

IMMINGHAM EASTERN RO-RO TERMINAL



Navigation Simulation Study December 2021 (Part 2)

10.2.74

APFP Regulations 2009 – Regulation 5(2)(q)

PINS Reference – TR030007

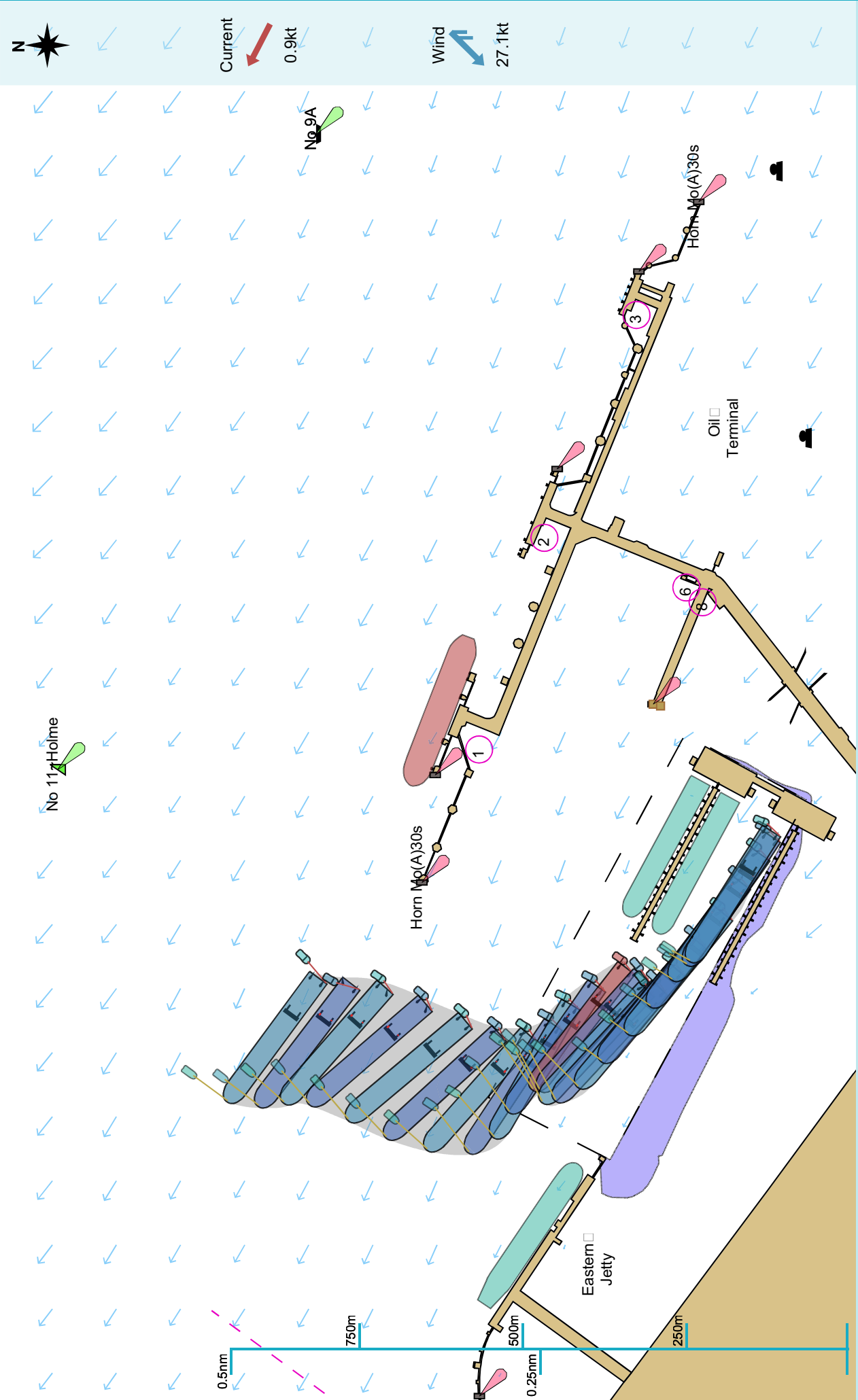
December 2023

Document Information

Document Information	
Project	Immingham Eastern Ro-Ro Terminal
Document title	Navigation Simulation Study December 2021 (Part 2)
Commissioned by	Associated British Ports
Document ref	10.2.74
APFP Regs	5(2)(q)
Prepared by	ABP Project Team

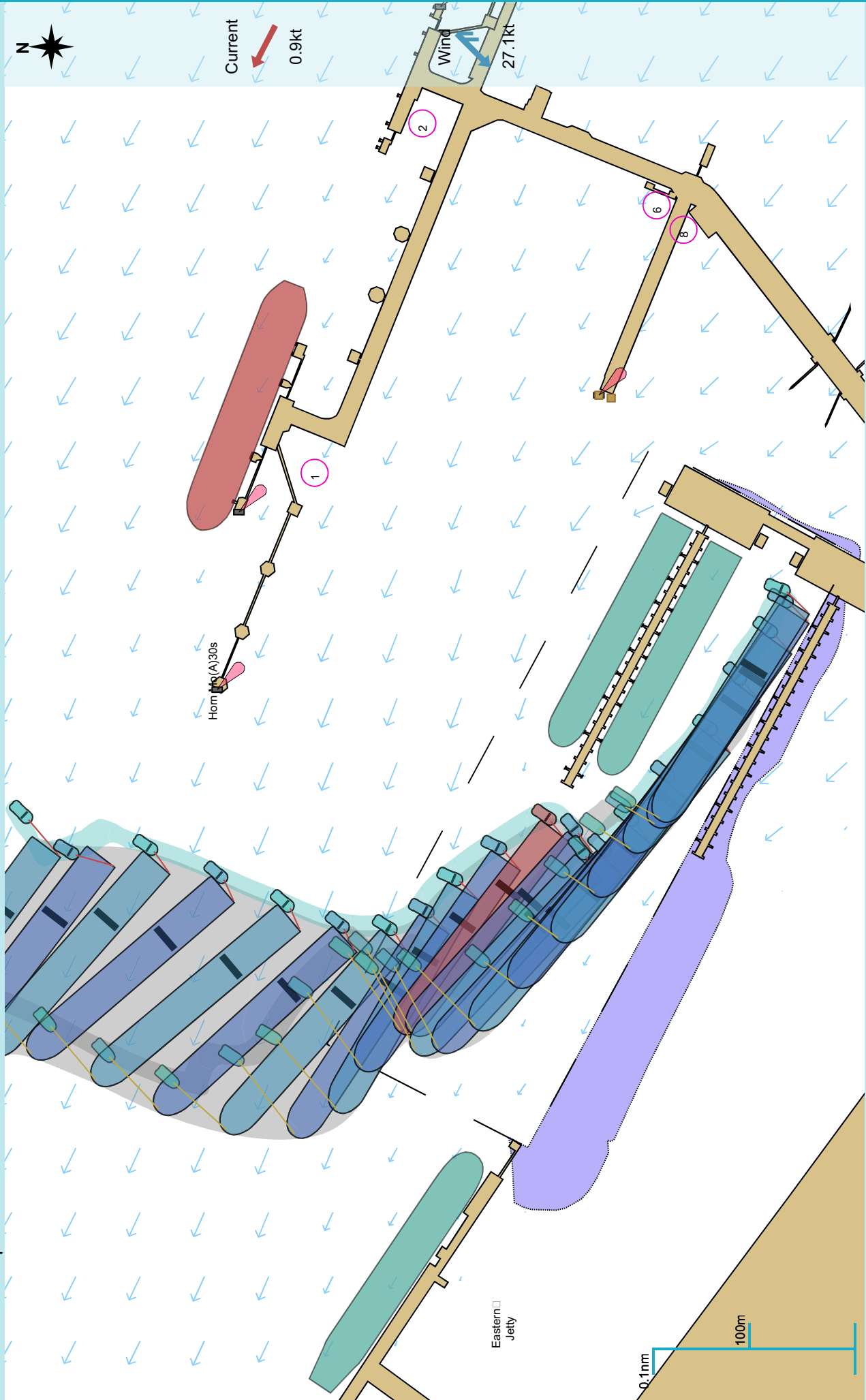
Date	Version	Revision Details
12/2023	01	Deadline 7

Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



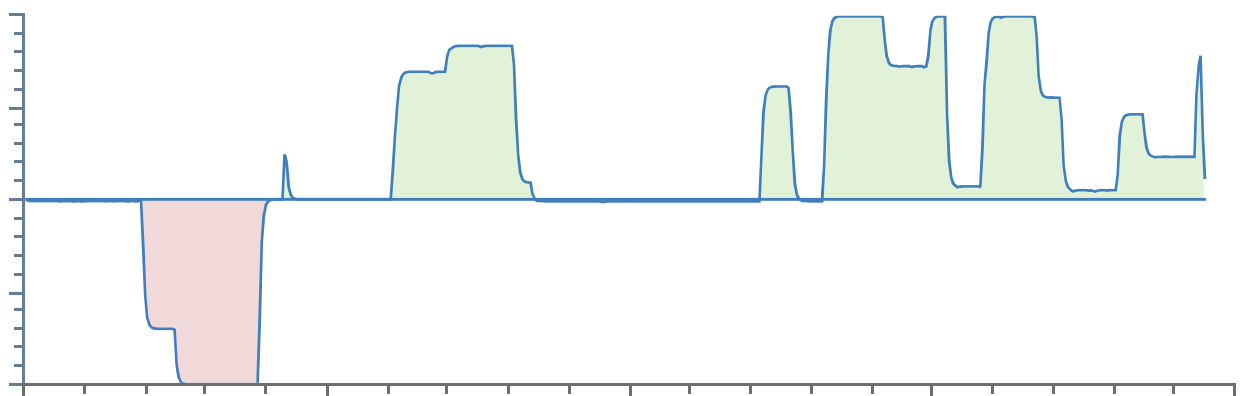
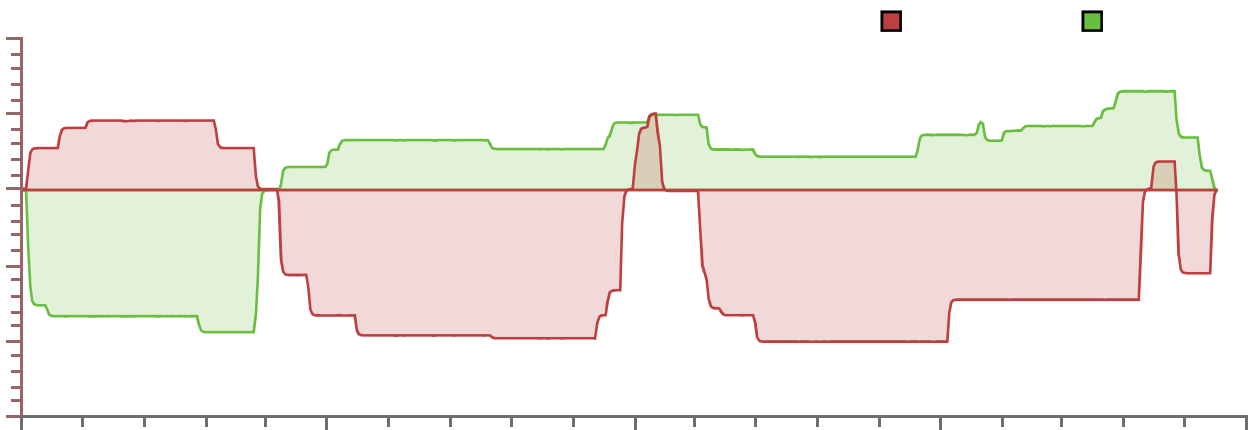
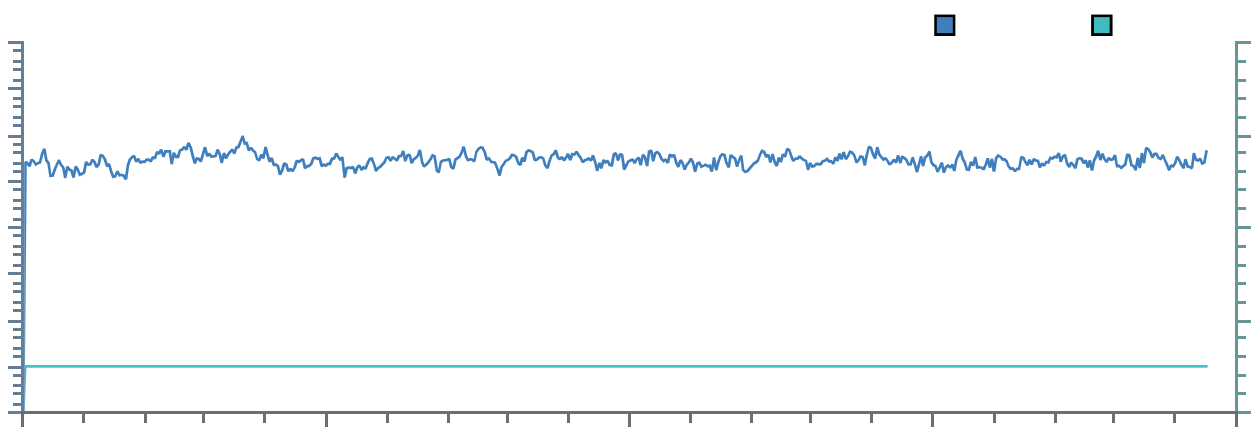
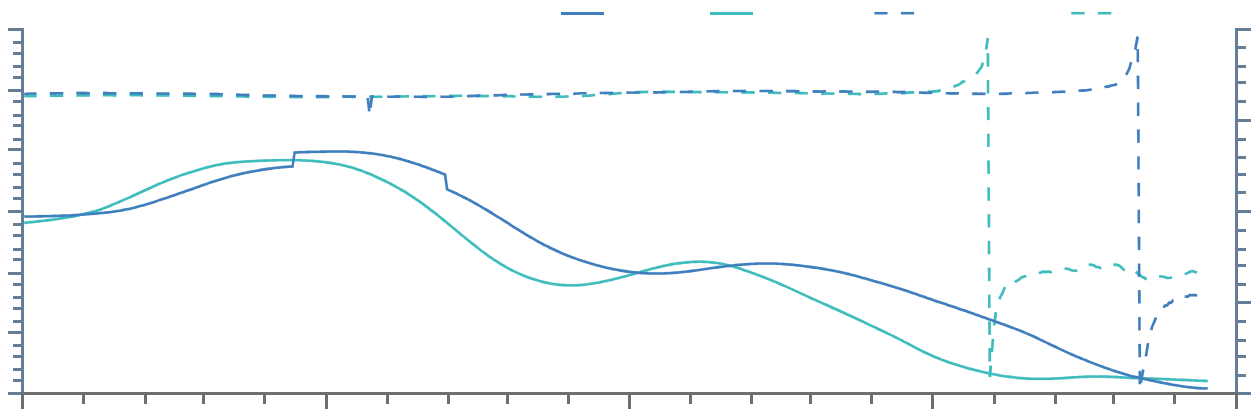
Ships plotted every 1 mins, highlight every 10 mins

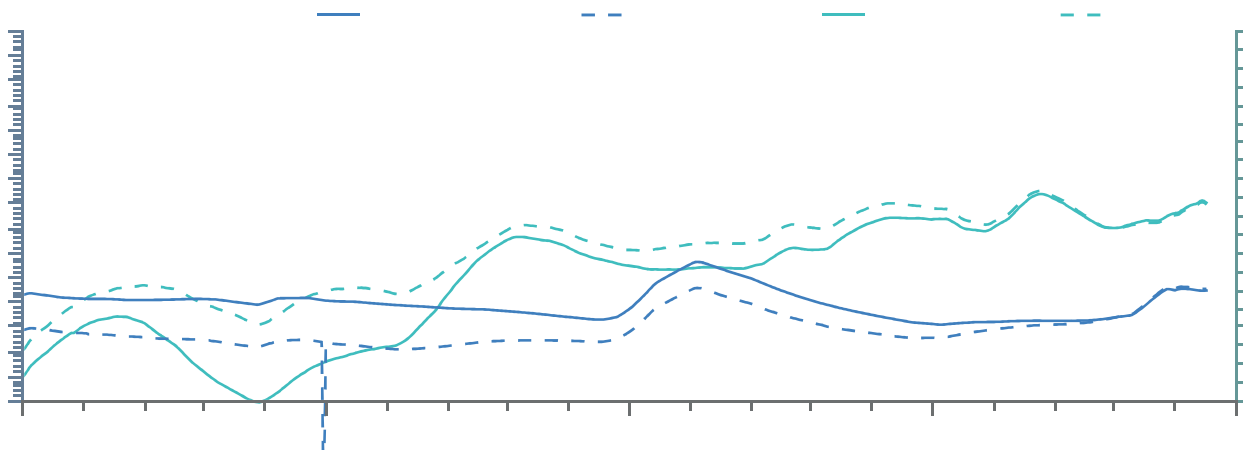
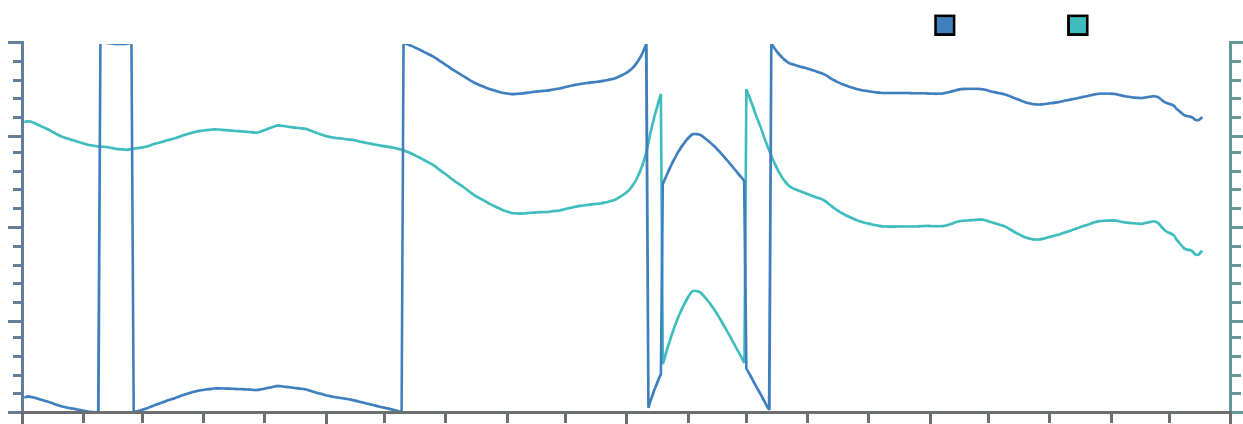
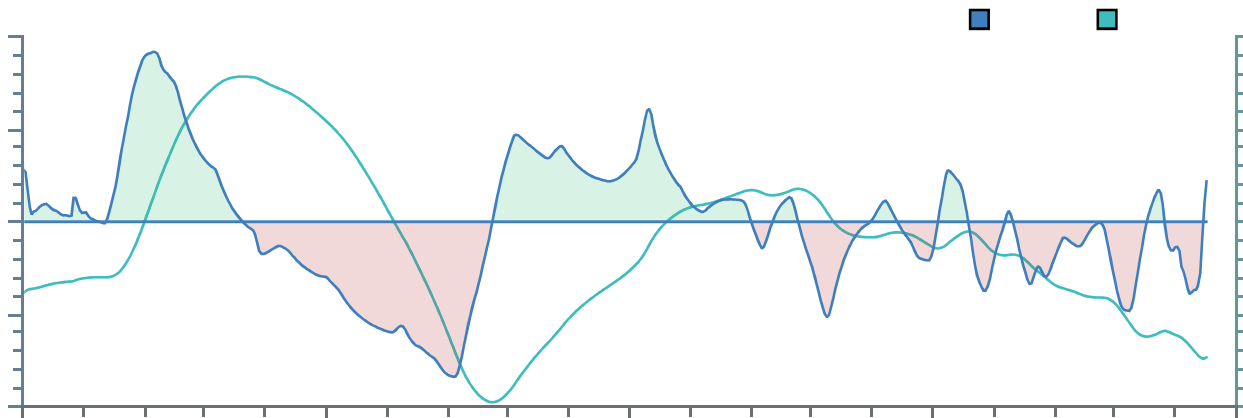
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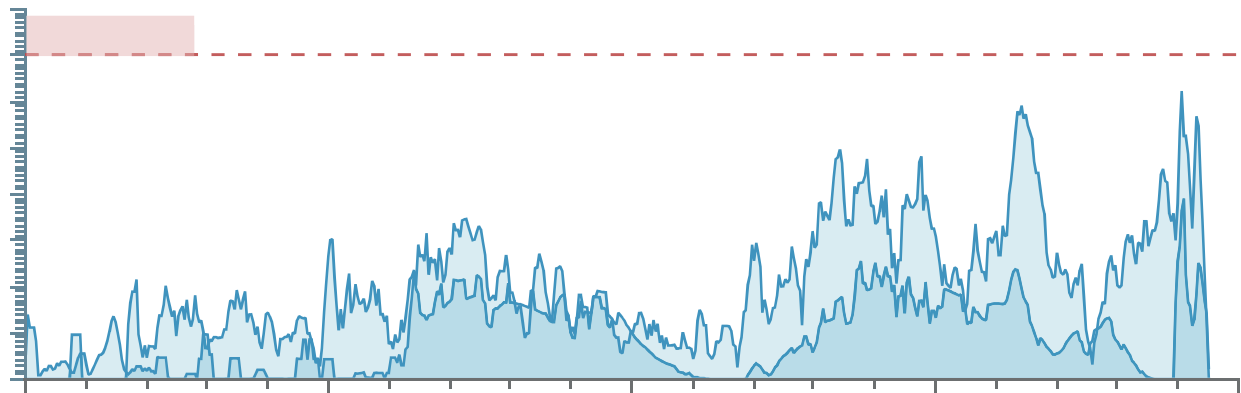
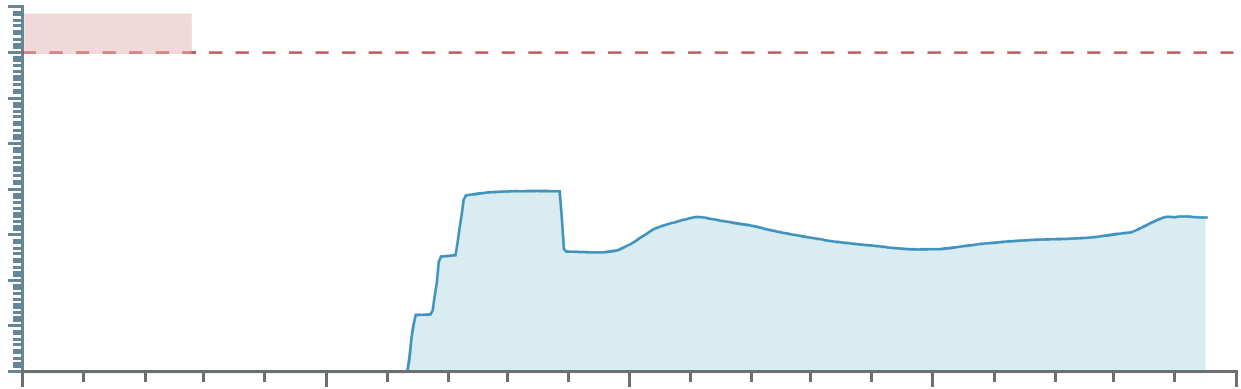
Environment

237m RoRo unnamed

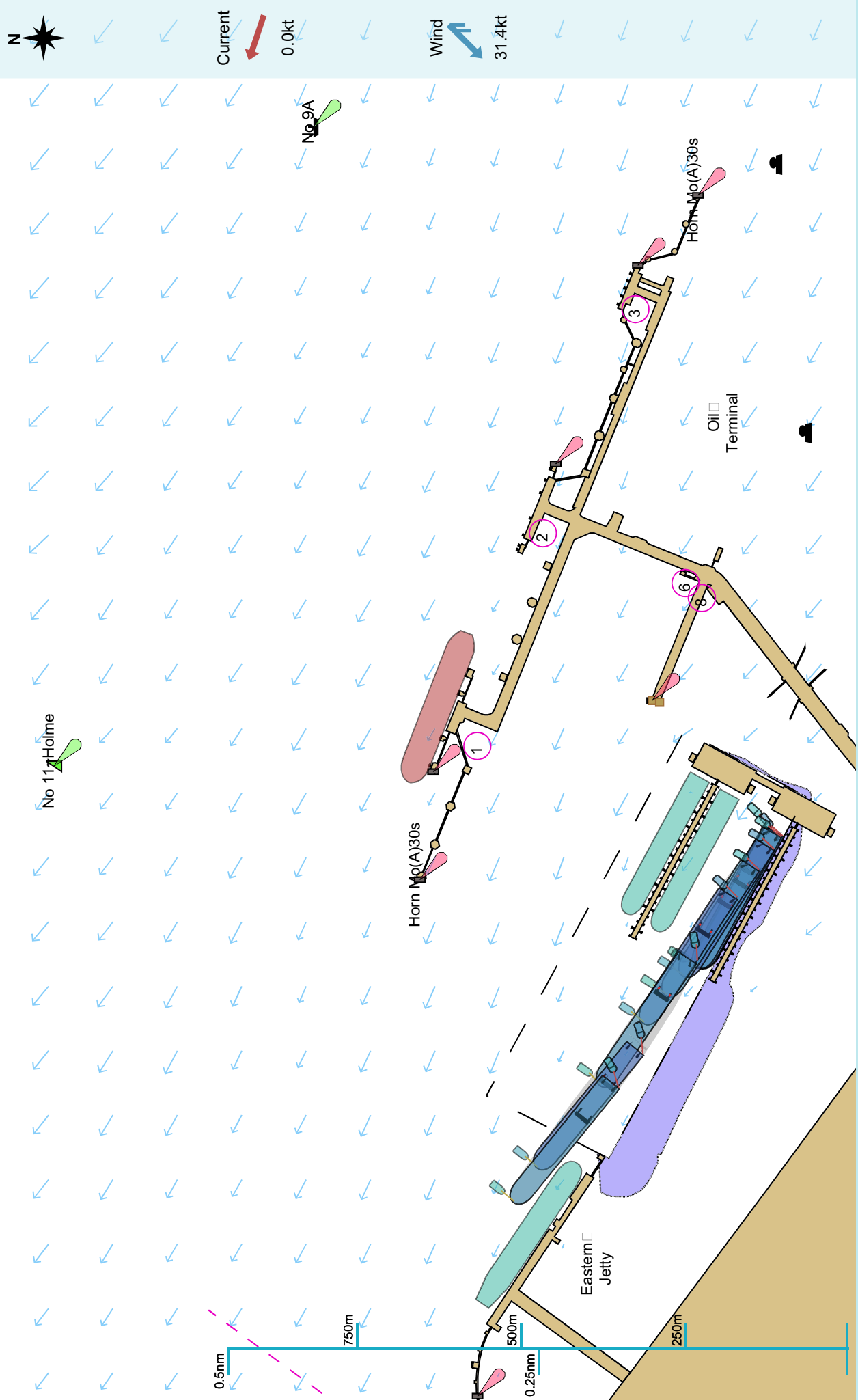
Tugs





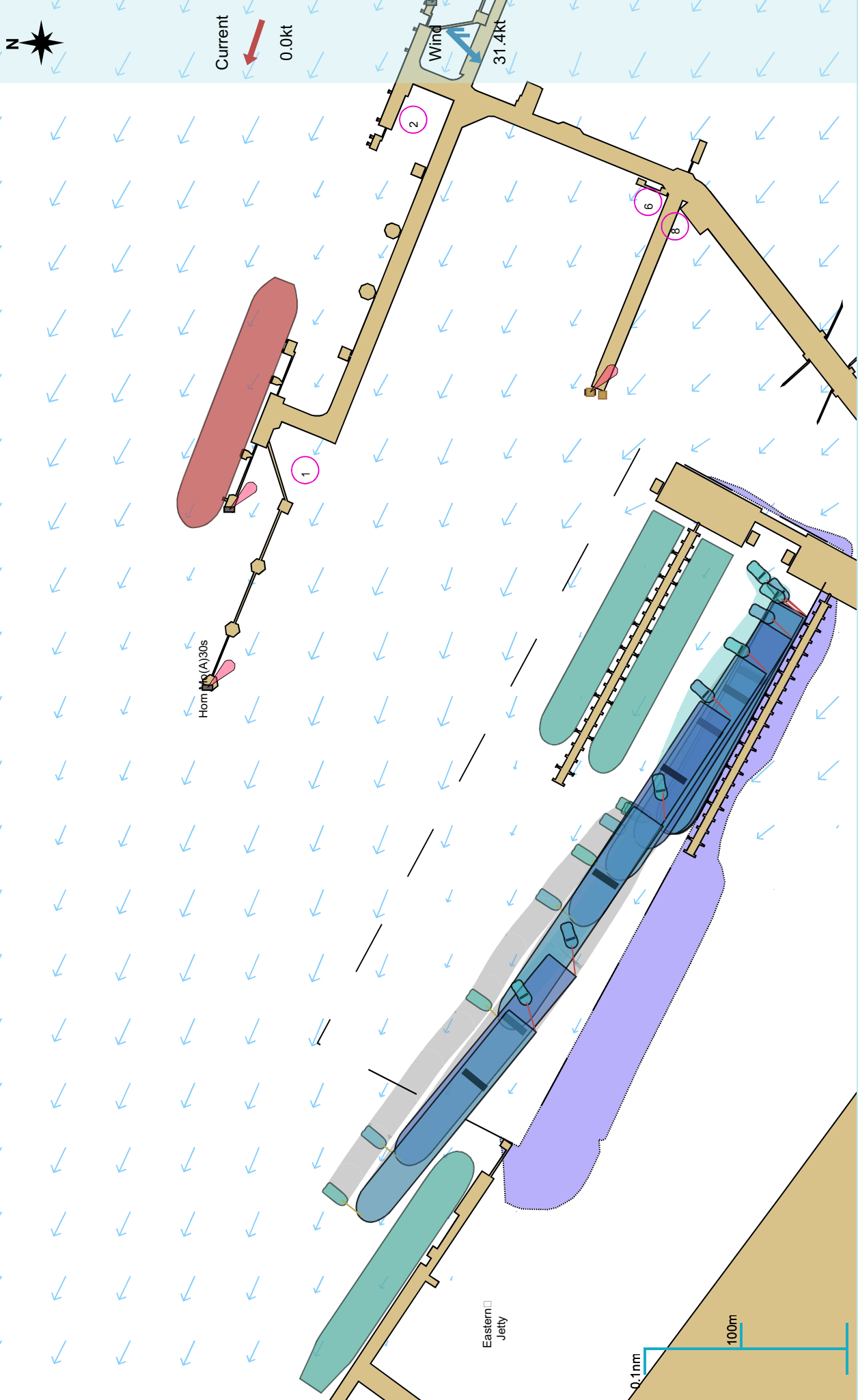


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



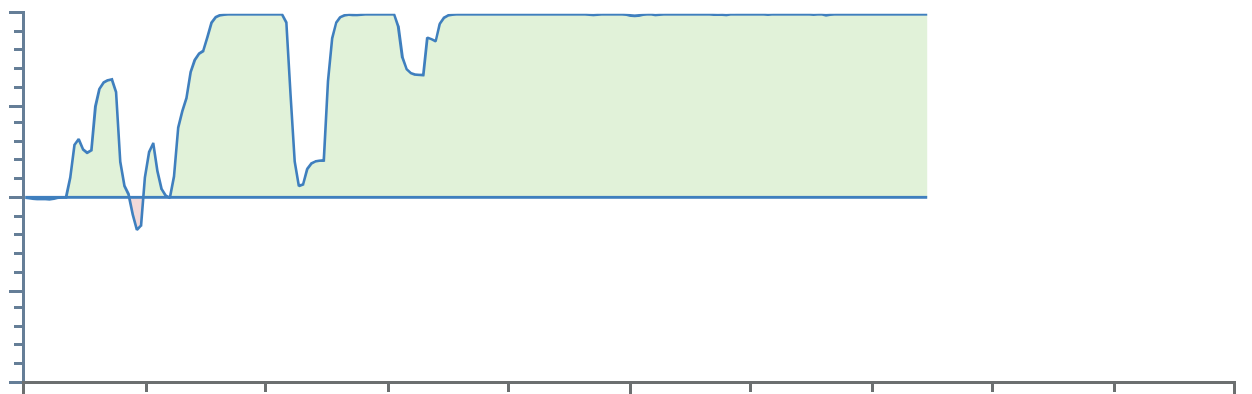
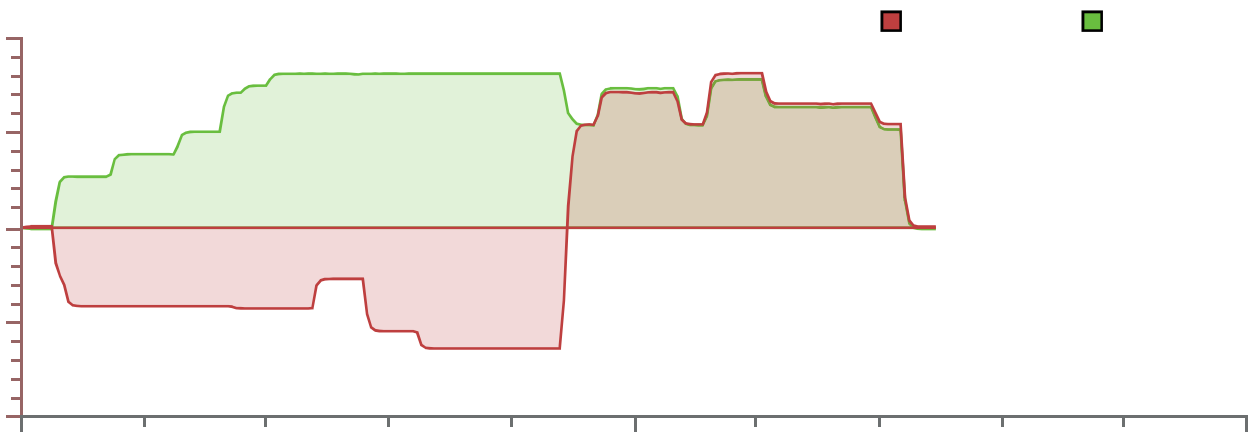
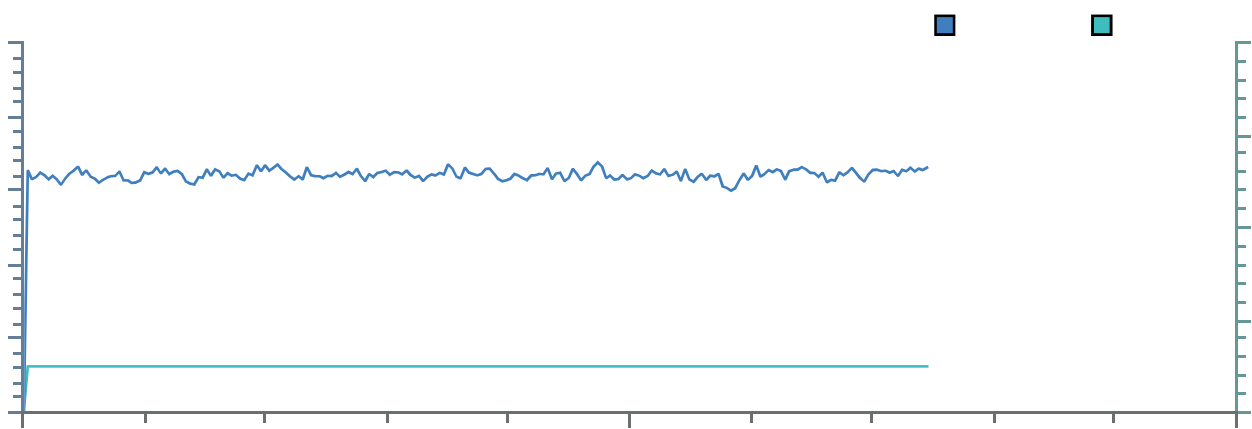
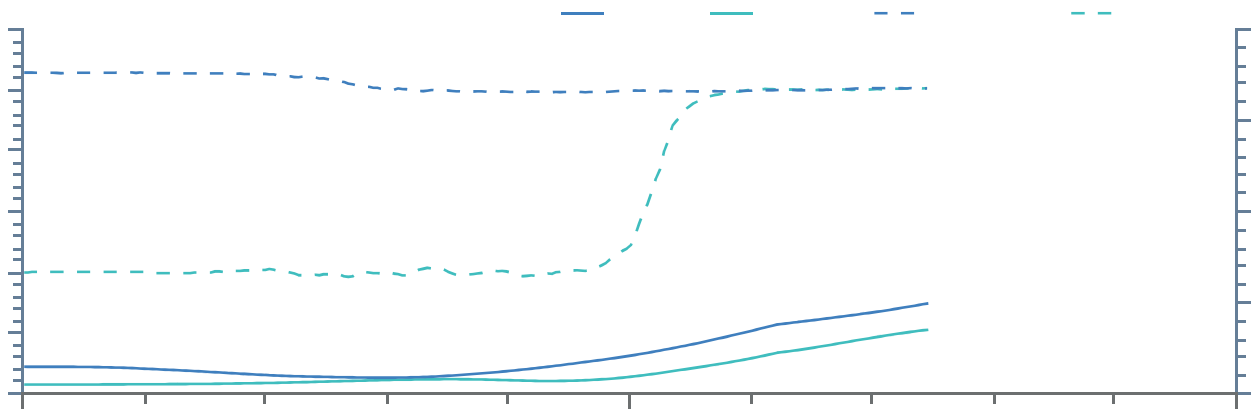
Ships plotted every 1 mins, highlight every 10 mins

Summary

Environment

237m RoRo unnamed

Tugs

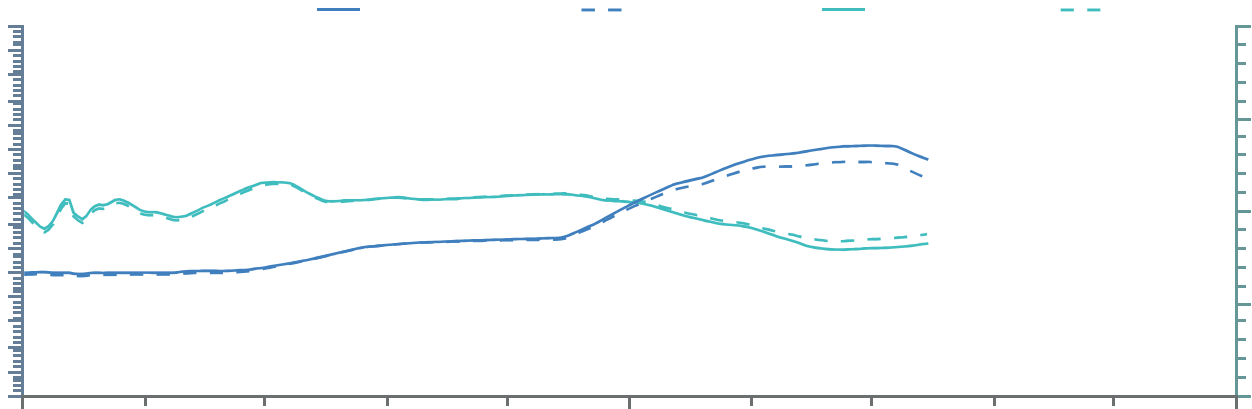
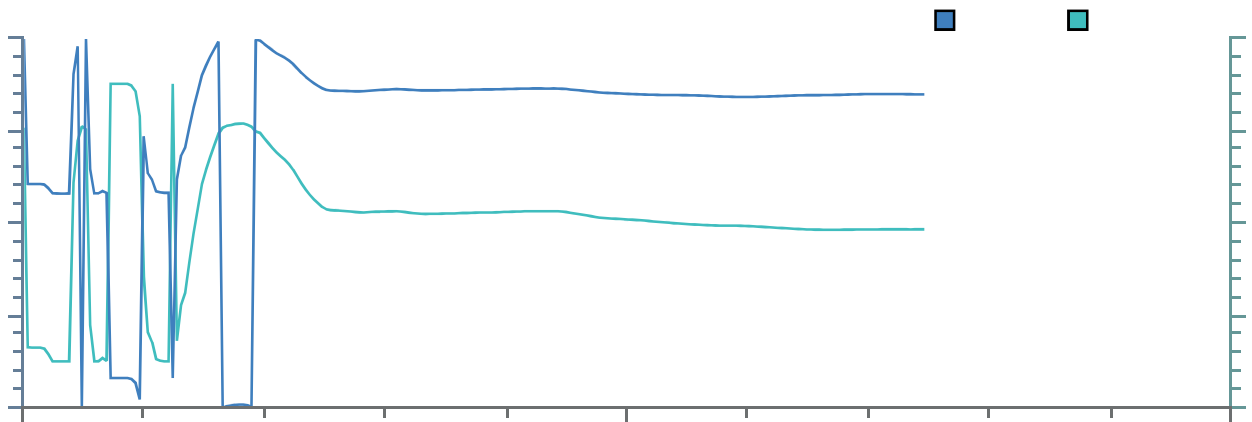
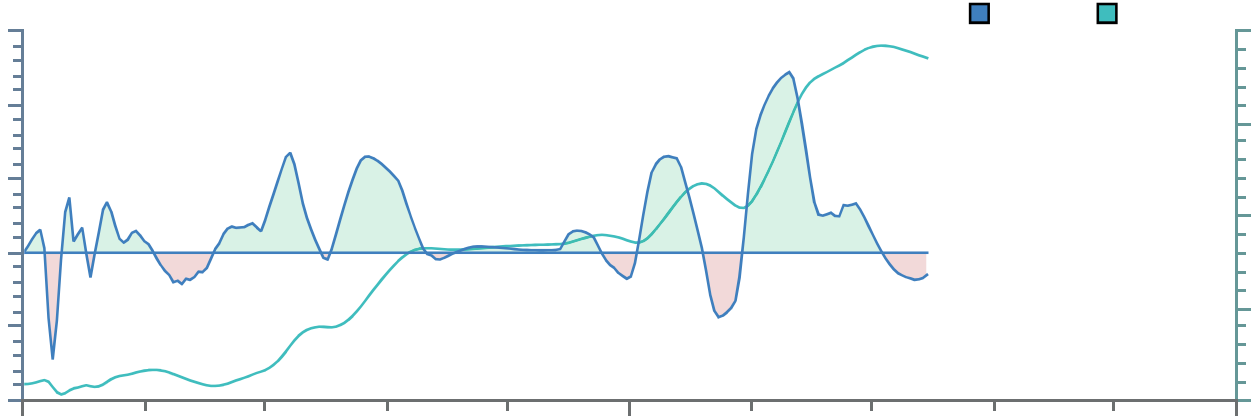


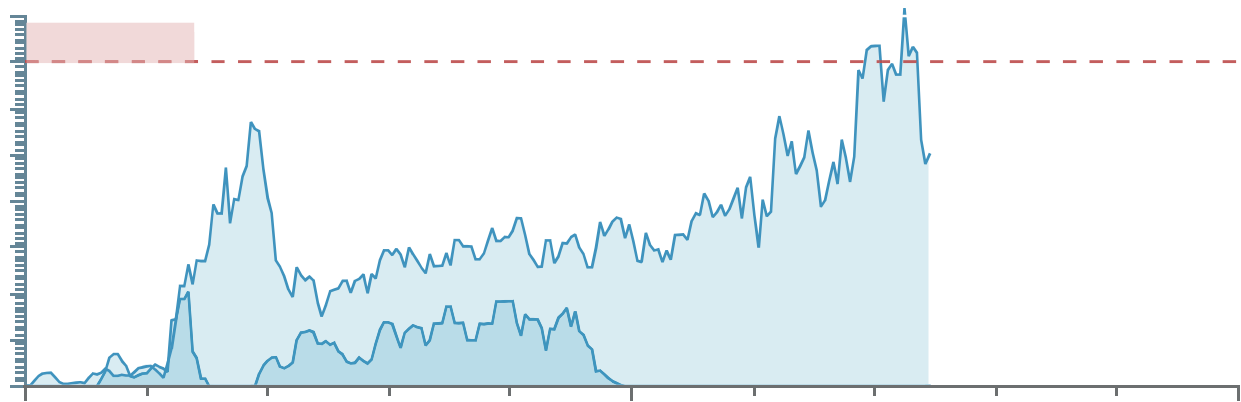
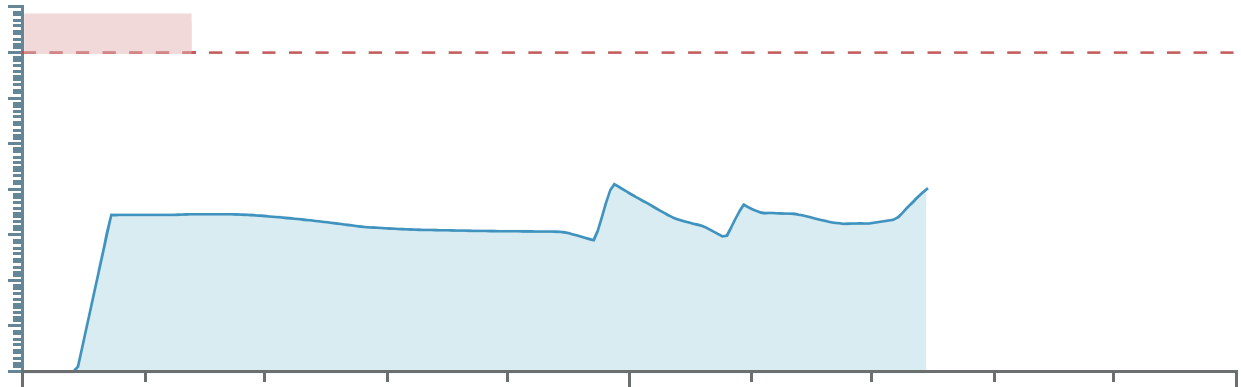
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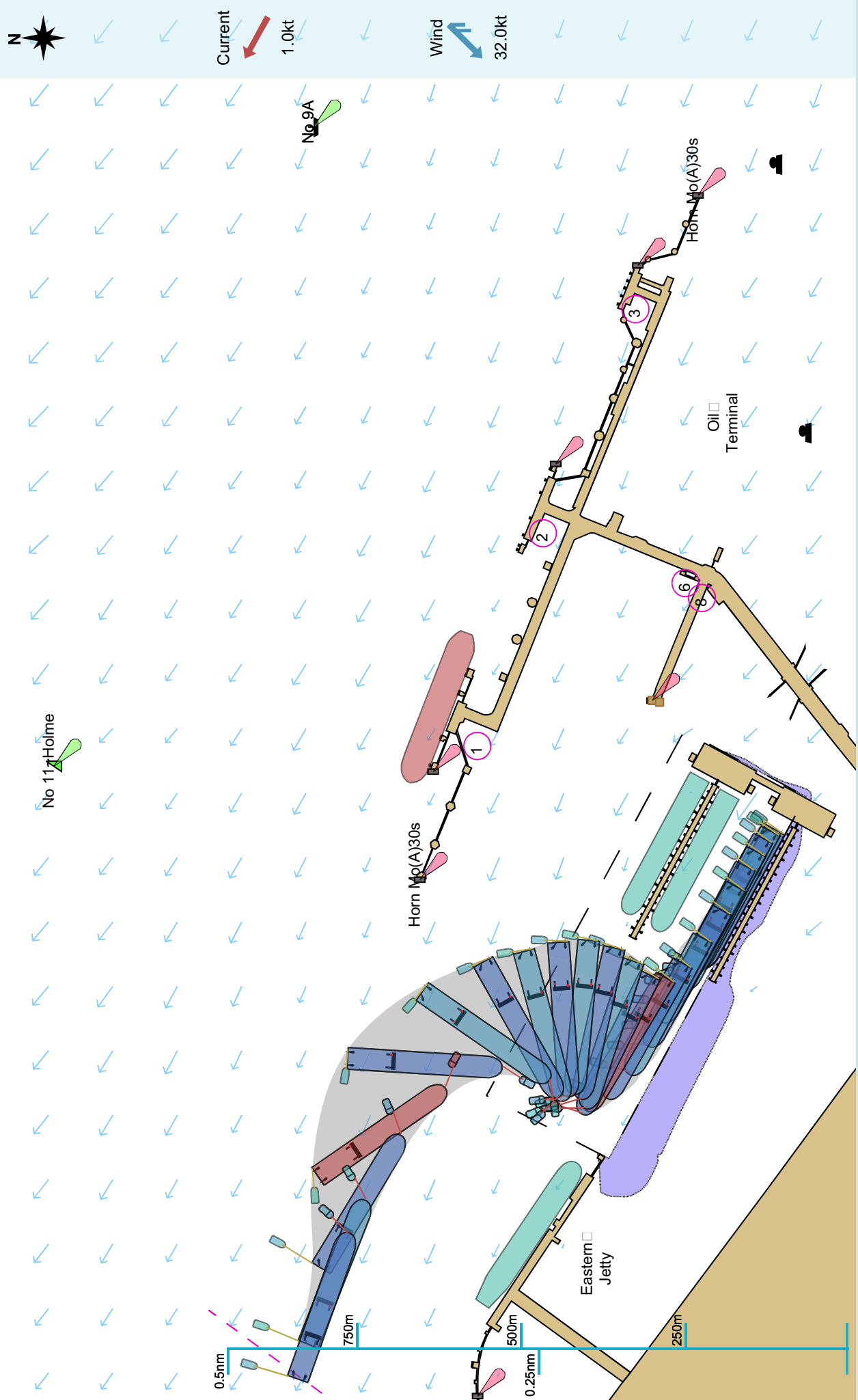
237m RoRo unnamed

Tugs



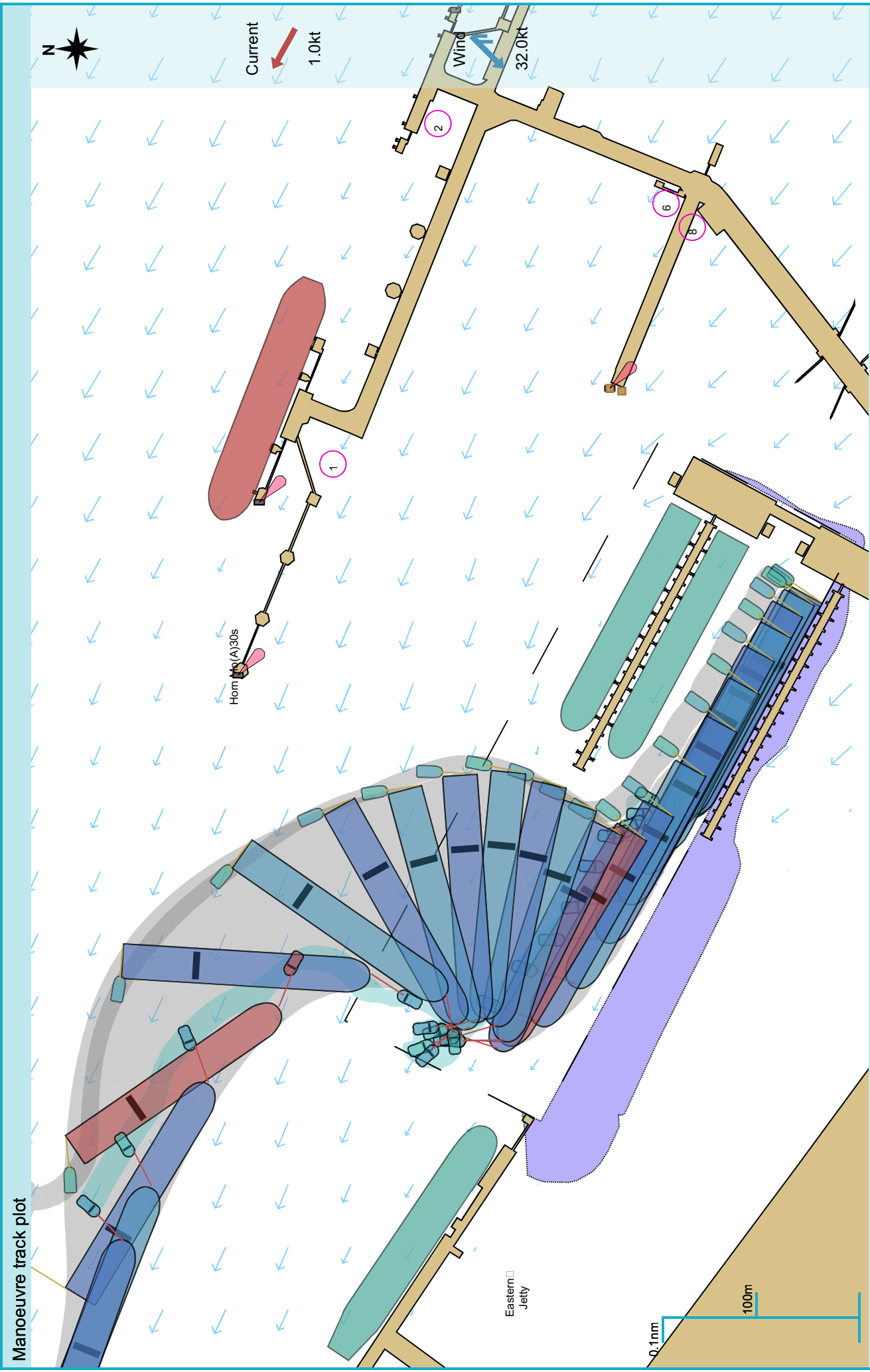


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



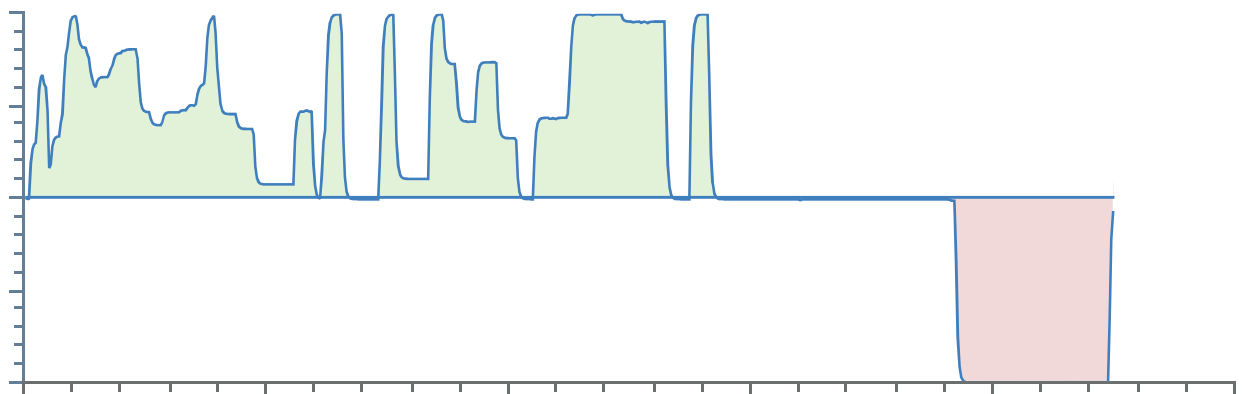
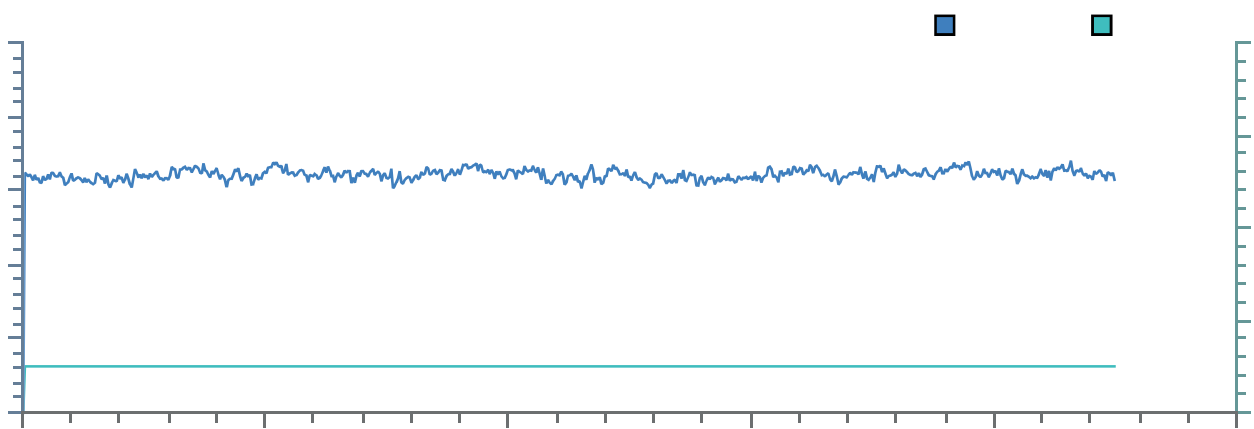
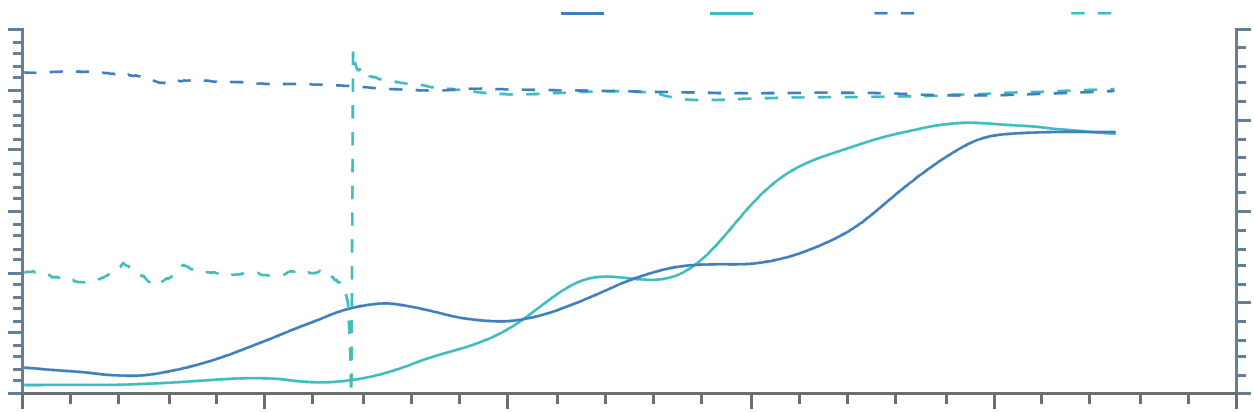
Ships plotted every 1 mins, highlight every 10 mins

Summary

Environment

237m RoRo unnamed

Tugs

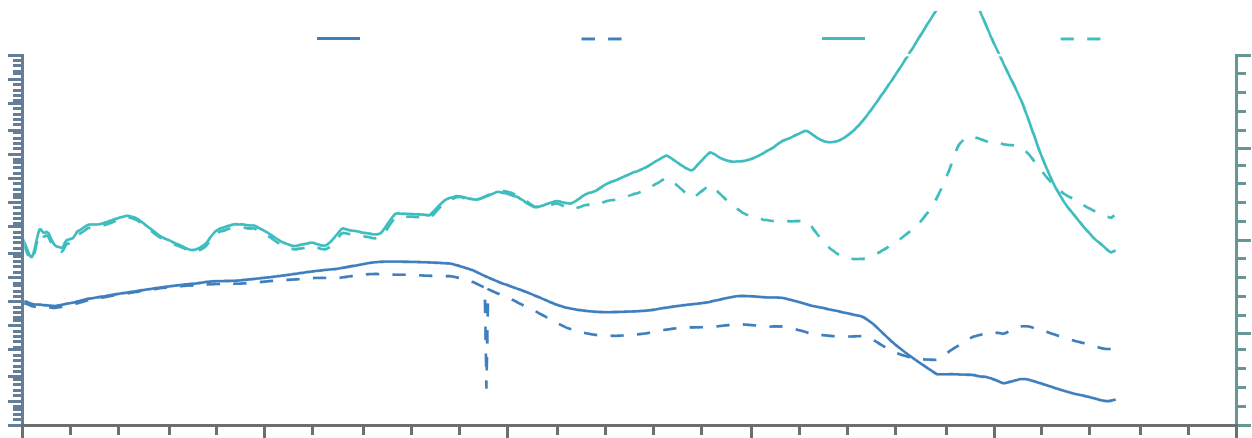
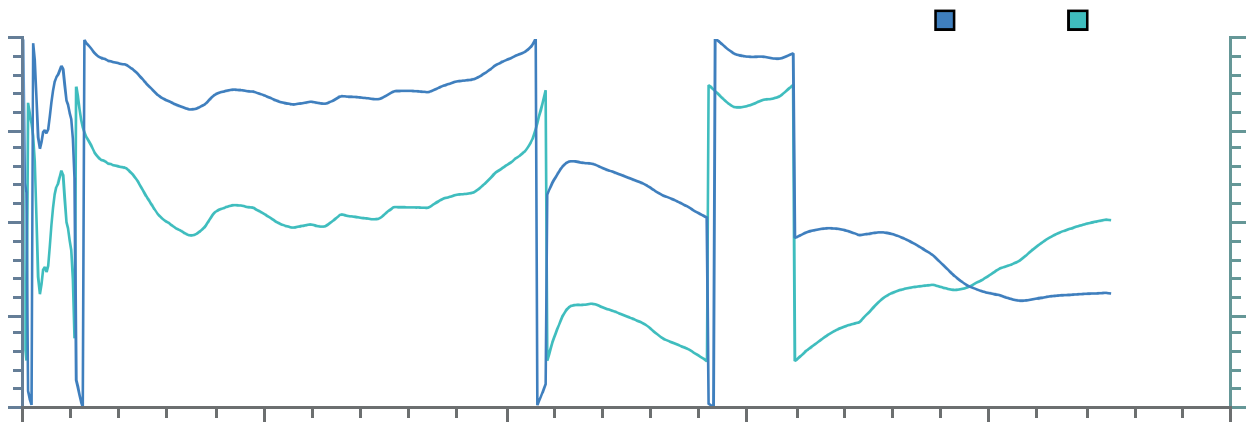
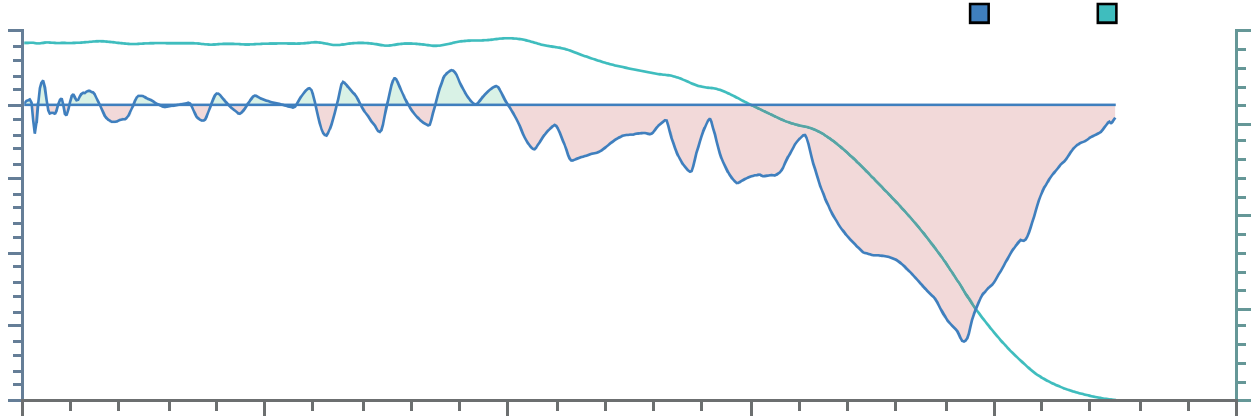


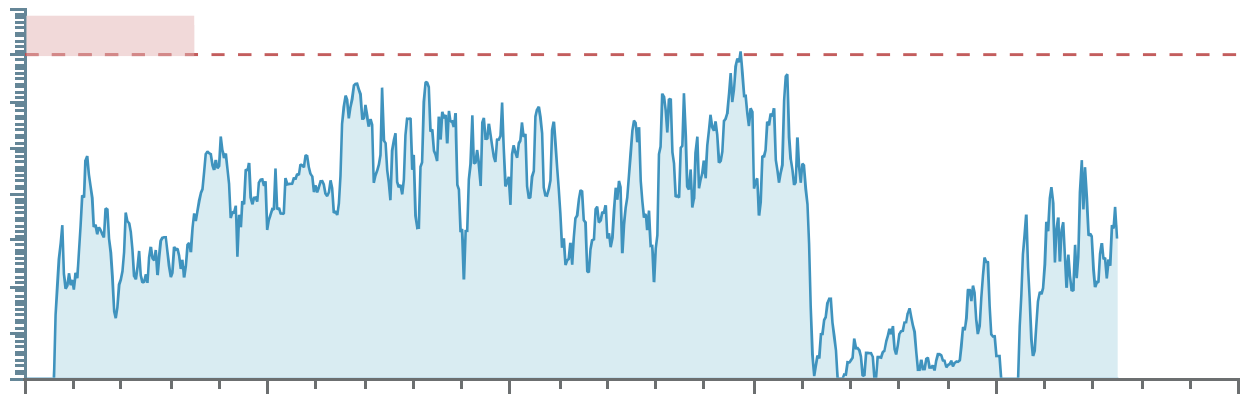
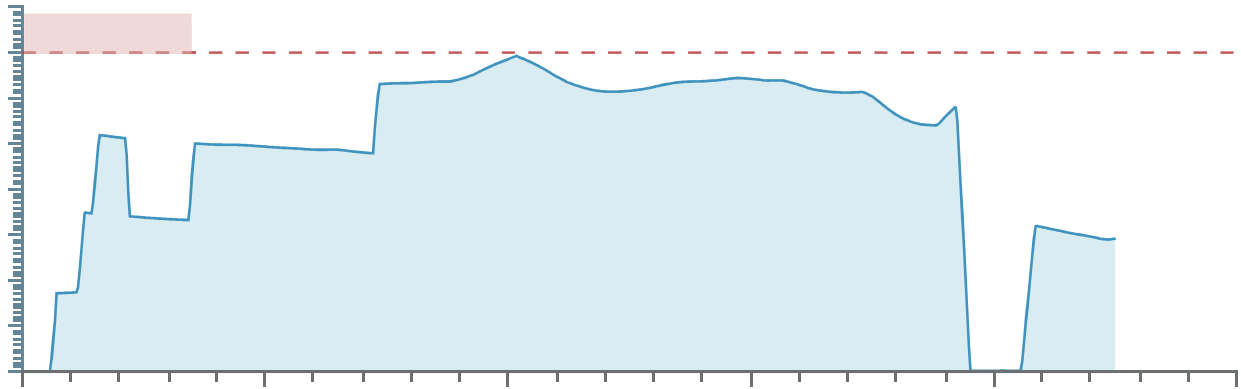
Summary

Environment

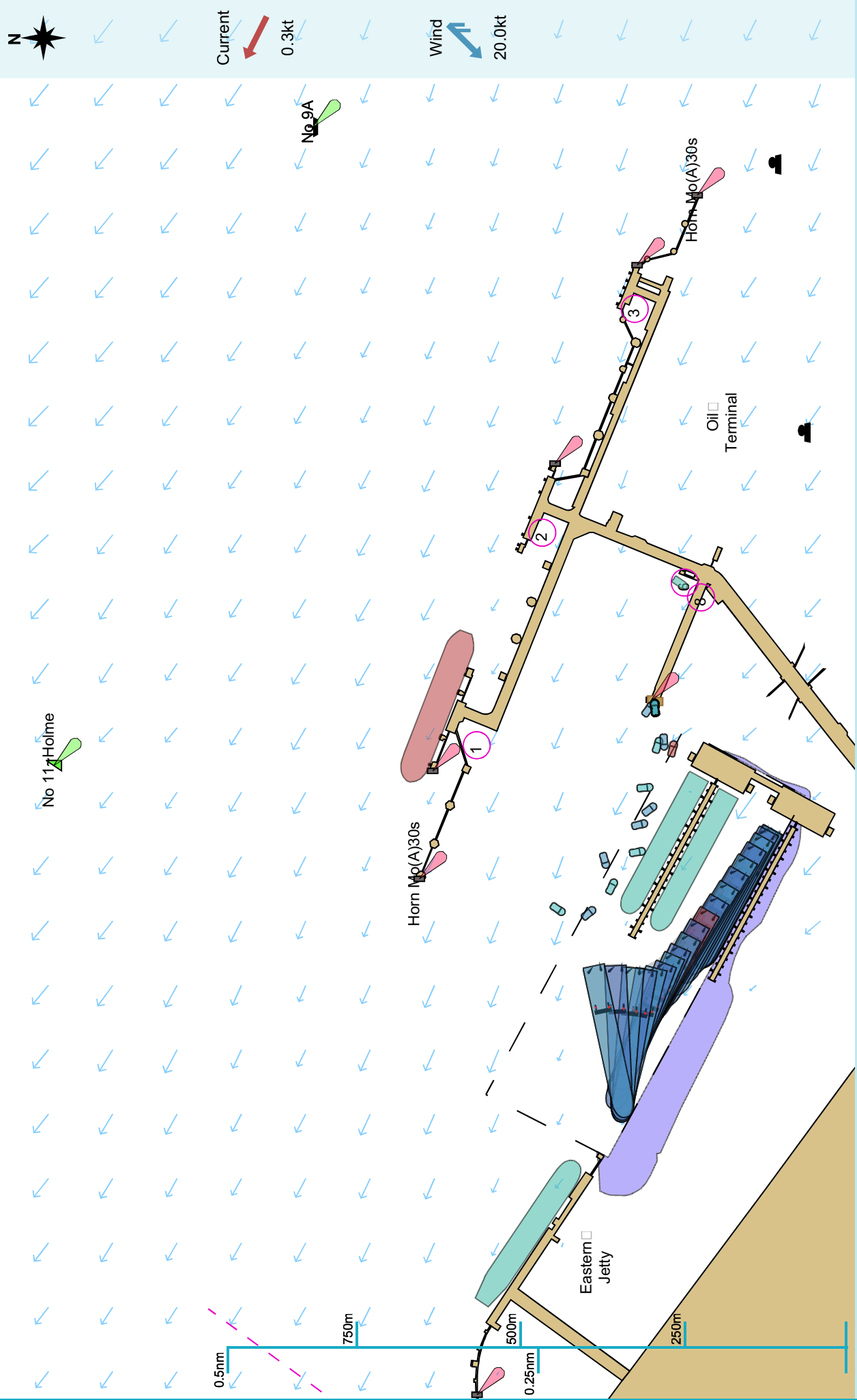
237m RoRo unnamed

Tugs



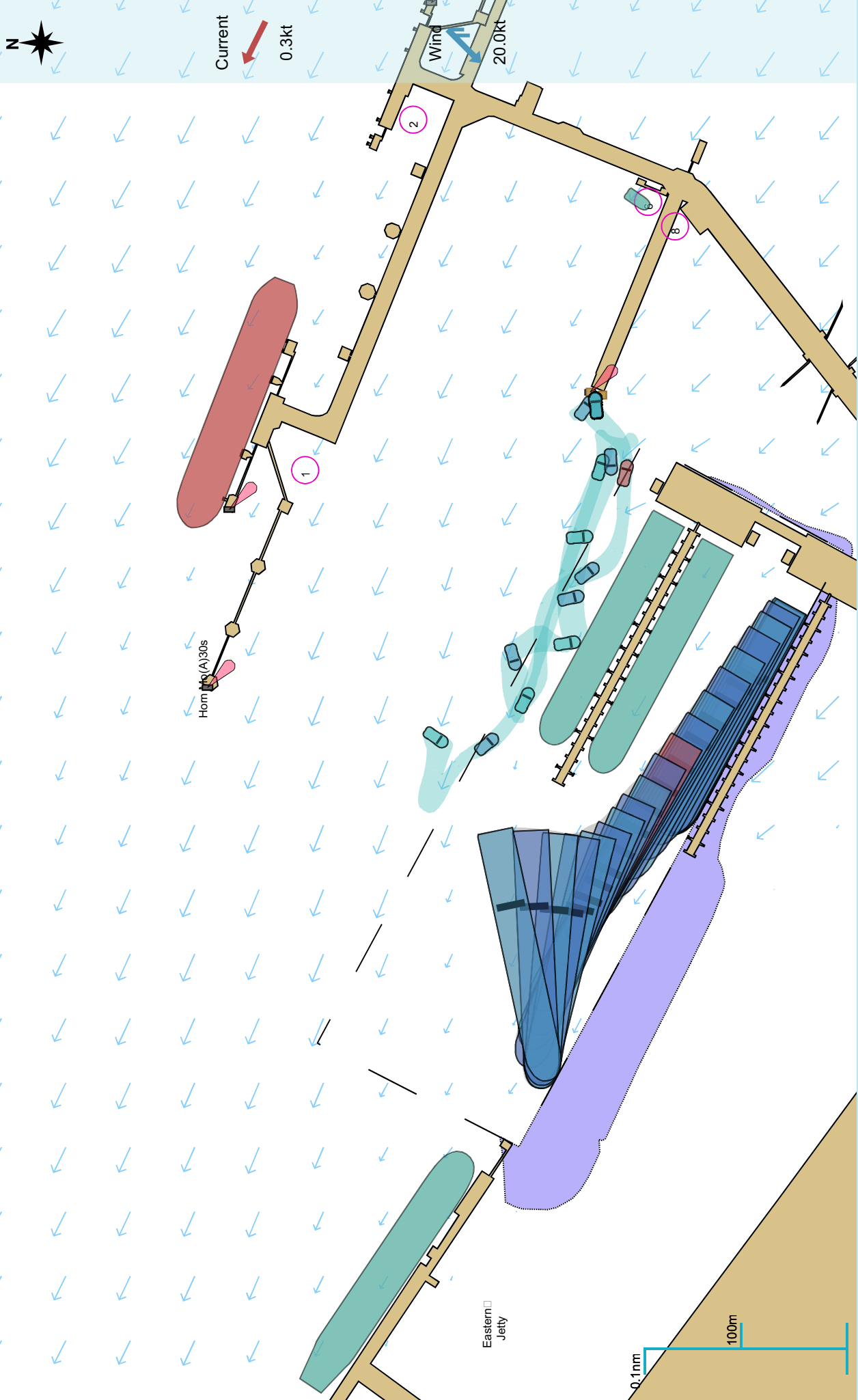


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



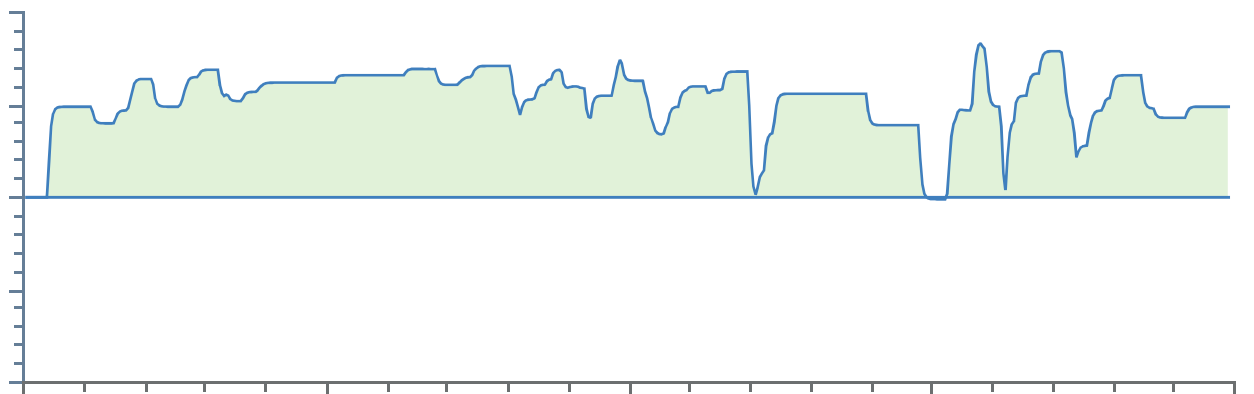
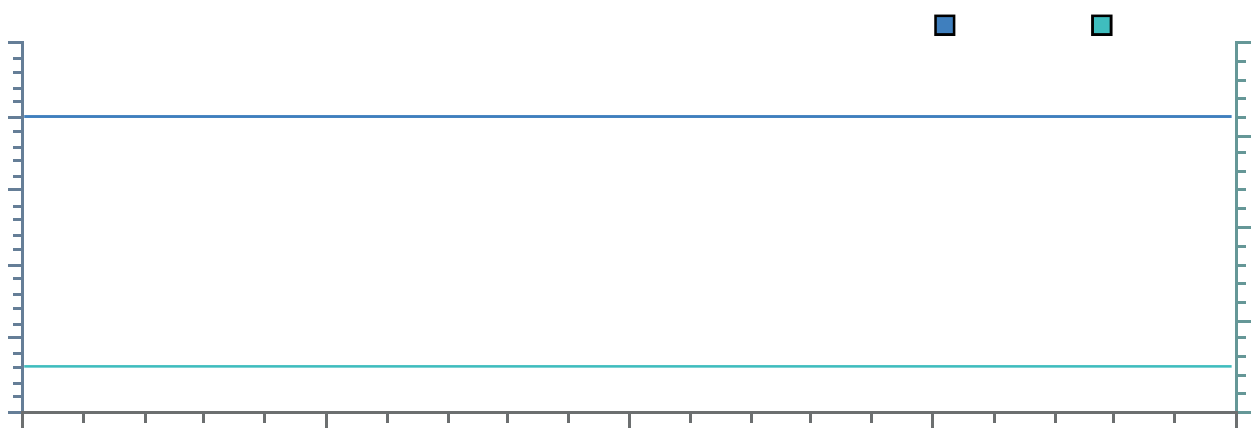
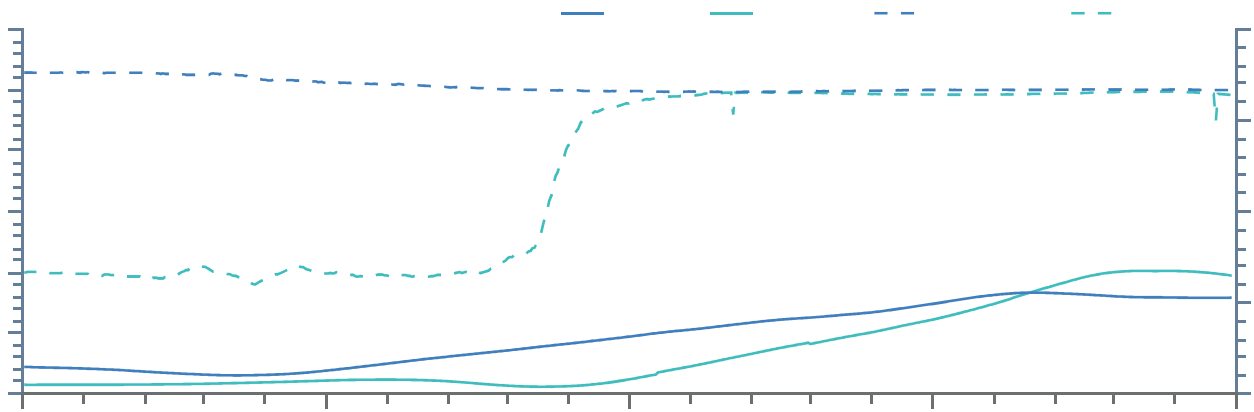
Ships plotted every 1 mins, highlight every 10 mins

Summary

Environment

237m RoRo unnamed

Tugs

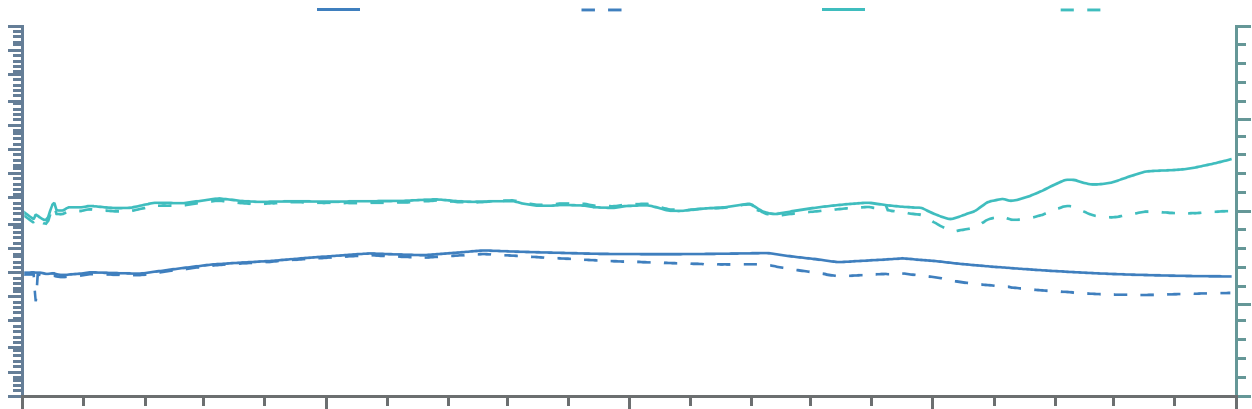
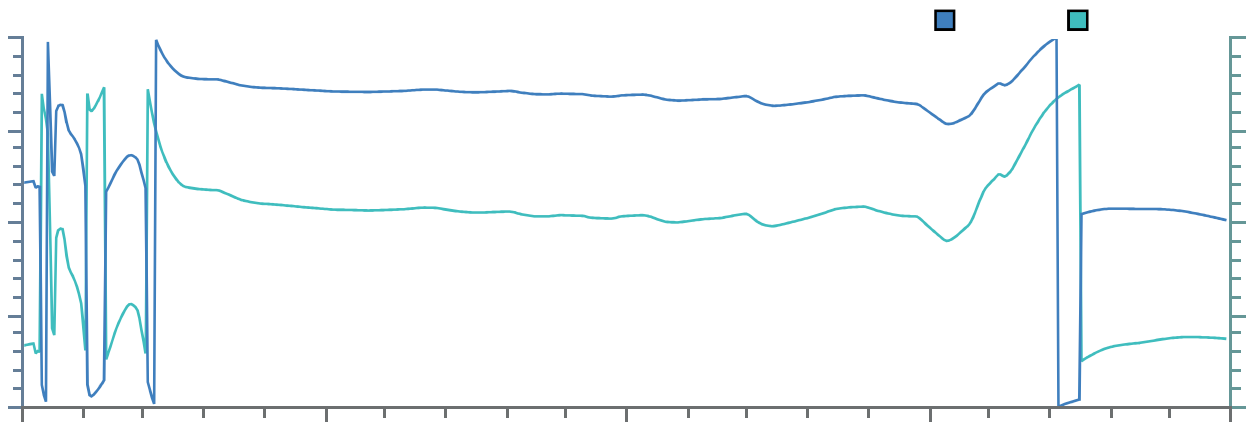
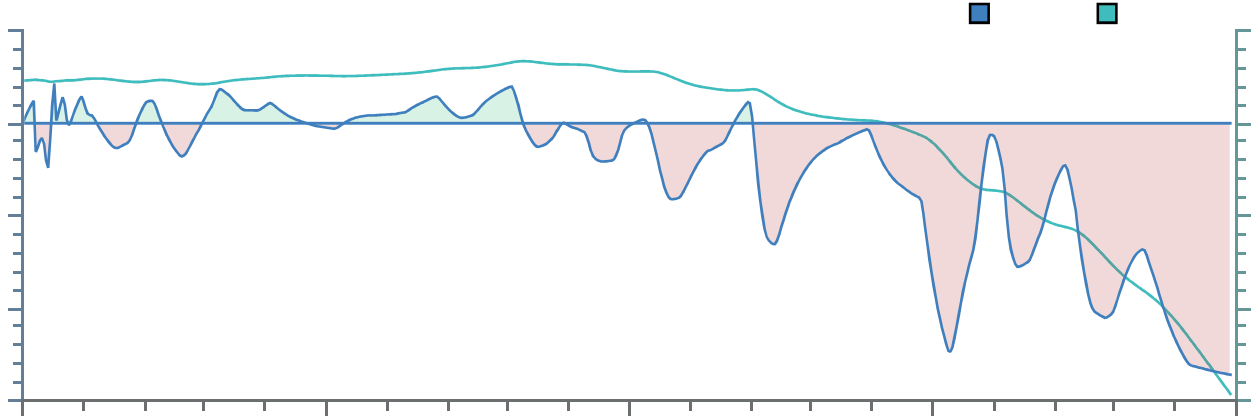


