



Government Gazette

OF

WESTERN AUSTRALIA.

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No. 9.]

PERTH: TUESDAY, FEBRUARY 18.

[1879.

No. 285.—C.S.O.

PROCLAMATION

Western Australia, }
to wit. }
By His Excellency Major-General SIR HARRY ST. GEORGE ORD, Knight Commander of the Most Distinguished Order of Saint Michael and Saint George, Companion of Our Most Honorable Order of the Bath, Governor and Commander-in-Chief in and over the territory of Western Australia and its Dependencies, &c., &c., &c.

(L.S.)
H. ST. GEORGE ORD,
Governor.

WHEREAS the Legislative Council now stands prorogued until Wednesday, the twelfth instant, and whereas it is expedient further to prorogue the same; Now THEREFORE I, the said Governor, in exercise of the powers in me vested, do by this my Proclamation further prorogue the said Legislative Council from Wednesday, the twelfth instant, until Wednesday, the twelfth day of March, next ensuing.

Given under my hand, and issued under the Public Seal of the said Colony, this eleventh day of February, One thousand eight hundred and seventy-nine.

By His Excellency's Command,
ROGER TUCKER^D. GOLDSWORTHY,
Colonial Secretary.

GOD SAVE THE QUEEN!!!

No. 277.—C.S.O.

Immigration from the Australasian Colonies.

Colonial Secretary's Office,
Perth, 6th February, 1879.

WHEREAS a notice with the above heading was published in the *Government Gazette* of March 30th, 1875, whereby it was notified that certain passage money would be paid to persons introducing from the Australasian Colonies European Immigrants of the laboring classes, and that certain assistance towards the passages of the wives and families of persons so introduced would also be allowed; Notice is now given, that the above Notice of March 30th, 1875, is cancelled, and that from and after the date of this Notice no such passage money will be paid.

Persons interested in this matter will also take notice that grants of land are still made to Immigrants, but under conditions somewhat different to those set forth in the said Notice of March 30th, 1875. The conditions under which those grants are now made are to be found in the Land Regulations published on the 10th September, 1875.

By His Excellency's Command,
ROGER TUCKER^D. GOLDSWORTHY,
Colonial Secretary.

No. 283.—C.S.O.

Colonial Secretary's Office,
Perth, 10th February, 1879.

TENDERS (endorsed "Tender for Boat,") will be received at this Office until noon of Wednesday, the 19th February instant, from persons willing to supply a Boat for the Public Service.

Specifications can be seen at the Office of the Superintendent of Police, the Harbor Master, and the Sub Inspector of Water Police.

The Government do not bind themselves to accept the lowest or any tender, and will require

the guarantee of two responsible persons for the due performance of the contract.

Forms of Tender may be had on application to the various Resident Magistrates, and at the Public Offices, Perth; and no tender will be entertained unless rendered on the prescribed form.

By His Excellency's Command,
ROGER TUCKERD. GOLDSWORTHY,
Colonial Secretary.

WESTERN AUSTRALIAN RAILWAYS. EASTERN LINE.

(FIRST SECTION.)

*Department of Public Works,
Perth, 3rd December, 1878.*

TENDERS will be received at this Office up to noon on Monday, the 21st April, 1879, for the construction of a Line of Railway between the Port of Fremantle and Guildford, being a distance of 20 miles or thereabouts.

Plans and Specification can be seen at this Office on and after Monday, the 20th January, and at Melbourne and Adelaide at a place and on a date which will be duly announced.

Printed Specifications will be obtainable at Three Guineas each.

Each Tender must be accompanied by a Bank Deposit Receipt for £1,000, in favor of the Commissioner of Railways.

The Government do not bind themselves to accept the lowest or any Tender.

JAS. H. THOMAS,
Commissioner of Railways.

*Department of Public Works,
Perth, 19th January, 1879.*

TENDERS (endorsed "Tender for Goods Shed, &c.," will be received at this Office until noon of Tuesday, the 18th February, from persons willing to erect Goods Sheds, and lay Tram Rails, &c., at Bunbury Jetty.

