



**Dampier and Port Walcott**

## Port Handbook

May 2019



Marine Notices may be issued which supersede some details contained in this handbook.

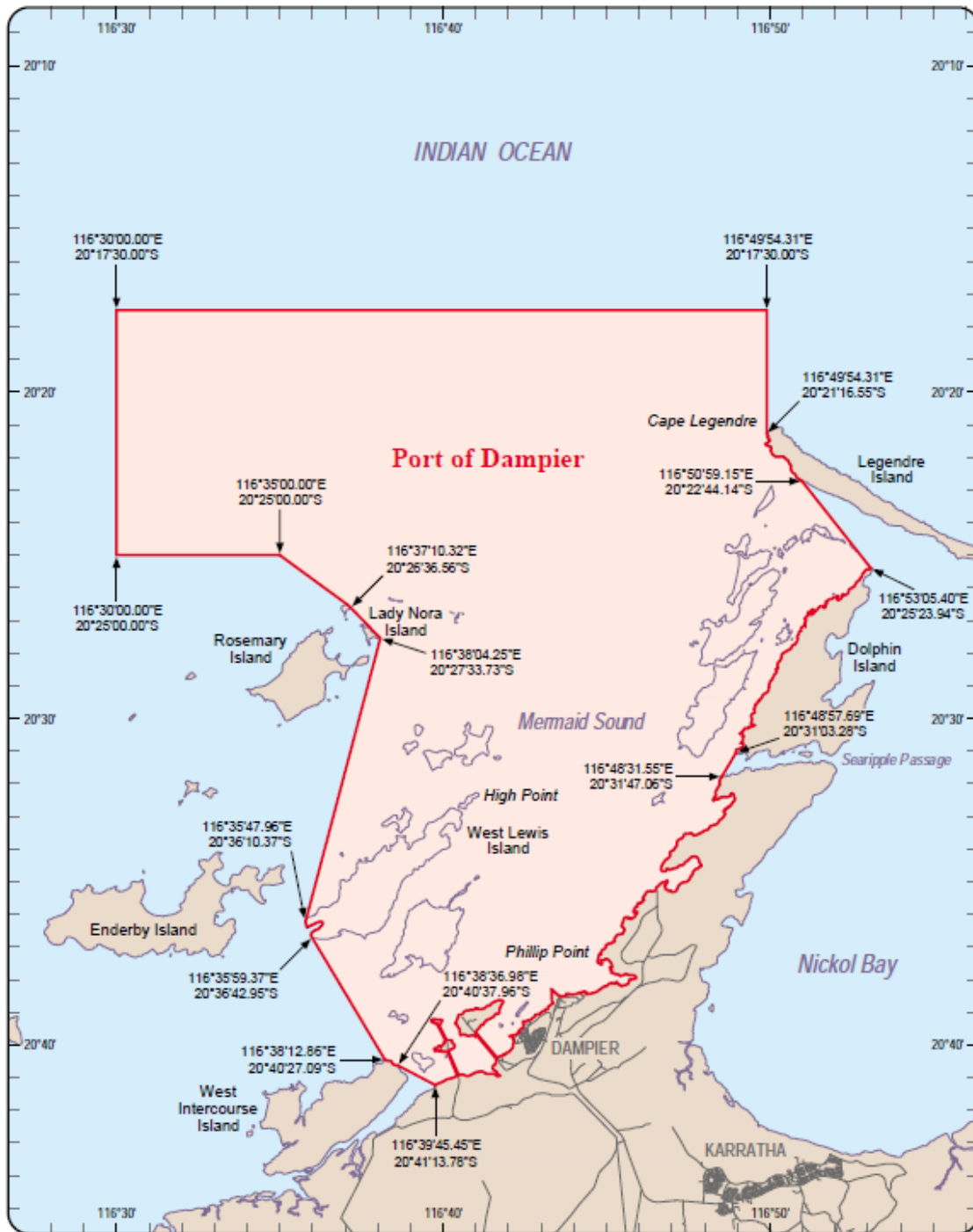
Please check the Pilbara Ports Authority website for Dampier relevant notices:


<http://www.pilbaraports.com.au/#marine-notices>

Please check the Department of Transport website for Port Walcott relevant notices:

<http://www.transport.wa.gov.au/imatearine/notices-to-mariners.asp>

# Map of Dampier Port






## Port of Dampier

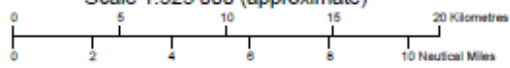
**Section 15<sup>+</sup> Port Limits**  
**Customs Proclamation No. 2409 dated 14 June 2007**  
 Commonwealth of Australia Gazette No. 28 dated 4 July 2007  
 Prepared for the Australian Customs Service by the  
 National Mapping Division, Geoscience Australia, Canberra

**Map No.53**



Geographic Projection,  
Datum WGS84

Scale 1:325 000 (approximate)



\*Section 15 refers to Section 15 of the Customs Act 1901

07-1884-1

# Map of Port Walcott



### Port of Port Walcott

**Customs Section 15+ Port Maps**  
**Customs Proclamation No. 2160 dated 5 March 2003**  
 Commonwealth of Australia Gazette No. GN11 dated 17 March 2004  
 Prepared for the Australian Customs Service by the  
 National Mapping Division, Geoscience Australia, Canberra

Scale 1:250 000

Map No.60

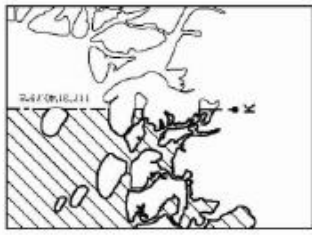
Geographic Projection,  
Datum WGS84

\*Section 15 refers to Section 15 of the Customs Act 1901

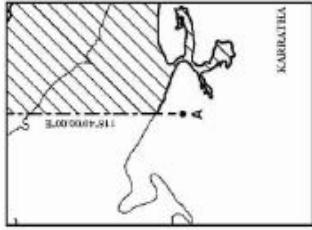
FEB 2004 03-228-14

**PORT WALCOTT  
SHIPPING & PILOTAGE ACT 1967  
PORT BOUNDARY**

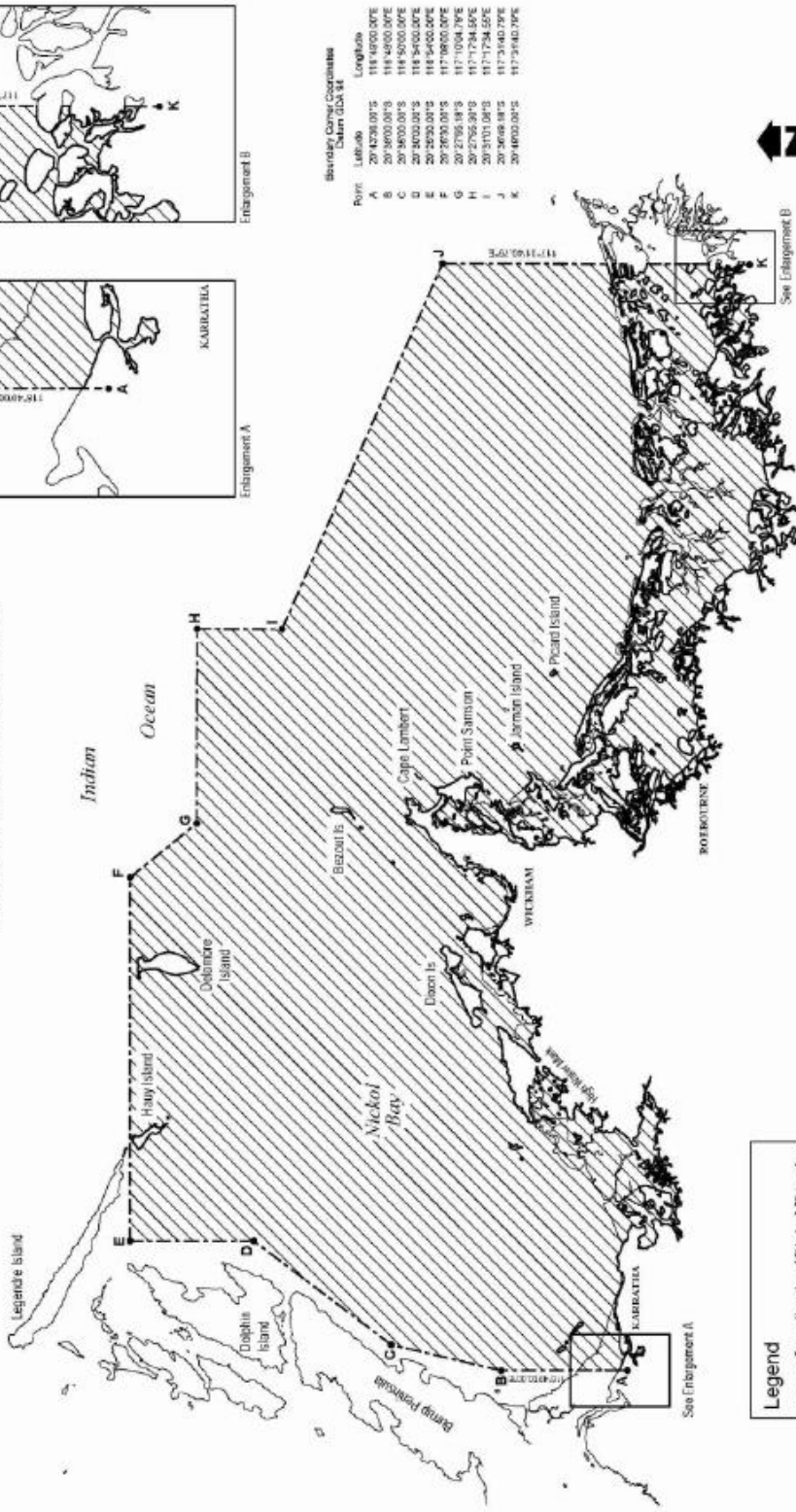
All the waters below High Water Mark of the Indian Ocean shown hatched on Plan 1396-01-04B and bounded by lines connecting the marked coordinates and the most landward High Water Mark.



Enlargement B



Enlargement A



**Legend**

- Shaded Boundary of Shipping & Pilotage Area
- HIGH WATER MARK
- Mean Sea Level

Secondary Corner Coordinates  
Datum: GDA 84

Point	Latitude	Longitude
A	29° 42'26.0075	118° 48'00.0075
B	29° 36'00.0075	118° 48'00.0075
C	29° 36'00.0075	118° 50'00.0075
D	29° 30'00.0075	118° 54'00.0075
E	29° 25'30.0075	118° 54'00.0075
F	29° 26'30.0075	117° 08'00.0075
G	29° 27'00.0075	117° 10'04.7975
H	29° 27'00.0075	117° 12'04.7975
I	29° 26'00.0075	117° 12'04.7975
J	29° 26'00.0075	117° 23'40.7975
K	29° 48'00.0075	117° 23'40.7975



Subject to Survey  
**PREPARED BY**  
 CARLOS GONZALEZ  
 1 ESSON STREET, KARRATHA

Drawn by:  
 S Rita  
 Date: 21 January 2010

Designed by: Coastal Cartography  
 R. Fisher - Perth  
 Date: 11 February 2010

**Government of Western Australia**  
 Department of Transport

**PLAIN 1396-01-04B**  
 Date: 21 January 2010

**GDA**

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# 1 Safety, Security & Environment

Rio Tinto ports are committed to the highest standard of safe and environmentally responsible conduct, and expect equally high standards from vessels, their crews and all other visitors.

Our goal is zero harm.

Through effective leadership and management practices, we strive to continuously improve our performance.

Our success in this area requires active participation and a shared commitment by our stakeholders to achieve our goals.

Please contact Rio Tinto Iron Ore Marine Operations Dampier on +61 8 9183 7111 or Port Walcott on +61 8 9186 1487 for any safety, security and environment enquiry, or to report an issue.

Individuals or vessels in breach of standards and regulations may be prosecuted and/or excluded from the port.

## 1.1 Safety

- Mooring line safety is of high priority. Do not access areas in the vicinity of tensioned mooring lines, follow Marine Pilot instructions carefully, and report all incidents or concerns.
- Personal protective equipment must be worn in all areas whilst on site; including hard hat, safety glasses, enclosed boots, long sleeves and trousers.
- Ship's crew must contact the Rio Tinto shiploader through appropriate UHF/VHF channels when conducting draft mark readings. All persons checking drafts must only attend the berth at which their vessel is located, and are not permitted to walk through the wharf. Crew must comply with the rules regarding the wearing of personal protective equipment. This includes the following for all crew going ashore at any time: as a minimum personal protective equipment consisting of safety glasses, enclosed footwear, hard hat and a life jacket (PFD) (if working on or crossing over any dolphin) must be worn ashore at all times.
- Only persons authorised by Rio Tinto may leave the wharf. Ship's crew are not permitted in the plant areas or workshops, nor are they permitted to fish at the terminal. If crew need to go ashore they should contact their Shipping Agent who will organise the crew transfers on your behalf so crew can be safely escorted both on and off site.
- Smoking is strictly prohibited on-site at Rio Tinto Iron Ore terminals.
- Access to site will be refused to persons suspected of being affected by alcohol/drugs.
- Under no circumstances may a vessel demobilise its main engine without permission from Rio Tinto.
- Approval must be sought to perform repairs on-board a vessel whilst at berth. Hot work is not permitted at berth without additional specific permission from Rio Tinto.
- Outboard draft marks cannot be read by ship's crew using rope ladders over the outboard side. A manometer must be used for the purpose of calculating outboard drafts.



- Non-intrinsically safe electrical equipment is not permitted on the Dampier Fuel Berth.
- Marine Pilot transfers, gangway deployment and mooring practice should be as documents contained in the “Safety Letter Pack” referred to in section 5.17.

## **1.2 Security**

- Maritime Security Identification Cards (MSIC) are required for unescorted access to a maritime security zone (wharf areas and immediate surrounds). MSIC is not required for vessels crews who hold a valid Australian Maritime Crew Visa.
- MSIC are issued by the Australian Government to those who meet security criteria as assessed by police and intelligence organisations.
- Recreational boating is prohibited near to terminals and vessels at anchorage.
- Quarantine authorities should be notified of all cases of illness or death on board vessels.
- Security level 1 is required for both Dampier and Port Walcott.

## **1.3 Environment**

- Fishing is not permitted while at berth - all breaches will be reported to fisheries authorities.
- No refuse of any kind should be discharged, including oil, garbage and excessive funnel exhaust. Ballast water can only be discharged in accordance with Australian environmental and quarantine regulations.

## 2 Port of Dampier

The Port of Dampier is located on the NW coast of Australia in the Dampier Archipelago. Sections of the archipelago are a designated marine park and include areas of particular environmental sensitivity.

In addition to facilities operated by Rio Tinto, a number of other terminals service LNG, bulk liquid, general cargo and offshore supply traffic.

These terminals are functionally separate (including separate towage and pilotage services) but operate under the shared auspices of the Pilbara Ports Authority. Pilbara Ports Authority may issue Marine Notices from time to time which supersede some details contained in this handbook. Please check the Pilbara Ports Authority website for Dampier relevant notices:

<http://www.pilbaraports.com.au/#marine-notice>

### Rio Tinto Facilities

East Intercourse Island	Iron Ore
Parker Point	Iron Ore
Parker Point Fuel Berth	Petroleum Products
Mistaken Island	Salt

### Navigation

Dry-bulk vessels anchor at the Western Anchorage, located NNW at the entrance to the archipelago.

Pilotage is compulsory for berthing and departing vessels, with transfer via helicopter (subject to vessel capability).

Pilot boarding ground is marked as Bravo on Admiralty chart AUS 57, and the coordinates are available from the Pilbara Ports Authority.

Departing vessels transit a 15 nautical mile channel and sea-track, maintained to a depth of 15.5 m, except for the section maintained to 15.4 m on the exit from Parker Point.

Sailing drafts are determined by a Dynamic Under-Keel Clearance system, based upon real-time tide and wave measurements, when required.