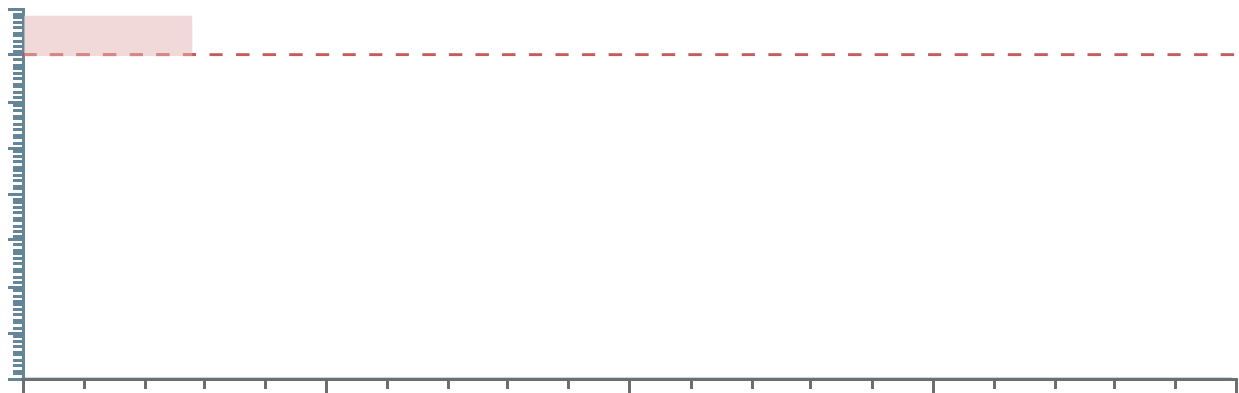
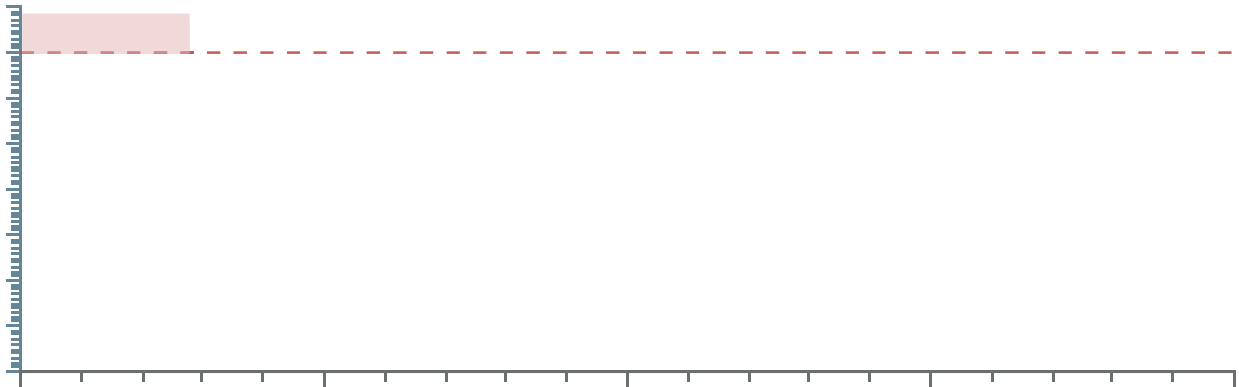
Summary

Environment

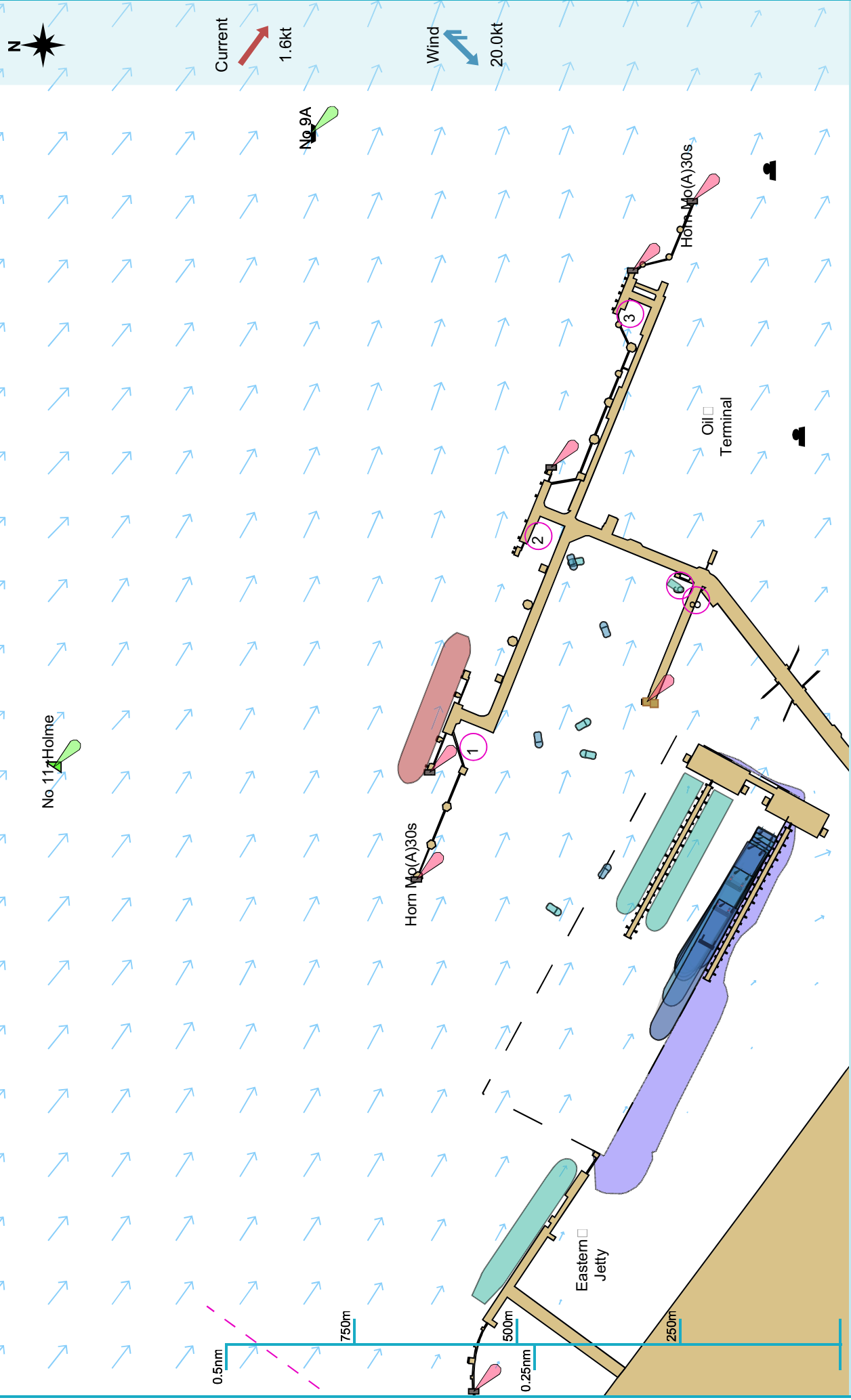
237m RoRo unnamed

Tugs



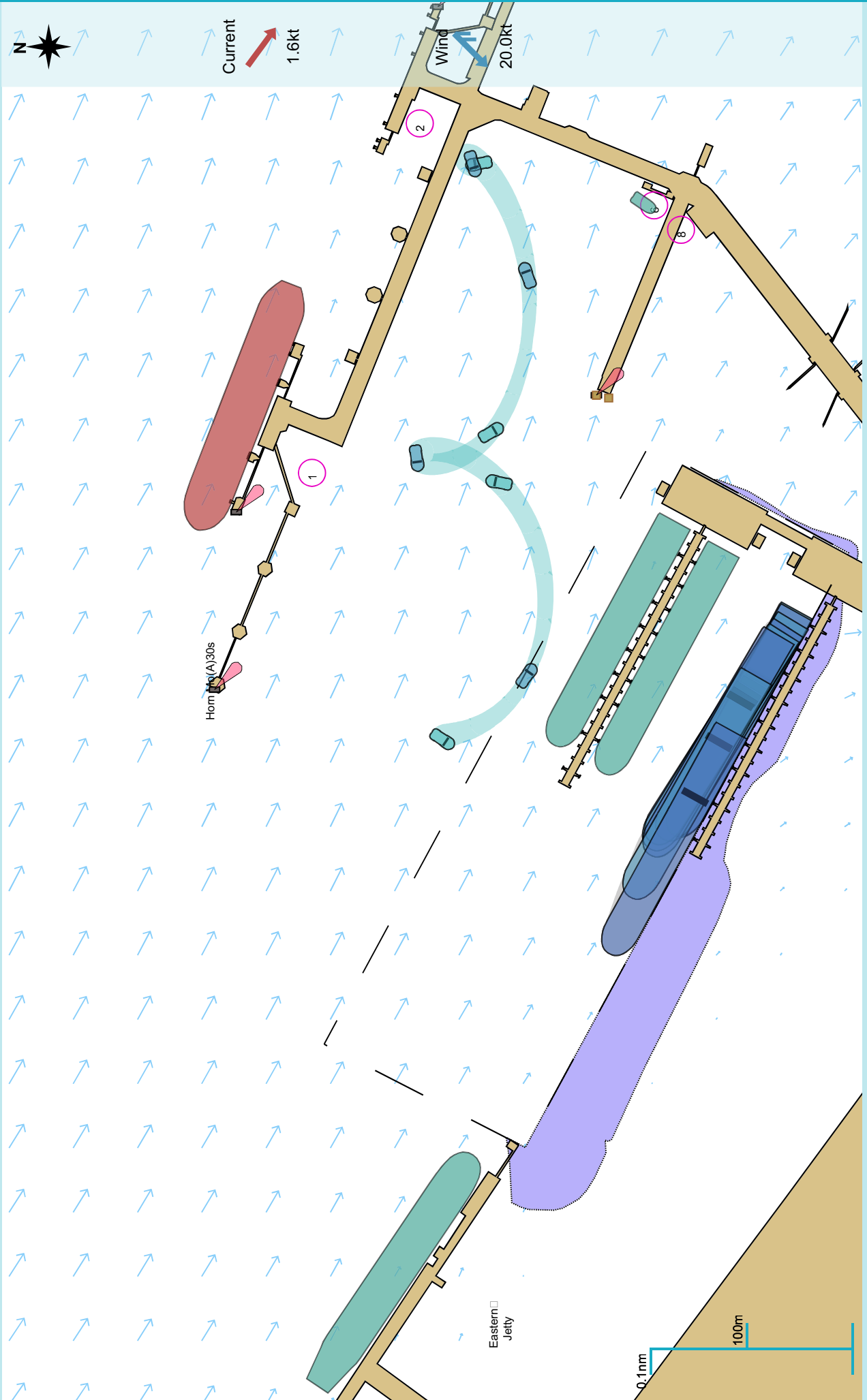


Manoeuvre track plot

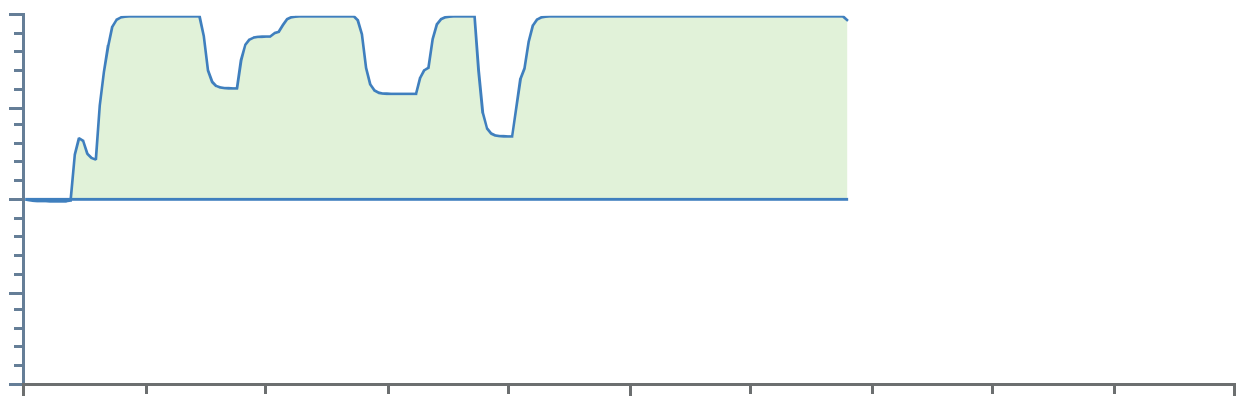
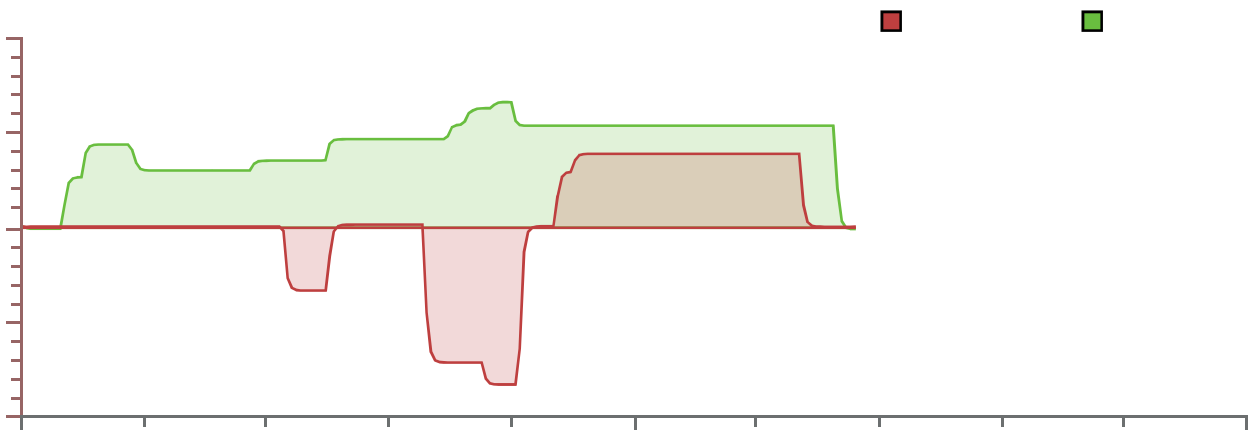
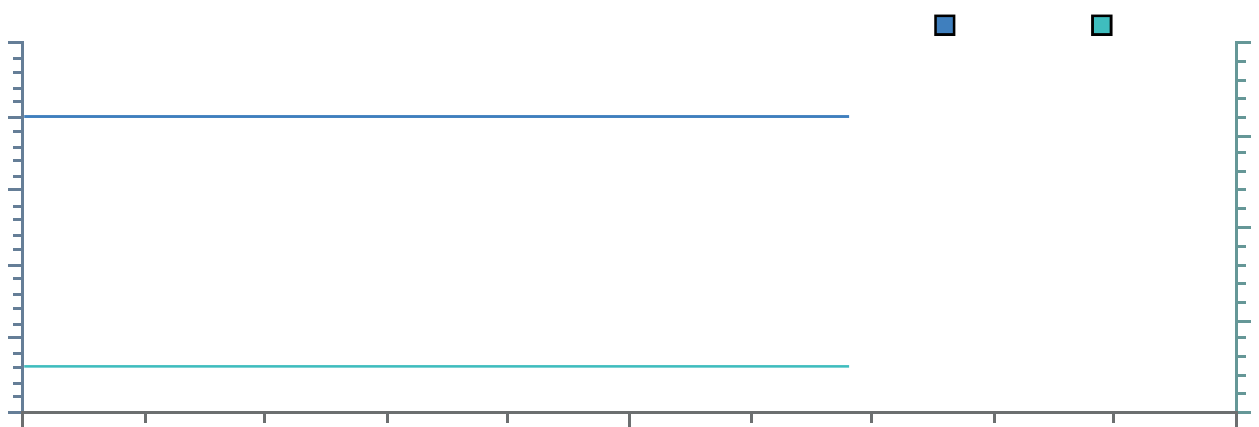
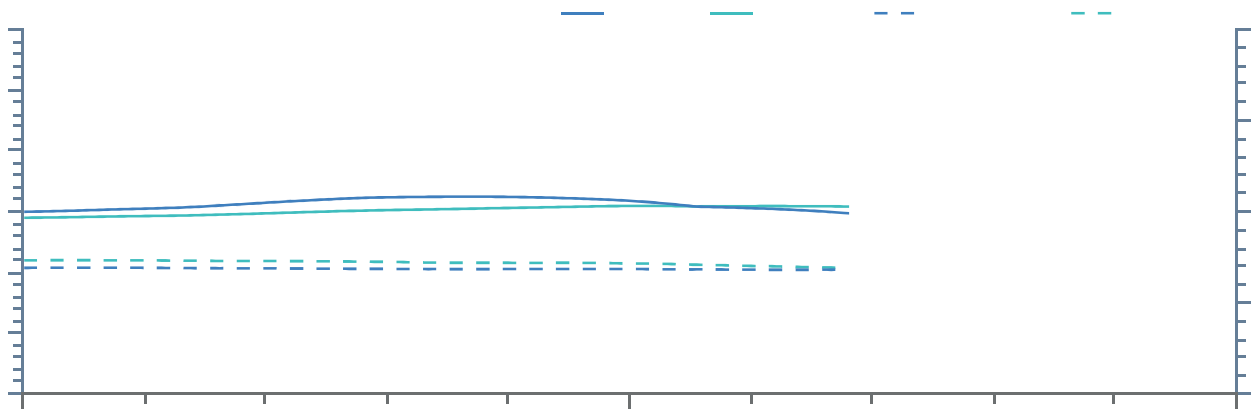


Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

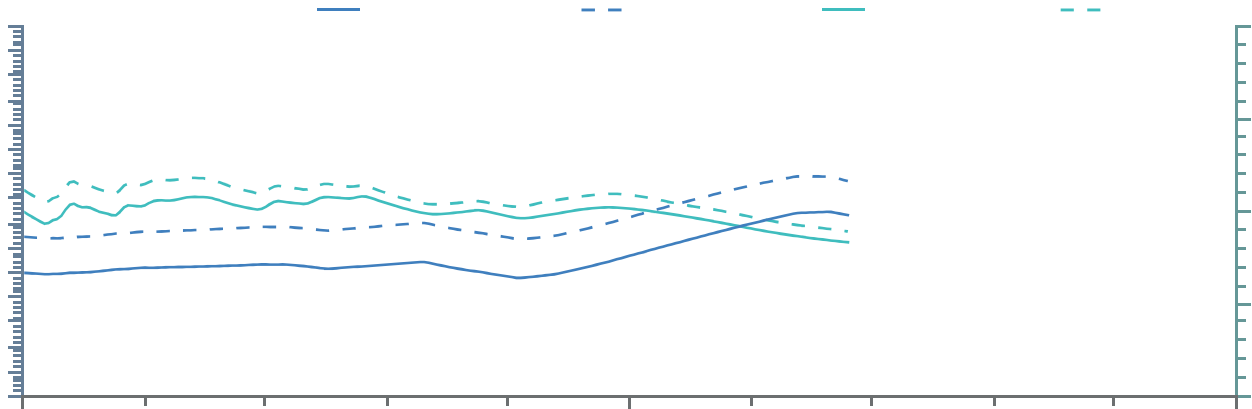
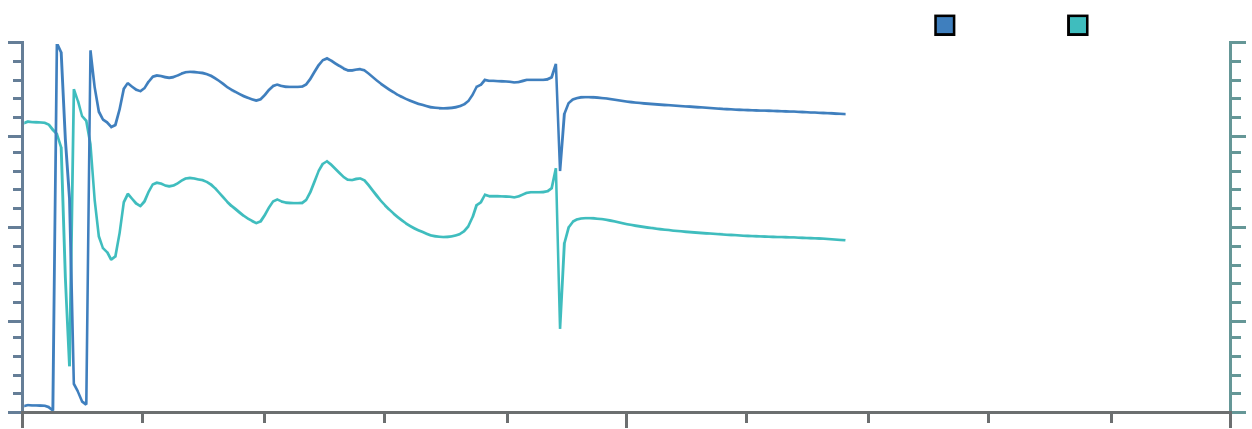
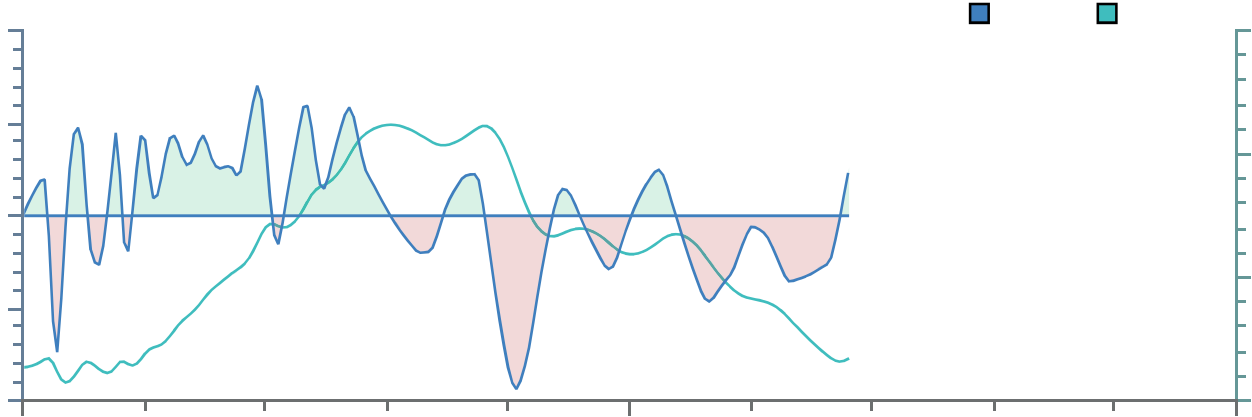


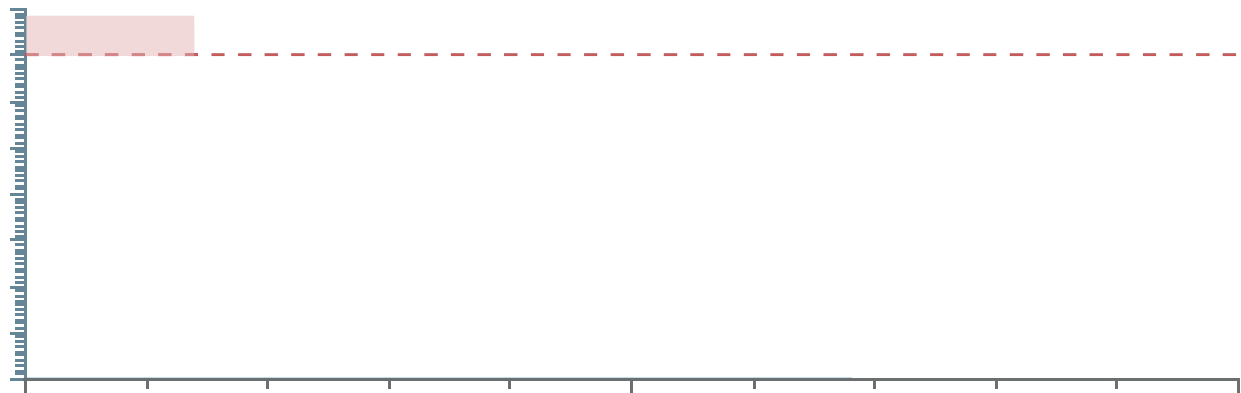
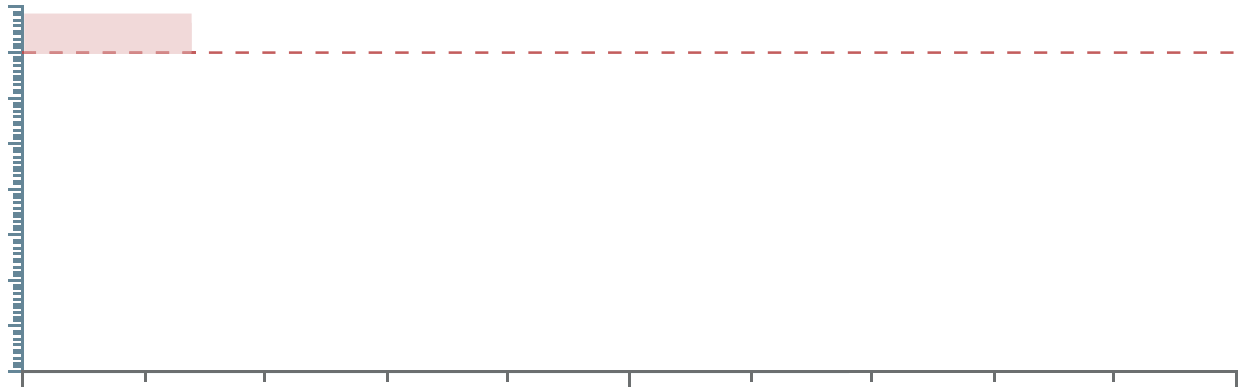
Summary

Environment

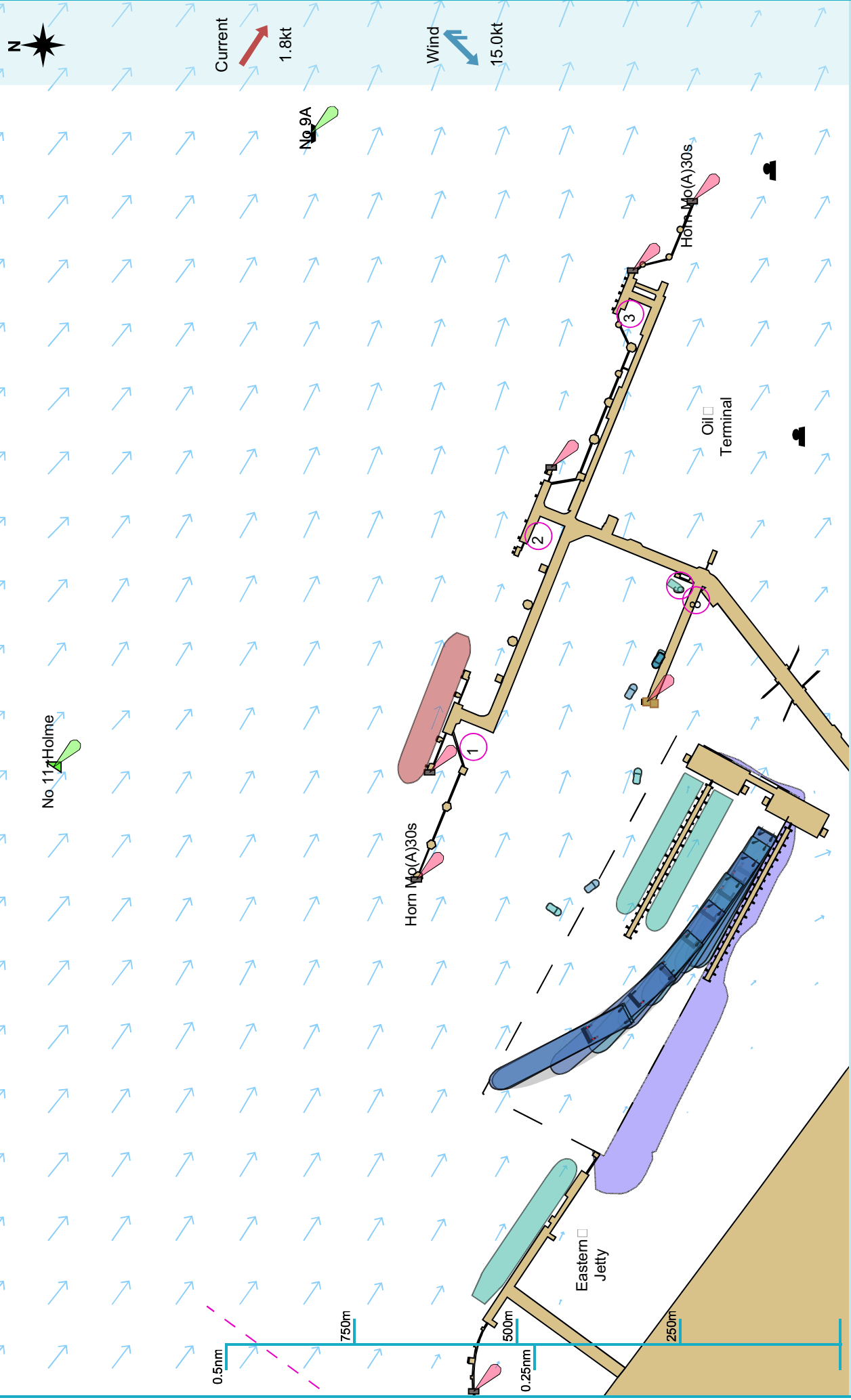
237m RoRo unnamed

Tugs



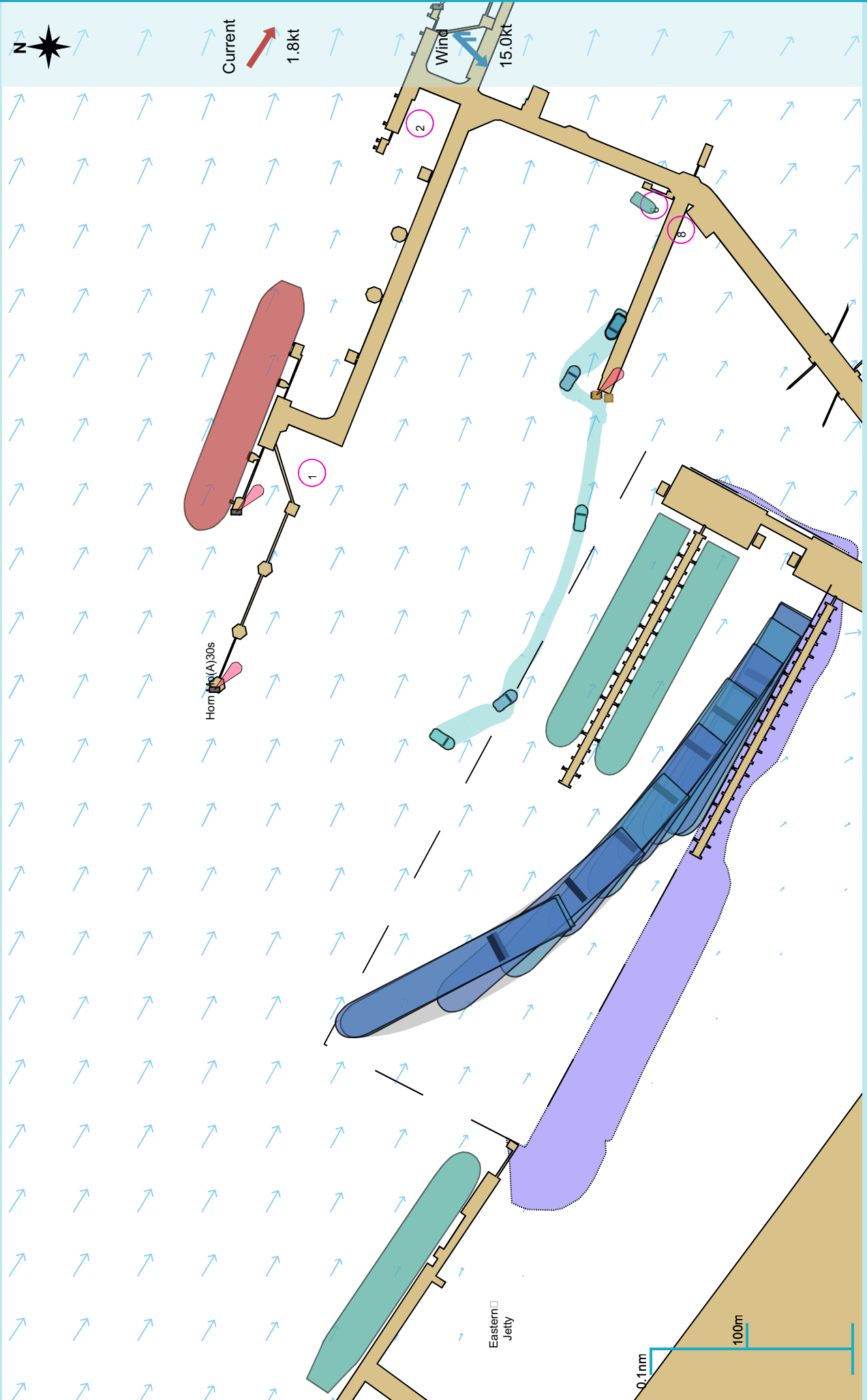


Manoeuvre track plot

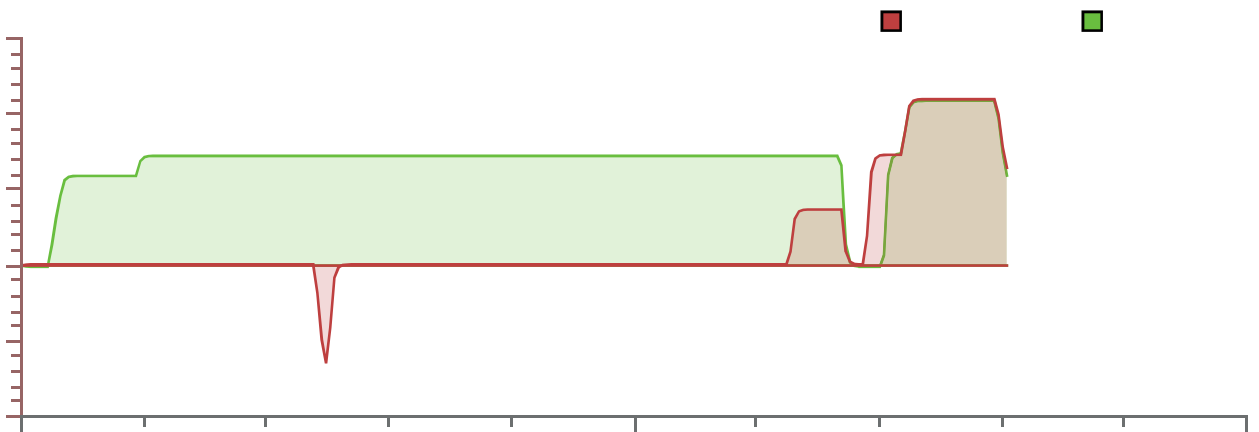
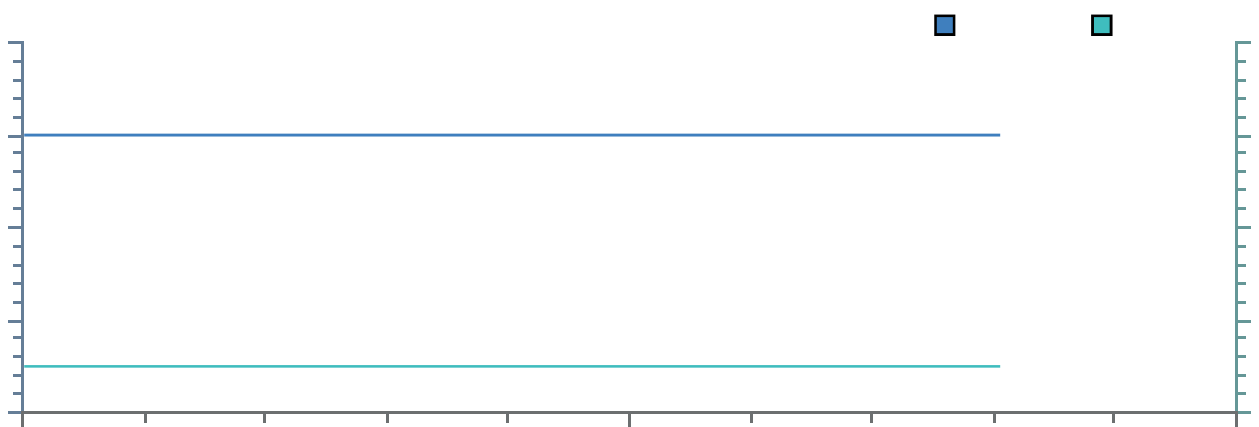
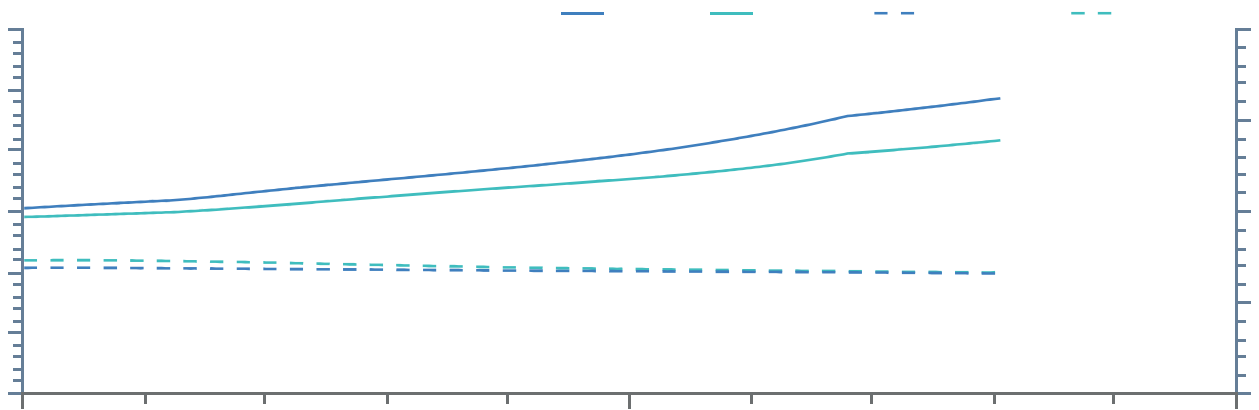


Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

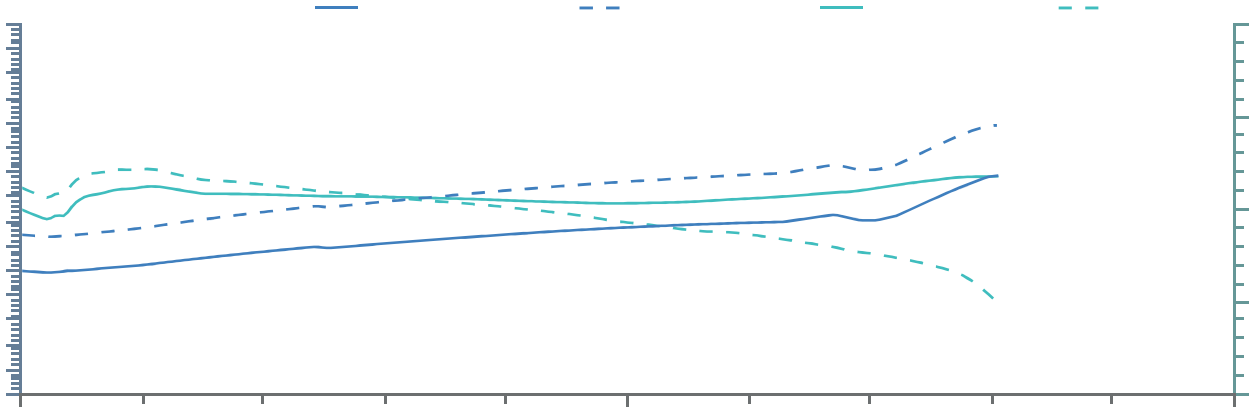
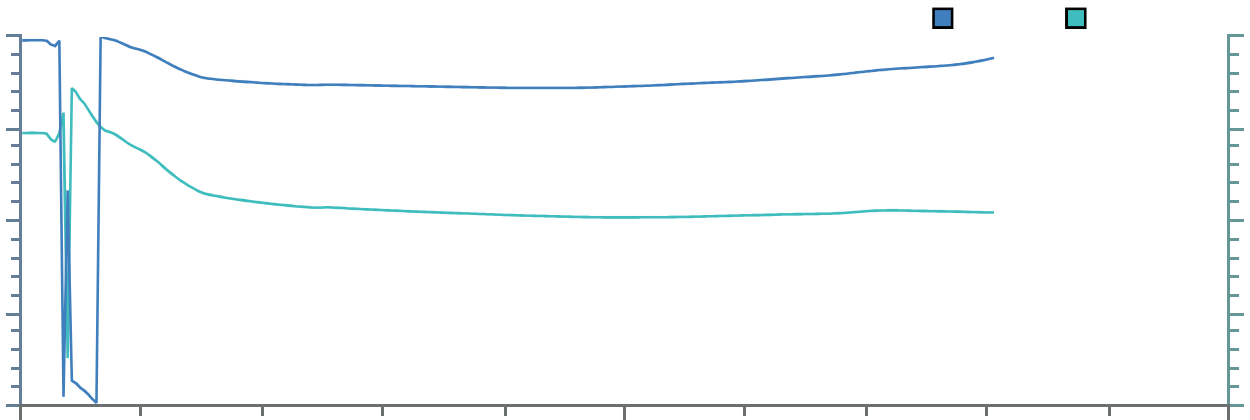
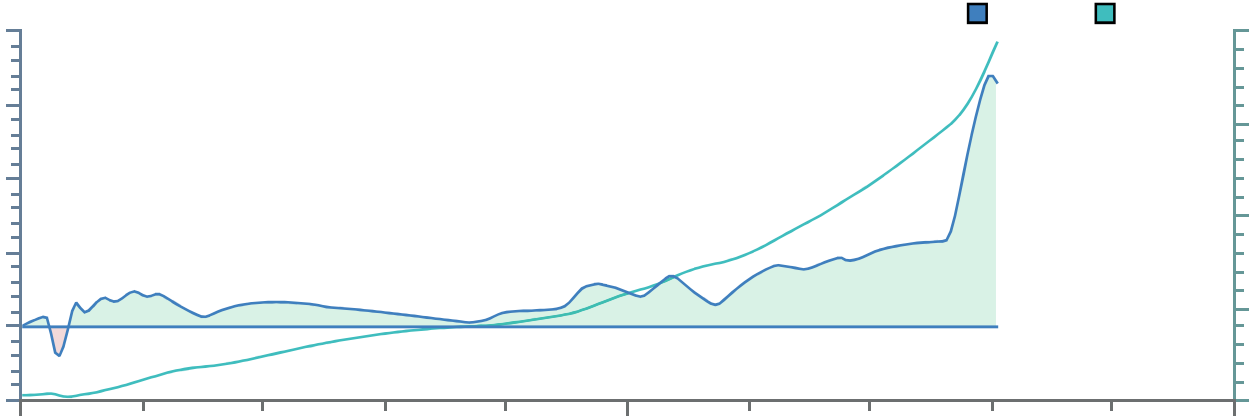


Summary

Environment

237m RoRo unnamed

Tugs

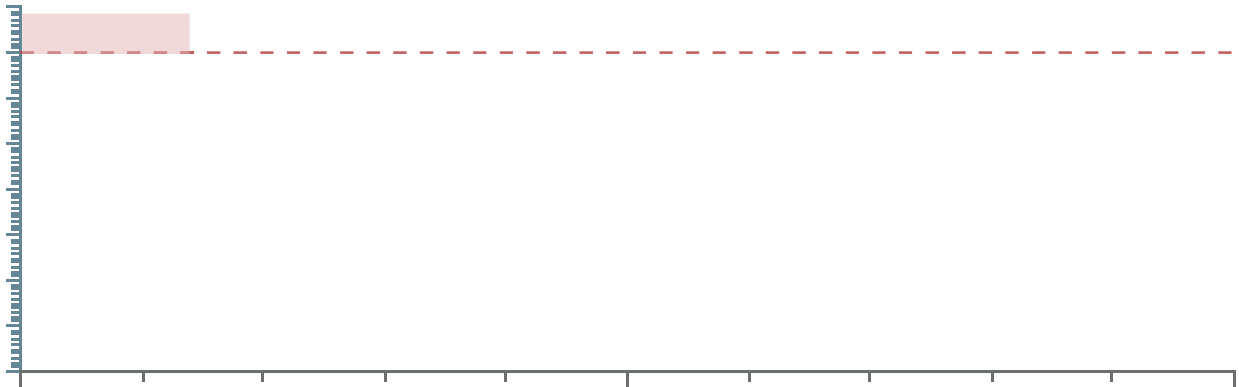


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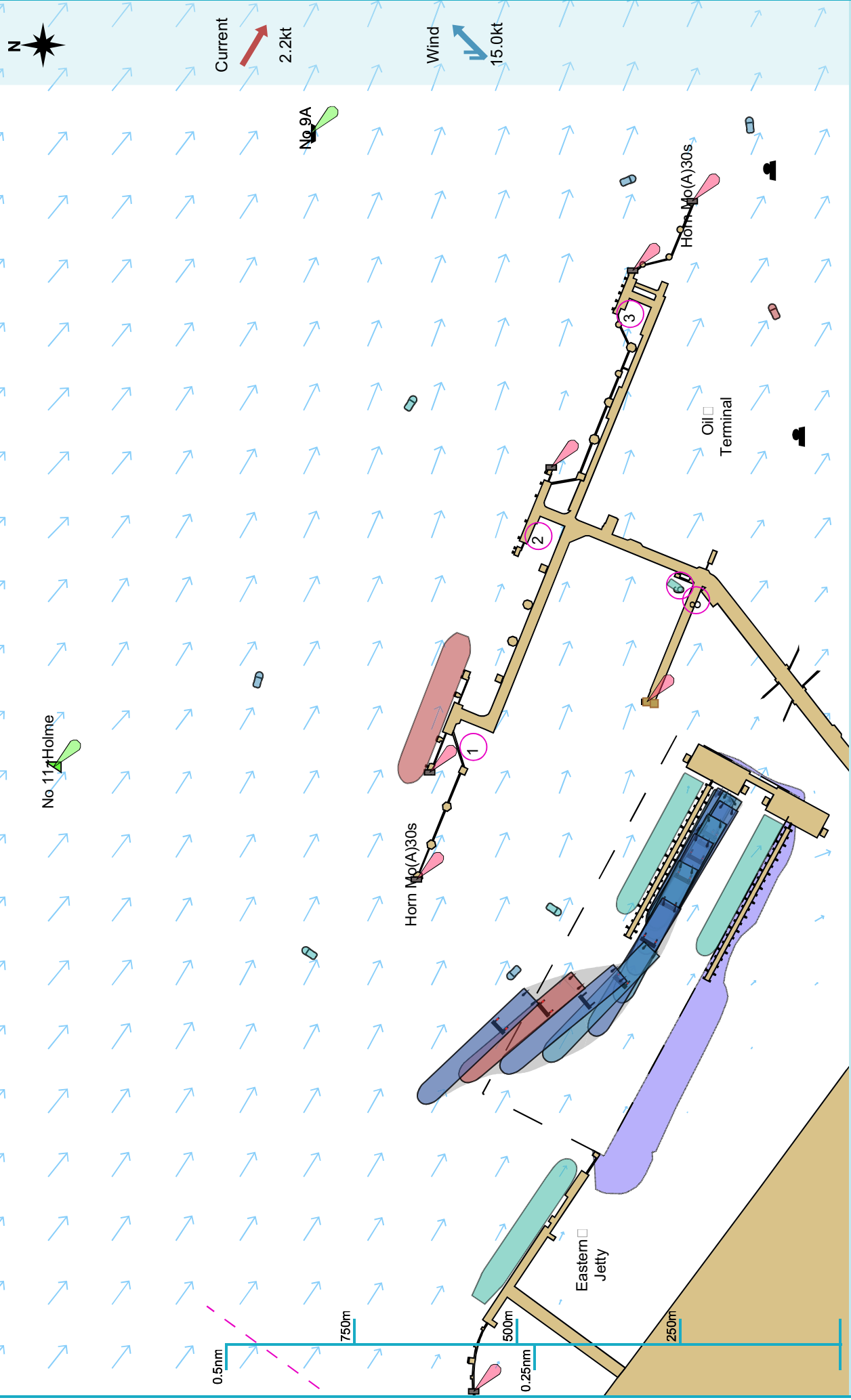
Environment

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Tugs

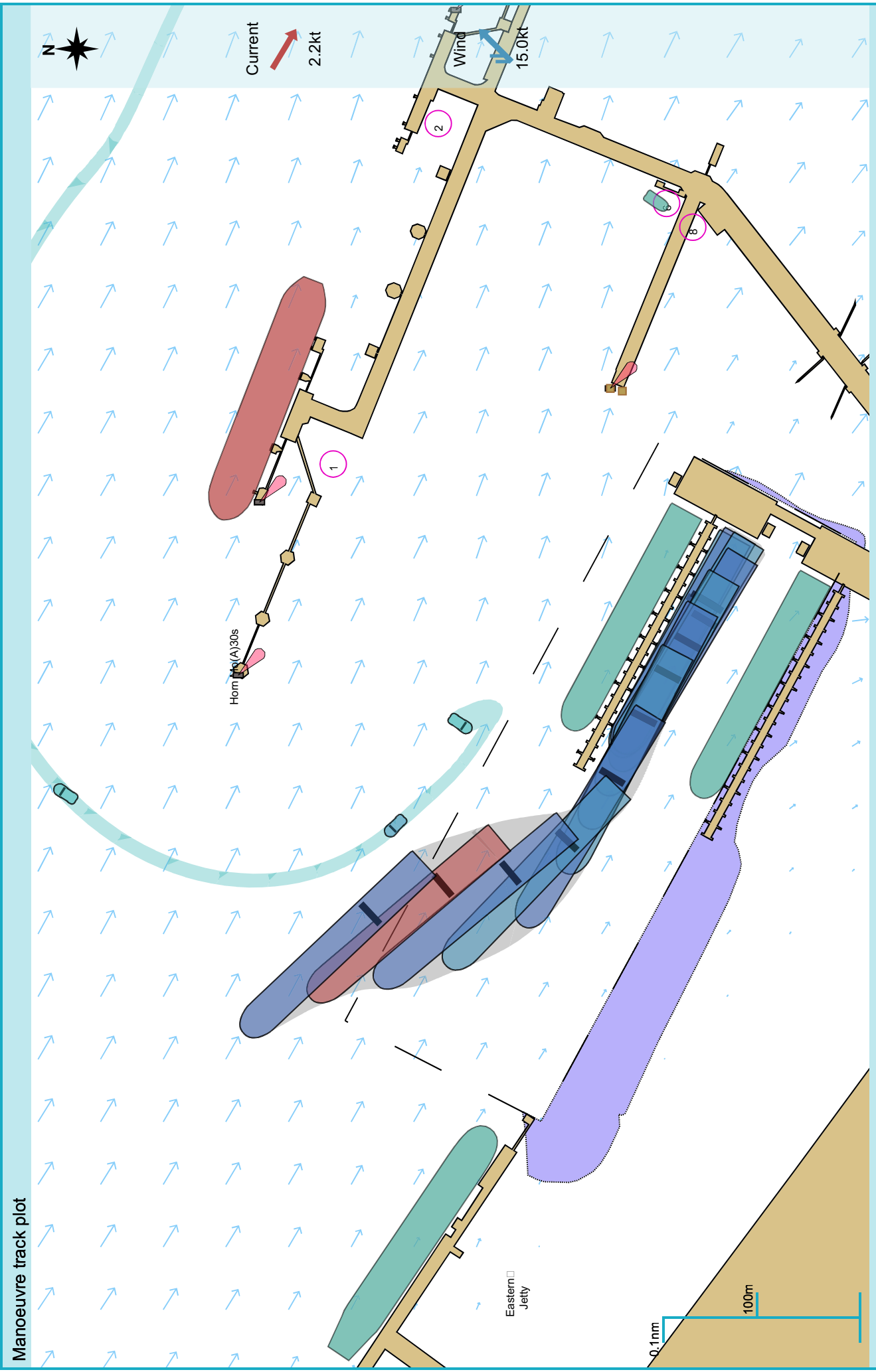


Manoeuvre track plot

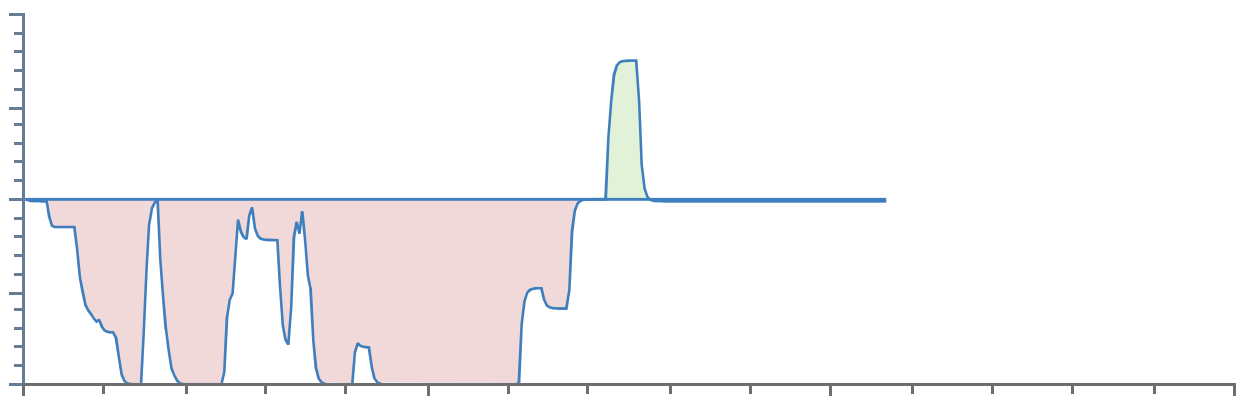
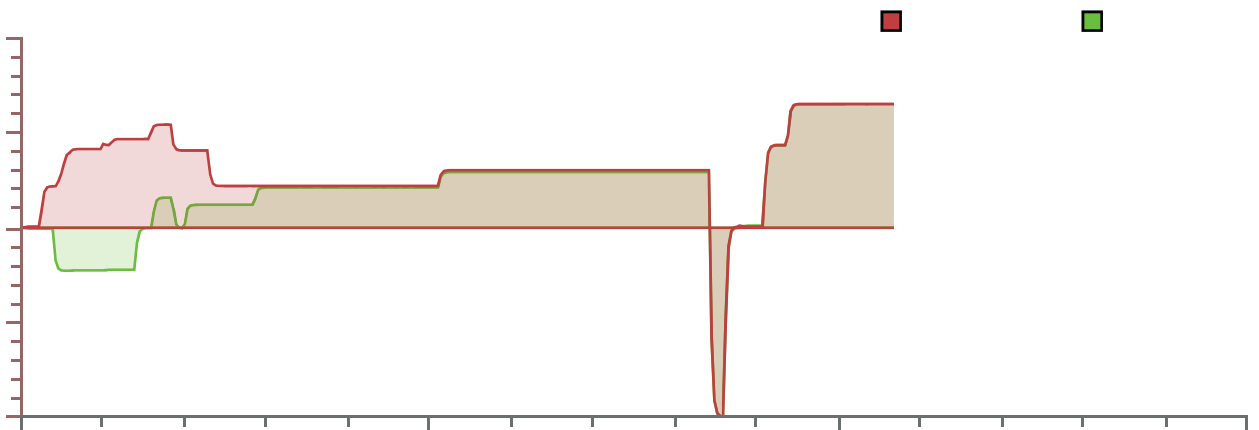
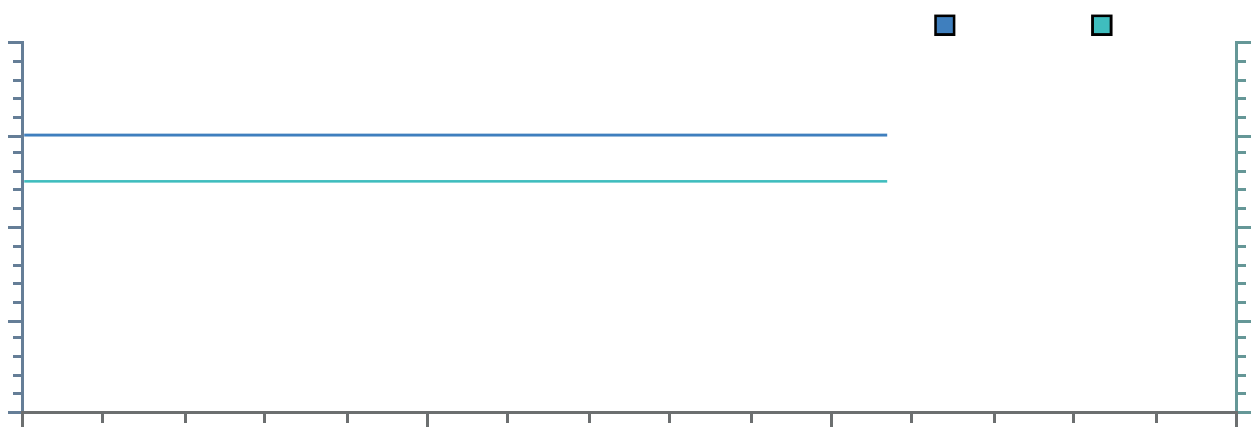
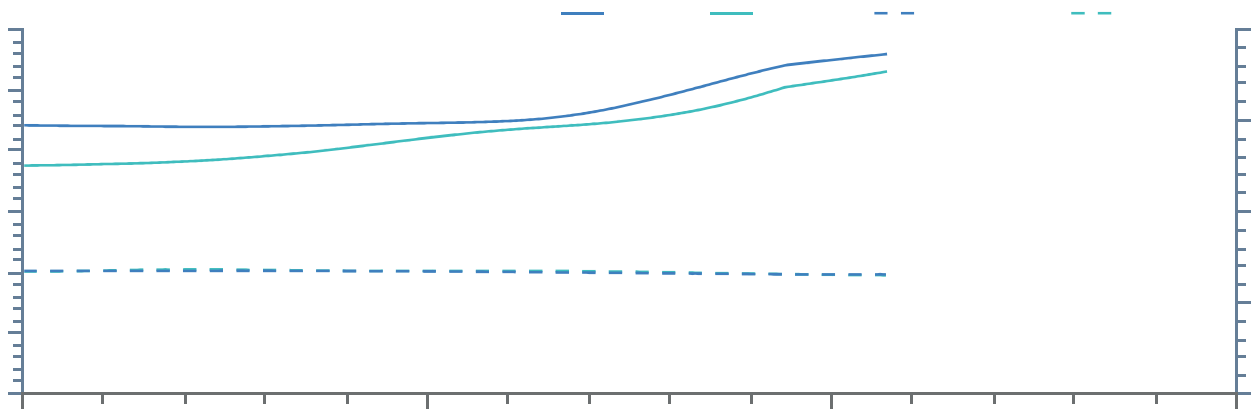


Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

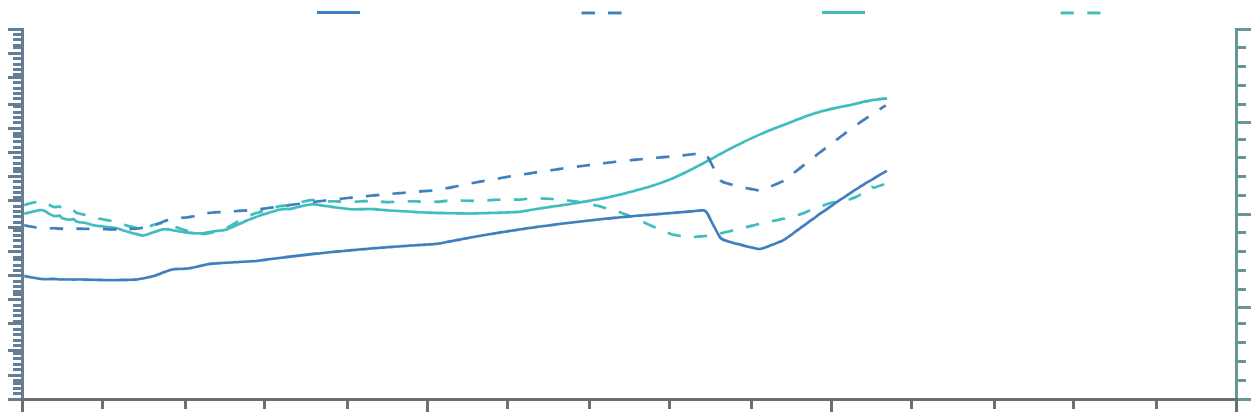
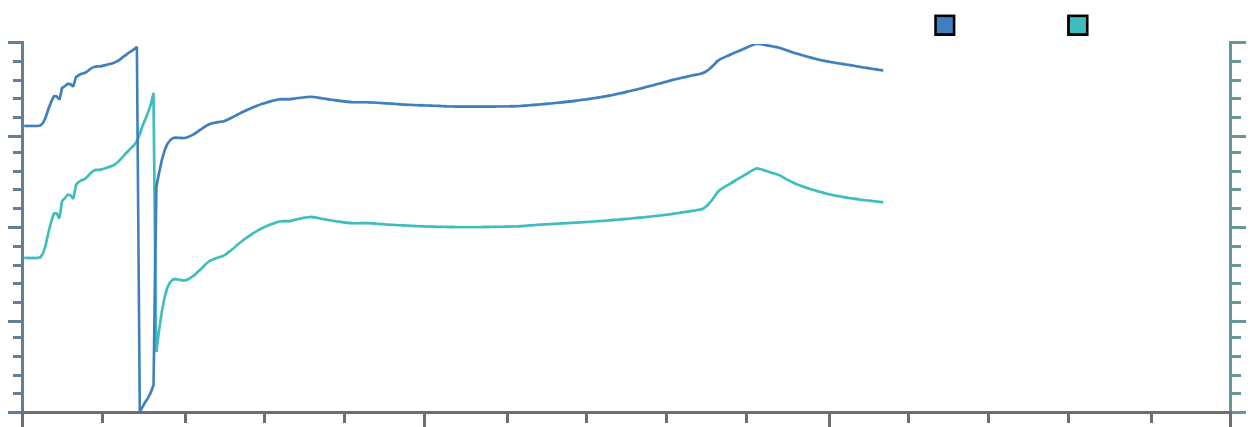
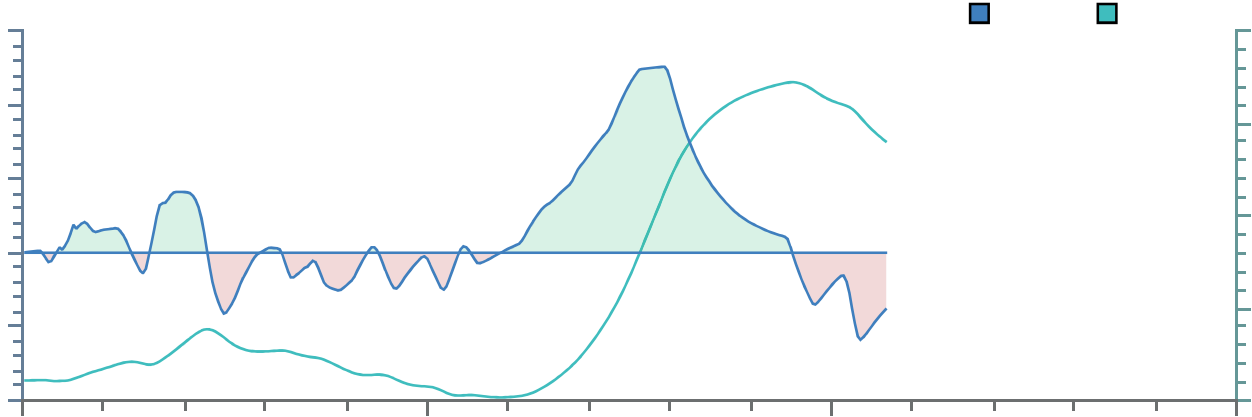


Summary

Environment

237m RoRo unnamed

Tugs

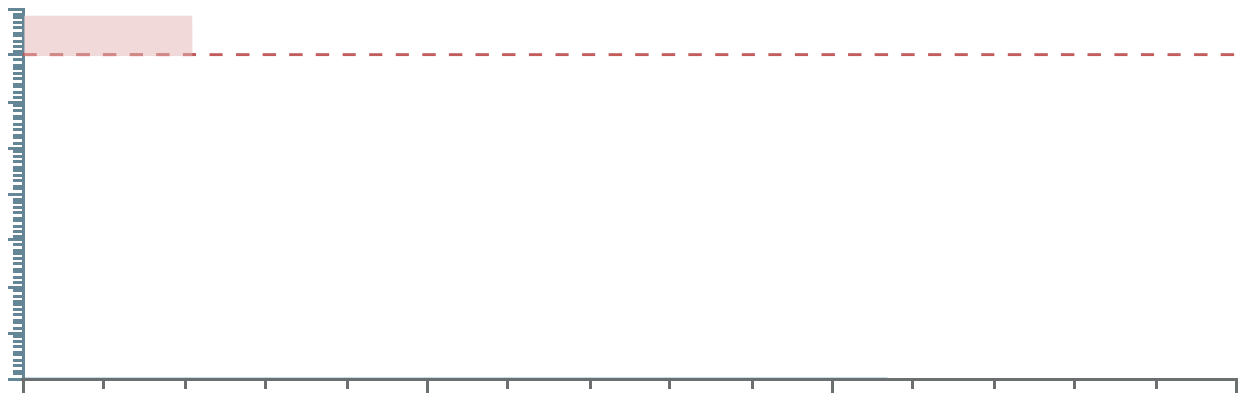
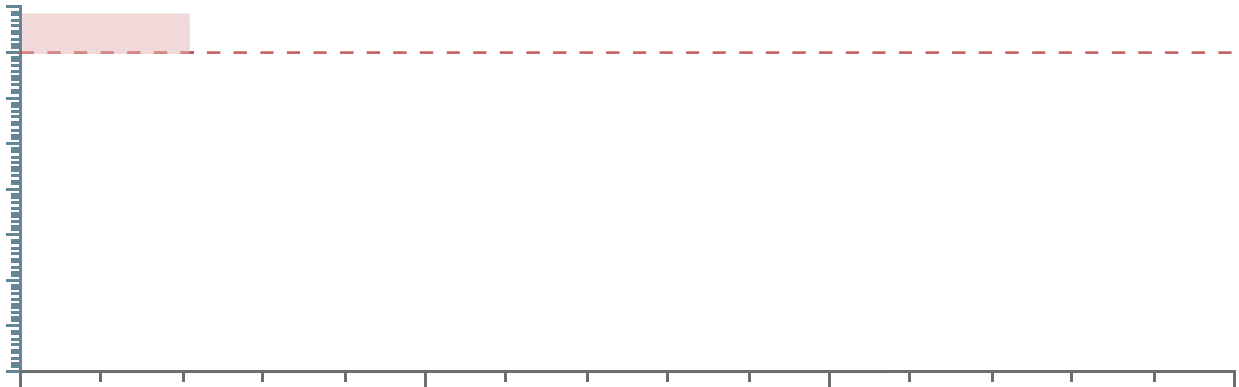


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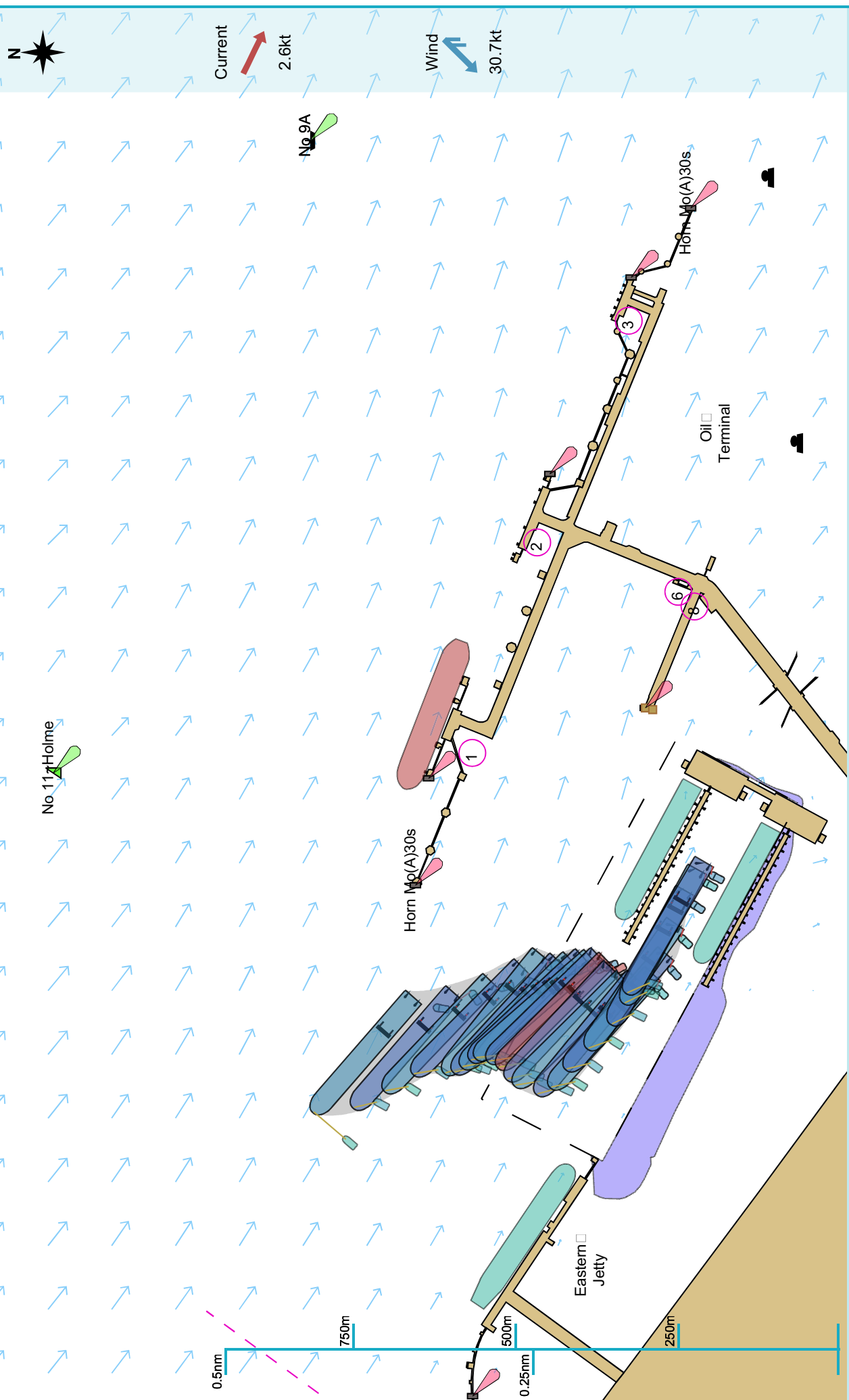
Environment

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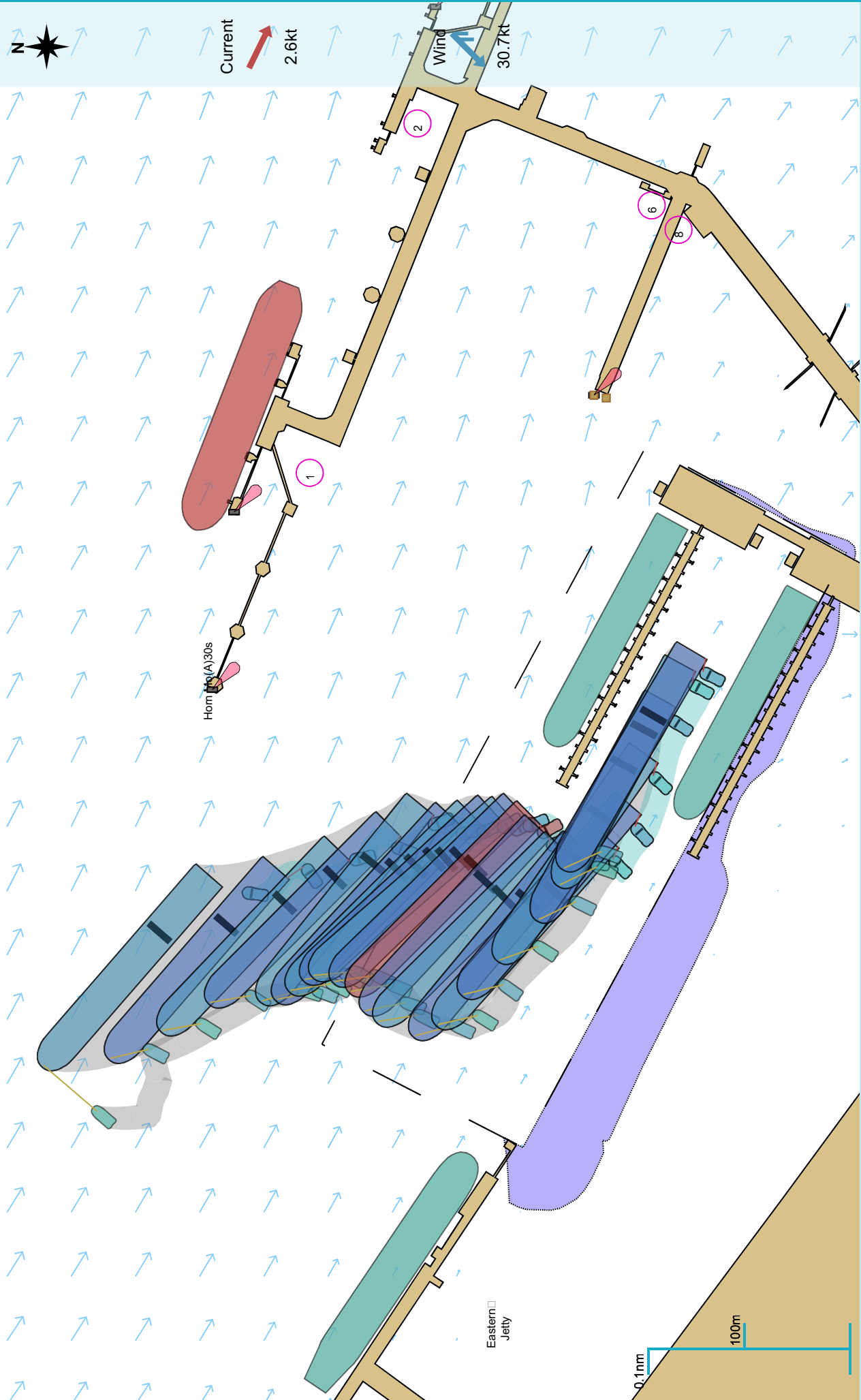


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



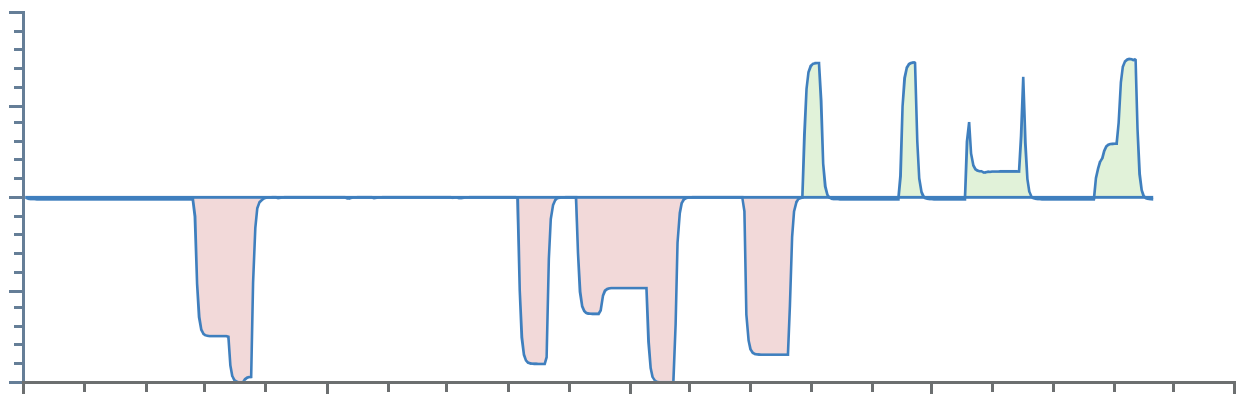
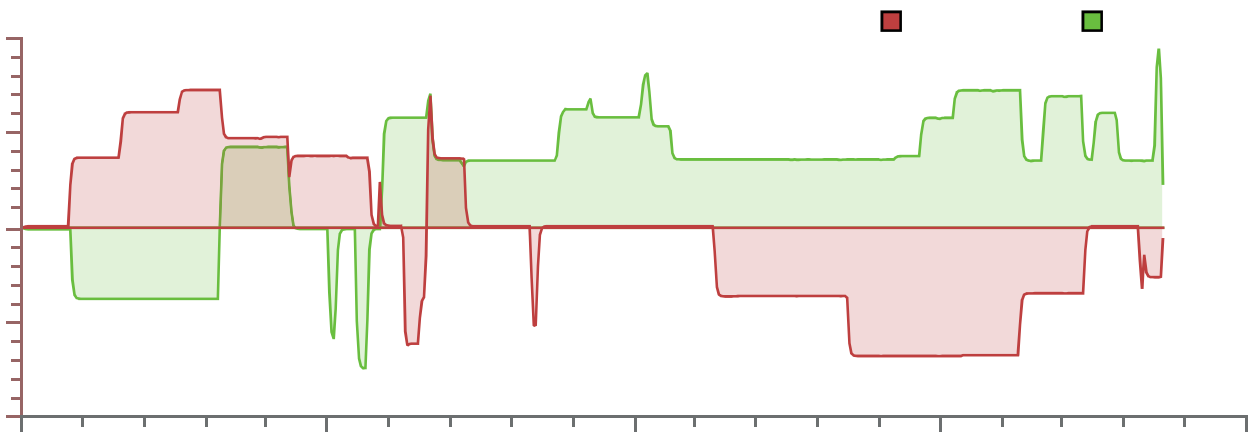
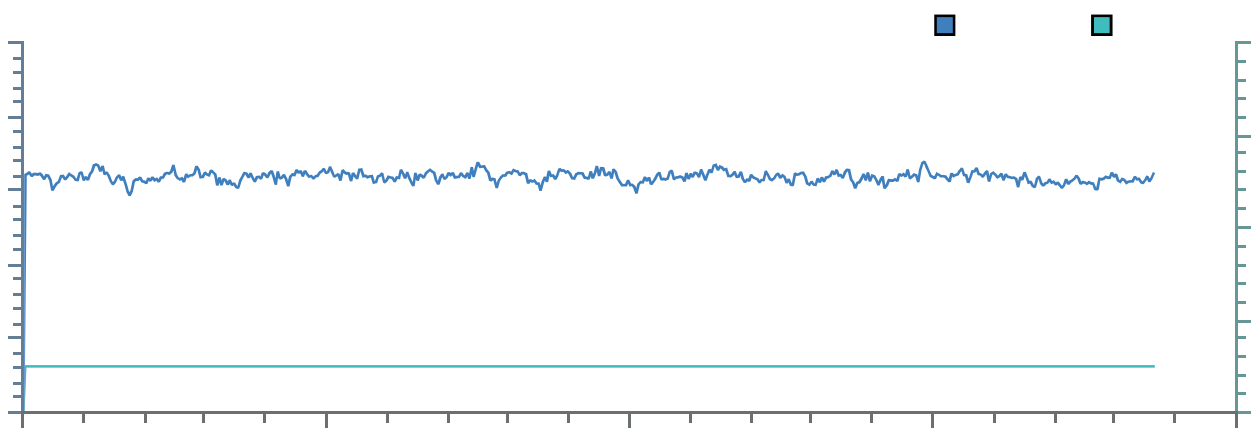
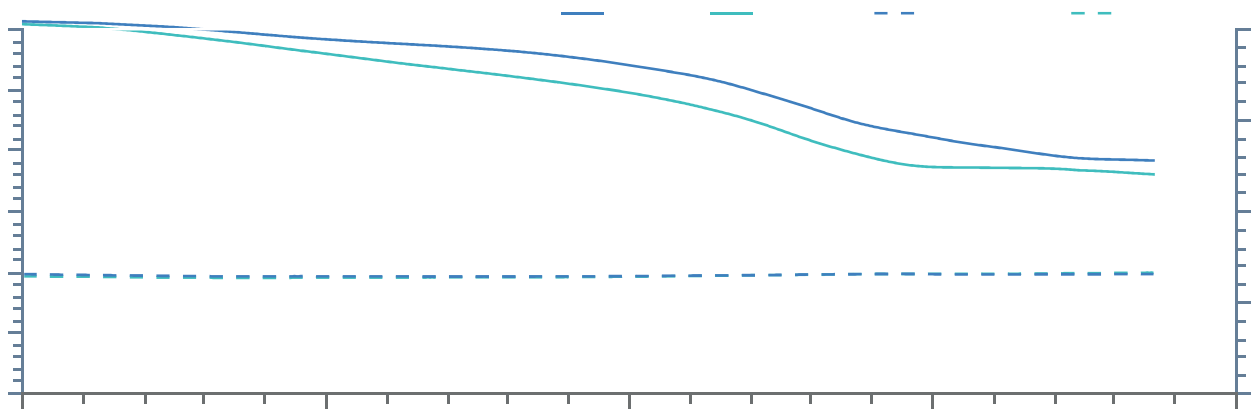
Ships plotted every 1 mins, highlight every 10 mins