Tenders to state the shortest time in which the work will be performed.

Plan and Specification may be seen at the Office of the Resident Magistrate, at Bunbury.

The Government do not bind themselves to accept the lowest or any tender, and will require the guarantee of two responsible persons for the due performance of the Contract.

Forms of Tender may be had on application to the various Resident Magistrates, and at the Public Works' Office, Perth, where Plans, Specifications, Conditions, and full particulars can be obtained.

No tender will be entertained unless on the prescribed form.

JAS. H. THOMAS,
Director of Public Works.

*Department of Public Works,
Perth, 6th February, 1879.*

TENDERS (endorsed "Tender for Firewood,") will be received at this Office until noon of Monday, the 10th March, from persons willing to supply and deliver one thousand cords of Firewood for the Northern Railway.

Specification as to size and quality of wood may be seen on application at the Office of the Resident Engineer at Geraldton.

The Government do not bind themselves to accept the lowest or any tender, and will require the guarantee of two responsible persons for the due performance of the Contract.

Forms of Tender may be had on application to the various Resident Magistrates, and at the Public Works Office, Perth, where Specifications, Conditions and full particulars can be obtained.

No tender will be entertained unless on the prescribed form.

JAS. H. THOMAS,
Commissioner of Railways.

The Boat Licensing Act, 1878.

Fremantle Licensing Board.

NOTICE is hereby given to owners and masters of vessels which have passed the examination of such Board, that the Licenses for such boats are now lying ready for delivery at the Resident Magistrate's Office, Fremantle.

Owners and masters of passenger or cargo boats plying for hire without such license, after the publication of this notice, will be proceeded against under the 9th sec. of the 42nd Vic., No. 24 "The Boat Licensing Act, 1878."

No such licenses will be issued until the fees authorised in Schedule B of the above Act have been paid.

J. G. SLADE, } Members of
GEO. A. FORSYTH, } the Board.

Fremantle Licensing Board.

NOTICE is hereby given that all passenger steamers plying for hire in this District must be provided with a strongly built boat of not less than 16 feet on the keel, and 6 feet beam; such boat to be tight, and provided with two 14 feet ash oars, with iron crutches or rowlocks.

Such boat to be either stowed on deck or towed astern, but in either case to be kept in readiness for immediate use.

The owner and master of any passenger steamer who, after the publication of this Regulation, shall act in contravention thereof, will be proceeded against under the 14th sec. of the 42nd Vic., No. 24 "The Boat Licensing Act, 1878."

J. G. SLADE, } Members of
GEO. A. FORSYTH, } the Board.

The Boat Licensing Act, 1878.

IT is hereby notified, for general information, that under the provisions of the above Act, Mr. E. J. STUART has been appointed, by the Licensing Board at the Port of Fremantle, Inspecting Engineer of Steam Vessels and Examiner of Engine Drivers.

J. G. SLADE,
Chairman.

Fremantle, February 8th, 1879.

No. 287.—C.S.O.

Colonial Secretary's Office,
Perth, 17th February, 1879.

HIS Excellency the Governor directs the publication of the following Notice to Mariners for general information.

By His Excellency's Command,
ROGER TUCKERD. GOLDSWORTHY,
Colonial Secretary.

NOTICE TO MARINERS.

Hydrographic Notice.

[No. 39.]

AUSTRALIA DIRECTORY, VOL. I.

NOTICE No. 5.

The following additional information relating to a portion of the south coast of Australia,—from Cape Leeuwin to Cape Riche—is drawn up from the remarks of Staff-Commander W. E. Archdeacon, R.N., Admiralty Surveyor, 1877.

(All bearings are Magnetic. Variation in 1878.)

Cape Leeuwin 6° Westerly. Cape Riche 3° 40' Westerly.

