

AUSTRALIA - WEST COAST
WESTERN AUSTRALIA
PRESTON TO BUNBURY
SCALE 1 : 50 000

DEPTHS
Depths are shown in metres and decimetres, reduced to Sounding Datum, which is approximately lowest water level.

HEIGHTS
Heights are shown in metres. Underlined figures are drying heights above Sounding Datum. Overhead clearance heights are above Highest Astronomical Tide. All other heights are above Mean Higher High Water.

POSITIONS
Positions on this chart are referenced to the Map Grid of Australia, Zone 50, based on the Geocentric Datum of Australia 1994 (GDA94). For GPS use, this approximates WGS84.

PROJECTION
Universal Transverse Mercator

SOURCES
From the latest information available to Department of Transport (DoT), including Royal Australian Navy surveys of 1932 and 1935 and DPI surveys from 1977 to 2011.

NAVIGATION MARKS
IALA Maritime Buoyage System - Region A (Red to Port)

CHART AMENDMENTS
The information provided on this chart is correct at time of publication. As this information is subject to change, ensure the latest version of the chart is used at all times and is kept up-to-date with reference to the following:

Notice to Mariners
Changes of a safety or navigational nature will be reflected in Notices to Mariners. Current Notices are available from the DoT website at <https://www.dot.wa.gov.au>.

Navigable Waters Regulations
Changes to Navigable Waters Regulations are published in the Western Australian Government Gazette. Regulations for Navigable Waters can also be found at <https://www.regulation.wa.gov.au>.

Marine Protected Areas
Refer to Department of Primary Industries and Regional Development (DPIRD) and Department of Biodiversity, Conservation and Attractions (DBCA) publications for the latest information.

CAUTION
Care required when navigating The Cut. Bathymetry in The Cut may change significantly following storm events. Tidal flow exiting the Leschenault Estuary combined with moderate to heavy swell from Koomana Bay can make navigating The Cut hazardous. Mariners are advised to proceed with caution.

Commercial Shipping
Mariners are advised that all recreational vessels should stay well clear of all commercial shipping vessels at all times.

Depths may vary
Bathymetry in the Collier River entrance channel is subject to change. Mariners are advised to navigate with caution. Soundings shown are from June 2005 survey.

Desalination Outfall
Submarine infrastructure exists in this area and may present a possible hazard to the anchoring of vessels. Mariners are advised to navigate with caution.

NATIONAL PARKS AND NATURE RESERVES
National Parks and Nature Reserves are gazetted for the Protection of Flora, Fauna and Landscape values. Dumping of rubbish, lighting of fires (including ground fires), firearms, pets, removal of rocks, soil and timber, driving off established tracks and disturbance of flora and fauna are all prohibited in National Parks and Nature Reserves. Camping is only allowed in gazetted areas of National Parks. Refer to Department of Biodiversity, Conservation and Attractions publications for further information on parks and reserves.

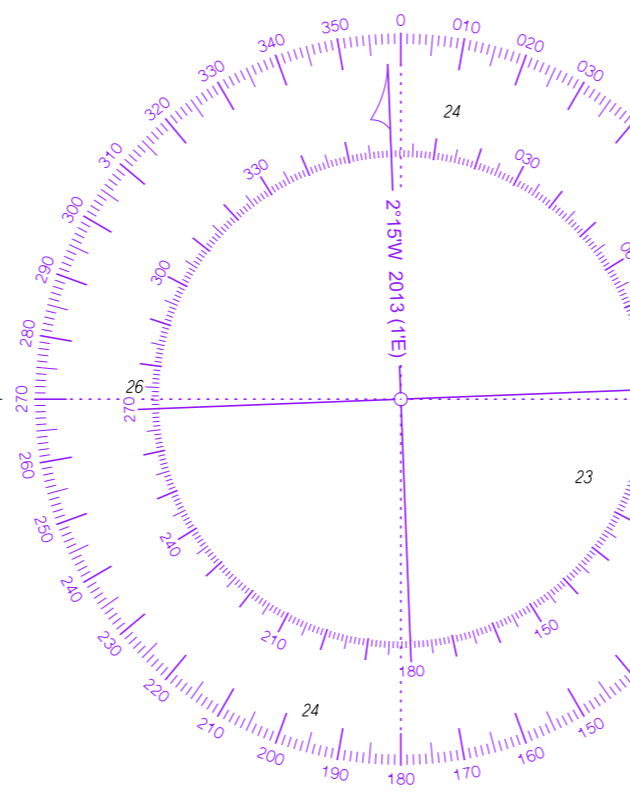
LEEUEWIN CURRENT
The Leeuwin Current is most predominant during May to August with a surface current generally less than 1 knot. It has an average width of 30 nautical miles and extends to a depth of approximately 200 metres, carrying warm, low salinity water from the North West Shelf area along the continental shelf south to Cape Leeuwin and then east into the Great Australian Bight. For details of currents generally refer to R.A.N. Australia Pilot Vol 1.