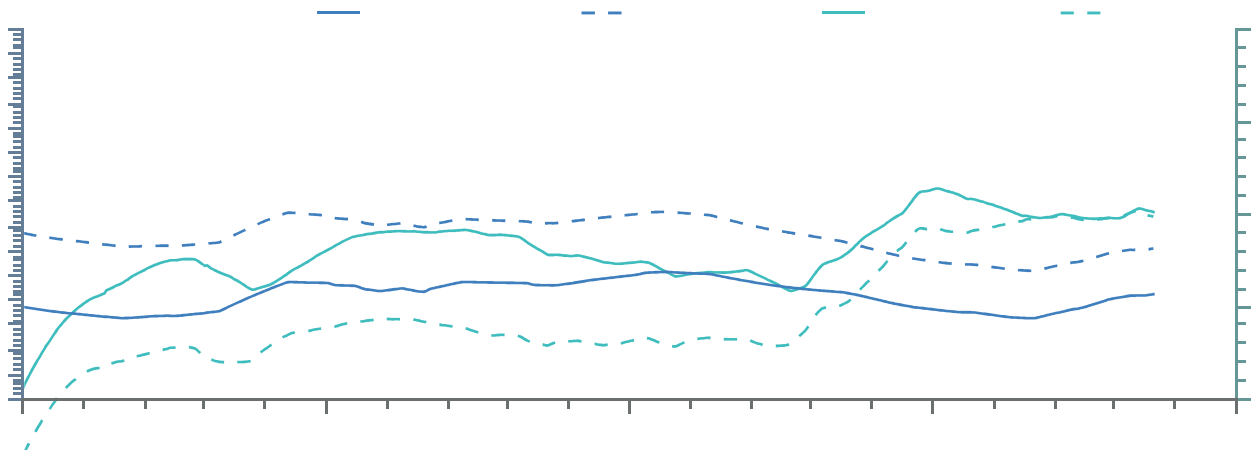
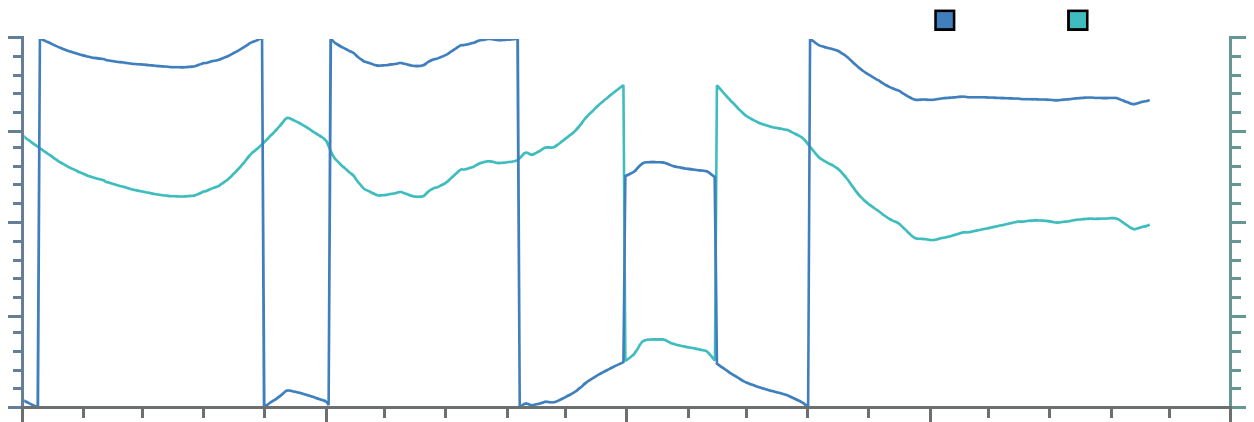
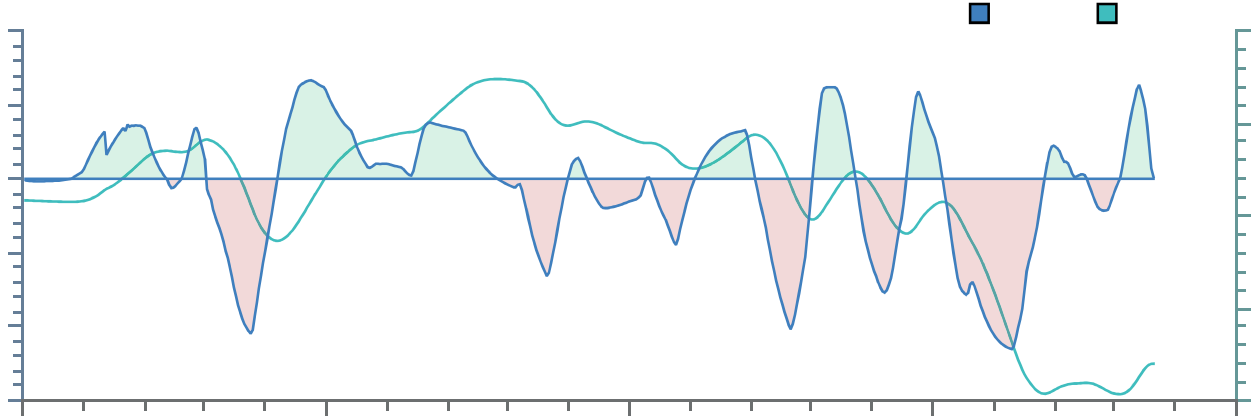
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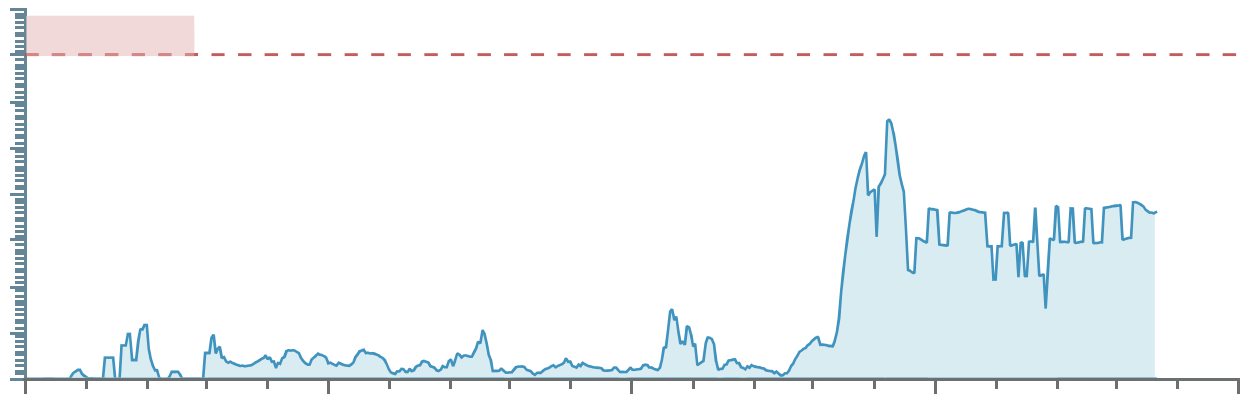
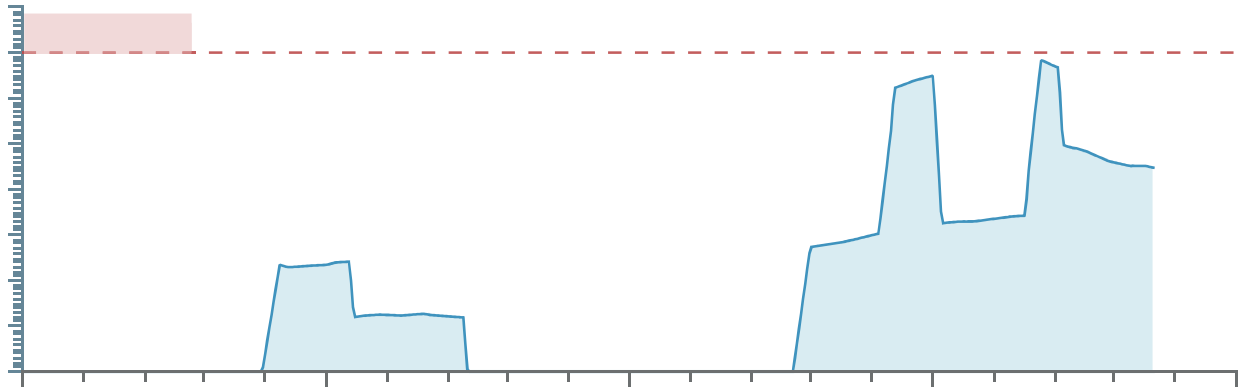
Environment

237m RoRo unnamed

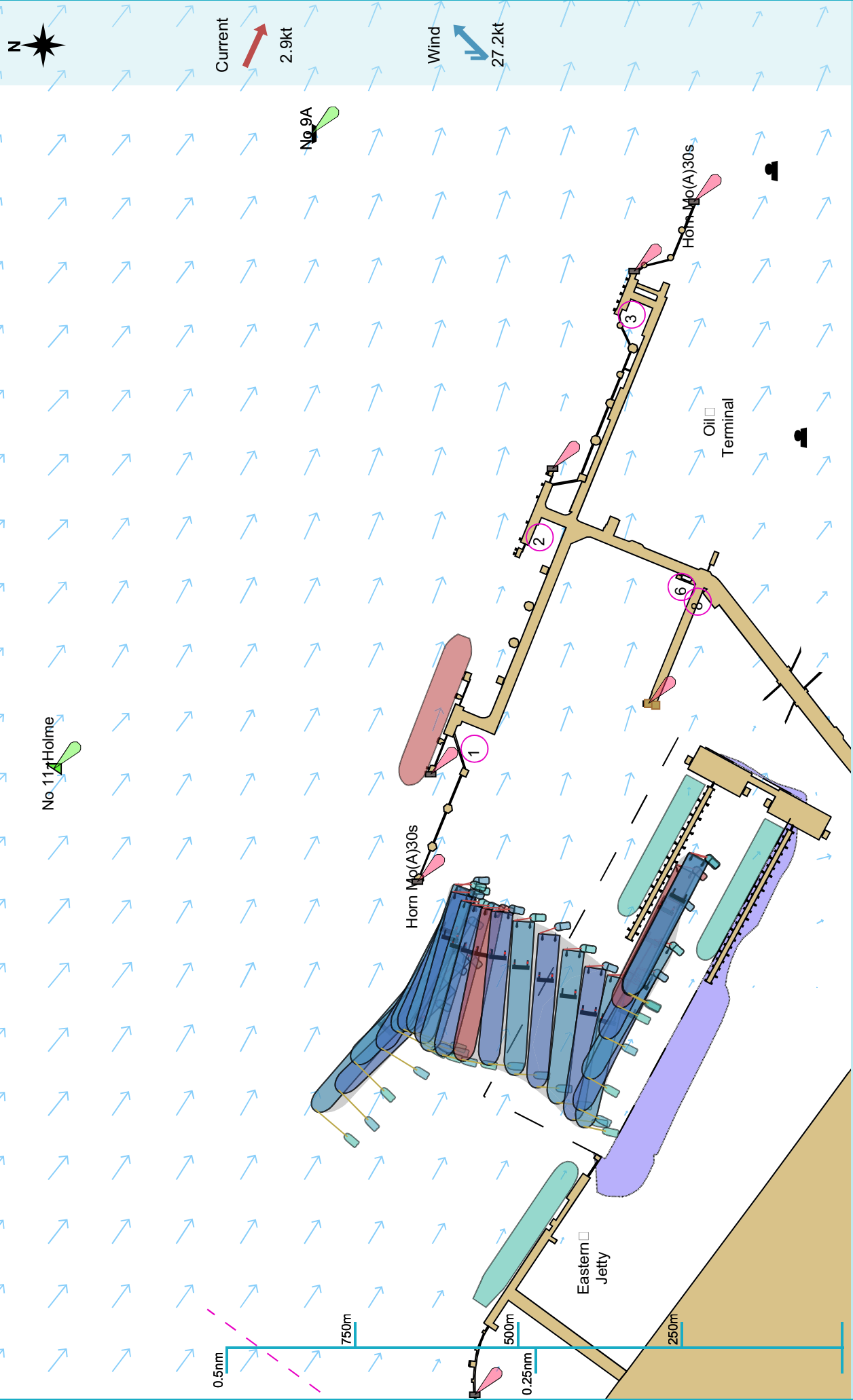
Tugs





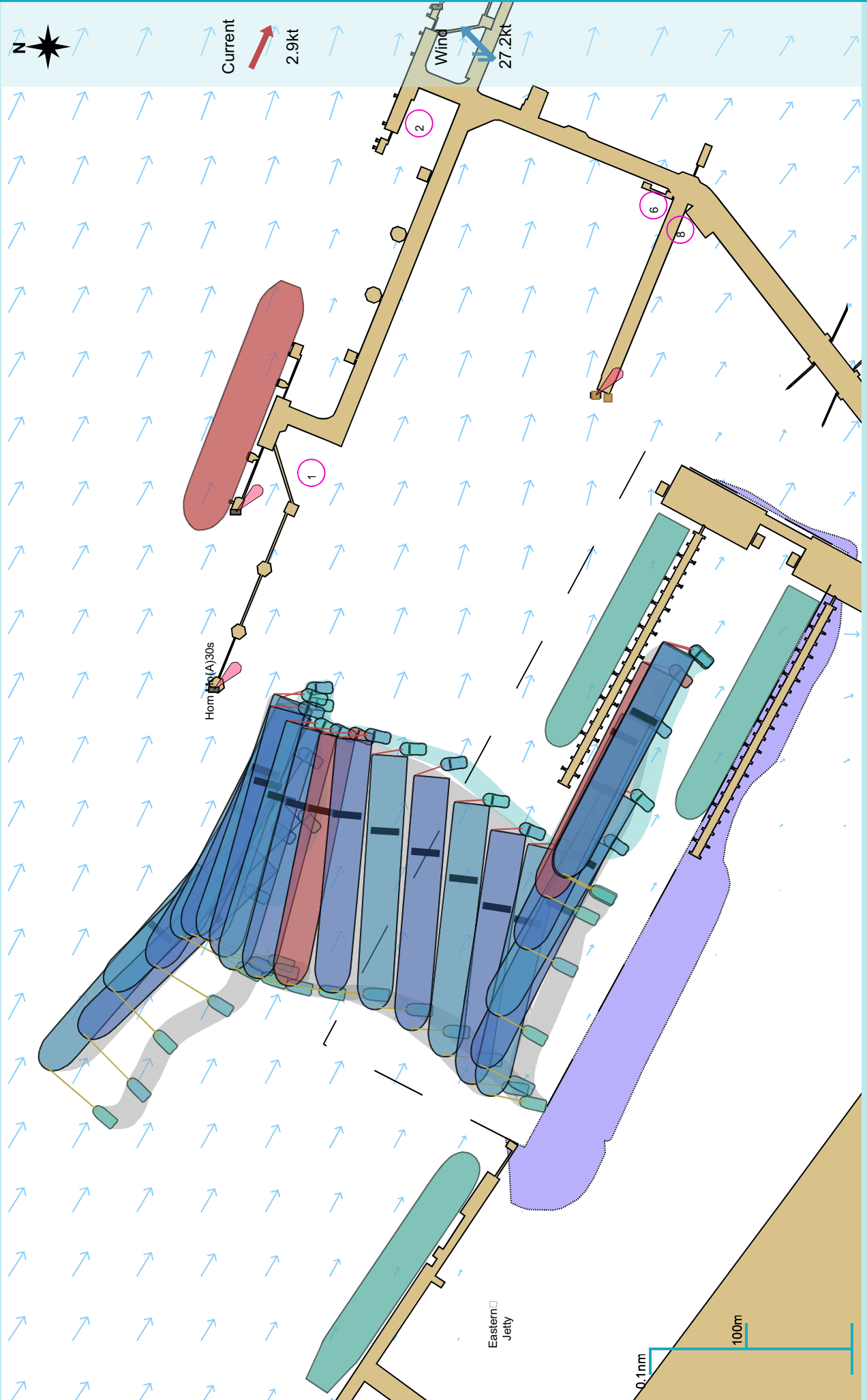


Manoeuvre track plot



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Manoeuvre track plot



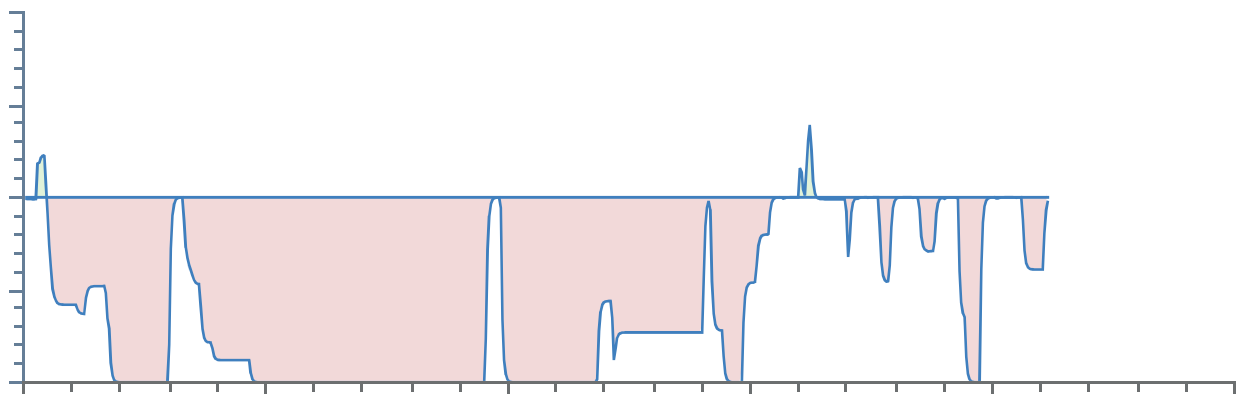
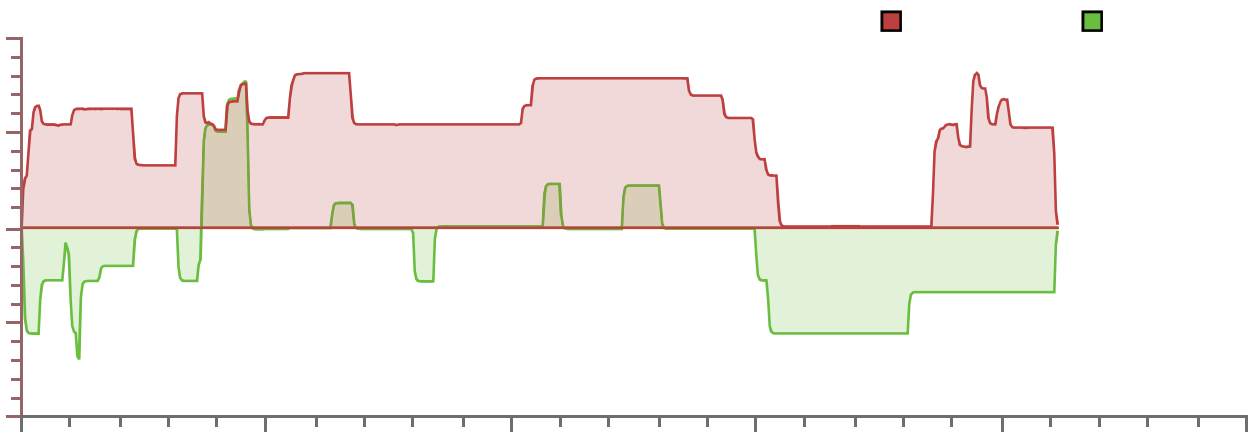
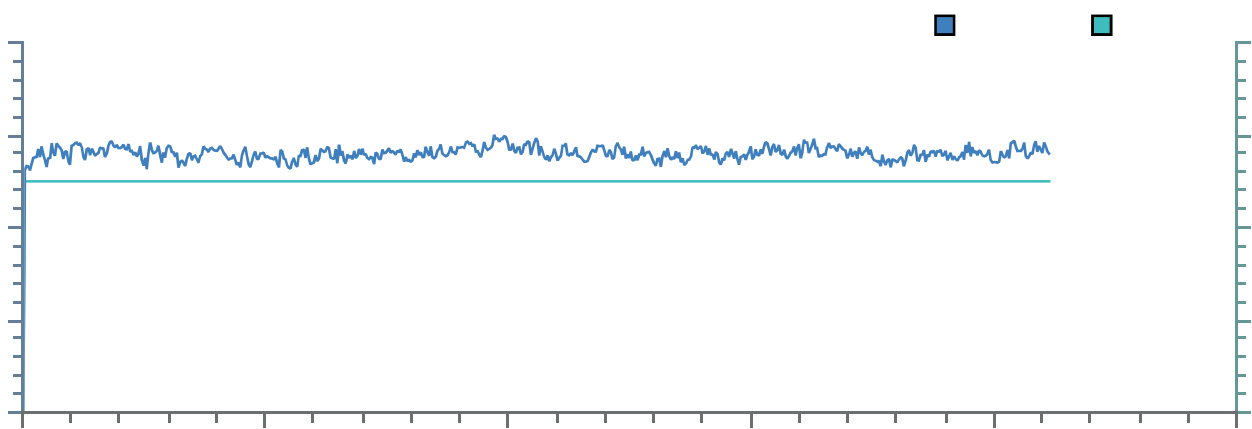
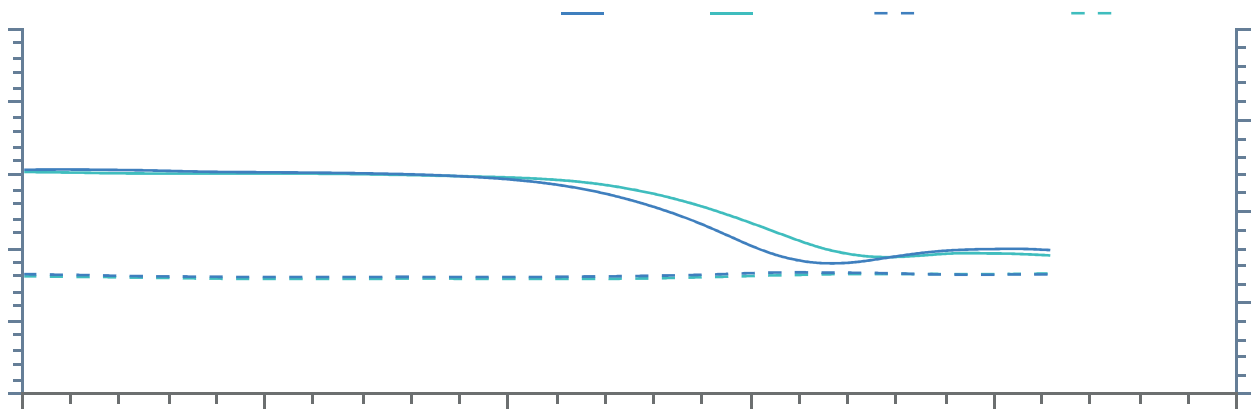
Ships plotted every 1 mins, highlight every 10 mins

Summary

Environment

237m RoRo unnamed

Tugs

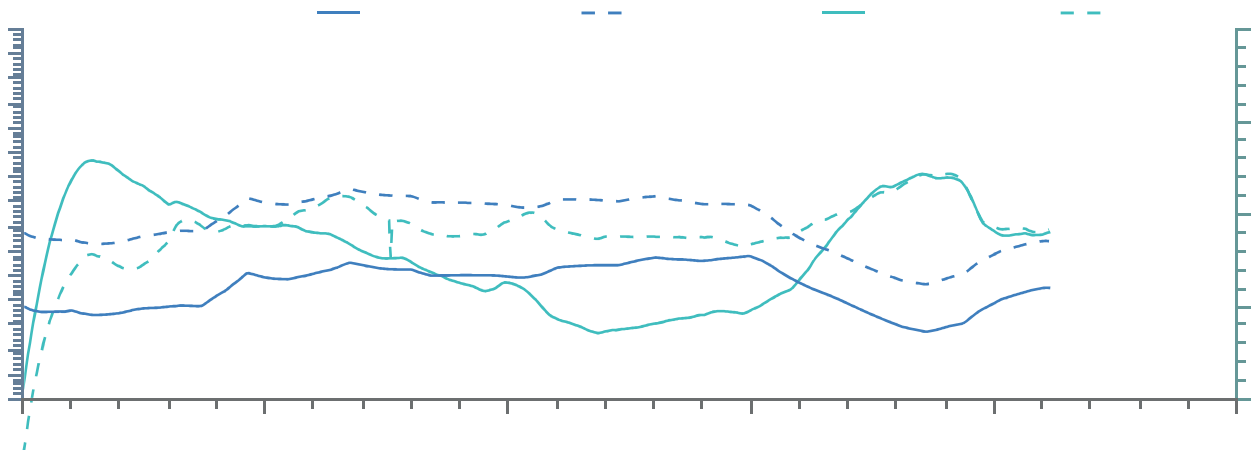
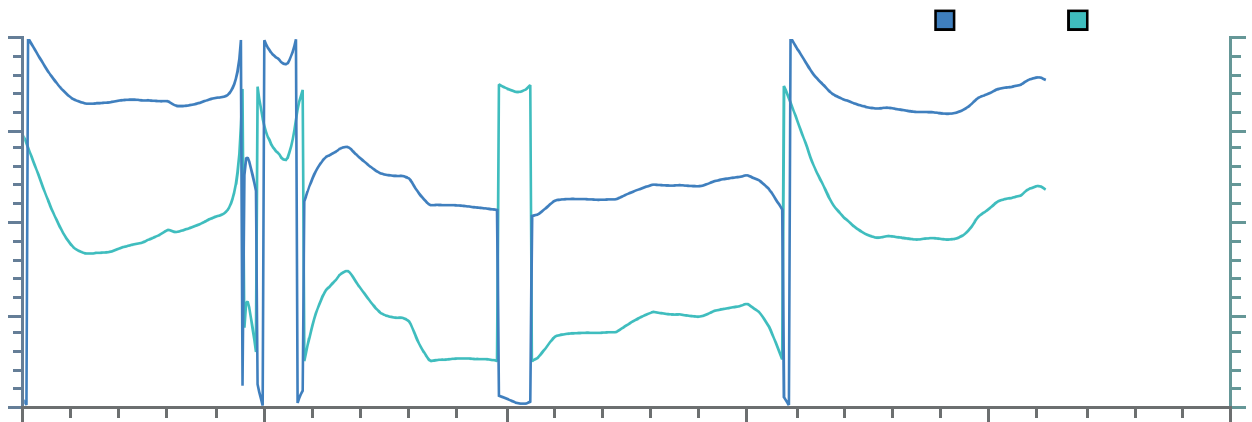
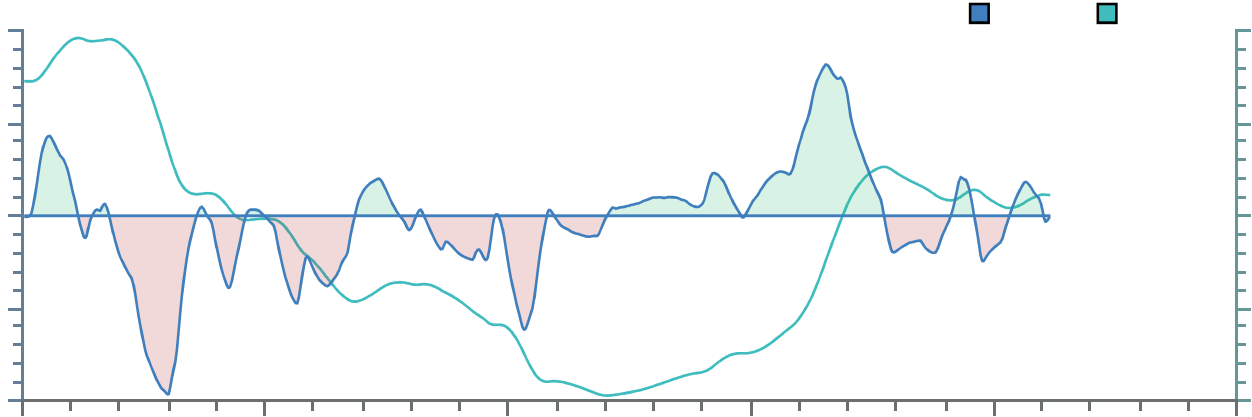


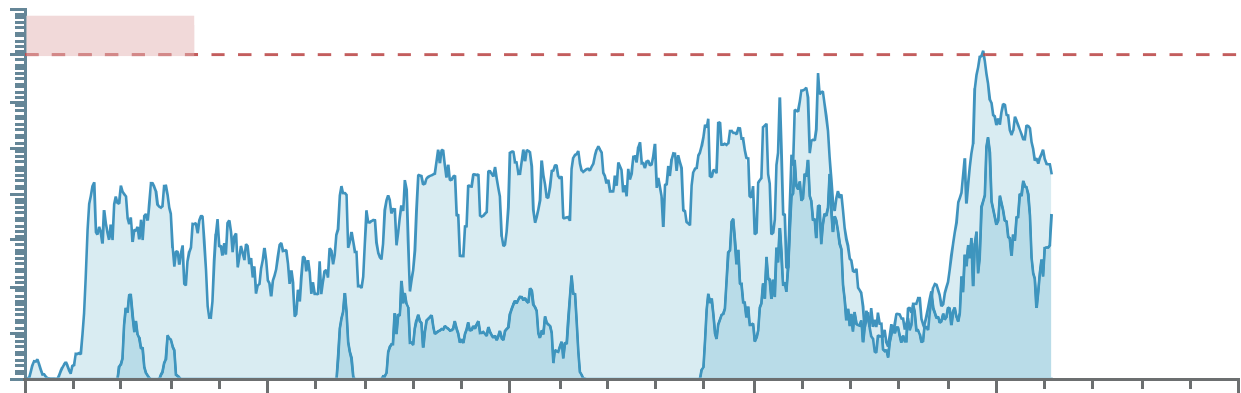
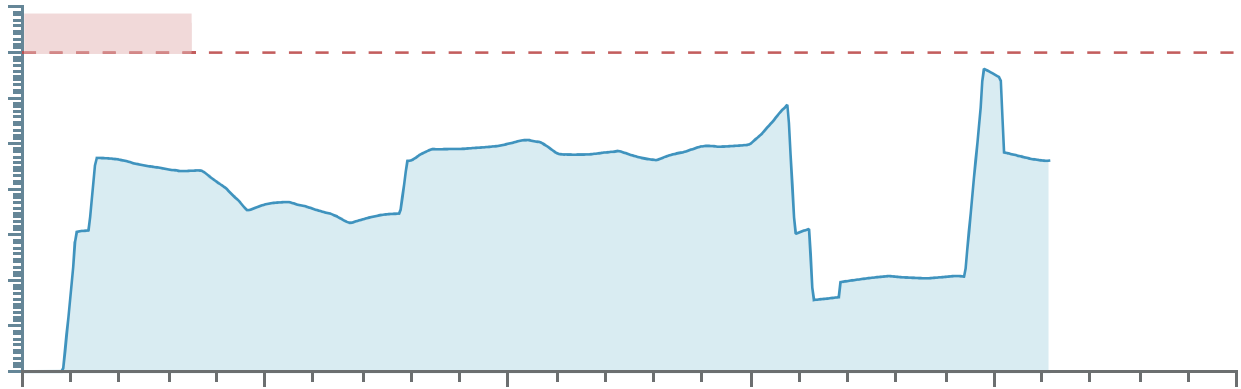
Summary

Environment

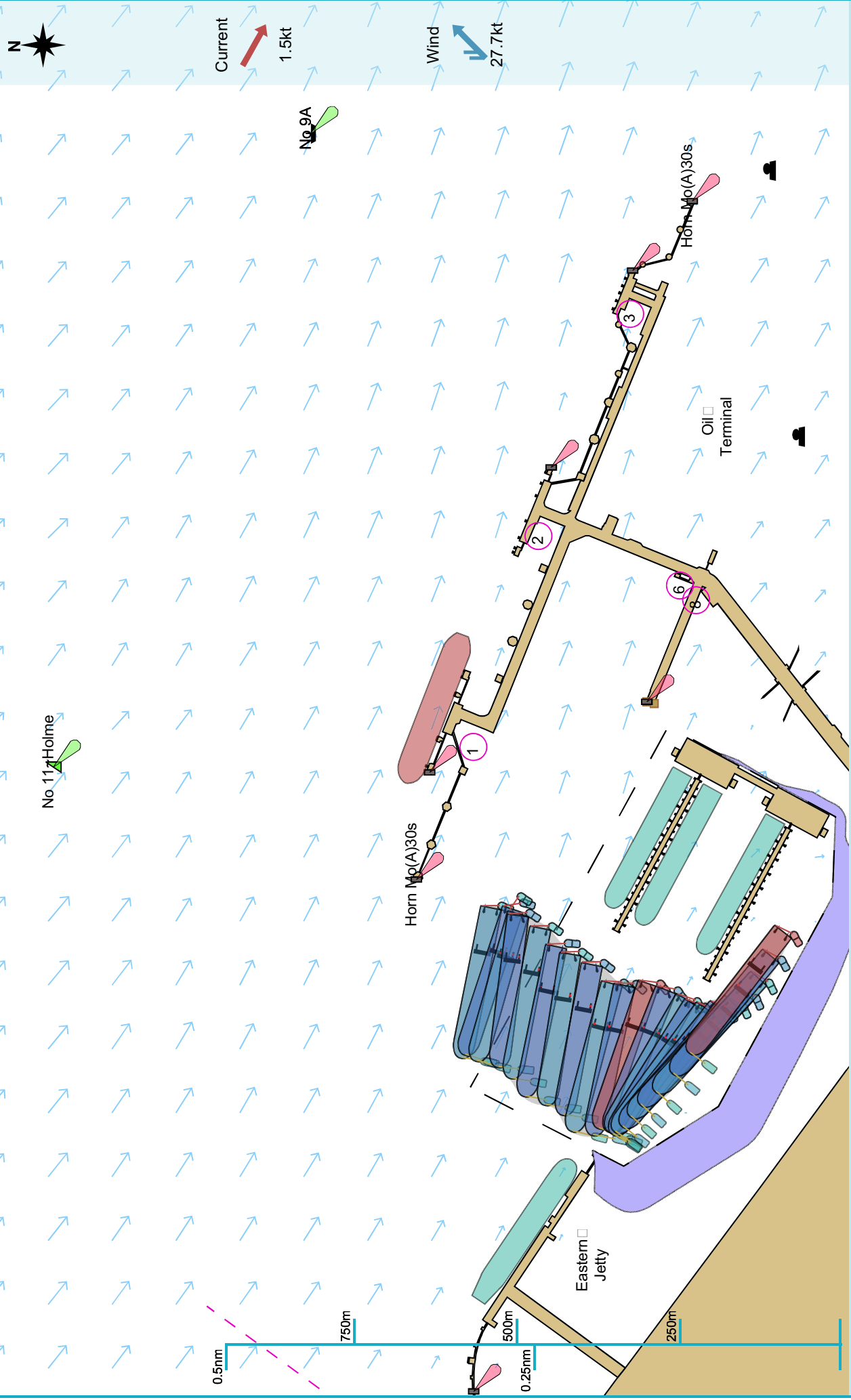
237m RoRo unnamed

Tugs



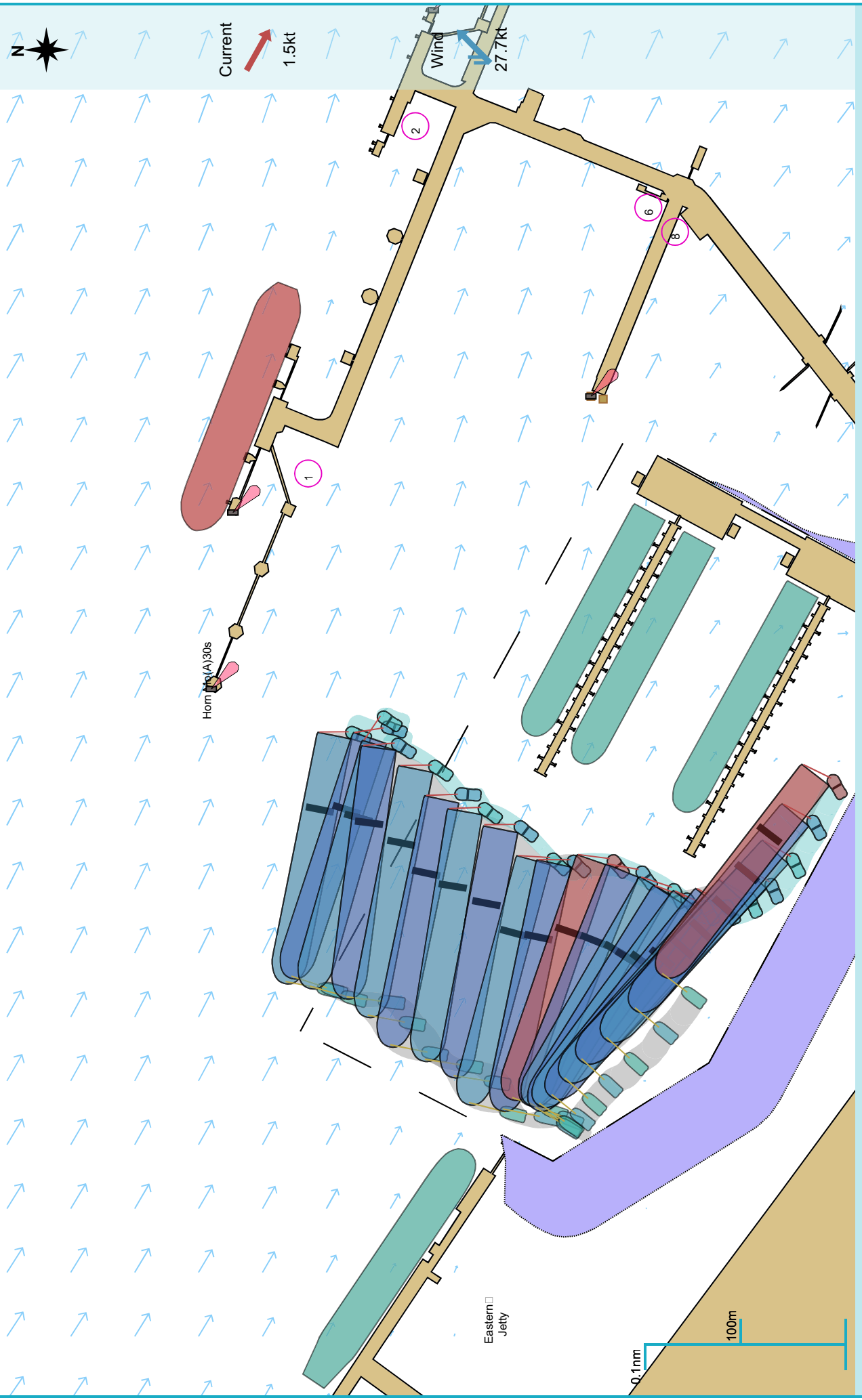


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



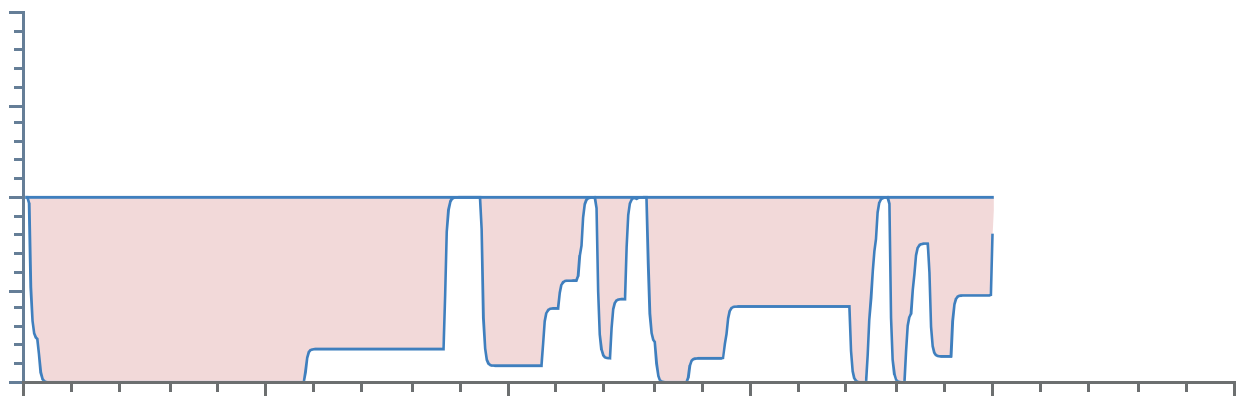
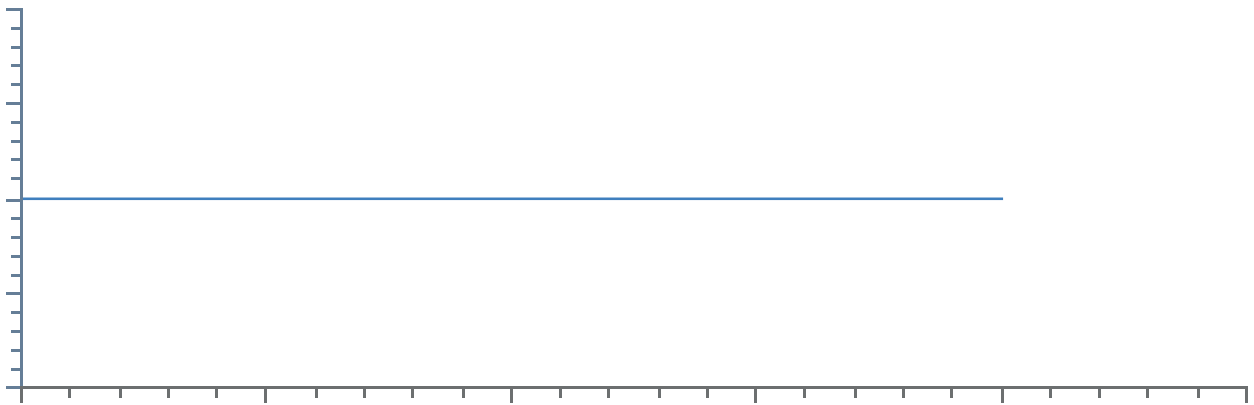
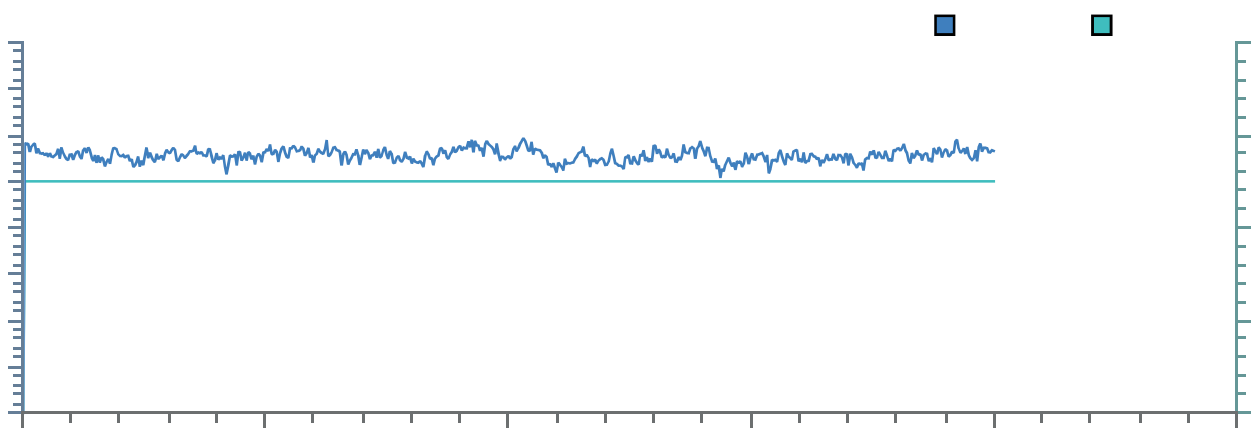
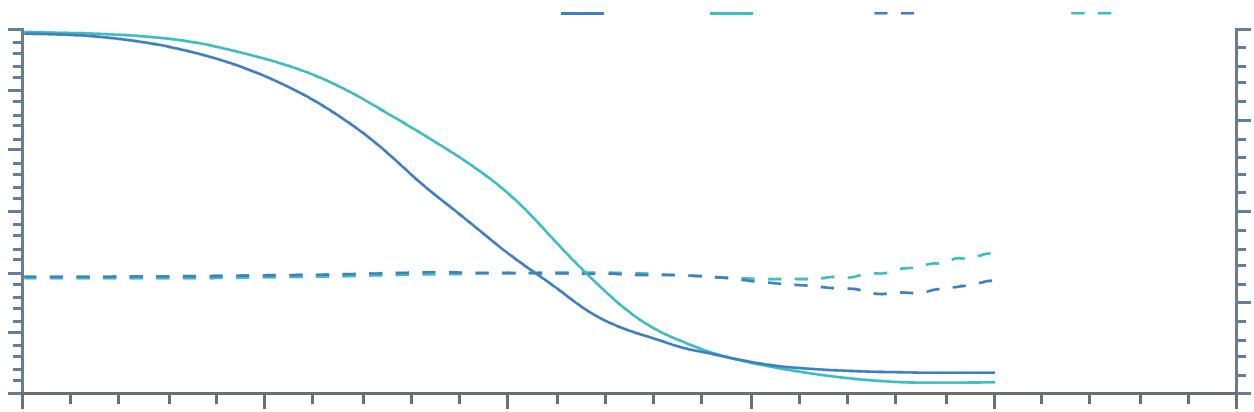
Ships plotted every 1 mins, highlight every 10 mins

Summary

Environment

237m RoRo unnamed

Tugs

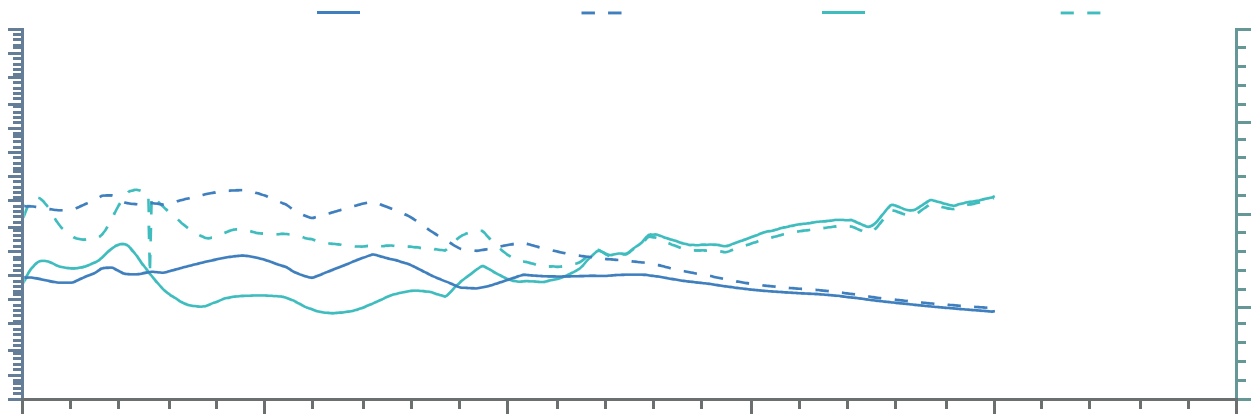
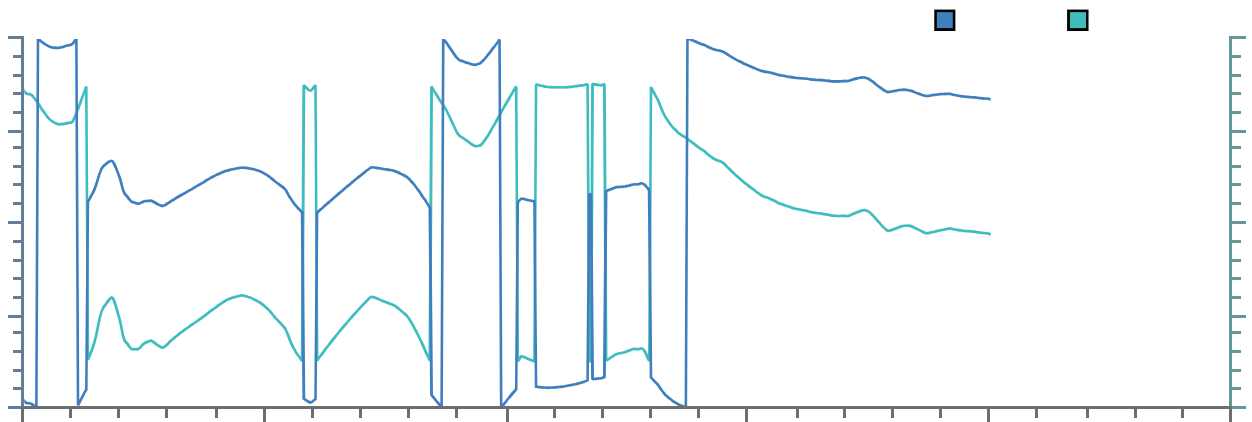
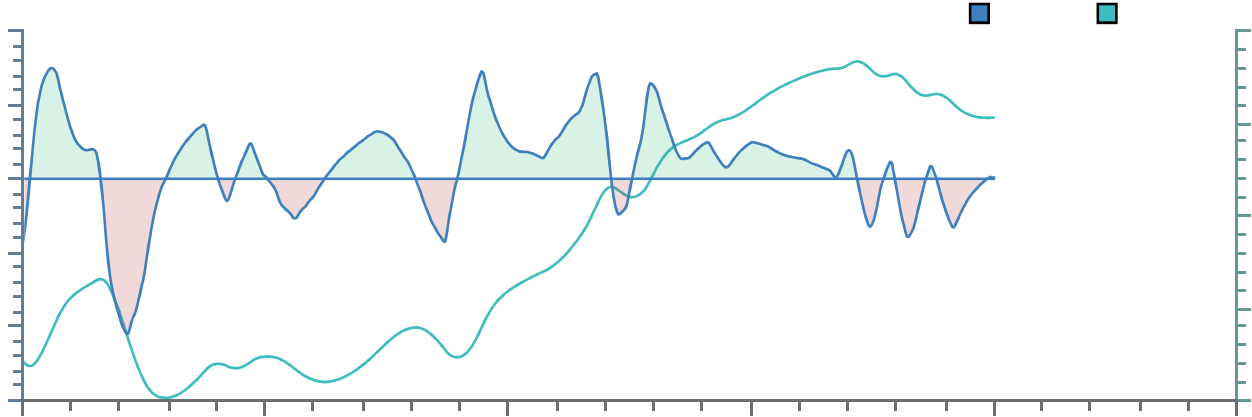


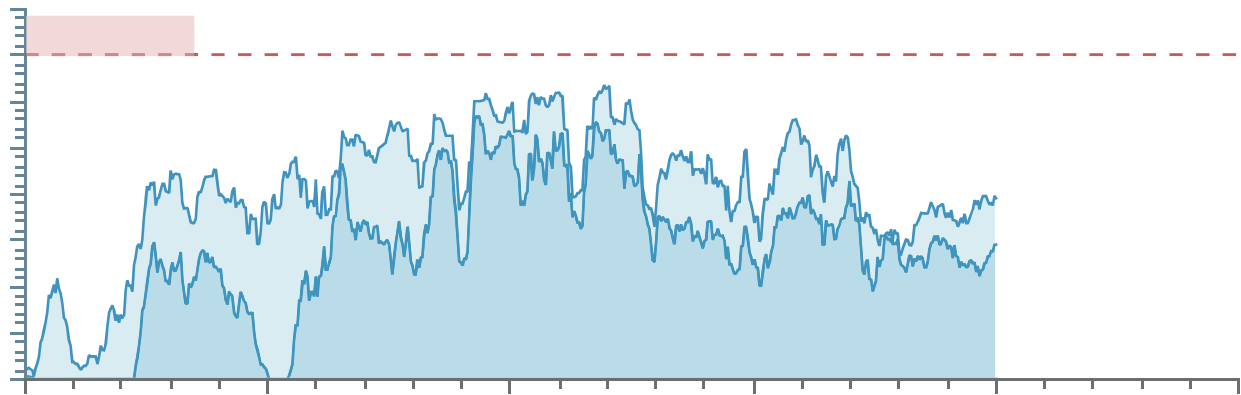
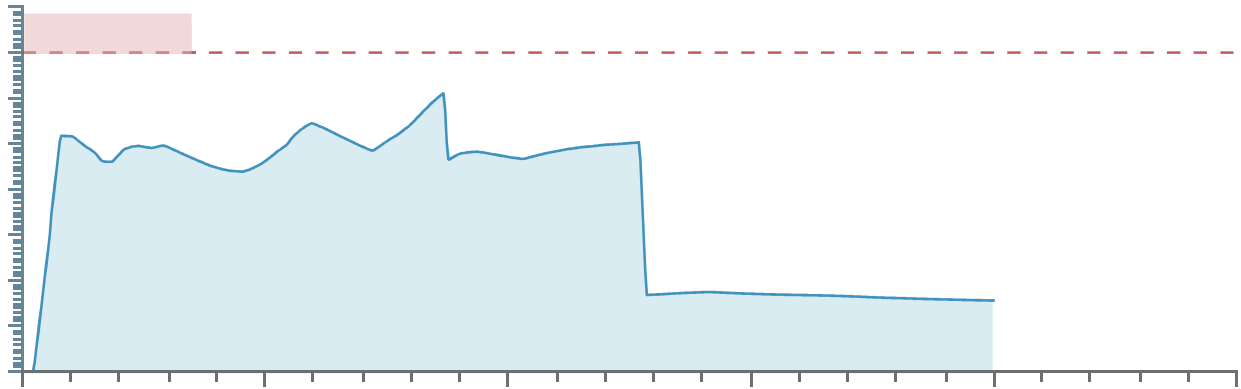
Summary

Environment

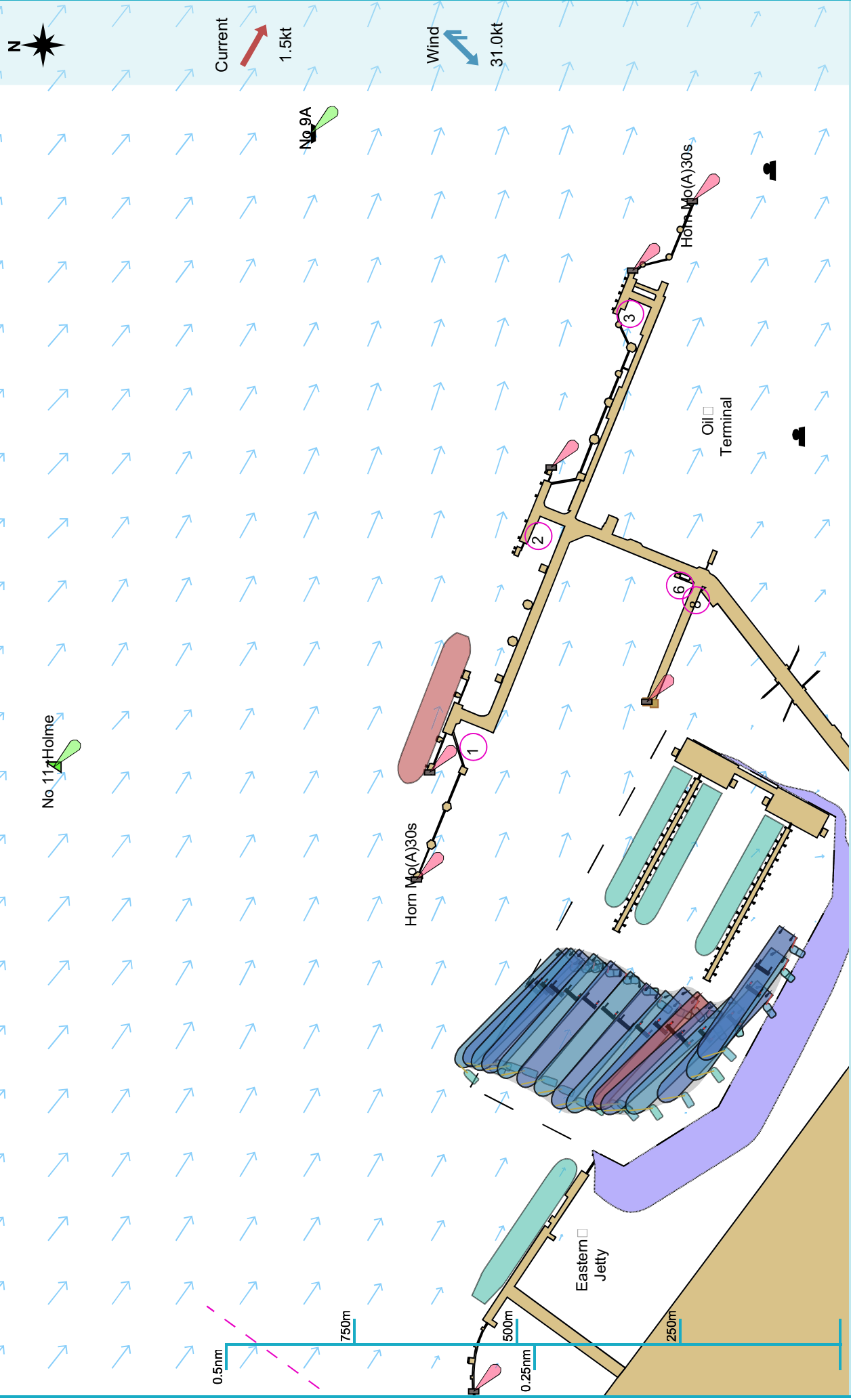
237m RoRo unnamed

Tugs



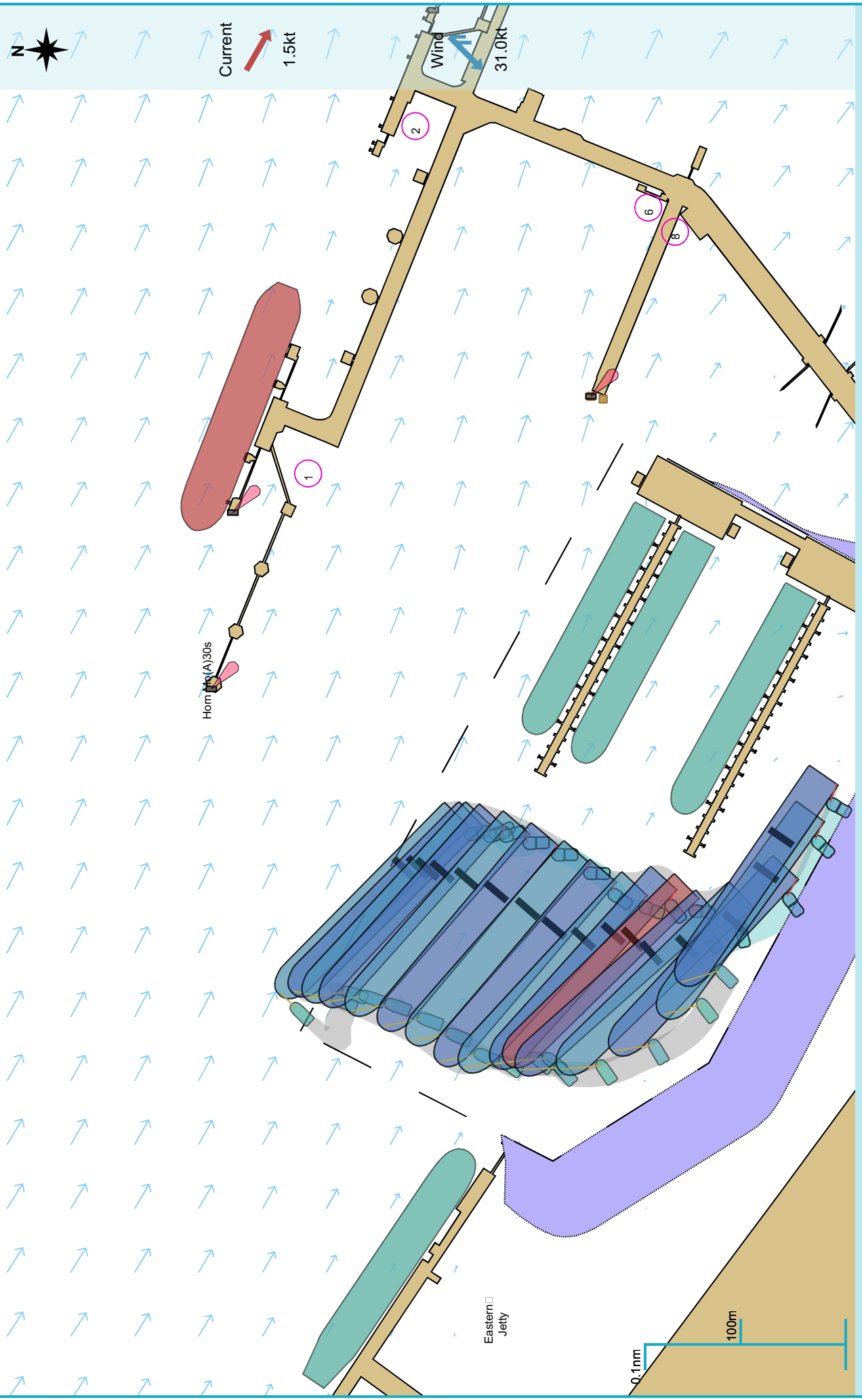


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



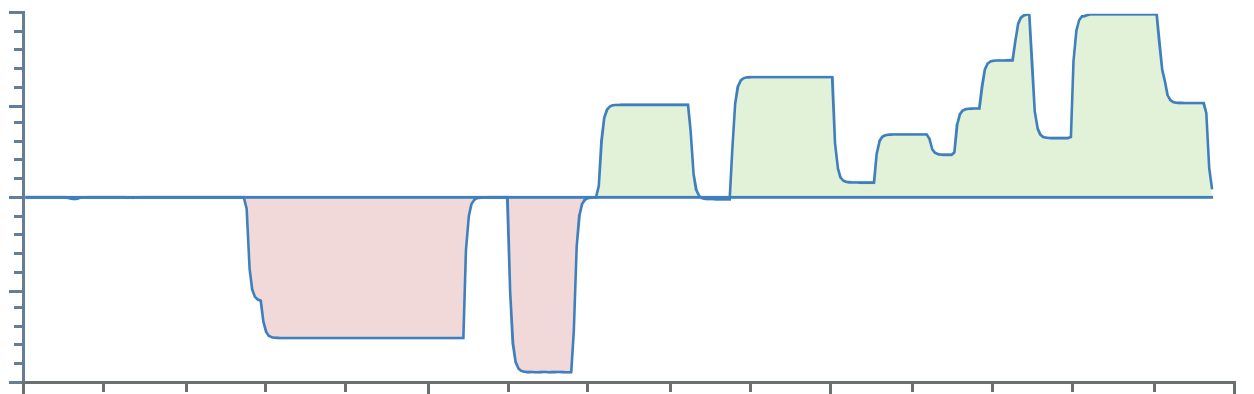
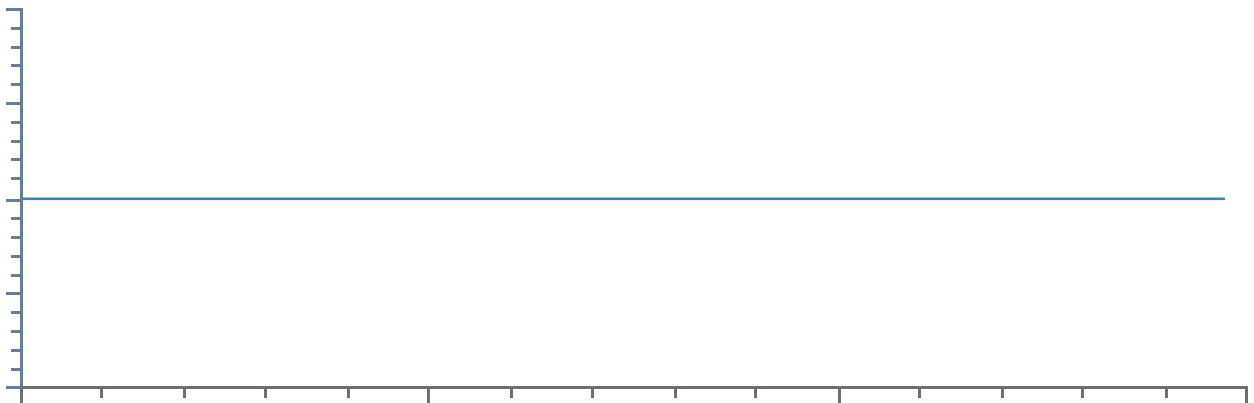
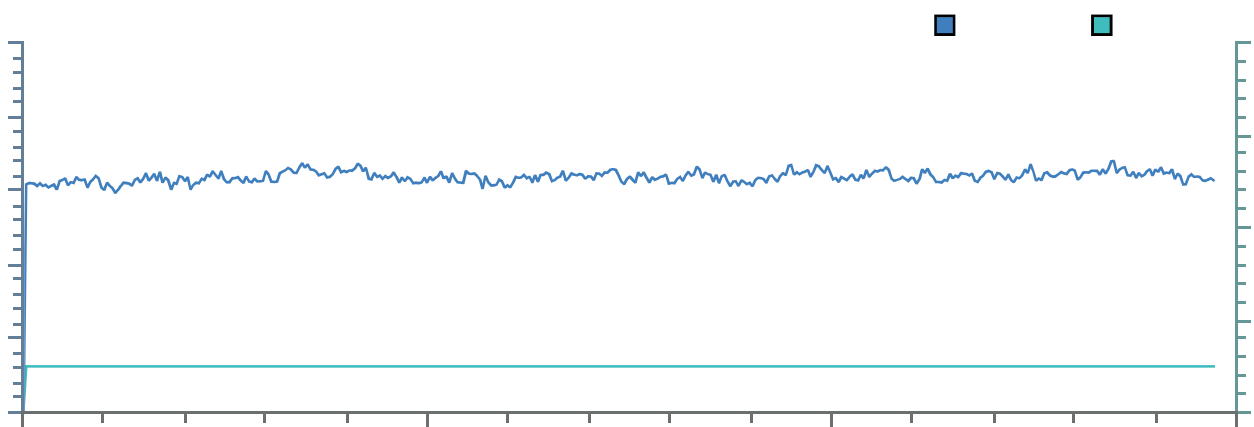
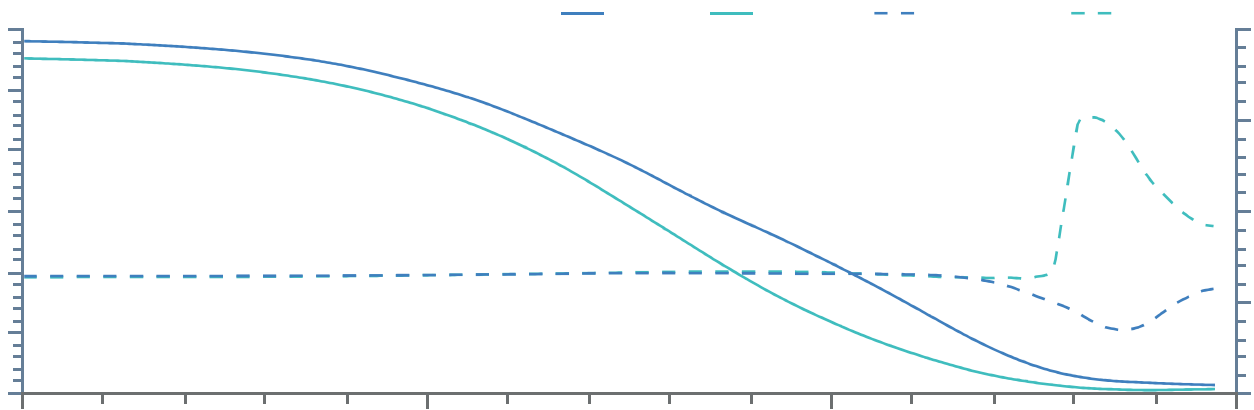
Ships plotted every 1 mins, highlight every 10 mins

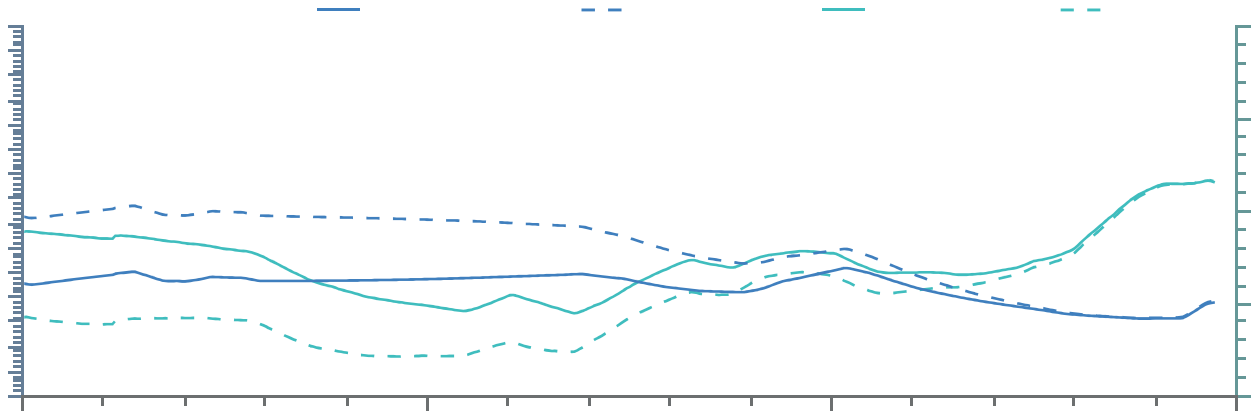
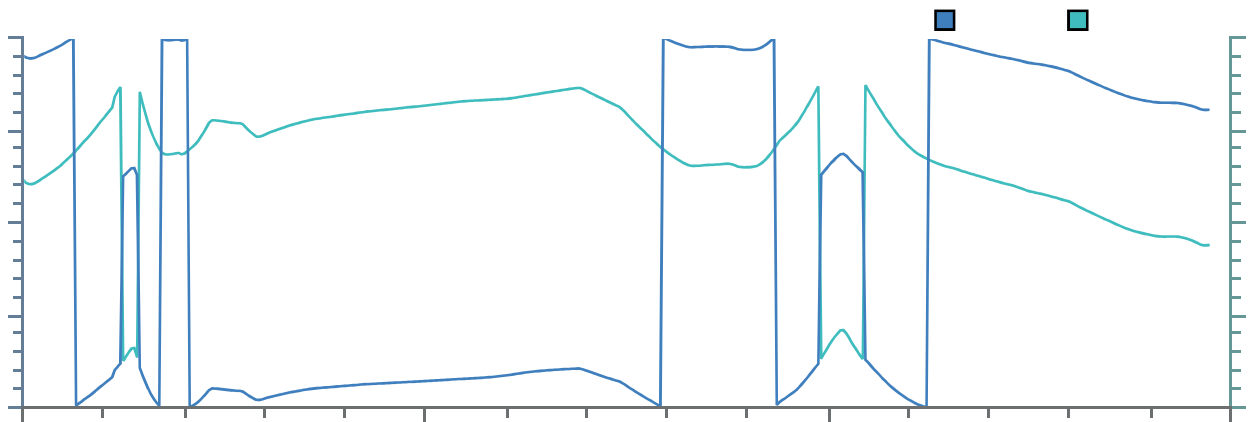
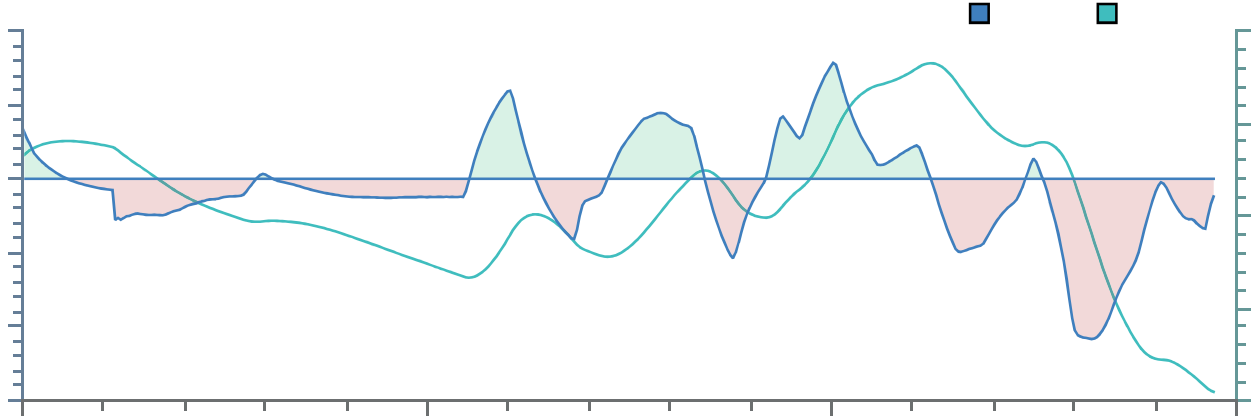
Summary

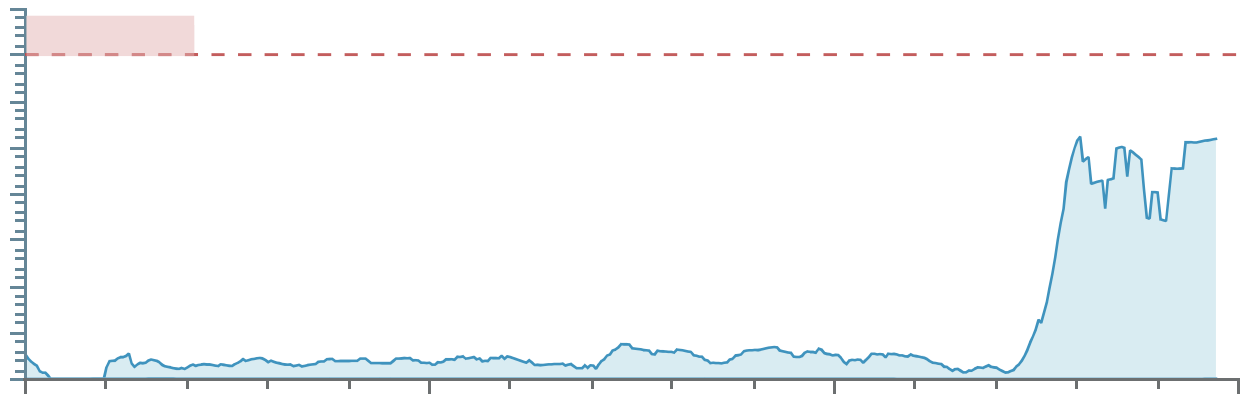
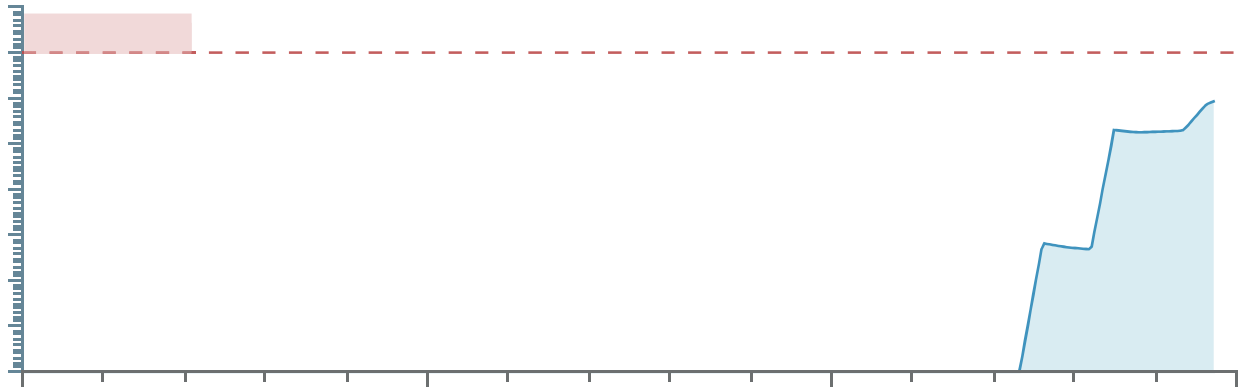
Environment

237m RoRo unnamed

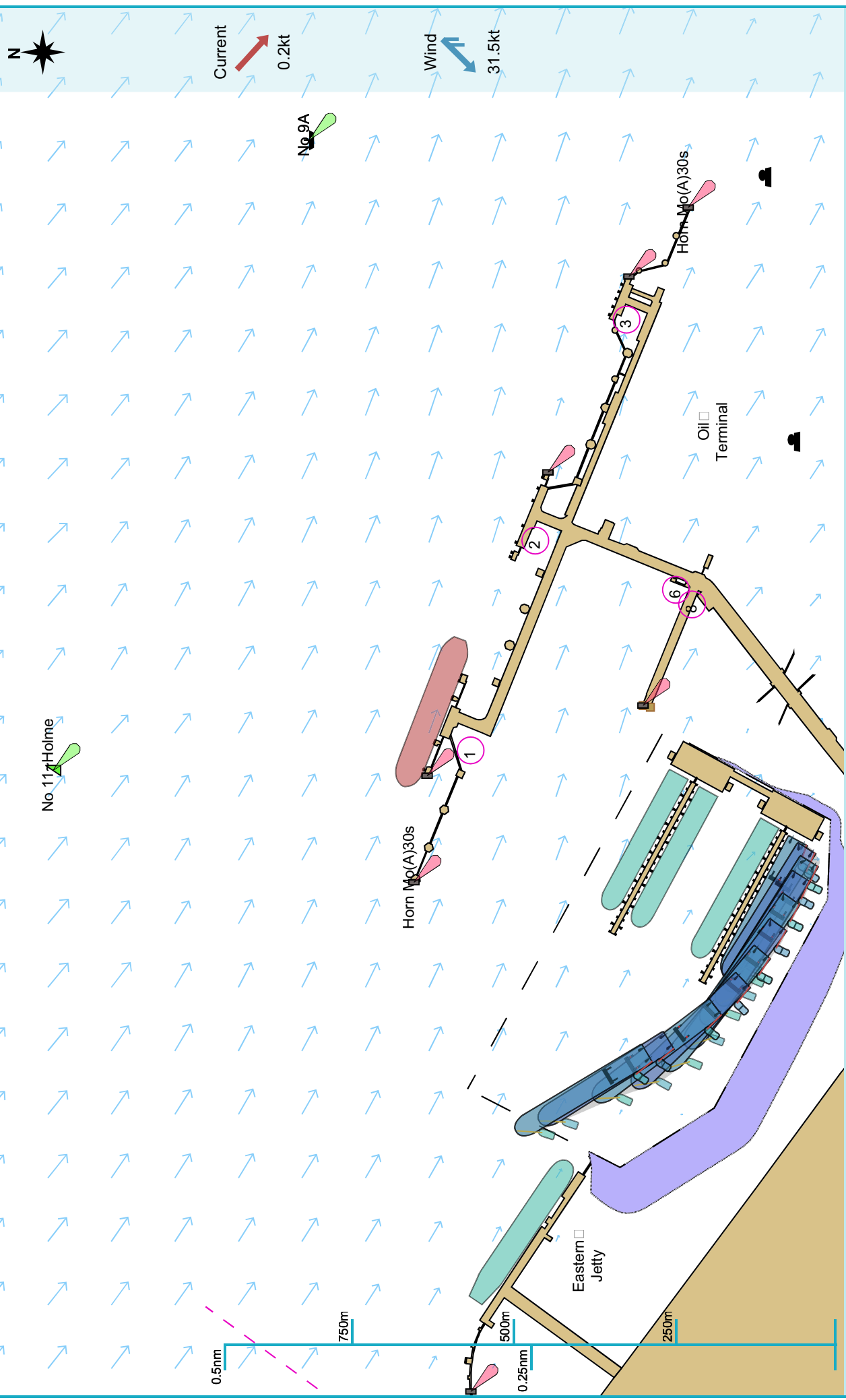
Tugs





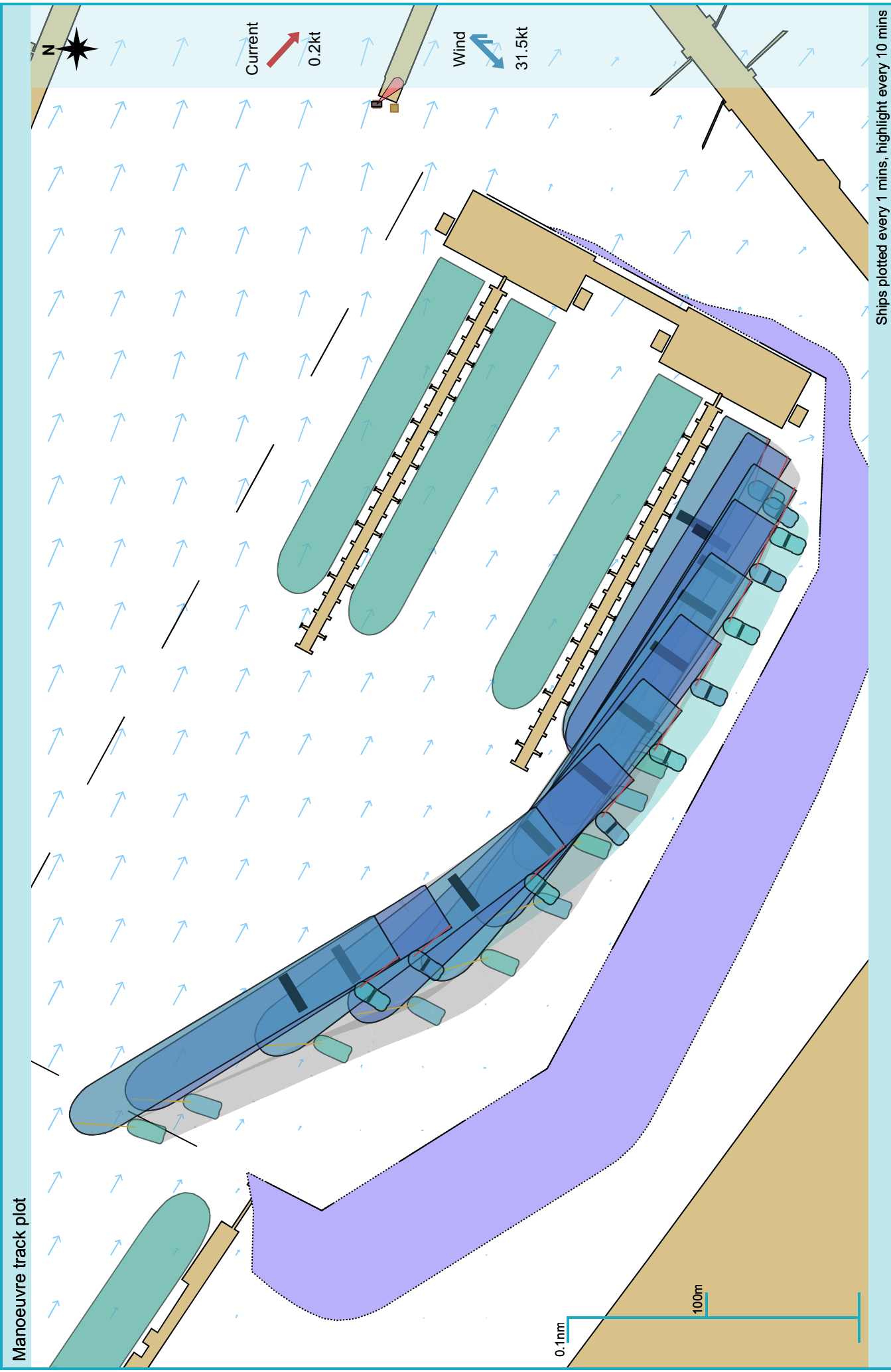


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

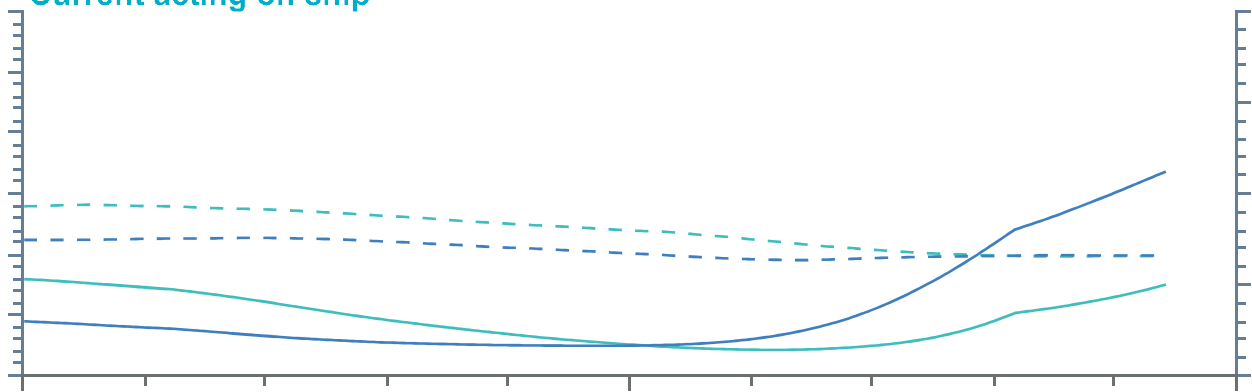
Summary

Environment

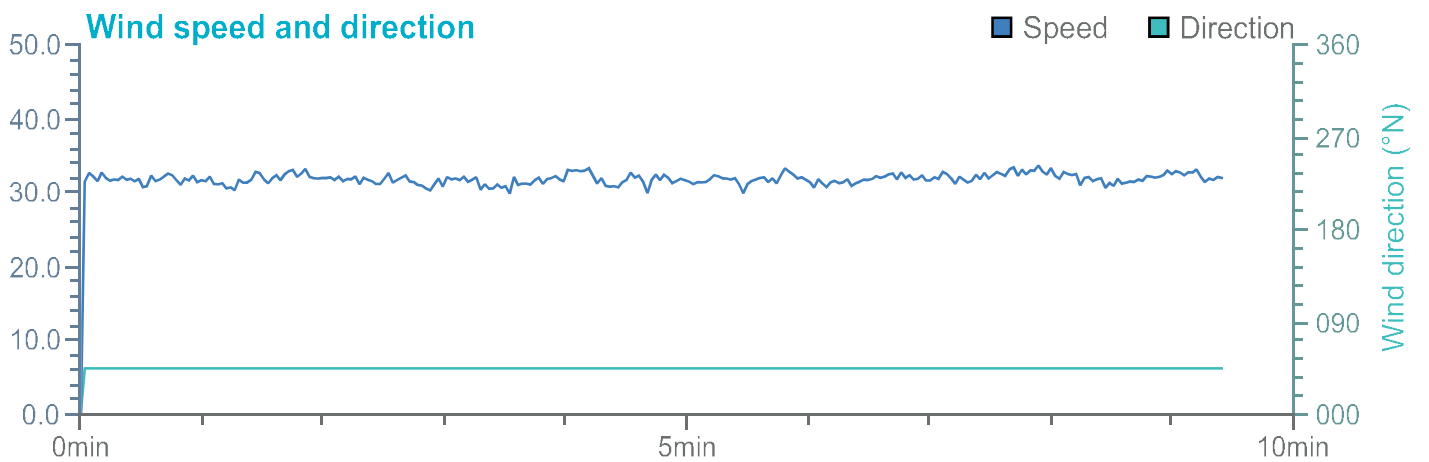
237m RoRo unnamed

Tugs

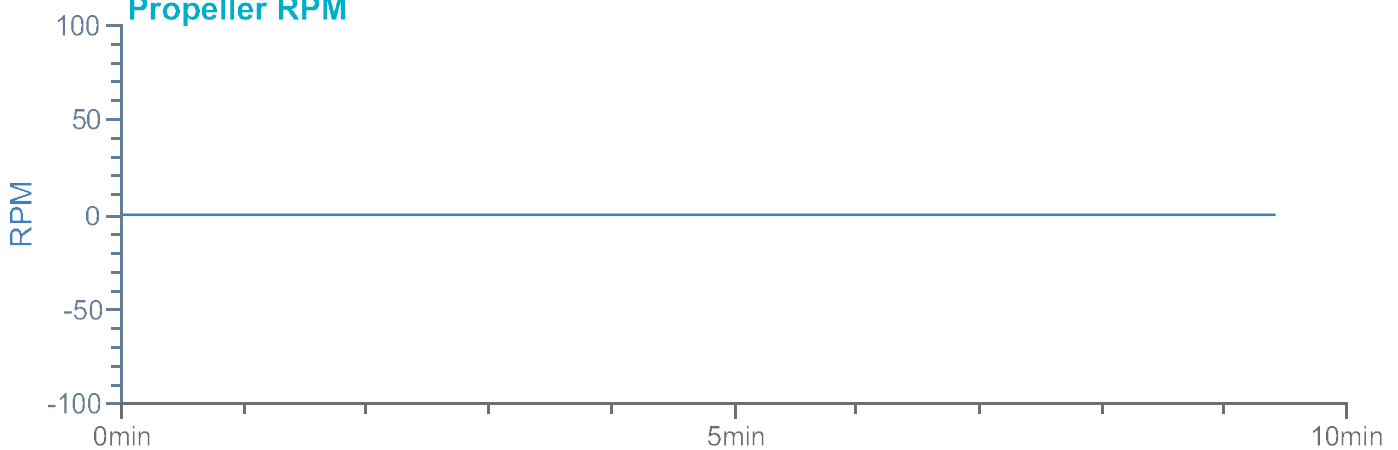
Current acting on ship



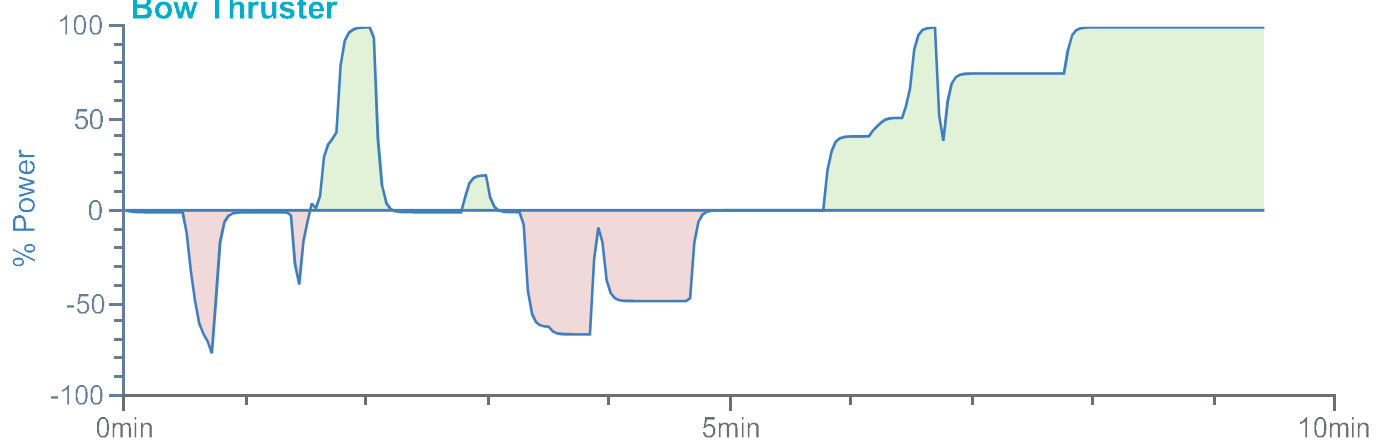
Wind speed and direction

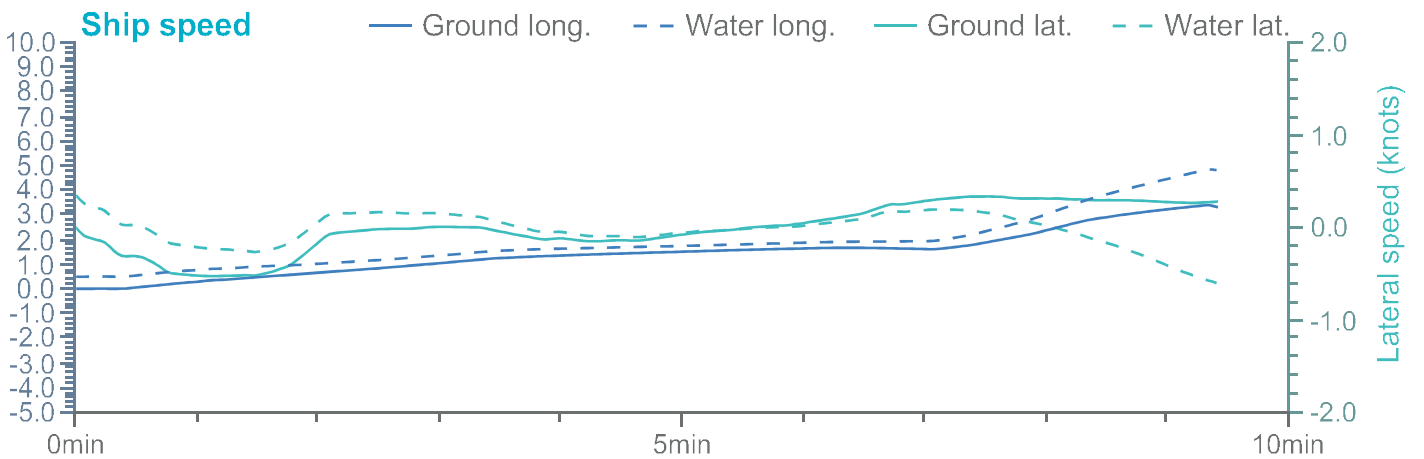
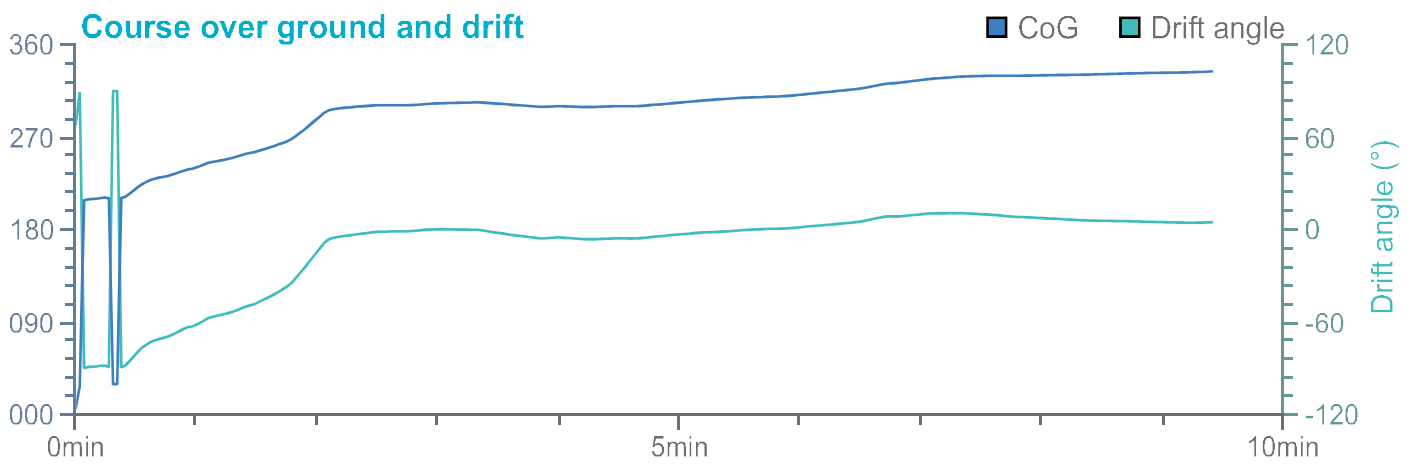
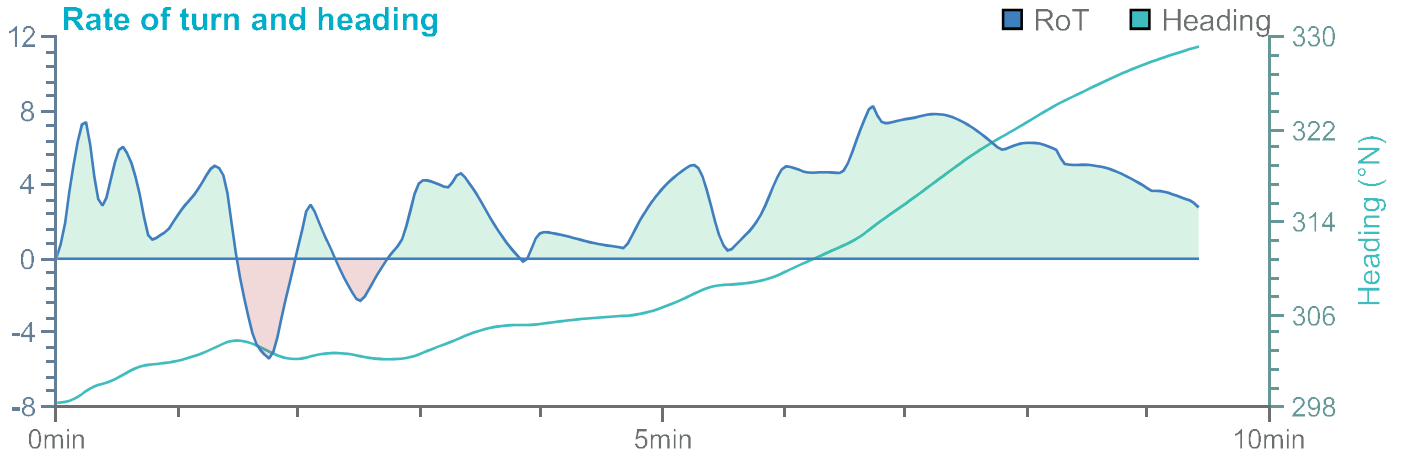