CAPE LEEUWIN (Lioness)* is a small round head 43 feet high, fringed with reefs, and joined to the mainland by a low swampy neck, whence (one-third of a mile from the cape) the land rises abruptly 450 feet and continues with a few breaks to beyond cape Hamelin which bears N.W. by N. 9 miles from cape Leeuwin. On the coast, at 3½ miles north of Cape Hamelin there is a conspicuous sand patch.

The coast between capes Hamelin and Leeuwin is fringed by numerous sunken reefs and rocky islets, the largest of which, named Cumberland rock, 33 feet high, and of a dark colour, lies S. by E. 5 miles from cape Hamelin and N.W. ¾ W. 4½ miles from cape Leeuwin; at about 1¼ miles S.W. by W. from this rock, lies a reef on which the sea breaks only during a heavy swell.

CURRENTS.—The Polar current divides off cape Leeuwin, one part setting northward along the west coast, and the other part eastward along the south coast at the rate of one to 1½ knots an hour, the rate of the latter part is retarded during easterly winds which prevail from the middle of January to the middle of April; during southerly and south-westerly gales the current sets towards the land.

GÉOGRAPHIE REEF on which the sea breaks constantly during bad weather, but only at uncertain intervals in moderate weather, lies S.W. ¾ S. 3½ miles from cape Hamelin, and N.W. by W. ¼ W. about 8 miles from cape Leeuwin, this reef consists of two small rocks about one cable apart in a N.W. and S.E. direction, with shallow water over them, and deep water between. St. Alouarn island well open south of cape Leeuwin bearing S.E. by E. ¾ E. leads south; and a conspicuous sand patch north of cape Hamelin N.E. ½ N. leads west of Géographie reef.

Rambler rocks, said to be even with the water's edge and to have been seen at 12 or 15 miles W.S.W. from the sand patch north of cape Hamelin, could not be seen from the high land in the vicinity of cape Hamelin. From this evidence and from the fact that a small coasting steam vessel having passed round cape Leeuwin twice a month for a period of four years, without seeing any indication of these rocks, they are for the present supposed to be identical with Géographie reef.

ST. ALOUARN ISLETS.—These rocky islets and reefs form a chain extending nearly 5 miles in a south-easterly direction from cape Leeuwin.

Seal islet, 12 feet high, the north-westernmost of St. Alouarn islets, lies one mile E. by S. ½ S. from Cape Leeuwin; between this islet and the main land there are numerous dry rocks and sunken reefs.

St. Alouarn islet, 70 feet high, is the largest islet, and lies S.E. by E. ¾ S. 3½ miles from cape Leeuwin.

Flinders islet, 20 feet high, lies S.S.E. three-quarters of a mile from St. Alouarn islet; at half a mile S.E. from Flinders islet lie two rocks (South-east rocks) 8 feet high, near each other; these rocks present a bluff face to the south-west and slope to a point in a north-east direction. A small sunken rock lies about one cable east of South-east rocks.

S.W. Breaker lies W.S.W. 1½ miles from South-east rocks, and S.S.E. 4½ miles from cape Leeuwin. The high land of cape Hamelin, seen well open west of cape Leeuwin, bearing N.N.W., leads to the westward; and a remarkable dome shaped, dark hill, near the coast about 9½ miles east of Blackwood river, N.E. ¼ N., leads to the south-east of S.W. breaker.

Flinders bay.—The coast from cape Leeuwin trends E.N.E. 1½ miles to Matthew point, the west point of Flinders bay; N. by E. 2½ miles to the mouth of Blackwood river (Hardy inlet); thence to the eastward for about 8 miles, when it gradually curves to the south-east 11½ miles to Black point, the east point of the bay. The coast from the mouth of Blackwood river for a distance of 9 miles to the eastward is comparatively low and sandy; the land then becomes higher with several sand patches on its slopes for a distance of 7 miles to White point, so named from the long white sand patch at its extremity; several reefs some of which dry at low water, extend half a mile from White point.