WESTERN ROCK LOBSTER FISHERY
Between November and June, extensive lobster fishing takes place between latitude 24°S and 34°S. Mariners are advised to keep well clear of lobster pot tracks and submerged lines.

FISHING
Fishing regulations apply throughout Western Australia. Refer to Department of Primary Industries and Regional Development publications for further information.

ROADS AND TRACKS
The representation on this chart of any road or track is not necessarily evidence of a Public Right of Way.

HISTORIC SHIPWRECKS
All wrecks, 15 years old or more, are protected under an Act which prohibits the removal of artefacts or willful damage of any sort. By this means, the sites will remain better preserved for divers in the future. Refer to WA Maritime Museum for further information.



TIDAL INFORMATION AND SOUNDING DATUM

Place	Latitude	Longitude	Heights in metres above datum						
			MHW	MSL	MLW	MLLW	MLLW	MLLW	
Bunbury	33°19'	115°38'	1.31	1.03	0.92	0.68	0.44	0.33	0.08
Samphire Bay	33°18'	115°42'	1.18	0.88	0.84	0.67	0.50	0.46	0.36
Boward	32°37'	115°39'	1.23	0.99	0.89	0.69	0.48	0.39	0.19

LOGARITHMIC NOMOGRAM SPEED - DISTANCE - TIME

To find Speed, Distance or Time Interval, draw a line through any two factors, then interpolate for the unknown factor. eg. A distance of 10 nautical miles in 120 minutes means a speed of 5 knots (knots)

SPEED
Knots: 1 2 3 4 5 6 7 8 9 10 15 20 30

DISTANCE
Nautical Miles: 0.1 0.2 0.4 0.6 1 2 3 4 6 8 10 15 20 30 40 60

TIME INTERVAL
Minutes: 5 10 15 20 30 40 60 90 120 180 240 300 360

I N D I A N

O C E A N

CAUTION
Overhead powerlines exist at various locations over waterways on this chart.

NAVIGATION MARKS

- Lighthouse, major, minor light
- Beacon, port, starboard
- Safe water, isolated danger
- Spar buoy, port, starboard
- Pillar buoy, port, starboard
- Mooring buoy, yachting buoy
- Lead, front, rear
- Special Marks (yellow cross topmark) are not primarily to assist in navigation, but indicate special features.

CARDINAL MARKS

- Indicates safe water to the North
- Indicates safe water to the South
- Indicates safe water to the East
- Indicates safe water to the West

LIGHT CHARACTERISTICS
Colour of light is white unless otherwise stated.

F - Fixed
Fl - Flashing
Fl - Group flash
Q - Quick flash
Lfl - Long flash
Oc - Occulting
Iso - Isophase

Indicates lit navigation mark
G - Green R - Red W - White
Y - Yellow B - Blue
s - Period in seconds
m - Focal plane height above MHHW
M - Luminous range in nautical miles