### Environmental Conditions

Tides	MSL 2.7 m, MHWS 4.4 m, LAT to HAT range 5.3 m, typical currents up to 1 knot (flood Southerly, ebb Northerly)
Load-line zone	Summer Zone from 1-Dec to 30-Apr Seasonal Tropical Zone from 1-May to 30-Nov
Cyclones	Typically occur between November and April

### Services

Waste disposal	Not available	Provisions	Available
Bunkers	Marine diesel available <sup>§</sup>	Fresh water	Available <sup>‡</sup>
Crew change	Available	Repairs	Limited availability
Facilities ashore	Mission to Seafarers at Dampier Airport, post office, banks, shops, hospital at Karratha (15 - 20 km)		

<sup>§</sup> via barge; <sup>‡</sup> except Mistaken Island

## Key Contacts

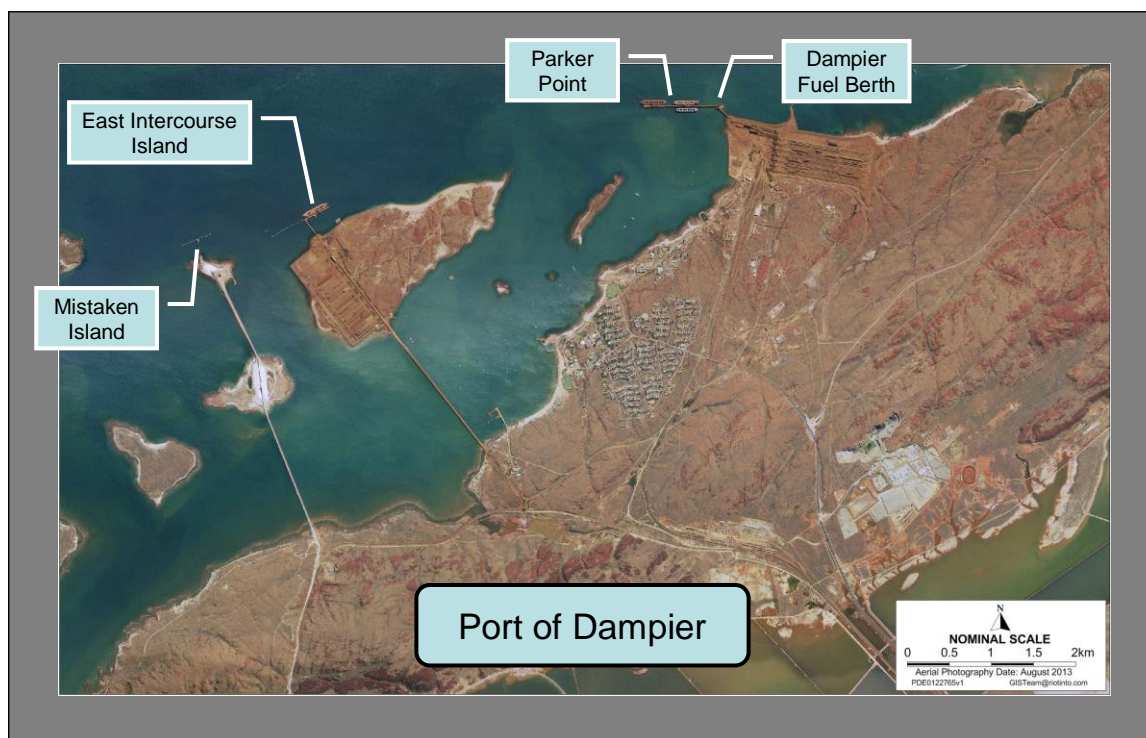
VHF Channel 11 call 'Hamersley Base' for Rio Tinto Iron Ore Marine Operations  
Channel 16 for emergencies only

Phone Rio Tinto Iron Ore Marine Operations +61 8 9183 7111  
PPA Port Control +61 8 9159 6556

There is a mobile phone for each Dampier berth, this can be found in the radio box.  
This phone should be monitored at all times.

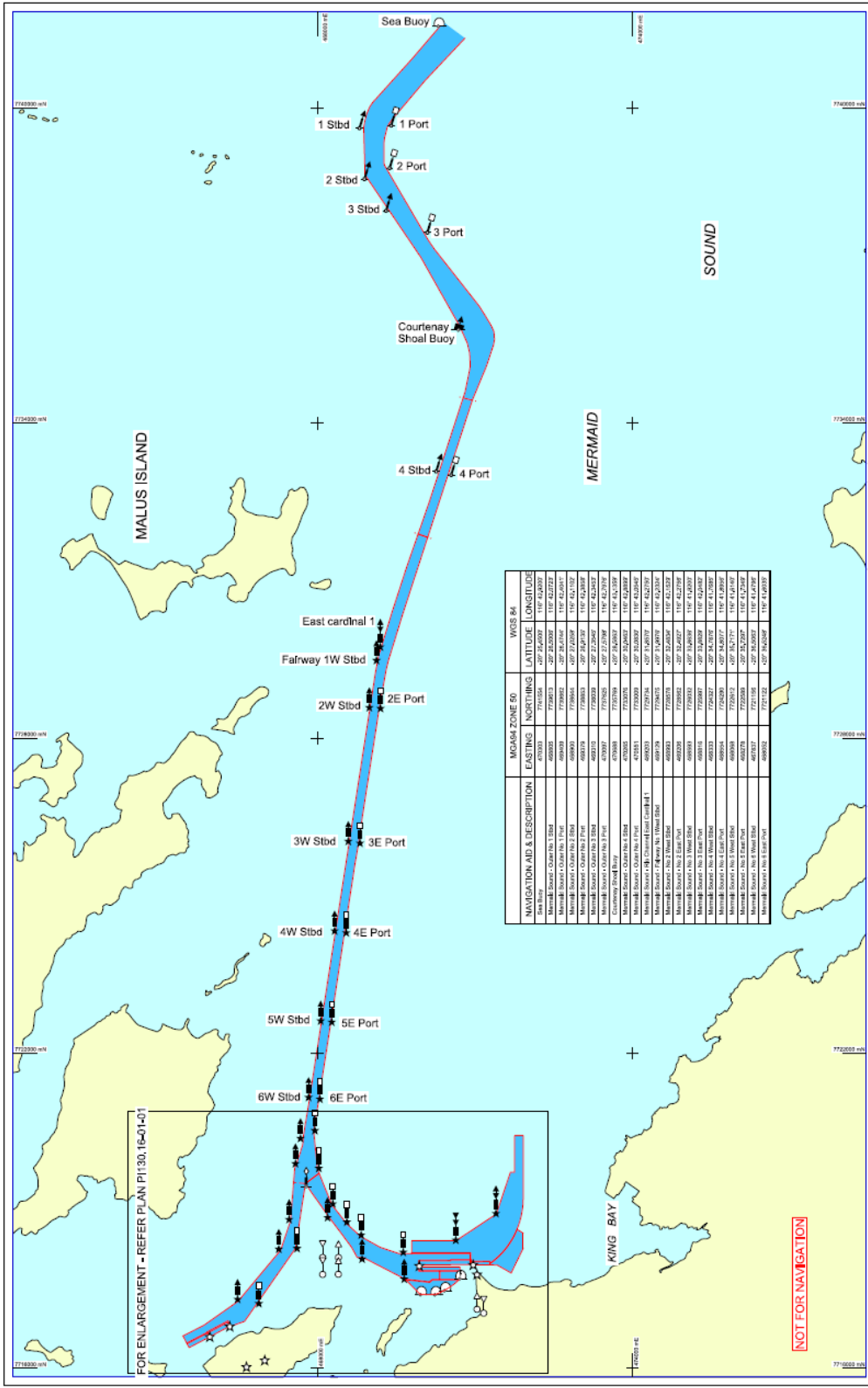
## Further References

Admiralty chart AUS 58/59/60

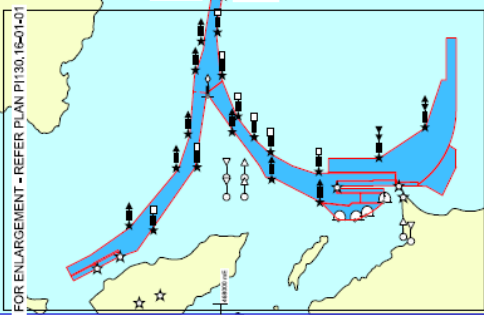


The Pilbara Ports Authority Port of Dampier Handbook can be found at the Pilbara Ports Authority website:

<https://www.pilbaraports.com.au/>



NAVIGATION AID & DESCRIPTION	MOMENT ZONE 50	EASTING	NORTHING	LATITUDE	LONGITUDE
Mermaid Shoal - Outer No 1 Stbd	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Outer No 1 Port	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Outer No 2 Stbd	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Outer No 2 Port	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 1 Stbd	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 1 Port	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 2 Stbd	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 2 Port	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 3 Stbd	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 3 Port	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 4 Stbd	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 4 Port	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 5 Stbd	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 5 Port	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 6 Stbd	600000	7798013	207 242000	116 422732	116 422732
Mermaid Shoal - Inner No 6 Port	600000	7798013	207 242000	116 422732	116 422732



**RTIO - DAMPIER MAINTENANCE DREDGING 2016**  
**NAVIGATION AID POSITIONS**  
**FEBRUARY 2016**  
**SHEET 1 OF 2**

Scale: 1:32500  
 Datum: Vertical, WA  
 Horizontal map based on GDA 94 Zone 50

NOTES:  
 1. NAVIGATION AID POSITIONS FROM RIO TINTO PLAN 1501-01-01  
 2. NAVIGATION AID POSITIONS FROM WEST AUSTRALIAN DEPARTMENT OF TRANSPORT

FOR ENLARGEMENT - REFER PLAN P1130.1501-01

**NOT FOR NAVIGATION**

RTIO - DAMPIER  
 MAINTENANCE DREDGING 2016  
 NAVIGATION AID POSITIONS  
 FEBRUARY 2016  
 SHEET 1 OF 2

DA 130.16 - 01 - 01  
 REV A

## 2.1 East Intercourse Island

East Intercourse Island (EII) is an Iron Ore terminal capable of loading more than 48 Mt/a.

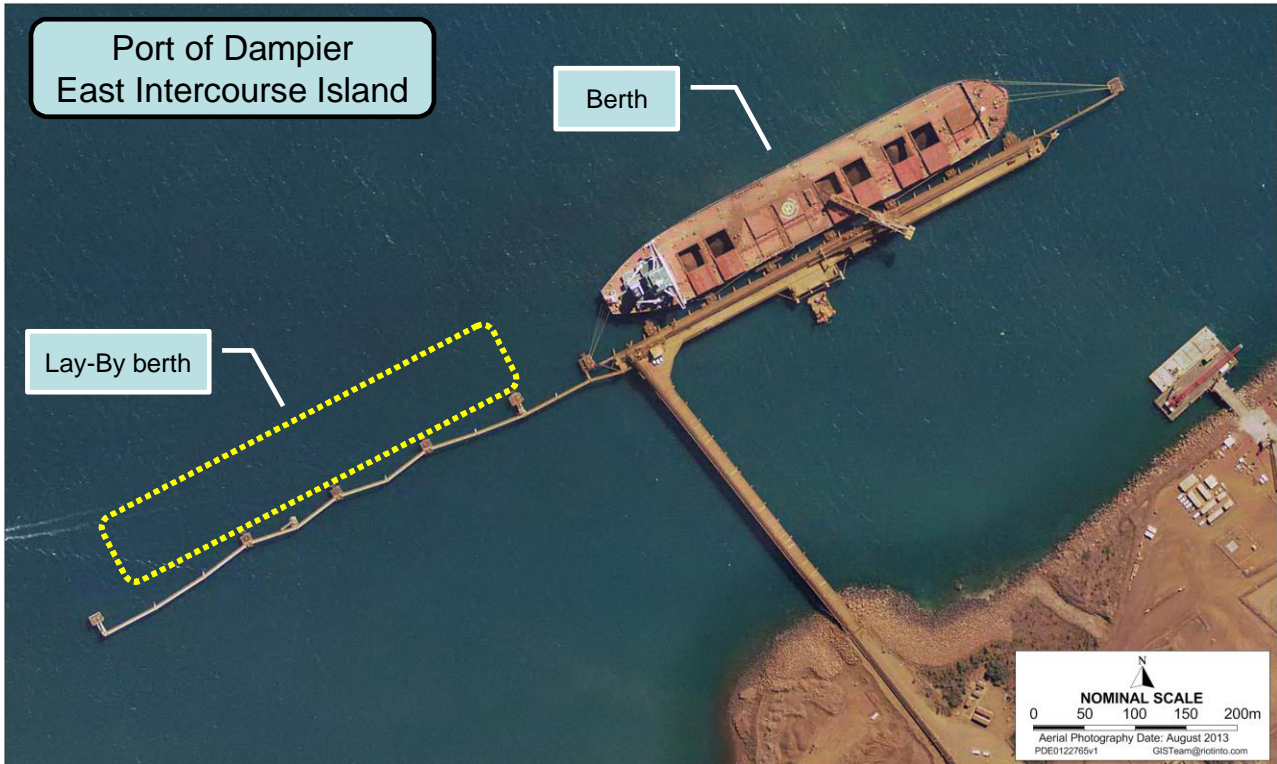
Vessels with a length of 340m and beam of 58m can be accommodated.

The loading berth is serviced by a travelling slew-type shiploader.

A lay-by berth allows tidal-constrained, laden vessels to vacate the loading berth to allow berthing of inbound vessels.

All draft restricted sailing vessels will be escorted by 2 tugs for a portion of the channel as directed by the Terminal, a minimum of 1 tug will stay with the vessel until Fairway beacon.

Location	Port of Dampier 20° 38' S, 116° 40' E	EAST INTERCOURSE ISLAND	
Cargo	Iron Ore		
Facilities	One berth with one slew-type shiploader and one lay-by berth	Loading berth	Lay-by berth
Parameters	Shiploader travel at berth	209.07 m	
	Shiploader outreach radius from fender line	30.93 m	
	Berth pocket length	430.00 m	436.00 m
	Total length of wharf at berth	341.40 m	
	Total length of fendering at berth	429.80 m	
	Required gross loading rate	9,000 t/h	
Restrictions	Length overall	340.0 m	340.0 m
	Beam	58.0 m	58.0 m
	Berth pocket depth at LAT	19.7 m	19.5 m
	Berth width	84.0 m	82.0 m
	Shallowest depth in approach	9.4 m	
	Rio Tinto allowable air draft (distance to top of hatch coaming)	20.5 m	
	Berthing displacement	150,000 t	280,000 t
Typical Tows	Berthing & moving to lay-by berth: number of tugs	3	2
	Sailing: number of tugs number of escort tugs into channel escort tugs accompany to channel	2 tugs 1 tug fairway beacon	3 tugs 1 tug fairway beacon
<b>Further Reference : Admiralty chart AUS 57/58/59/60</b>			



## East Intercourse Island

Loaded vessel in Lay-by berth waiting for tide and ship at loading berth



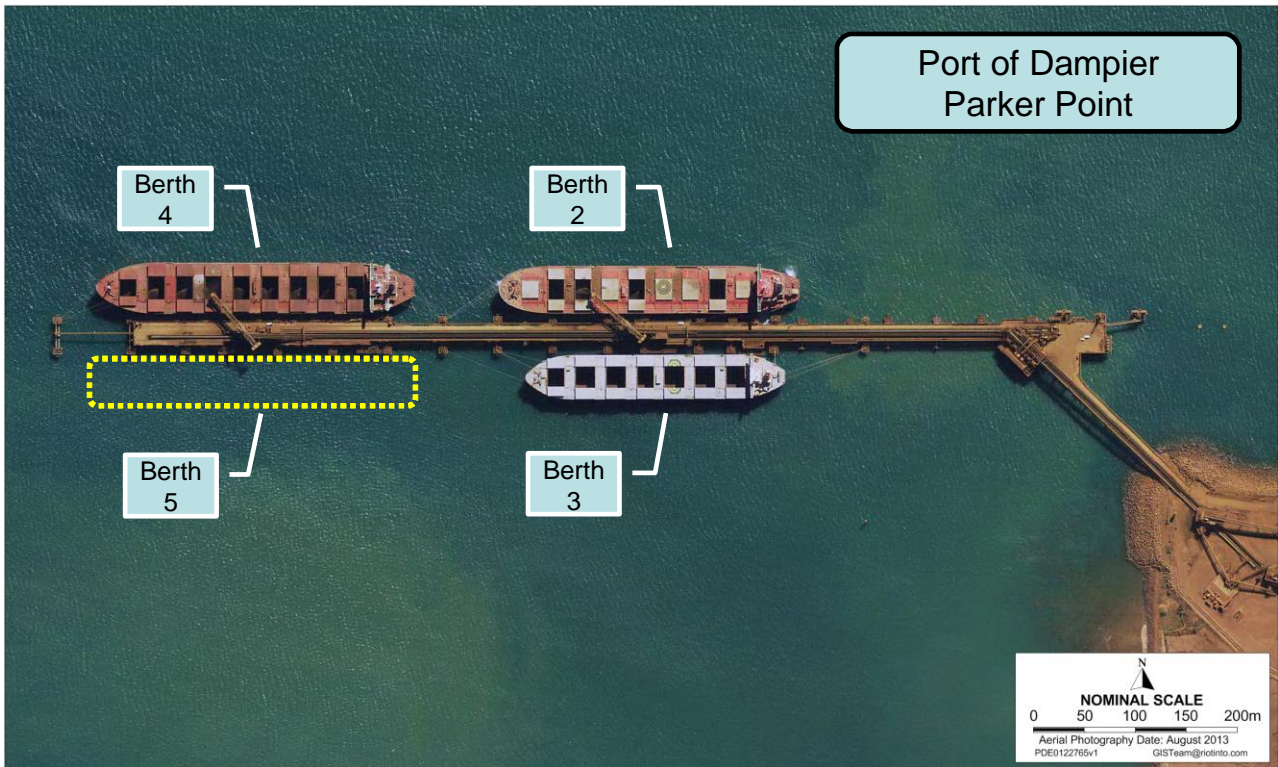
## 2.2 Parker Point

Parker Point is an Iron Ore terminal capable of loading more than 100 Mt/a.

Vessels up to 235,000 dead weight tonnes can be accommodated for loading.

Note that parameters and restrictions vary between berths.