Black point, 140 feet high, situated S.E. 4 miles from White point, is composed of dark, basaltic rock, projecting abruptly from the coast, and forming a light on either side, both of which are foul; Black point is easily recognised, the coast for several miles east and west being sandy. Dickson peak, 485 feet high, is a dark conspicuous hill, N.W. 2 miles from Black point.

Flinders bay being exposed to the south-east, from which quarter strong gales sometimes blow during the summer, sending in a heavy ground swell, should not be entered at that season; the north-west side of the bay is rocky; but there is a

good winter anchorage off the mouth of Blackwood river, protected from northerly and westerly winds by the main land, and from southerly winds by Alouarn islets and reefs.

In the north part of the bay at 1½ miles from the shore and E. ¾ S. 4 miles from the mouth of Blackwood river, lies Bessies reef, on which the sea breaks in bad weather; the neighboring shore is fringed with small rocky ledges, some of which are visible at low water.

Augusta was formerly a small settlement on the west side of the entrance to Blackwood river: there are now (1877) only a few poor settlers, who obtain a precarious living by fishing.

Landing can be effected with tolerable safety within a small rocky ledge, which extends half a cable in a northerly direction from Barrack point (a small projection midway between Matthew point and Blackwood river), except during bad weather; near this landing place there is a small stream of fresh water.

Blackwood river.—The bar at the mouth of this river is rocky, and has a depth of 3½ feet water, except in winter, when the freshets from the river deepen it to 6 or 7 feet, independently of a rise of 3 feet more occasionally, caused by north-westerly gales. The channel over the bar is tolerably well defined, but as there is a constant surf, boats should not attempt to cross it without local knowledge. Fishermen residing in this neighborhood are available as pilots.

Supplies.—Good fresh water may be obtained from the stream near Barrack point; firewood is plentiful, but provisions cannot be procured.

Tides.—There are no regular tides in Flinders bay, the usual rise and fall being 1½ to 2½ feet; during the winter, and with north-westerly gales, the water rises 4 to 5 feet—this rise generally indicates the approach of these gales.

The coast from Black point trends in a south-east direction 32 miles to D'Entrecasteaux point; at 7 miles south-east from Black point is the Donnelly river 10 miles south-east of which is Warren river; the mouths of these rivers are closed, except during winter and after heavy freshets. The coast a short distance east of Warren river is composed of dark bushy-topped sand hills 700 to 800 feet high, with swamp extending from their base to the beach.

From Warren river the low sandy beach becomes nearly a mile in width; at 4½ miles south-east of this river is Meerup brook, which runs some few miles inland, the beach through which it percolates into the sea is quicksand, and can only be crossed by keeping on the edge of the surf. These quicksands occur at the mouths of most of the rivers along this coast. At 9½ miles south-east of Warren river, the high coast ridges suddenly terminate in a bare sand-topped hill 550 feet high, from which the coast is comparatively low and rocky to Black head, one mile S.E. of which is a small brook running through a bare sand patch of moderate height. At the S.E. end of this patch high rocky sandstone cliffs commence and continue to about half a mile beyond D'Entrecasteaux point (with the exception of a small break 1½ miles north of the point), when the land becomes low and grassy.

D'ENTRECASTEAUX POINT, composed of reddish perpendicular cliffs about 400 feet high, is one of the most remarkable projections on this part of the coast. At 6 miles N.E. of this point is a remarkable granite hill 685 feet high, named Chomdalup, rising abruptly from a low swamp.

Flat island, 8 feet high, with several dry rocks around it, is of small extent, and lies half a mile S.W. from D'Entrecasteaux point.

South-west reefs, situated S. by W. ¼ W. 3½ miles from D'Entrecasteaux point, consist of three reefs half a mile from each other, in a N. by W. and S. by E. direction; the two northernmost reefs are about 300 yards in diameter, and nearly awash, the southern reef is smaller with more water over it, and does not break regularly.