LEGEND

- Marsh and swampland
- Nature Reserve / National Park
- Railway, Clearance height, Bridge
- River
- Clearance height, Overhead powerline
- Road
- Minor road
- Track
- Medical facility, Building
- Mean high water
- Mean low water
- Datum mark
- Coff
- Rock shoreline
- Swamp, anchoring prohibited
- GPS validation point, Helipad, Groyne
- Car parking, Over-beach launching
- Boat ramp, Tide gate
- Parking for boats / trailers
- Mangroves, Foul ground, Marine farm
- Water, Fuel, Jetty, Safe anchorage
- Telephones, Public toilet
- Exposed wreck, Submerged wreck
- Hazardous submerged reef
- Reef which covers and uncovers
- Coral reef / outcrop, Breakers
- Rock swells, Underwater rocks
- Sounding above Datum, Fish haven
- Danger line
- 5m contour
- 10m contour
- Depth in metres and decimetres
- Approximate contour
- Submarine cable
- Anchor area, No anchorage area
- No fishing, Pilot boarding location
- Speed limit boundary
- Prohibited area boundary
- Various limits
- Port Authority / Harbour boundary
- Recommended track
- Outfall
- Dredged area boundary
- Restricted area / Sensitive area
- Marine protected area

Zone of Confidence (ZOC) Diagram

ZOC CATEGORIES
(For details see Australian Spherics Handbook - AHP 20)

ZOC	Position Accuracy	Depth Accuracy	Seafloor Coverage
A1	+5m	-1.00m +1%a	All significant seabed features detected
A2	+20m	-1.00m +2%a	All significant seabed features detected
B	+50m	-1.00m +2%a	Uncharted features hazardous to surface navigation are not expected but may exist
C	+500m	-2.00m +5%a	Depth anomalies may be expected
D	Worse than ZOC C		Large depth anomalies may be expected
U	Unassessed		The quality of the bathymetric data has yet to be assessed

BUNBURY HARBOUR AND LESCHENAU ESTUARY

SCALE 1 : 25 000

DEPTHS
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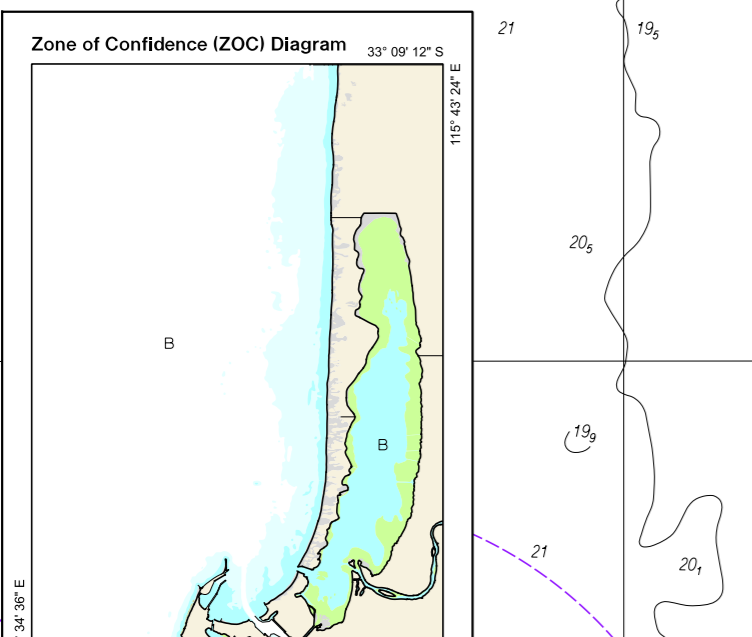
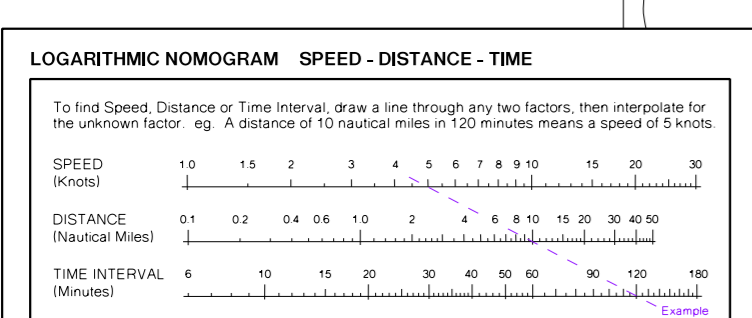
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Commercial Shipping
All the waters within the Inner Harbour and an area extending 50m around all port facilities and jetties within the Outer Harbour have been designated Port Security Zones. Unauthorised vessel entry is prohibited.

