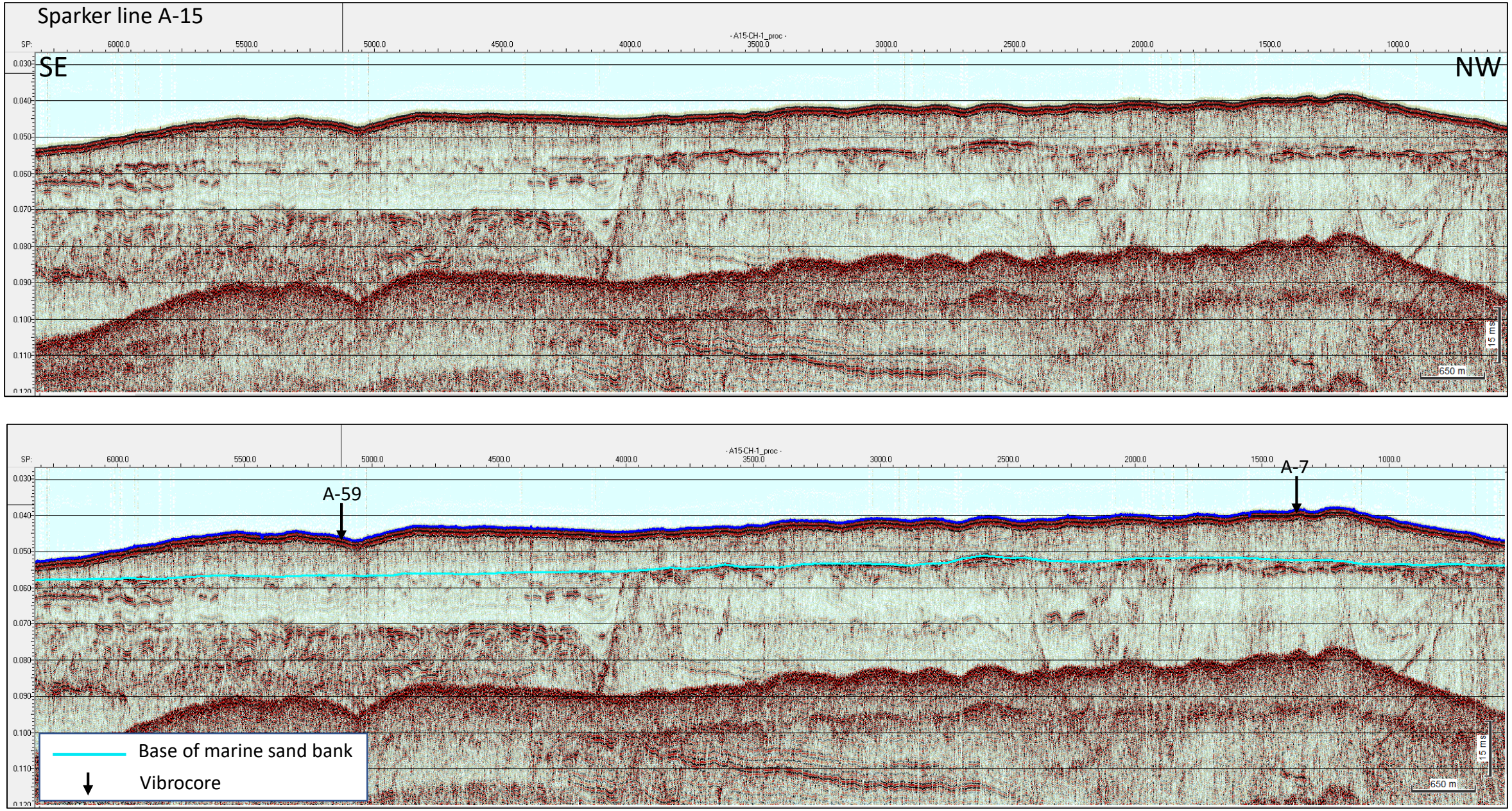
Appendix A10

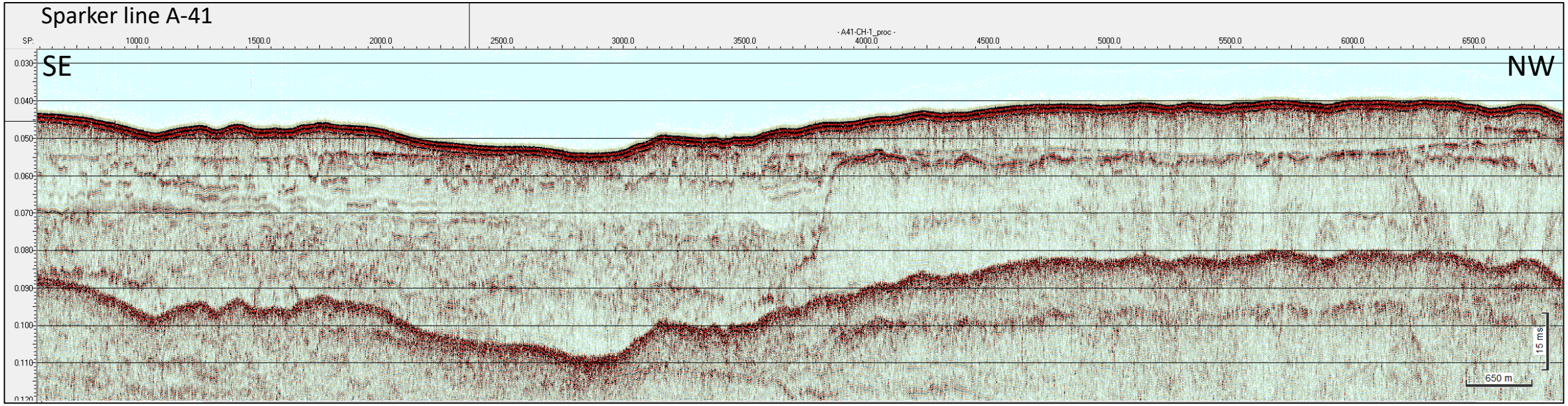
Area A: Seimic profile examples

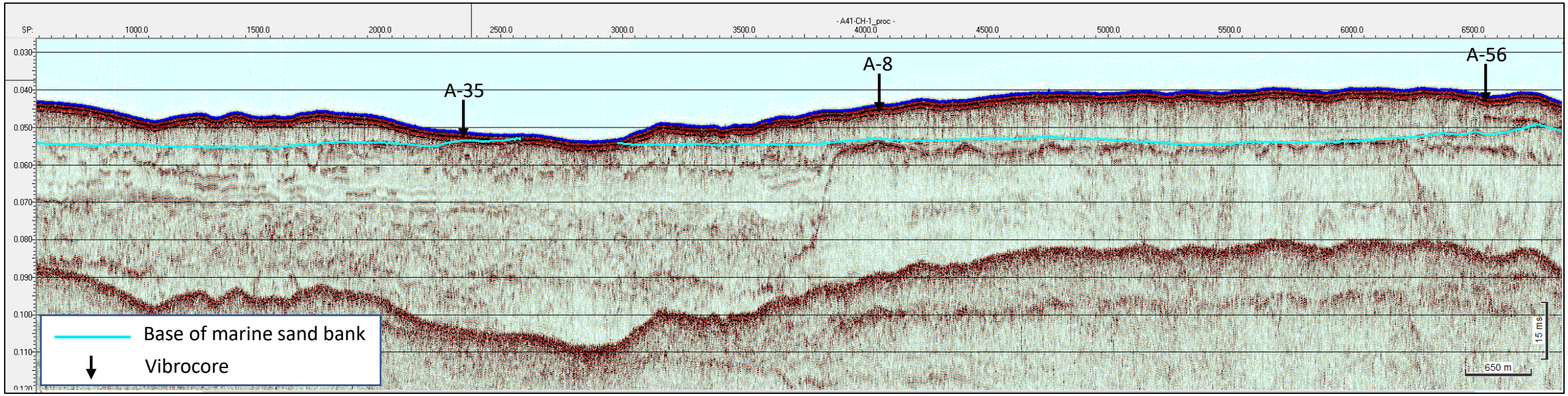

Sparker line A-09
SE
NW
- A09-CH-1_proc -
SP:
500.0
1000.0
1500.0
2000.0
2500.0
3000.0
3500.0
4000.0
4500.0
5000.0
5500.0
6000.0
0.030
0.040
0.050
0.060
0.070
0.080
0.090
0.100
0.110
0.120
15 ms
650 m
A-50
Base of marine sand bank
Vibrocore