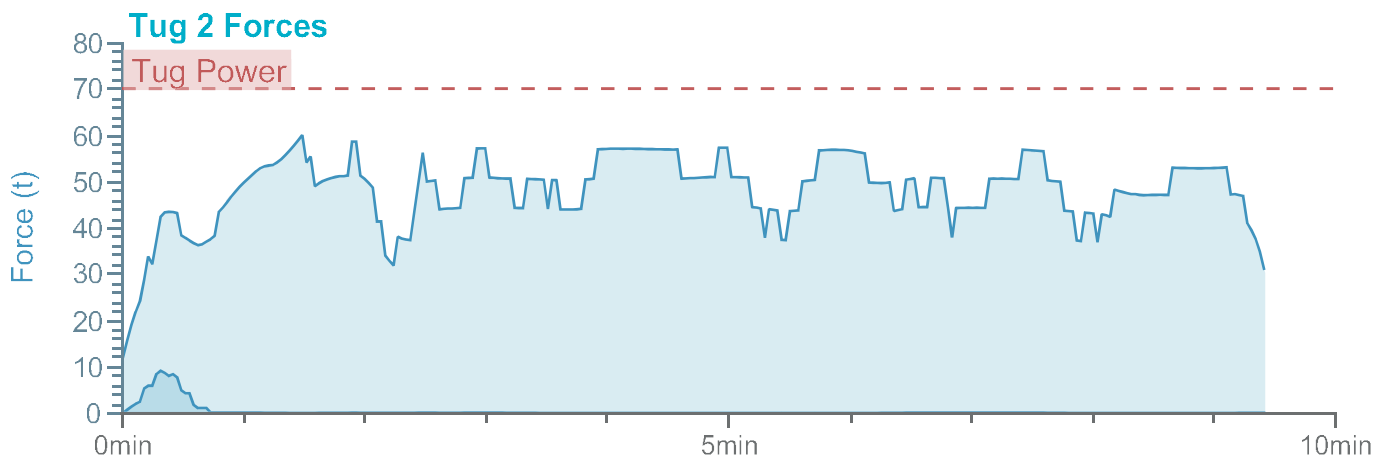
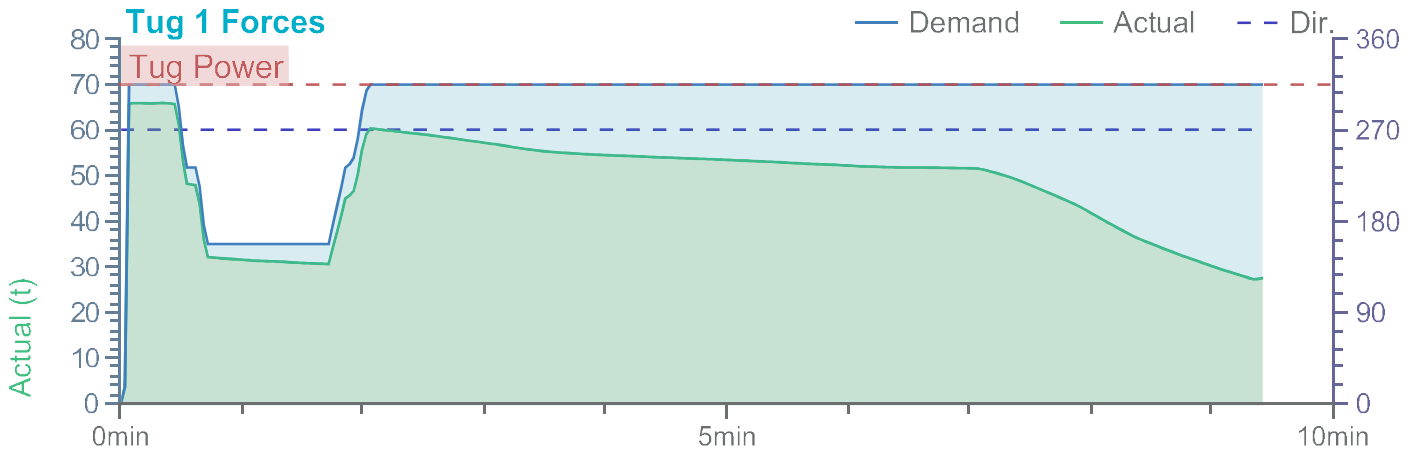
Propeller RPM



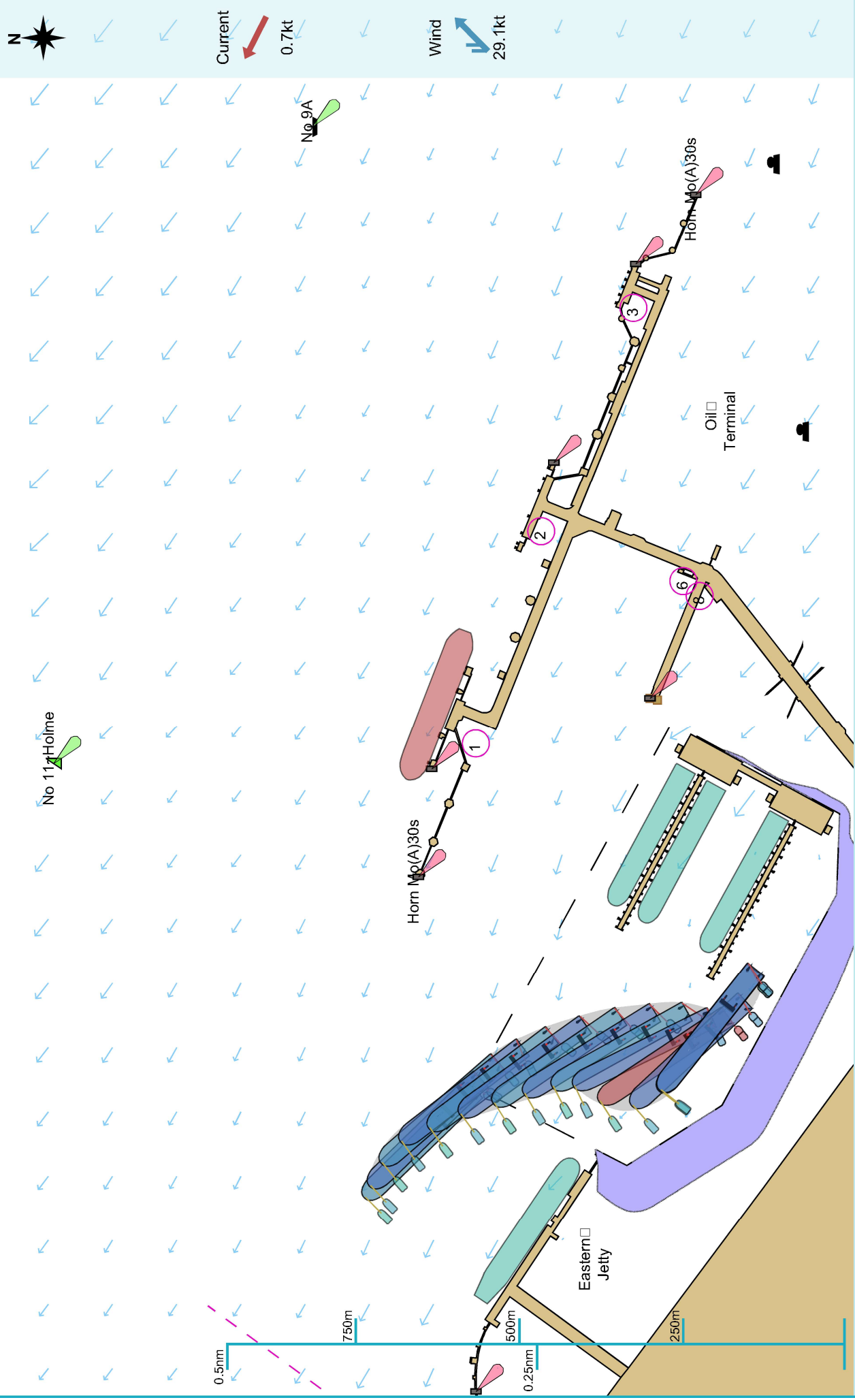
Bow Thruster





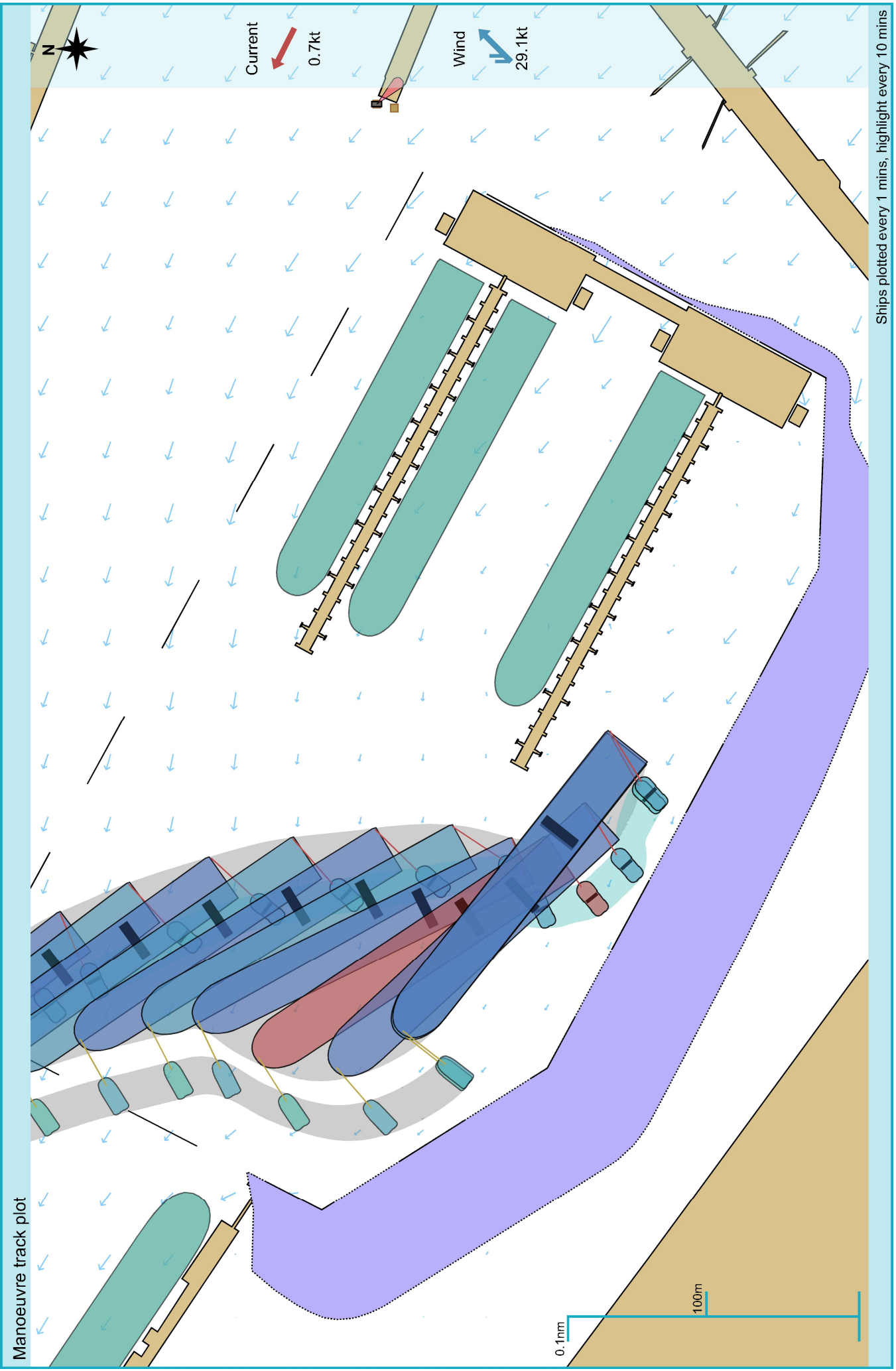


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

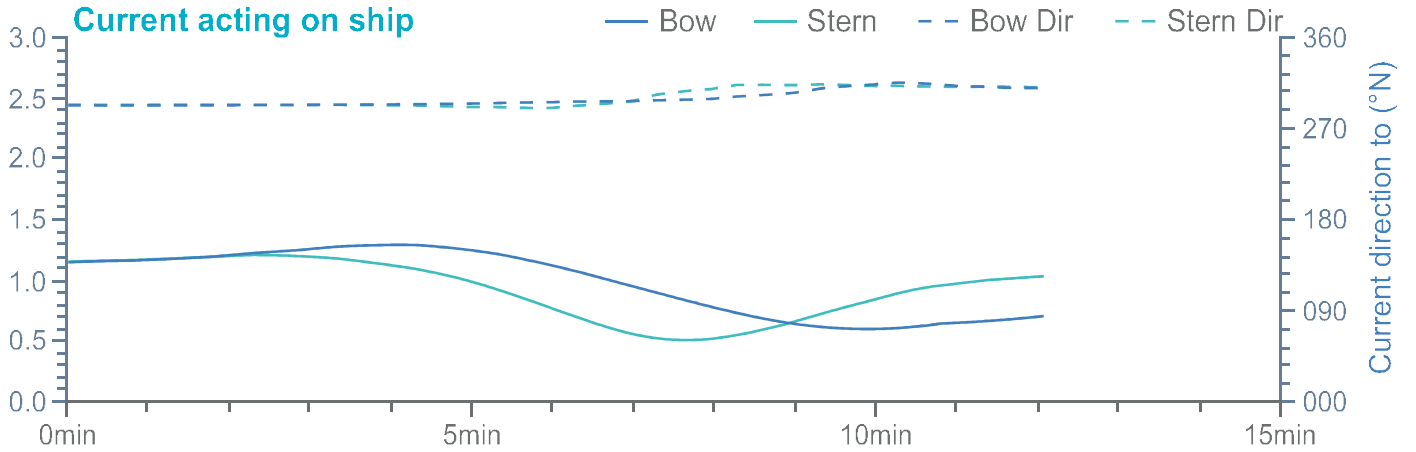
Summary

Environment

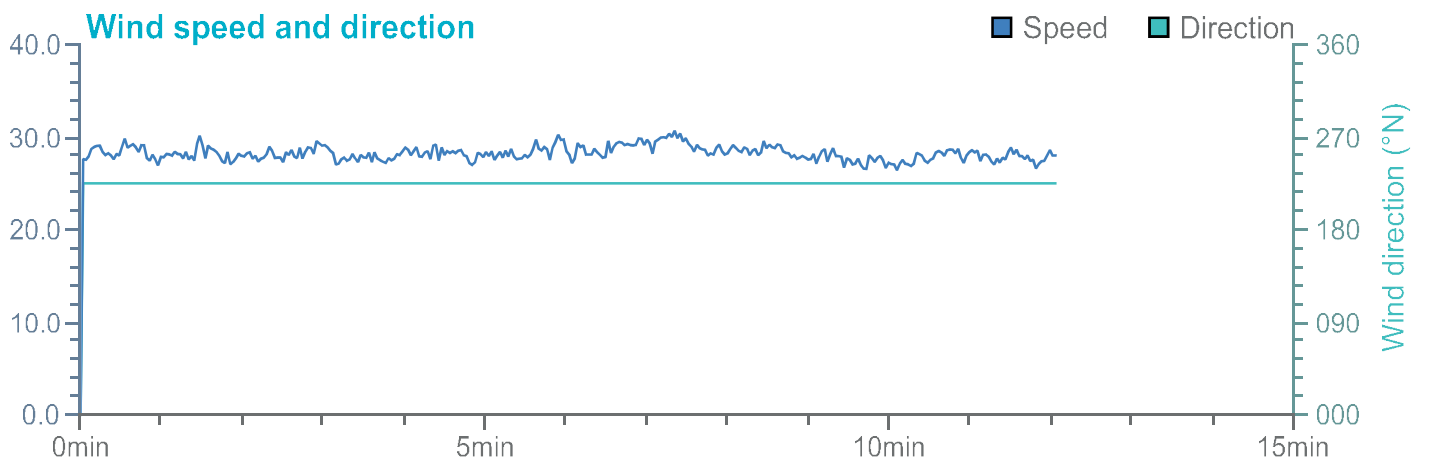
237m RoRo unnamed

Tugs

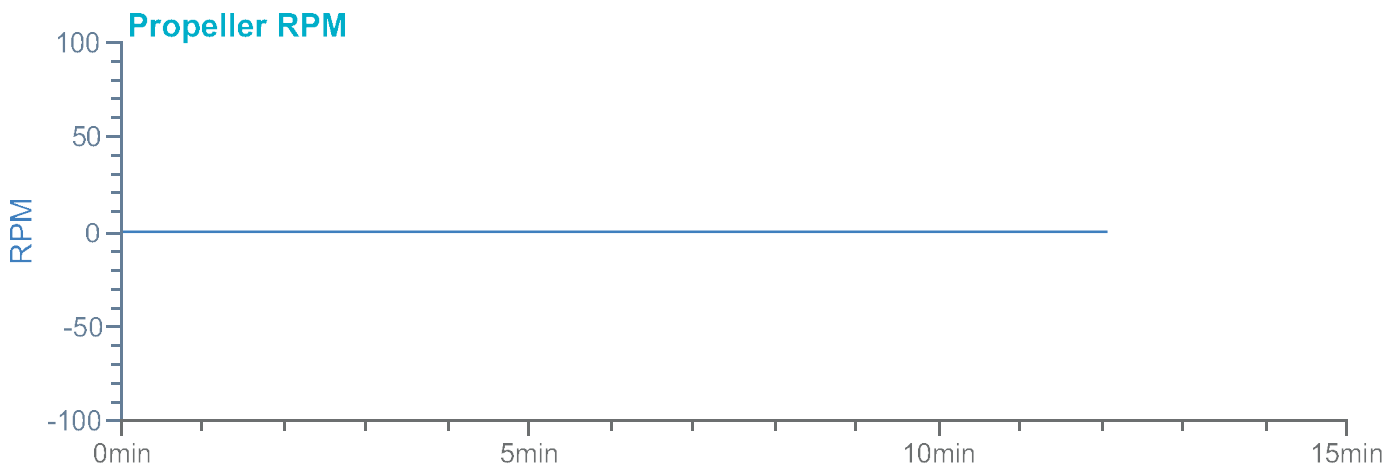
Current acting on ship



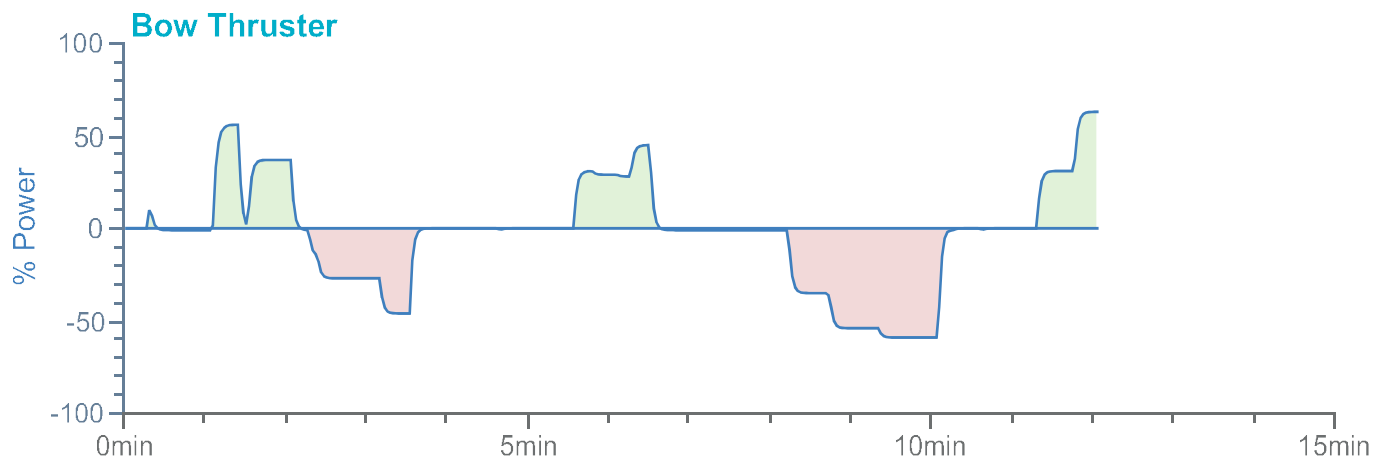
Wind speed and direction

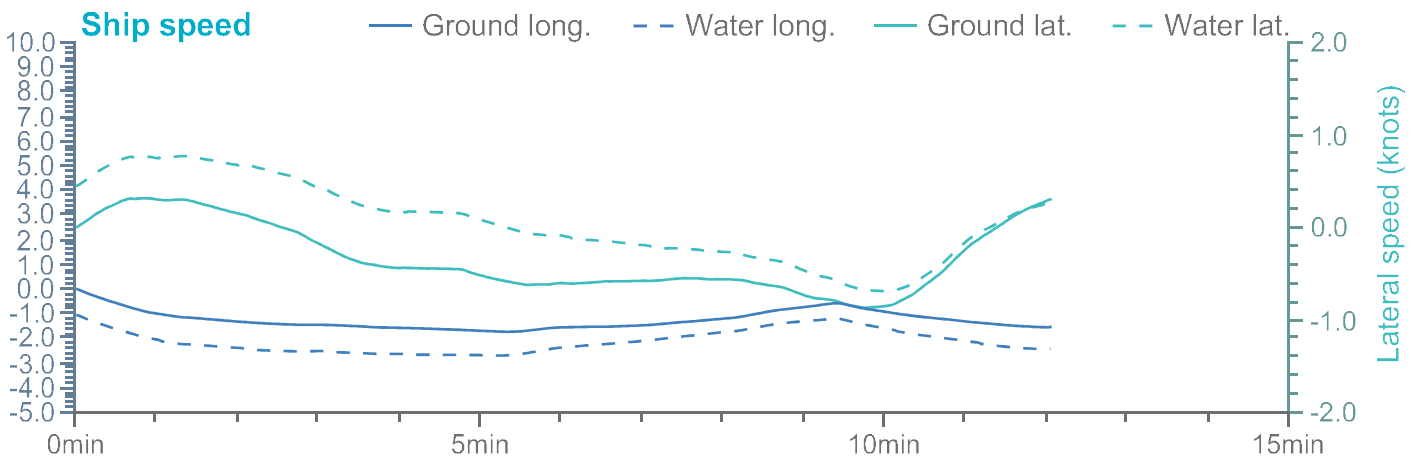
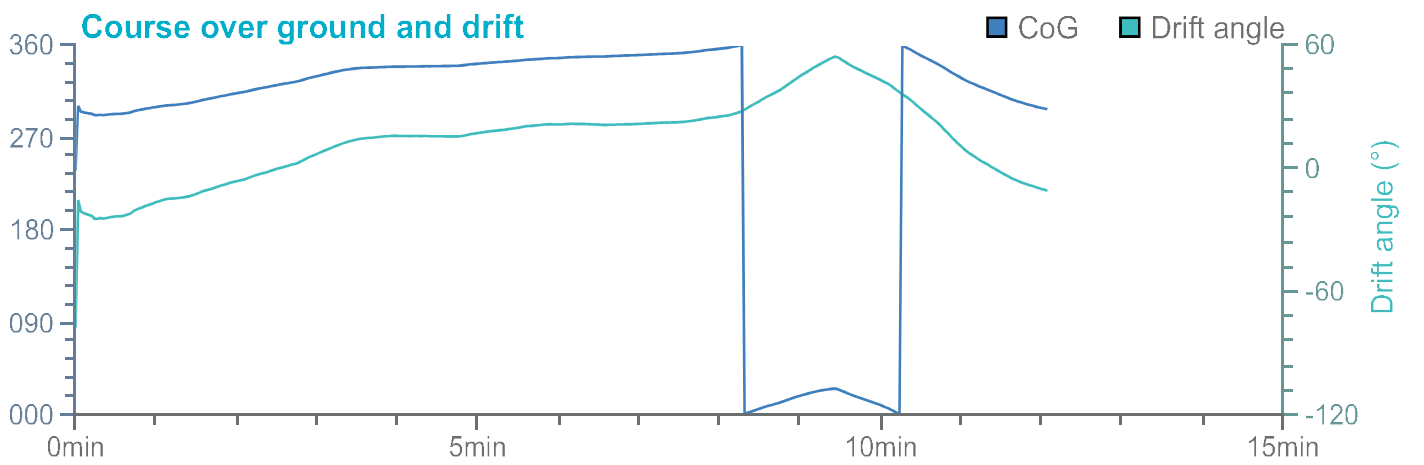
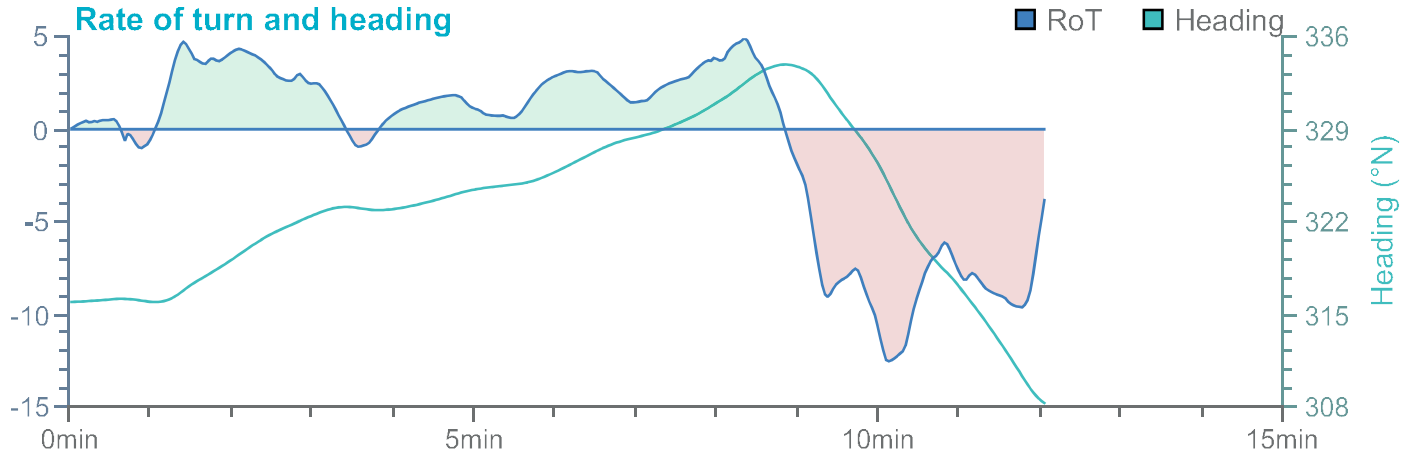


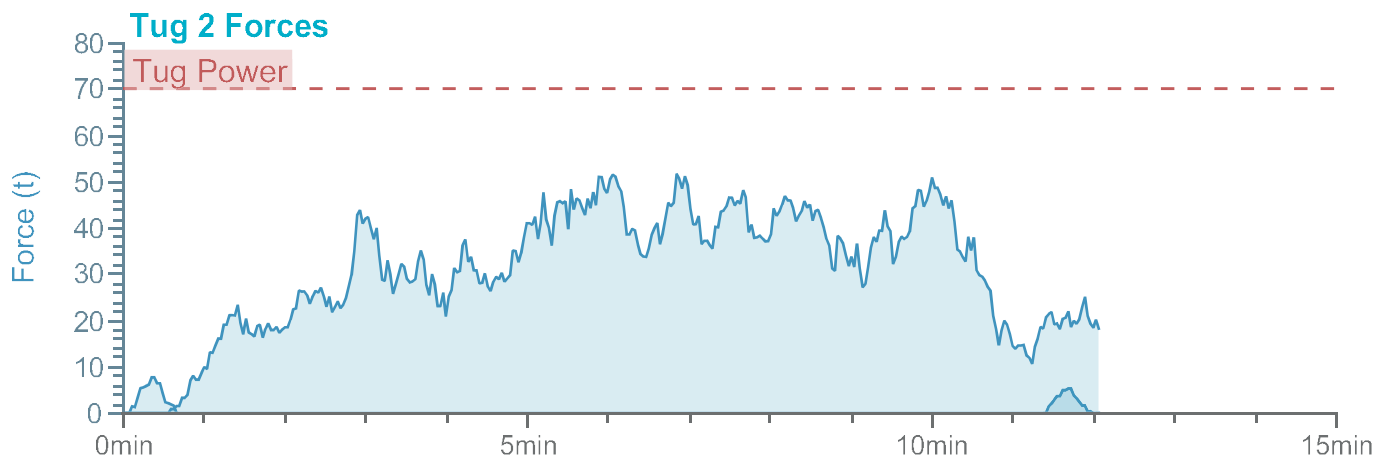
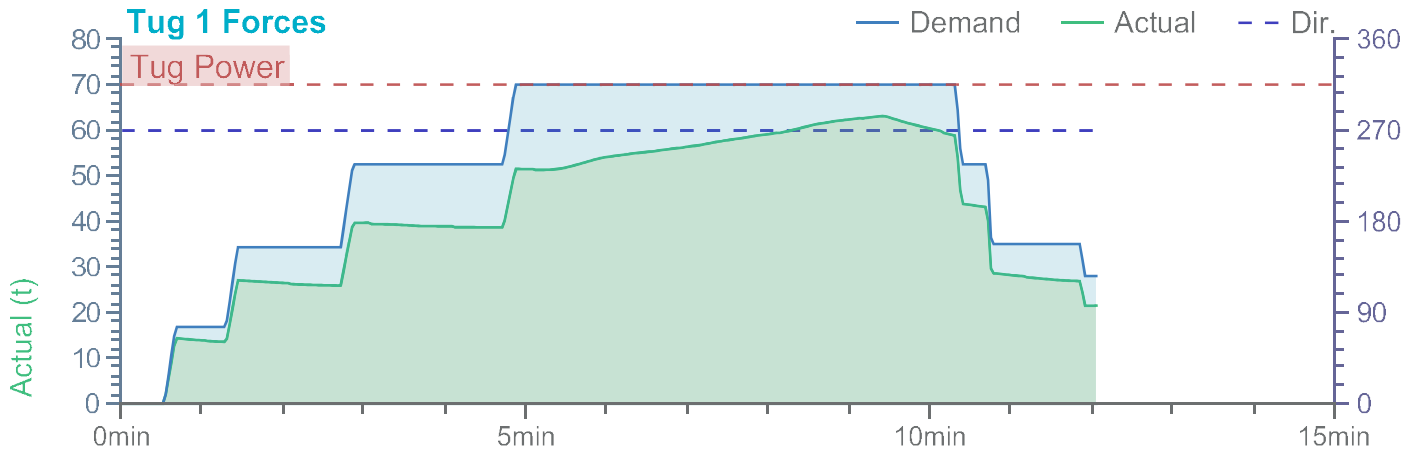
Propeller RPM



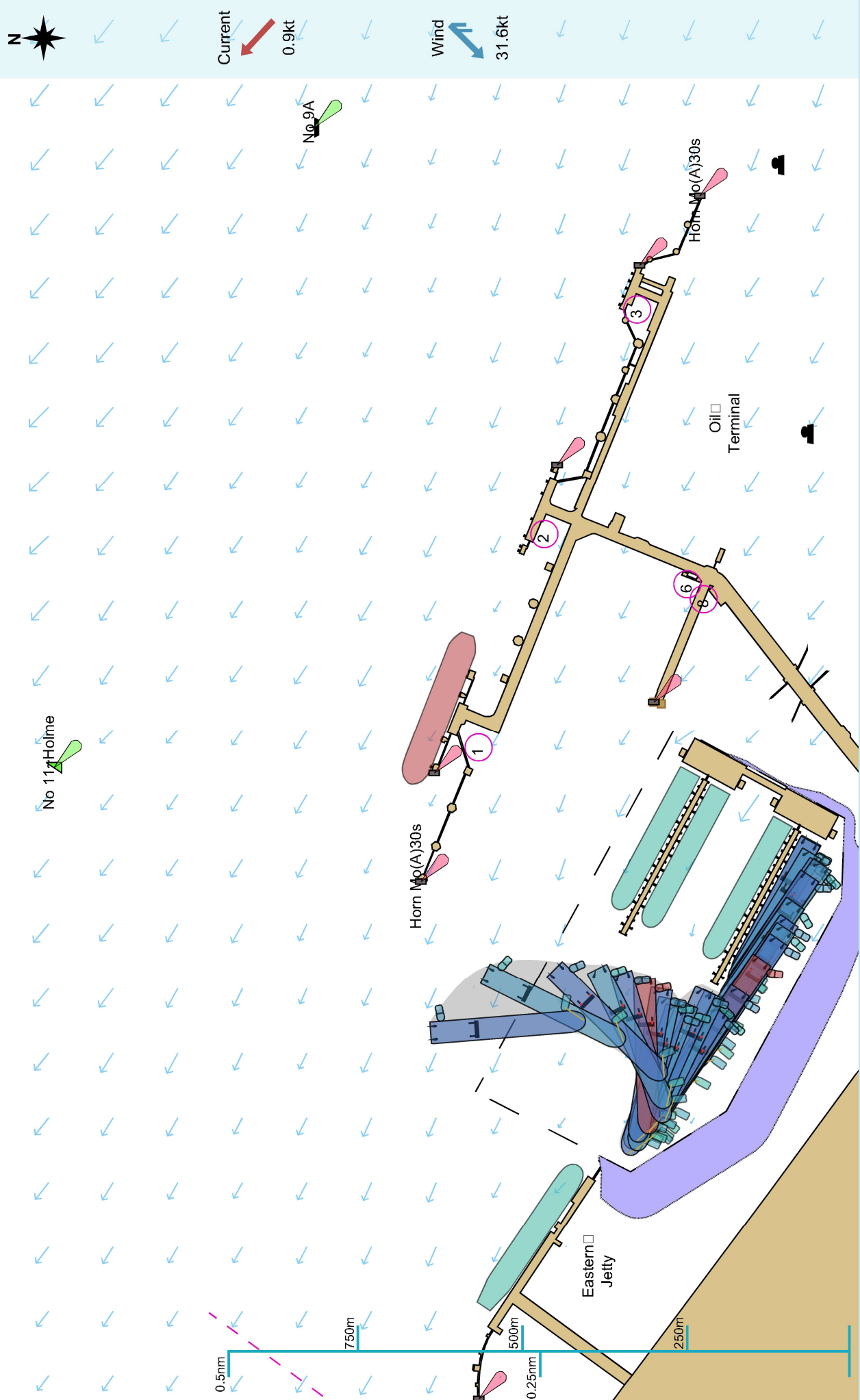
Bow Thruster





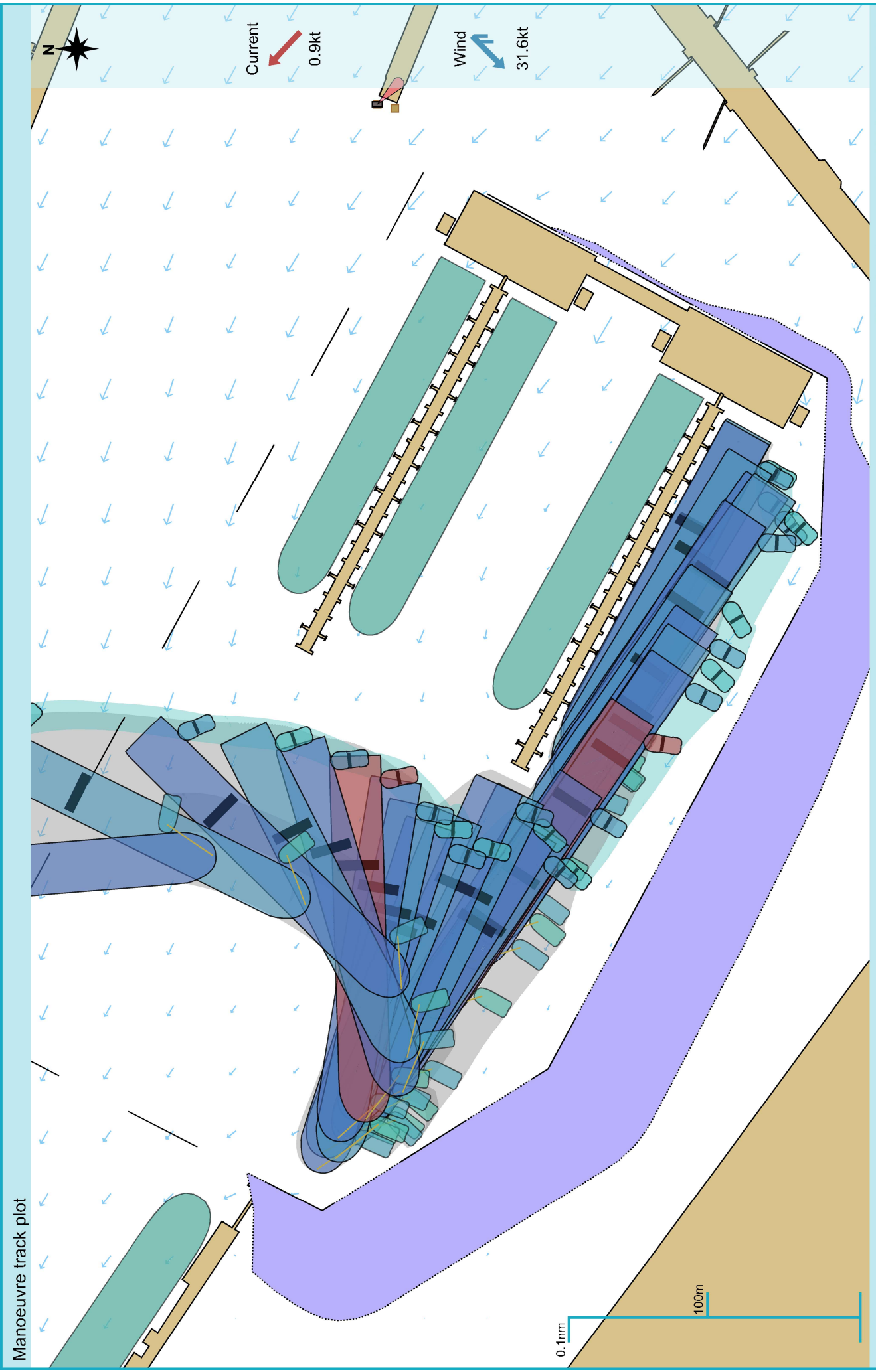


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



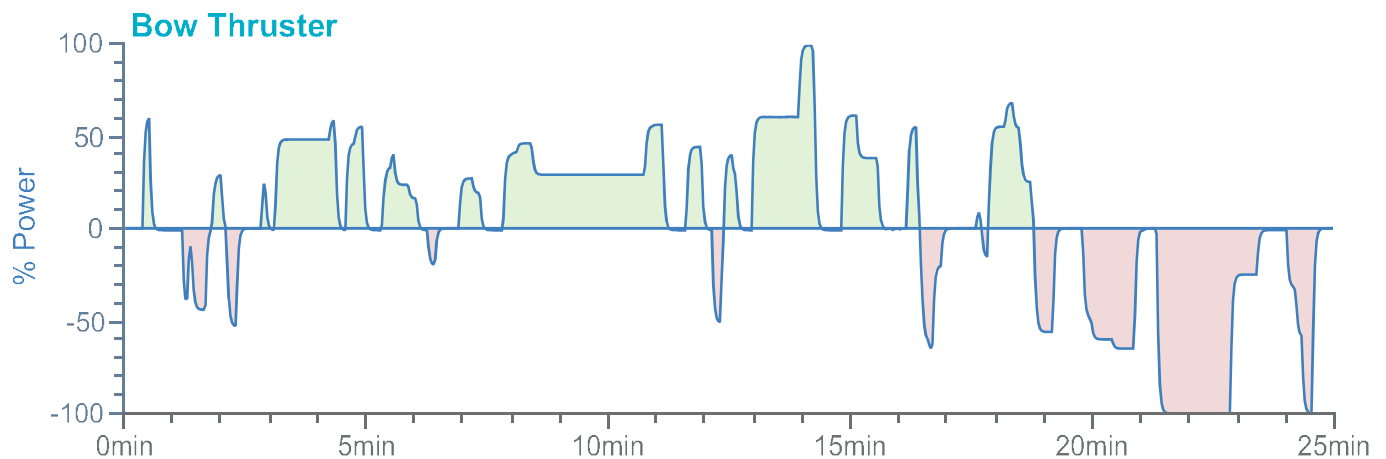
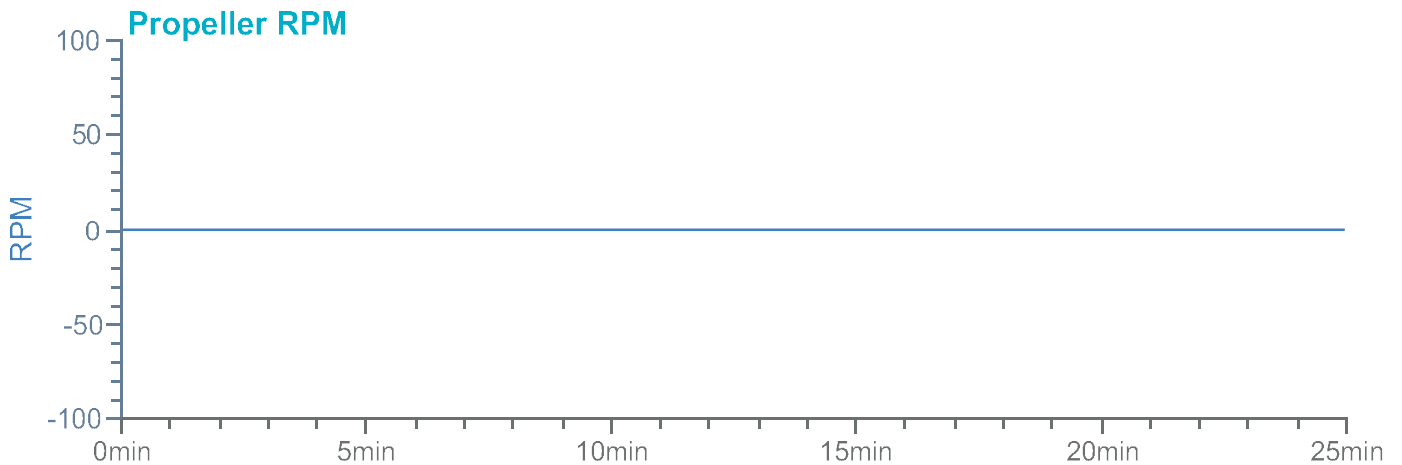
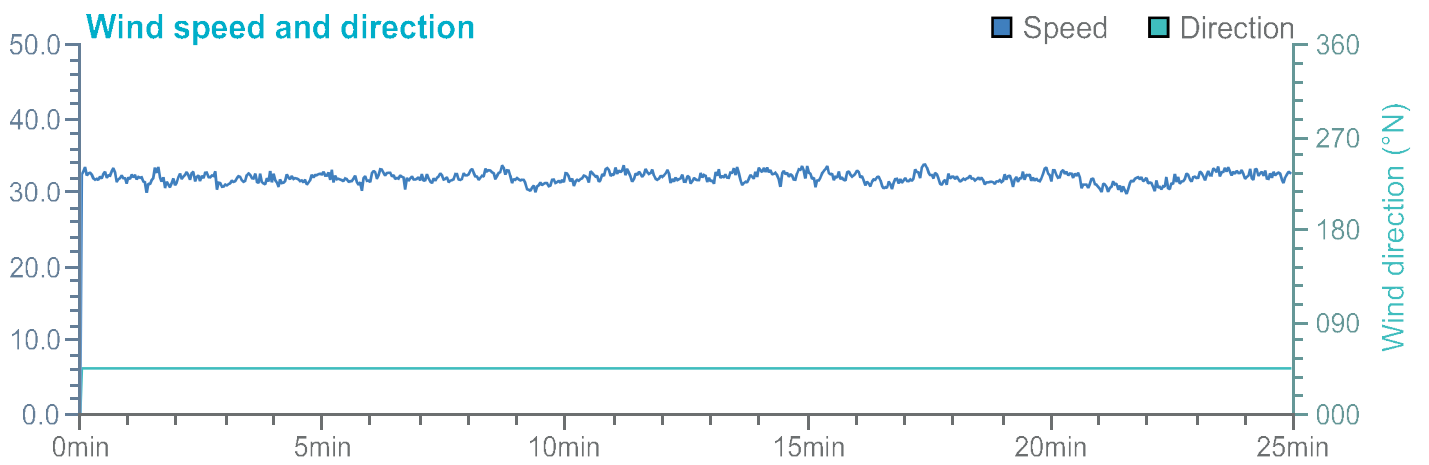
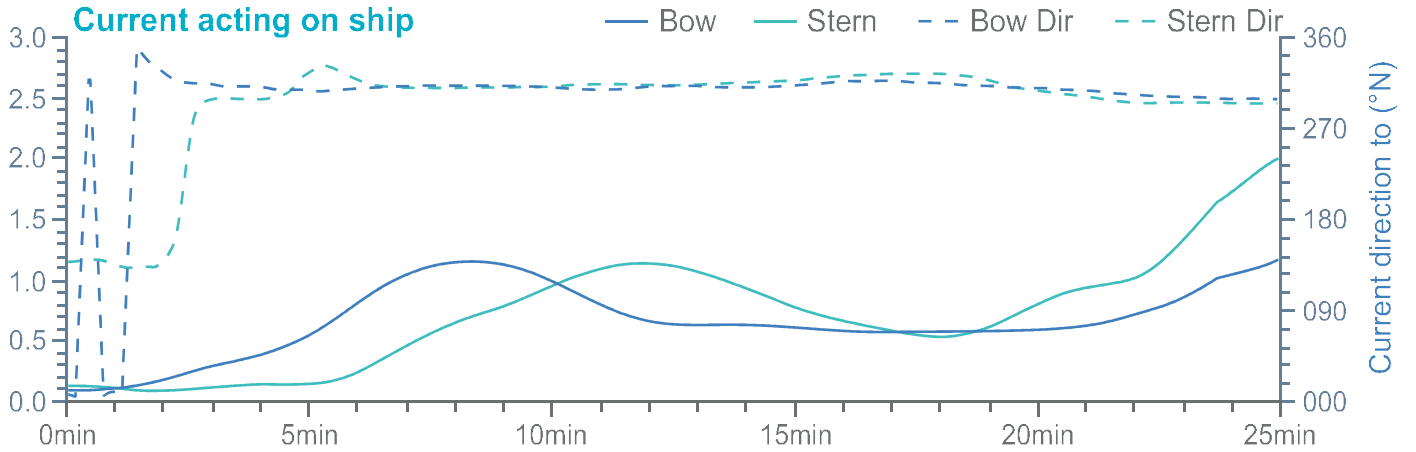
Ships plotted every 1 mins, highlight every 10 mins

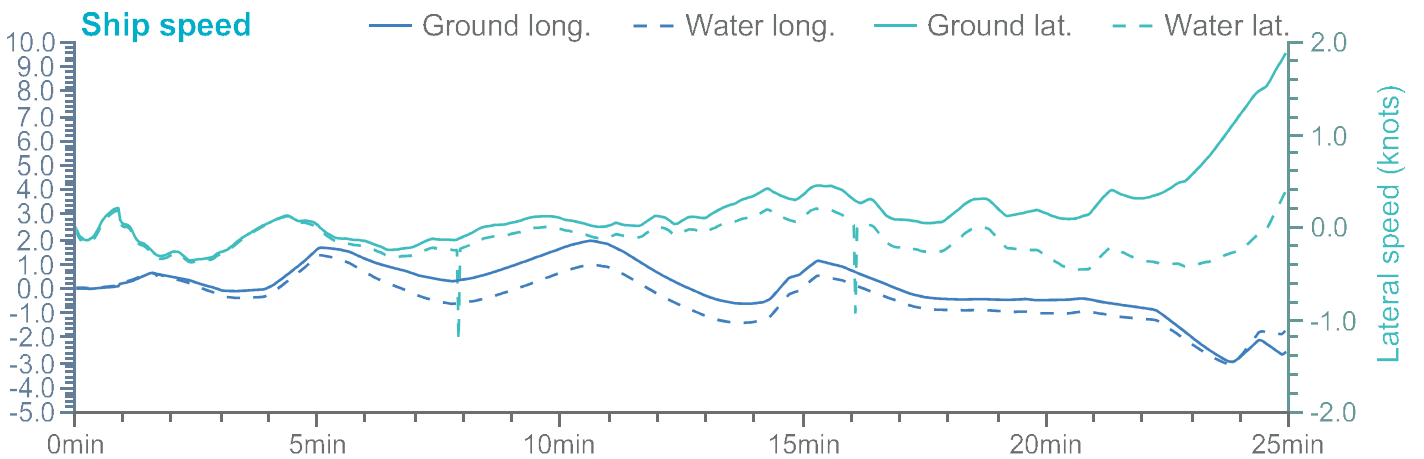
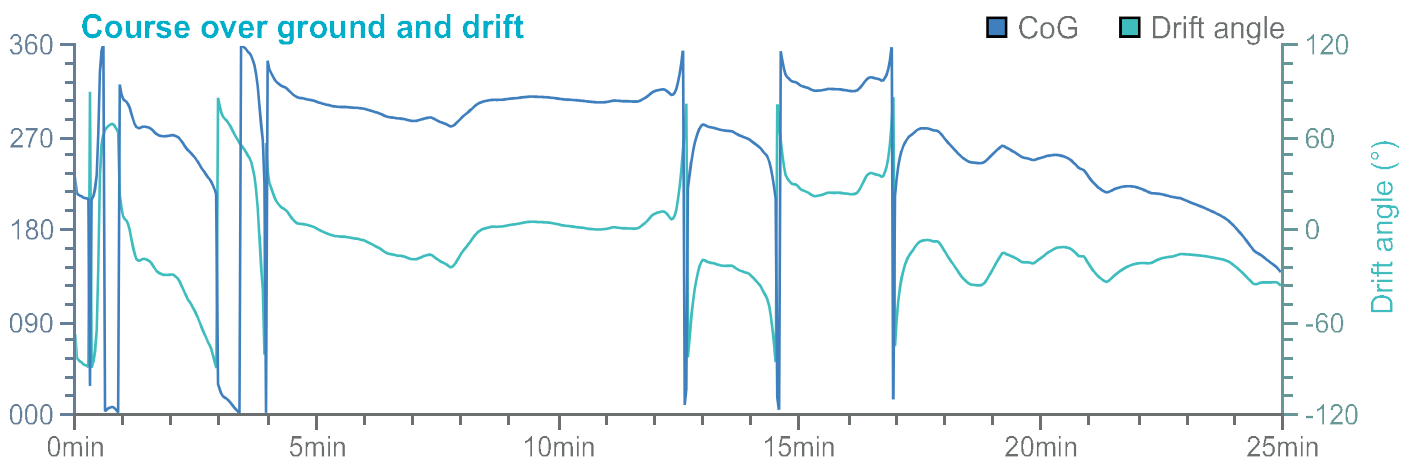
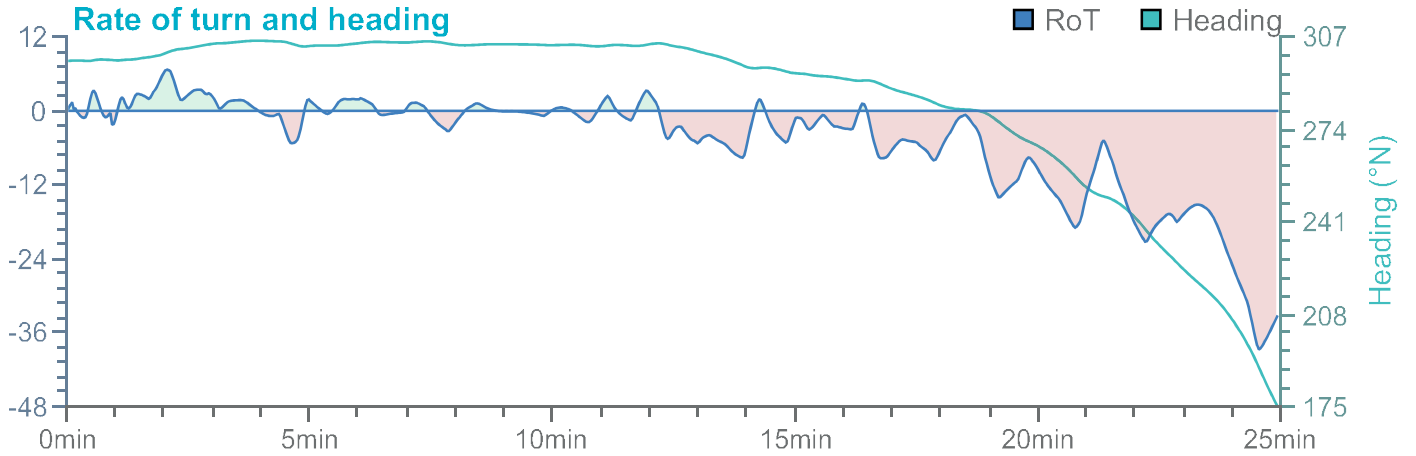
Summary

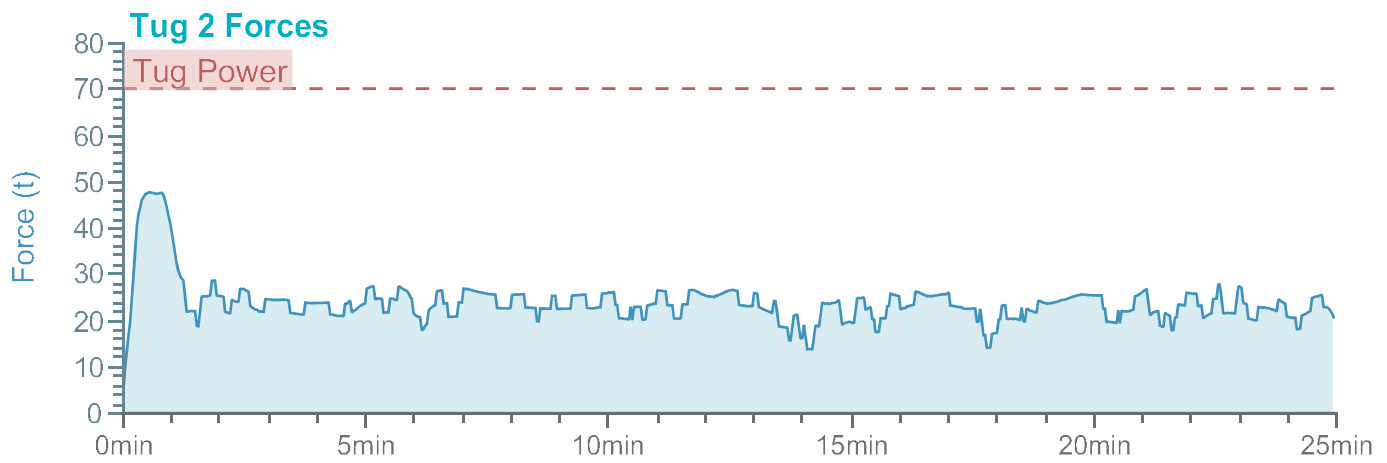
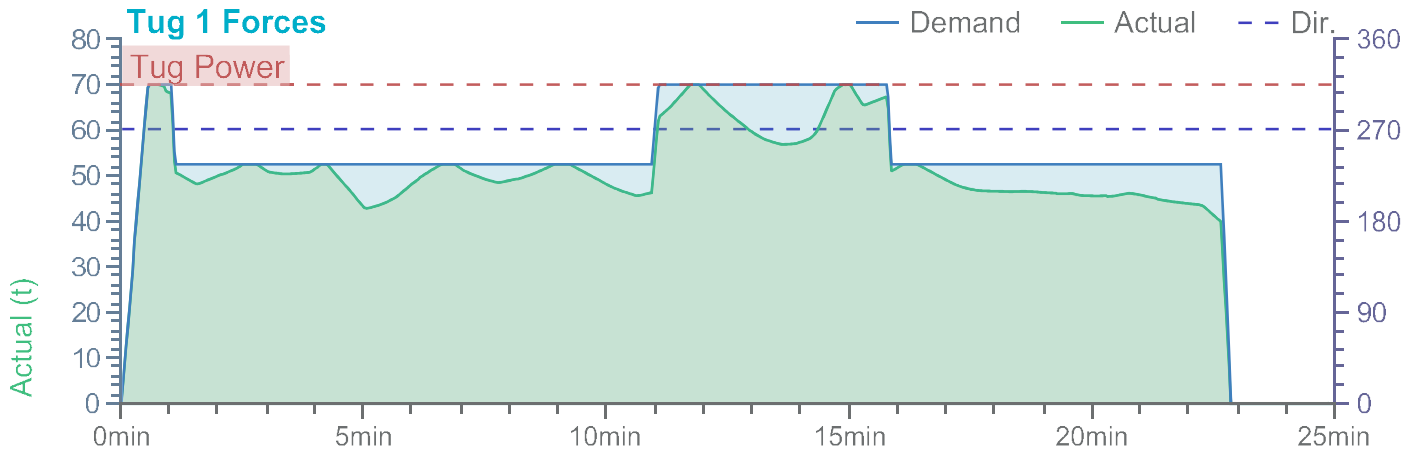
Environment

237m RoRo unnamed

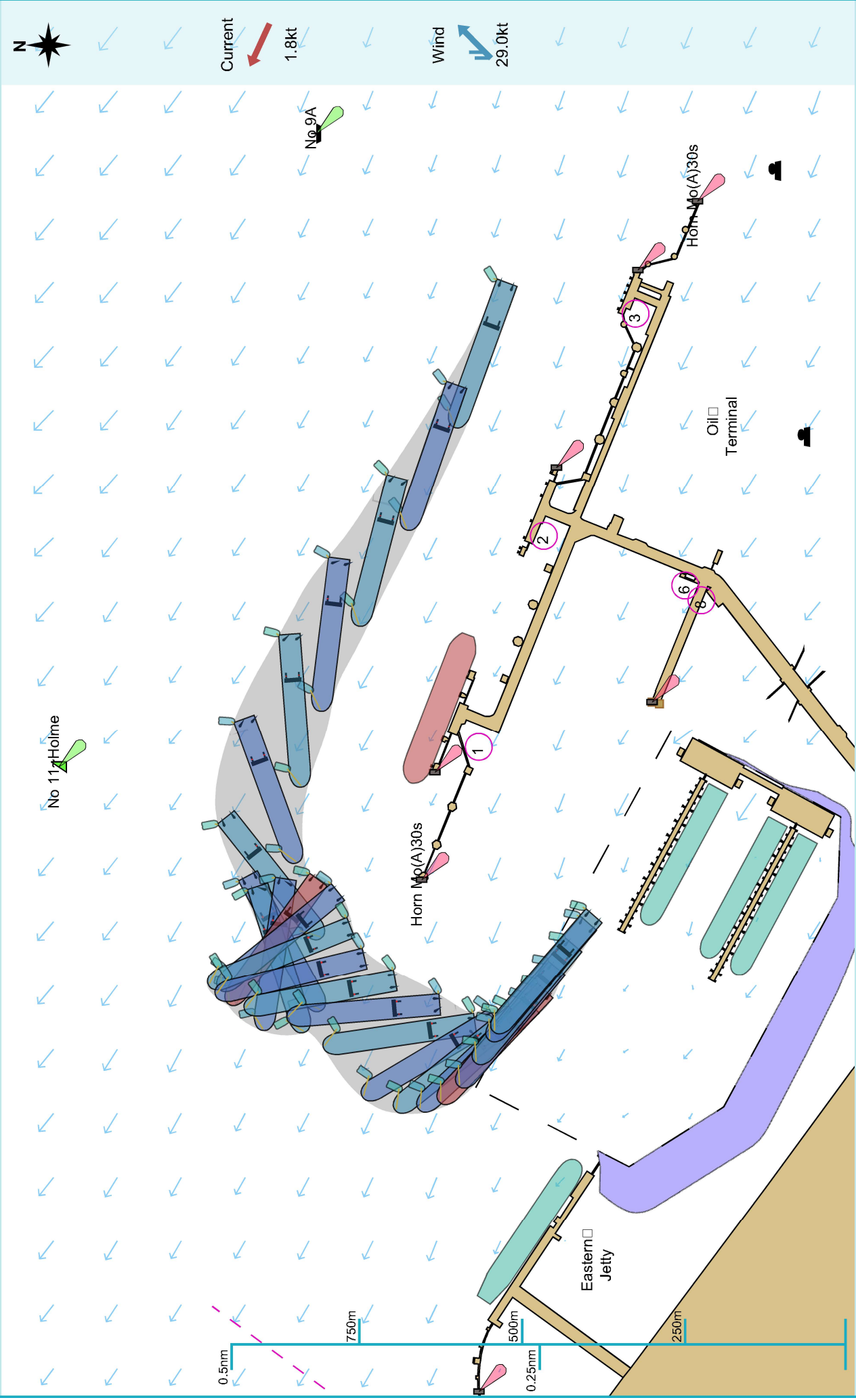
Tugs





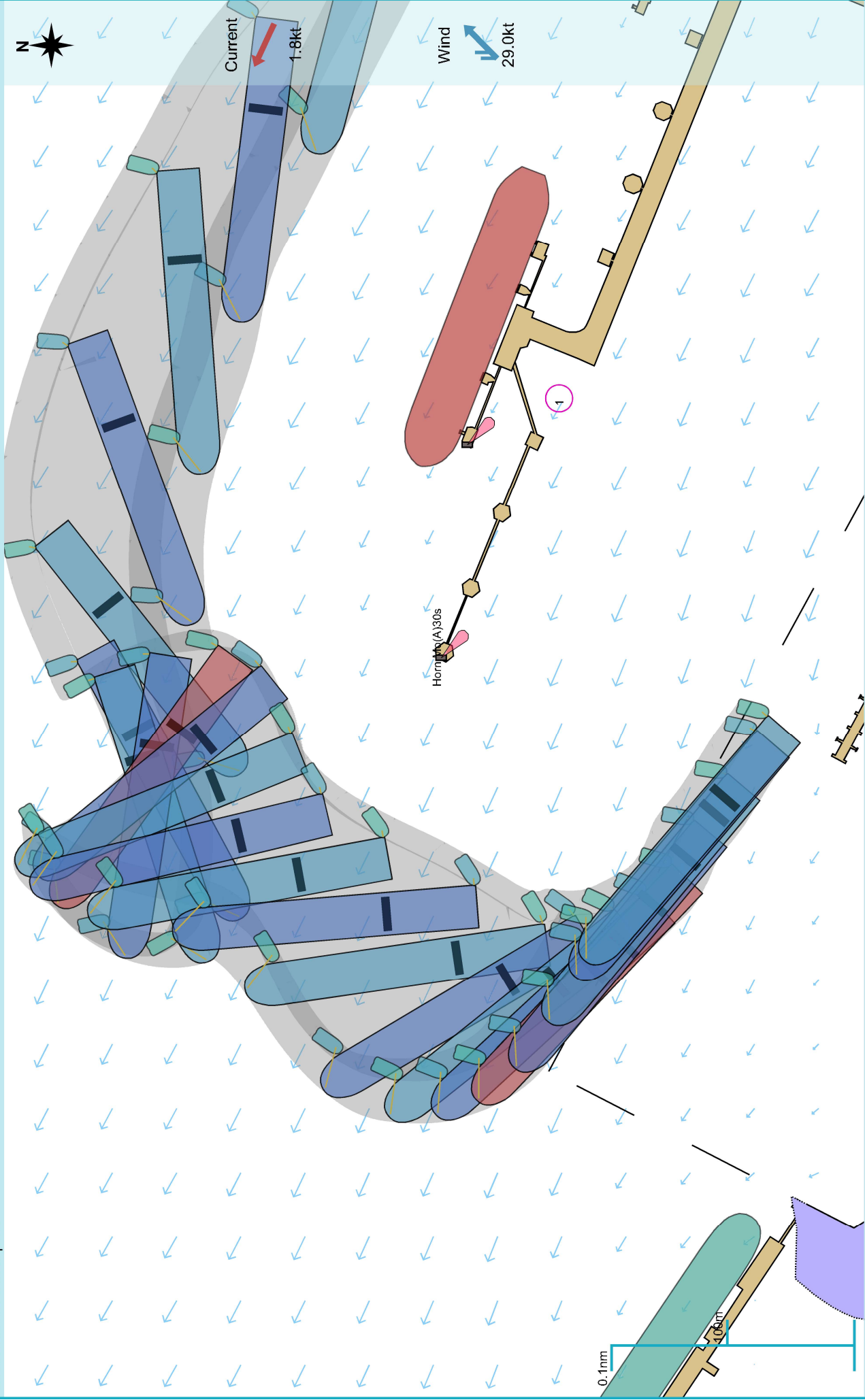


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



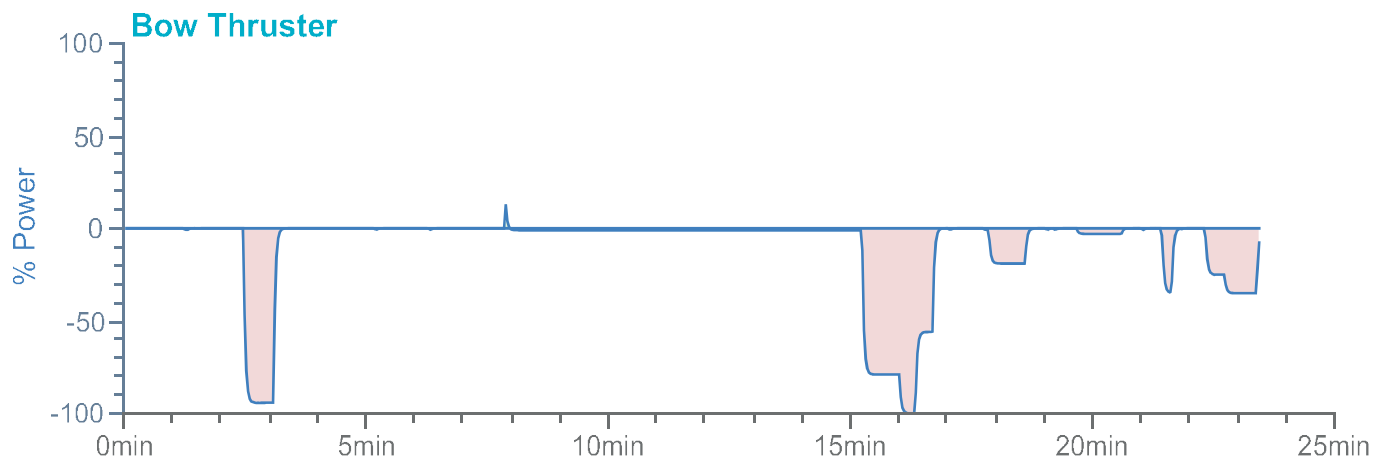
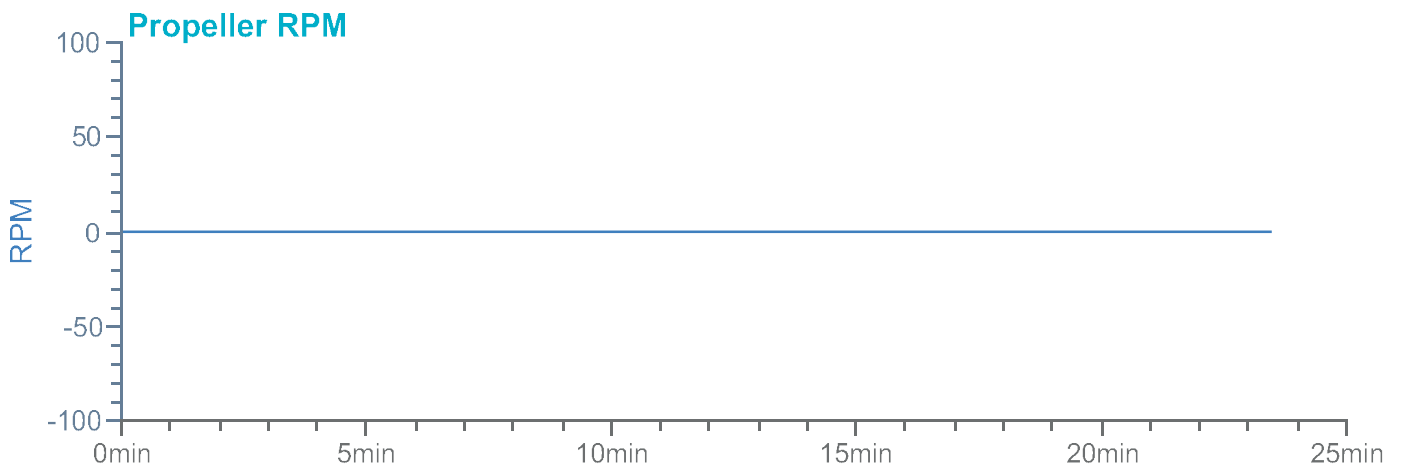
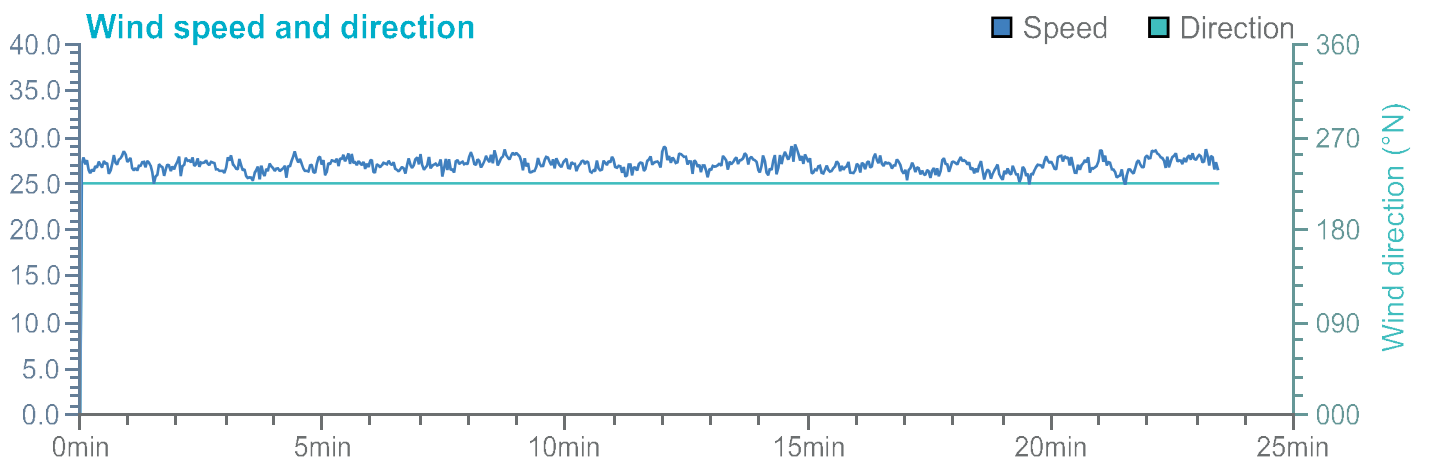
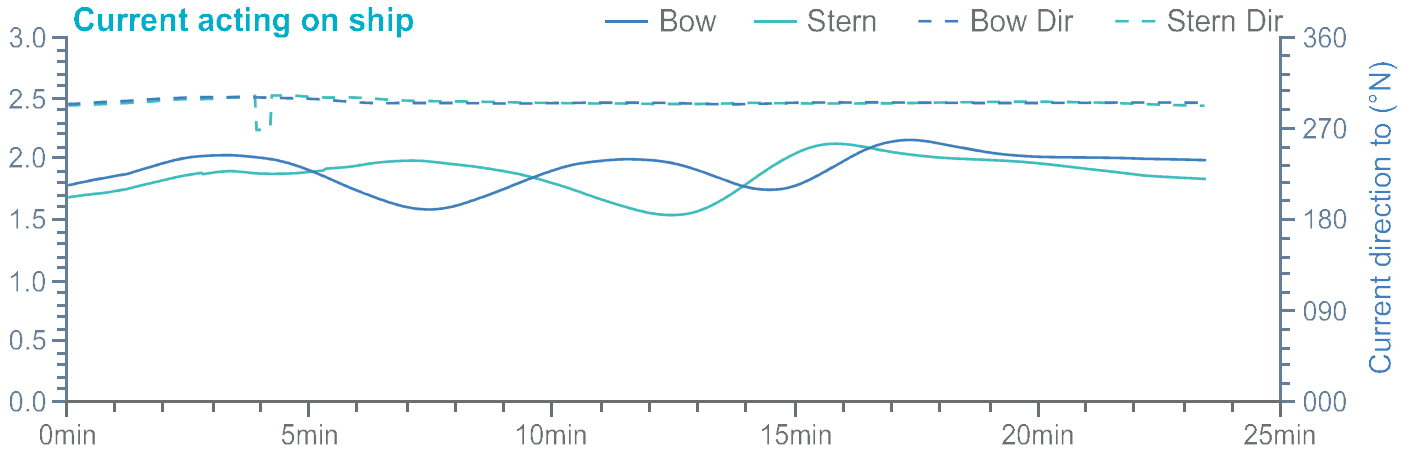
Ships plotted every 1 mins, highlight every 10 mins