Sandy island, 30 feet high, S.E. 2½ miles from D'Entrecasteaux point, is one-third of a mile long, E.S.E. and W.N.W., and 300 yards broad, from it several small ledges and sunken rocks extend. Between the island and the shore there are also several reefs, some of which are awash, and in heavy weather this locality appears a mass of breakers. At 2 miles S.E. of Sandy island there is a heavy breaker, 2 miles east of which (abreast Gardner river) there is another breaker. Between these breakers and the shore lie several small reefs.

Sandy island affords good shelter for coasting vessels, and is said to yield fresh water by digging in the sand. The anchorage must, however, be approached with caution on account of the reefs in its vicinity.

The coast between D'Entrecasteaux point, and Gardner river at 6¼ miles E. by S. ¾ S. from it, is low, and fringed with a sandy beach, off which are numerous rocky patches. Behind the beach are low grassy ridges and swamps extending some miles inland, with here and there clumps of trees.

Gardner river flows into the sea over a narrow rocky bar, generally with great strength, except in very dry seasons, when it may be forded at the mouth, off which are several dry ledges and sunken rocks. At 8½ miles S.E. by E. ½ E. from Gardner river is West Cliff point, having between a small projection fringed by some rocks.

West Cliff point, 140 feet high, is the first cliff to the eastward of D'Entrecasteaux point, whence high and precipitous cliffs continue S.E. ¾ E. 12 miles to Clifty head. At three-quarters of a mile W.S.W. from West Cliff point there is a sunken rock on which the sea breaks at times; there are other rocks and ledges nearer the shore.

White-topped rocks, situated S.W. 7½ miles from West Cliff point, consist of two rocks, the higher and western rock 109 feet high, is about 200 yards long N.W. and S.E., and 100 yards broad, having a jagged top whitened by guano deposit. The smaller rock 40 feet high, about a cable east of the larger, has a flattened top and is of dark appearance. The soundings give no indication of approach to these rocks as they are steep to.

Brookes inlet, situated 4½ miles east of West cliff point, is 8 miles long N.W. and S.E. and 1½ to 2½ miles wide, with several small islands near its east and west ends; the entrance, half a mile wide, is generally closed by a broad bar of sand; within this bar a channel a quarter of a mile wide runs about E. by S. 2 miles to the southwest corner of the inlet.

Brookes reefs, off the mouth of Brookes inlet, occupy a space nearly 2 miles in extent at 1½ to 2 miles from the shore. The outer reef lies S.W. by W. ½ W. 2½ miles from the mouth of the inlet; the shoalest reef on which the sea constantly breaks

lies W. by S. $1\frac{1}{2}$ miles from the inlet. The extreme of Nuyts point seen just open north of Chatham island leads to the southward of Brookes reefs.

Cliffy head and Chatham isle.—From Brookes inlet the coast trends S.E. by E. $\frac{1}{2}$ E. 7 miles to Cliffy head, the hills gradually rising to a height of 85 feet at a mile west of the head.

At half a mile south of Cliffy head lies Chatham isle 610 feet high, having a few scrubby bushes near its summit. The south end of this isle (its highest point) rises perpendicular from the sea, with a steep slope towards the north, and when seen from the east or west has a wedge-shaped appearance. West $1\frac{1}{2}$ cables from the isle lies a rock 90 feet high, one third of a mile long N.N.E. and S.S.W., and 100 yards broad with a small rock off its north end. One mile W.N.W. from the highest point of Chatham isle is a rock awash. The channel between Chatham isle and Cliffy head is apparently clear.

The coast from Cliffy head trends N.E. about 2 miles, thence E.S.E. 2 miles to Long point, a narrow cliffy projection 140 feet high and one third of a mile long. At the head of the bight thus formed is a conspicuous sand patch, thence the coast rises into high cliffs, continuing nearly to Long point, about one mile from which is a remarkable round green hill, rising abruptly on its eastern side from a narrow gully. East of this gully the high cliffs continue to a mile beyond Nuyts point.