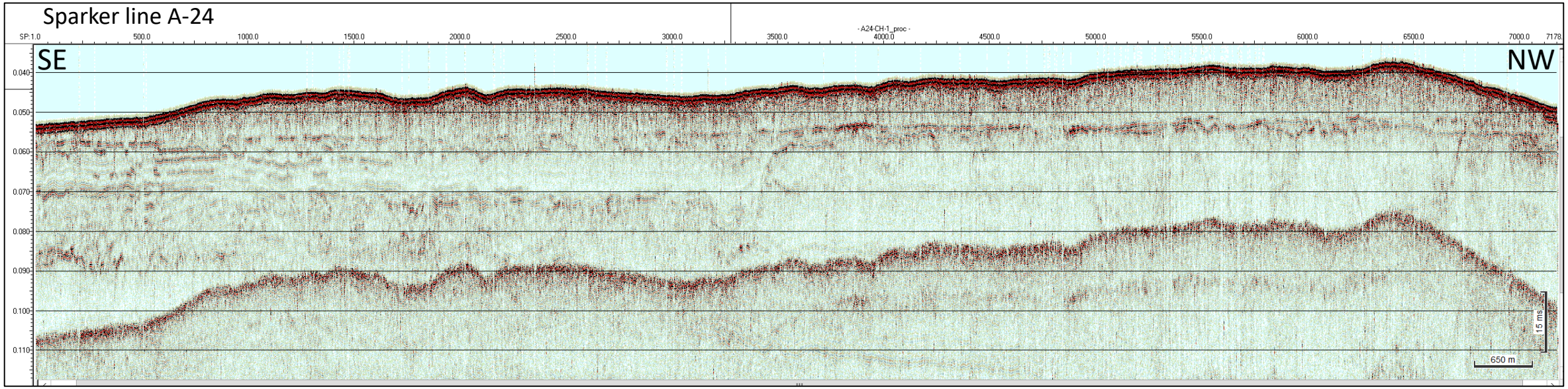

Sparker line A-34
SE
NW
SP:
6500.0
6000.0
5500.0
5000.0
4500.0
4000.0
3500.0
3000.0
2500.0
2000.0
1500.0
1000.0
- A34-CH-1_proc -
0.030
0.040
0.050
0.060
0.070
0.080
0.090
0.100
0.110
0.120
15 ms
650 m