<b>Location</b>	Port of Dampier 20° 38' S, 116° 43' E	<b>PARKER POINT</b>			
<b>Cargo</b>	Iron Ore				
<b>Facilities</b>	Four berths with two slew-type shiploaders	<b>Berth 2</b>	<b>Berth 3</b>	<b>Berth 4</b>	<b>Berth 5</b>
<b>Parameters</b>	Shiploader travel at berth	278.44 m	278.44 m	284.49 m	284.49 m
	Shiploader outreach radius from fender line	34.02 m	28.57 m	29.83 m	32.77 m
	Berth pocket length	377.00 m	267.54 m	558.41 m	472.49 m
	Total length of wharf at berth	413.78 m	413.78 m	303.28 m	303.28 m
	Total length of fendering at berth	413.77 m	413.77 m	376.75 m	376.75 m
	Required gross loading rate	9,000 t/h	9,000 t/h	9,000 t/h	9,000 t/h
<b>Restrictions</b>	Length overall	300.0 m	300.0 m	330.0 m	300.0 m
	Beam	47.5 m	47.5 m	55.0 m	50.0 m
	Berth pocket depth at LAT	19.0 m	19.4 m	19.2 m	19.0 m
	Berth width	93.0 m	70.0 m	80.0 m	80.0 m
	Shallowest depth in approach	7.8 m	10.0 m	7.8 m	10.0 m
	Rio Tinto allowable air draft (distance to top of hatch coaming)	20.5 m	20.5 m	20.5 m	20.5 m
	Berthing displacement	142,000 t	140,000 t	142,000 t	140,000 t
<b>Typical Towage</b>	Berthing: number of tugs	3	3	3	3
	Sailing: number of tugs number of escort tugs into channel escort tugs accompany to channel	3 tugs 1 tug fairway beacon	3 tugs 1 tug fairway beacon	2 tugs 1 tug fairway beacon	2 tugs 1 tug fairway beacon
<b>Further Reference : Admiralty chart AUS 57/58/59/60</b>					



## Parker Point

Loading vessels at Berth 2 and Berth 5

Fully loaded vessel at Berth 4; Vessel at Berth 3 ready to load





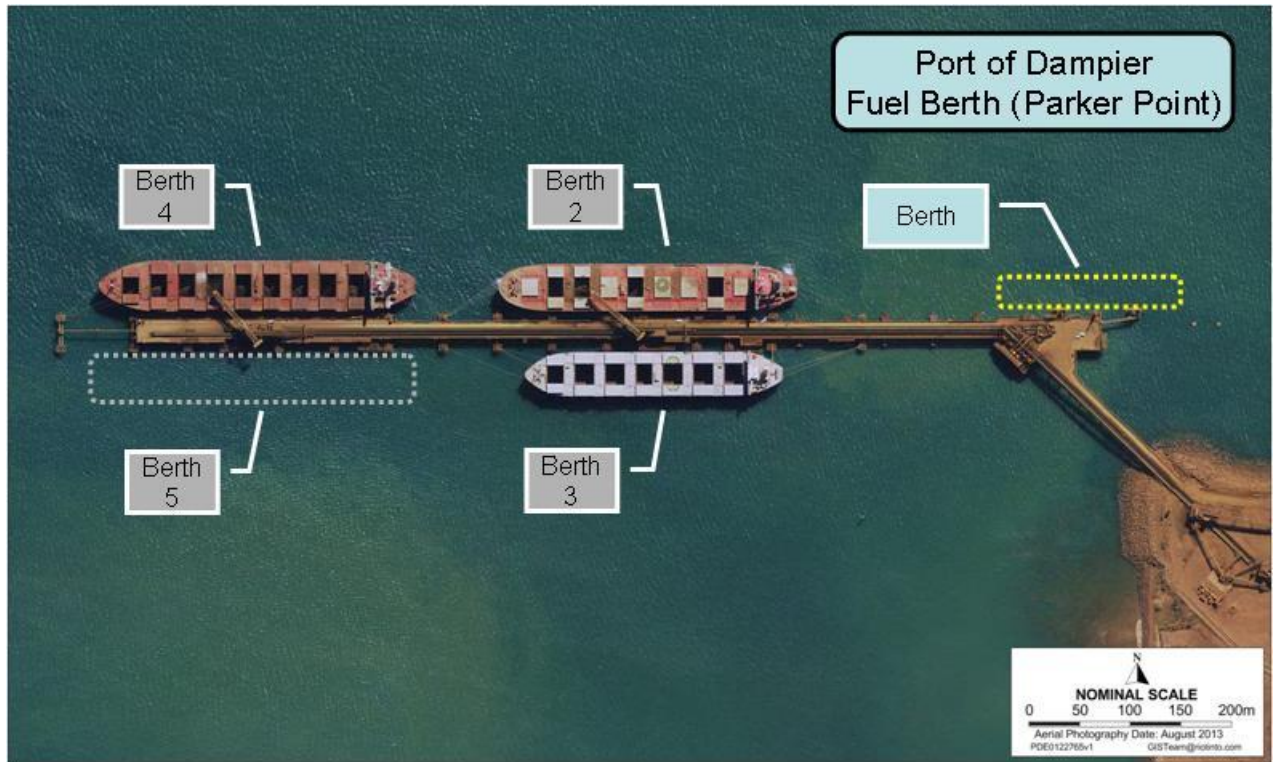
## 2.3 Dampier Fuel Berth (Parker Point)

Dampier Fuel Berth (Parker Point) has been issued with a specific exemption to the hazardous zone provisions of ISGOTT on the basis that the Terminal is only permitted to discharge diesel.

Prior to berthing, all empty cargo tanks and slop tanks must be purged with inert gas to achieve a hydrocarbon content of less than 2% by volume.

<b>Location</b>	Port of Dampier 20° 38' S, 116° 43' E	<b>DAMPIER FUEL BERTH (PARKER POINT)</b>
<b>Cargo</b>	Diesel fuel	
<b>Facilities</b>	One berth	<b>Discharging berth</b>
<b>Parameters</b>	Berthing basin length	243.8 m
	Berthing basin width	38.1 m
	Minimum parallel body length forward, (relative to centre of manifold)	42.0 m
	Minimum parallel body length aft, (relative to centre of manifold)	46.0 m
	Total length of wharf at berth	69.5 m
<b>Restrictions</b>	Length overall	190.0 m
	Beam	35.0 m
	Berth pocket depth at LAT	11.9 m
	Shallowest depth in approach at LAT	7.8 m
	Maximum bow to centre manifold length	91.3 m
	Maximum side of ship to manifold length	7.6 m
	Berthing displacement	46,000 t
<b>Typical Towage</b>	Berthing	2 tugs
	Sailing	2 tugs
<b>Further Reference : Admiralty chart AUS 57/58/59/60</b>		

The Viva Energy Australia Parker Point Terminal Information Book can be accessed via your Shipping Agent.



## 2.4 Mistaken Island

The terminal is owned and operated by Dampier Salt Limited, a Rio Tinto business and the world's largest salt producer.

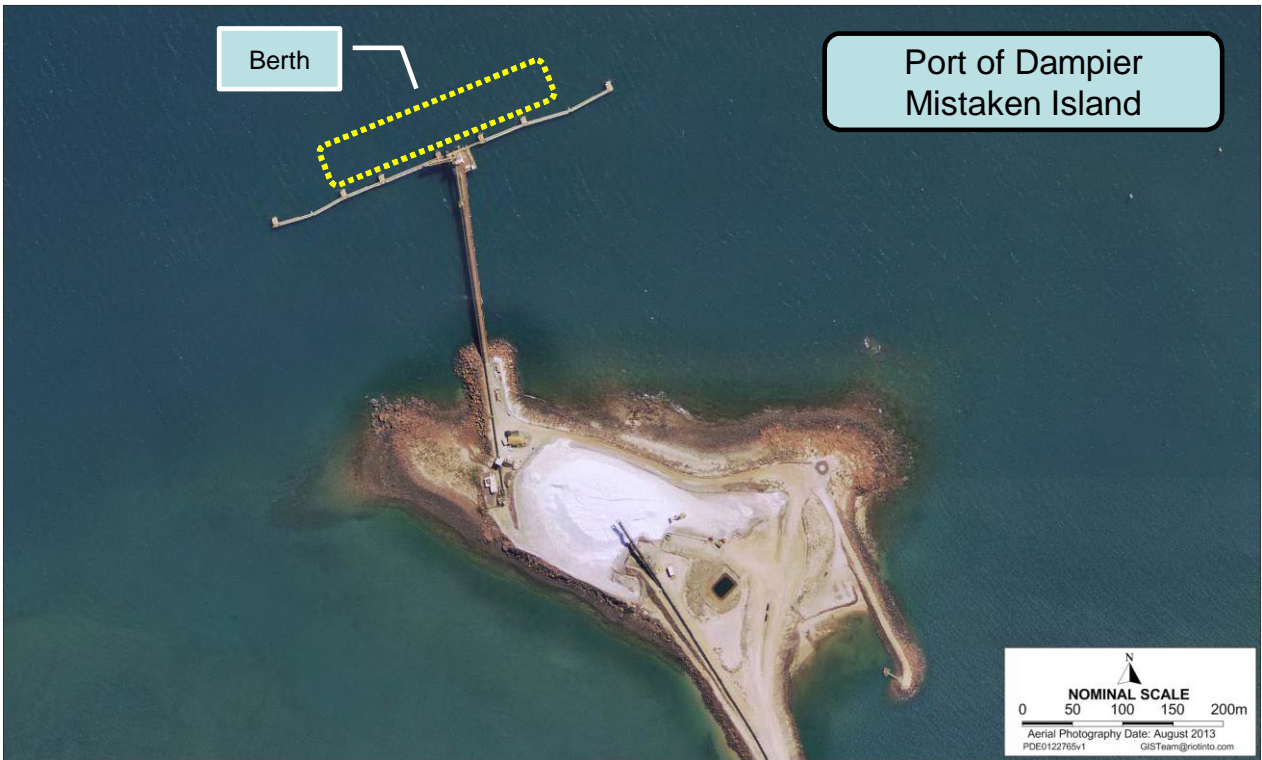
Mistaken Island ships up to 4.2 Mt/a of high quality solar salt.

The berth consists of a shiploader platform and seven mooring dolphins.

Vessels berth starboard side to, moor to and warp along dolphins using ships winches on fore and aft lines, and also central springs attached to No 4 dolphin.

The fixed slewing shiploader is able to load hatches adjacent to one another, but for loading of other hatches, the vessel is shifted along the berth using ships winches.

<b>Location</b>	Port of Dampier 20° 38' 05.6" S, 116° 39' 40.5" E	<b>MISTAKEN ISLAND</b>
<b>Cargo</b>	Salt	
<b>Facilities</b>	One berth with one fixed cantilever shiploader	<b>Loading berth</b>
<b>Parameters</b>	Number of mooring dolphins	7
	Total length between dolphins	358.20 m
	Shiploader outreach radius from fender line	17.40 m
	Average net loading rate	2,000 t/h
<b>Restrictions</b>	Length overall	225.0 m
	Beam	36.0 m
	Berth pocket depth at LAT	12.2 m
	Shallowest depth in approach	9.4 m
	Maximum air draft above LAT	20.25 m
	Minimum air draft above LAT	16.60 m
	Berthing displacement	50,000 t
<b>Typical Towage</b>	Berthing	2 tugs
	Sailing	2 tugs
<b>Further Reference : Admiralty chart AUS 58/59/60</b>		



## 3 Port Walcott

Port Walcott facilities are the only deep water terminal within the port, operating under the auspices of the Western Australian Department of Transport, in its role as port authority.

The Department of Transport may issue Marine Notices from time to time which supersede some details contained in this handbook. Please check the Department of Transport website for Port Walcott relevant notices:

<http://www.transport.wa.gov.au/imarine/notices-to-mariners.asp>

### Rio Tinto Facilities

Cape Lambert, Terminal A	Iron Ore
Cape Lambert, Terminal B	Iron Ore
Cape Lambert Service Wharf	break-bulk / general

### Navigation

Dry-bulk vessels anchor in a designated area immediately to the NE of terminal.

Pilotage is compulsory for berthing and departing vessels, with transfer via helicopter (subject to vessel capability).

Departing vessels transit an 18 nautical mile channel (maintained to a depth of 15.6 m) to sea.

Sailing drafts are determined by a Dynamic Under-Keel Clearance system based upon real-time tide and wave measurements, except during spring tides or if the system is inoperative.

### Environmental Conditions

Tides	MSL 2.5 m, MHWS 4.5 m, LAT to HAT range 5.5 m, typically strong currents up to 1.2 knots; flood (HS-4) in general direction SE ebb (HW+4) in general direction NW  important to note fully loaded vessels in CLA berths 1 & 3 are to remain vigilant with their mooring lines (especially one hour before low water to a few hours past low water)  winds can reach 35 knots generating waves in excess of 2.5 m
Load-line zone	Summer Zone from 1-Dec to 30-Apr Seasonal Tropical Zone from 1-May to 30-Nov
Cyclones	Typically occur between November and April

### Services

Waste disposal	Not available	Provisions	Available
Bunkers	Not available	Fresh water	Available
Crew change	Available	Repairs	Limited availability
Facilities ashore	Shops available at Wickham (13 km) Airport, banks, shops, hospital at Karratha (50 km)		

### Key Contacts

VHF Channel 14 call 'Port Walcott Base' for Rio Tinto Iron Ore Marine Operations

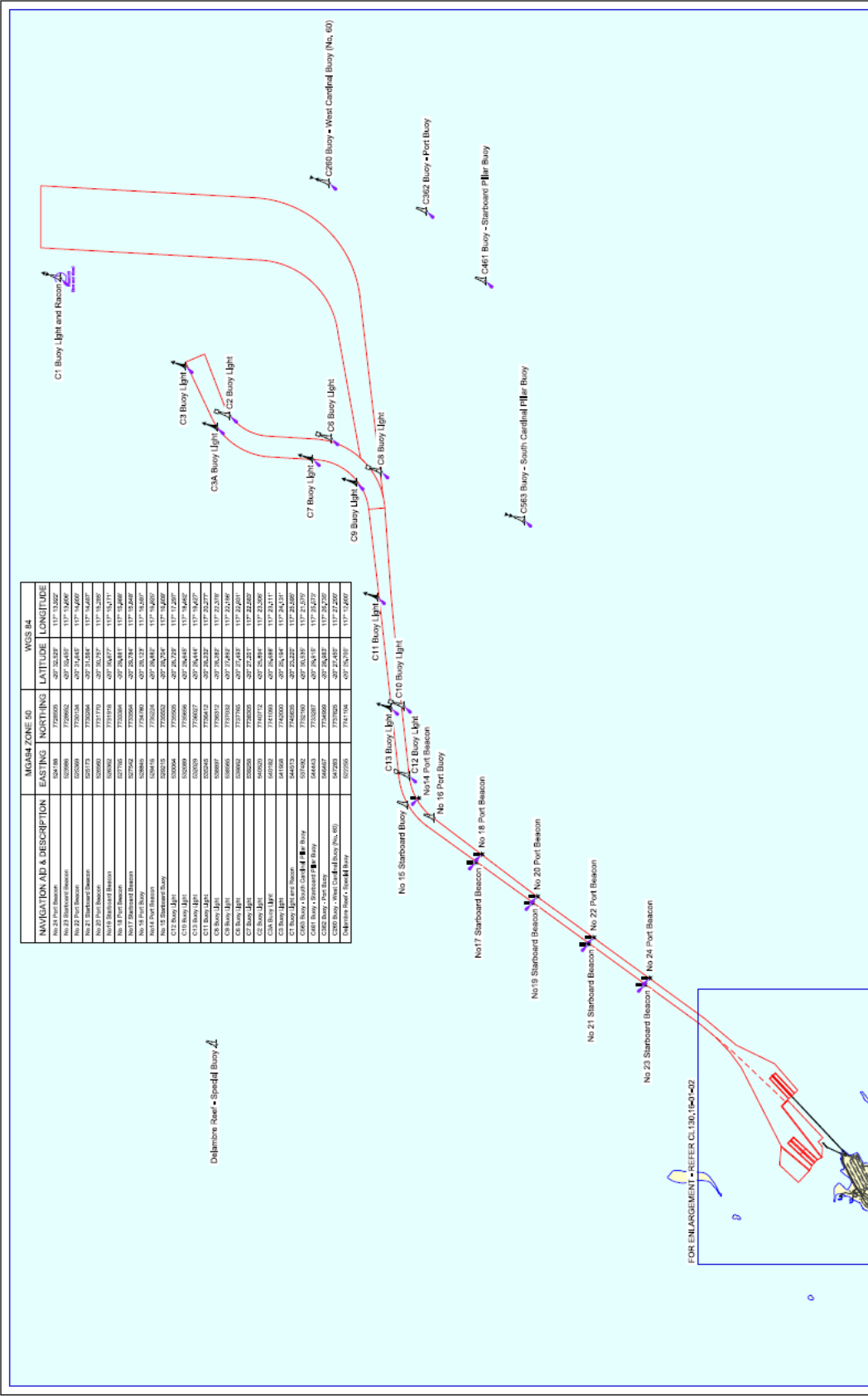
Channel 16 for emergencies only

Phone Rio Tinto Iron Ore Marine Operations +61 8 9186 1487

## Further References

Admiralty chart AUS 55/56





NAVIGATION AID & DESCRIPTION	MGA84 ZONE 50			WGS 84		
	EASTING	NORTHING	LONGITUDE	EASTING	NORTHING	LONGITUDE
No 24 Port Beacon	524 186	7769505	117° 32' 53"	497 56 237	117° 32' 52"	
No 23 Starboard Beacon	525089	7769602	117° 32' 53"	497 56 437	117° 32' 52"	
No 23 Port Beacon	525089	7769534	117° 32' 53"	497 56 437	117° 32' 52"	
No 22 Starboard Beacon	525173	7769590	117° 32' 53"	497 56 237	117° 32' 52"	
No 22 Port Beacon	525173	7769522	117° 32' 53"	497 56 237	117° 32' 52"	
No 19 Starboard Beacon	525082	7769514	117° 32' 53"	497 56 237	117° 32' 52"	
No 19 Port Beacon	527195	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
No 17 Starboard Beacon	527862	7769594	117° 32' 53"	497 56 237	117° 32' 52"	
No 17 Port Beacon	528845	7769590	117° 32' 53"	497 56 237	117° 32' 52"	
No 16 Starboard Beacon	528845	7769522	117° 32' 53"	497 56 237	117° 32' 52"	
No 16 Port Beacon	528845	7769590	117° 32' 53"	497 56 237	117° 32' 52"	
C11 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C12 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C13 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C14 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C15 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C16 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C17 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C18 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C19 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C20 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C21 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C22 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C23 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C24 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C25 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C26 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C27 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C28 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C29 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C30 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C31 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C32 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C33 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C34 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C35 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C36 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C37 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C38 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C39 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C40 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C41 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C42 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C43 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C44 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C45 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C46 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C47 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C48 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C49 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C50 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C51 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C52 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C53 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C54 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C55 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C56 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C57 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C58 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C59 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	
C60 Buoy Light	530094	7769595	117° 32' 53"	497 56 237	117° 32' 52"	