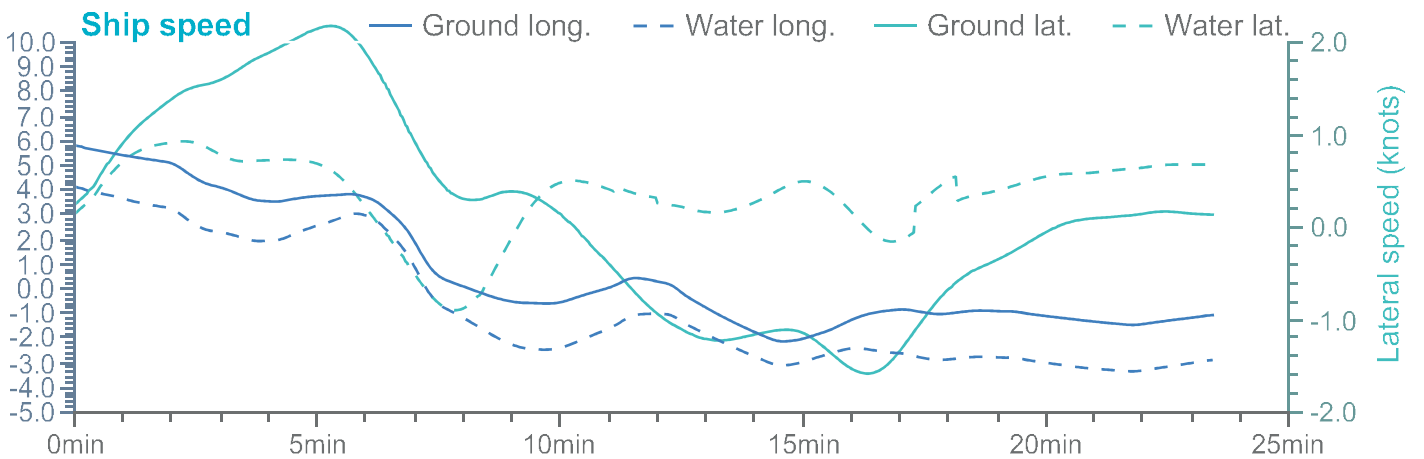
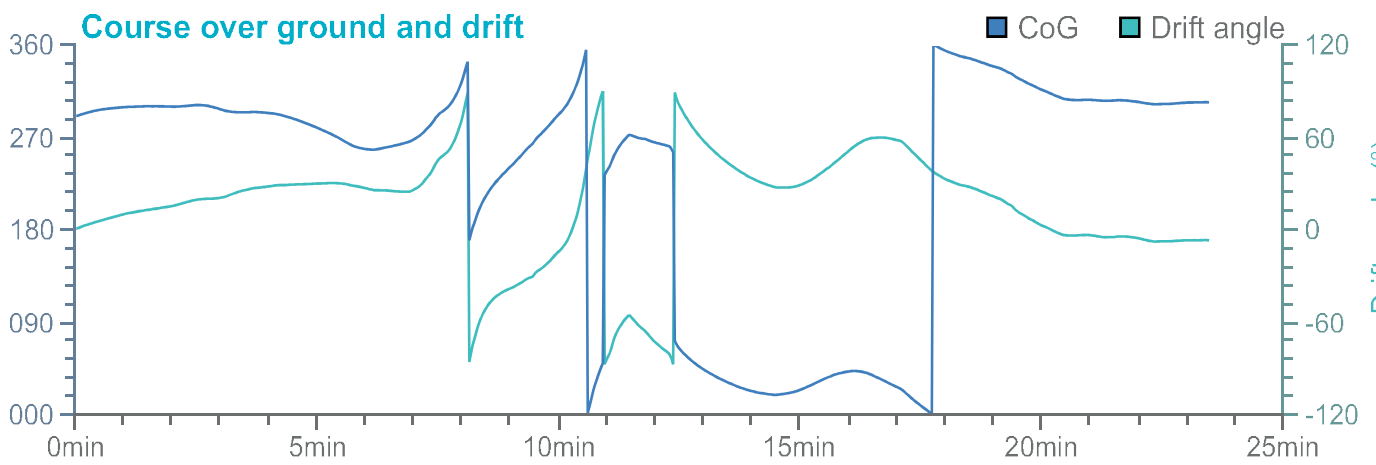
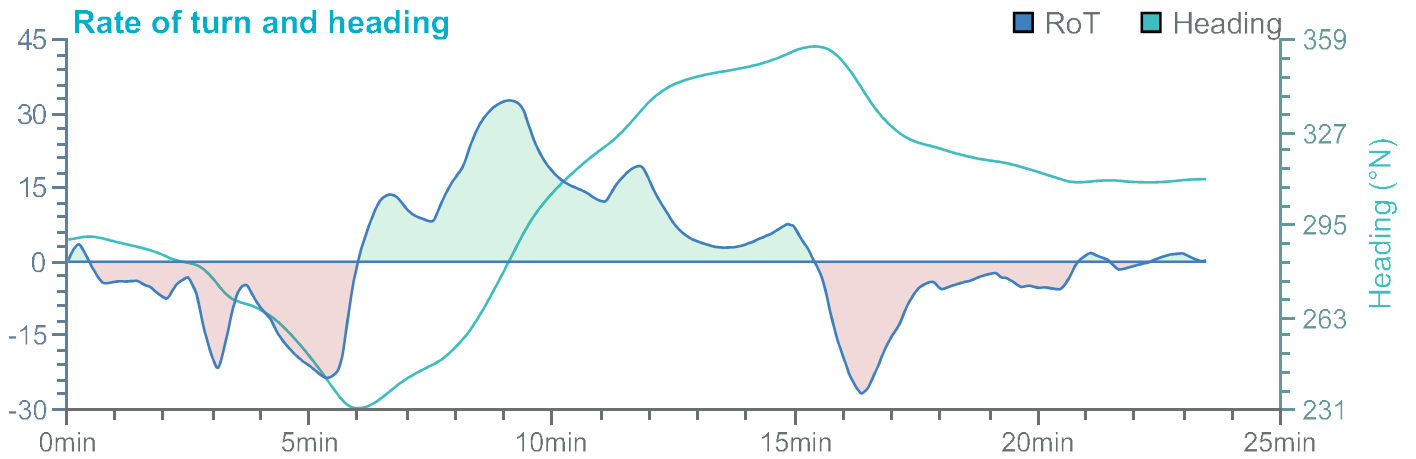
Summary

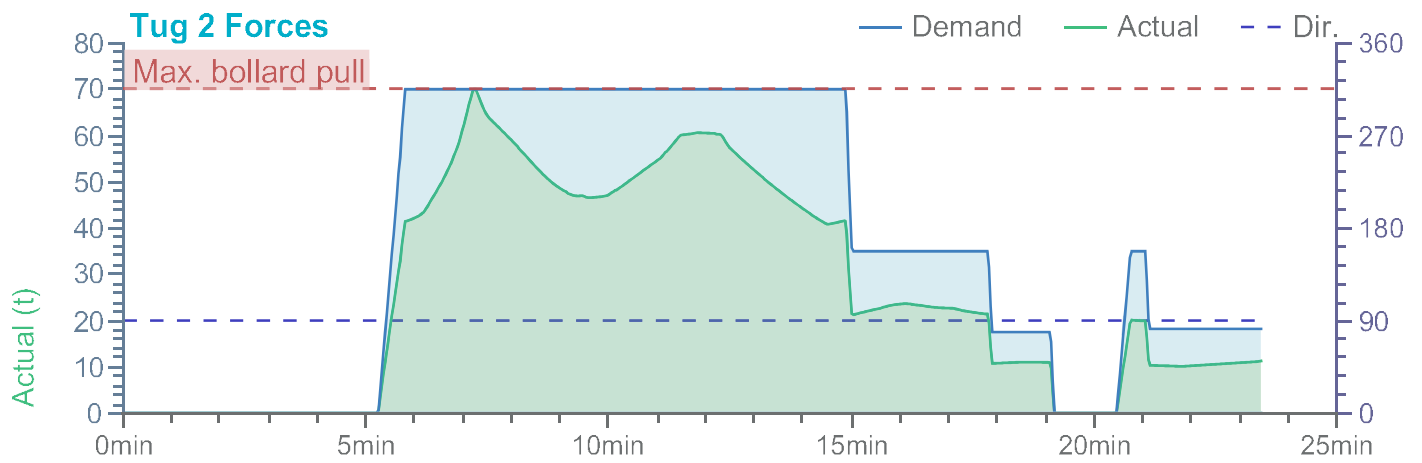
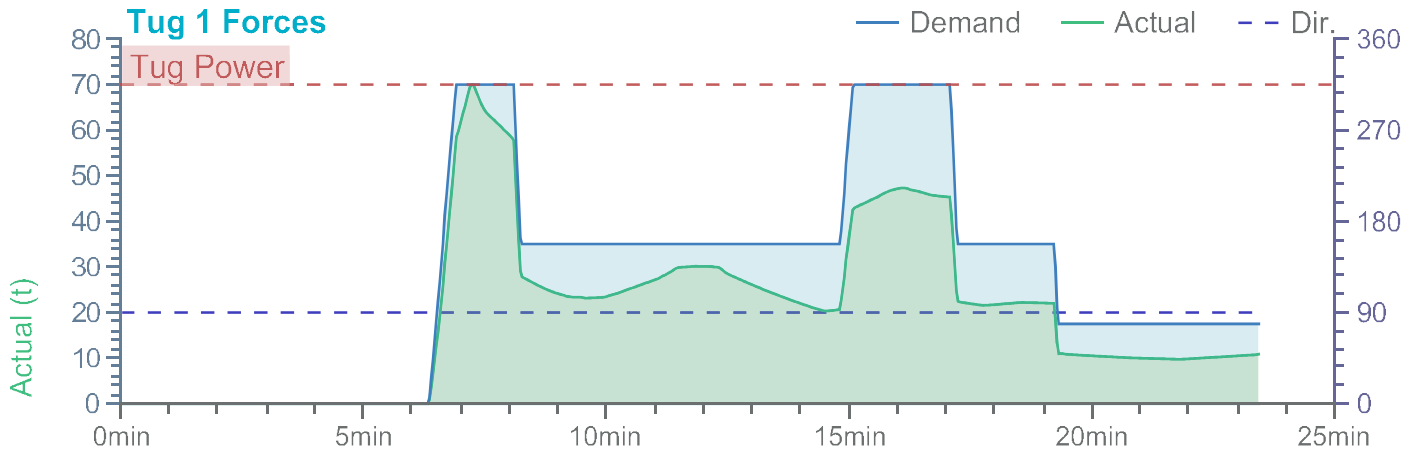
Environment

237m RoRo unnamed

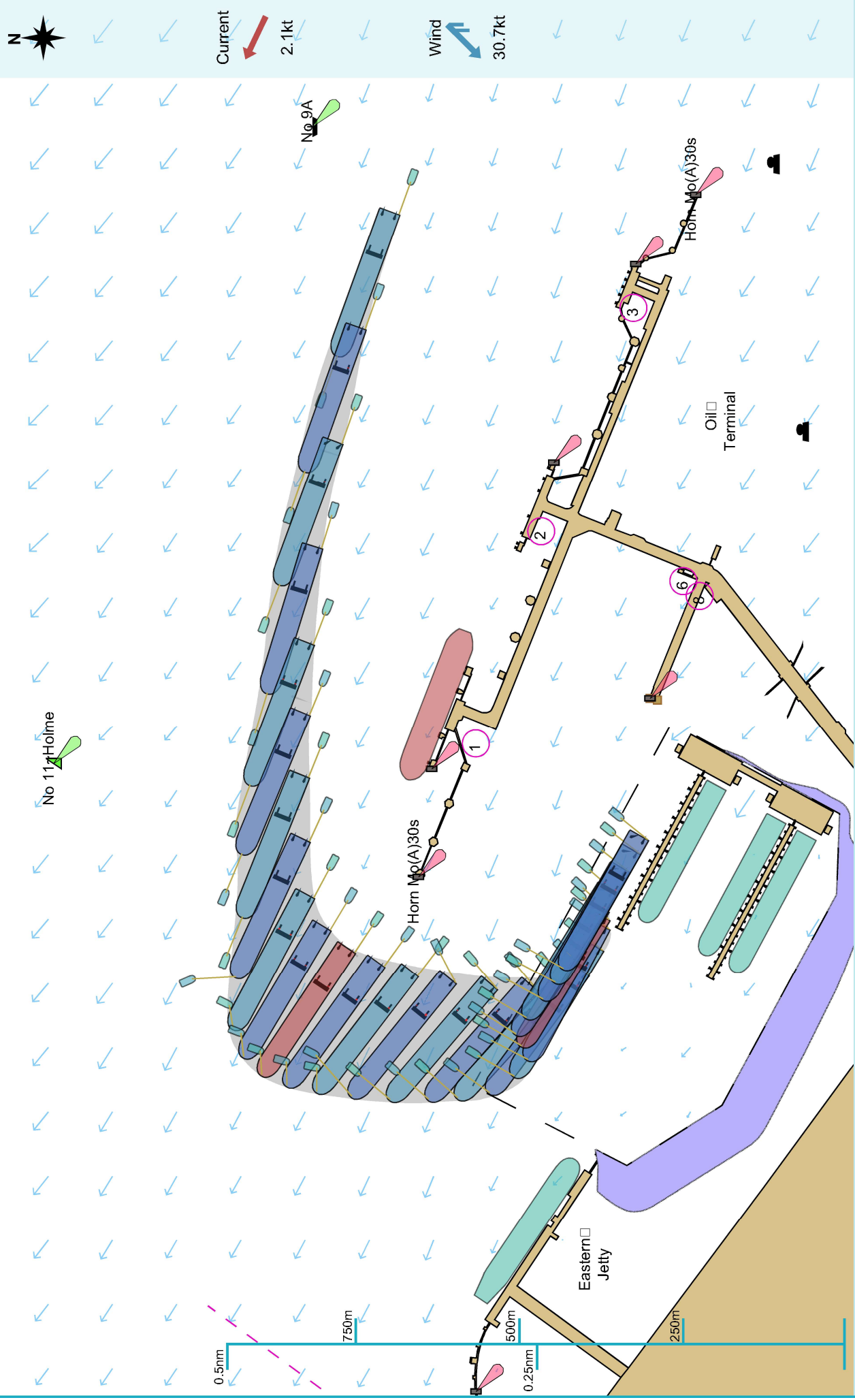
Tugs





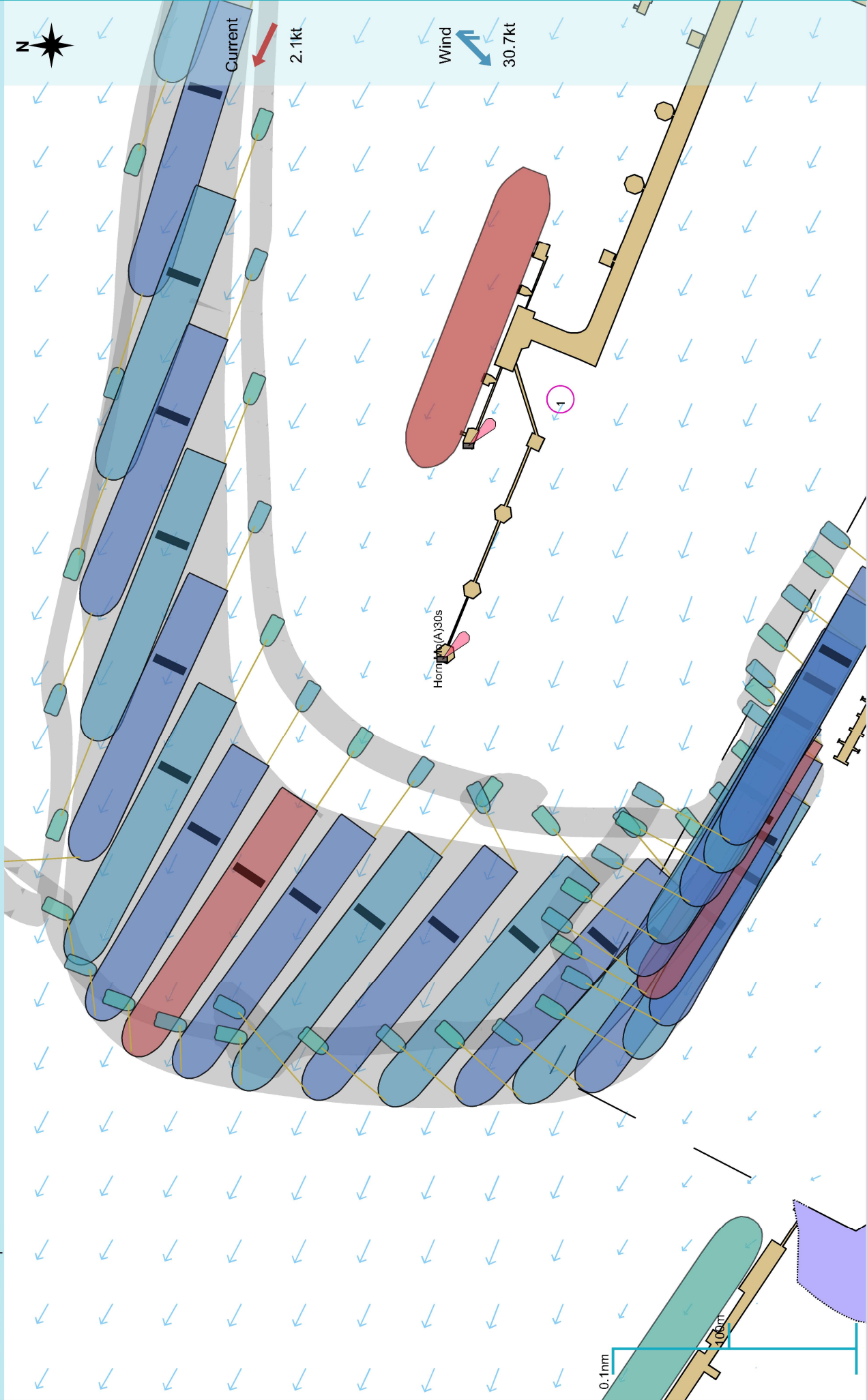


Manoeuvre track plot



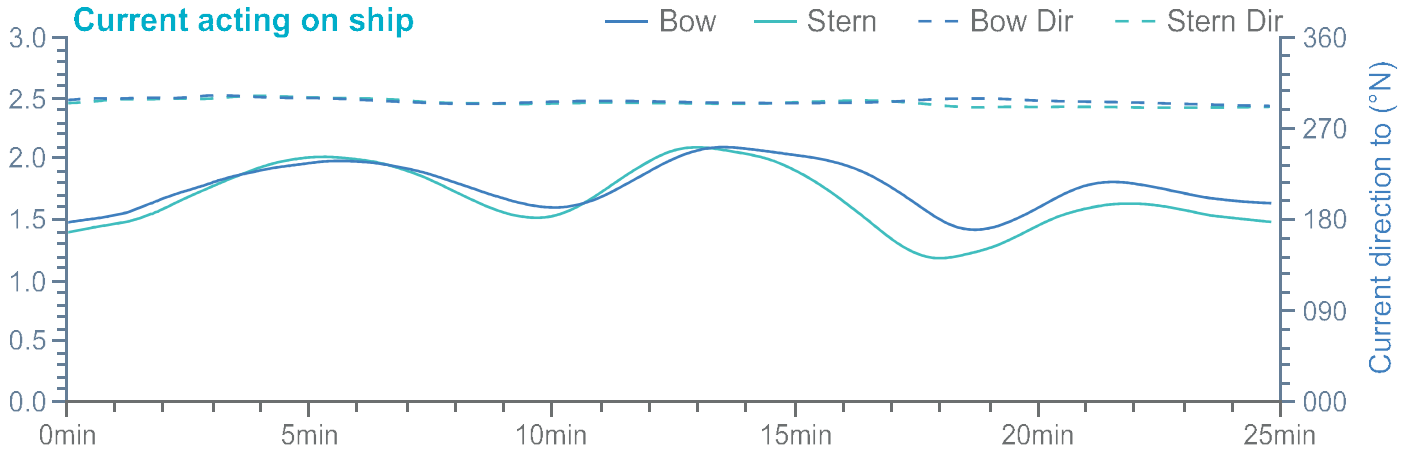
Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot

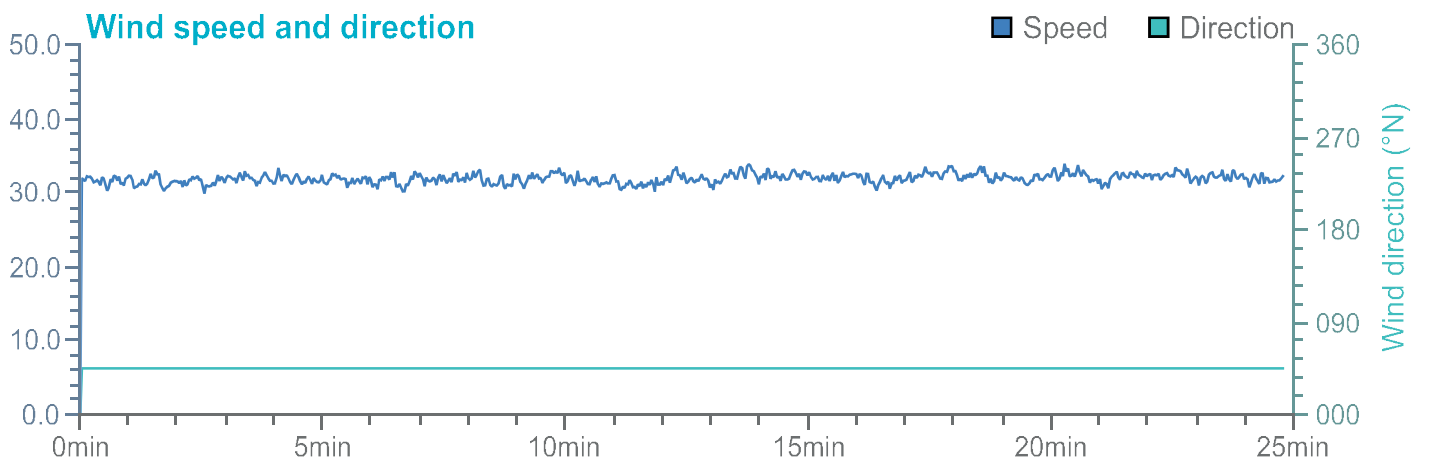


Ships plotted every 1 mins, highlight every 10 mins

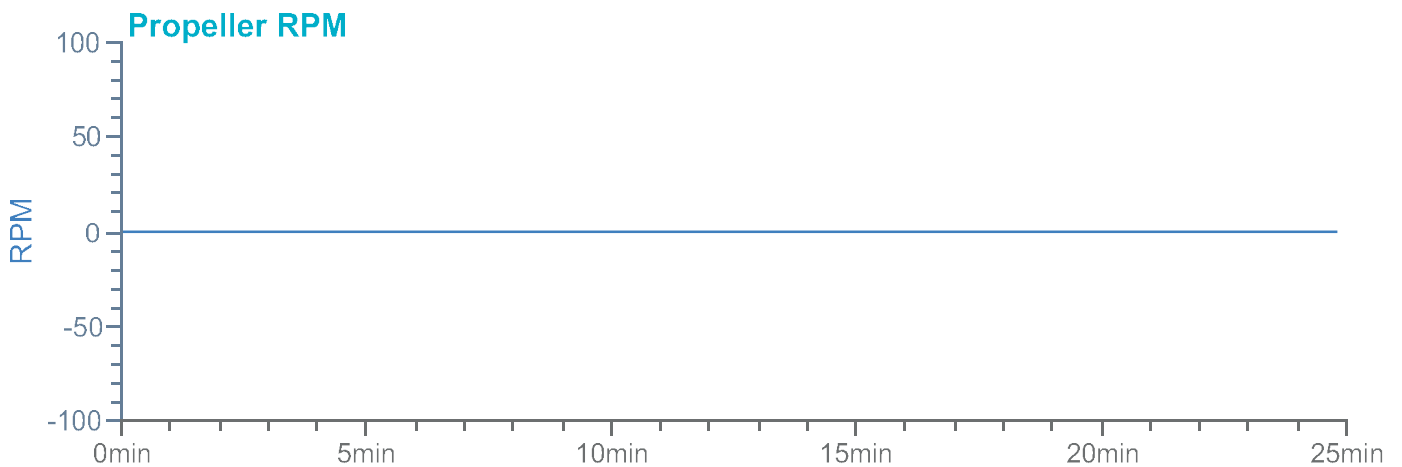
Current acting on ship



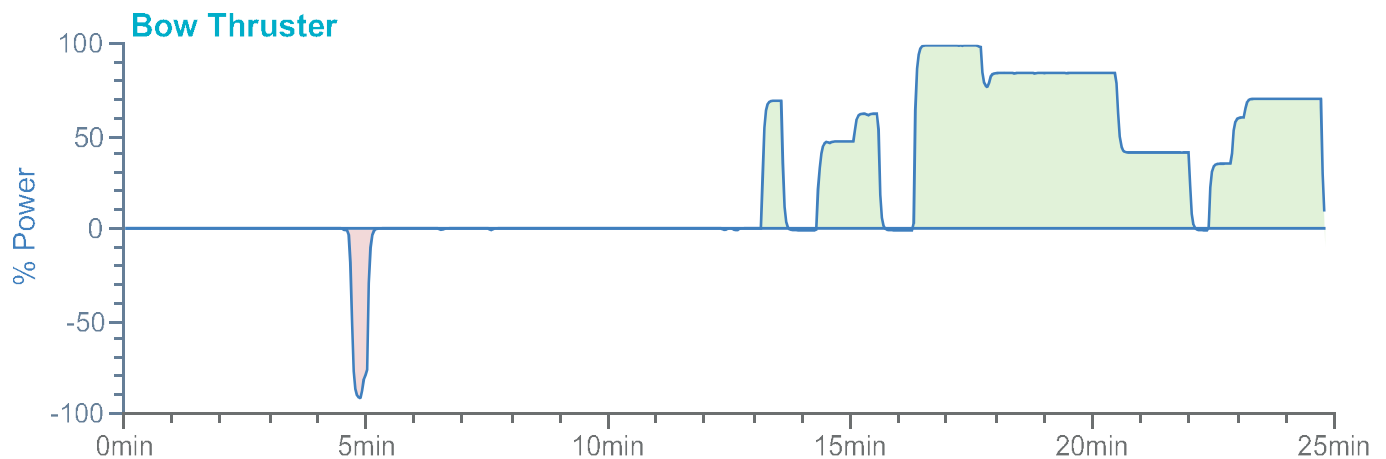
Wind speed and direction

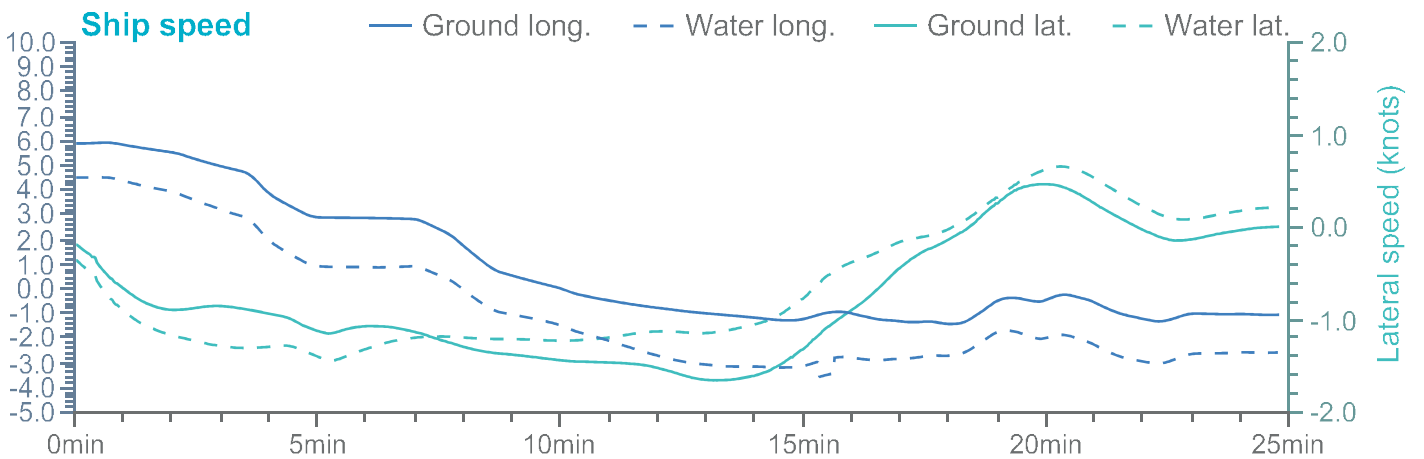
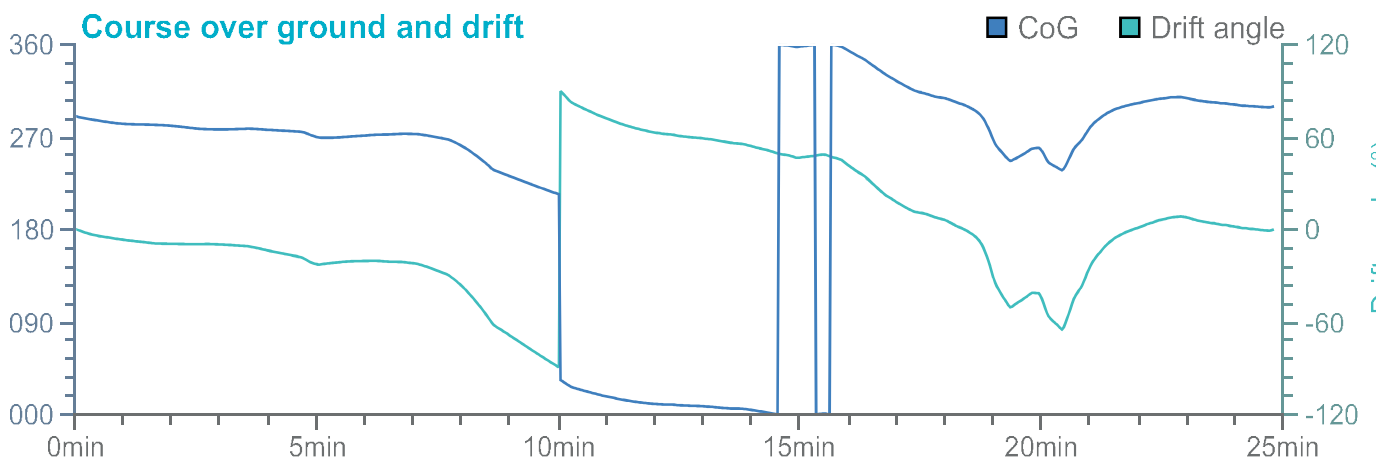
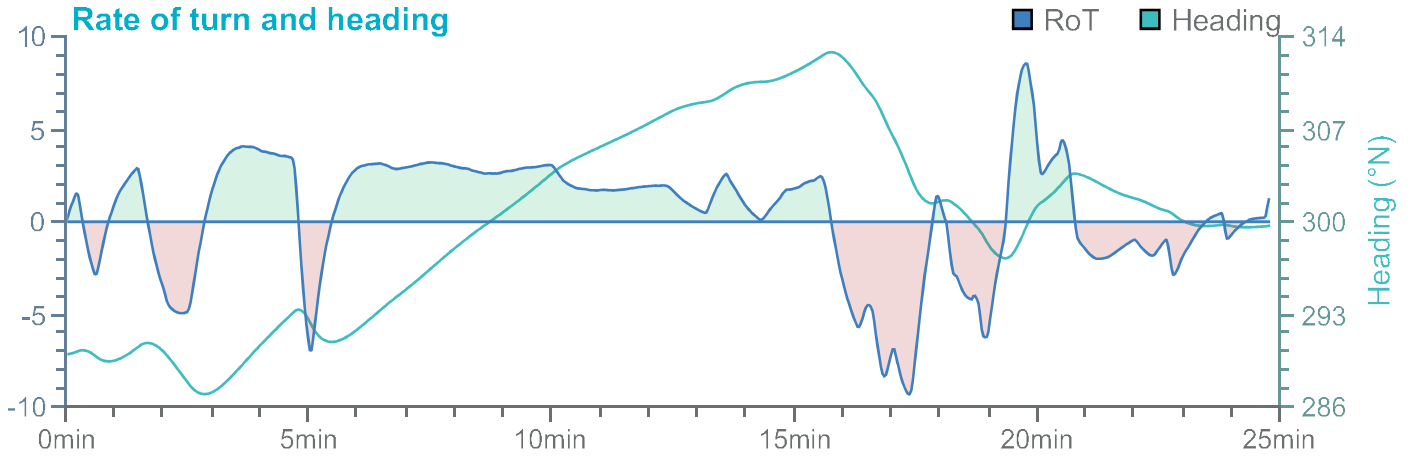


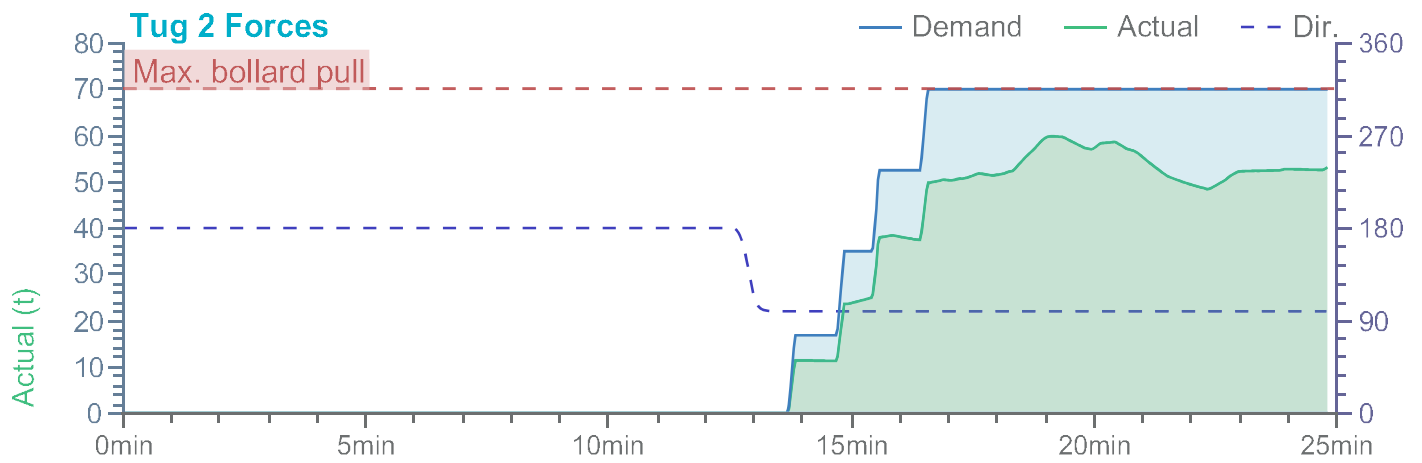
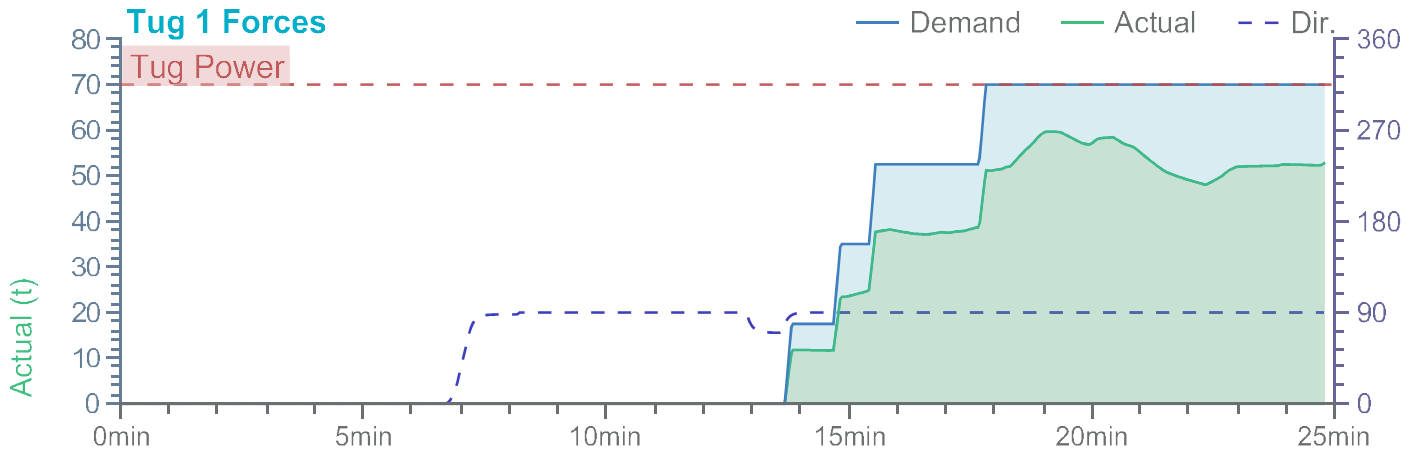
Propeller RPM



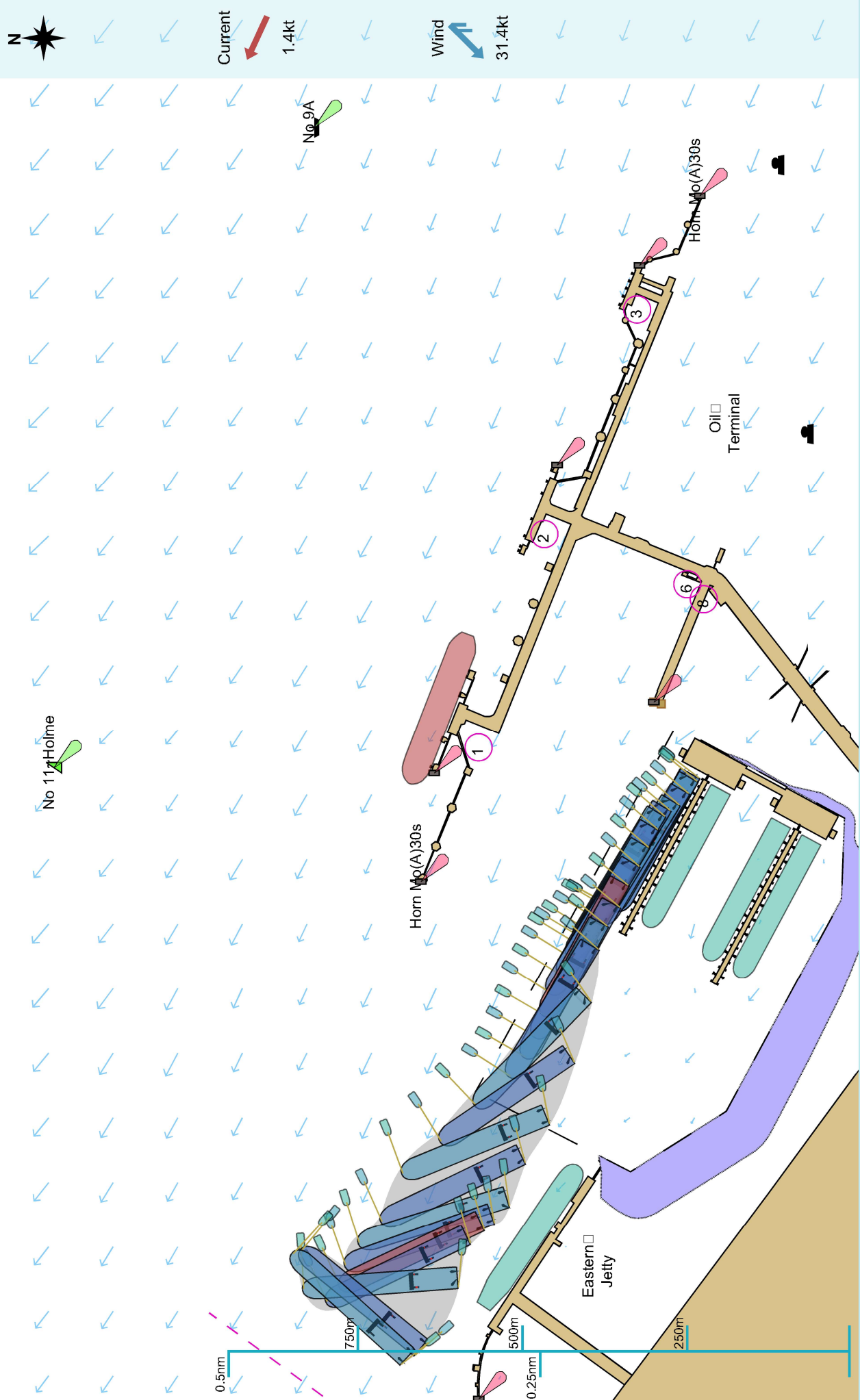
Bow Thruster





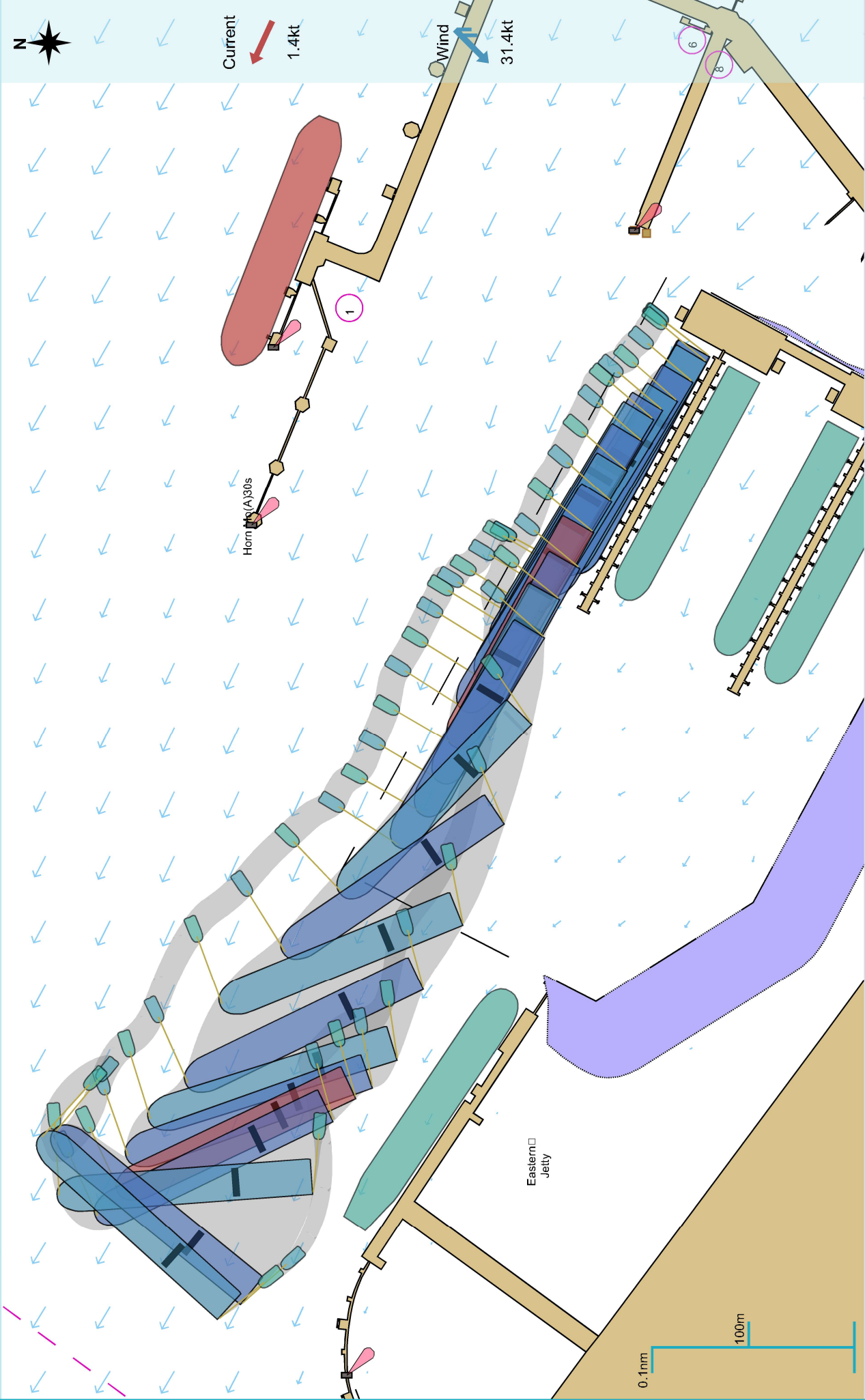


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



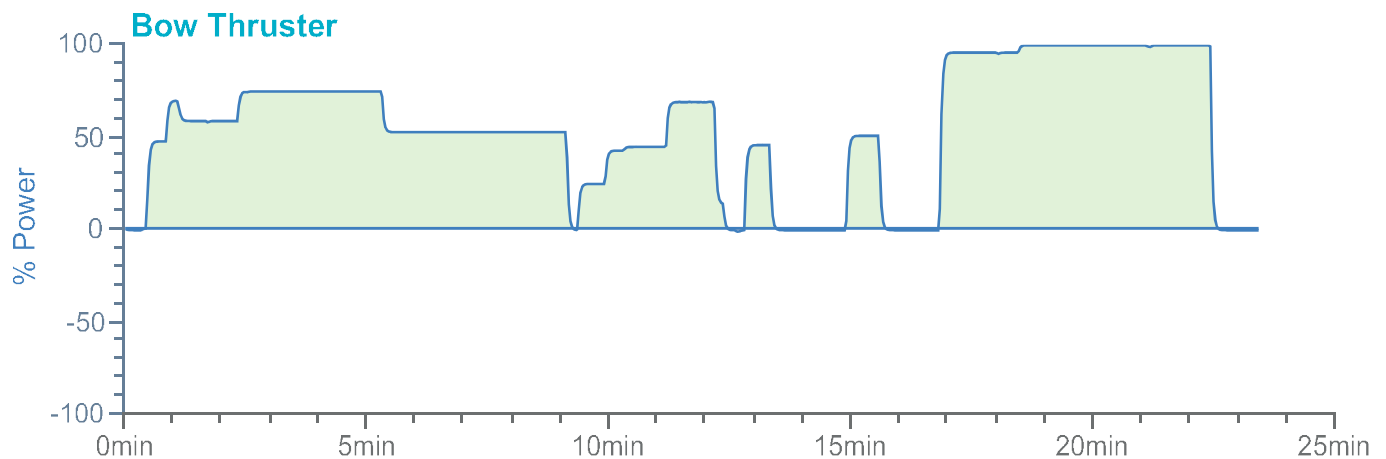
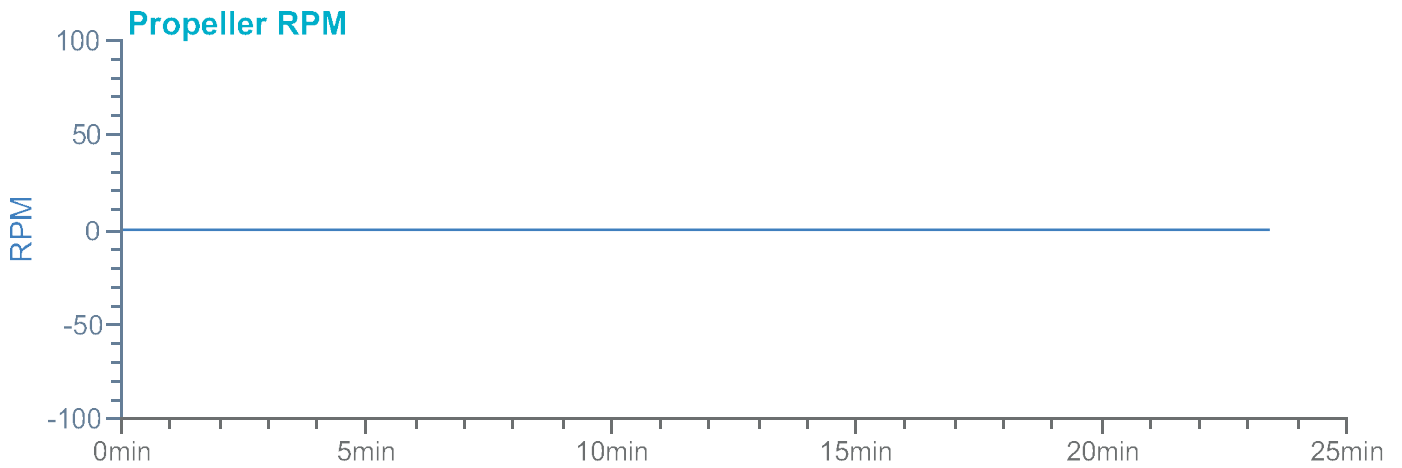
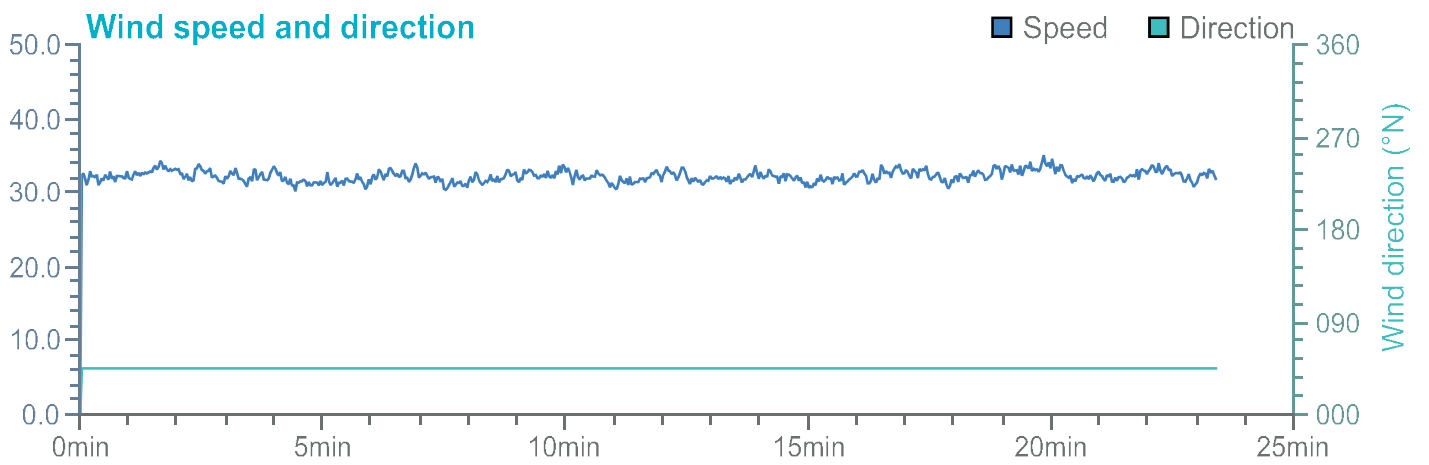
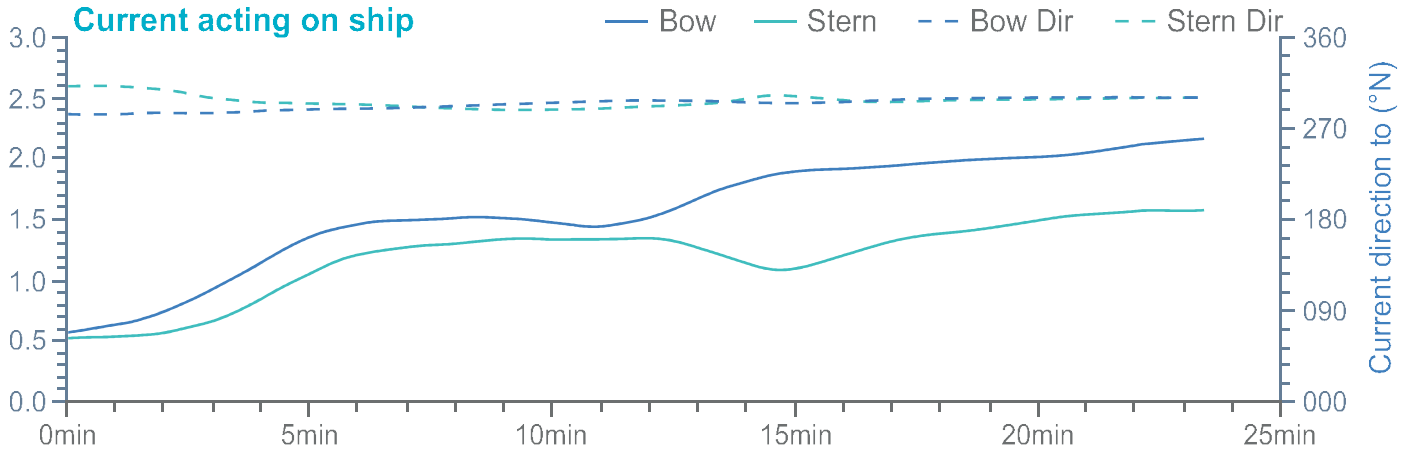
Ships plotted every 1 mins, highlight every 10 mins

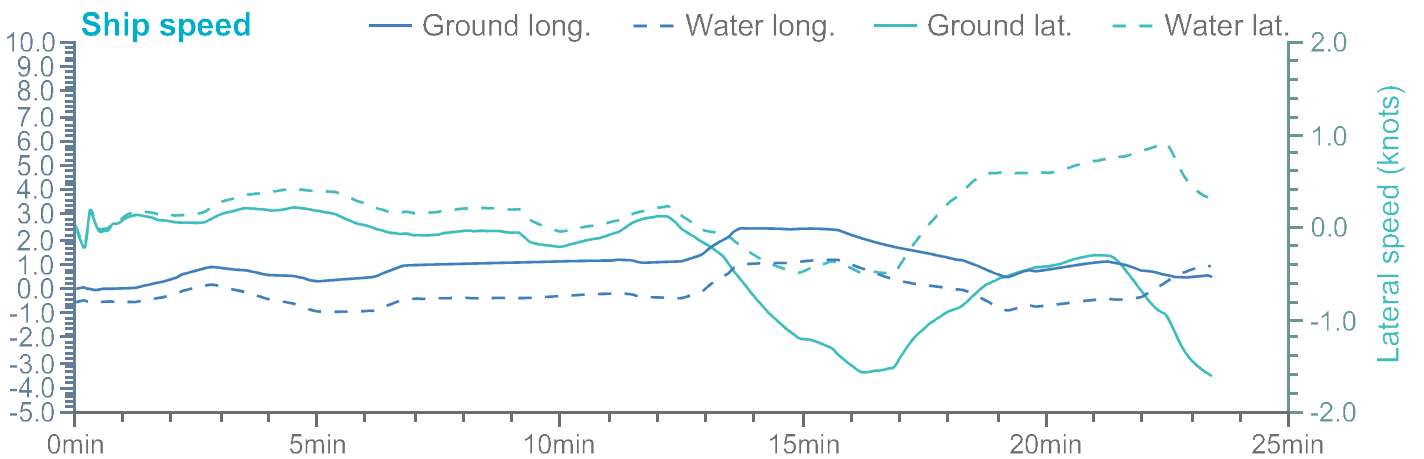
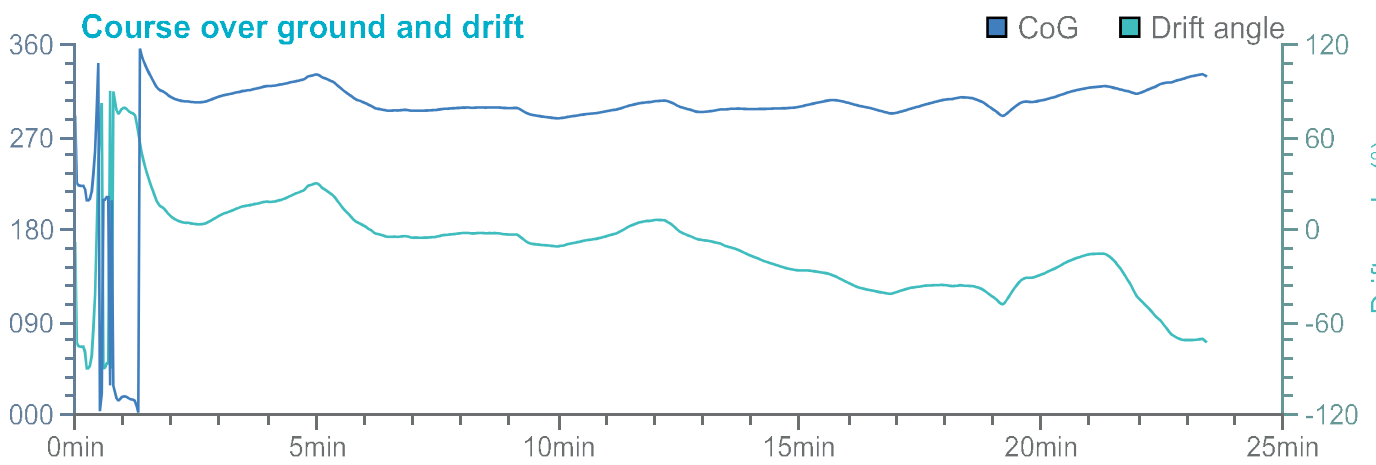
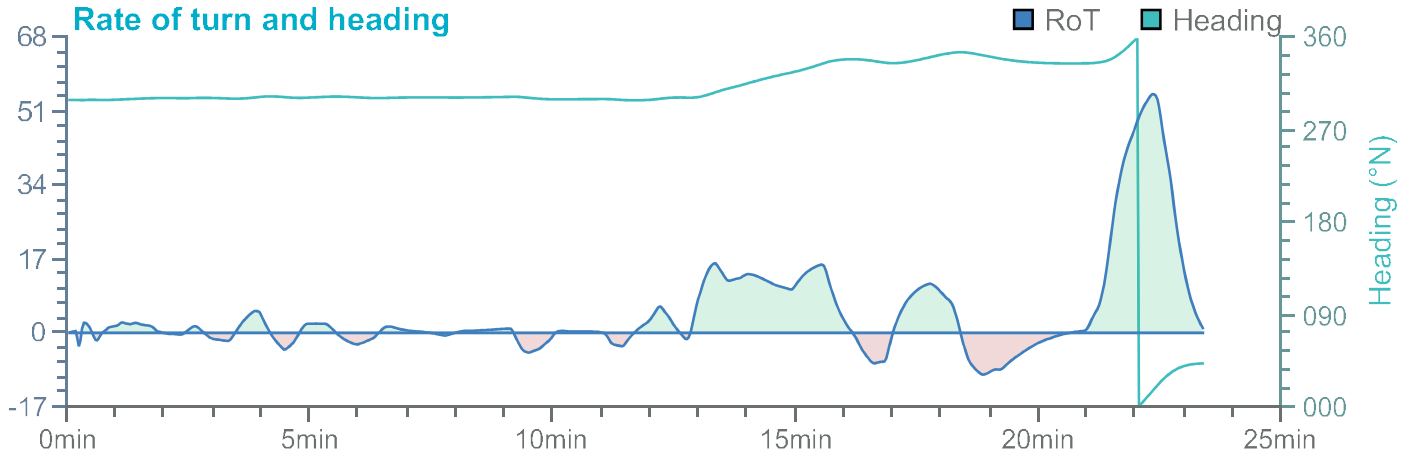
Summary

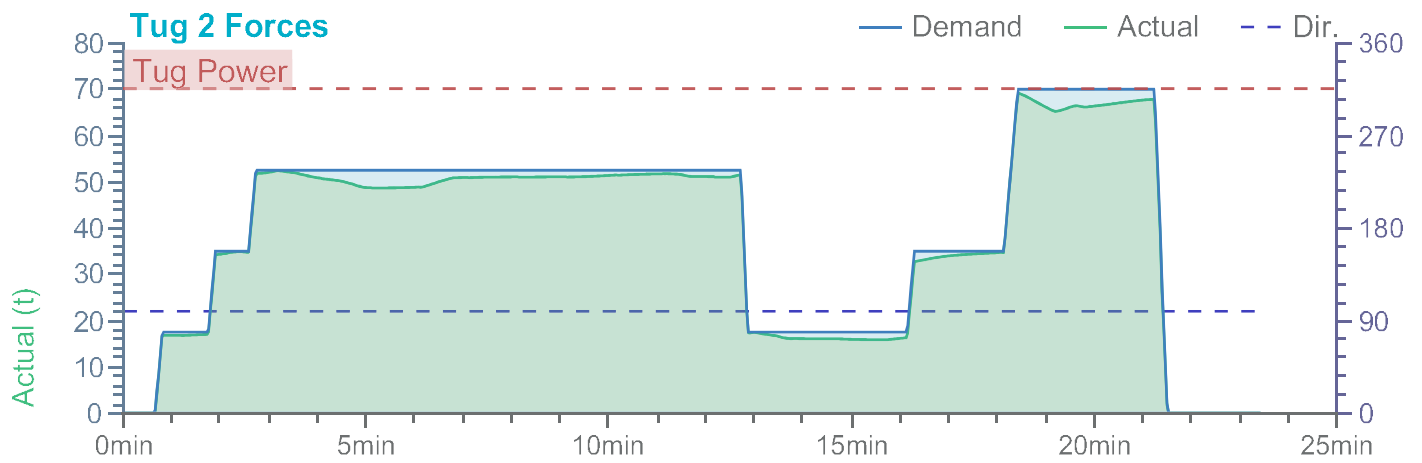
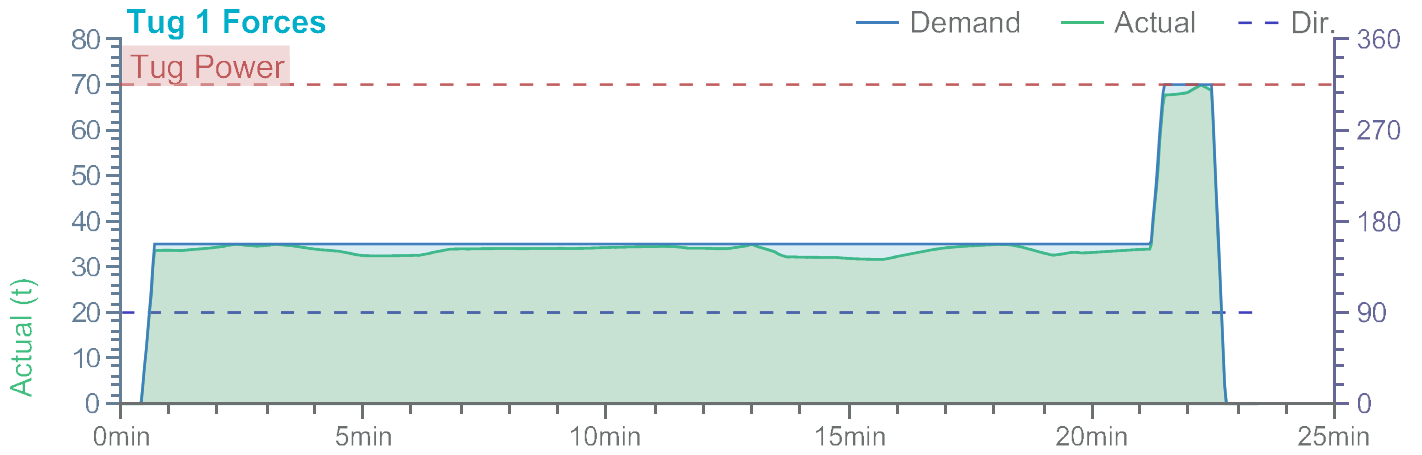
Environment

237m RoRo unnamed

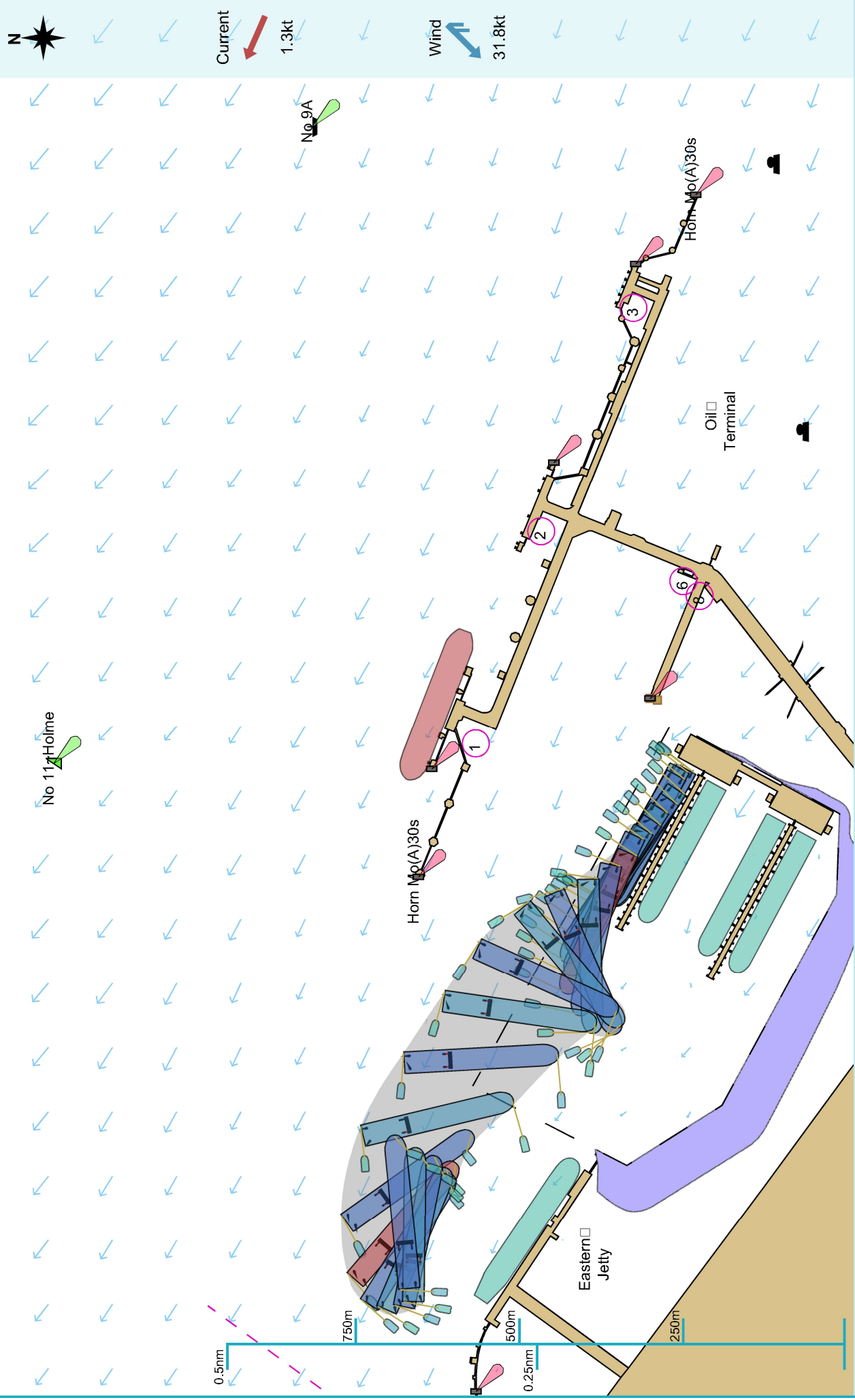
Tugs





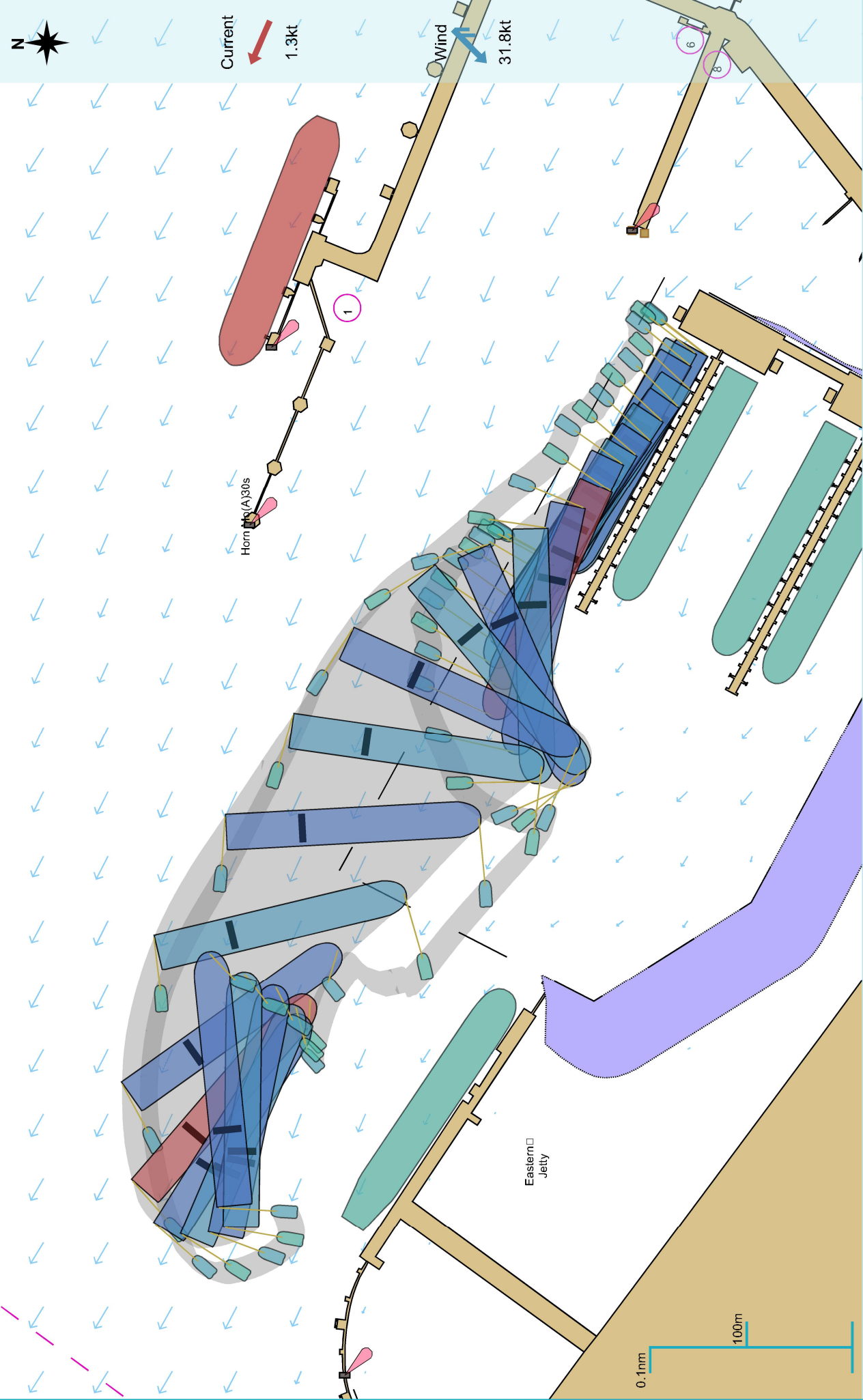


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

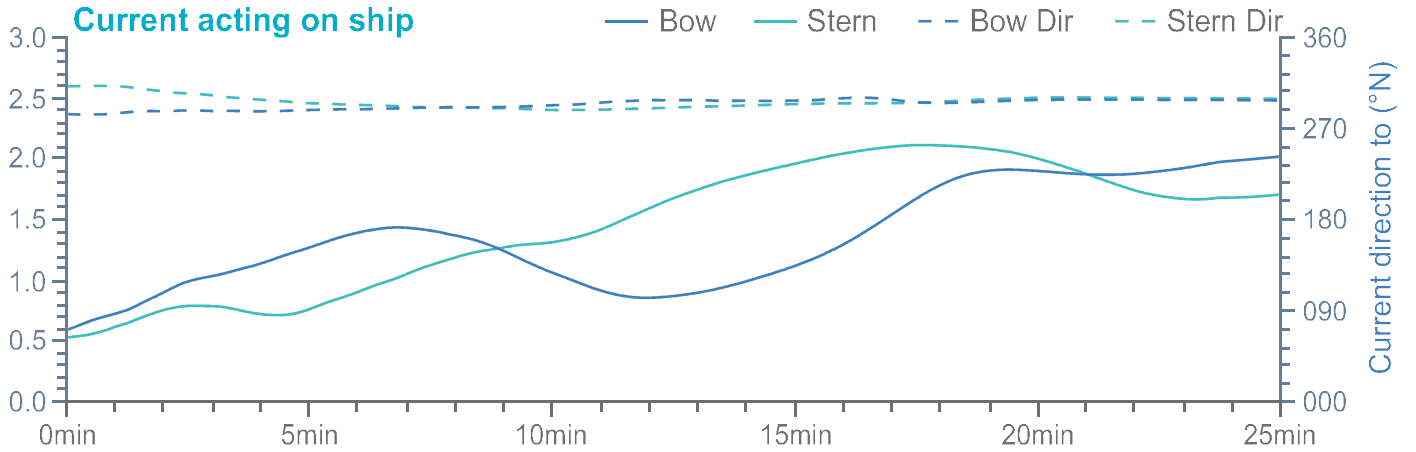
Summary

Environment

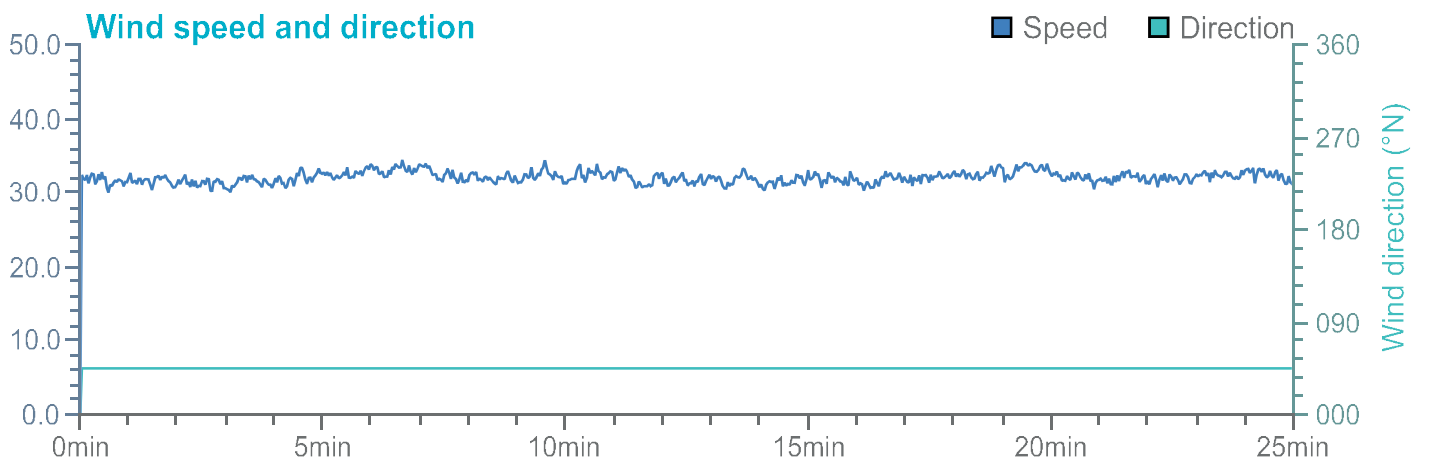
237m RoRo unnamed

Tugs

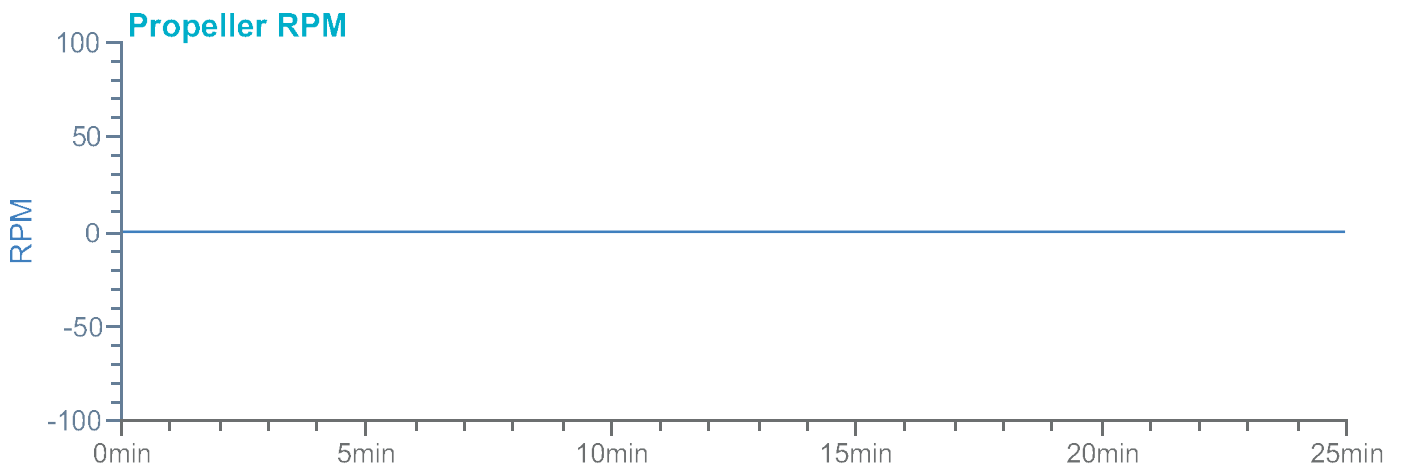
Current acting on ship



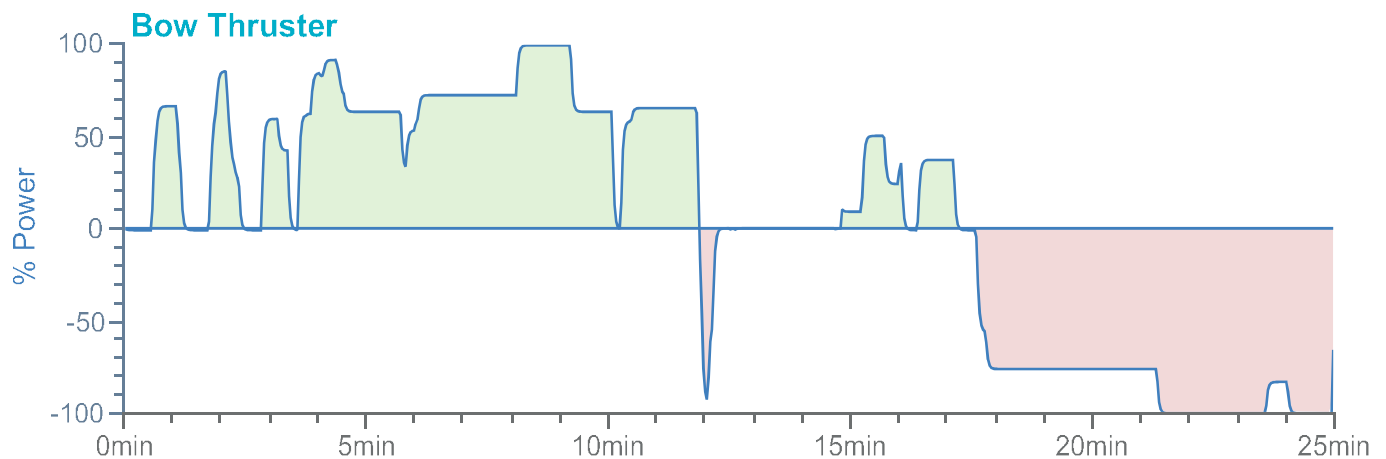
Wind speed and direction

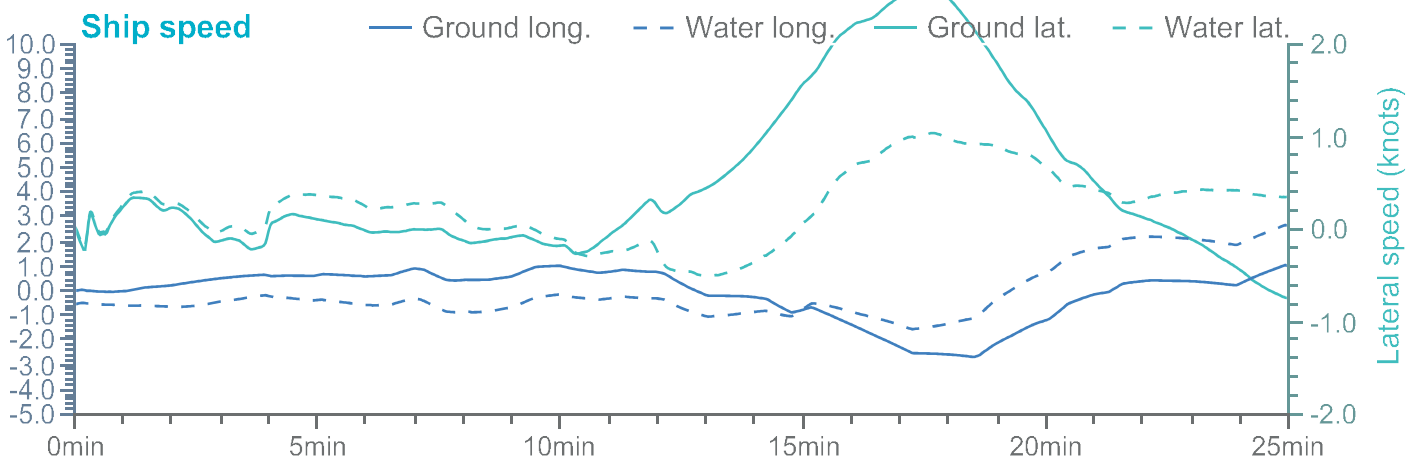
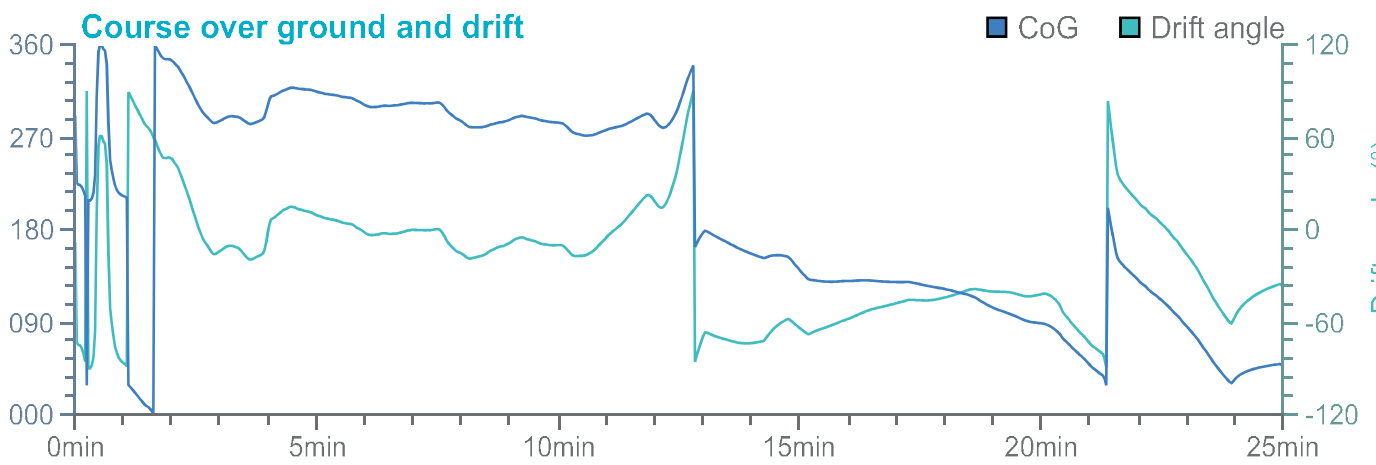
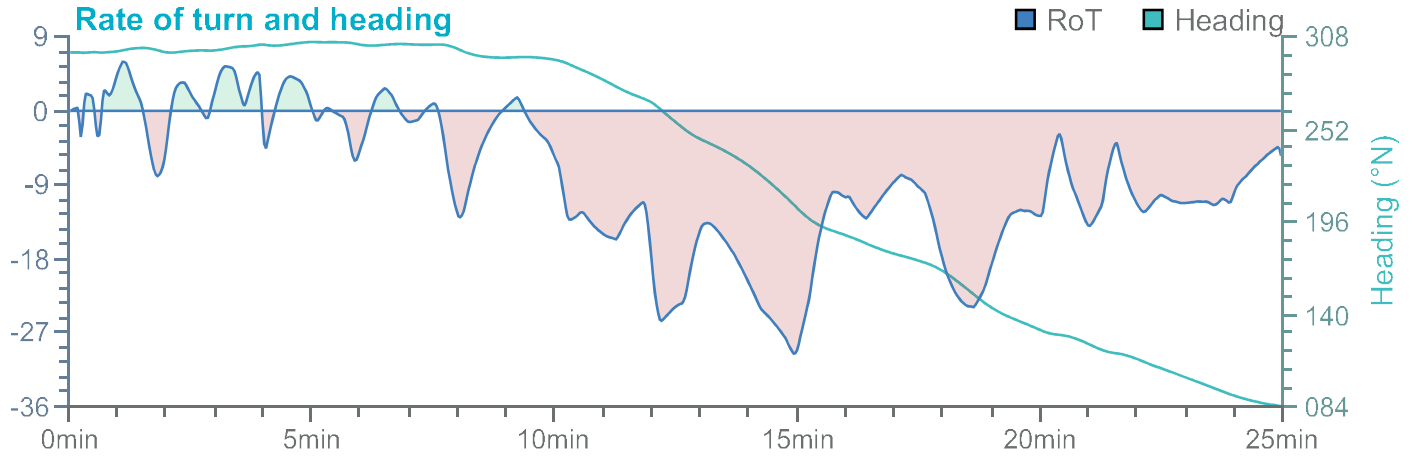