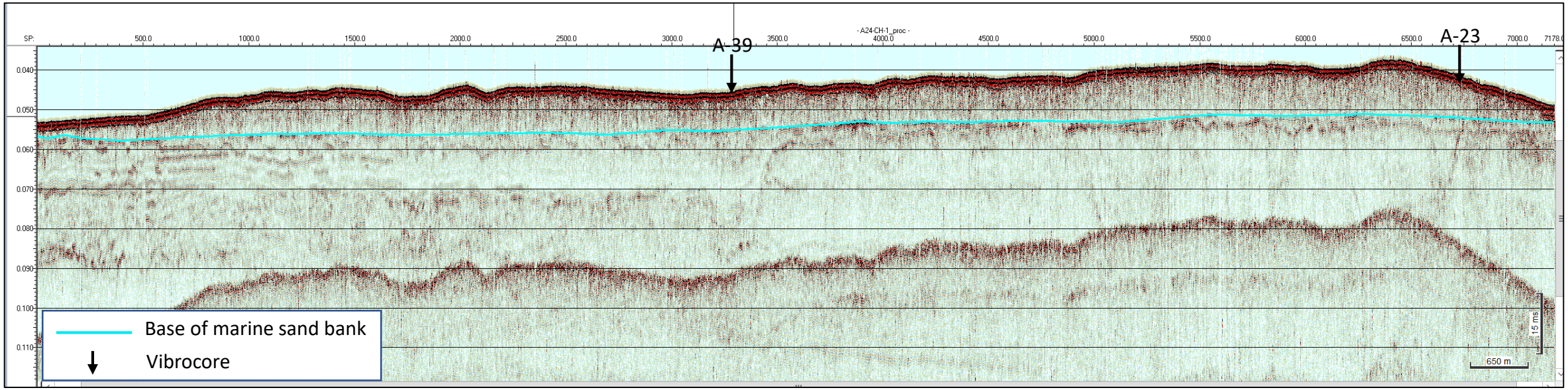

SP:
6500.0
6000.0
5500.0
5000.0
4500.0
4000.0
3500.0
3000.0
2500.0
2000.0
1500.0
1000.0
- A34-CH-1_proc -
A-48
0.030
0.040
0.050
0.060
0.070
0.080
0.090
0.100
0.110
0.120
15 ms
650 m
Base of marine sand bank
Vibrocore

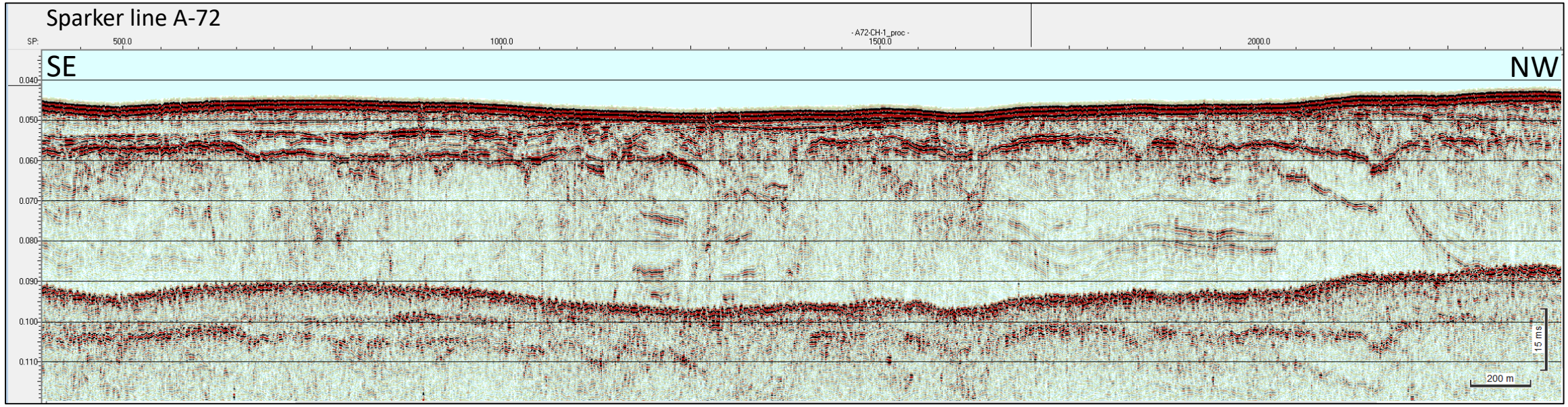

Sparker line A-15
SE
NW
SP:
6000.0
5500.0
5000.0
4500.0
4000.0
3500.0
3000.0
2500.0
2000.0
1500.0
1000.0
- A15-CH-1_proc -
0.030
0.040
0.050
0.060
0.070
0.080
0.090
0.100
0.110
0.120
15 ms
650 m
A-59
A-7
Base of marine sand bank
Vibrocore