**NOTES**

1. NAVIGATION AID POSITIONS FROM THE TINTO CANTONMENT ZONE WEST AUSTRALIAN DEPARTMENT OF TRANSPORT

FOR ENLARGEMENT - REFER CL 130.16-01-02

**SCALE 1:50000**

**DATUM**  
VERTICAL: NA  
HORIZONTAL: MAP GRID OF AUSTRALIA BASED ON GDA M ZONE 50

**PROJ: 29932019**

**TILE: NAVIGATION AID POSITIONS CAPE LAMBERT SHEET 1 OF 3**

**U.A.N.Z. PROJECT NUMBER: CL 130.16 - 01 - 01**

**PROJ: 29932019**

**TILE: NAVIGATION AID POSITIONS CAPE LAMBERT SHEET 1 OF 3**

**U.A.N.Z. PROJECT NUMBER: CL 130.16 - 01 - 01**

### 3.1 Cape Lambert A

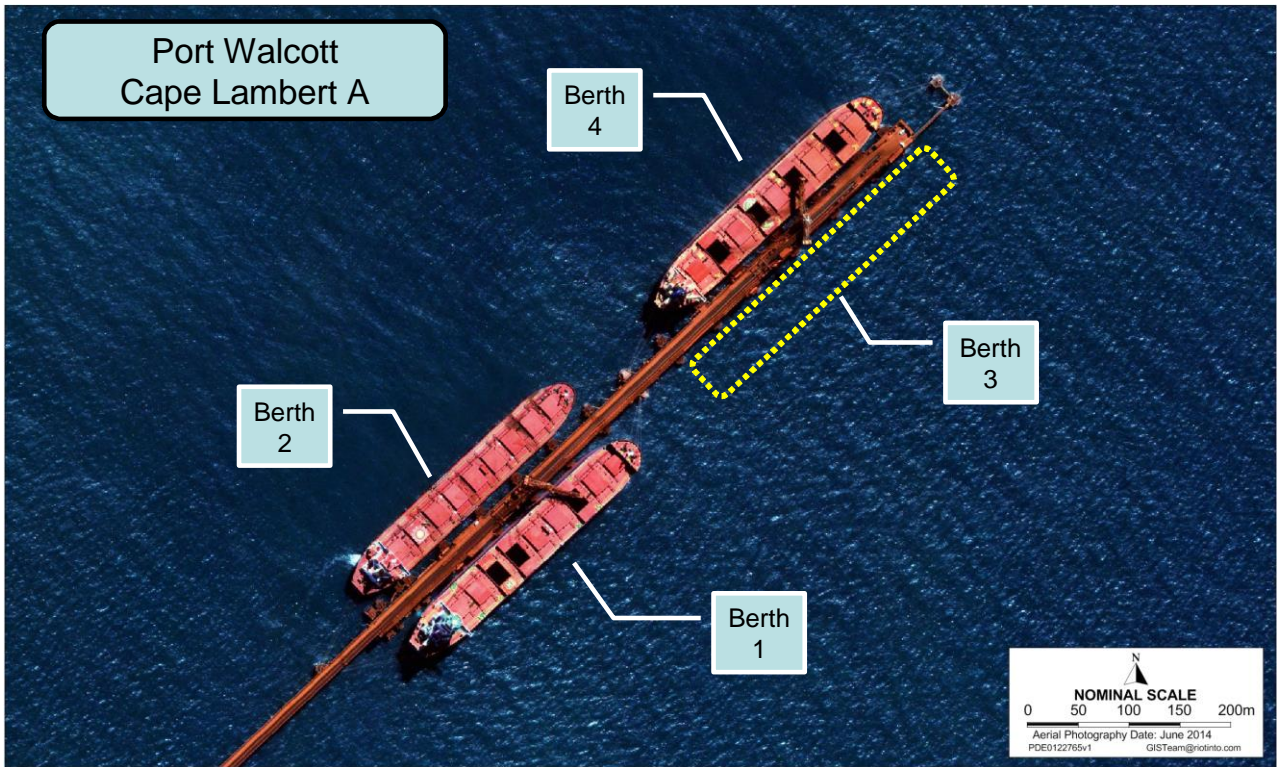
Cape Lambert A is an Iron Ore terminal capable of loading more than 85 Mt/a.

Vessels up to 255,000 dead weight tonnes can be accommodated for loading.

Four berths, located at the end of a 3,000 m jetty, serviced by two travelling slew-type shiploaders.

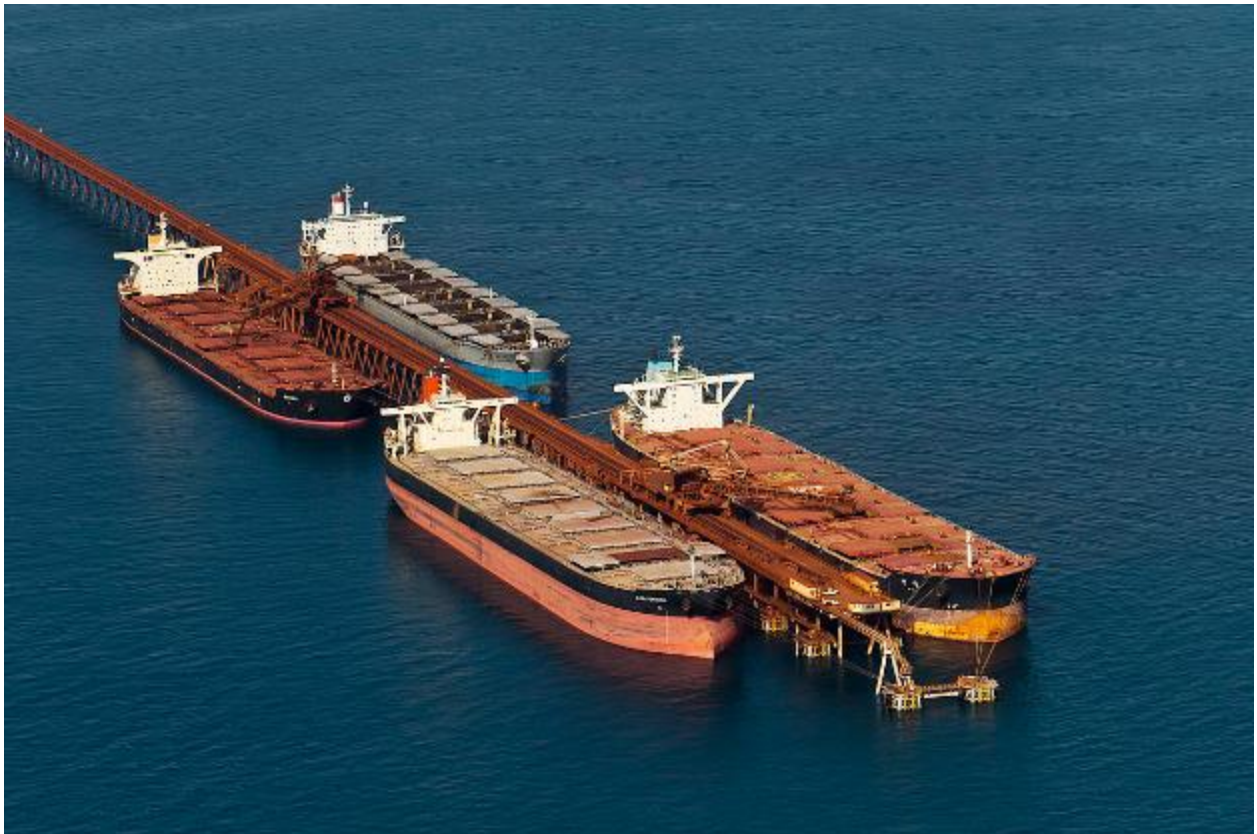
<b>Location</b>	Port Walcott 20° 34' S, 117° 12' E	<b>CAPE LAMBERT A</b>			
<b>Cargo</b>	Iron Ore				
<b>Facilities</b>	Four berths with two slew-type shiploaders	<b>Berth 1</b>	<b>Berth 2</b>	<b>Berth 3</b>	<b>Berth 4</b>
<b>Parameters</b>	Shiploader travel at berth	293.24 m	293.24 m	323.16 m	323.16 m
	Shiploader outreach radius from fender line	27.76 m	24.56 m	28.96 m	32.06 m
	Berth pocket length	383.44 m	383.44 m	415.00 m	415.00 m
	Total length of wharf at berth	350.85 m	350.85 m	365.60 m	365.60 m
	Total length of fendering at berth	346.50 m	346.50 m	423.10 m	423.10 m
	Required gross loading rate	9,000 t/h	9,000 t/h	9,000 t/h	9,000 t/h
<b>Restrictions</b>	Length overall	310.0 m	310.0 m	330.0 m	330.0 m
	Beam	47.5 m	55.0 m	57.0 m	57.0 m
	Berth pocket depth at LAT	19.2 m	19.2 m	19.3 m	19.3 m
	Berth width	87.0 m	87.0 m	87.0 m	87.0 m
	Shallowest depth in approach	10.6 m	9.6 m	10.6 m	9.6 m
	Rio Tinto allowable air draft (distance to top of hatch coaming)	22.0 m	22.0 m	22.0 m	22.0 m
	Berthing displacement	142,000 t	142,000 t	147,000 t	147,000 t
<b>Typical Towing</b>	Berthing: number of tugs	3	3	3	3
	Sailing: number of tugs number of escort tugs into channel escort tugs accompany to channel	3 tugs 1 tug Beacon 23	3 tugs 1 tug Beacon 23	3 tugs 1 tug Beacon 23	3 tugs 1 tug Beacon 23
<b>Further Reference : Admiralty chart AUS 55/56</b>					





## Cape Lambert A

Vessels being loaded at Berth 1 and 4



### 3.2 Cape Lambert B

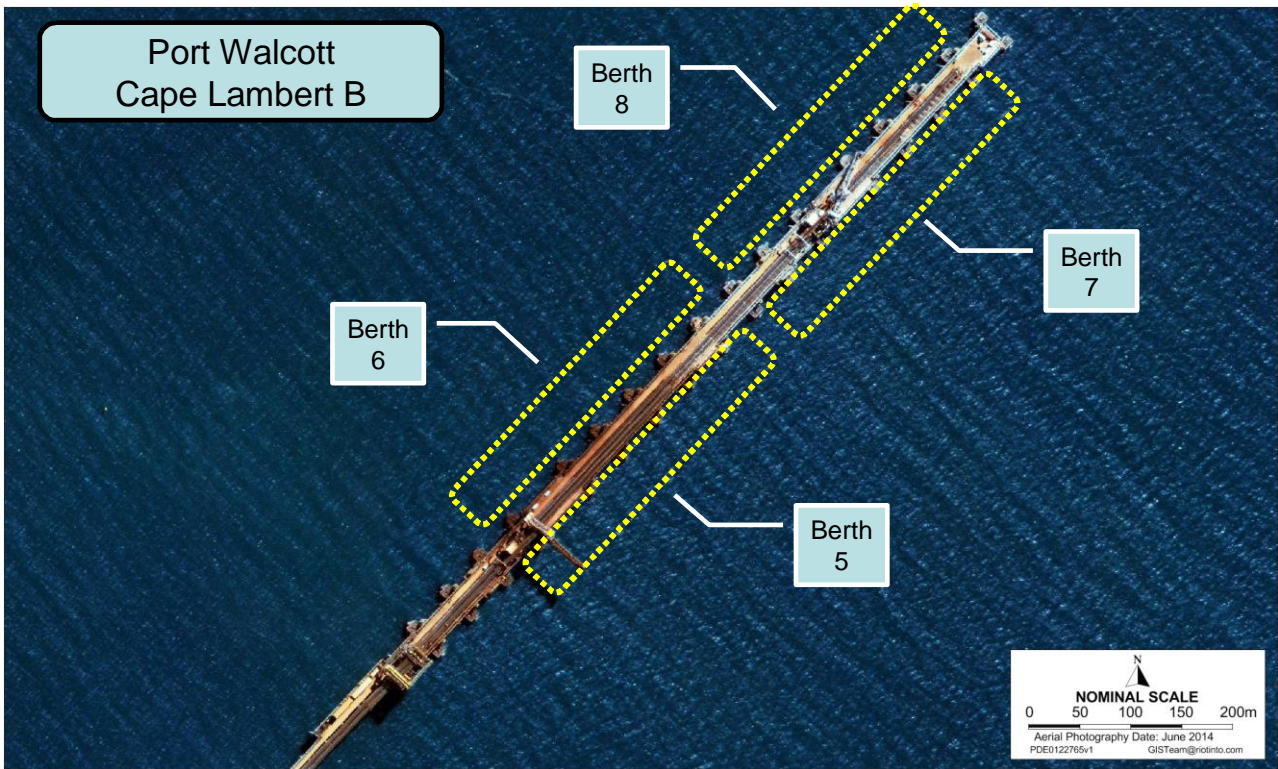
Cape Lambert B is an Iron Ore terminal capable of loading more than 100 Mt/a.

Vessels up to 255,000 dead weight tonnes can be accommodated for loading.

Berths 5 and 6 began operating in August 2013.

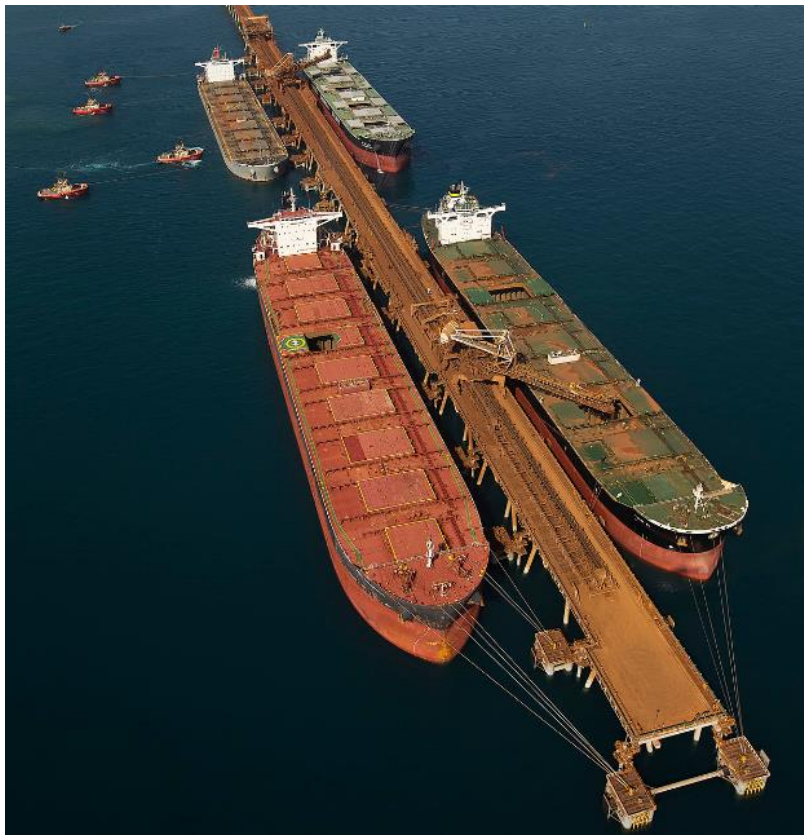
Berths 7 and 8 began operating in June 2014.

Location	Port Walcott 20° 34' S, 117° 12' E	CAPE LAMBERT B			
Cargo	Iron Ore				
Facilities	Four berths with two slew-type shiploaders	Berth 5	Berth 6	Berth 7	Berth 8
Parameters	Shiploader travel at berth	242.55 m	242.55 m	242.55 m	242.55 m
	Shiploader outreach radius from fender line	32.16 m	32.16 m	32.16 m	32.16 m
	Berth pocket length	418.0 m	418.0 m	418.0 m	418.0 m
	Total length of wharf at berth	408.0 m	408.0 m	408.0 m	408.0 m
	Total length of fendering at berth	408.0 m	408.0 m	408.0 m	408.0 m
	Required gross loading rate	10,000 t/h	10,000 t/h	10,000 t/h	10,000 t/h
Restrictions	Length overall	330.0 m	330.0 m	330.0 m	330.0 m
	Beam	57.0 m	57.0 m	57.0 m	57.0 m
	Berth pocket depth at LAT	19.8 m	19.7 m	19.9 m	19.7 m
	Berth width	85.5 m	85.5 m	85.5 m	85.5 m
	Shallowest depth in approach	10.0 m	10.0 m	10.0 m	10.0 m
	Rio Tinto allowable air draft (distance to top of hatch coaming)	22.0 m	22.0 m	22.0 m	22.0 m
	Berthing displacement	147,000 t	147,000 t	147,000 t	147,000 t
Typical Towing	Berthing: number of tugs	4	4	4	4
	Sailing: number of tugs number of escort tugs into channel escort tugs accompany to channel	4 tugs 1 tug Beacon 23	4 tugs 1 tug Beacon 23	4 tugs 1 tug Beacon 23	4 tugs 1 tug Beacon 23
<b>Further Reference : Admiralty chart AUS 55/56</b>					



## Cape Lambert B

Vessels being loaded at Berth 6 & 8; Vessel sailing from Berth 5



### 3.3 Cape Lambert Service Wharf\*

Cape Lambert Service Wharf is a general purpose facility used for the loading or discharge of break-bulk or general cargoes using vessel gear or mobile crane.