Depths may vary
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- Major road
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- Medical facility, Building
- Mean high water
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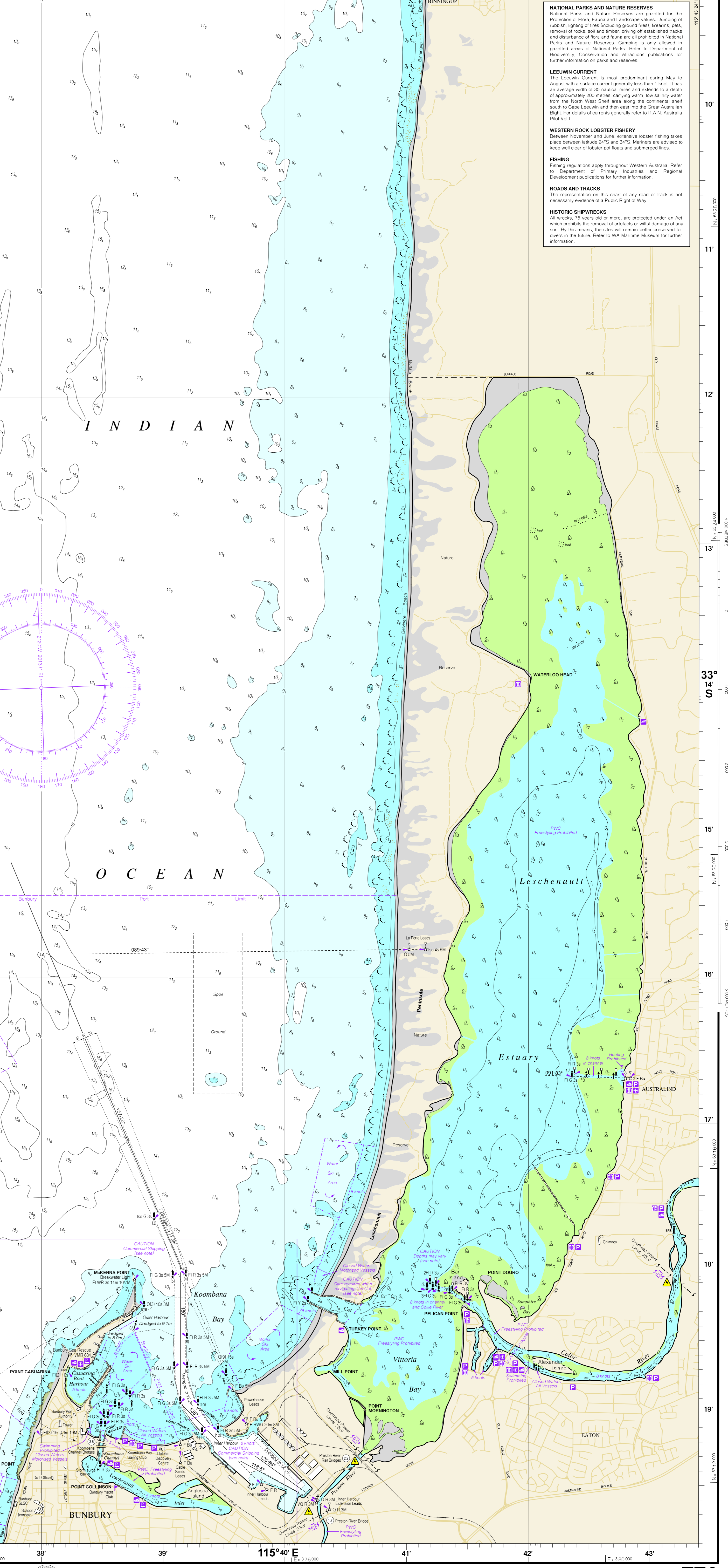
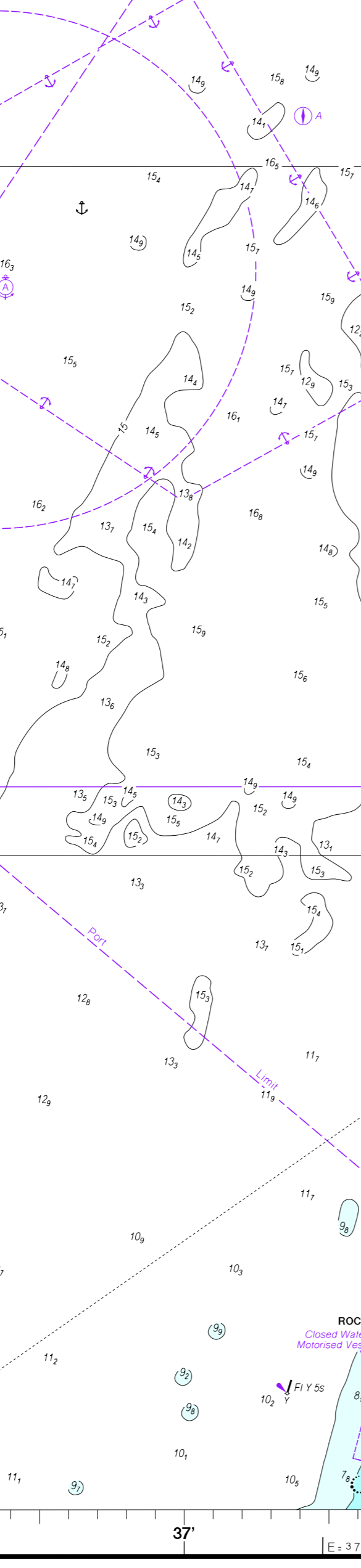
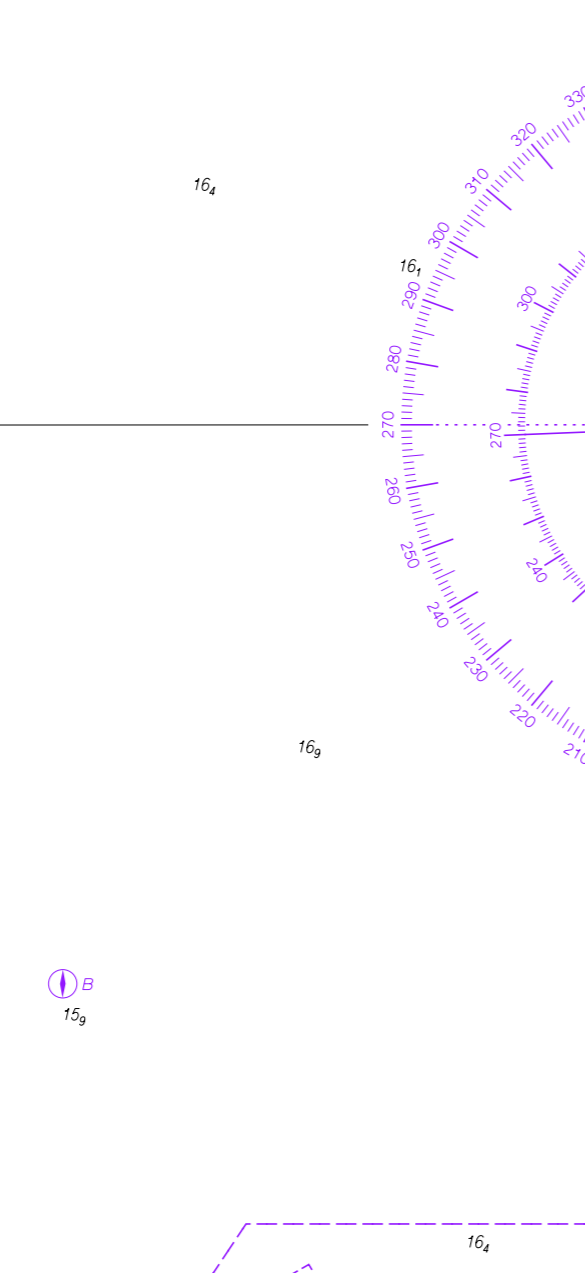
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