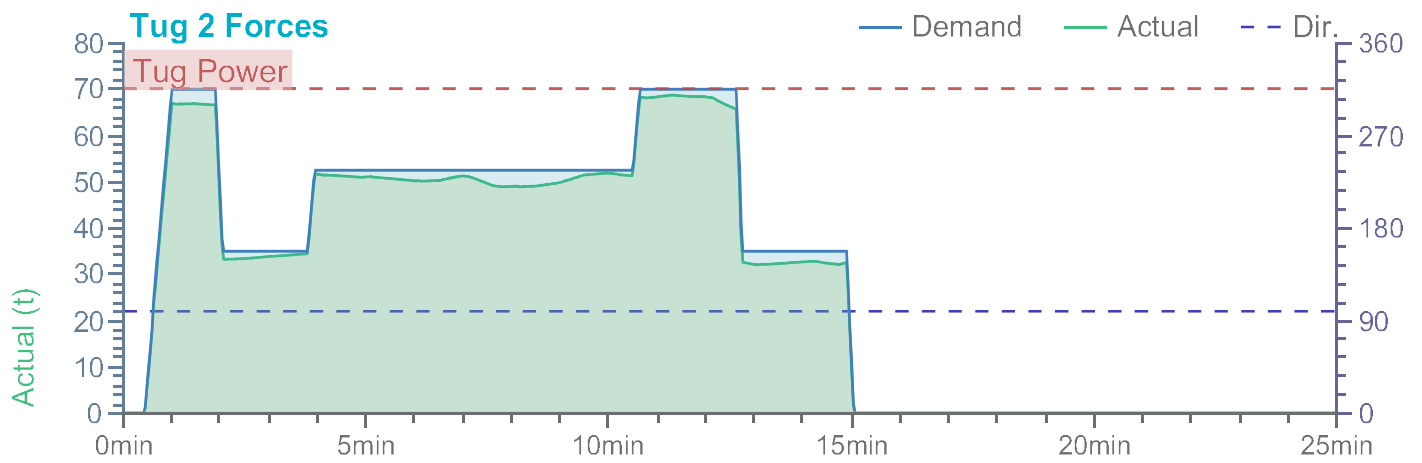
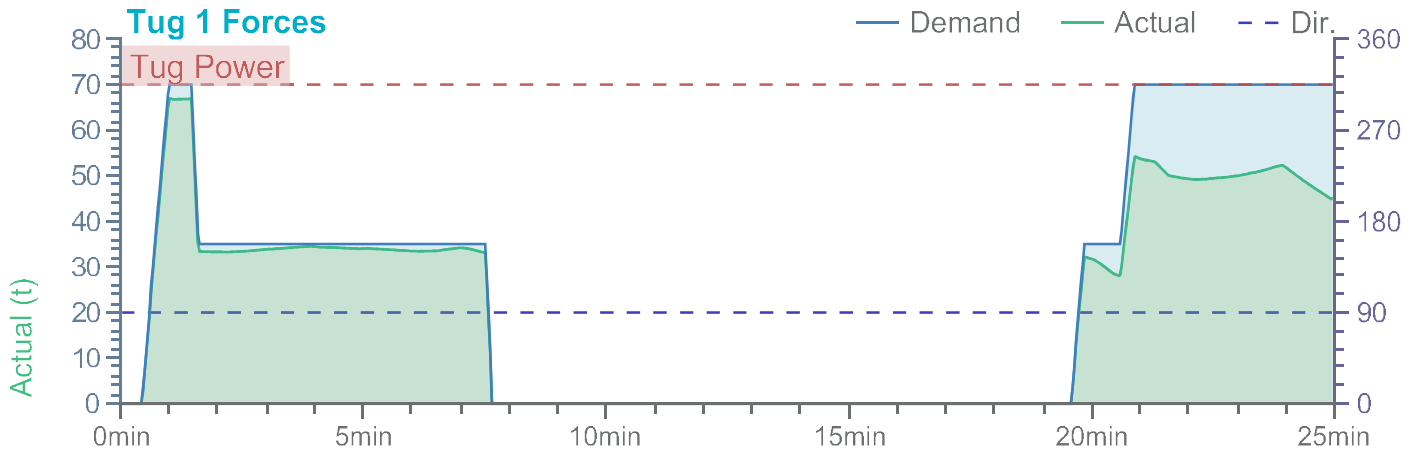
Propeller RPM



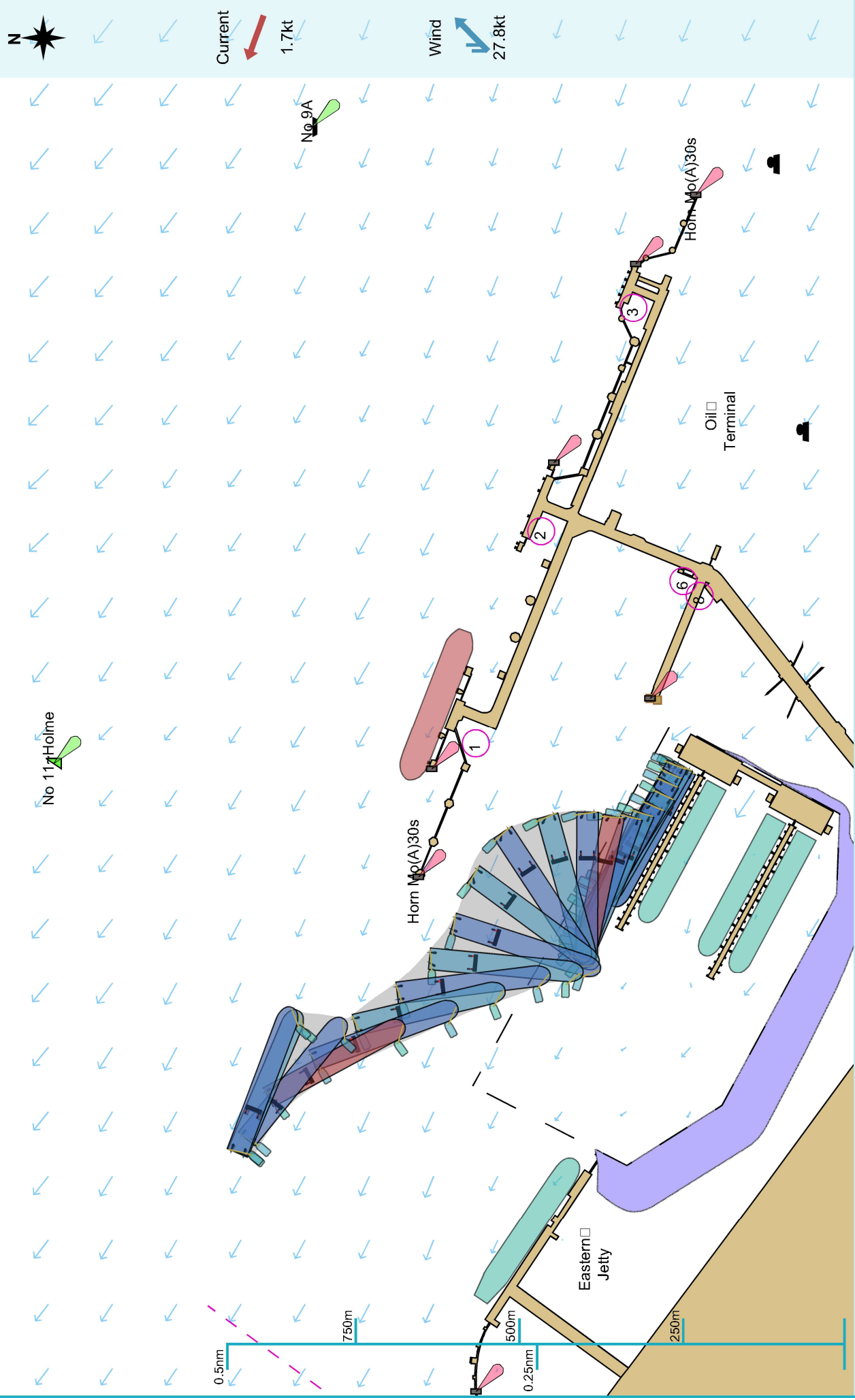
Bow Thruster





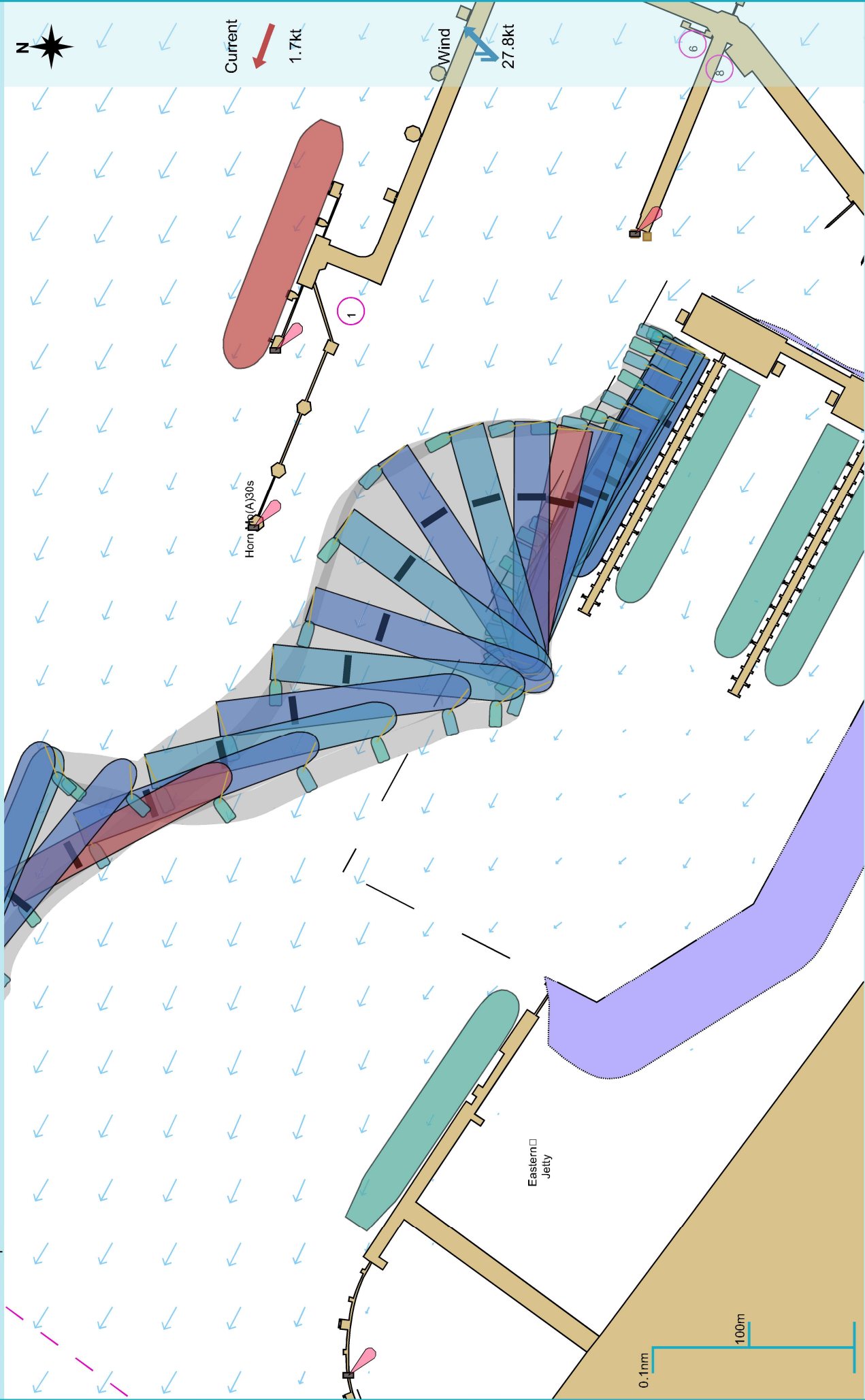


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

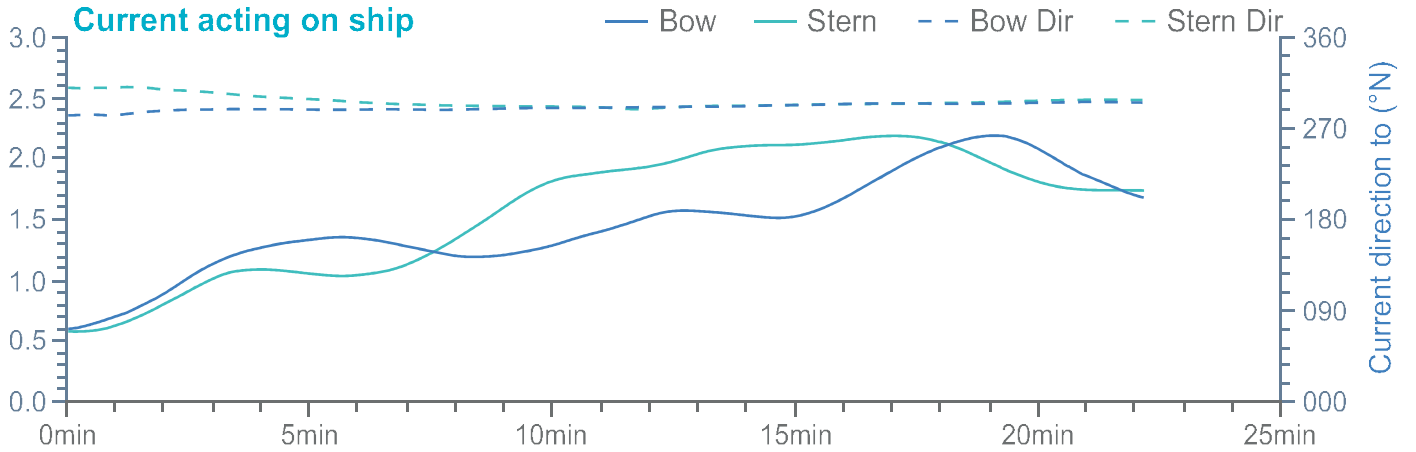
Summary

Environment

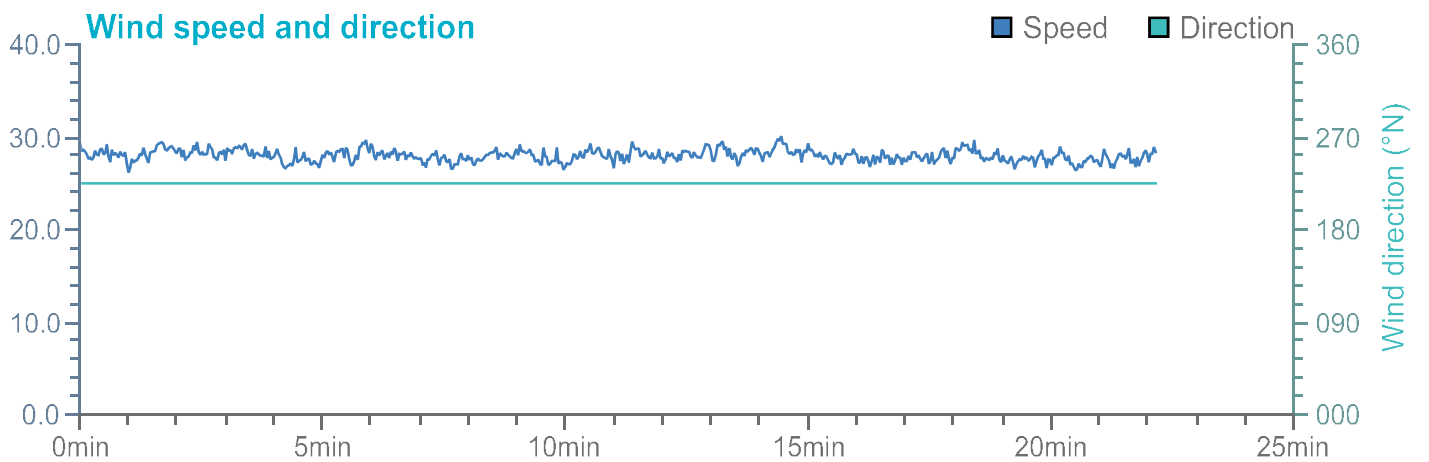
237m RoRo unnamed

Tugs

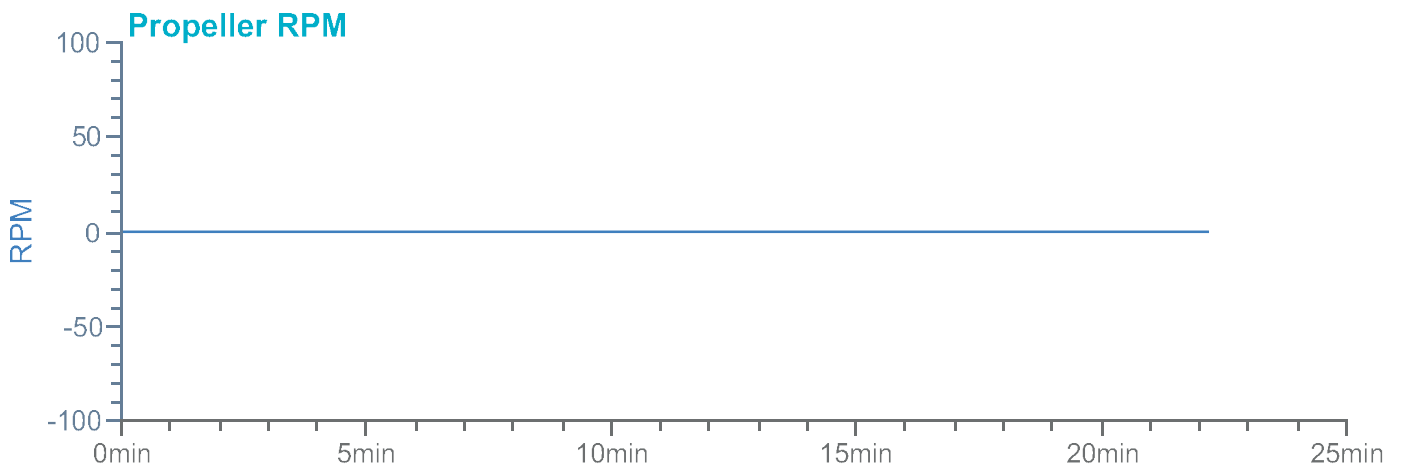
Current acting on ship



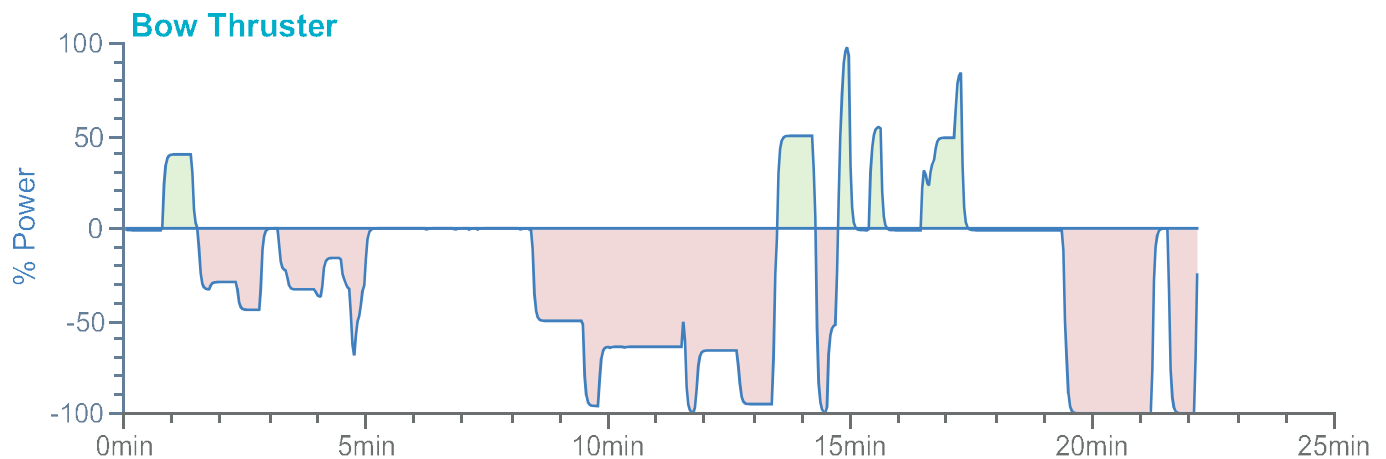
Wind speed and direction

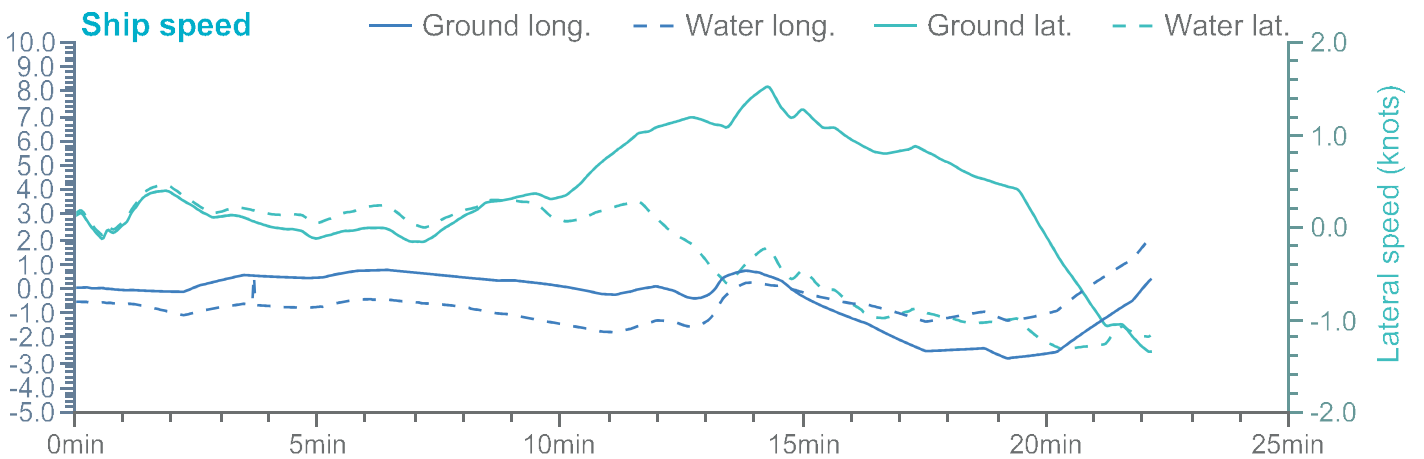
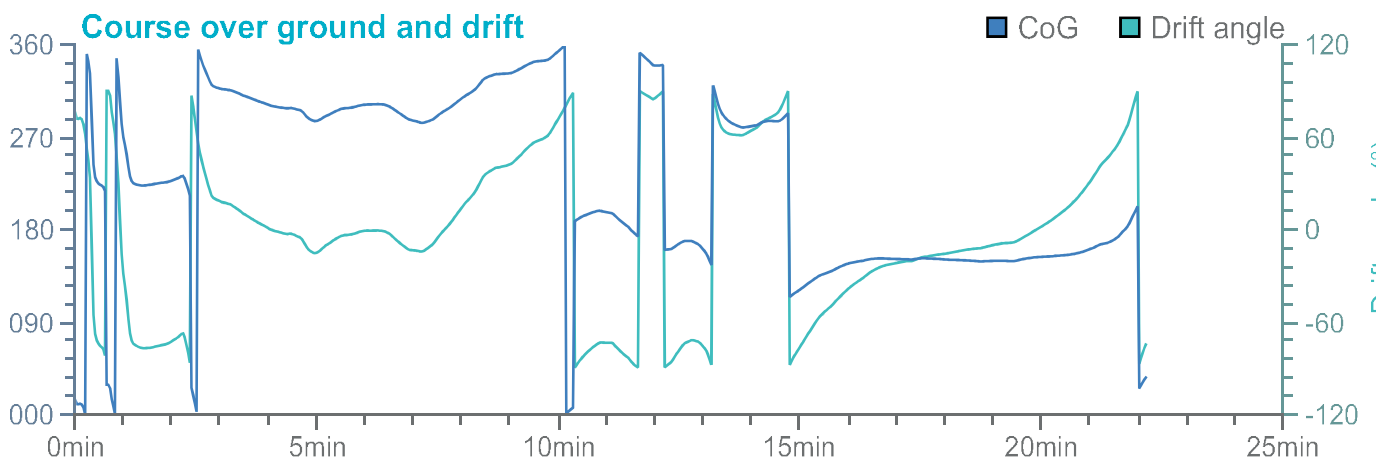
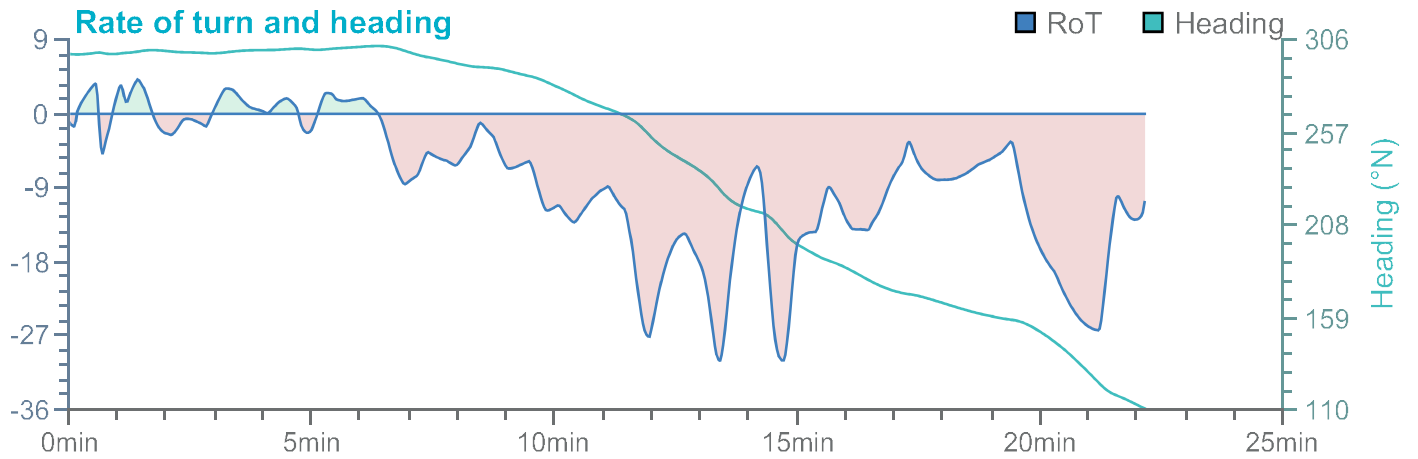


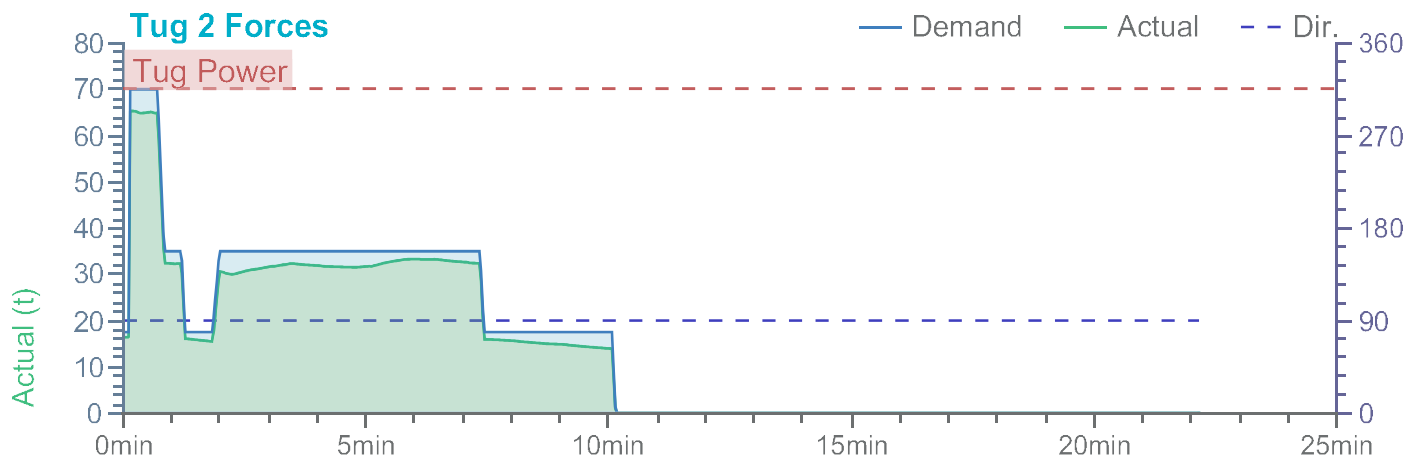
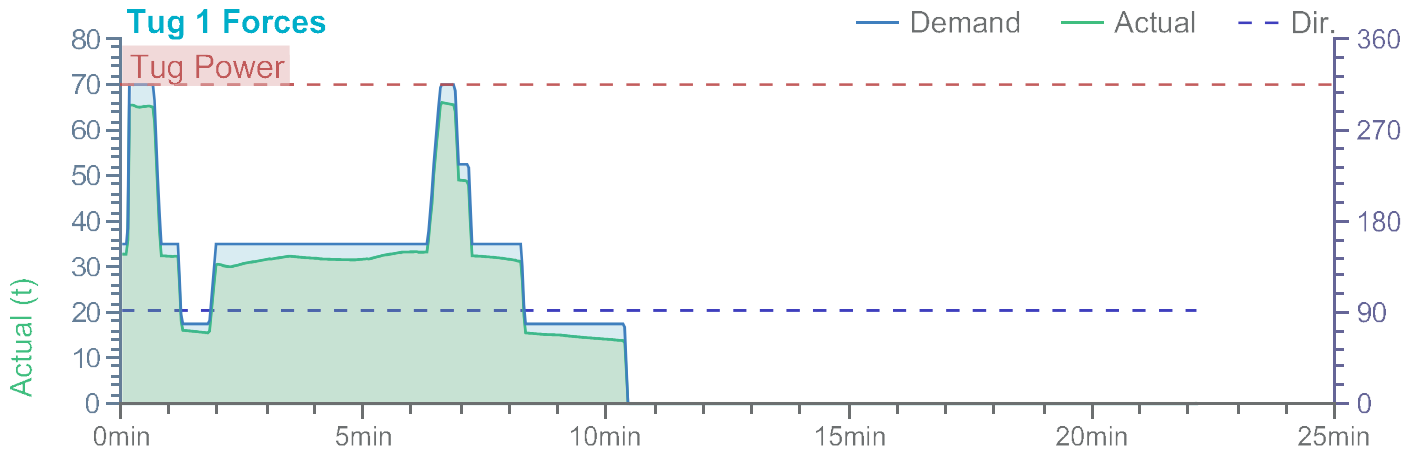
Propeller RPM



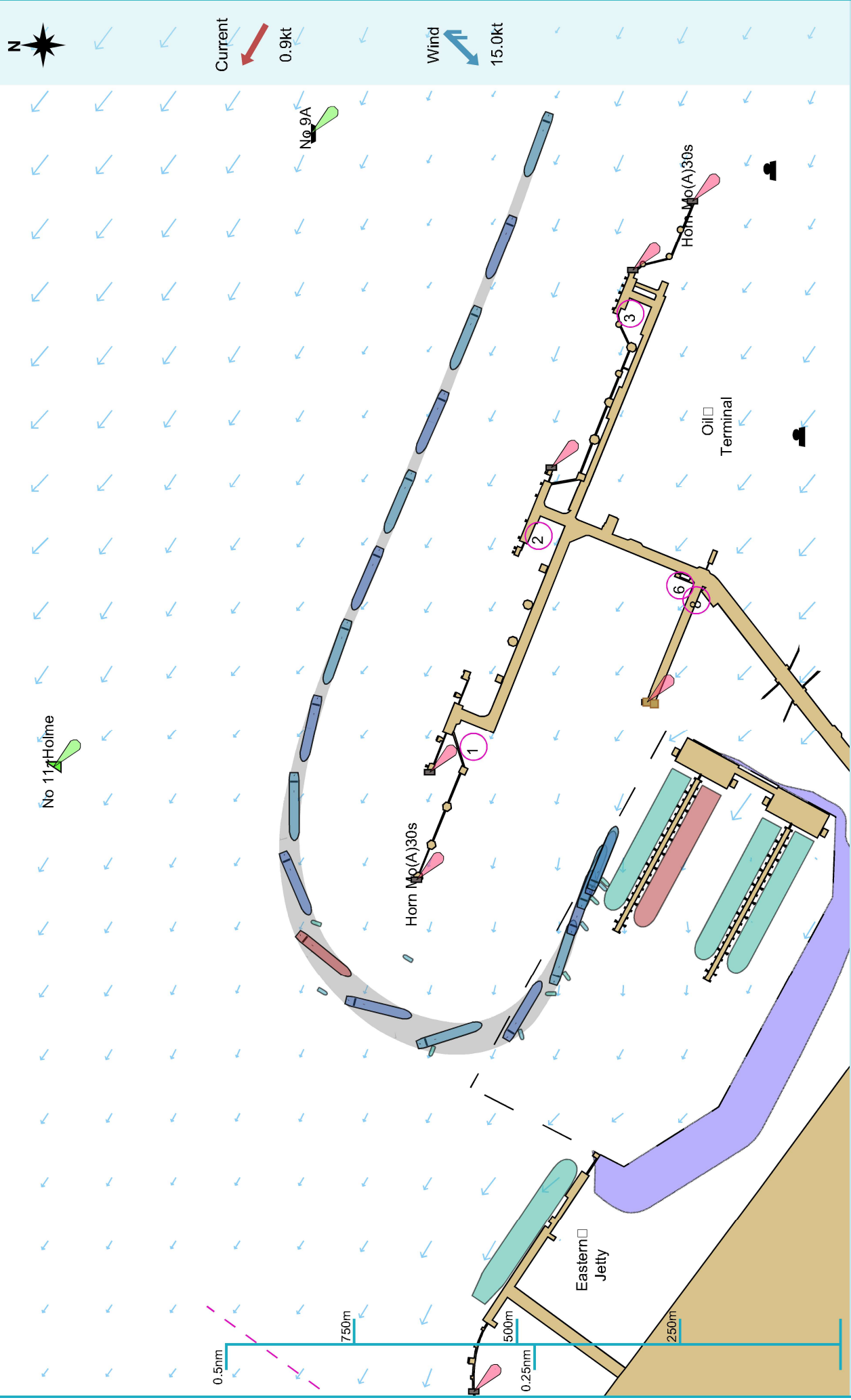
Bow Thruster





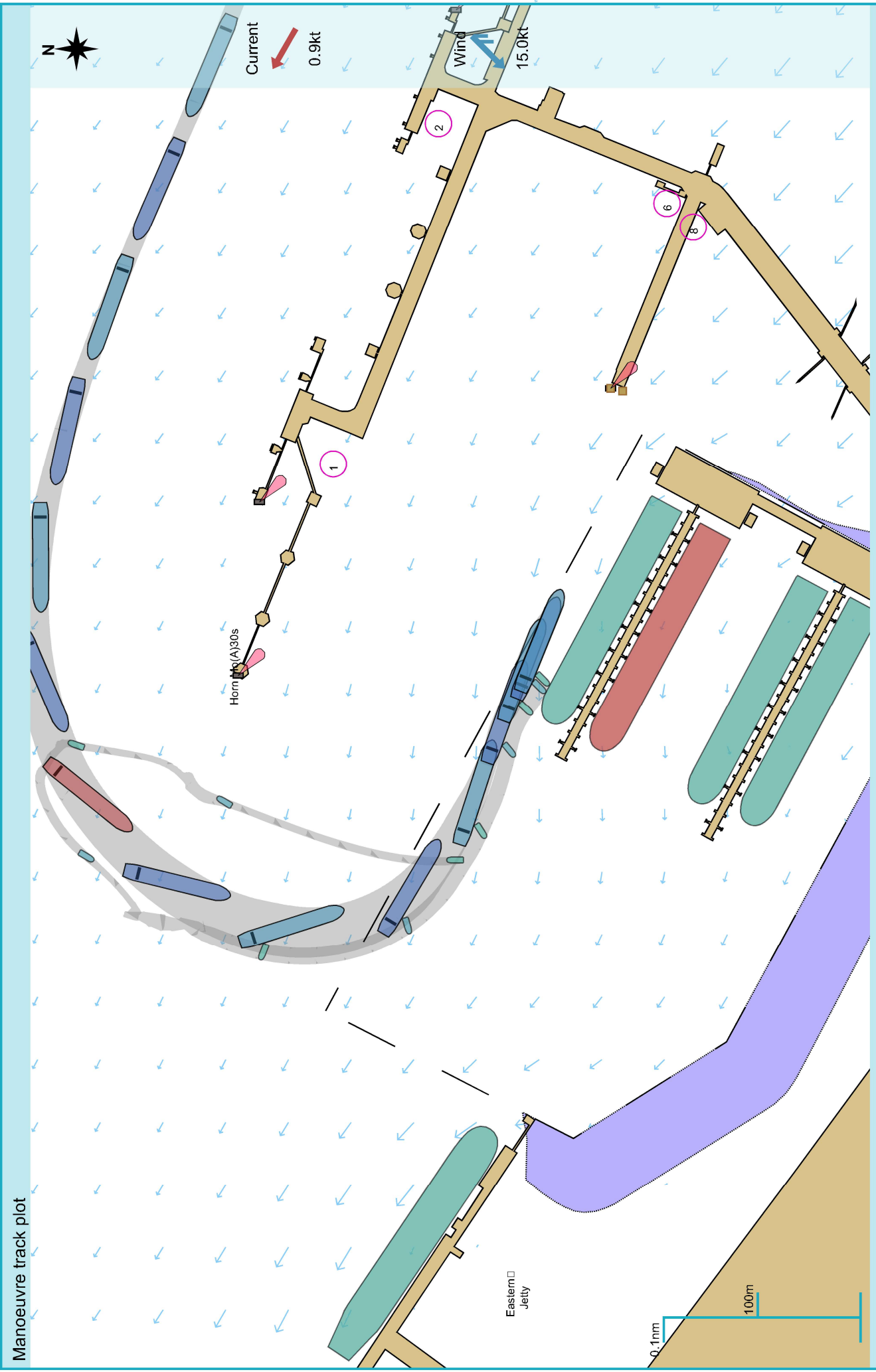


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot

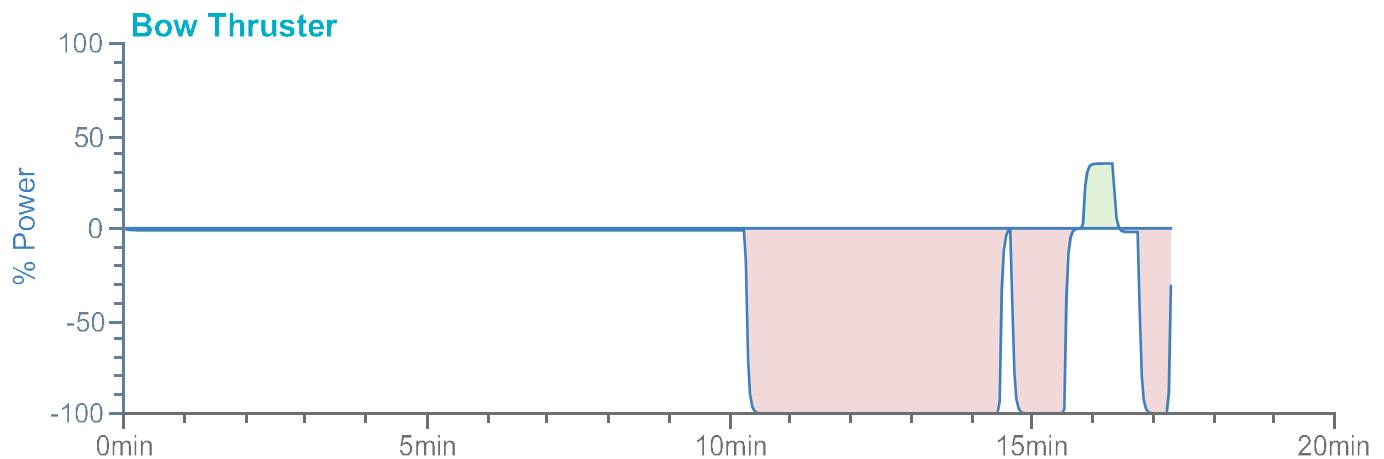
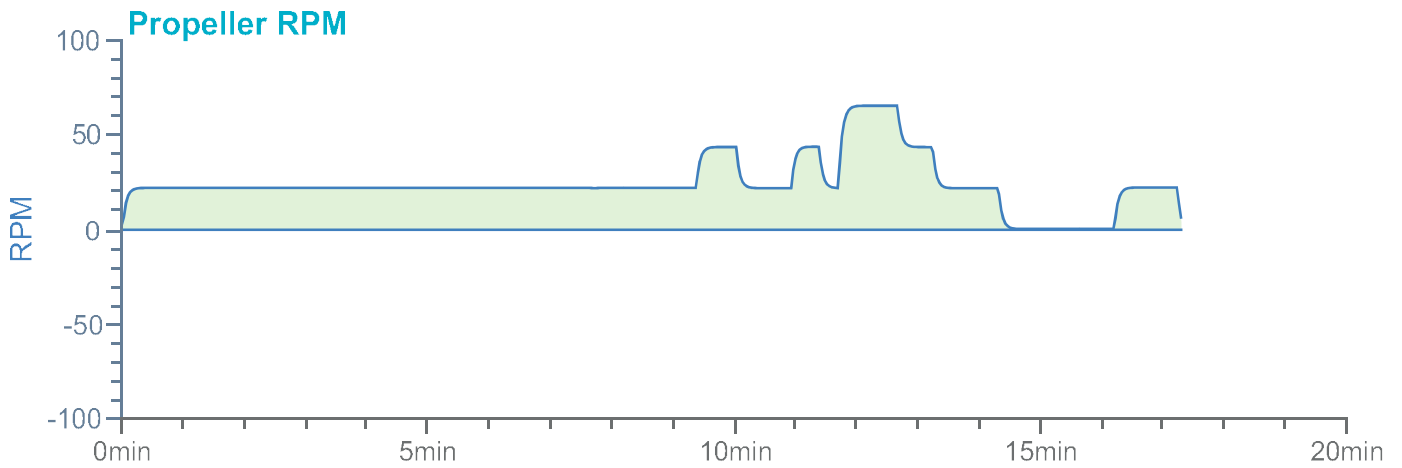
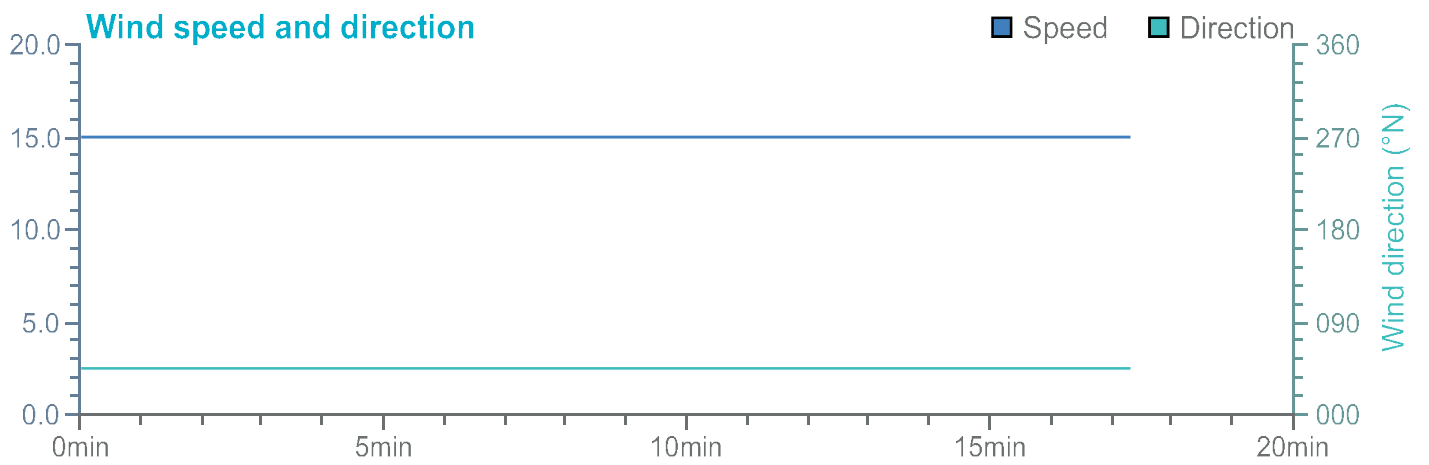
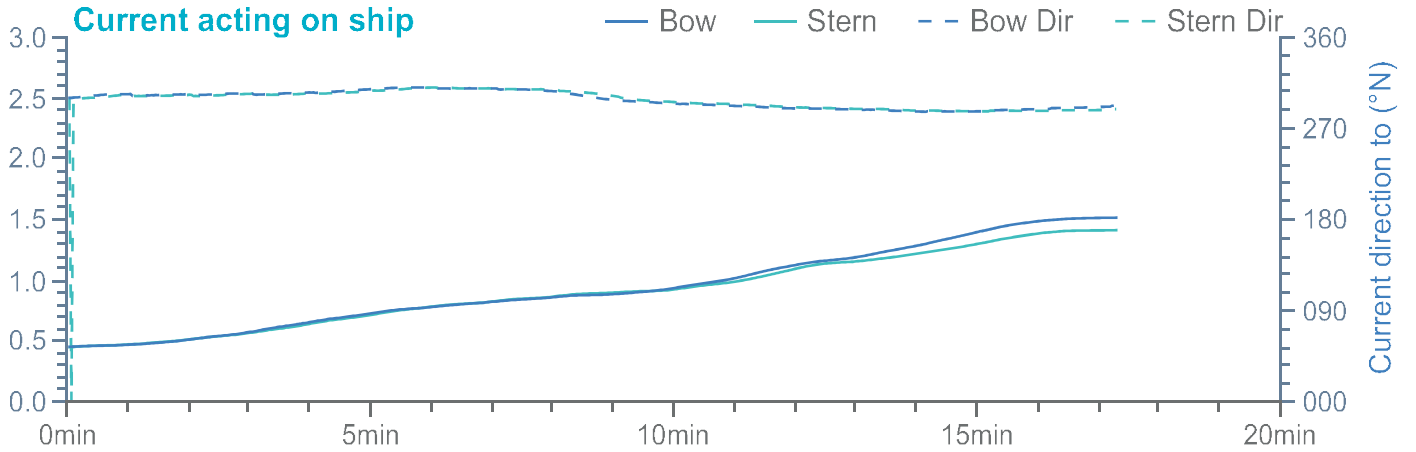


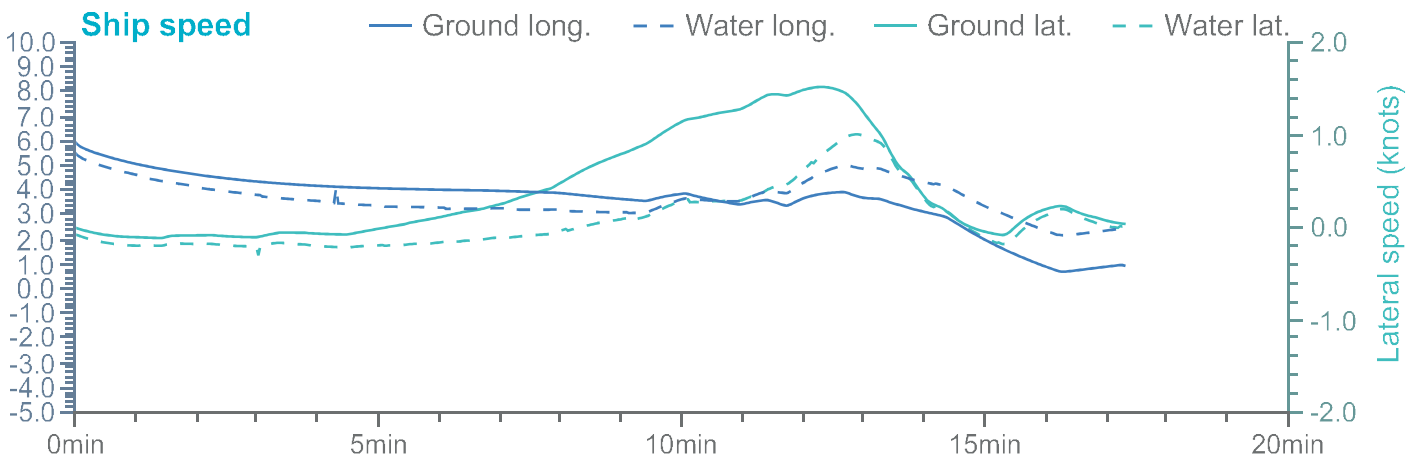
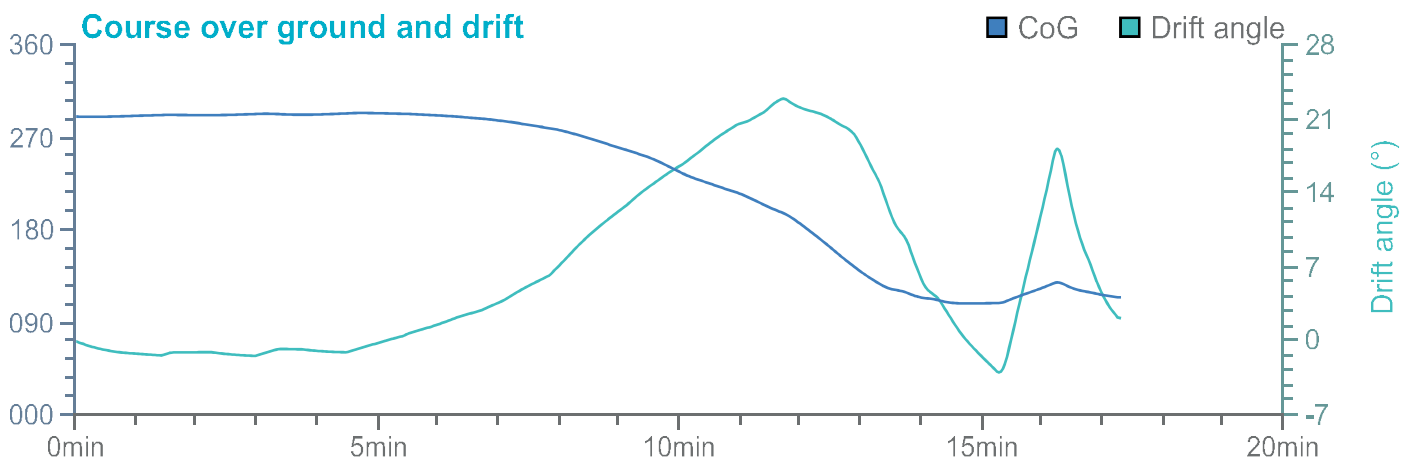
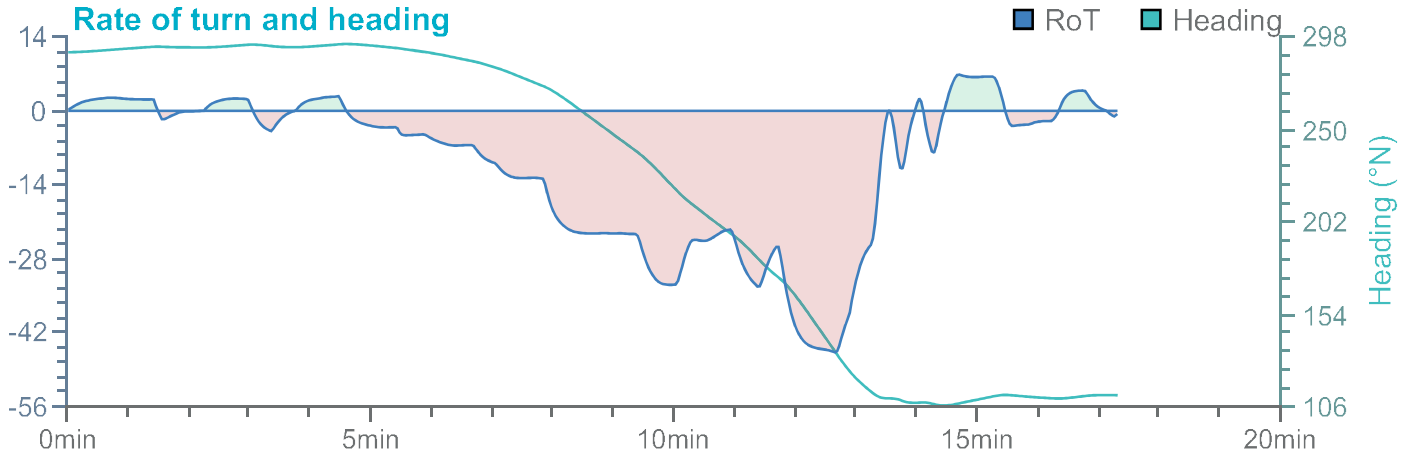
Summary

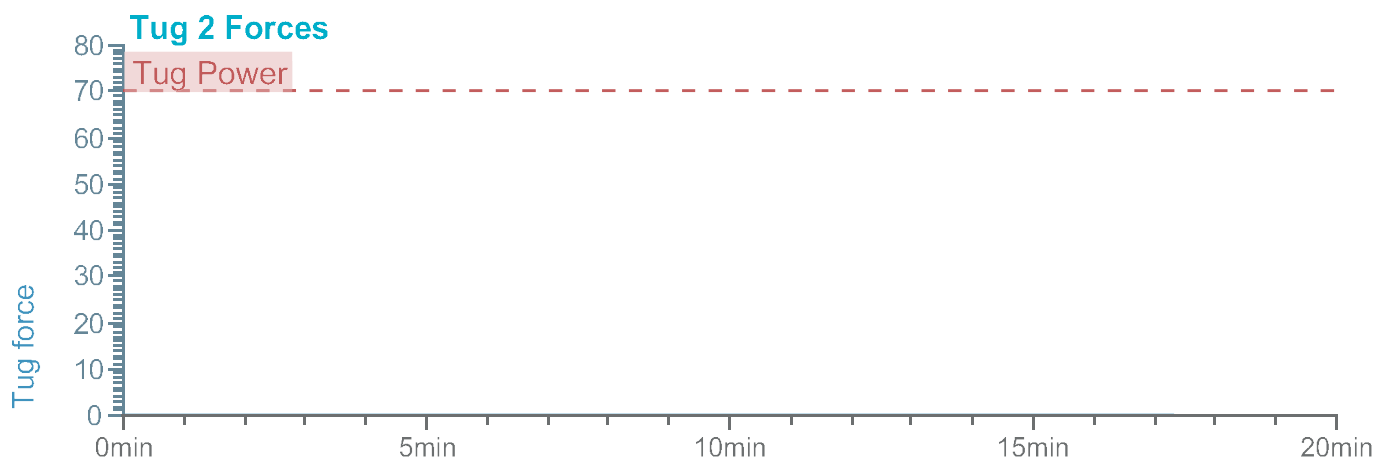
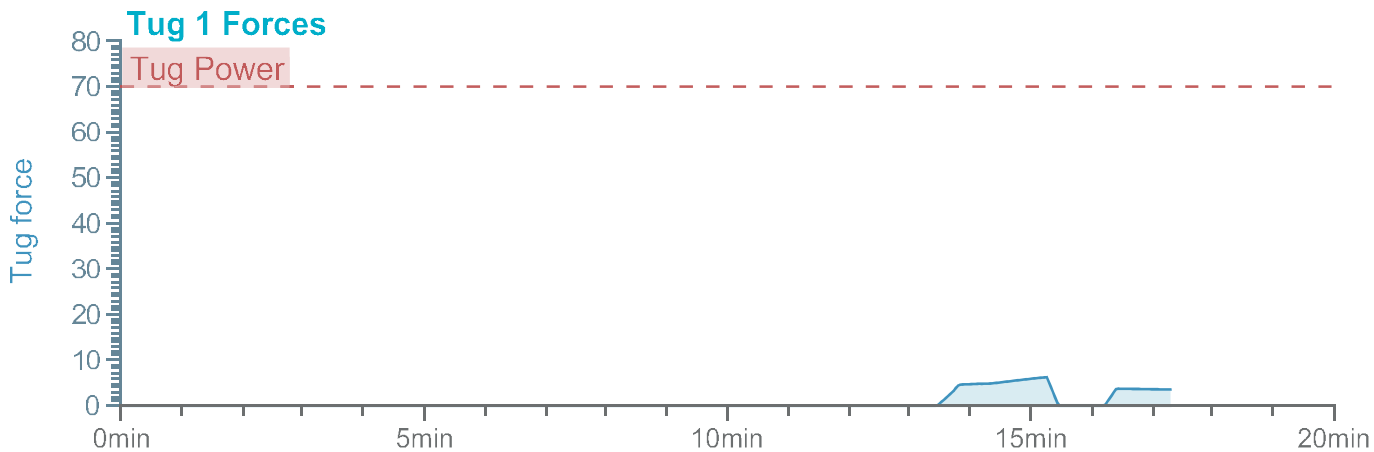
Environment

104m x 15m Product Tanker

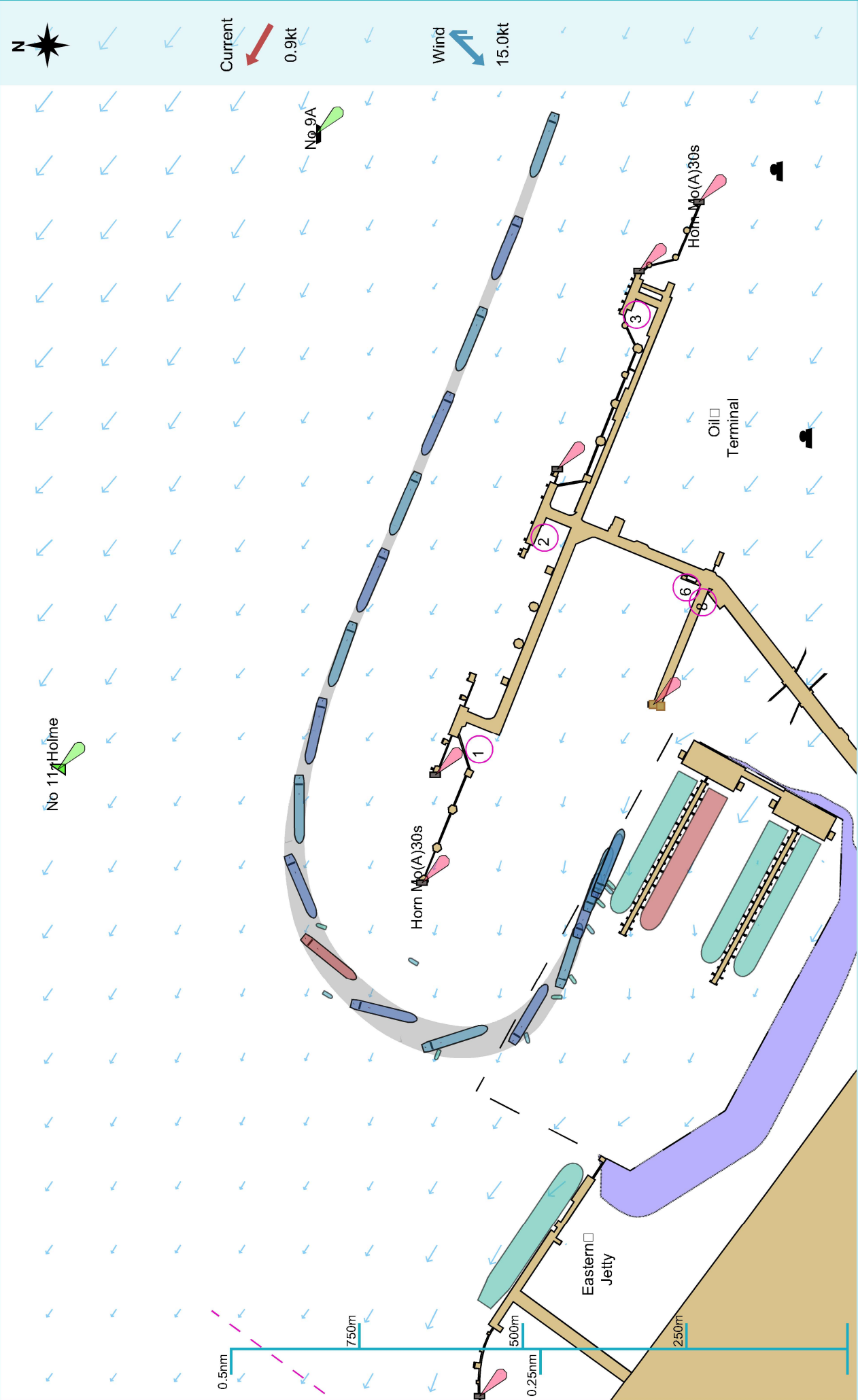
Tugs





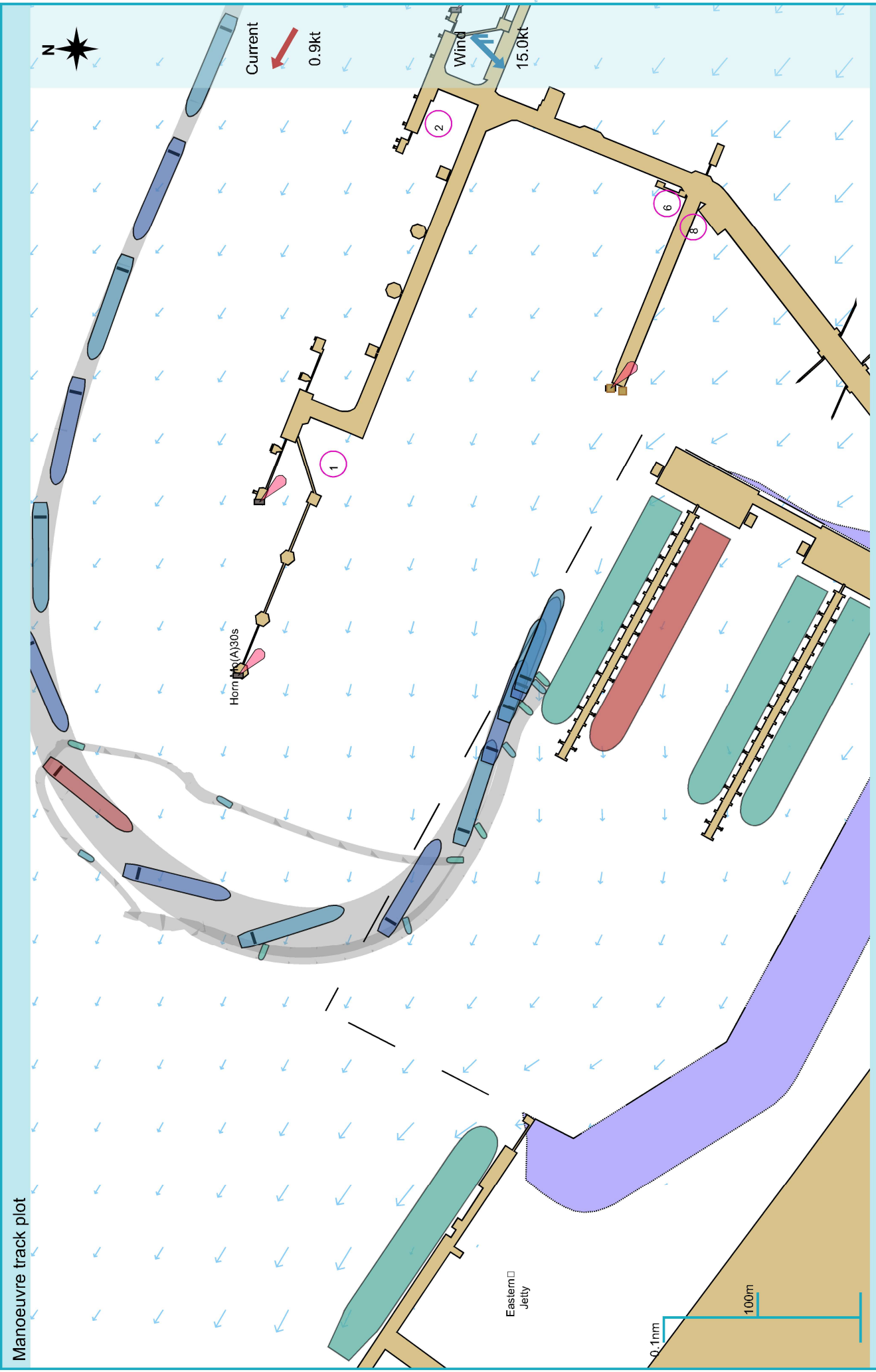


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot

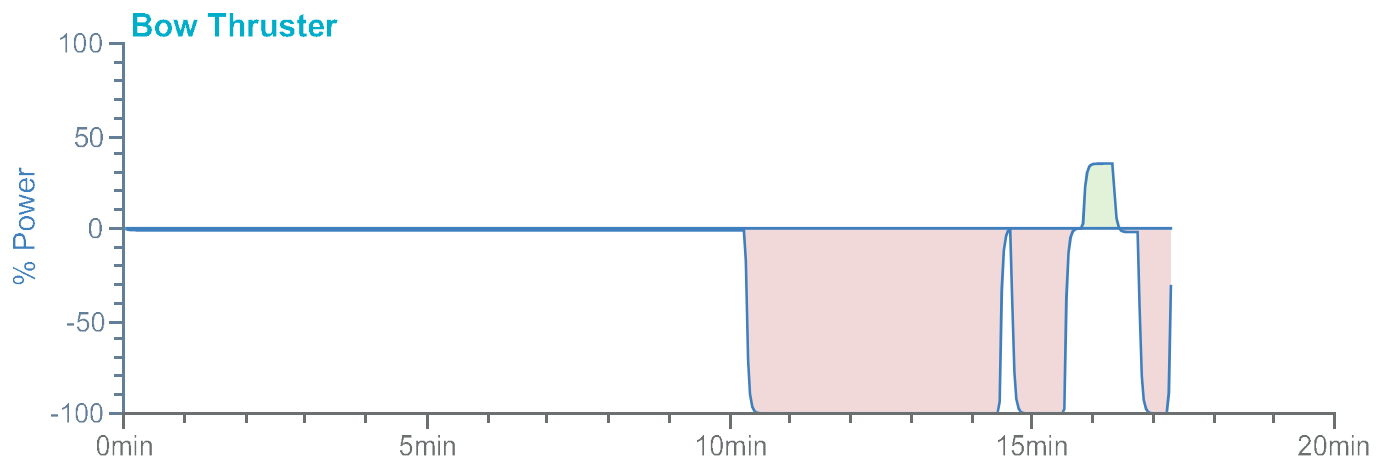
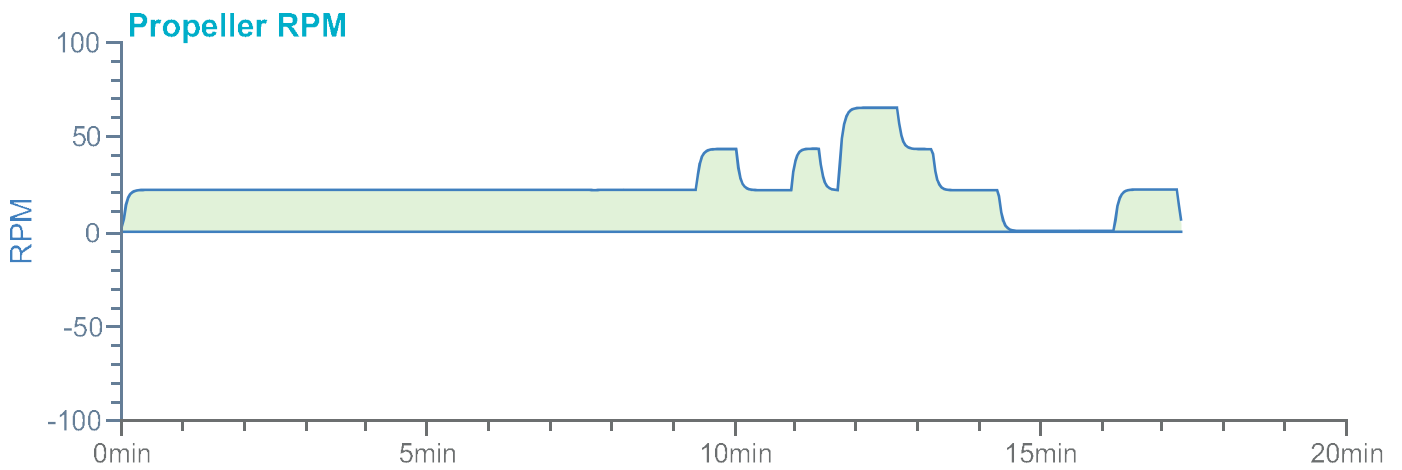
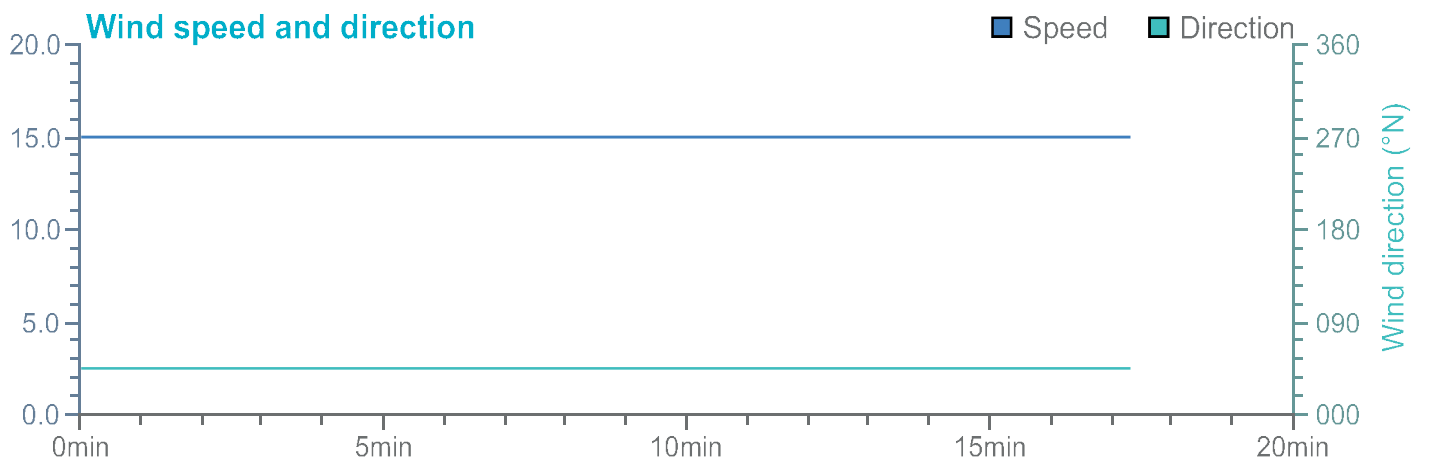
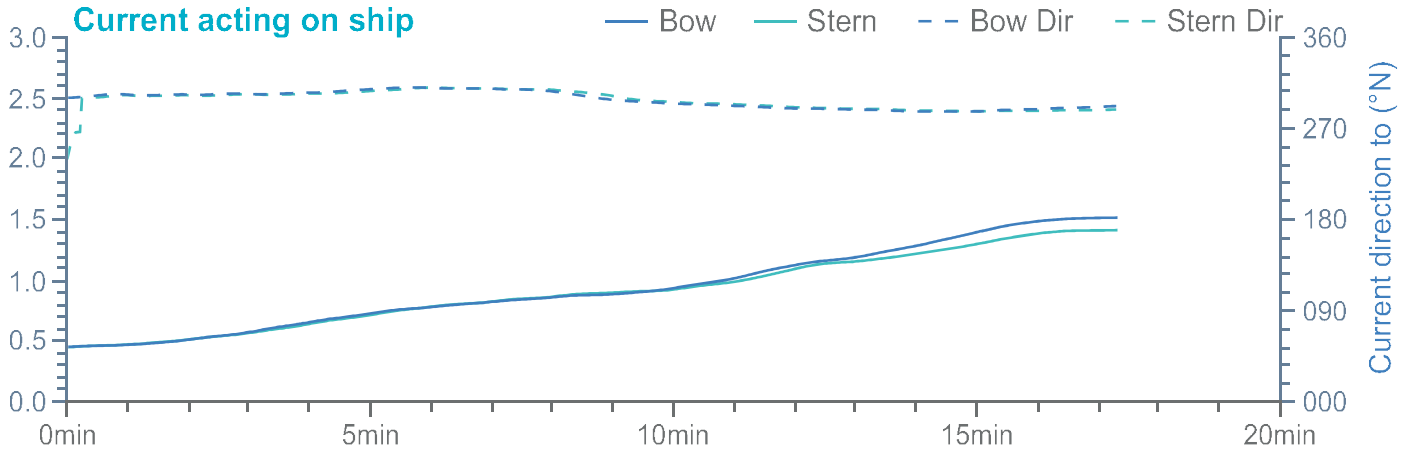


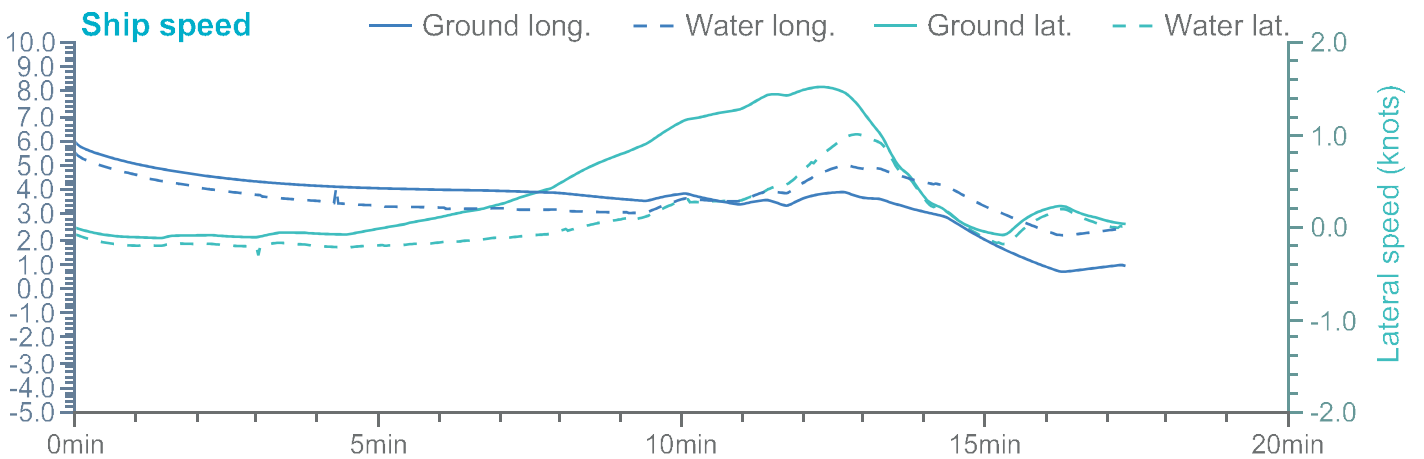
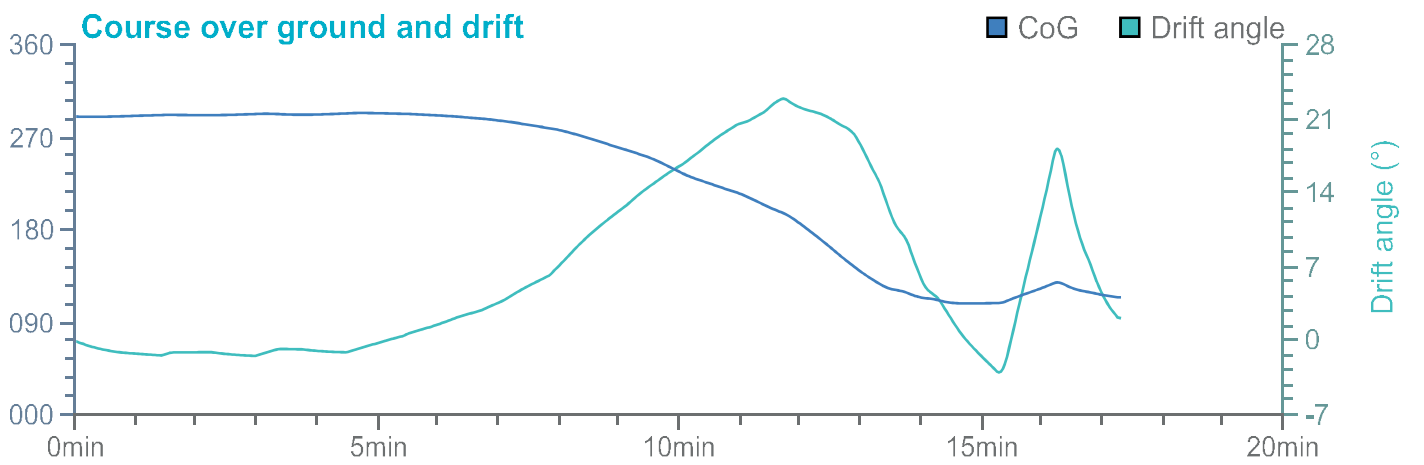
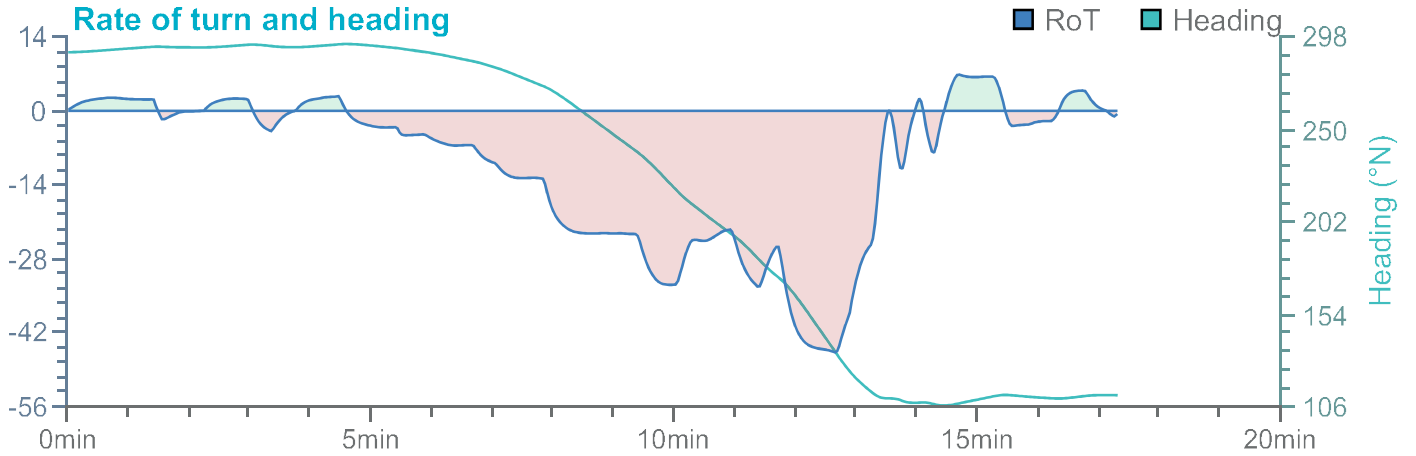
Summary

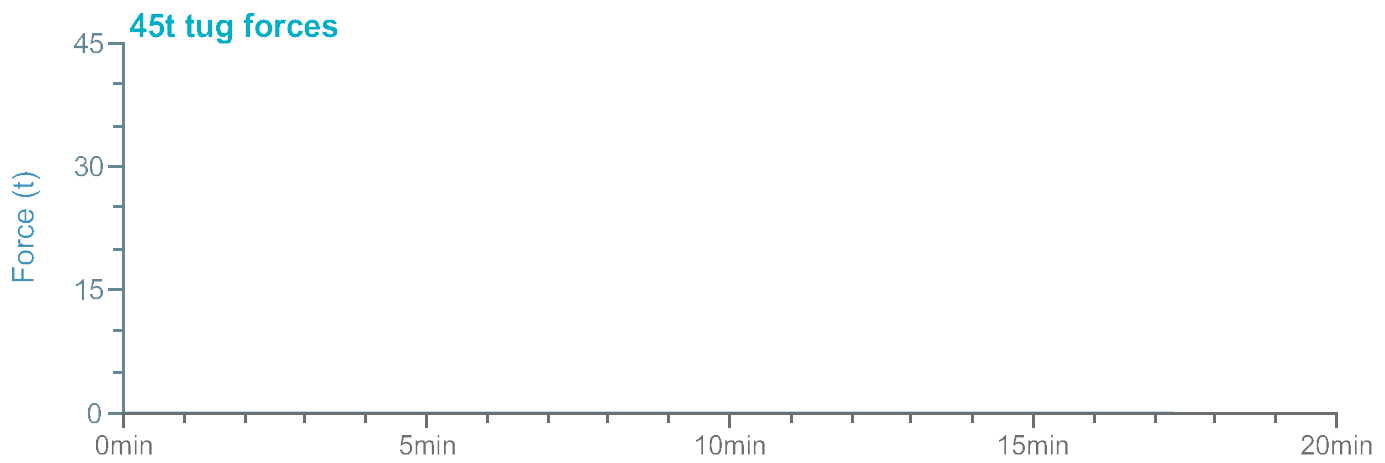
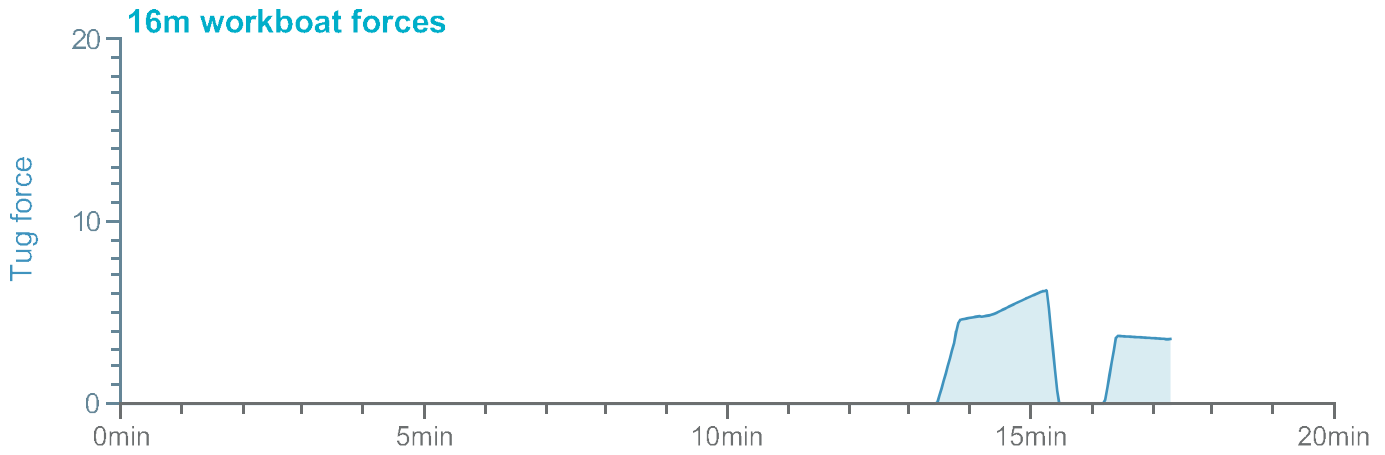
Environment