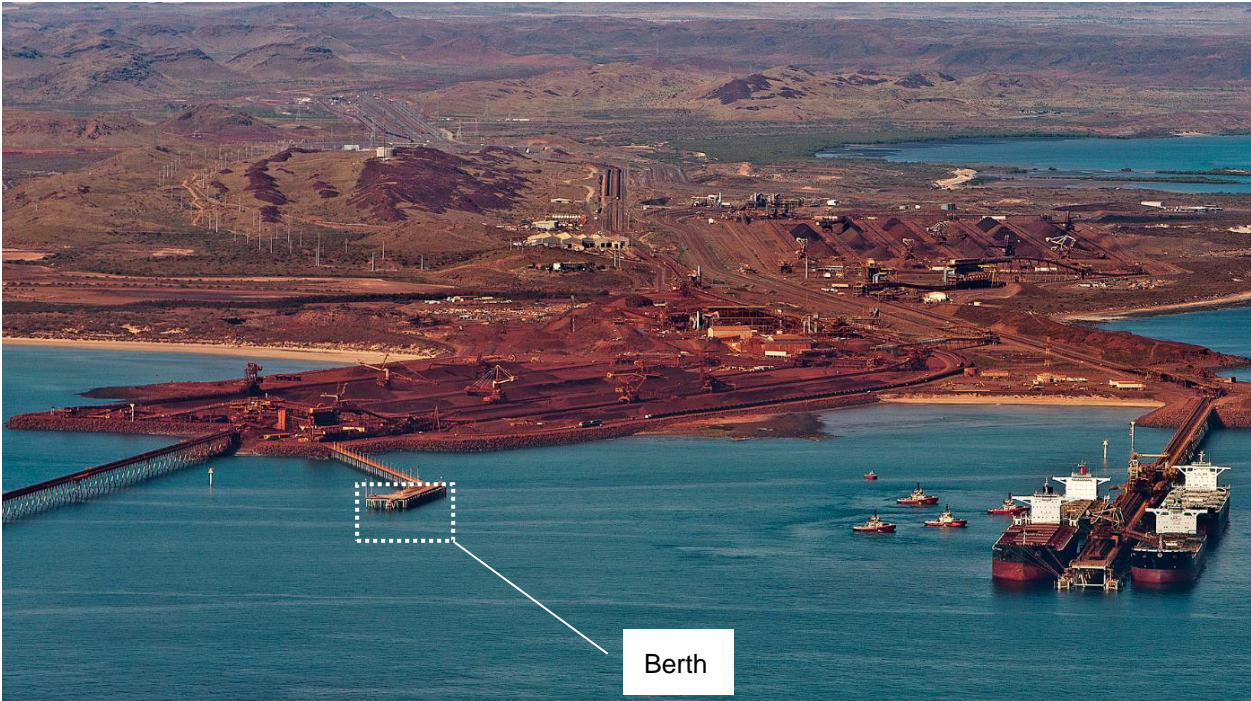
A timber-decked approach jetty, 457 m long, connects to a 155 m long berthing head wharf which has mooring dolphins 27.5 m distant at each end.

The berth primarily exists to service Rio Tinto requirements, third party calls are undertaken at the discretion of Rio Tinto.

<b>Location</b>	Port Walcott 20° 35' S, 117° 11' E	<b>CAPE LAMBERT SERVICE WHARF</b>
<b>Cargo</b>	Break-bulk / General	
<b>Facilities</b>	One berth	<b>Discharging berth</b>
<b>Parameters</b>	Berthing basin length	No defined berthing basin
	Berthing basin width	No defined berthing basin
	Total length of wharf	155.0 m
<b>Restrictions</b>	Length overall	185.0 m
	Beam	32.2 m
	Berth pocket depth at LAT	9.40 m
	Shallowest depth in approach at LAT	7.80 m
	Berthing displacement	48,000 t
<b>Typical Towage</b>	Berthing	2 tugs
	Sailing	2 tugs
<b>Further Reference : Admiralty chart AUS 55/56</b>		

\* Currently not in use

# Cape Lambert Service Wharf



## 4 Key Contact Numbers

### 4.1 Emergency

Emergency site services office

- Dampier +61 8 9143 5333
- Port Walcott +61 8 9186 1222

UHF / VHF radio: VHF16 or UHF to berth

### 4.2 Rio Tinto

Marine Coordinator

- Dampier Phone +61 8 9183 7111  
Mobile +61 417 914 588
- Port Walcott Phone +61 8 9186 1487  
Mobile +61 429 087 177

Marine Operations Superintendent

- Dampier Phone +61 8 9143 5889  
Mobile +61 439 904 642
- Port Walcott Phone +61 8 9186 1462  
Mobile +61 418 550 503

### 4.3 Pilbara Ports Authority – Dampier

Pilbara Ports Authority office +61 8 9159 6555  
Pilbara Ports Authority port control +61 8 9159 6556

### 4.4 Harbour Master – Port Walcott

WA Department of Transport +61 8 9435 7850

### 4.5 Marine Pilots

Dampier +61 8 9185 5251  
Port Walcott +61 8 9187 1329

### 4.6 Shipping Agencies

Gulf Agency Company +61 8 9183 8627  
Sturrock Grindrod Maritime +61 8 9185 2955  
Inchcape Shipping Services +61 8 9185 6319  
LBH Australia +61 8 9144 2120  
Monson Shipping Agency +61 8 9144 7300  
Wilhelmsen Ships Service +61 8 9144 2311

## 5 Instructions to Vessels Calling at Terminals

### 5.1 Safety and environment

- All vessels are required to have a Safety Management System (SMS) and hold a current Safety Management Certificate (SMC), as per the International Safety Management (ISM) code.
- All vessels require a Ship Security Officer and Ship Security Plan, as per IMO legislation and compliance with the Australian ballast water management legislation is required.

### 5.2 Emergencies

- In the event of an emergency, the following instructions must be followed:
  - Raise the Alarm - sound one or more blast of air horn for 10 seconds or longer, continuously sound general alarm system
  - Stop all cargo / deballasting operations
  - Implement berth emergency plan
  - Inform Terminal / port control
    - VHF 11 or 16 for terminal or Dampier PPA VTS
    - VHF 14 or 16 for Port Walcott
    - Berth ship to shore radio (radio supplied by terminal whilst alongside berth)
  - Vessels to advise your Shipping Agent/AMSA and complete appropriate forms
  - In case of fire, contain fire, prevent from spreading
  - Standby to disconnect hoses or loading arms if applicable
  - Bring engines to standby
  - For any parted line incidents or vessels ranging off the berth seek Terminal assistance for tug resources immediately

### 5.3 Communication - general

- The vessel must be contactable at all times while at berth. A hand-held radio will be provided for communication between vessel's Duty Officer and the Shiploader Operator.
- Regular contact should be maintained and batteries changed regularly. The call sign is 'Shiploader'.

### 5.4 Communication - Dampier

- The Dampier Pilbara Ports Authority is the primary contact for general enquires, and can be contacted by calling 'Dampier VTS' on VHF 11 and 16 , telephone +61 8 9159 6556

- Direct communication to the Marine Coordinators call ' Hamersley Base' on VHF 11 and 16, telephone +61 8 9183 7111
- Rio Tinto Iron Ore Marine Coordinators and Pilbara Ports Authority maintain a watch on VHF 11 and 16
- Other channels are listed below:
  - Ch.11 Port working frequency
  - Ch.13 Helicopter operations
  - Ch.16 Distress, calling and declared port emergencies; monitored by port authority. Vessels approaching or at anchor must maintain a continuous watch.
  - Ch.67 Secondary emergency
  - Ch.72 Ship-to-ship
  - Ch.74 Ship-to-shore (Shipping Agent)
  - Ch.82 Woodside operations

## 5.5 Communication - Port Walcott

- Rio Tinto Iron Ore Marine Operations can be contacted on channel 14 or 16 by calling "Port Walcott Base", or via telephone + 61 8 9186 1487.
- Other channels are listed below:
  - Ch.14 Port working frequency
  - Ch.16 Distress, calling and declared port emergencies; monitored by port authority
  - Ch.9/10 Tug working channels
  - Shiploader Operator – Berth ship to shore radio (radio supplied by terminal whilst alongside berth)
- Vessels approaching or at anchor must maintain a continuous watch.

## 5.6 Cyclones

- Cyclone season is from the 1<sup>st</sup> November to the 30<sup>th</sup> April.
- An average of six cyclones each season threatens the region and usually half of the cyclones make landfall.
- Approaching cyclones are monitored by Marine Pilots and Marine Coordinators.
- If necessary, ports will be closed and all vessels required to seek refuge at sea.
- Dampier vessels will be advised by Pilbara Ports Authority via VHF 11.
- Port Walcott vessels will be advised by Port Walcott base via VHF 14.
- Maintain watch on:
  - VHF 11 or 16 for Dampier
  - VHF 14 or 16 for Port Walcott



## 5.7 Environmental pollution

- No refuse of any kind should be discharged, including oil, garbage, and excessive funnel exhaust.
- A vessel engaged in international trade may only discharge ballast with approval from the Department of Agriculture and Water Resources. Vessels engaged in Australian coastal trade must abide by the voluntary code of practice regarding ballast discharge.
- Australian environmental and marine law applies to vessels in port and surrounds, and offenders may be prosecuted.
- Offenders will be held liable for clean-up costs.
- In the event of an oil spill immediately follow emergency procedures as outlined in 5.2 Emergencies.

## 5.8 Fishing

- Fishing is not permitted while alongside any berth.

## 5.9 Crew illness or death

- Prior to arrival report all cases of death or significant illness to the Department of Agriculture and Water Resources as required by Australian Quarantine Act legislation.
- The Department of Agriculture and Water Resources must be notified immediately of any illness that develops at any time while the vessel is at anchorage or alongside a berth.

## 5.10 Repairs, defects and malfunctions

- Any defects and/or malfunctions should be promptly reported to AMSA and your Shipping Agent.
- Main engine immobilisation is allowable in critical situations by approval of the Rio Tinto Iron Ore Marine Superintendent and Harbour Master.
  - Such approval will not be given during cyclone season unless in the case of an emergency.
  - A detailed written description of the proposed work should be details on a 'Request for Immobilisation' form.
- Work is not to be undertaken whilst alongside a berth unless approval is granted by a Rio Tinto Iron Ore Marine Coordinator.
  - Agreement should be reached on safety precautions to be taken.
- Hot work is not permitted whilst alongside a berth unless approved by the Rio Tinto Iron Ore Marine Operations Superintendent and the Pilbara Ports Authority/Department of Transport.
  - All hot work permits are also to be counter-signed by port authority, shore officer and ship's officer.

## 5.11 Electrical equipment

- Non-intrinsically safe certified equipment is not permitted in the vicinity of Dampier Fuel Wharf while petroleum cargoes are being handled, except in permanent buildings ashore as nominated by the shore officer, or areas of the vessel as nominated by the Master.
- Unsafe equipment may include mobile phones, computers, cameras and other devices.
- Exceptions may be given when a risk assessment has been conducted and approval given by both the Master and shore officer.
- Do not change a radio battery unless inside a permanent building.

## 5.12 Helicopter operations

- Marine Pilot transfers are predominantly done via helicopter movements, and the vessel must provide safe access and egress for the Marine Pilot.
- Ships involved in helicopter operations at Dampier will communicate on VHF Ch.13 and Port Walcott will communicate on Ch.14.
- Vessels under NO circumstances are to proceed past Pilot Boarding Ground until the Marine Pilot is on board.
- As per AMSA guidelines for Marine Pilot transfers “the vessel is required to have onboard documentation to prove that the area that is being used for helicopter operations is capable of withstanding the static and dynamic loads that will be experienced during the operation”.
- Helicopter landing hatch must be capable of accommodating the maximum loaded weight of the AW109 helicopter which is 3175 kg, resting on three tyres each of which has a contact area of 143 cm<sup>2</sup>, i.e. 7.4 kg/cm<sup>2</sup>.
- The required helicopter maneuvering area required for Marine Pilot transfers is a clear diameter of 39 m or greater. Rio Tinto request 39m to allow for the possible transfer of personnel to or from the ship by helicopter.
- Geared or craned vessels require a 39m helicopter clearance (day or night).
- The helicopter landing must be clearly defined with an “H”. If “winch only” the vessel must provide assurances to the terminal that it is safe to land before arrival at the designated anchorage.
- Vessels are required to have all hatch covers closed and fire party team on standby.
- The vessels helicopter party is to have received instruction in accordance with AMSA guidelines (ship-helicopter transfer Australian code of practice or relevant IMO/ICO equivalent).
- In the event of night operations, all deck lights including accommodation are to be on.
- Any raised items (tie downs, etc.) located on the landing hatch must be clearly visible in an alternate colour to the hatch top allowing the helicopter pilot to observe them before landing.
- A clearly visible wind indicator/sock is required at all times. Vessel crew and equipment are ready to perform any firefighting and emergency procedures prior to helicopter landing.

### **5.12.1 The ICS Guide to Ship Helicopter Operations**

The International Chamber of Shipping's (ICS) *Guide to Ship Helicopter Operations* underpins the Australian Maritime Safety Authority (AMSA) regulatory orders regarding the transfer of Marine Pilots using helicopters in Australian waters (*Marine Order 57*). The Order requires the Master to provide shipboard arrangements, equipment, training and drills that “are at least as effective as those mentioned in the ICS Guide for operations or activities directly related to the vessel”. Additionally, Marine Order 57 states “any obstacles within the helicopter landing or operating area that do not comply with the ICS Guide must be clearly marked”.

### **5.12.2 Pre- Arrival Questionnaire**

When completing the pre-arrival questionnaire, Masters are to refer to the ICS Guide to Ship Helicopter Operations, and AMSA *Marine Order 57* to ensure that all obstacles on and surrounding the helideck are correctly marked.

## **5.13 Pre-arrival information**

- The requested information is to be submitted and if not received this may result in the non-acceptance of the Notice of Readiness.
- Information should be provided via your Shipping Agent to Rio Tinto Iron Ore Marine Operations Attention the Marine Coordinators.
- If you have any questions, please contact your Shipping Agent.

## **5.14 Vetting - RightShip**

- As part of the Charter Party acceptance, the vessel will be approved under the Rio Tinto Marine RightShip guidelines.
- RightShip is endorsed by Rio Tinto Group HSE as the primary quality risk management tool to be used by the Rio Tinto business.
- RightShip is an online ship vetting system, which considers a range of criteria in assessing a vessel.
- Every vessel used for carriage of Rio Tinto cargo or calling at Rio Tinto owned or operated Port must be vetted and accepted on RightShip before being fixed for business.
- Vessels used by Rio Tinto must complete a RightShip Terminal Vetting Questionnaire and once approved remains valid for a two-year period unless a serious deficiency or incident is recorded.
- All enquiries should be directed to the vessel Owners or Charterers.

## **5.15 Estimated time of arrival (ETA)**

- The estimated time of arrival is to be updated and advised to Shipping Agents/Rio Tinto on a regular basis during the voyage.

## 5.16 Pre-arrival questionnaire

- Is to be completed prior to arrival, and no less than 5 days prior to arrival at the anchorage.
- This information should be provided via your Shipping Agent to Rio Tinto Iron Ore Marine Operations Attention the Marine Coordinators.
- If you have any questions, please contact your Shipping Agent.

## 5.17 Safety Letter Pack

- Rio Tinto Iron Ore Marine Operations prepare a Safety Letter Pack for each vessel, the Shipping Agent will send this electronically to the vessel which consists of:
  - Safety Letter (see 5.19)
  - Single Point Lessons
    - Safe Gangway Operation
    - Working Near Hatches
    - Crew Transfer and Shore Leave
    - Working near Tensioned Lines
    - Manometers
- The Surveyor will deliver a hard copy of the Ship Shore Safety Checklist and complete this with the Master or Chief Officer.
- If the vessel has indicated via the pre-arrival information that they do not have a current copy of the “Port Handbook” and “Iron Ore Ports Ship Crew Safety” DVD, the Marine Pilot will provide these at pilot board time.

## 5.18 Load plan - BLU format

- Is required a minimum of 5 days prior to berthing and is to be in Hunter Marine Surveyors format.
- A copy of this information is also to be provided to the Surveyor on boarding to complete berthing process.
- Please provide a loading plan in accordance to the BLU code format clearly stating:
  - Loading plan with hatch changes kept to a minimum of 2 pours per hatch, i.e. for 9 holds = 18 pours including trimming
  - Total cargo to be loaded
  - Complete deballasting program
  - Departure drafts
- Please provide a completed Dynamic UKC Ship Data Form containing:
  - Departure displacement
  - KG, KM, GM (GMs), GoM (GMf)

- Where appropriate, Rio Tinto will load ships to within 9% of the contract cargo assigned to each "Letter of Credit" shipment. This is to allow for possible weightometer and other loading errors to ensure the amount of cargo loaded onto a ship remains within the agreed quantity and complies with the terms of the contract.
- Shipping Agents should keep the vessel informed of the static maximum sailing draft on the vessel's assigned tide and the maximum allowable cargo under the 9 % policy.
- Once the ship has this information it can provide Rio Tinto with a workable loading plan.
- On berthing the final load plan will be signed by the Master and Surveyor.
- Alternate hold load plans will not be accepted at Ports of Port Walcott or Dampier.

### **5.19 Australian Border Force / Department of Agriculture and Water Resources**

- The Department of Agriculture and Water Resources and Australian Border Force requirements need to be completed.
- For further information, please contact your Shipping Agent.