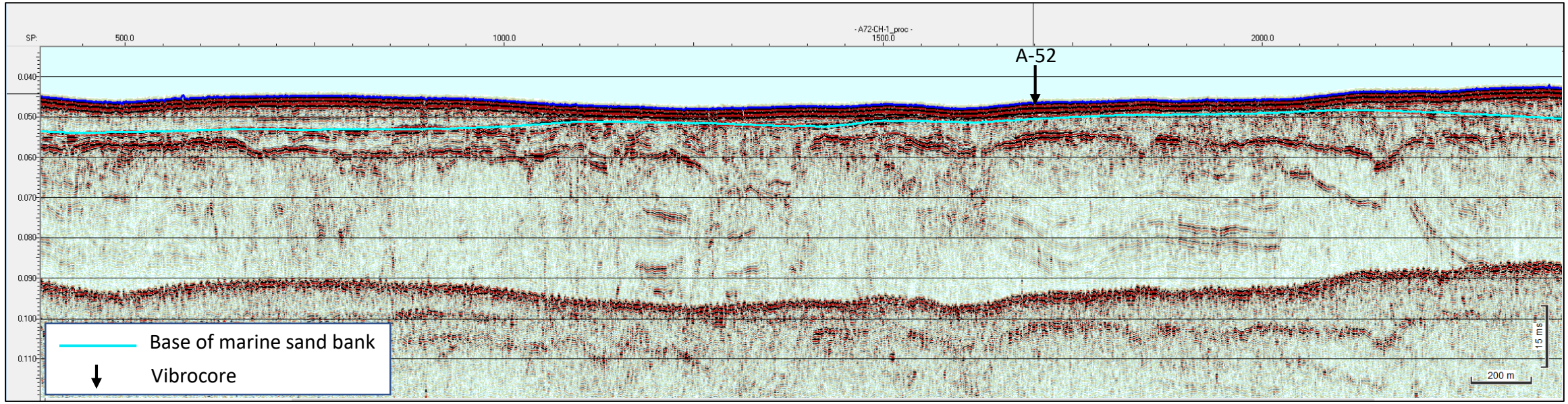

Sparker line A-41
SE
NW
SP:
1000.0
1500.0
2000.0
2500.0
3000.0
3500.0
4000.0
4500.0
5000.0
5500.0
6000.0
6500.0
- A41-CH-1_proc -
0.030
0.040
0.050
0.060
0.070
0.080
0.090
0.100
0.110
0.120
15 ms
650 m

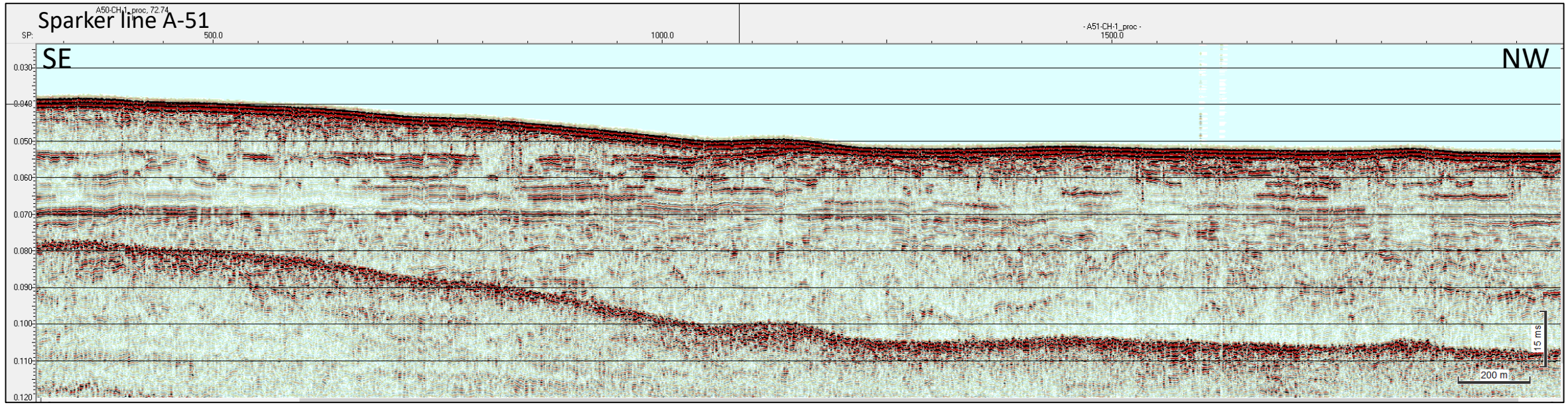

SP:
1000.0
1500.0
2000.0
2500.0
3000.0
3500.0
4000.0
4500.0
5000.0
5500.0
6000.0
6500.0
- A41-CH-1_proc -
0.030
0.040
0.050
0.060
0.070
0.080
0.090
0.100
0.110
0.120
A-35
A-8
A-56
Base of marine sand bank
Vibrocore
15 ms
650 m