104m x 15m Product Tanker

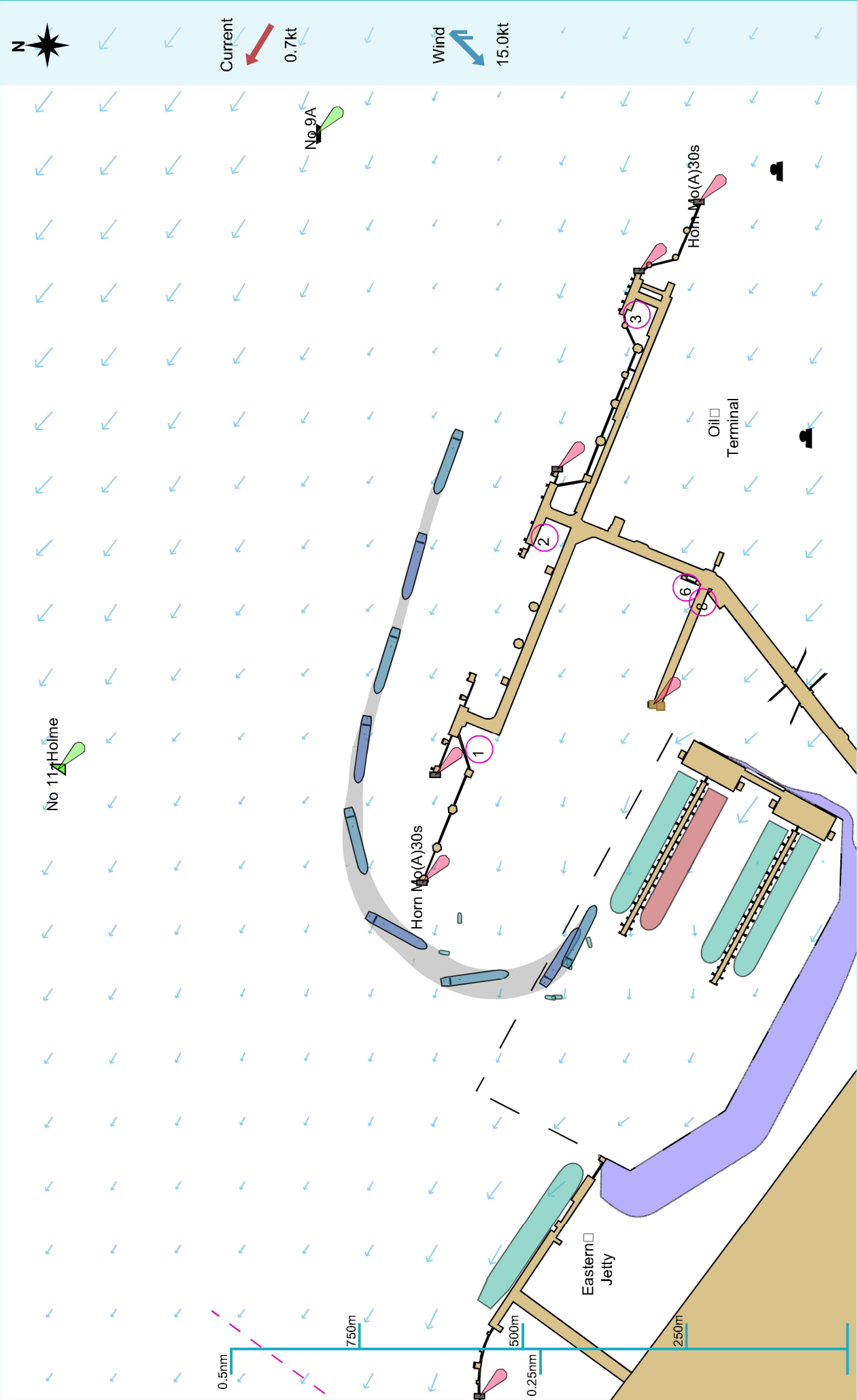
Tugs





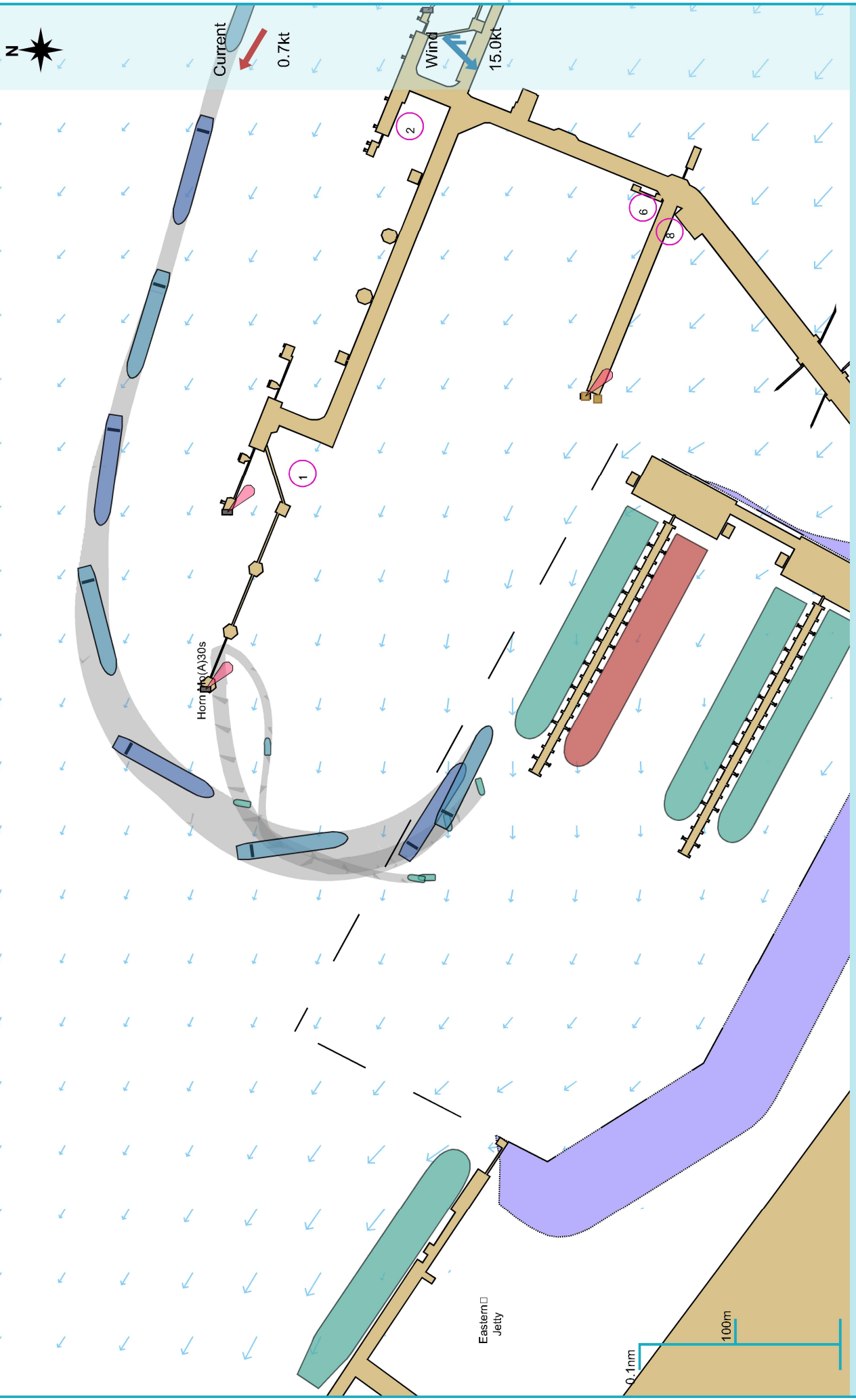


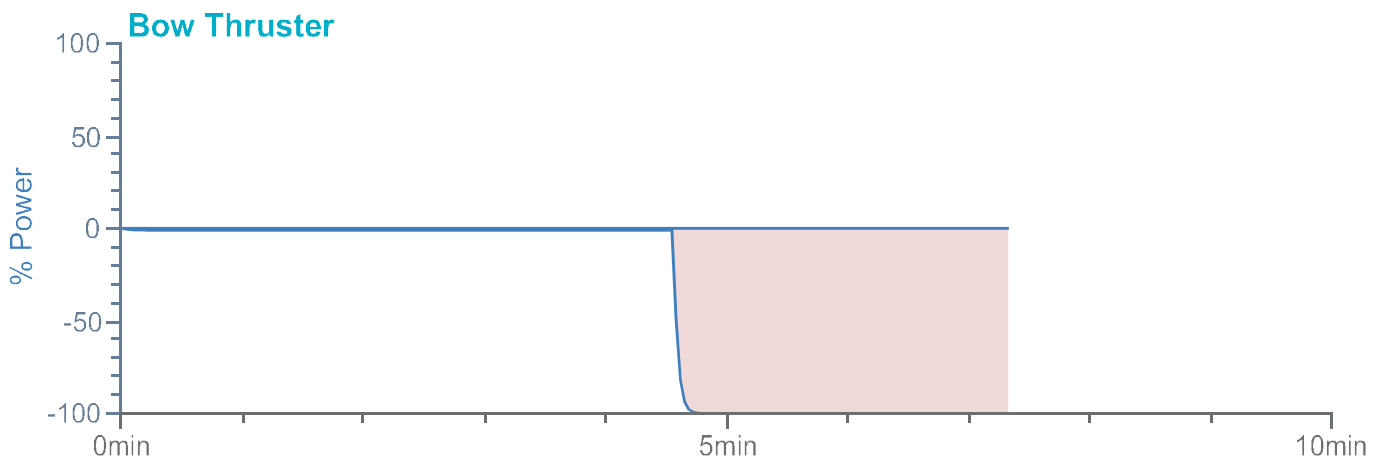
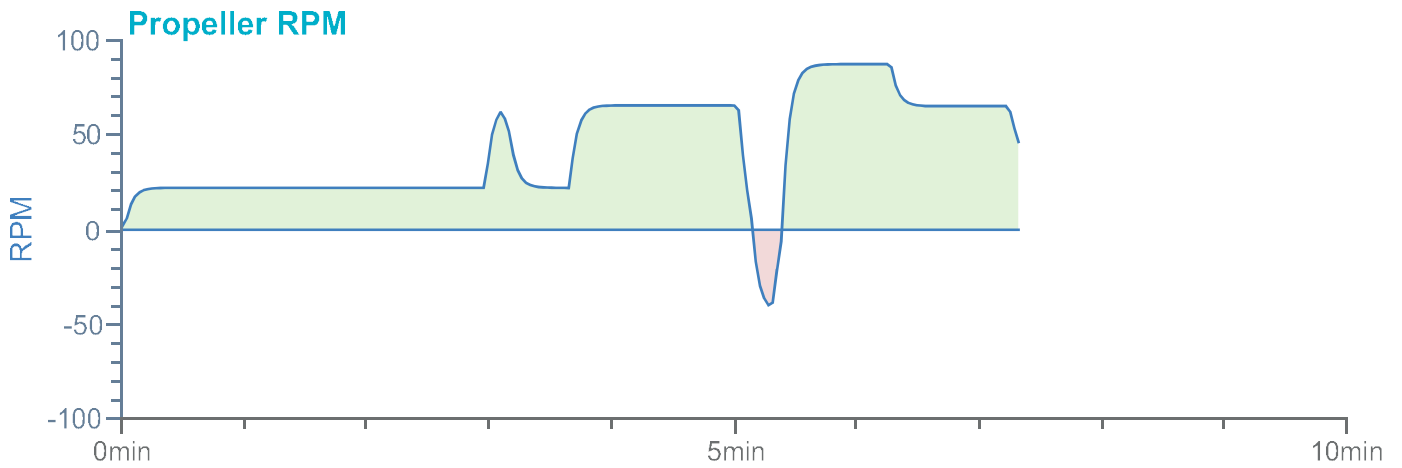
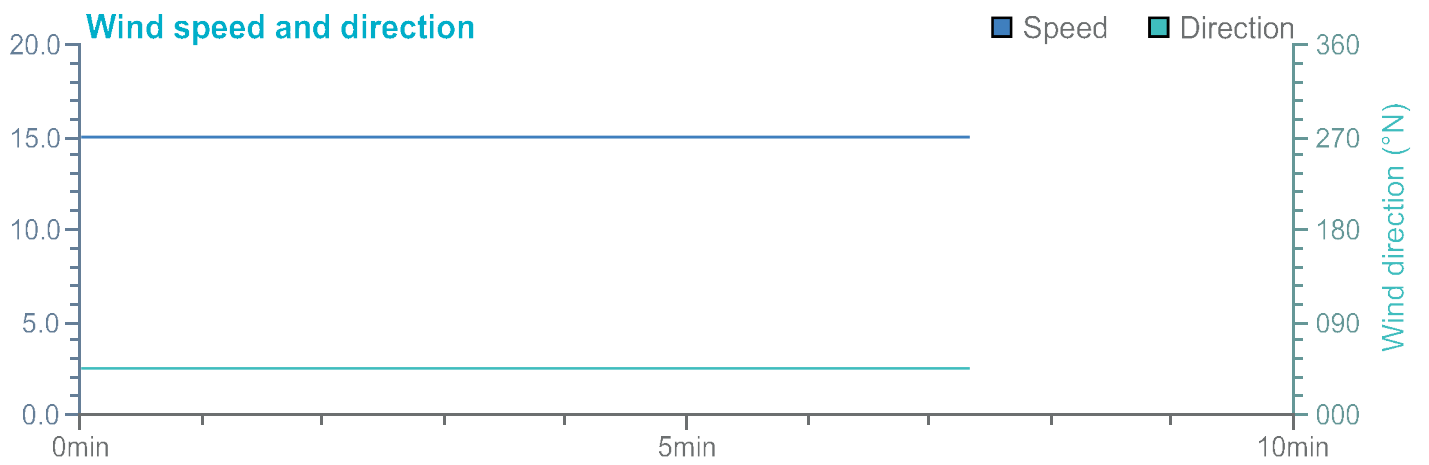
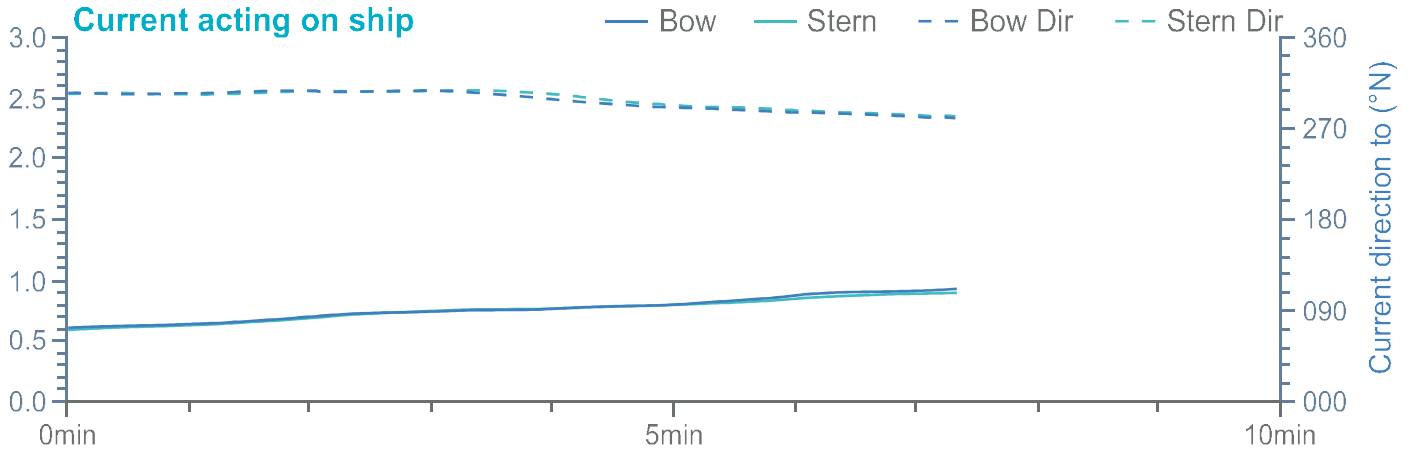
Manoeuvre track plot

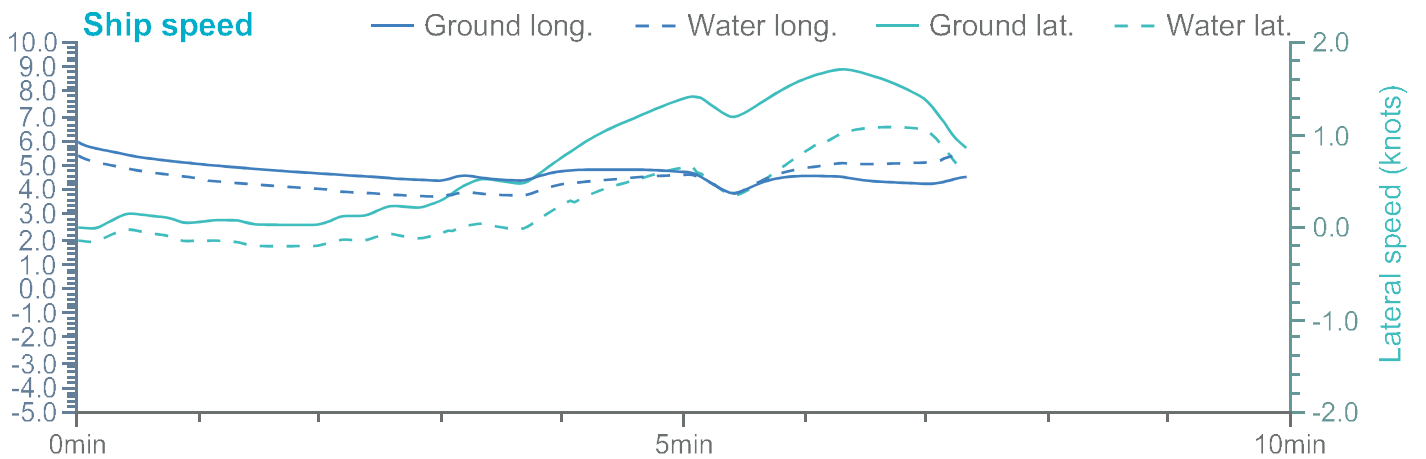
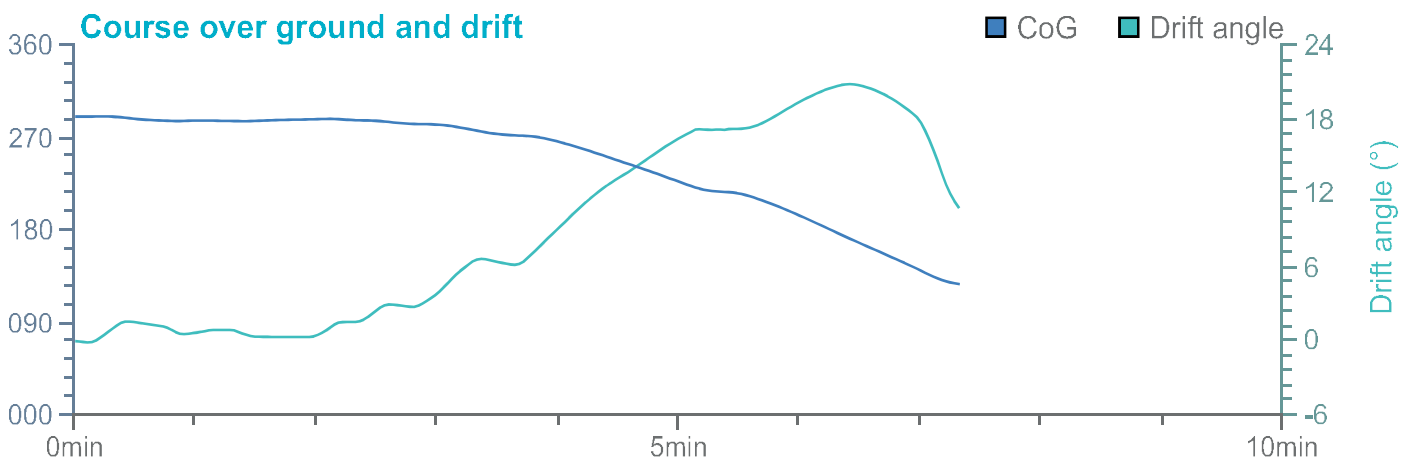
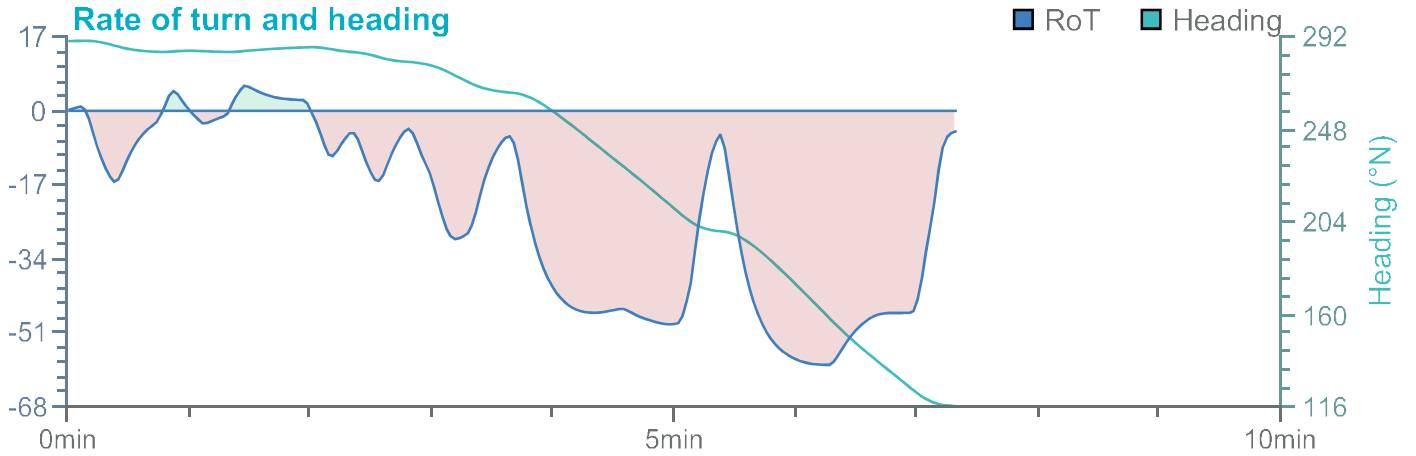


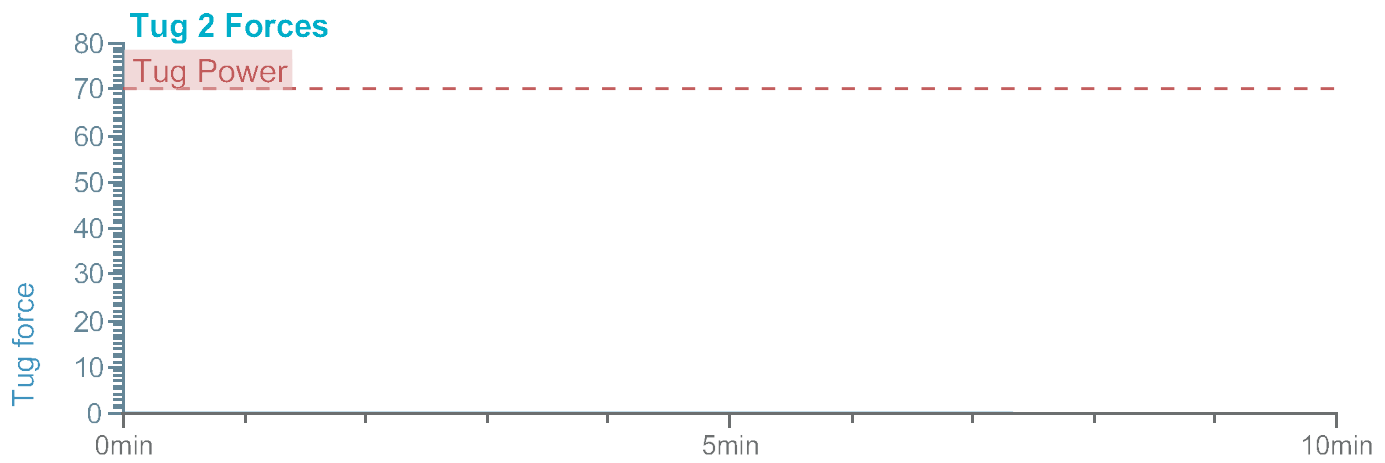
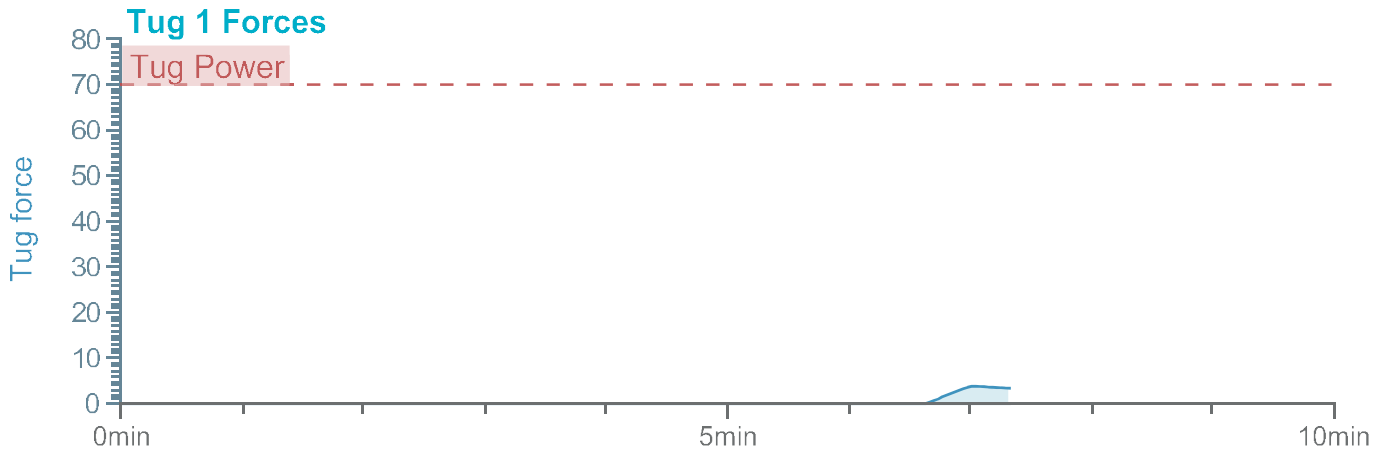
Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot

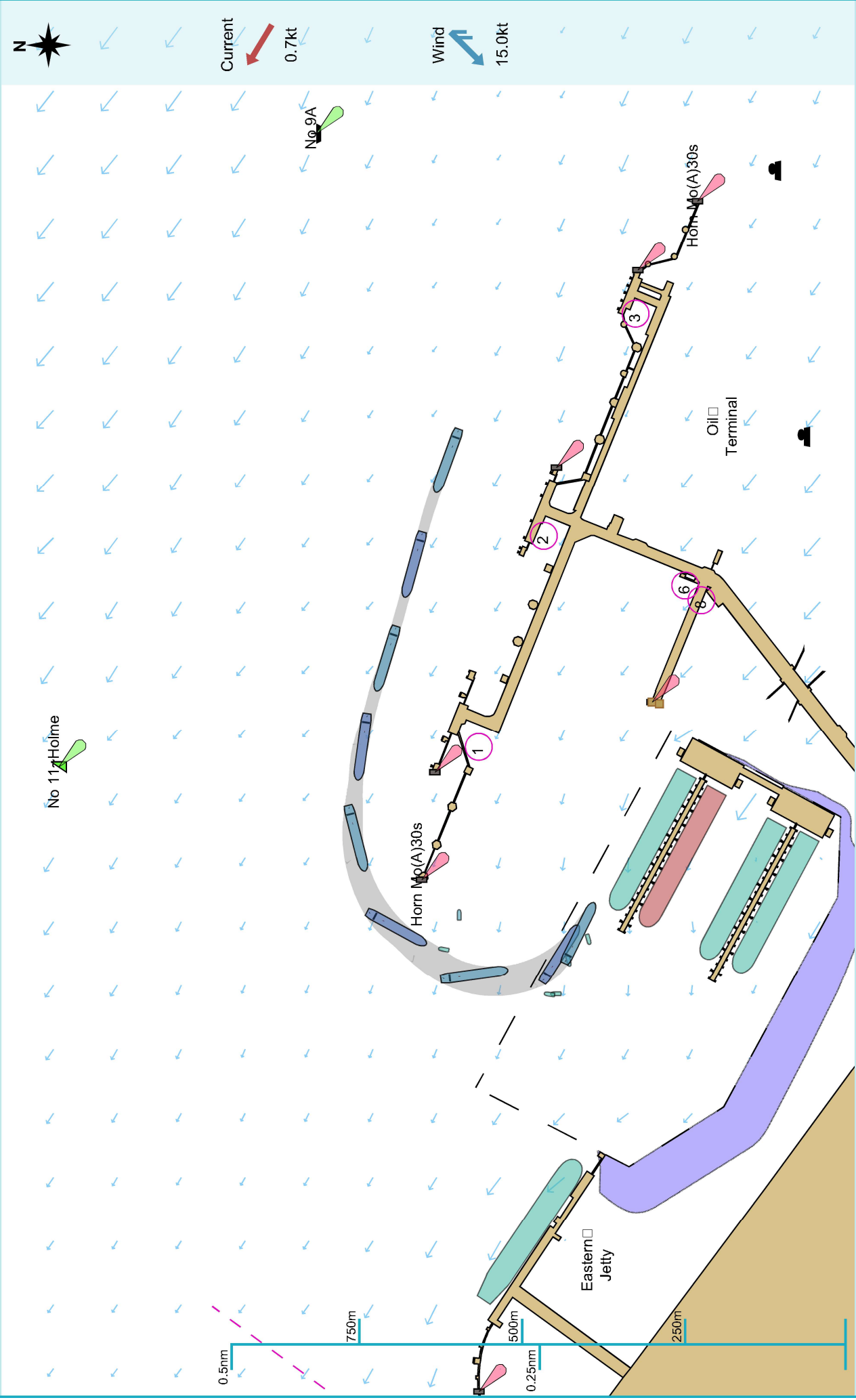






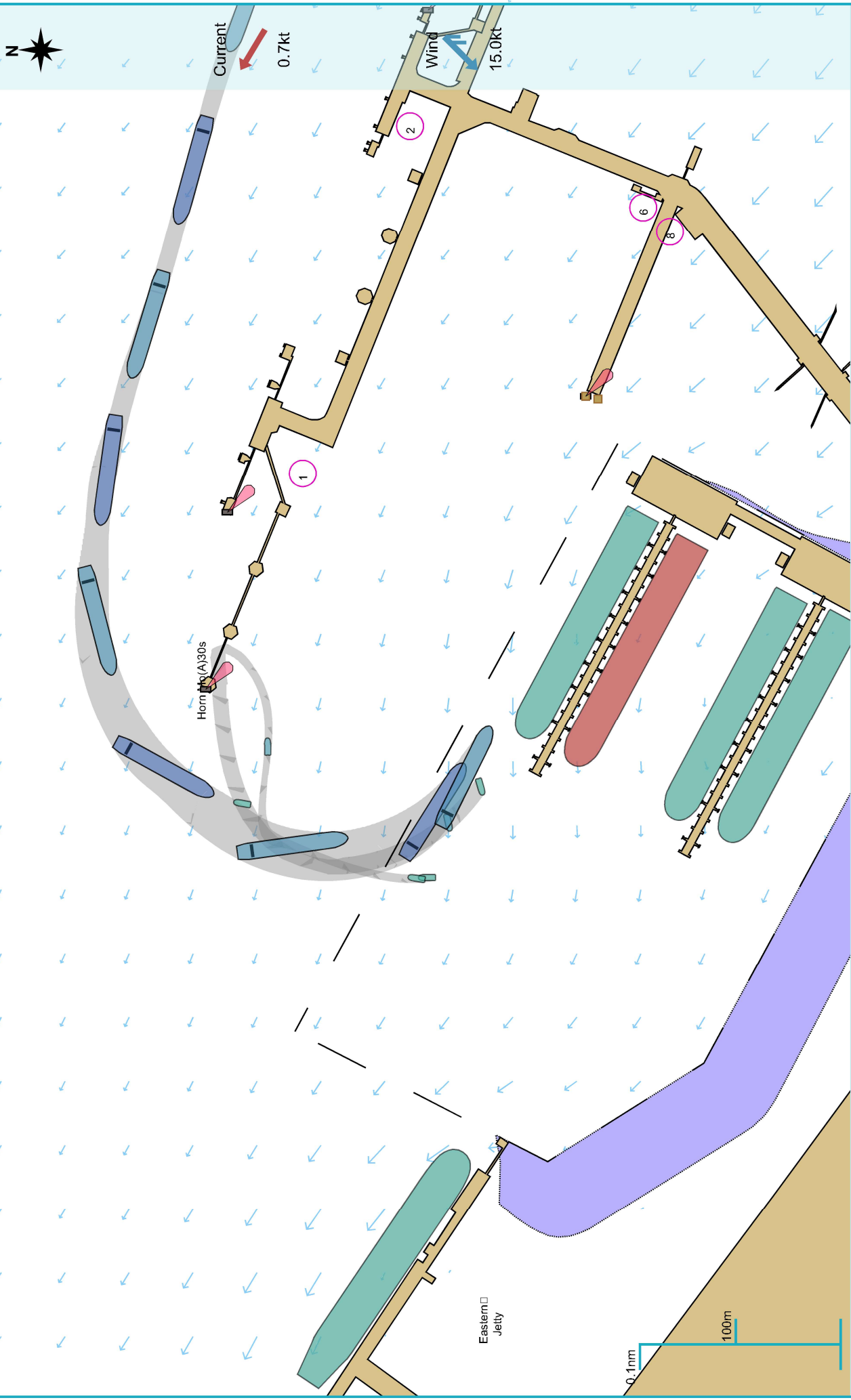


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



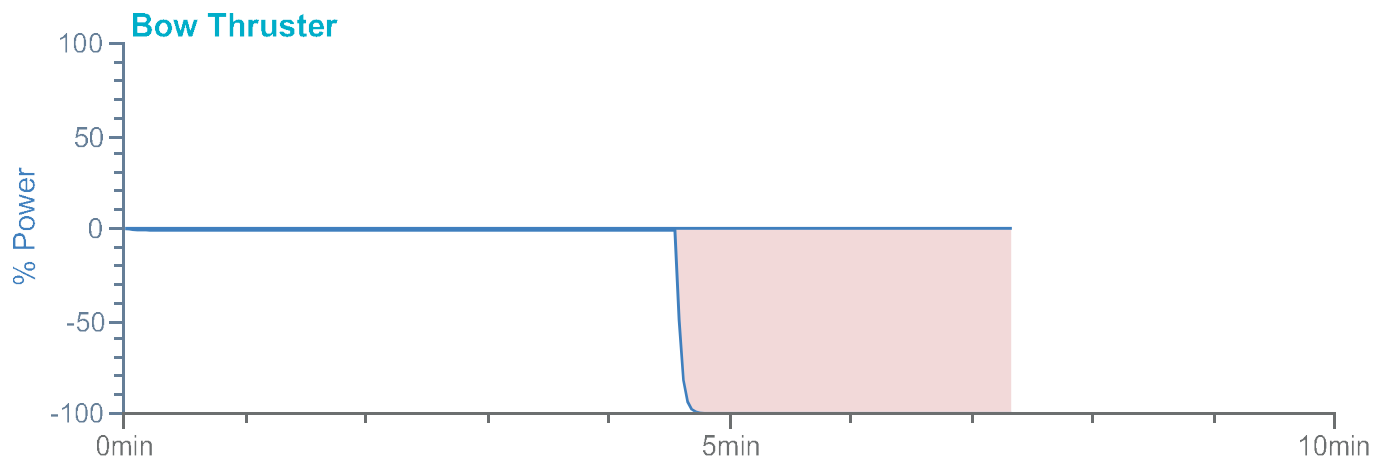
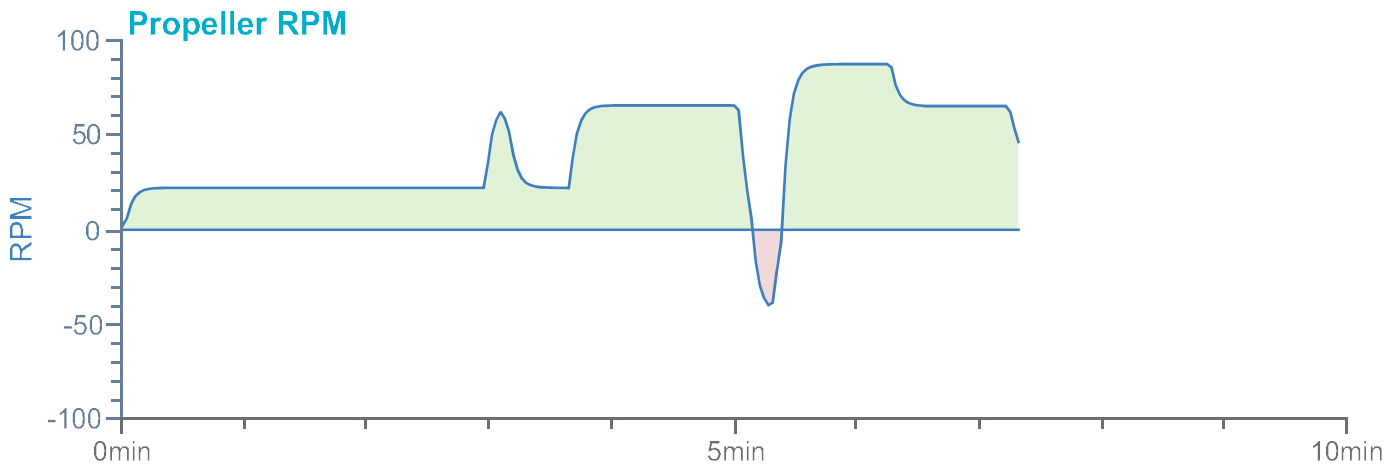
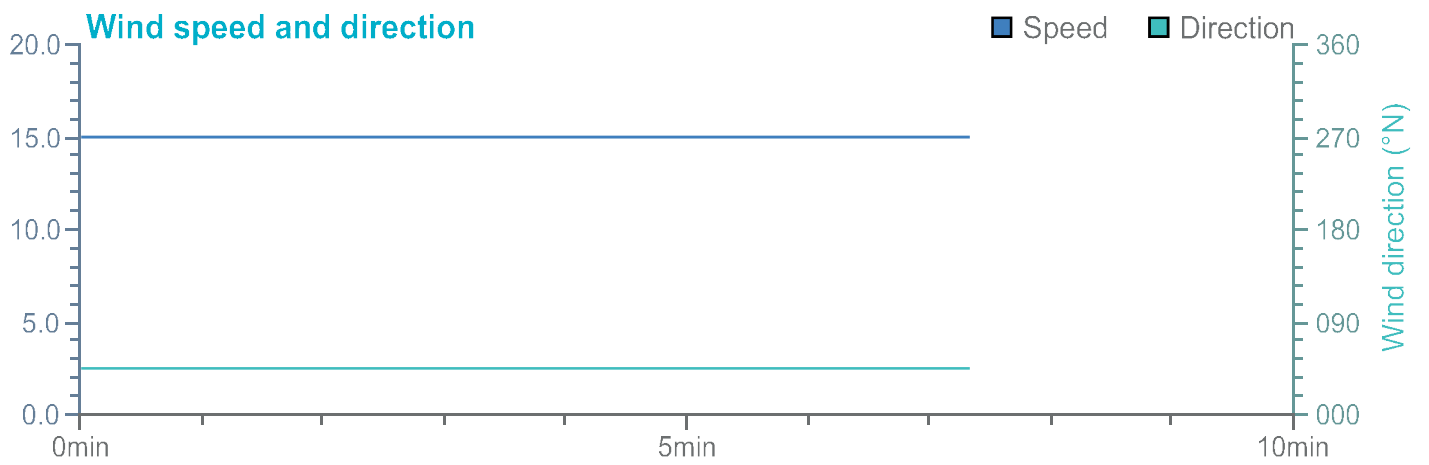
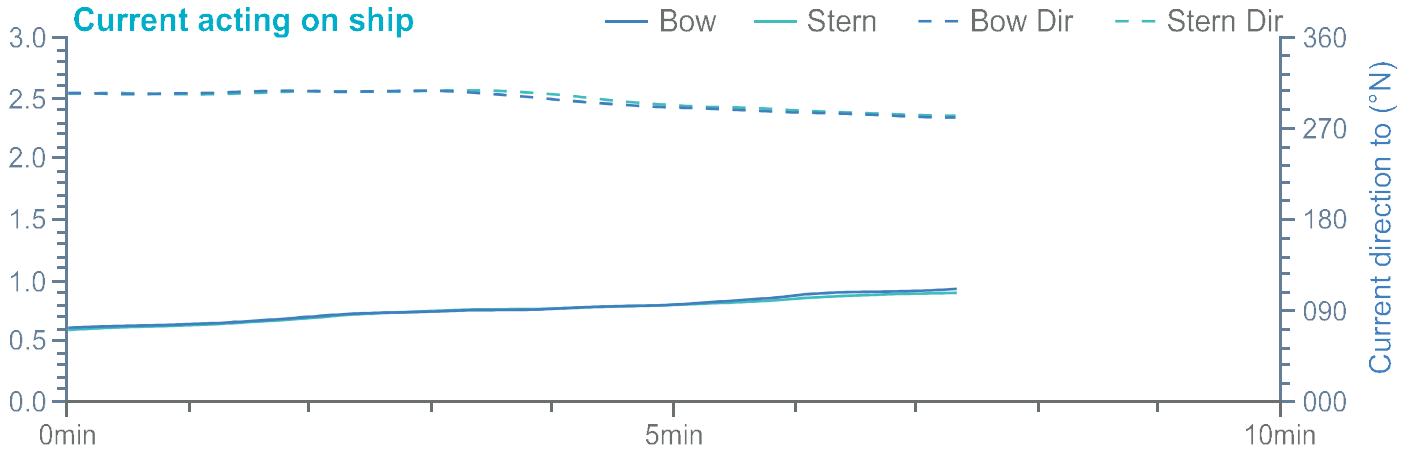
Ships plotted every 1 mins, highlight every 10 mins

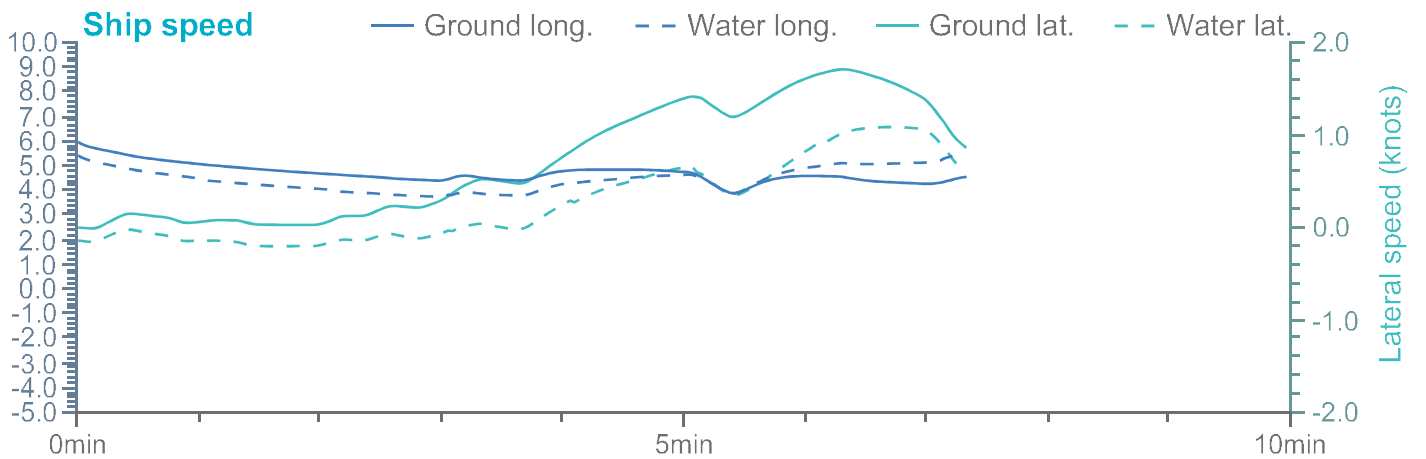
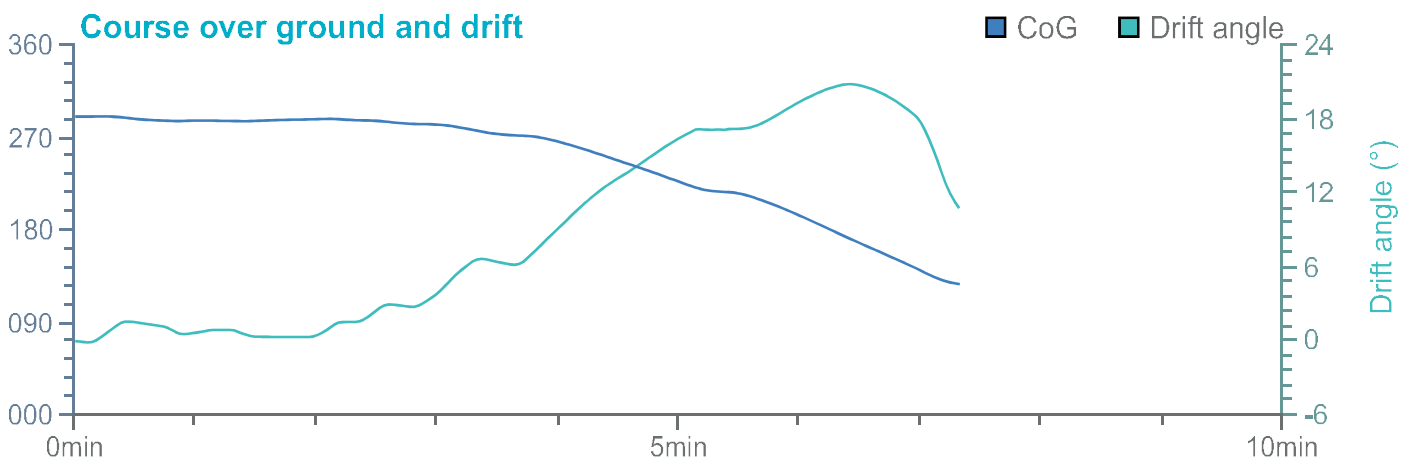
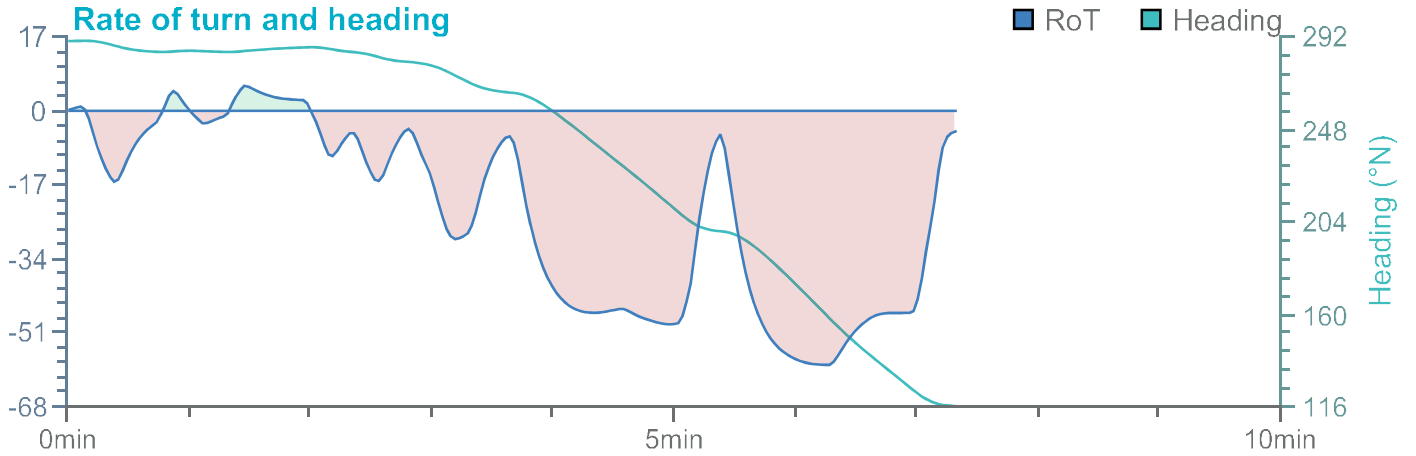
Summary

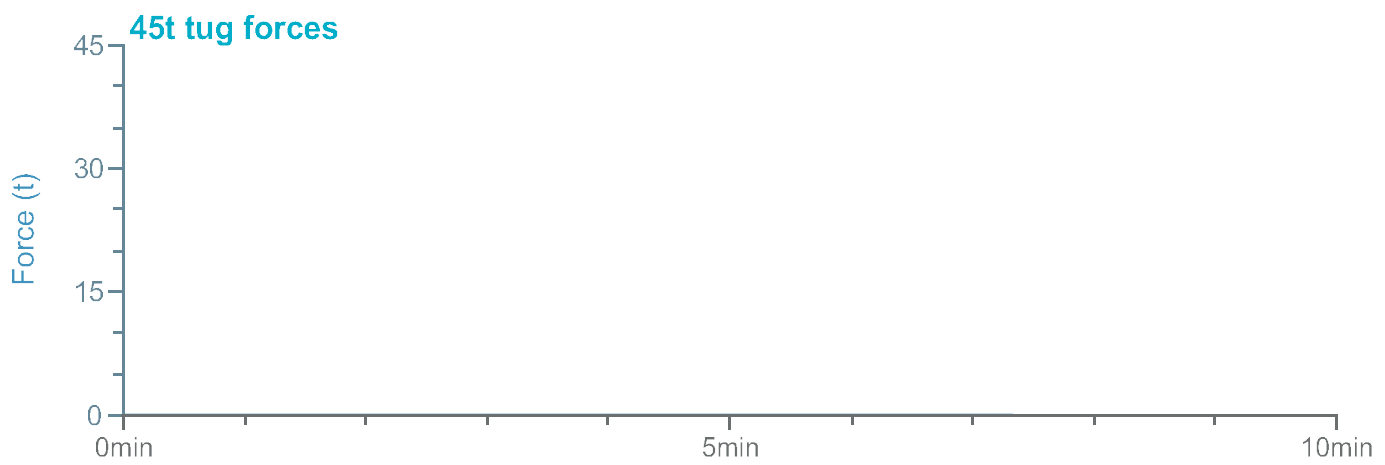
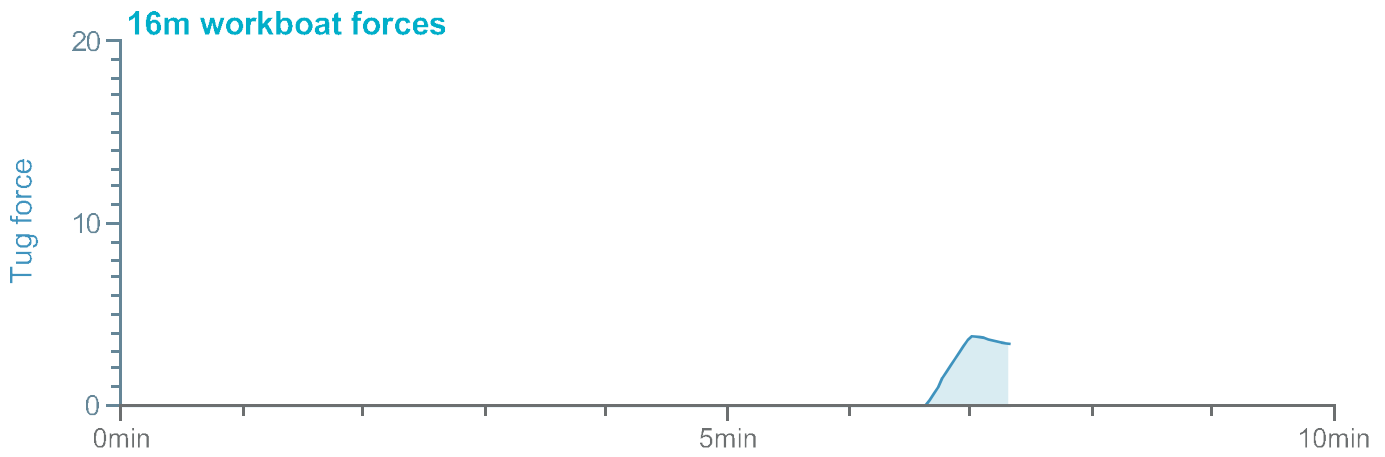
Environment

104m x 15m Product Tanker

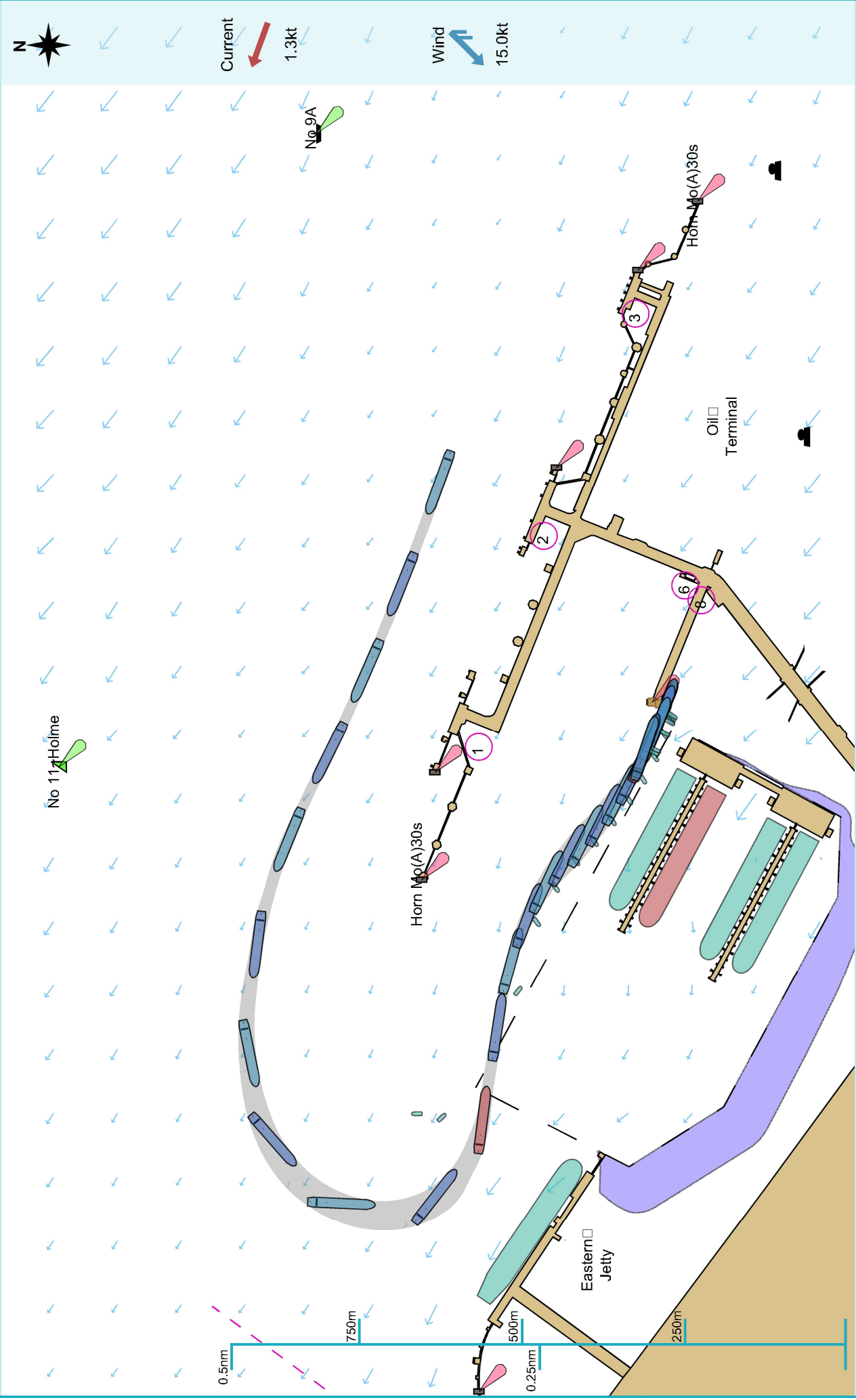
Tugs





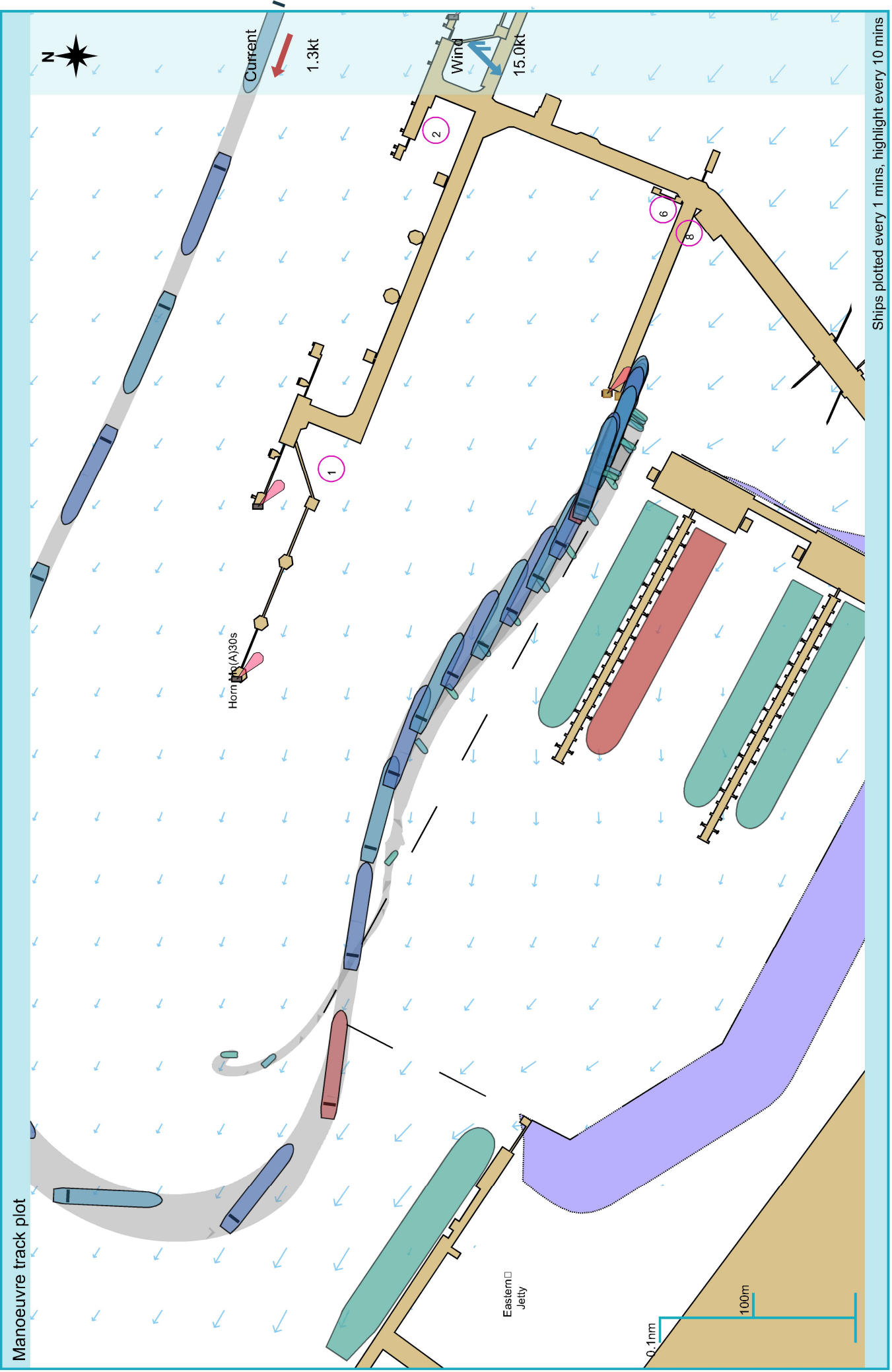


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot

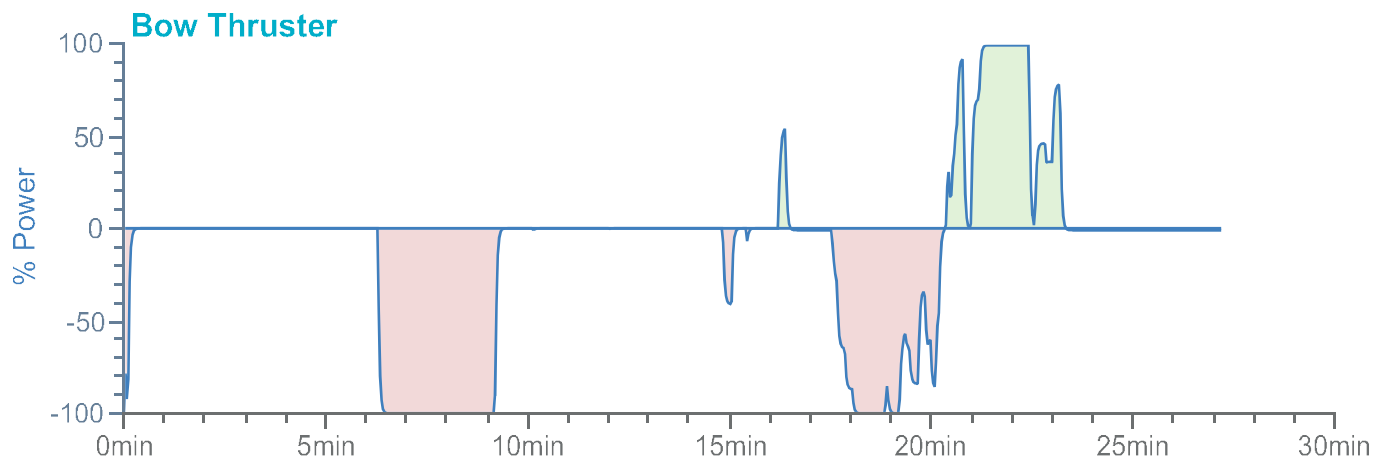
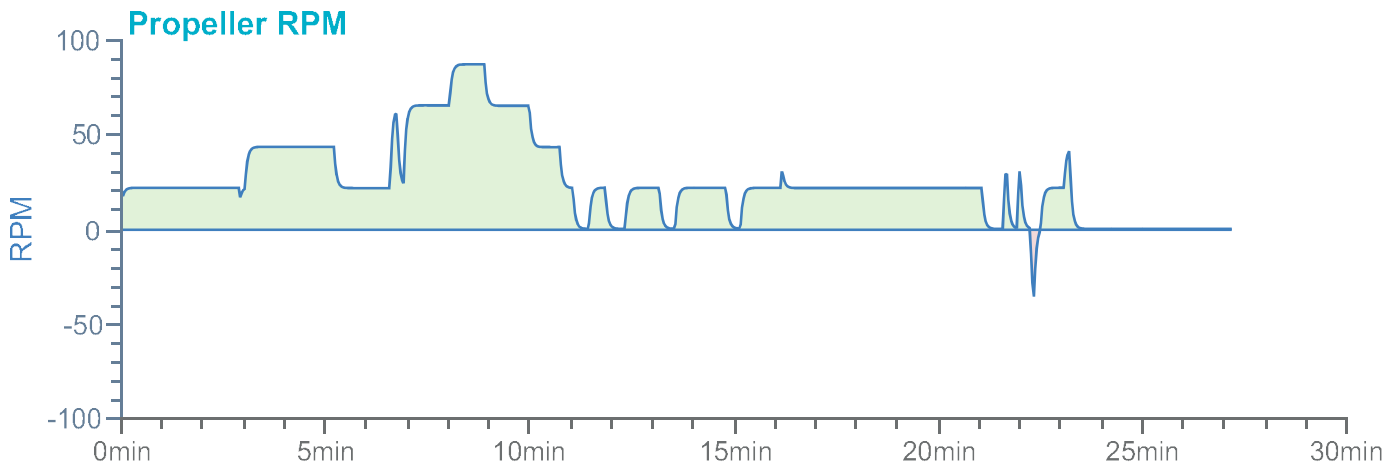
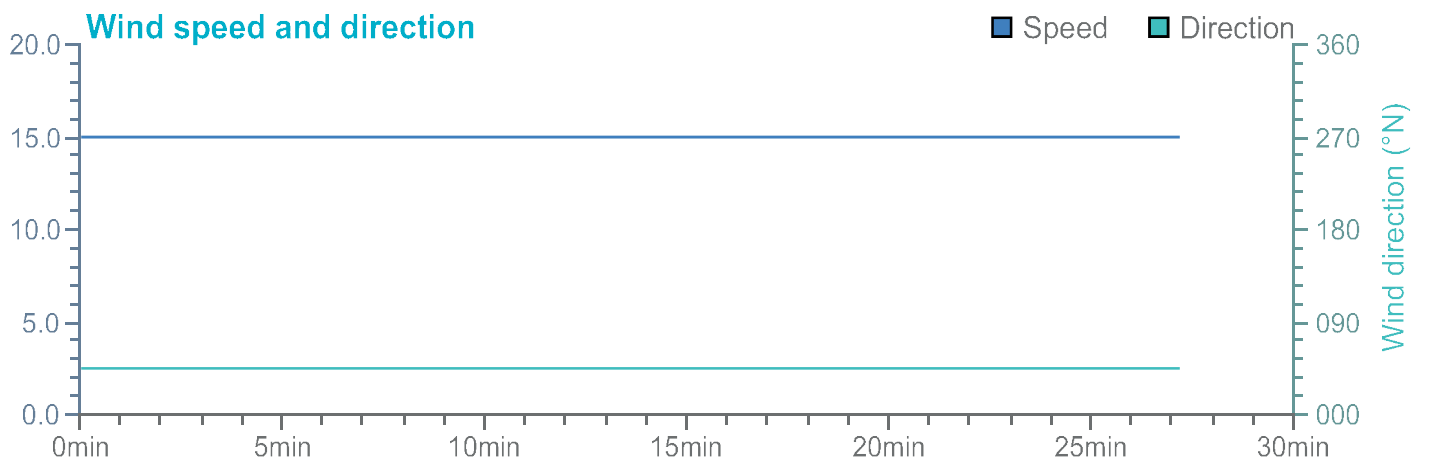
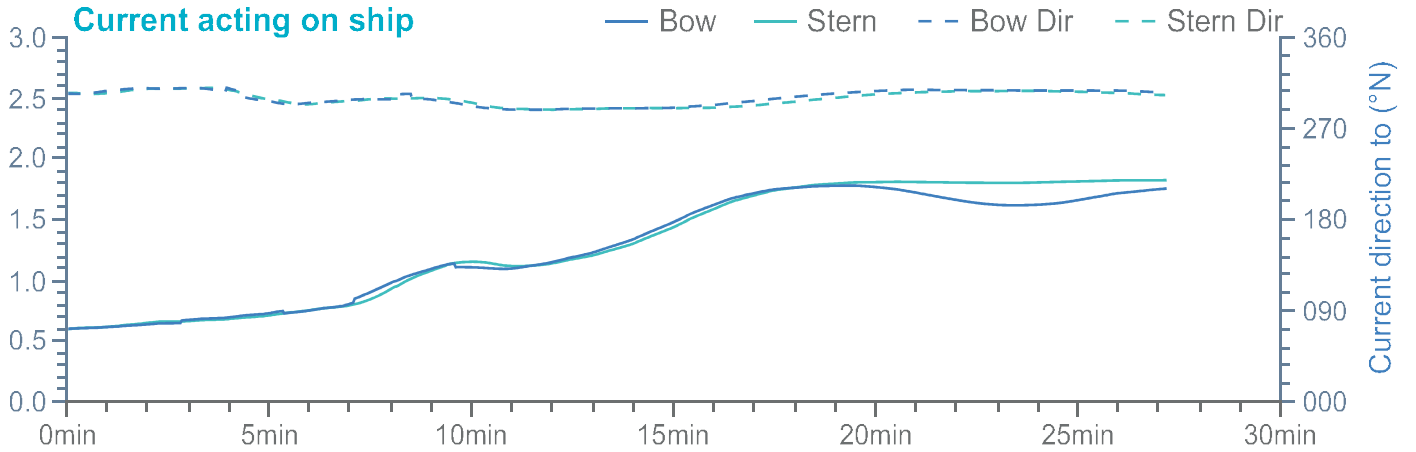


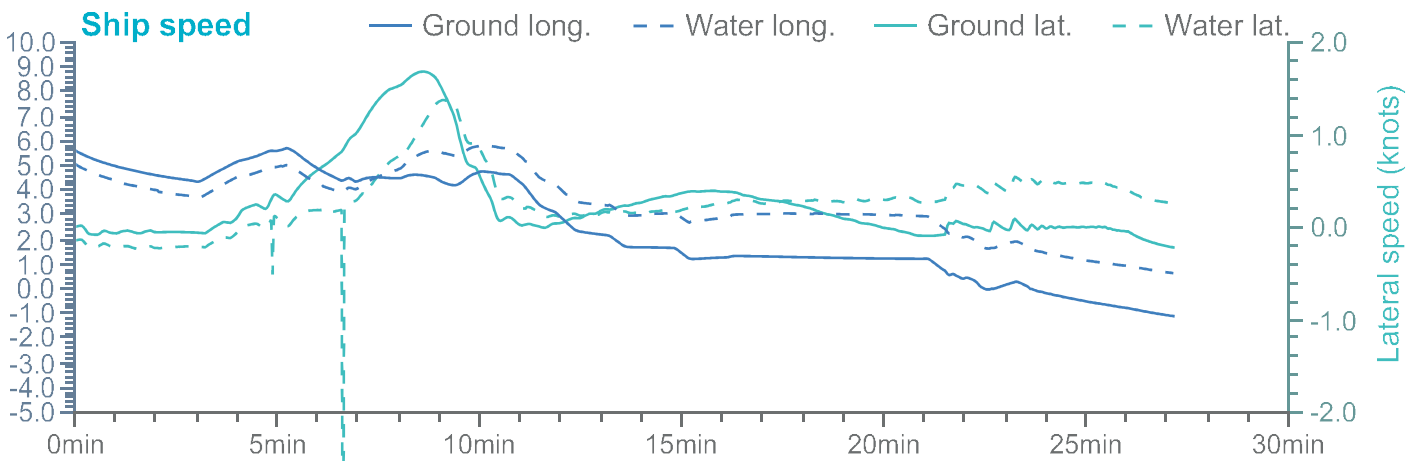
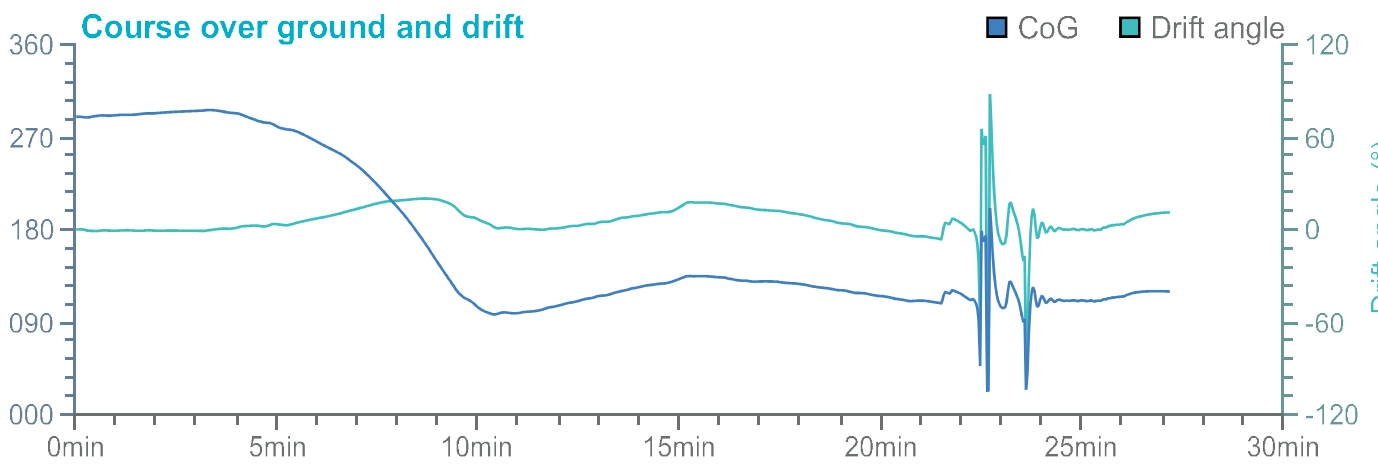
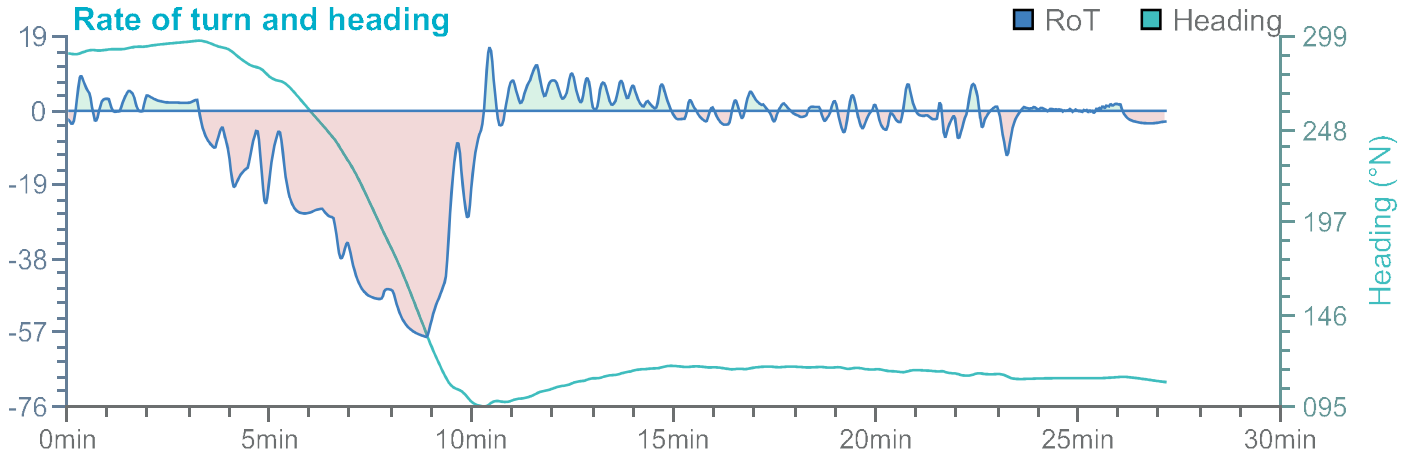
Summary

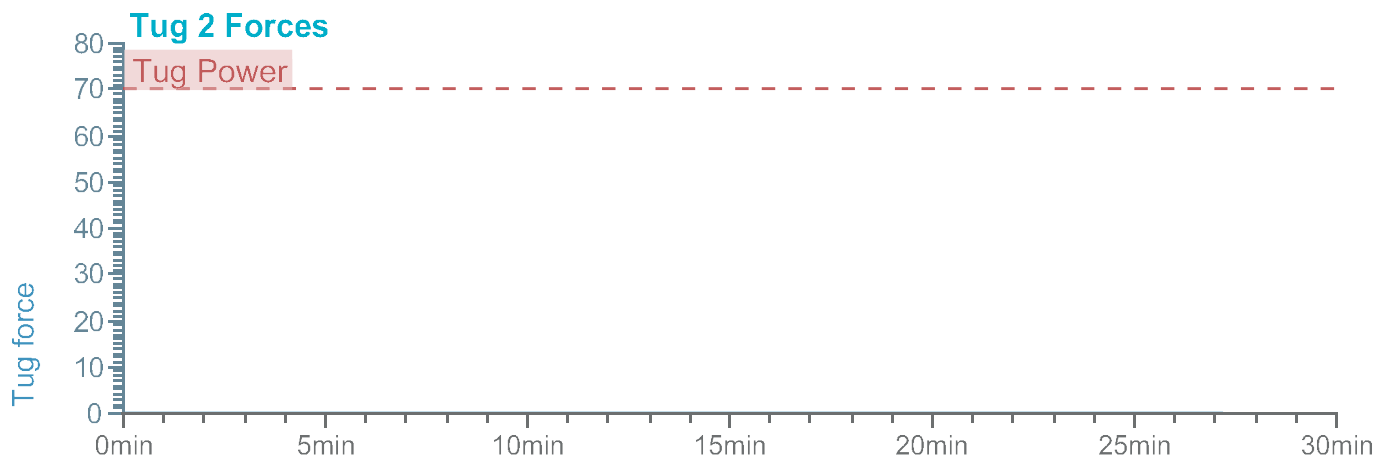
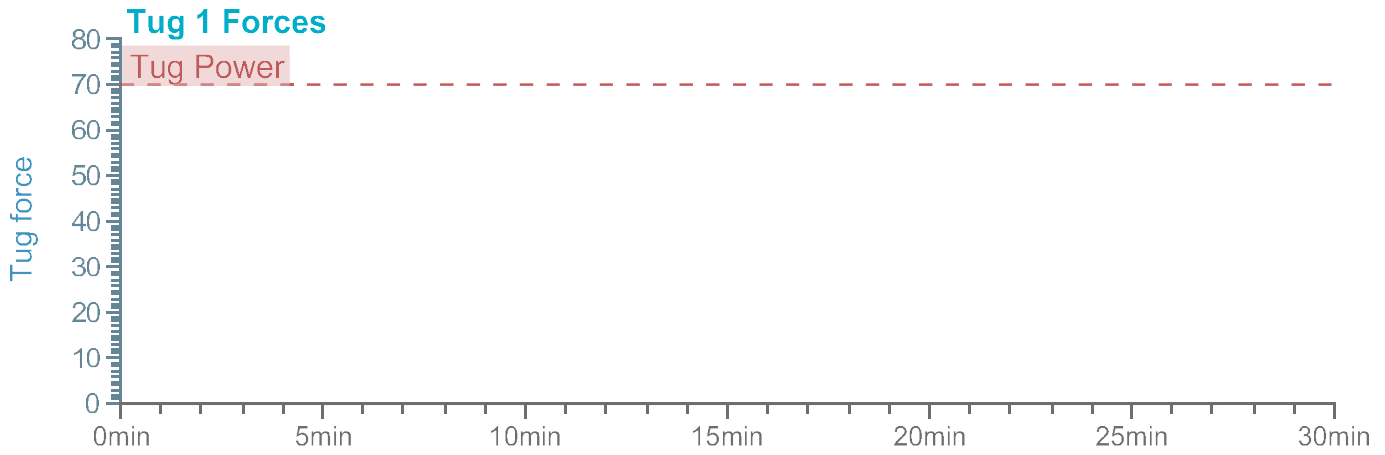
Environment