## 6 Anchorage

- To receive anchorage instructions contact below at least four hours prior to arrival:
  - Dampier contact “Pilbara Ports Authority” on VHF 11
  - Port Walcott contact “Port Walcott Base” on VHF 14
- A Marine Pilot is not required to proceed to the designated anchorage.
- Berth arrival is determined by product requirements. The pilot boarding time will be advised by ‘Hamersley Base’ on VHF 11 (Dampier), or ‘Port Walcott Base’ on VHF 14 or via Shipping Agent.
- Change heavy fuel tanks if required. Port regulations prohibit doing so within the port confines.
- Designated anchorage positions are shown on Admiralty charts AUS 57, 58, 59 and 60.

## 7 Berthing

### 7.1 Early loading when berthing

- Vessels must confirm 5 days prior to arrival at anchorage, through their Shipping Agent that they are able to commence loading immediately when the vessel is all secure.
- Vessels should be prepared to commence loading immediately when the vessel is all secure as directed by the Marine Pilot/Surveyor.
- The first hatch must be clean, open and ready for use after the tugs are secured.

### 7.2 Draft

- The berthing draft will be advised via the Shipping Agent, once this is received please advise: the hours required for deballasting; remaining ballast on board for stripping; air draft at first loading hatch at the berthing draft.
- If amended, revised berthing drafts will be advised approximately 24 hours prior to berthing.
- Berthing drafts depend on propeller immersion (full), satisfactory boarding arrangements, prevailing weather conditions, trim (not to exceed 2 m), and the air draft not exceeding terminal restriction.
- If a vessel cannot comply with its assigned draft, any exemption to the above conditions must be requested in writing and addressed to the Surveyor. The ship will be notified of the revised draft 12 to 18 hours prior to berthing.
- Non-adherence to berthing draft procedure could cause measurability and air draft issues resulting in berthing delays or refusal to berth.

### 7.3 Pilotage

- Pilotage is compulsory for all vessels over 35 m LOA, unless the Master holds a current exemption certificate.
- The Marine Pilot acts as an advisor to the Master, and an agent of the ship Owner.
- Marine Pilot embarkation will be via helicopter except where exempted on Rio Tinto discretion, when a pilot boat may be used. Refer to Section 8.2 Helicopter Transfers.
- Where a pilot boat is used, maintain speed required by pilot boat operator and provide a suitable lee and ladder conforming to SOLAS standards.
- The ladder should be in good condition, properly placed, secured and illuminated.
- Where the freeboard exceeds 9 m, use a gangway / pilot ladder combination rigged 2 m from waterline.
- On request, please provide the Marine Pilot with keel to centre of gravity (KG), keel to metacentric height (KM), centre of gravity to metacentric height (GMs), metacentric height allowing for free surface effects (GMf) information.

## 7.4 Towage

- Tugs are of varying bollard pull, from 65 t to 80 t.
- Vessel bollards should be rated at no less than 65 t (as per the RightShip Terminal Vetting Questionnaire). Please note that some tugs in the Rio Tinto fleet are capable of applying 80 t force.
- Communication with tugs is the responsibility of the Marine Pilot.
- When letting go tug lines lower the line slowly, never drop the line.

## 7.5 Mooring

- The Master is responsible for ensuring that the vessel remains securely moored alongside wharf at all times.
- Mixed mooring line is prohibited at all Terminals. This includes mooring lines of the same material and construction in the same direction.
- A quick-release hook system, rated at 100 t, is used at Iron Ore terminals. Dolphins are fitted with electric capstans.
- Synthetic ropes should be used.
- Mooring lines are taken ashore by lines boat where possible.
- Vessels are not permitted to use wire lines at the Rio Tinto Dampier or Port Walcott Terminals.
- All lines should have a light rope tail no greater than 2 m, spliced into the eye to facilitate transfer of lines from ship to lines boat.
- All anchor locks and restraints must be in place and tested before commencement of line running, and confirmed by the Master to the Marine Pilot.
- Splicing together mooring line is acceptable if five tucks or more are used and the line is in good condition.
- Head and stern lines will be taken ashore by lines boat, the rest are run by mooring crew under direction of Marine Pilot and mooring crew supervisor.
- Always keep watch on the crew of the lines boat while running lines.
- Heaving lines should not have metal objects or heavy weights added to, or used in place of a monkey fist knot.
- Signals from lines boat to 'heave up' mean to just clear the water line.
- Always keep mooring lines slack (just touching water) once on the mooring dolphin hooks.
- Under no circumstances should a gangway be positioned on a dolphin utilised by mooring lines.
- Mooring lines are NOT to be tensioned until the Marine Pilot instructs the Master that it is safe to heave up.
- Do not ring finished with engines until all fast and confirmed with Marine Pilot.



- Mooring line inspections should be conducted no less than every 30 minutes, particularly around the changing of tidal flow where risk of line breakage is increased.
- Any line breakage or abnormality must be reported to the terminal for investigation.
- Information regarding typical mooring instructions for Iron Ore terminals is available from your Shipping Agent or Rio Tinto representative.
- Rat guards are NOT required provided the vessel has a current Sanitation certificate.

## **7.6 Berthing conditions**

- Berthing will not be performed in unsafe wind or currents.
- Marine Pilots monitor conditions in real time from a system of instruments and will determine if a berthing is safe to perform.
- Maximum berthing displacement varies for each terminal. Please refer to relevant table (pages 12 to 27) for details under the restrictions sections of each terminal.

## 8 Tug and Helicopter Fleet

Rio Tinto operates a fleet of modern tugs to carry out harbour towage and to escort all vessels using the company's terminals, based from tug pens located at Dampier and Port Walcott.

Third party towage work can be undertaken, subject to availability.

### 8.1 Summary of towage, pilot and line boat fleet

Vessel	IMO Number	Build year	BP t	GT t	LOA m	Beam m	Port	AIS compatible
Oita	9528964	2010	65	429	32.0	11.6	Dampier	Yes
Pilbara Thor	9455612	2009	65	429	32.0	11.6	Dampier	Yes
Pilbara Titan	9346158	2006	65	353	30.6	10.6	Dampier	Yes
Pilbara Vulcan	9298959	2005	65	353	30.6	10.6	Dampier	Yes
Pilbara Neptune	9298947	2004	65	353	30.6	10.6	Dampier	Yes
Pilbara Apollo <sup>‡</sup>	9635884	2012	80	499	32.0	12.8	Port Walcott	Yes
Kashima	9635896	2012	80	499	32.0	12.8	Port Walcott	Yes
Matsuzaka	9635901	2012	80	499	32.0	12.8	Port Walcott	Yes
Barrura	9635913	2012	80	499	32.0	12.8	Port Walcott	Yes
Gurrura	9635925	2012	80	499	32.0	12.8	Port Walcott	Yes
Wamalhanha	9635937	2014	80	499	32.0	12.8	Port Walcott	Yes
Samson 3	MMSI 503594200	2011	2	23.2 <sup>§</sup>	17.09	6.0	Port Walcott	Yes
Line Boat 4	M&H 6943	2012	2	16 <sup>§</sup>	12.0	5.0	Port Walcott/Dampier	Yes
Line Boat 1	M&H 286	1981	2.5	14.5 <sup>§</sup>	9.4	3.36	Dampier	Yes

BP = bollard pull; GT = gross tonnage; LOA = length overall; <sup>‡</sup> picture below; <sup>§</sup> lightship weight



## 8.2 Helicopter transfers

- Marine Pilot transfers are primarily carried out by helicopter; three Grandnew AW109 helicopters are operated on Rio Tinto's behalf for this purpose.
- Transfers via pilot boat are carried out when helicopter transfer is not possible.

## 8.3 Helicopter operational parameters

- Model Grandnew AW109
- Minimum manoeuvring diameter 39 m
- Maximum laden weight 3,175 kg

Grandnew AW109 helicopter



## 9 Departure

### 9.1 Draft survey (iron ore vessels)

- As loading nears completion, an independent surveyor engaged by Rio Tinto will board the vessel and produce a final weight certificate based on draft survey, enabling completion of the Bills of Lading.
- Unless otherwise stipulated by the draft surveyor the density of seawater will be calculated at 1.023 g/ml.

### 9.2 Dynamic Under-Keel Clearance (DUKC)

- DUKC is a system that uses tide and wave measurements to determine maximum sailing drafts.
- DUKC allows for squat, heel, roll and tidal residuals, ensuring safe under-keel clearance is maintained in all conditions.

### 9.3 Release of moorings

- Lines should be slackened to approximately 1m above the water to avoid recoil when slip hooks release.
- In the event that the slip hook fails to release line should be slackened to the water and released manually.
- Extra care should be taken to ensure line does not become caught under dolphins.

### 9.4 Pilotage

- 'Hammersley Base' on VHF 11 will advise boarding time for Dampier.
- 'Port Walcott Base' on VHF 14 will advise boarding time for Port Walcott.

### 9.5 Towage

- Tugs will be arranged by the terminal and will make fast according to Marine Pilot instructions.
- On submission of the Agents Guarantee, the Owners and Shipping Agents are thereby acknowledging the following in relation to towage hire.
- The towage services are performed in accordance with the amended U.K. Standard Conditions for Towage and Services (revised 1974) at the current schedule of rates, with the express reservation of the tug Owner's rights, to the extent allowed by law, to limit its liability to an amount equal to the cost of providing the towage services again.
- A copy of the U.K. Standard Conditions for Towage and Services (revised 1974) are available upon request.

## 9.6 South Channel Departure – Port Walcott

- Marine Pilot will discuss the passage plan for berthing during the MPX. On completion of the berthing the Marine Pilot will advise on the possible departure routes. On boarding for departure the Pilot will confirm the departure route.
- The Terminal uses a 15% allowance for UKC to calculate the maximum draft when transiting the South Channel.
- Calculation for the use of South Channel is  $(\text{Chart Datum} + \text{HW}) / 1.15 = \text{Max Draft}$ .
- Any vessel that meets Max Draft calculation is able to sail via the South Channel and disembark the Marine Pilot once the vessel is east of buoy 8. Before disembarking the Pilot will also contact any inbound vessels in the immediate area on VHF 14 to confirm safe passing.

## 9.7 Limiting conditions

- Vessels will not be sailed in unsafe wind or currents.
- Marine Pilots monitor conditions in real time from a system of instruments and will determine if a movement is safe to perform.

## 10 Alongside Berth

### 10.1 Loading

- Confirmation of cargo plan will be delivered on board by the Draft Surveyor. This document contains multiple copies of the loading sequence. Reference to loading is made by hatch, not hold. All weights are expressed in metric tonnes. The first copy is retained on board, the remainder distributed by the Draft Surveyor as required.
- Marine Pilot may request that the first loading hatch is opened before berthing so that loading can begin immediately when the vessel is all fast. Additional hatches should be opened progressively as the loading sequence proceeds. The next hatch should be ready to receive cargo at all times. Do not open all hatches as shiploader slewing may be impeded.
- A quantity of cargo will have to be loaded (run-off) to clear conveyors at completion of loading.
- Discharge of ballast should be performed at a rate, which does not delay loading operations.
- Ballast should be adjusted to ensure sufficient air draft to maintain more than 2 m clearance between vessel and shiploader boom.
- Failure to comply with above ballasting rules may result in delays allocated against the vessel if loading is delayed.
- Hatch numbers should be clearly marked on deck or coaming adjacent to hatch. Colour and size should be such that numeral is clearly visible to the Shiploader Operator.
- Access to hatches during loading must be approved by the Shiploader Operator. Hatch covers must remain partially open when the hatches are occupied by crew members. Shiploader Operator to be notified once crew have exited hatch.
- Red, green and white list lights are recommended to vessels loading Iron Ore, and should be clearly visible to the Shiploader Operator. A fixed white light shall indicate the vessel is upright.
- The outboard draft marks CAN NOT be read by ship's crew using rope ladders over the outboard side. A manometer must be used for this purpose. All vessels must comply with manometer specifications. More information can be provided by your Shipping Agent.
- Dampier Iron Ore berths – remote draft survey (RDS) units will be used to provide information on list and air draft to the shiploader. Ship's crew will be asked to assist setting up of the units.
- Loading may cease due to significant weather and will be advised on a case by case basis directly with the vessel by the Shiploader Operator.

#### 10.1.1 Dual Port Loading – Port Walcott

- Due to specific cargo, some vessels will complete dual port loading. Dual port loading requirements will be advised prior to berthing.
- Vessels will commence loading at CLA to a reberthing draft of 10.5 aft max.
- Shifting will commence with Marine Pilot. Loading will complete at CLB operations.

## 10.2 Responsibility

- Responsibility for loading operation, communication and access rests solely with the Master.
- Mooring safety is of high importance.
- Masters are responsible for compliance with mooring directions and policy. All incidents or concerns should be reported immediately
- Conduct within the port of Dampier is governed by the Port Authority Act (1999). Conduct within the port of Walcott is governed by the Shipping and Pilotage Act (1967). Copies are available on request to Shipping Agent.
- Vessel personnel are responsible for discharge or escape of oil. Heavy penalties and liability for any spills, dispersal costs and damages may apply.
- Masters must ensure a competent officer is on duty throughout the loading period and that the officer visits the deck frequently maintaining a continuous check on the draft and air draft.
- Loading will stop and delays will be booked against a vessel if air draft is exceeded or if the Officer of the watch fails to respond within 10 minutes.
- Adequate notice must be given before loading can be resumed due to delays or deballasting requirements.
- A minimum 20 minutes' notice must be given of changes in loading sequence, and approval given by Draft Surveyor.
- Shiploaders are equipped with weight scales, these figures are used as a reference only and do not relieve the Master of any responsibility.

## 10.3 Cargo stowage factors (iron ore products)

Product name	Product acronym	IMSBC Code schedule	Angle of repose	Bulk density kg/m <sup>3</sup>	Stowage factor m <sup>3</sup> /t	IMO Group	Notes
Pilbara Blend Lump	PBL	IRON ORE	37°	2000	0.50	C	1, 3
Pilbara Blend Fines	PBF	IRON ORE	37°	2250	0.44	C	2, 3
Hamersley Iron Yandi Fines	HIY	IRON ORE	37°	2000	0.50	C	2, 3
Robe Valley Lump	RVL	IRON ORE	37°	1700	0.59	C	1, 3
Robe Valley Fines	RVF	IRON ORE	37°	1950	0.51	C	2, 3
RTX Fines	RTXF	IRON ORE	37°	2250	0.44	C	2, 3
SP 10 Fines	SP10F	IRON ORE	37°	2000	0.50	C	2, 3

### Notes

1. As defined in Annex 2 of DSC.1/Circ.71, 15 November 2013
2. As defined in Annex 2 of DSC.1/Circ.71, 15 November 2013, because it is iron ore fines with more than 35 % goethite
3. As described in Exemption Certificate 5186, issued by AMSA on 13 December 2013

- Details of other products shipped by Rio Tinto are included on Shipper's Cargo Declaration and associated documentation
- Rio Tinto Shipper's Cargo Declarations will be provided to the vessel by the Surveyor/Shipping Agent.



# 11 Crew Access Ashore

## 11.1 Safe conduct

- Wharves are potentially hazardous areas, where traffic and cargo operations mean all visitors need to make particular effort to stay safe.
- Wear appropriate safety equipment; safety hat, safety glasses, enclosed boots, long shirt sleeves, long trousers, high visibility jacket.
- When accessing a dolphin (e.g. using vessel gangway or performing a draft check) a PFD / lifejacket must also be worn.
- Do not access wharf without good reason; minimise pedestrian activity.

## 11.2 Crew transfers

- Access and egress from berths should be by vehicle only via designated pick up points.
- Rio Tinto authorised transport must be booked through the Shipping Agent or with the Dampier Seafarers Centre.

## 11.3 Gangways

- The vessel gangway should always be ready and serviceable for use upon berthing and at all times whilst alongside.
- A safety net should be rigged under gangway and brow (if used). Under no circumstances are vessels crew to be found rigging gangway during berthing operations.
- The gangway should have a life buoy prominently displayed at top, illuminated at night and a notice indicating number of persons allowed on the gangway at any one time.
- A Watchman should be posted at the top of the gangway.
- Ensure gangway is secure and ready for use before accessing; confirm readiness with the shore officer.
- If you require further information please refer to your safety pack or contact your Shipping Agent or Rio Tinto representative.
- Port Walcott – always check for obstacles before opening hatch covers. DO NOT OPEN hatch cover if shore gangway deployed on deck vicinity.
- Port Walcott – request SAG via Shiploader Operator via ship shore radio supplied to every vessel at berth.

## 12 Accessing Vessels

### 12.1 Transit to and from a vessel by helicopter

- See 5.12 Helicopter operations

### 12.2 Transit to a vessel underway using a pilot boat

- The pilot boat Master will:
  - Make contact with the vessel using VHF radio.
  - The Master will confirm the vessel's required course and speed.
  - Confirm the side of boarding/disembarking and ensure the ladder is in position at the appropriate height.
  - Arrange for the vessel to make a suitable lee.

### 12.3 Embarking and disembarking a Marine Pilot by pilot boat

- VHF communication is maintained between ship and pilot boat.
- A pilot boat crew/ship's crew member must be stationed at the ladder.
- If weather and sea state conditions are considered to be unsafe the operation is aborted.
- Once the Marine Pilot transfer is complete the pilot boat moves away from the ship and the pilot boat Master radios confirmation to the ship's Master.
- Prior to boarding or disembarking the Marine Pilot must ensure that he is wearing the appropriate PPE and self-inflating life jacket.
- When coming alongside the Marine Pilot should ascertain the condition and rigging of the pilot ladder.
- Prior to boarding or disembarking the Marine Pilot must ensure the ladder is rigged in accordance with the International Marine Pilot Standards as required under SOLAS Regulation V/23 and IMO Resolution A.1045 (27).