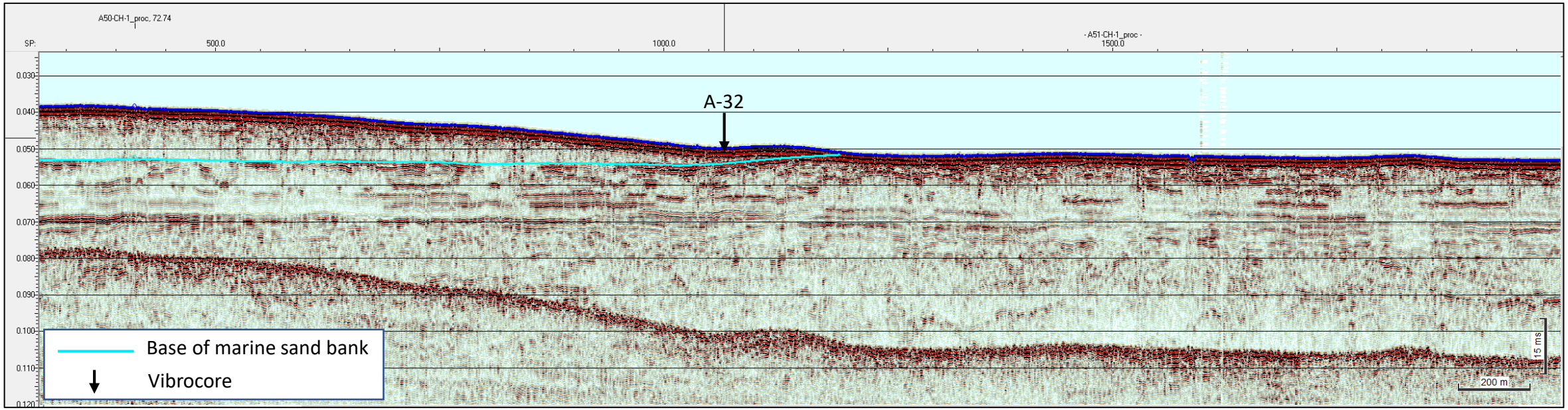

Sparker line A-24
SE
NW
15 ms
650 m

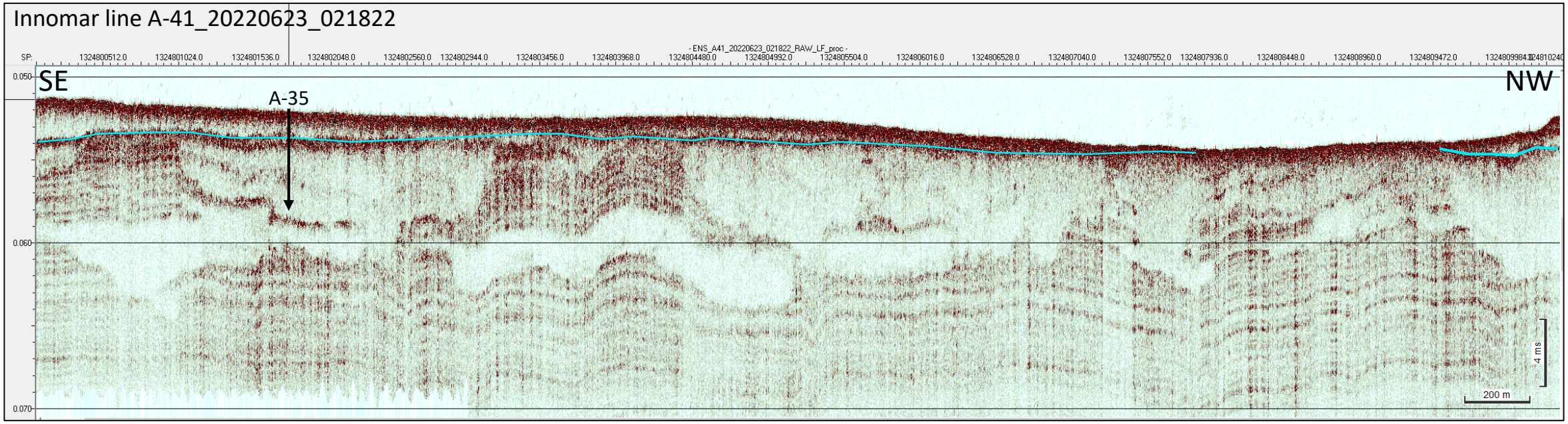

A-39
A-23
Base of marine sand bank
Vibrocore
15 ms
650 m