104m x 15m Product Tanker

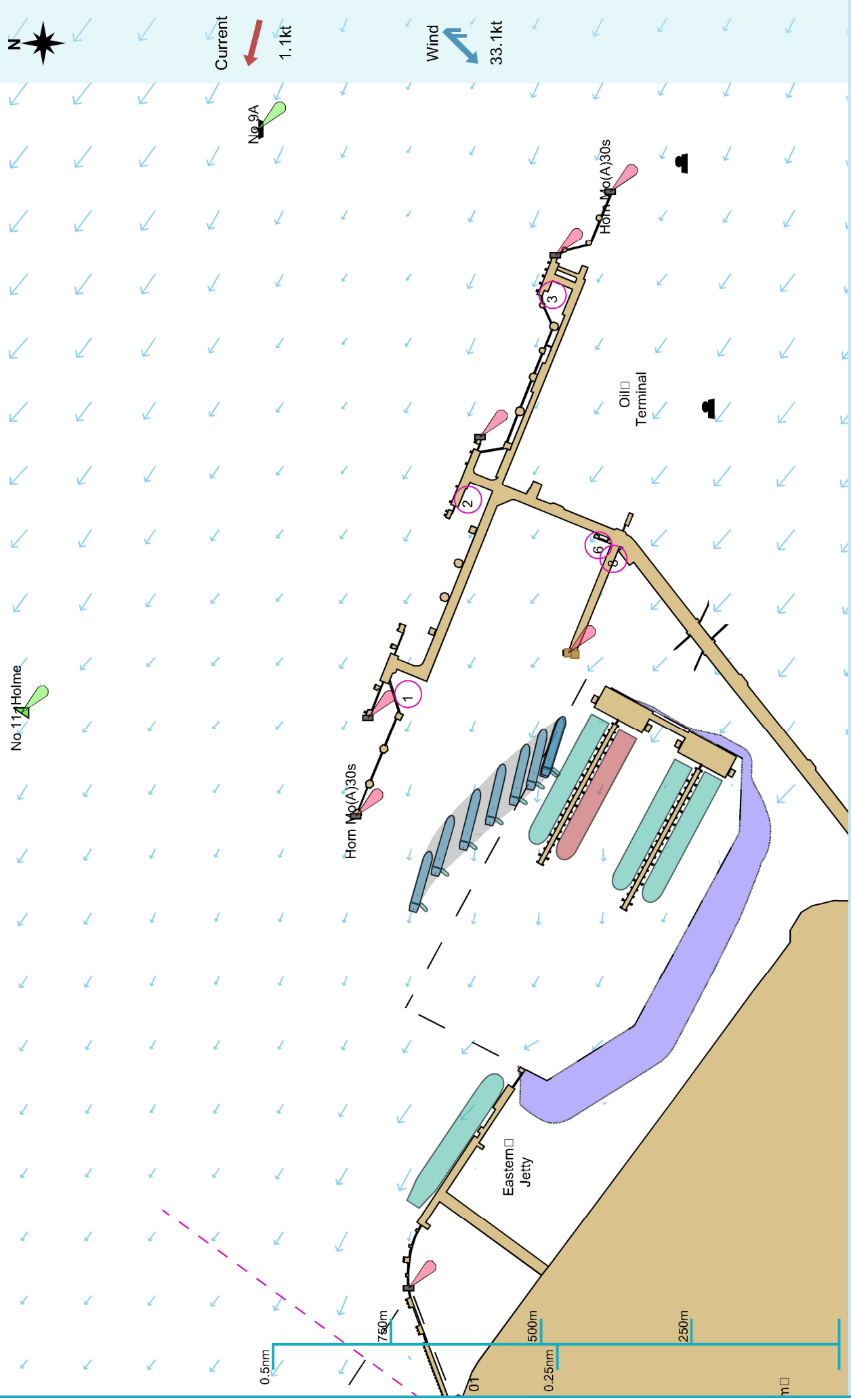
Tugs





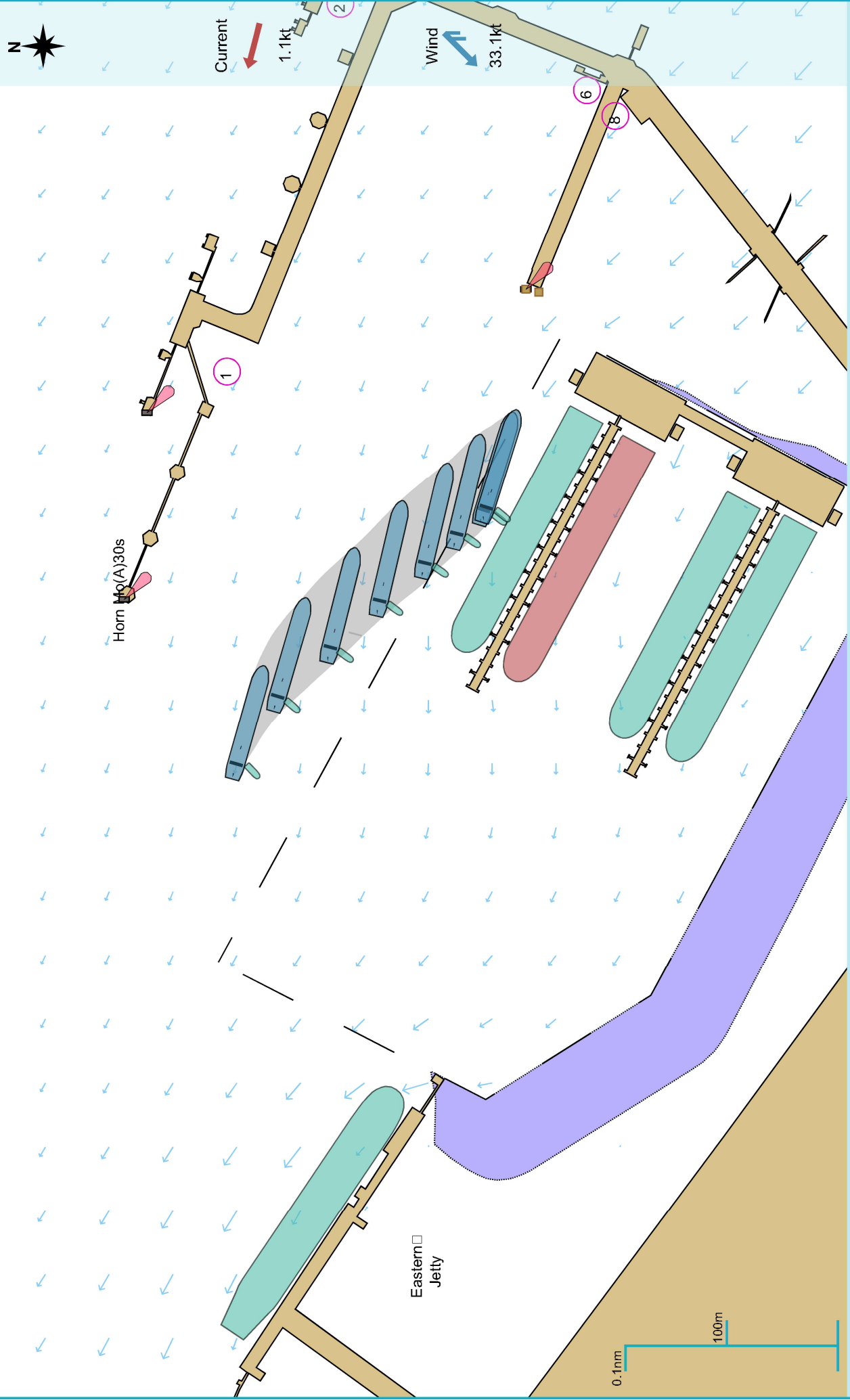


Manoeuvre track plot

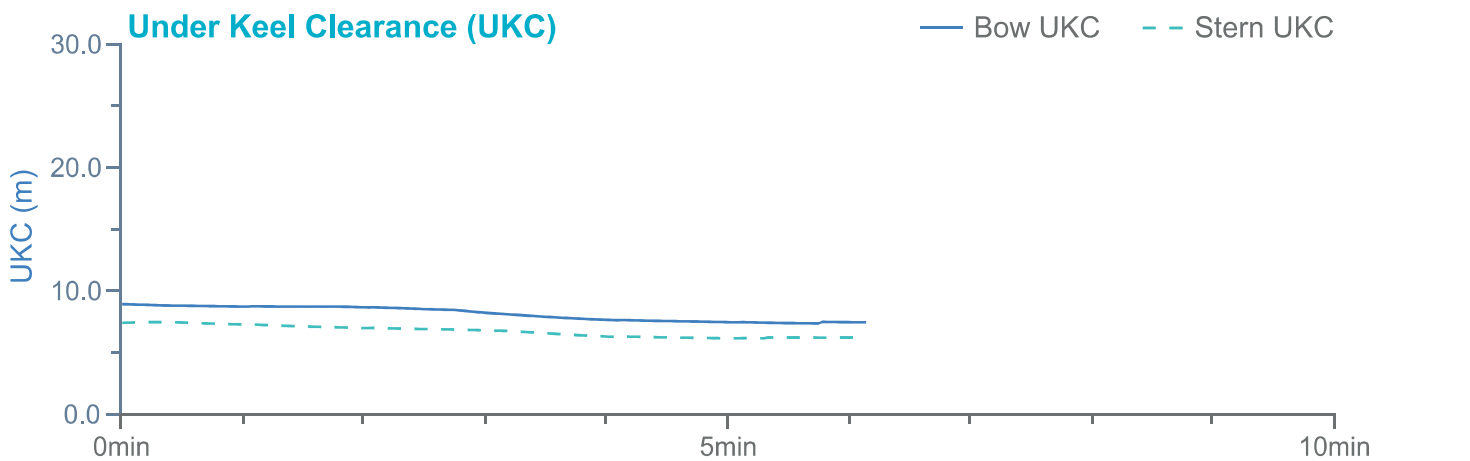
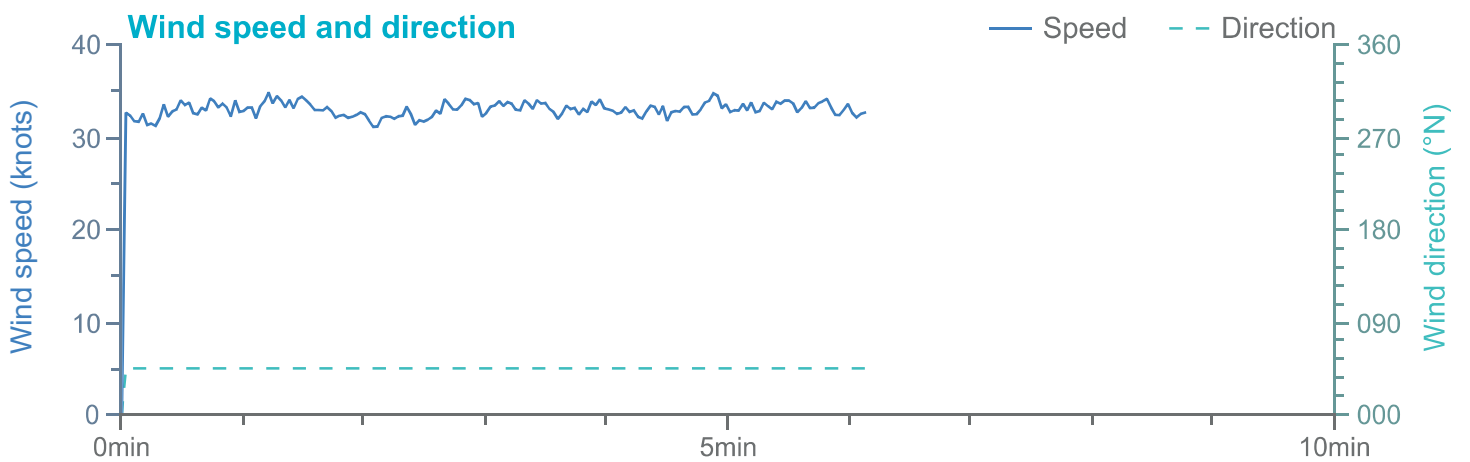
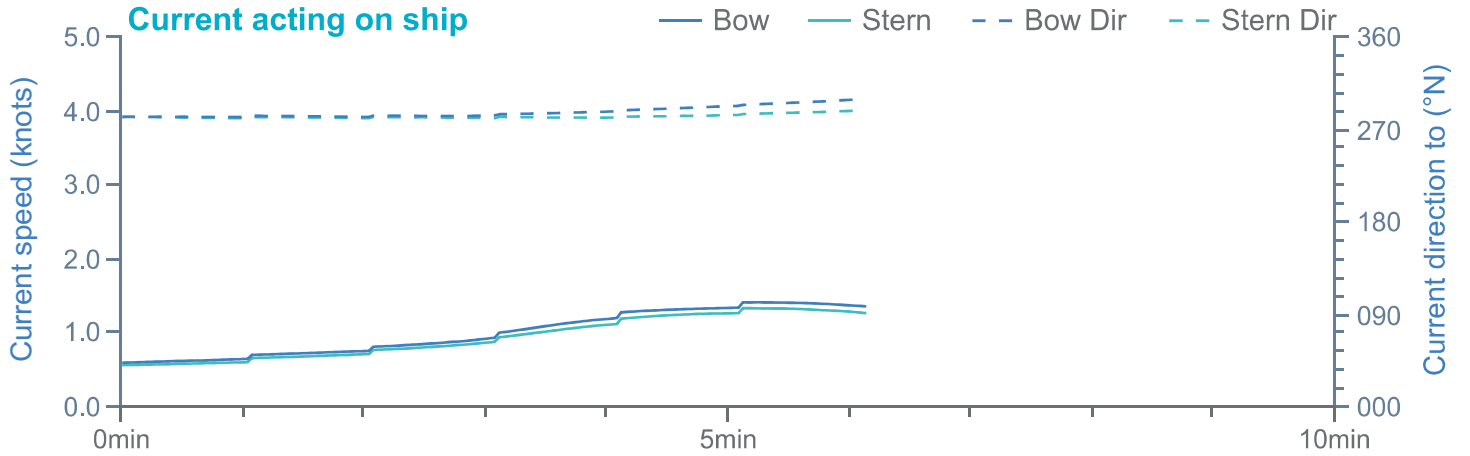


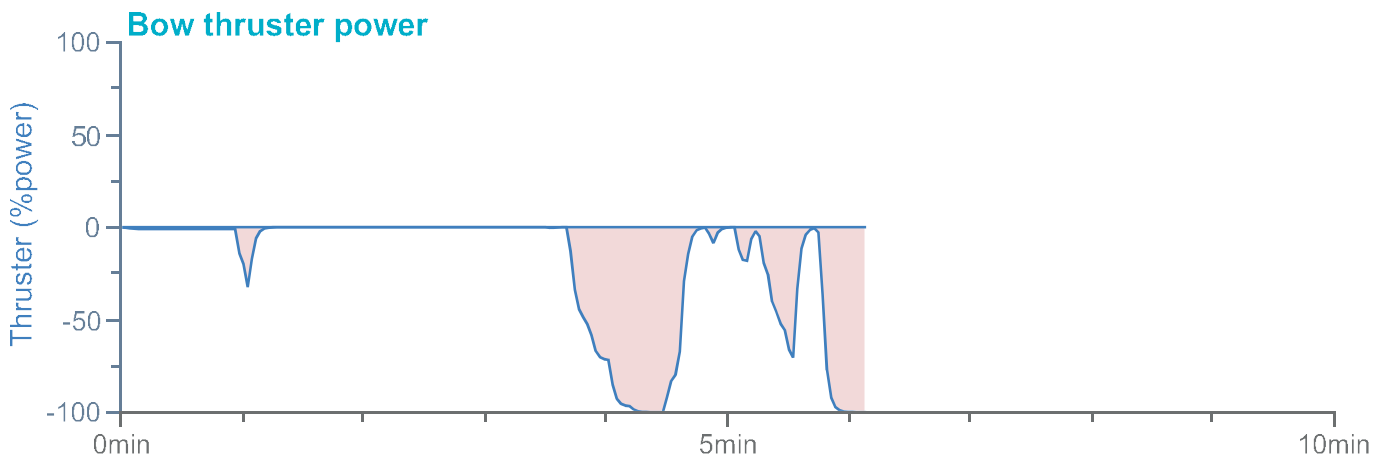
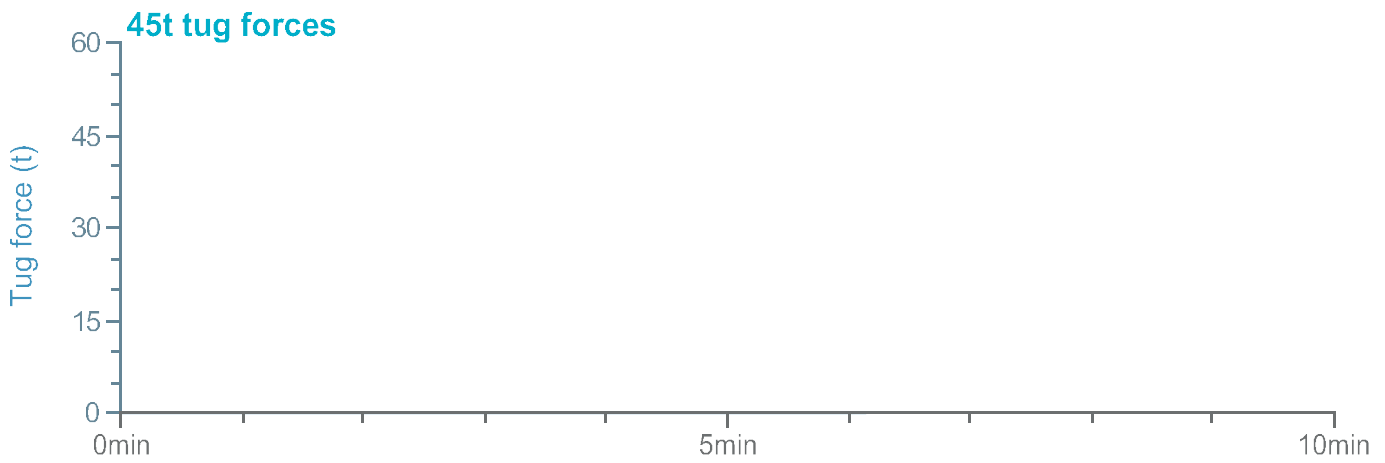
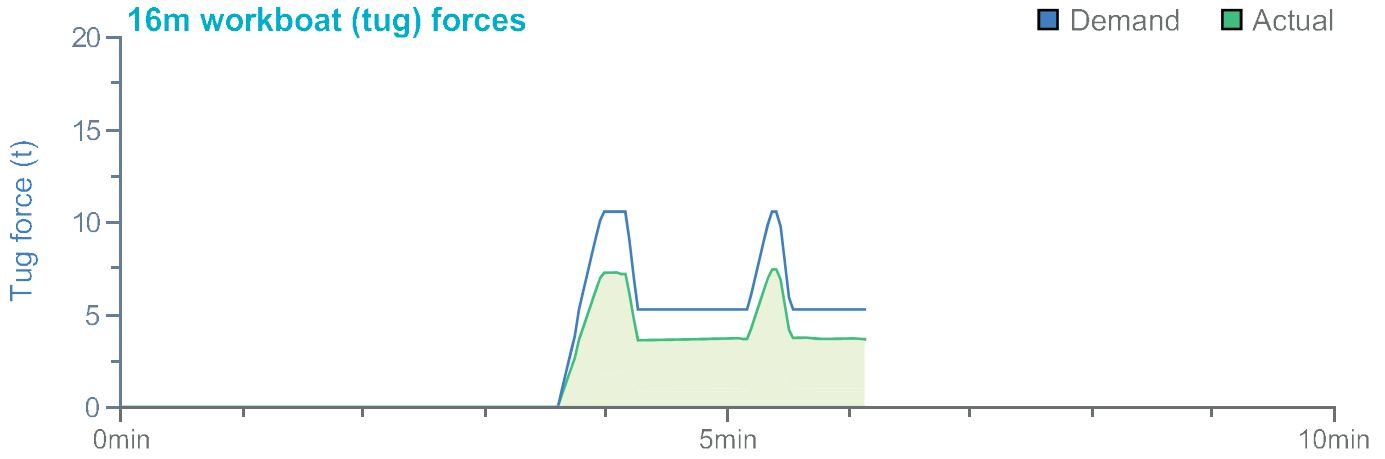
Ships plotted every 1 mins, highlight every 10 mins

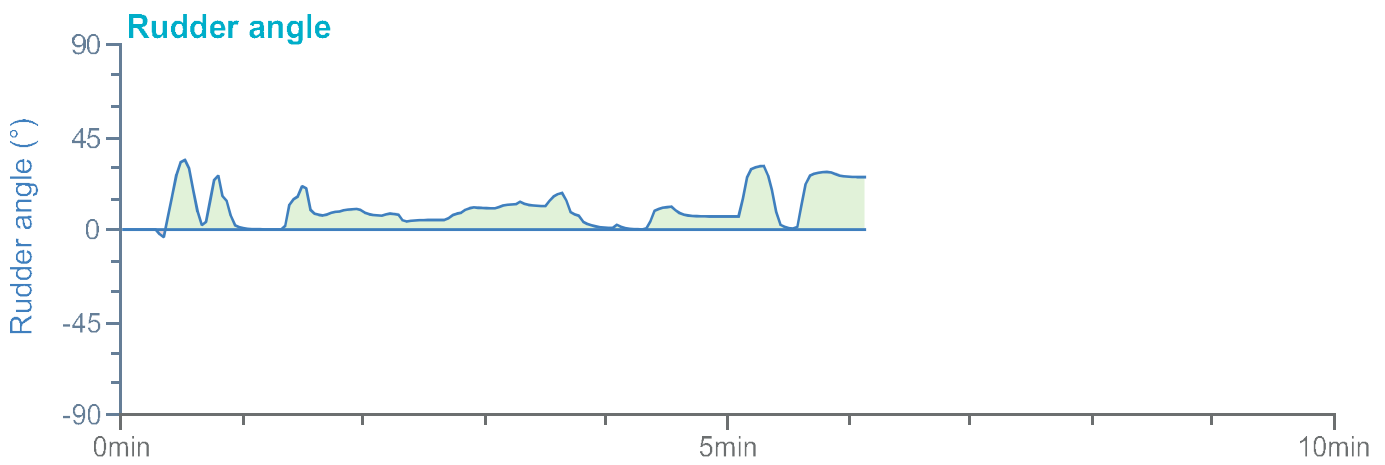
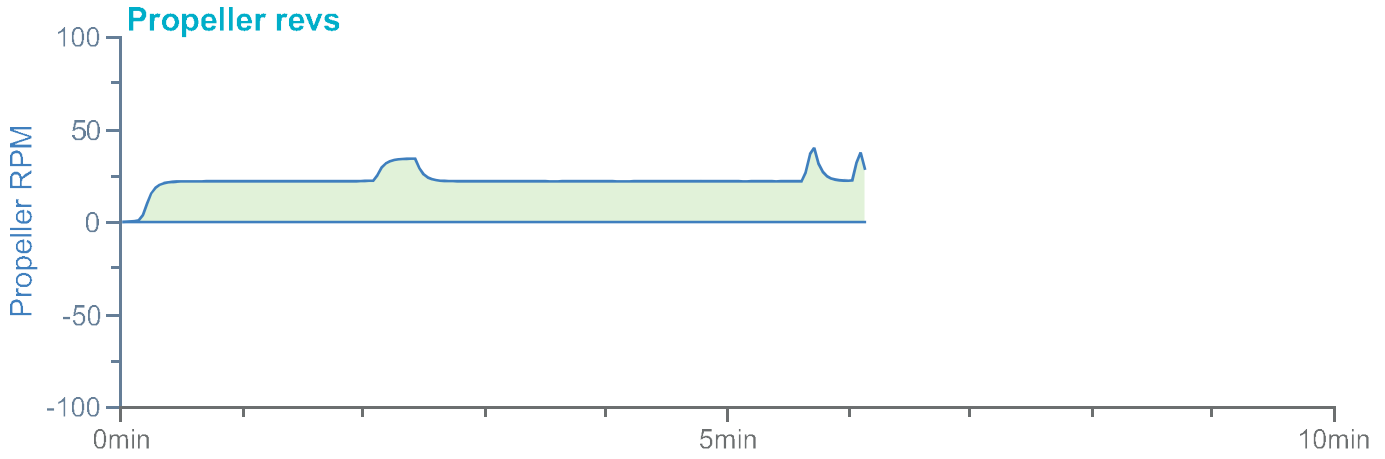
Manoeuvre track plot

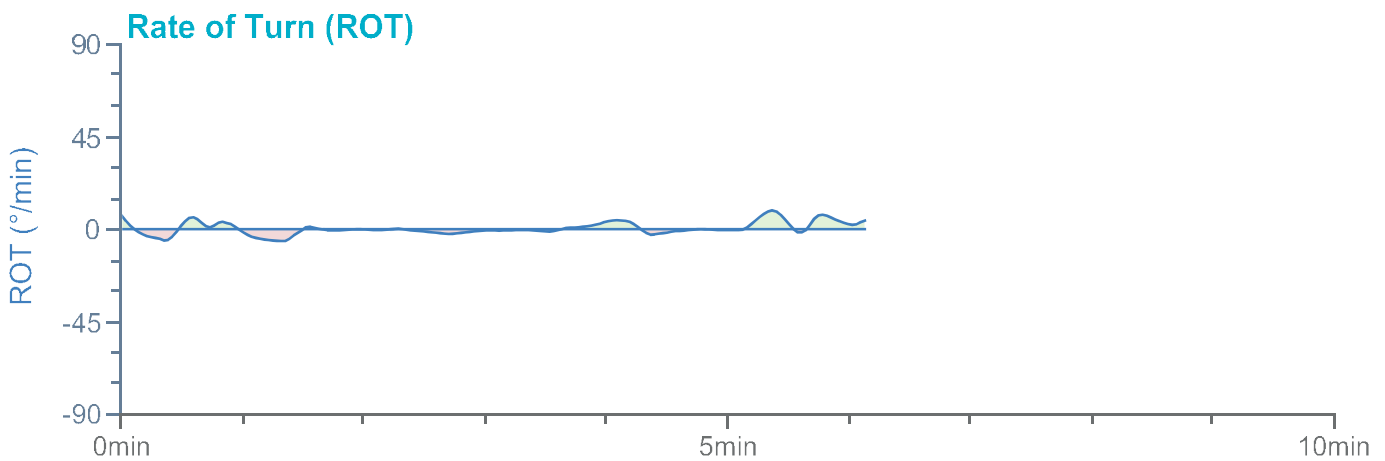
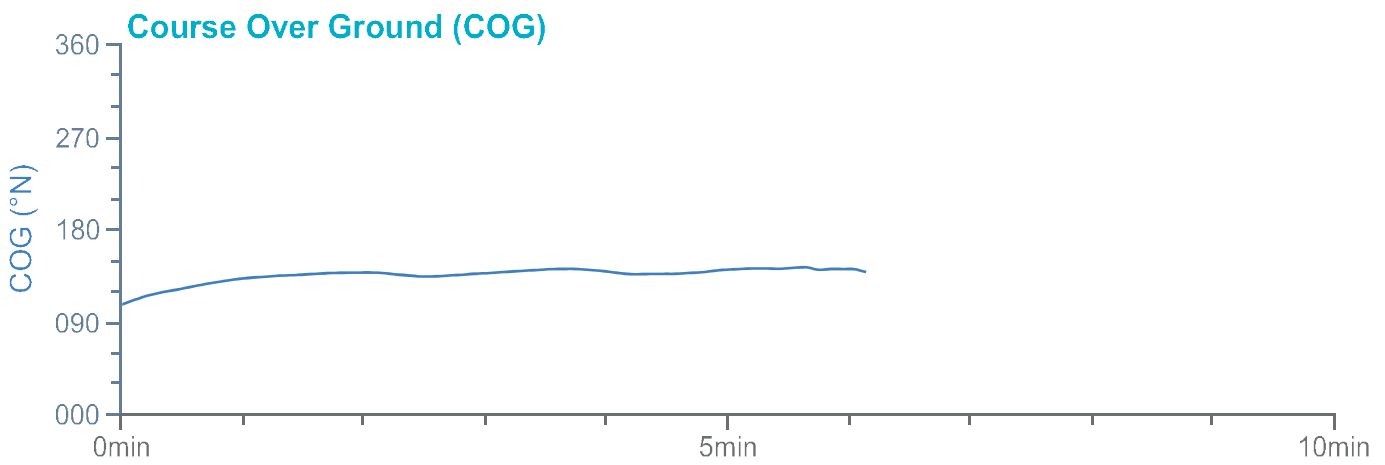
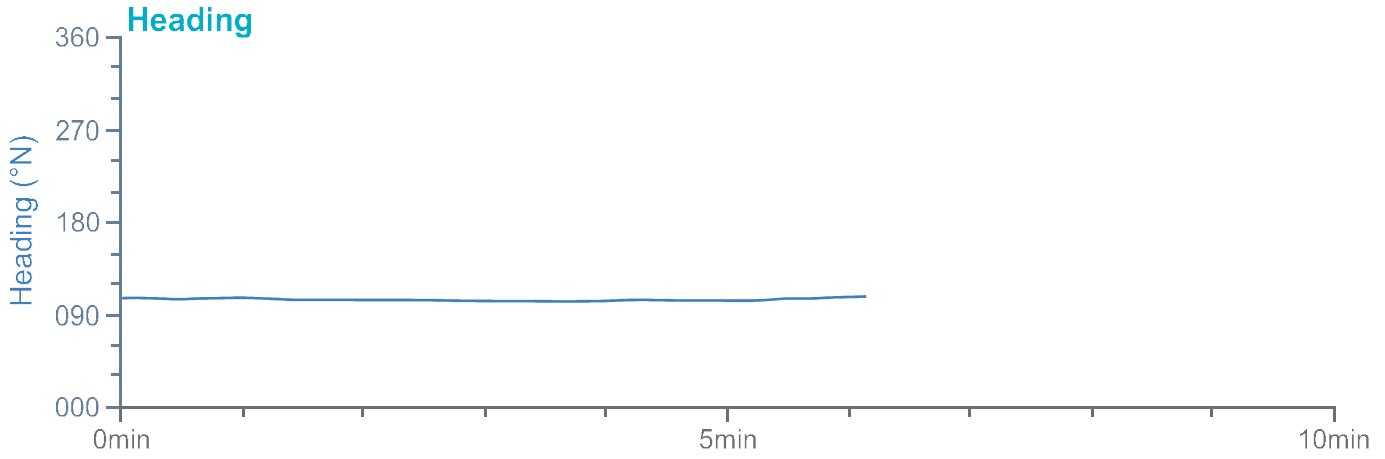


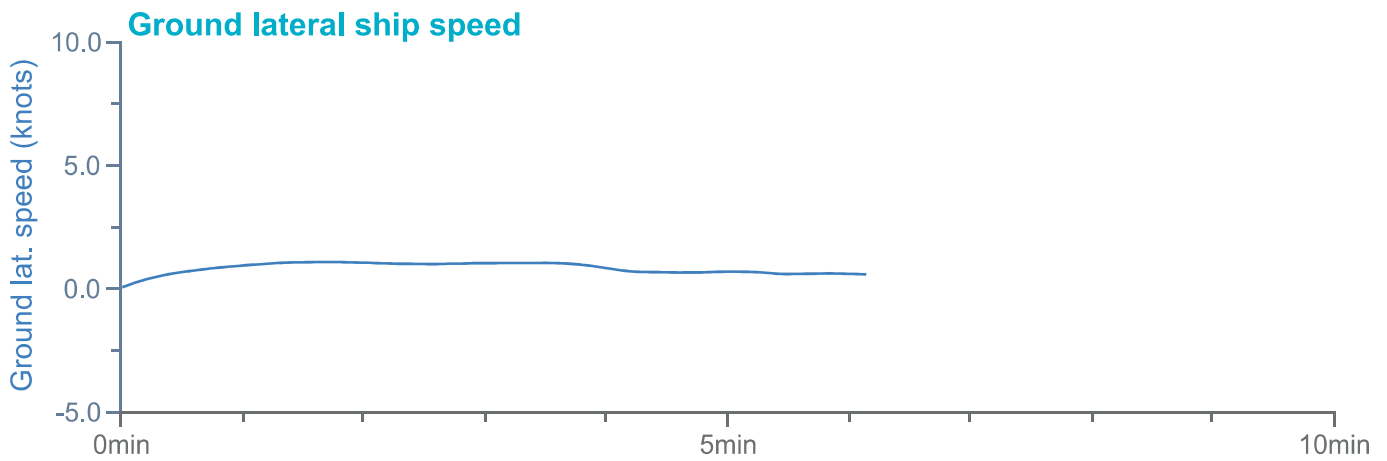
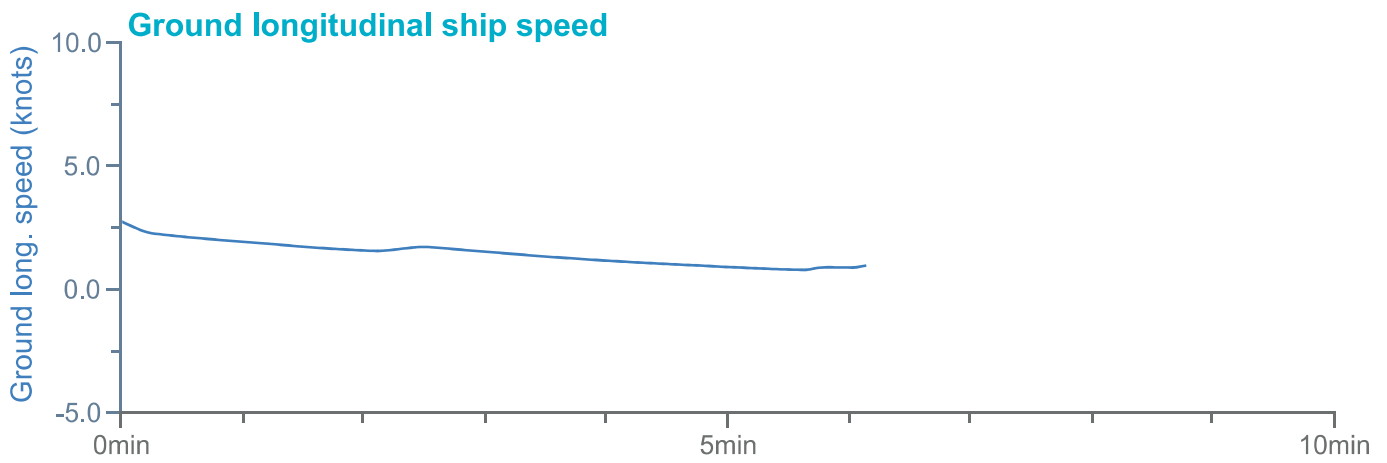
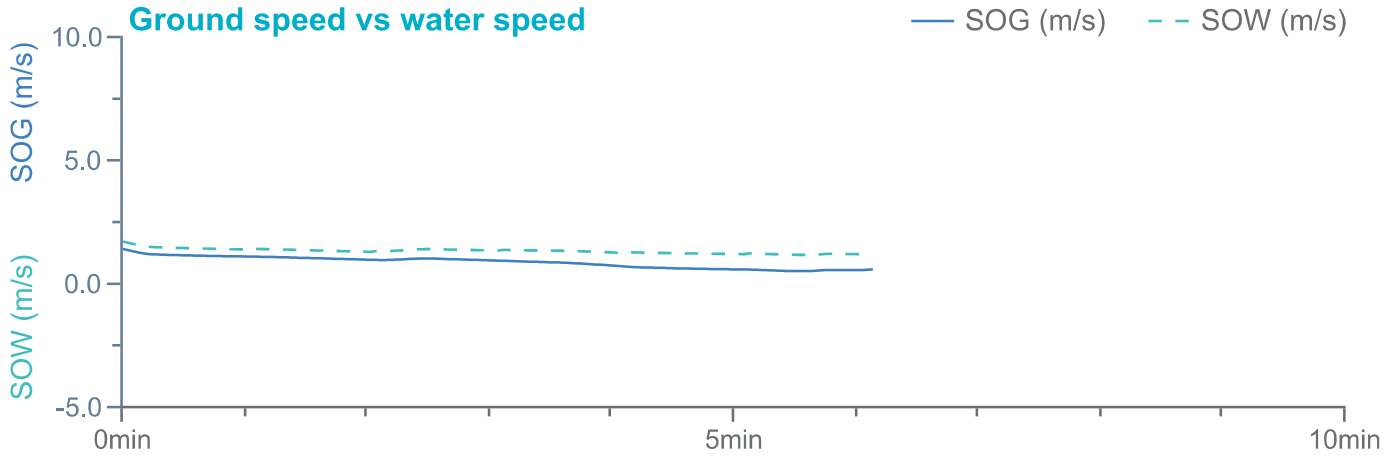
Ships plotted every 1 mins, highlight every 10 mins



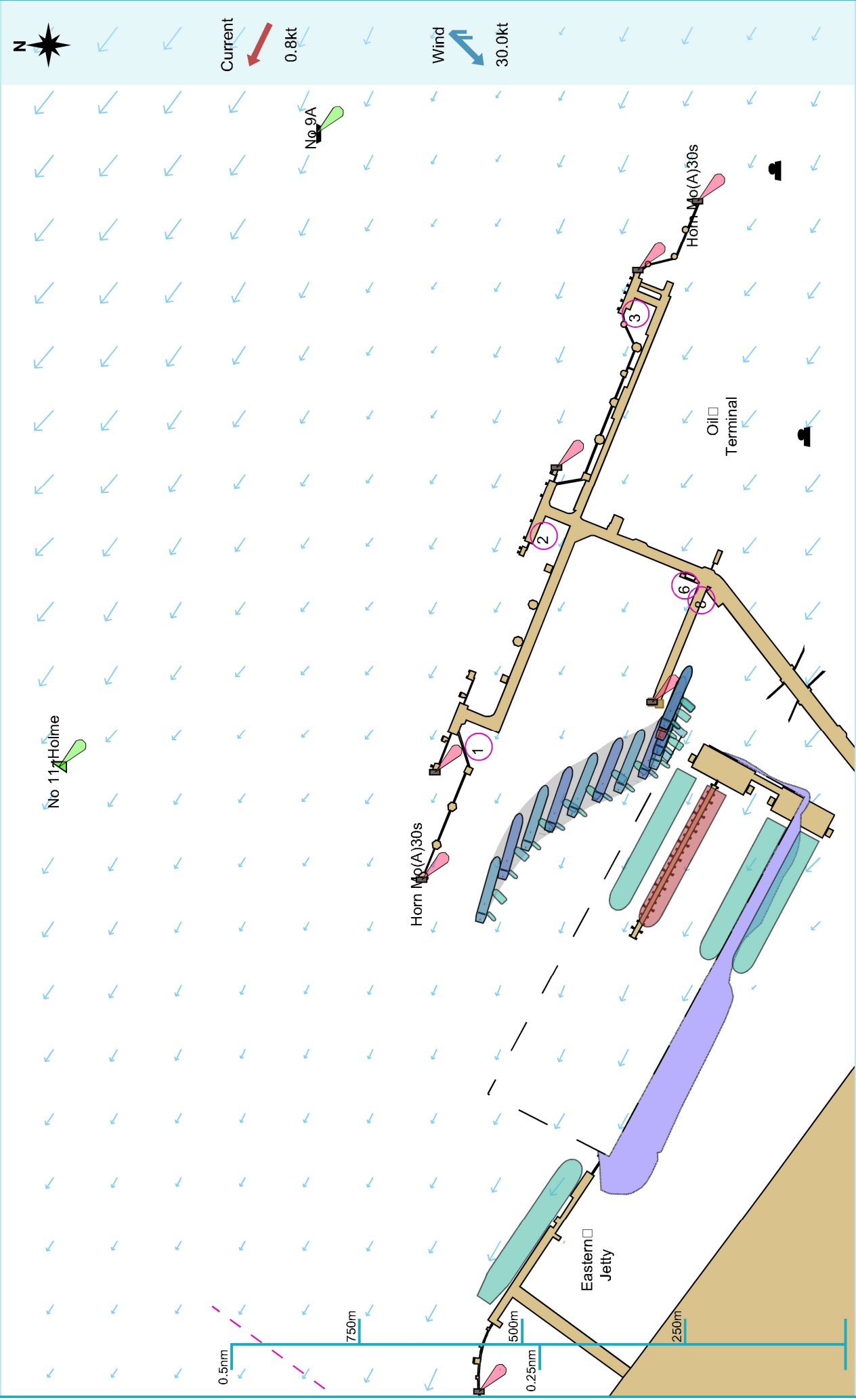






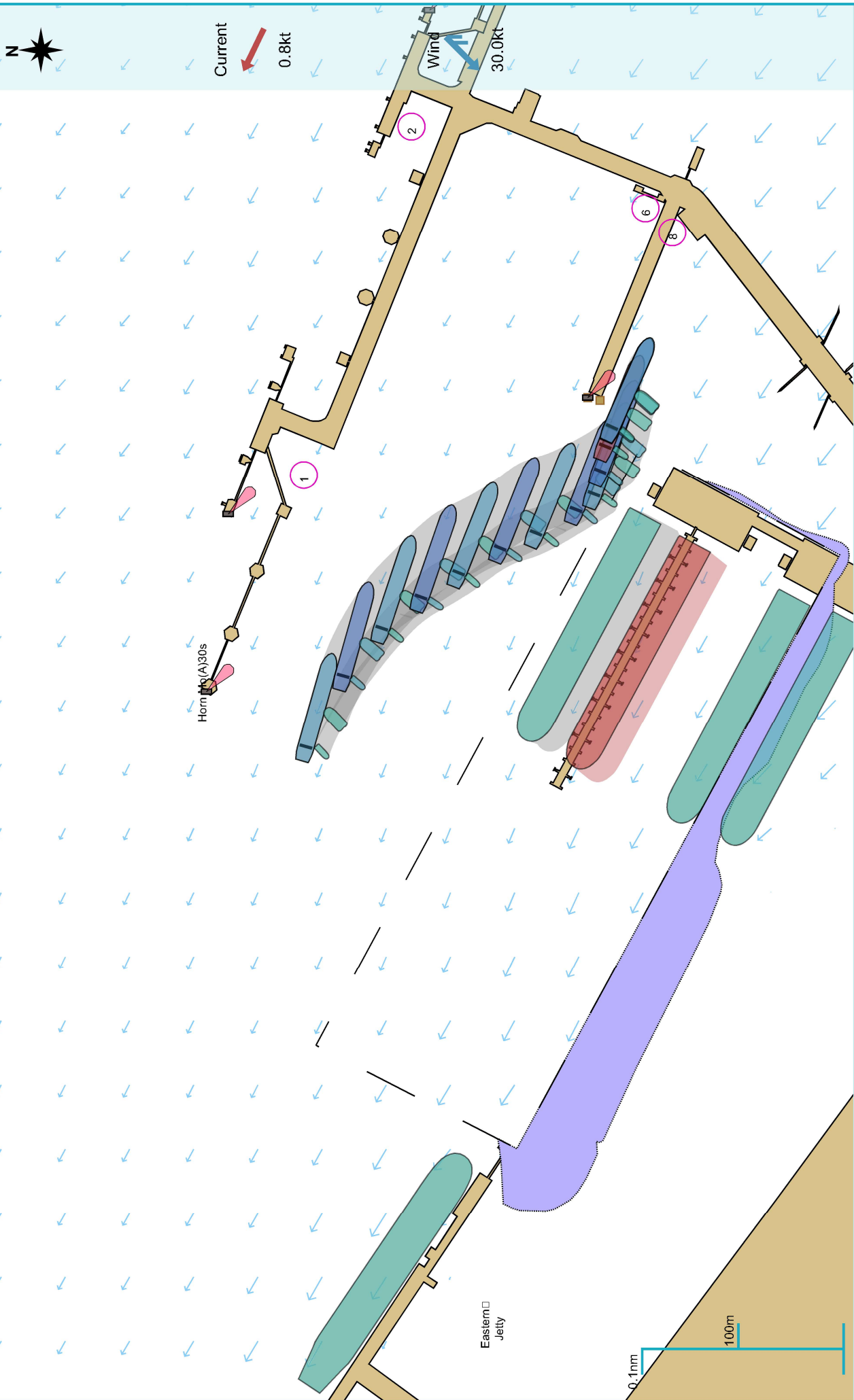


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

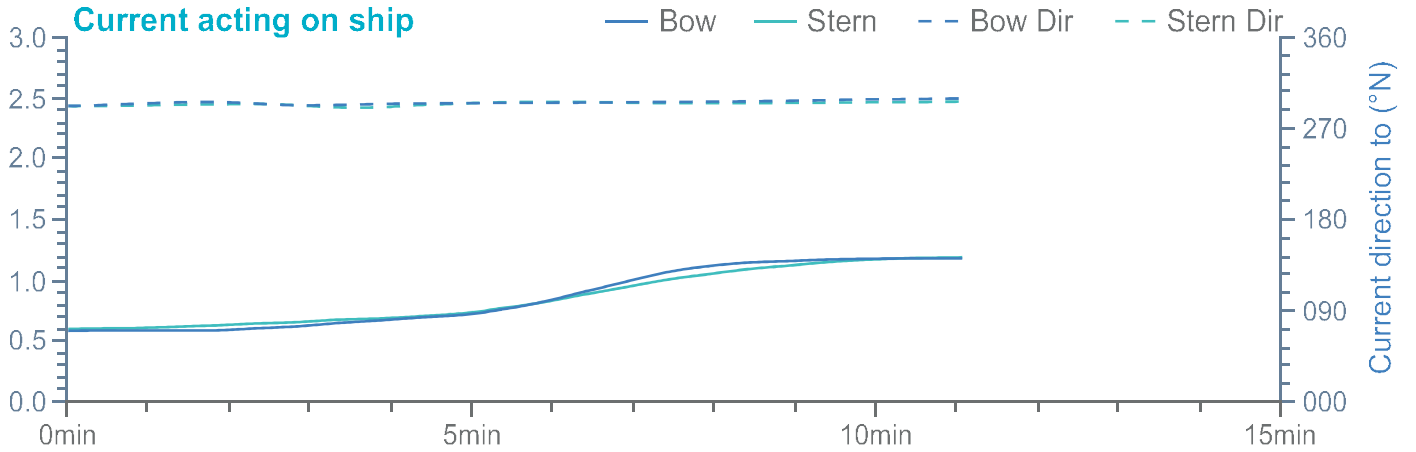
Summary

Environment

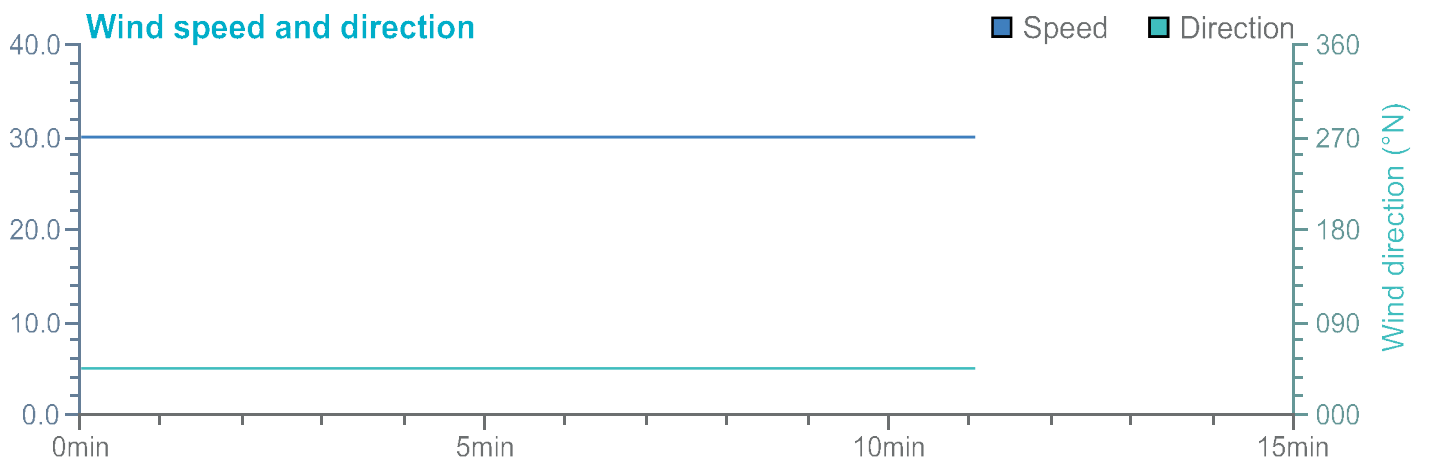
104m x 15m Product Tanker

Tugs

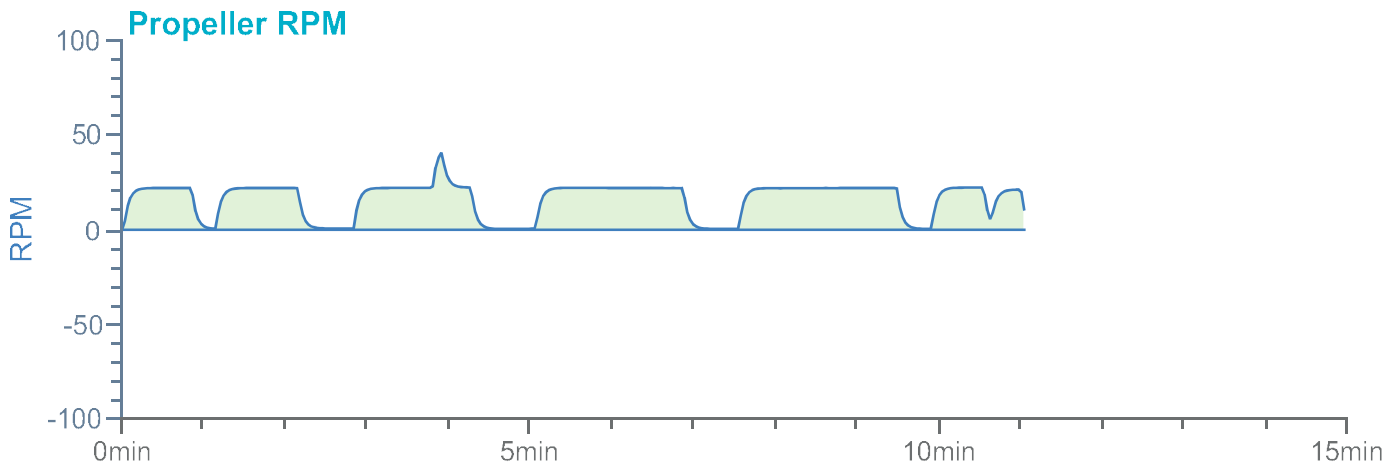
Current acting on ship



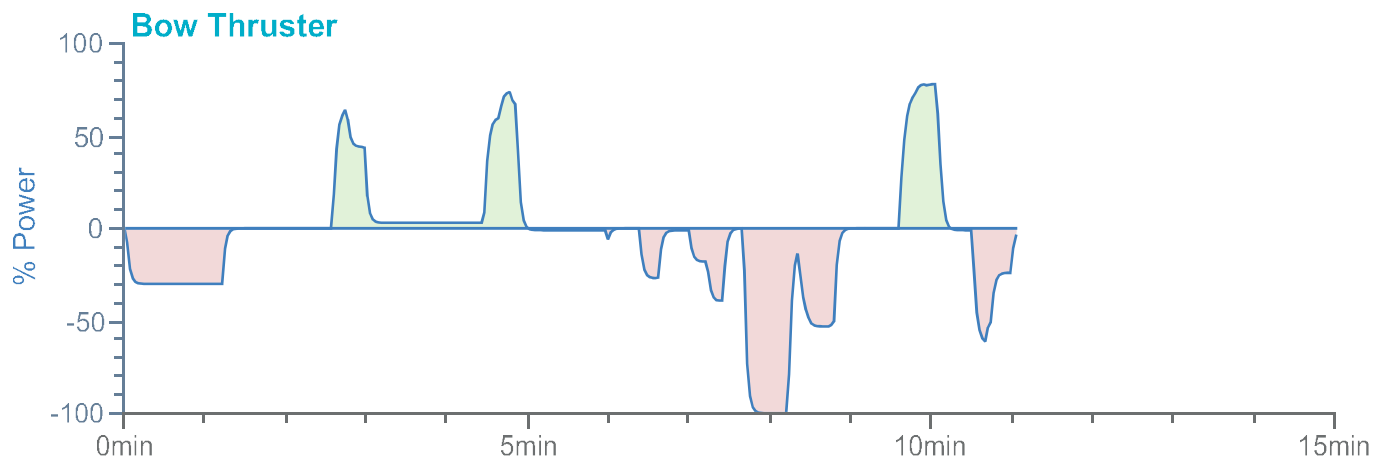
Wind speed and direction

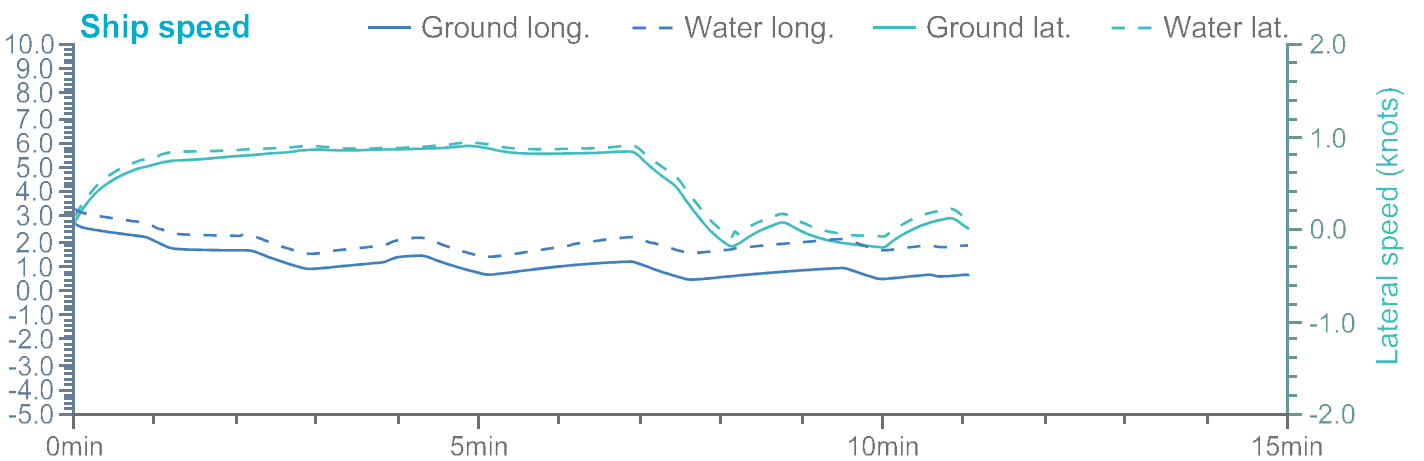
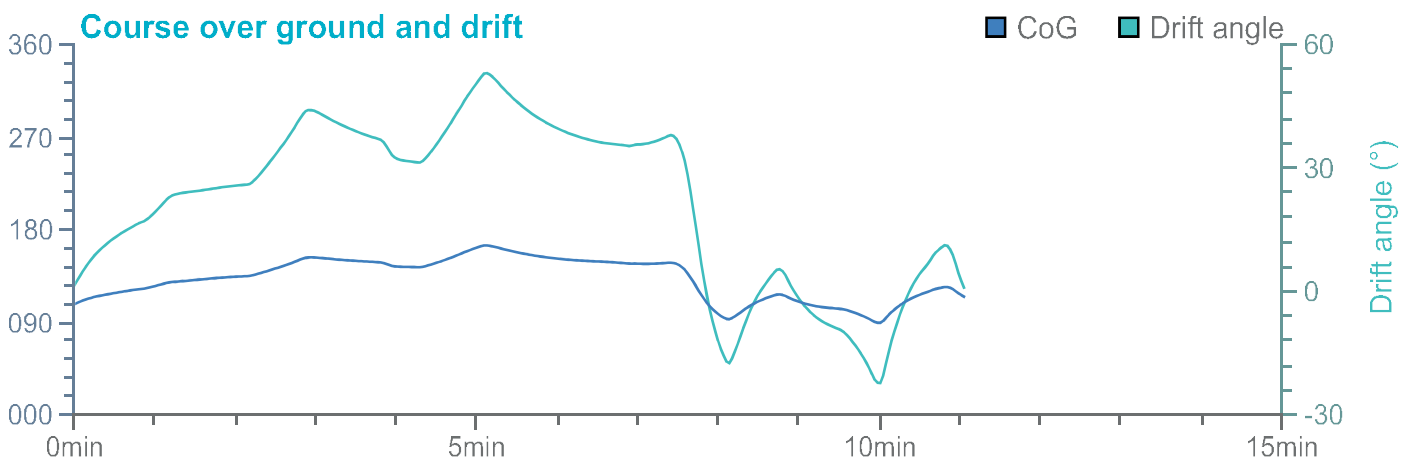
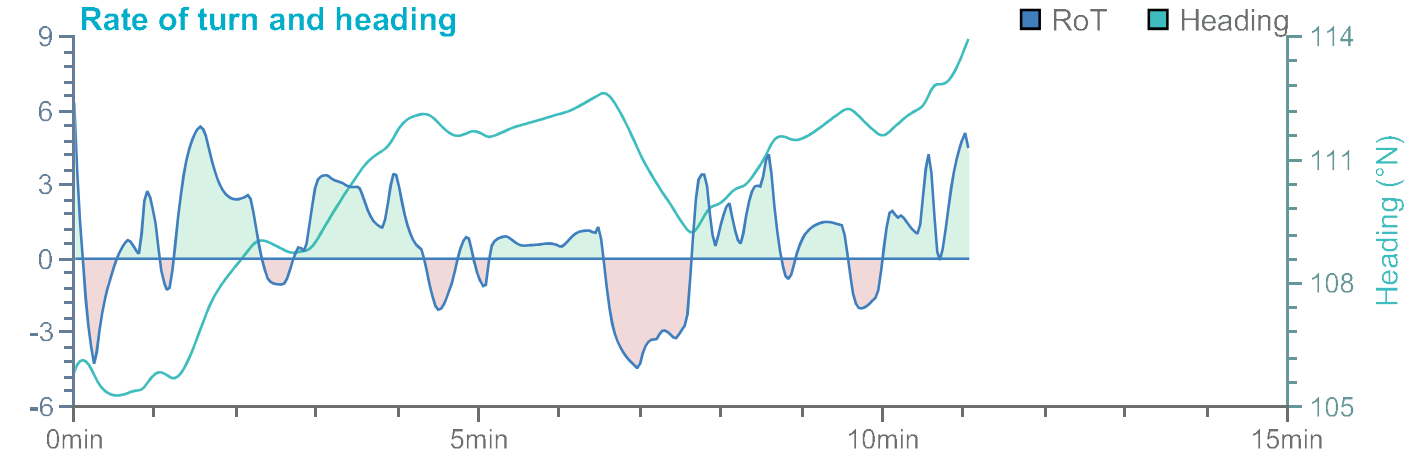


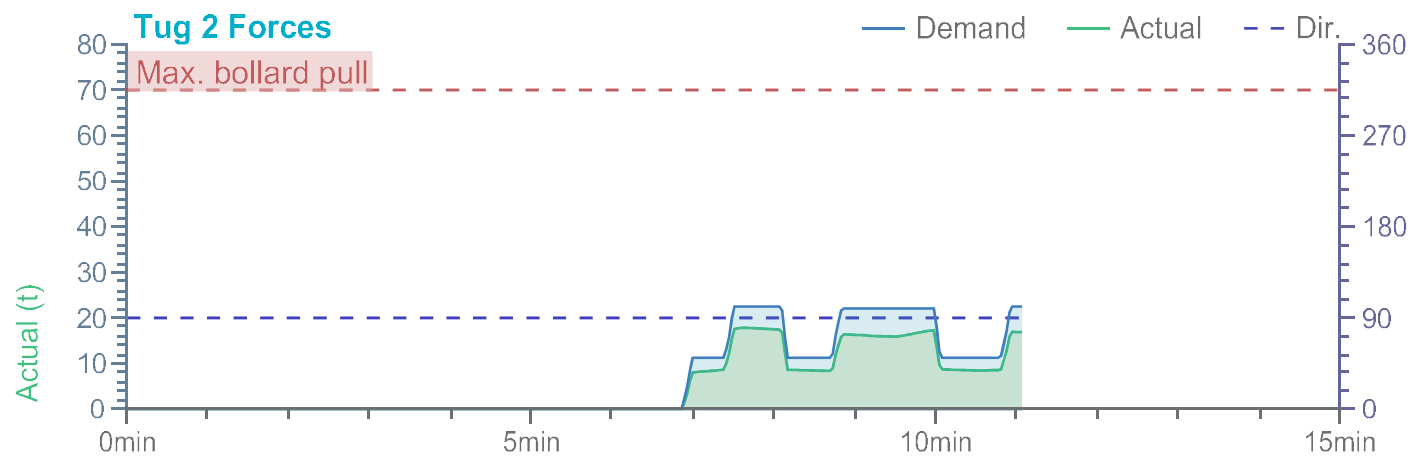
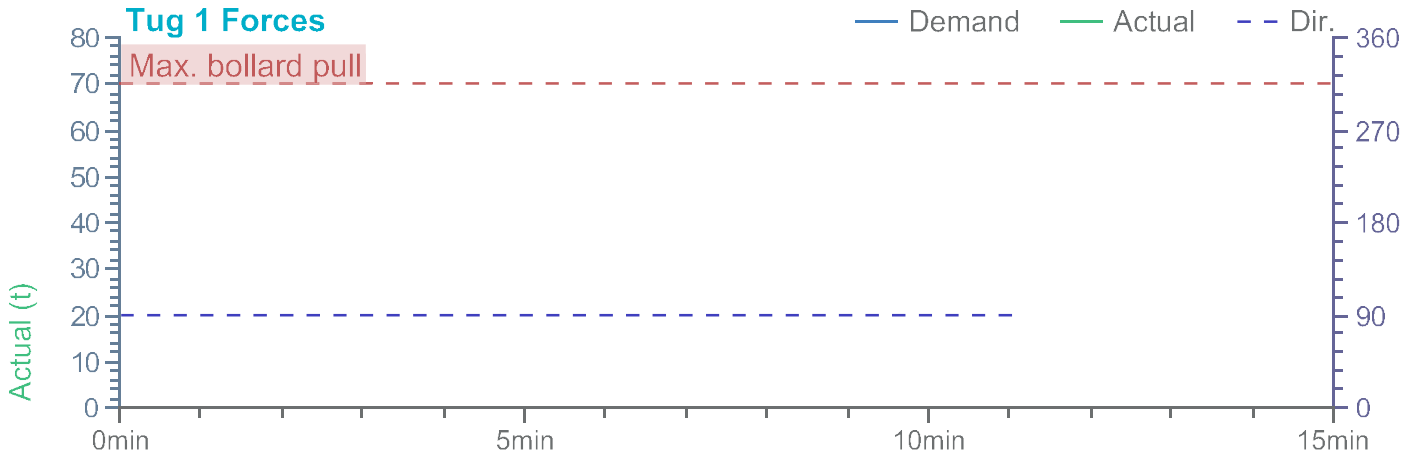
Propeller RPM



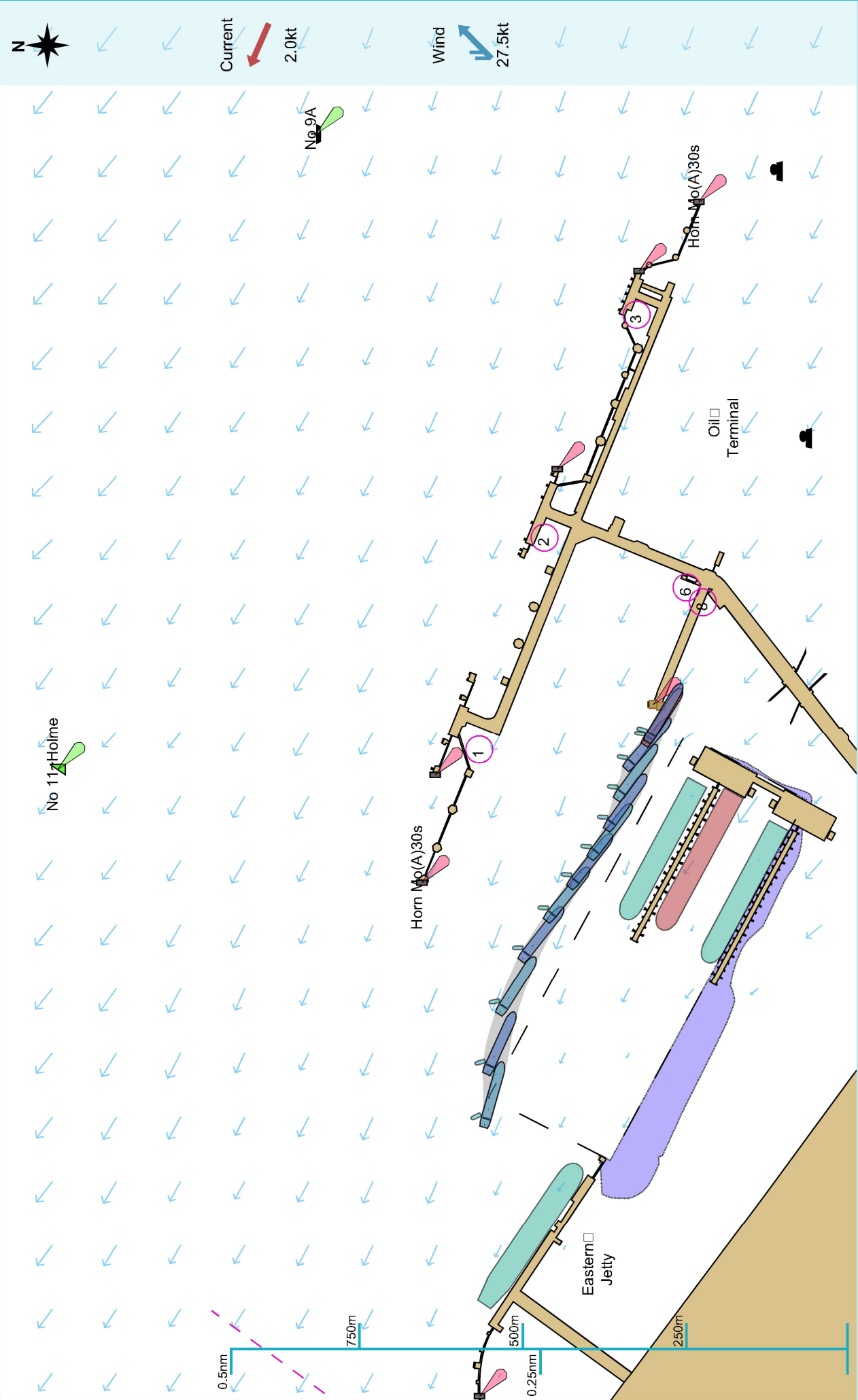
Bow Thruster





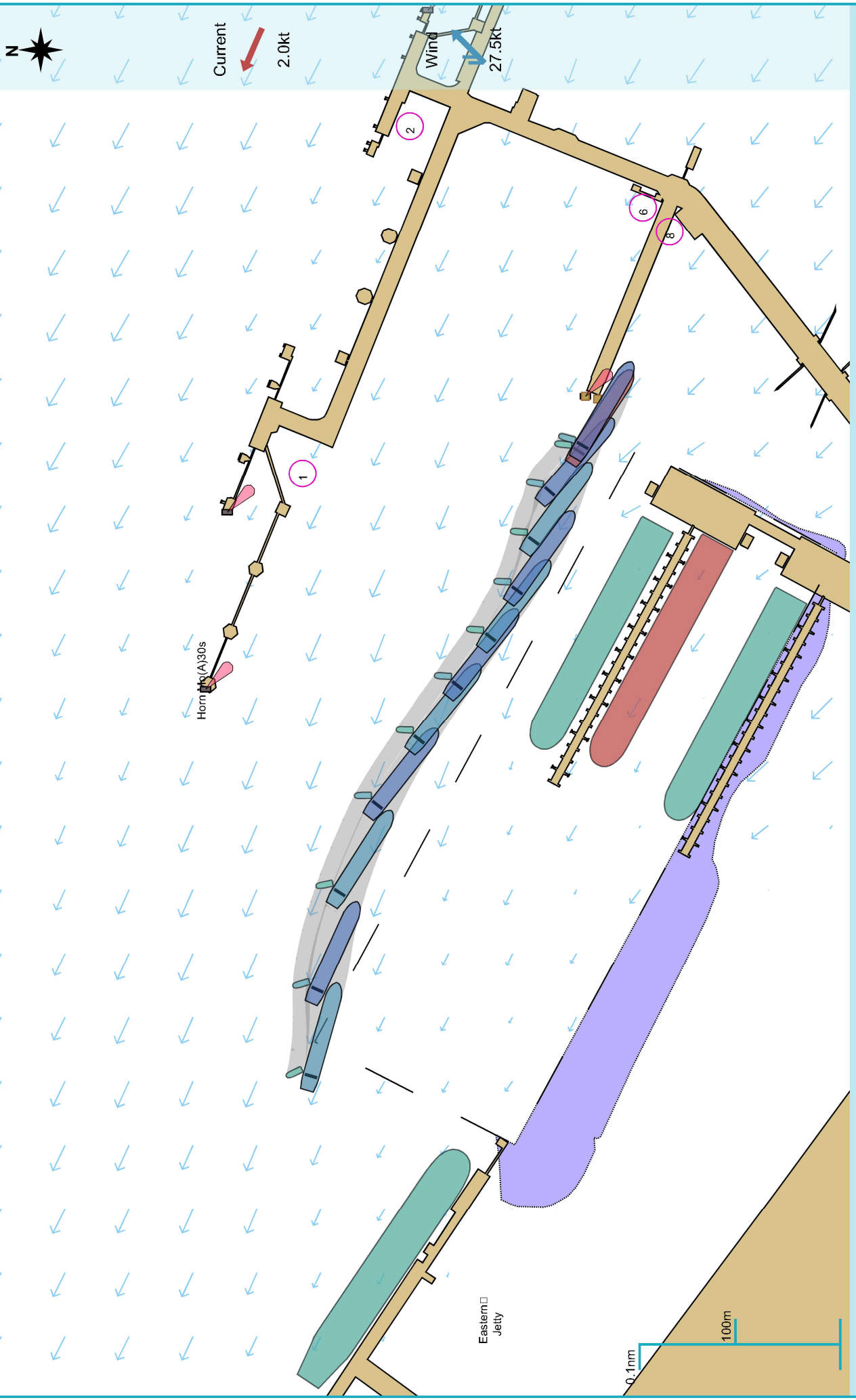


Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

Manoeuvre track plot



Ships plotted every 1 mins, highlight every 10 mins

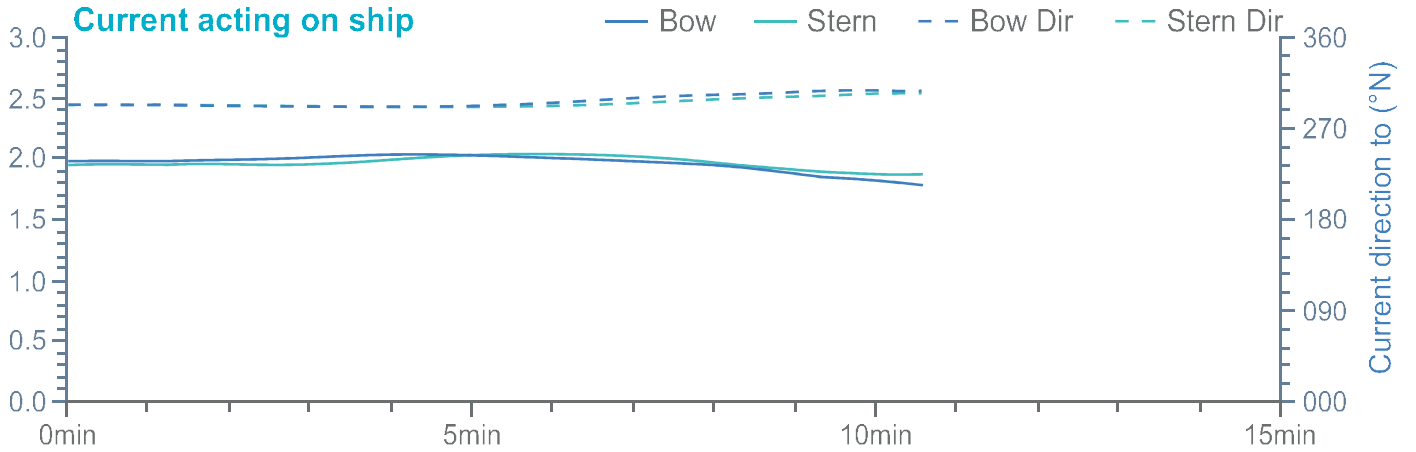
Summary

Environment

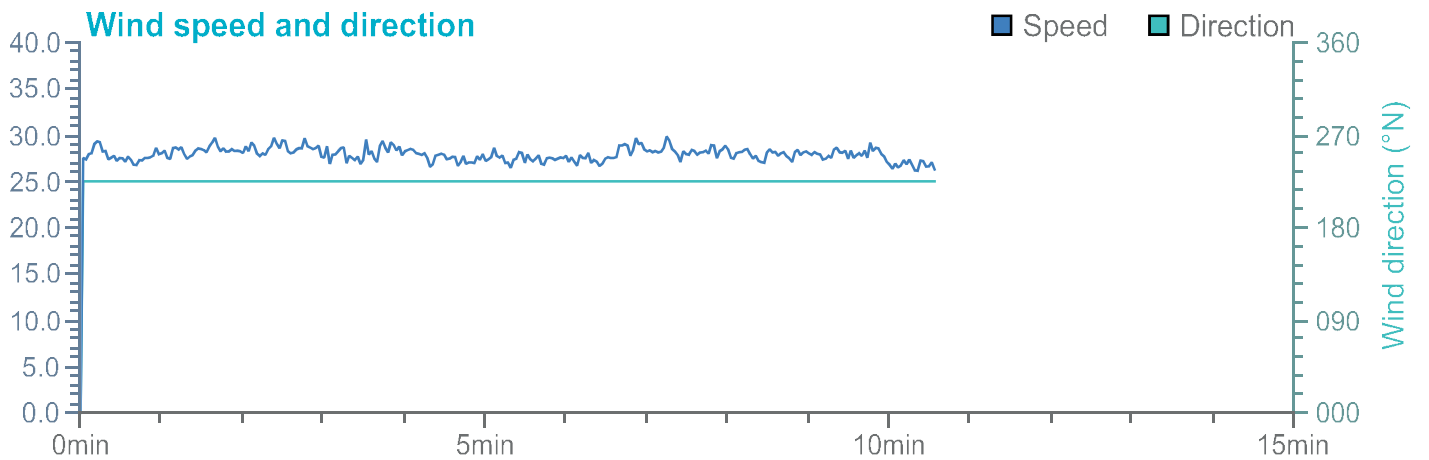
104m x 15m Product Tanker

Tugs

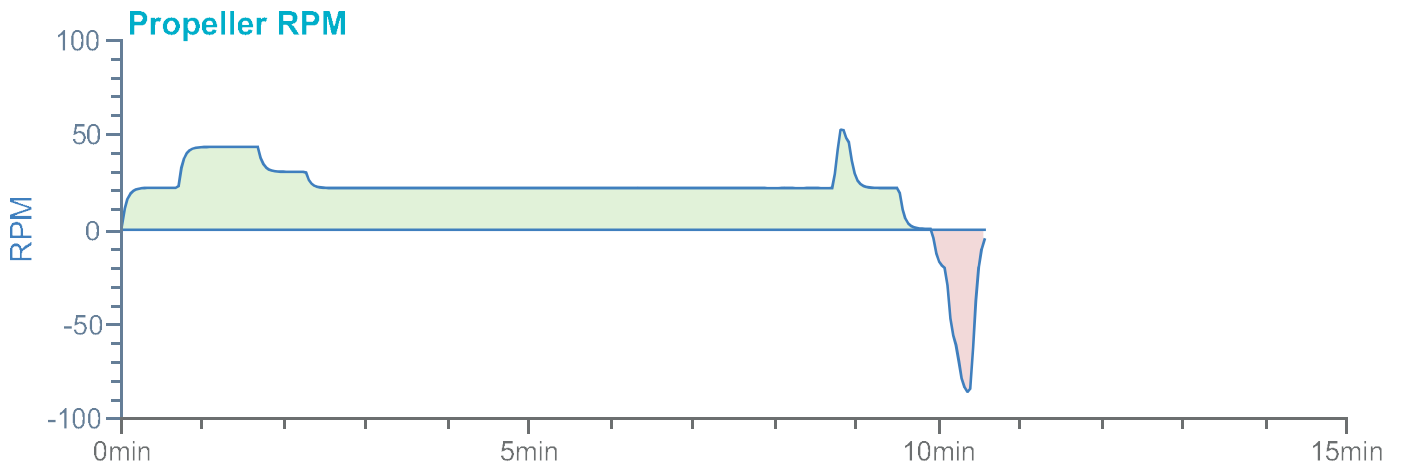
Current acting on ship



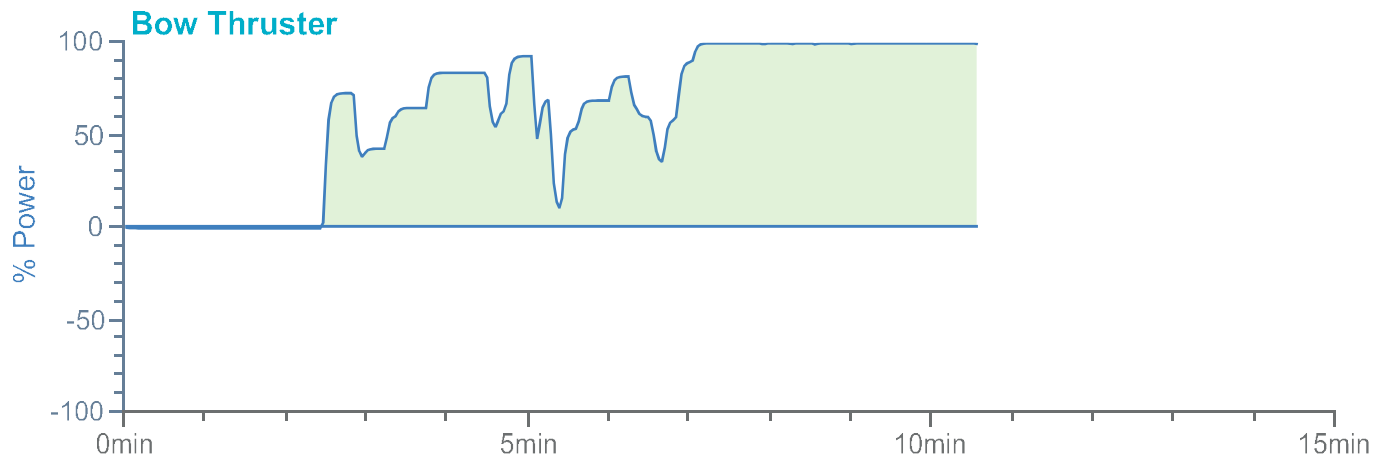
Wind speed and direction

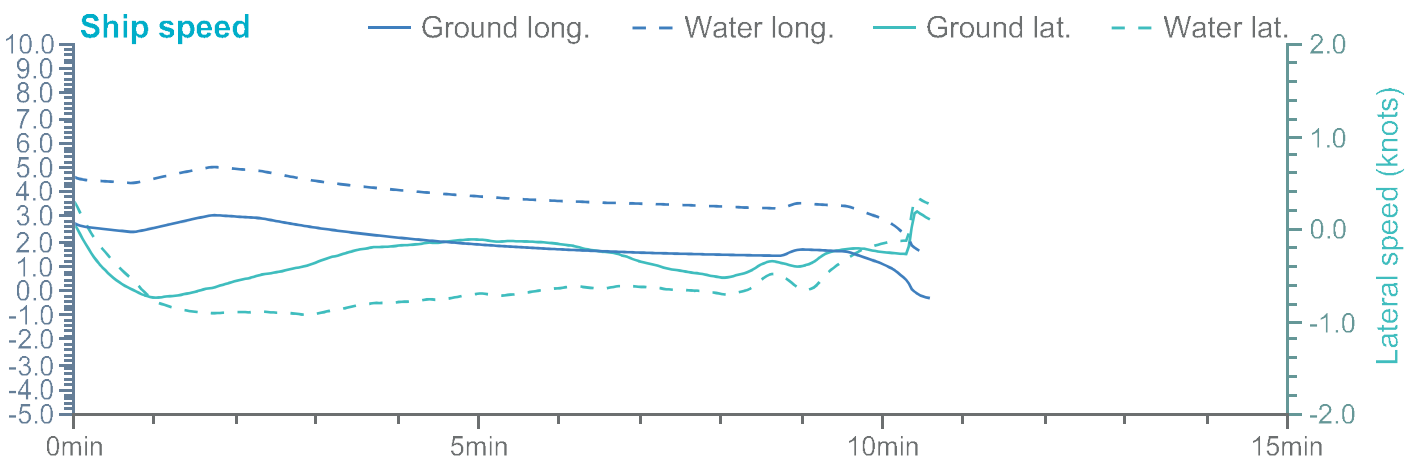
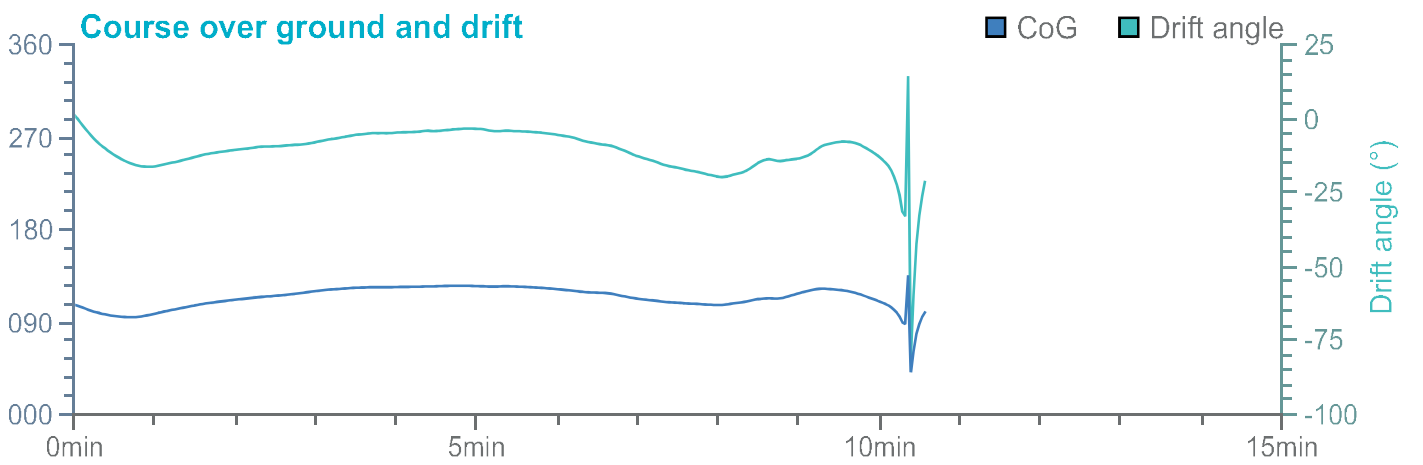
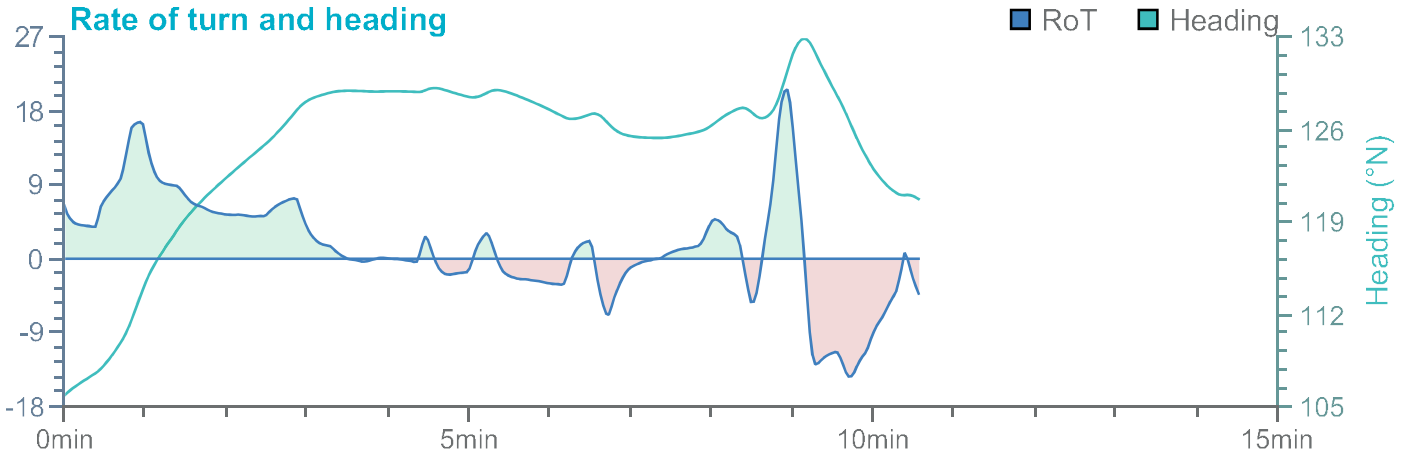


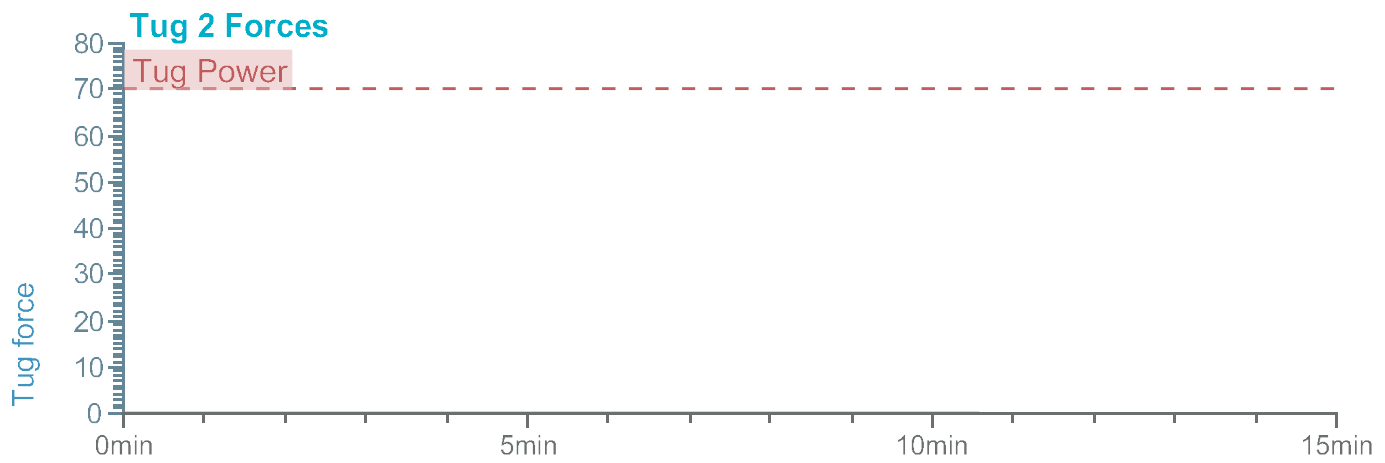
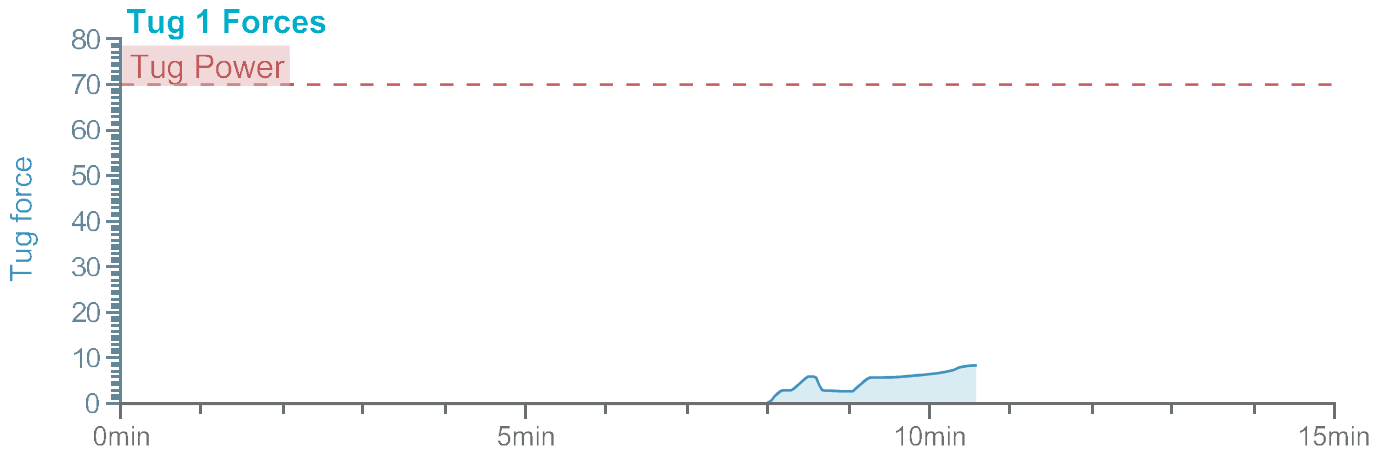
Propeller RPM



Bow Thruster





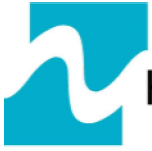


C Construction Design and Management Regulations (CDM, 2015)

The Construction (Design and Management) Regulations 2015 (CDM 2015) require a designer to avoid foreseeable risks to those involved in construction and future use of the structure, and in doing so, they should eliminate hazards (so far as is reasonably practicable, taking into account other design considerations) and reduce and control risks associated with those hazards which remain. It is essential that, where required to do so, a principal designer and principal contractor are appointed to fulfil their respective duties under the CDM 2015. It is also essential to highlight and record the impacts of the works on health, safety and welfare which should feed into the Health and Safety File (if required). Further details of the requirements of CDM 2015 can be found on:

<http://www.hse.gov.uk/construction/cdm/2015/index.htm>.

This project consists of desk assessments, numerical and physical modelling work and/or simulation work which may be used by others in the design process. No design work, as defined in the CDM 2015, has been undertaken by HR Wallingford. If during the navigation simulation process we identify any particular issues that should be drawn to the attention of the principal designer and principal contractor in any ultimate construction work which may be undertaken, we will do so in our client discussions and reports. It is assumed that the appointed principal designer will review the information produced in this study when discharging their duties under the CDM 2015.



HR Wallingford
Working with water



DMR 719286



FS 516431



OHS 595357



EMS 558310

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We design smarter, more resilient solutions across both the natural and built environment to help everyone live and work more sustainably with water.

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