### 12.4 Embarking and disembarking a berthed vessel

- Transfer must only occur by using a proper gangway and at night the Master/Vessel should ensure that suitable lighting is available to embark/disembark safely.

### 12.5 Communications

- The Marine Pilots have portable VHF marine radios with multiple channels.
- Marine Pilots carry a radio and two batteries to every pilotage job.
- The Marine Pilots may use mobile phones to contact the Helicopter Pilots for pick-ups.

*NOTE: Mobile phones should be turned off when navigating in pilotage waters as they can cause a distraction to the Bridge team at critical times.*

## **12.6 Reporting**

- Any incidents that occur during the act of piloting are to be reported on the Marine Pilot's incident forms.
- Depending on the incident, the report is sent to:
  - Rio Tinto Iron Ore Marine Operations Superintendent
  - AMSA
  - Pilbara Ports Authority/Department of Transport Harbour Master
  - Ship's Agent
- It is the responsibility of the Marine Operations Superintendent to follow up any incidents.

## 13 Provisions and Services

### 13.1 Stores

- Stores can be arranged via your Shipping Agent.
- Supply is via launch only.
- For large orders, it is recommended that 7 days' notice be given of requirements.

### 13.2 Fresh water

- Available at all berths except Mistaken Island and the Dampier Fuel Berth.
- Ships need to supply their own hoses with 2.5" quick release fittings.
- Please contact the Shipping Agent to organise.

### 13.3 Bunkers

- Marine diesel is available in Dampier via barge. This service is provided by an external party.
- IFO/HFO are not available.

### 13.4 Medical

- Hospital and medical care is available in Karratha.
- Please ensure all illnesses are reported to Australian Quarantine Inspection Service.

### 13.5 Mission to Seafarers

- The Dampier Seafarers Centre is located on The Esplanade, Dampier and provides recreation, religious and practical facilities and support for all seafarers. Transport to the center can be arranged via Shipping Agent. Shipboard visits can be arranged in Dampier for crew members unable to go ashore.
- Further information is available online at [www.dampierseafarers.org](http://www.dampierseafarers.org) or phone +61 8 9183 1424.

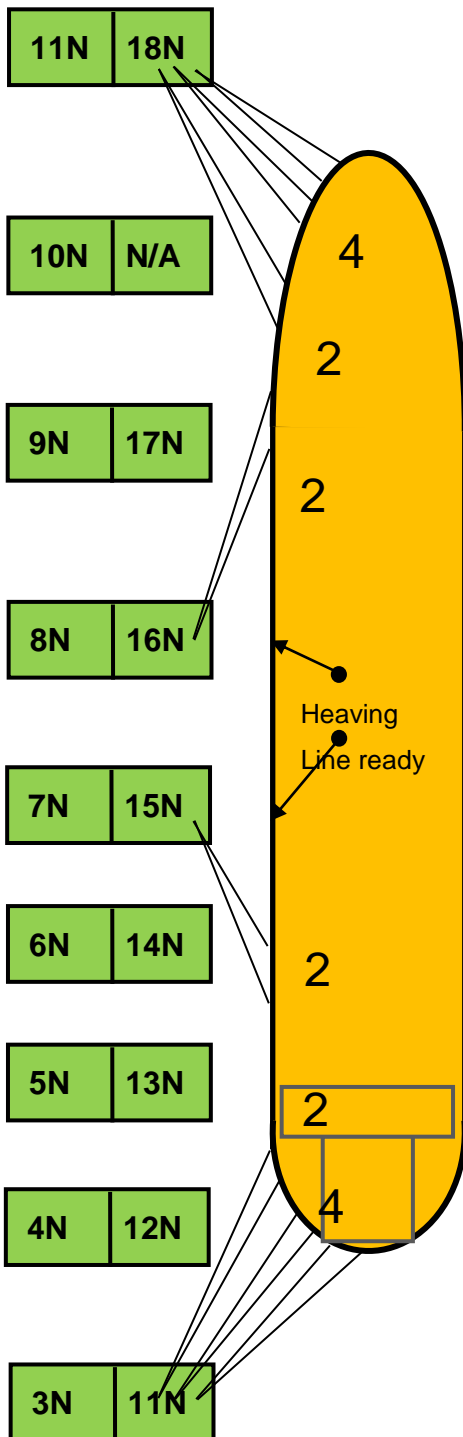
# 14 Mooring Instructions by Berth

## 14.1 Dampier mooring operations: Parker Point Berth 2 and 4

Dolphin numbers

Berth

2 | 4



**Turn out gangway** - to be lowered before mooring

**Open first two hatches**

**Make tugs fast** - Once made fast stay clear of tugs lines at all times

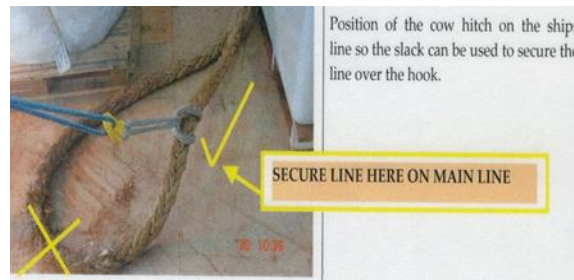
Move to port spring lines

**Spring lines 1st, by heaving line**

Heaving lines ready amidships

Pass heaving line to shore to attach to messenger line

Attach messenger to spring line as per following diagram



Heaving line ready

Shore will heave to dolphin with winch

When lines on hook, **leave slack**

**Marine Pilot will instruct when to tension lines**

**Breast lines, head lines & stern lines by lines boat**

Breast lines 1st - Send 2 lines together

When fast on hooks **leave slack** and move to head/stern lines

Run inside stern/head lines x 2

**Leave slack - Do not tension lines**

Then send outside head/stern lines x 2

When all lines on hooks and lines boat is clear, and mooring gang clear of dolphin, **Marine Pilot will give clearance to tension up all lines**

## 14.2 Dampier mooring operations: Parker Point Berth 3 and 5

**Turn out gangway** - to be lowered before mooring

**Make tugs fast** - Once made fast stay clear of tugs lines at all times

Move to starboard spring lines

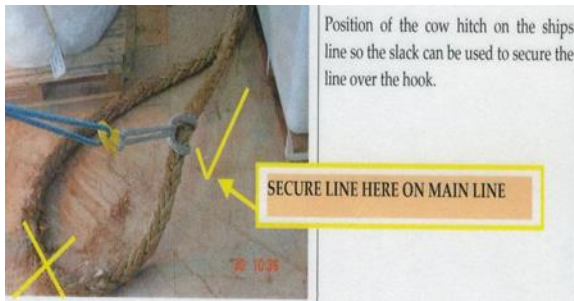
**Spring lines 1st, by heaving line**

Run heaving lines to amidships

Pass heaving line to shore to attach to messenger line

Retrieve messenger

Attach messenger to spring line as per following diagram



**Marine Pilot will instruct when to tension lines**

**Breast lines, head lines & stern lines by lines boat**

Breast lines 1st - Send 2 lines together

When fast on hooks **leave slack** and move to head/stern lines

Run inside stern/head lines x 2

**Leave slack - Do not tension lines**

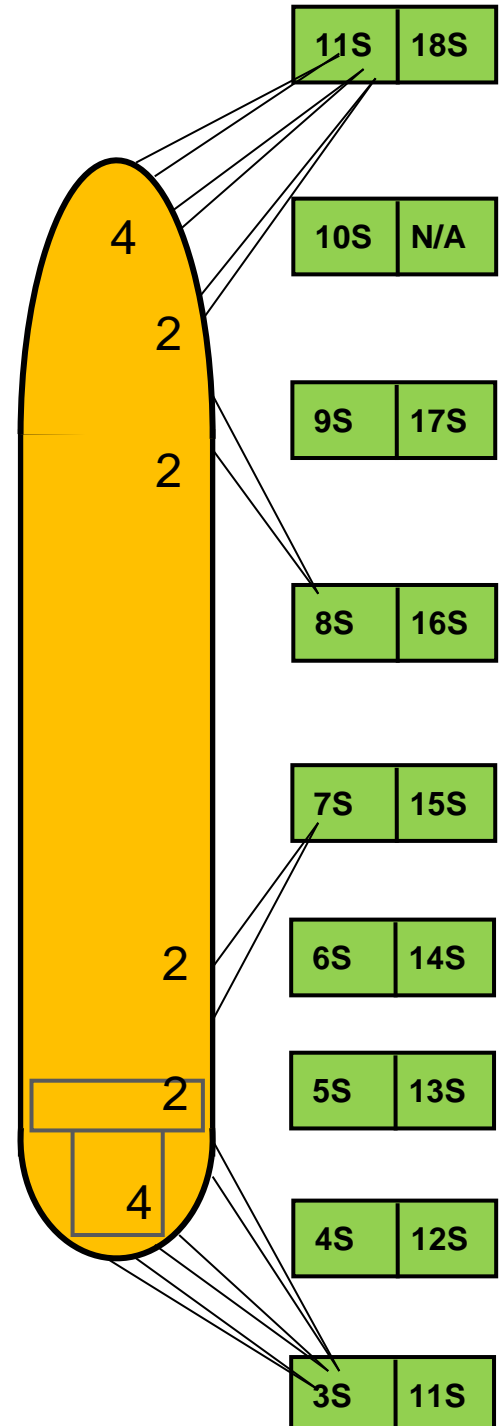
Then send outside head/stern lines x 2

Once lines boat is clear, and mooring gang clear of dolphin, **Marine Pilot will give clearance to tension up all lines**

Dolphin numbers

Berth

3 | 5



## 14.3 Dampier mooring operations: East Intercourse Island

**Turn out gangway** - to be lowered before mooring

**Open first two cargo hatches**

**Make tugs fast** - Once made fast stay clear of tugs lines at all times

Move to starboard spring lines

**Spring lines 1st, by heaving line**

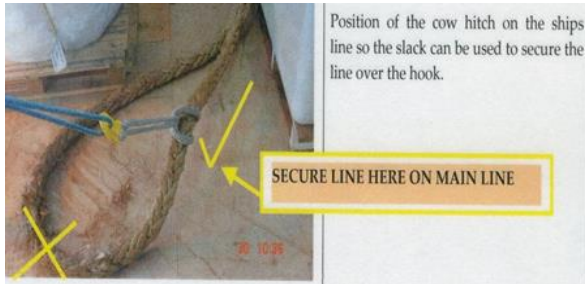
Run heaving lines to amidships

Pass heaving line to shore to attach to messenger line

Retrieve messenger

Attach messenger to 2 spring lines as per following diagram

Send 2 springs together



Shore will heave to dolphin with winch

When lines on hook, **leave slack**

**Marine Pilot will instruct when to tension lines**

**Breast lines, head lines & stern lines by lines boat**

Breast lines 1st - Send 2 lines together.

When fast on hooks **leave slack** and move to head/stern lines

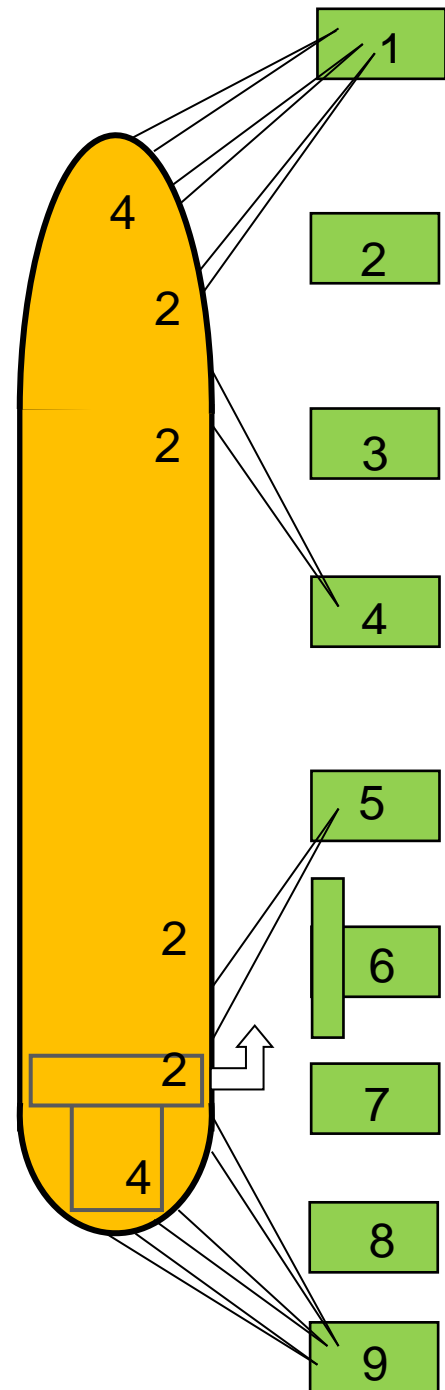
Run inside stern/head lines x 2

**Leave slack - Do not tension lines**

Then send outside head/stern lines x 2

Once lines boat is clear, and mooring gang

clear of dolphin, **Marine Pilot will give clearance to tension up all lines**



## 14.4 Dampier mooring operations: East Intercourse Island lay-by berth

**Do not turn out gangway** - Shore gangway is provided

**Make tugs fast** - Once made fast stay clear of tugs lines at all times

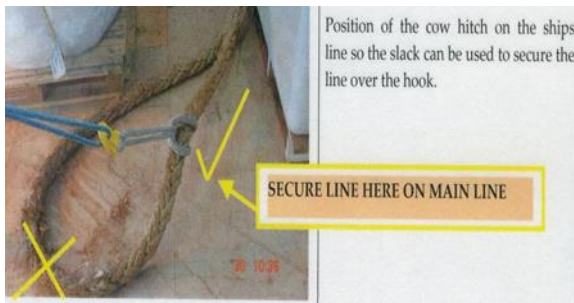
Move to starboard spring lines

**Spring lines 1st, by heaving line**

Run heaving lines to amidships

Pass heaving line to shore to attach to messenger line. Retrieve messenger

Attach messenger to spring line as per following diagram.



Shore will heave to dolphin with winch

When lines on hook, **leave slack**

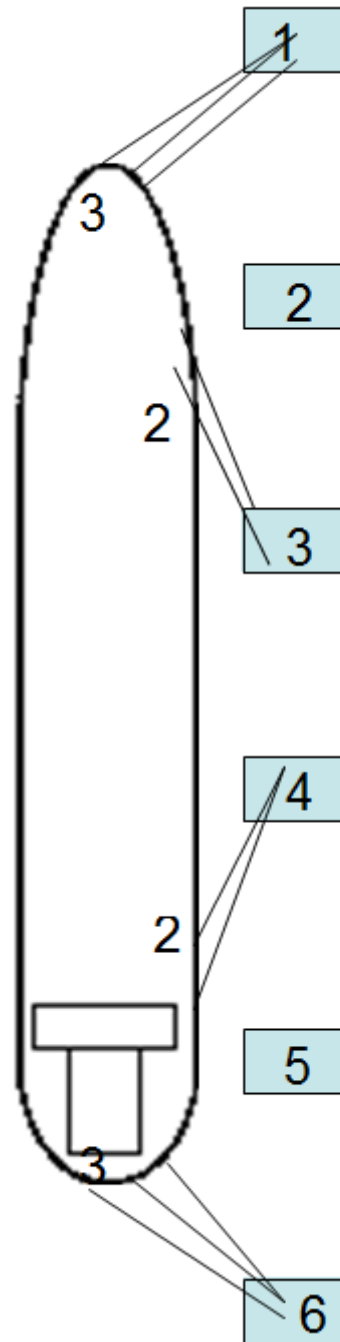
**Marine Pilot will instruct when to tension lines**

**Lines, head lines & stern lines by lines boat**

Run stern/head lines x 3

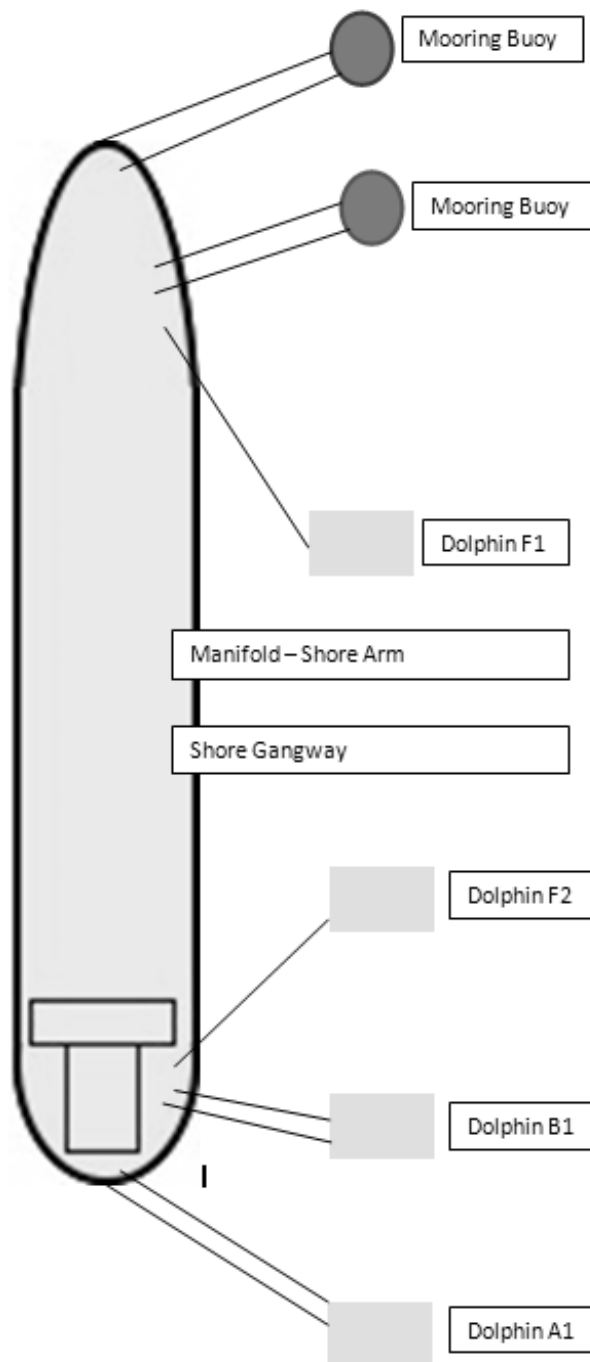
**Leave slack - Do not tension lines**

Once lines boat is clear, and mooring gang clear, **Marine Pilot will give clearance to tension up all lines**