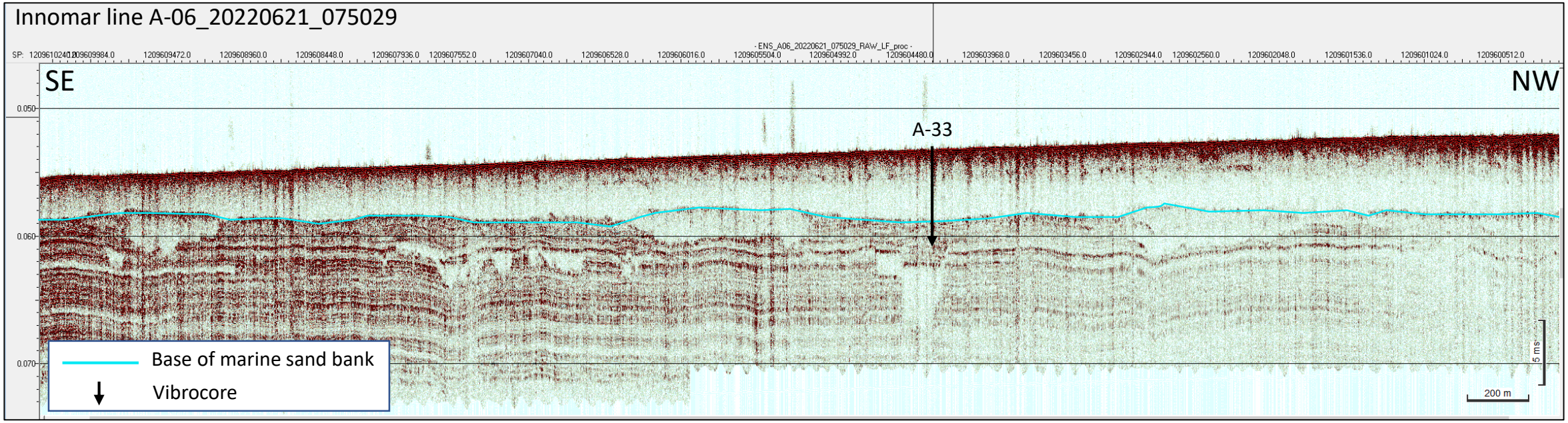

Sparker line A-72
SP:
500.0
1000.0
- A72-CH-1_proc -
1500.0
2000.0
SE
NW
0.040
0.050
0.060
0.070
0.080
0.090
0.100
0.110
15 ms
200 m