## 14.5 Dampier mooring operations: Dampier Fuel Berth (Parker Point)



All lines will be run by mooring boat

1x spring line from Poop deck to Dolphin F2

2x breast lines from Poop deck to Dolphin B1

2x stern lines from Poop deck to Dolphin A1

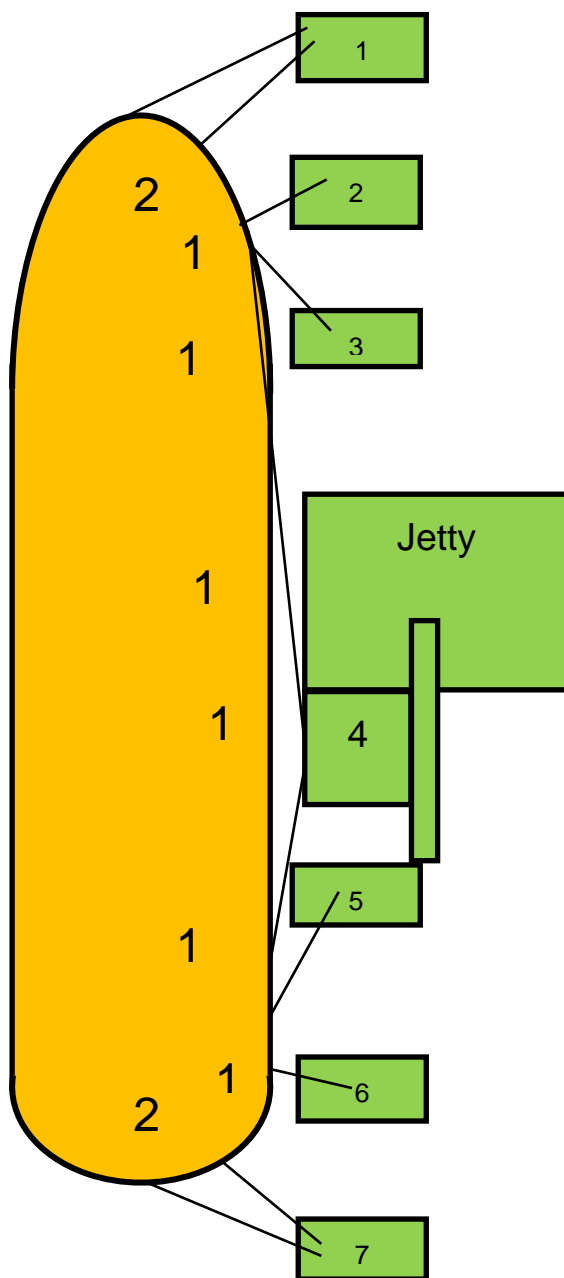
1x spring line from Focsle to Dolphin F1

2x breast lines from Focsle to Mooring buoy

2x headlines from Focsle to Mooring buoy

When all lines on hooks and lines boat and mooring gang clear, **Marine Pilot will give clearance to tension up all lines**

## 14.6 Dampier mooring operations: Mistaken Island



Under normal circumstances your vessel will berth starboard side to using configuration shown.

You will need to prepare two long springs to assist in shifting your vessel for loading. They will go to number 4 dolphin as shown in the diagram.

**These springs must be prepared along the deck PRIOR to the Marine Pilot boarding.**

The springs are to be run from forward and aft along the main deck **outside of all obstructions**. They should have enough slack to enable your crew to lower the eyes to the linesmen on #4 dolphin.

In general the springs should be run along the deck to the area of the first hatch to be loaded, as this hatch will always be positioned close to the shiploader near #4 dolphin.

Preparing these springs can be a difficult and time consuming task for your crew. It is more hazardous at night with the vessel under pilotage. For the benefit of your crew and for their safety, these springs should be prepared prior to the Marine Pilot boarding your vessel.

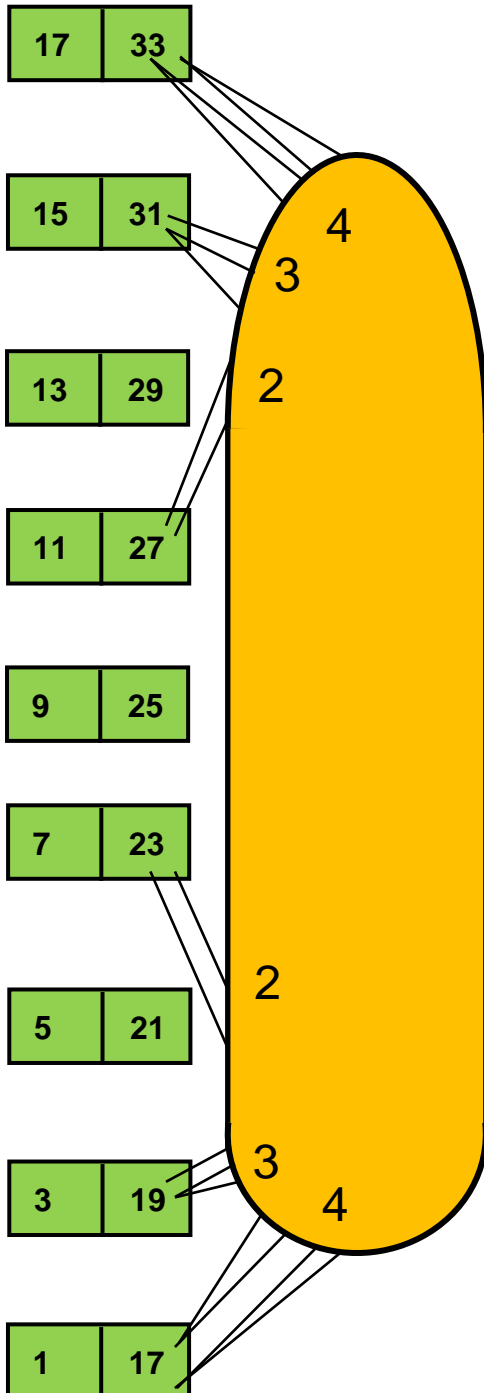
NOTE: The lines on the deck in the diagram indicate the preparation of the long springs prior to running. They **MUST** be outside of all obstructions such as timber posts etc.

## 14.7 Port Walcott mooring operations: Cape Lambert A Berth 1 and 3

Dolphin numbers

Berth

1 | 3



### Turn out gangway

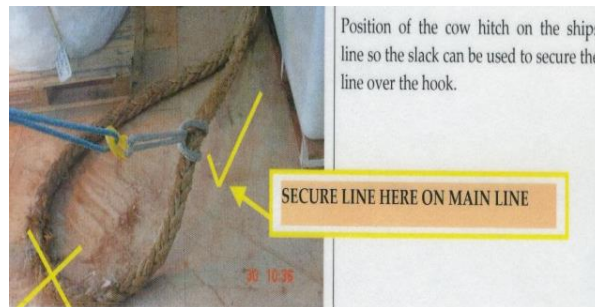
**Make tugs fast** – at all times stay clear of tensioned lines

**Forward mooring – inside headlines 1<sup>st</sup> by mooring boat**

Lower 2 lines together to mooring boat

When requested heave to water level only and run outboard headlines

**Run 3 breast lines** by heaving line and messenger. Attach messenger to breast line as per diagram below



Shore will heave to mooring dolphin with winch

When lines on hook, **leave slack**

**Marine Pilot will instruct when to tension**

**Run 2 springs** by heaving line and messenger

### AFT Mooring

3 breast lines first, one at a time with messenger as per diagram above

4 stern lines, inside stern lines 1<sup>st</sup>, 2 at a time by mooring boat

2 springs by heaving line and messenger

When all lines on hooks, lines boat is clear and mooring gang clear of dolphin, **Marine Pilot will instruct to tension lines**

## 14.8 Port Walcott mooring operations: Cape Lambert A Berth 2 and 4

### Turn out gangway

**Make tugs fast** – at all times stay clear of tensioned lines

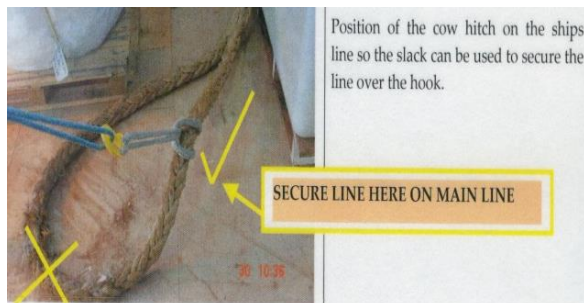
### Forward mooring – inside head lines 1<sup>st</sup> by mooring boat

Lower 2 lines together to mooring boat

When requested heave to water level only and run outboard head lines

**Run 3 breast lines** by heaving line and messenger

Attach messenger to breast line as per diagram below



Shore will heave to mooring dolphin with winch

When lines on hook, **leave slack**

**Marine Pilot will instruct when to tension**

**Run 2 springs** by heaving line and messenger

### AFT Mooring

3 breast lines first, one at a time with messenger as per diagram above

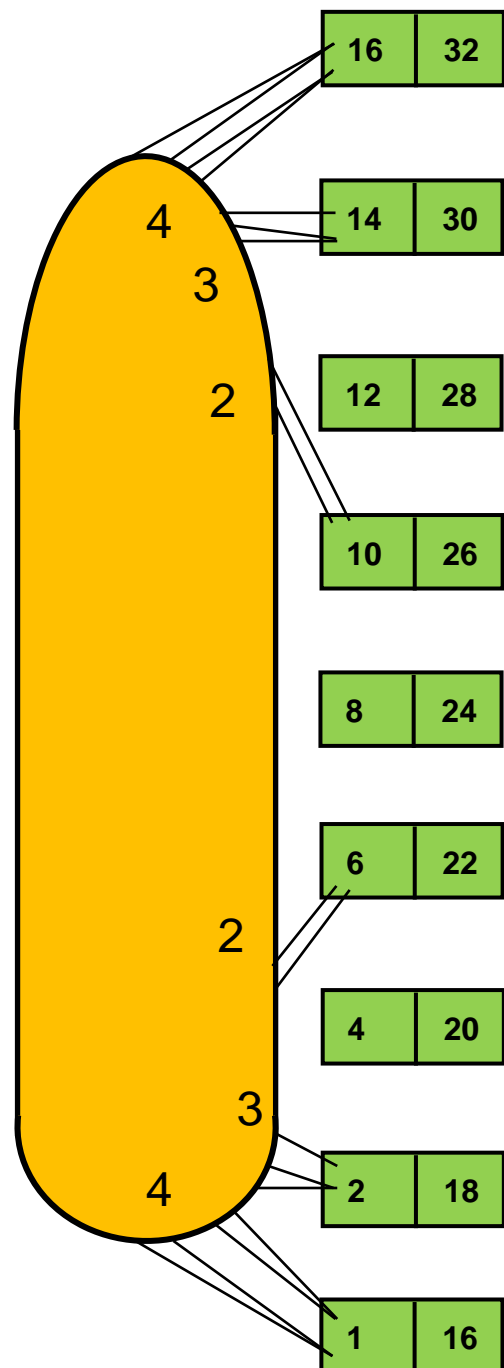
4 stern lines, inside stern lines 1<sup>st</sup>, 2 at a time by mooring boat

2 springs by heaving line and messenger

When all lines on hooks, lines boat is clear and mooring gang clear of dolphin, **Marine Pilot will instruct to tension lines**

Dolphin numbers

Berth  
2 | 4

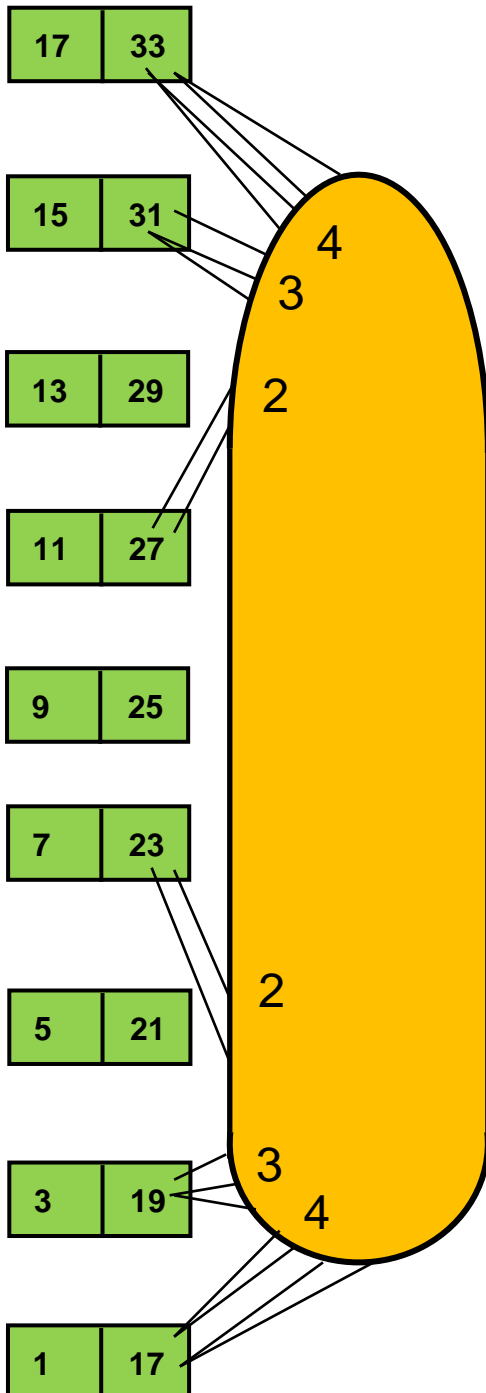


## 14.9 Port Walcott mooring operations: Cape Lambert B Berth 5 and 7

Dolphin numbers

Berth

5 | 7



### Turn out gangway

**Make tugs fast** – at all times stay clear of tensioned lines

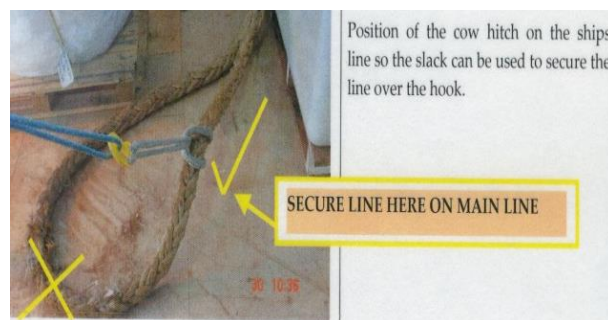
### Forward mooring – inside head lines 1<sup>st</sup> by mooring boat

Lower 2 lines together to mooring boat

When requested heave to water level only and run outboard head lines

### Run 3 breast lines by heaving line and messenger

Attach messenger to breast line as per diagram below



Shore will heave to mooring dolphin with winch

When lines on hook, **leave slack**

### Marine Pilot will instruct when to tension

**Run 2 springs** by heaving line and messenger

### AFT Mooring

3 breast lines first, one at a time with messenger as per diagram above

4 stern lines, inside stern lines 1<sup>st</sup>, 2 at a time by mooring boat

2 springs by heaving line and messenger

When all lines on hooks, lines boat is clear and mooring gang clear of dolphin, **Marine Pilot will instruct to tension lines**

## 14.10 Port Walcott mooring operations: Cape Lambert B Berth 6 and 8

### Turn out gangway

**Make tugs fast** – at all times stay clear of tensioned lines

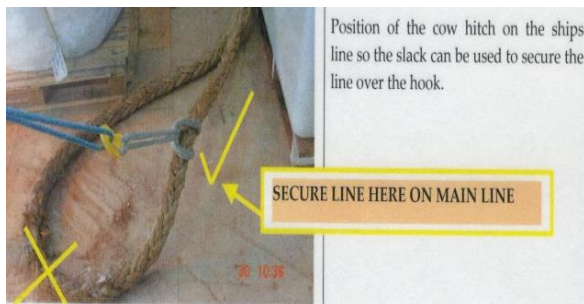
### Forward mooring – inside head lines 1<sup>st</sup> by mooring boat

Lower 2 lines together to mooring boat

When requested heave to water level only and run outboard head lines

**Run 3 breast lines** by heaving line and messenger

Attach messenger to breast line as per diagram below



Shore will heave to mooring dolphin with winch

When lines on hook, **leave slack**

**Marine Pilot will instruct when to tension**

**Run 2 springs** by heaving line and messenger

### AFT Mooring

3 breast lines first, one at a time with messenger as per diagram above

4 stern lines, inside stern lines 1<sup>st</sup>, 2 at a time by mooring boat

2 springs by heaving line and messenger

When all lines on hooks, lines boat is clear and mooring gang clear of dolphin, **Marine Pilot will instruct to tension lines**

Dolphin numbers

Berth

6 | 8