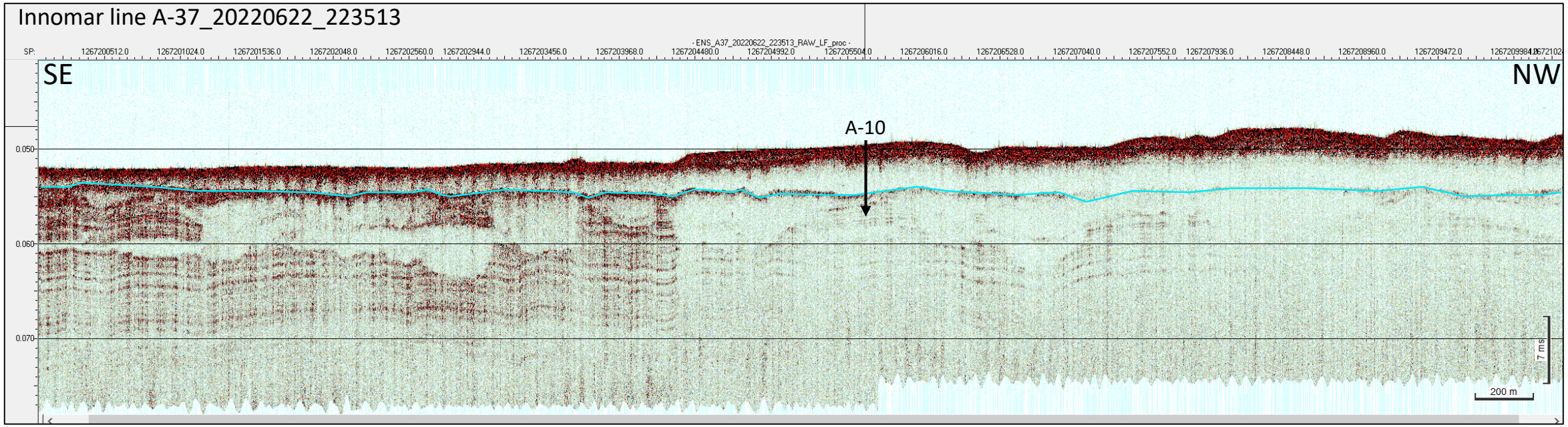

SP:
500.0
1000.0
- A72-CH-1_proc -
1500.0
2000.0
A-52
0.040
0.050
0.060
0.070
0.080
0.090
0.100
0.110
Base of marine sand bank
Vibrocore
15 ms
200 m

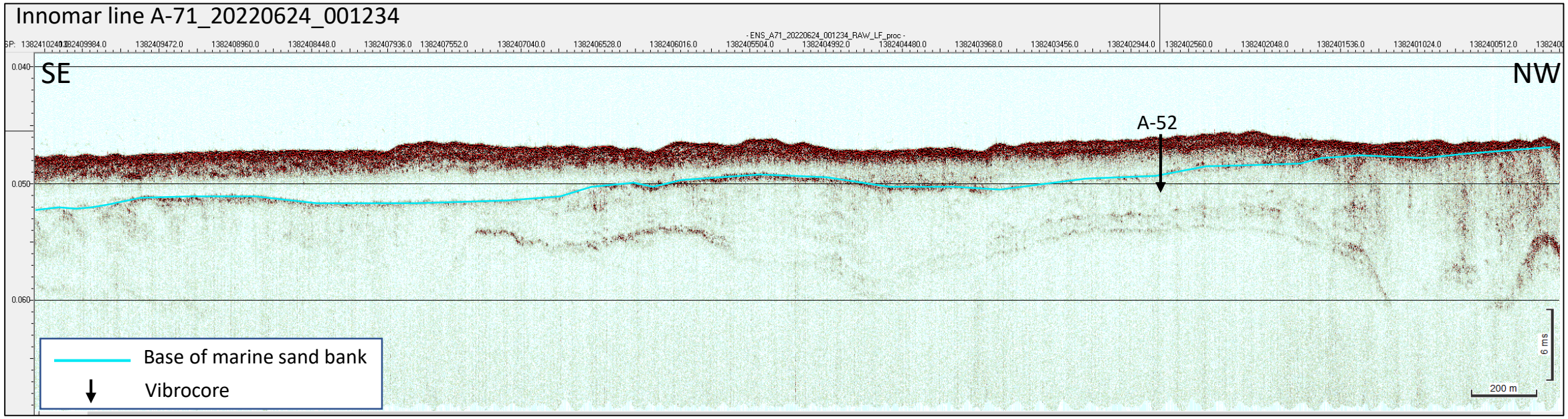

Sparker line A-51
A50-CH-1_proc, 72.74
- A51-CH-1_proc -
SP:
500.0
1000.0
1500.0
SE
NW
0.030
0.040
0.050
0.060
0.070
0.080
0.090
0.100
0.110
0.120
15 ms
200 m


A50-CH-1_proc, 72.74
- A51-CH-1_proc -
SP:
500.0
1000.0
1500.0
A-32
0.030
0.040
0.050
0.060
0.070
0.080
0.090
0.100
0.110
0.120
15 ms
200 m
Base of marine sand bank
Vibrocore


Innomar line A-41_20220623_021822
SE
NW
A-35
0.050
0.060
0.070
4 ms
200 m


Innomar line A-06_20220621_075029
SE
NW
A-33
0.050
0.060
0.070
5 ms
200 m
Base of marine sand bank
Vibrocore


Innomar line A-37_20220622_223513
SE
NW
A-10
0.050
0.060
0.070
7 ms
200 m


Innomar line A-71_20220624_001234
SE
NW
A-52
0.040
0.050
0.060
6 ms
200 m
Base of marine sand bank
Vibrocore