NUYTS POINT, 367 feet high, situated 3 miles S.E. by E. from Long point, extends three-quarters of a mile from the coast line, and forms a bight on either side. From Nuyts point the shore trends E. by N. $\frac{1}{2}$ N. $3\frac{1}{2}$ miles, thence S.E. to a dark cliffy head. At $1\frac{1}{2}$ miles East from Nuyts point and a quarter of a mile off shore is Black rock 70 feet high, and half a mile further east is a remarkable mass of granite boulders on the summit of a ridge 680 feet high, which rises abruptly from the shore. One mile west of the dark head above mentioned is a narrow sandy beach backed by a steep sand cliff.

Saddle isle, 150 feet high, named from its resemblance to a saddle with distended flaps, lies east 5 miles from Nuyts point.

Saddle isle has some outlying rocks, (which are generally visible,) at about half a cable from its south-east end. Off its north-west side lies a black rock 20 feet high and about 300 yards long north and south, having ledges and foul ground, extending about half way across to the mainland, and nearly joining Snake ledge, which extends in a north-east direction to within a short distance of Rocky head.

Fresh water is abundant on Saddle isle.

Goose isle 150 feet high, lies E. by S. 5 miles from Nuyts point. There are two sunken rocks on which the sea generally breaks, at 2 cables from the east and at 2 cables from the west end of Goose isle. At three-quarters of a mile S. W. by W. $\frac{1}{2}$ W. from this isle is a ledge about 4 feet above water, on which the sea constantly breaks.

Between Saddle and Goose isles there is a clear channel.

Rocky head, 80 feet high, lies N.N.E. one mile from Saddle isle, and is the western head of a bay nearly 2 miles deep. In the western corner of this bay is the entrance to Normalup inlet.

Normalup inlet, the north and western sides of which are thickly wooded, is 3 miles long and $1\frac{1}{2}$ miles wide, having two rivers flowing into it. Deep river on its north and Gordon river on its eastern side; there are also two small streams running into its western side. Deep river is navigable for about 2 miles, and Gordon river 5 to 6 miles. The entrance to Normalup inlet is a little over a cable wide between the heads, the southern head being high and rocky, the northern low and sandy. A long sandy spit extends from the northern nearly across to the southern head, leaving but a narrow channel close to the shore. The entrance is close round the southern head, between it and a patch of rocks about 100 feet distant. Passing these rocks, the channel deepens and continues along the south shore for about one third of a mile into the inlet; extensive sand banks accumulate in the last bend, through which are several small streams. In January 1877 there was not more than 4 feet water in the entrance, but during the winter months, after heavy and continuous rains, the rush of water deepens the channel, and as much as 12 feet is said to have been found, it is, however, always attended with danger even to boats, on account of the heavy swell which constantly rolls into the bay, even during light winds and the finest weather. This must especially be the case during the months of January, February, and March, when strong S.E. winds sometimes blow on this coast.

Normalup inlet abounds in fish and water fowl, among the latter being the black swan. Emu and kangaroo are also plentiful on the south side of the inlet.

Fresh water may be found by digging near the shore of Normalup inlet.

The coast, from the mouth of Normalup inlet, gradually curves to the eastward for 4 miles to a rocky bluff. The first 3 miles is composed of sandy hillocks 150 to 200 feet high, then for about a mile they rise to 320 feet, and are faced with overhanging cliffs; off the east end of these cliffs, at about a cable from the shore, lies a ledge of rocks awash. Abreast the middle of these cliffs three-quarters of a mile from the shore, and east 2 miles from Rocky head, is a rock on which the sea breaks with a heavy swell. Off the above rocky bluff are some ledges of rocks extending two cables from the shore, and at three-quarters of a mile to the eastward is a deep bight on the north-west side of which are two small streams of fresh water. On the north-east side of the bight there is a high sand patch out of which a small stream runs: from the south-west corner of this sand patch the land rises abruptly to a height of 550 feet, the seaward side being perpendicular dark cliffs, sloping gradually to the N.E.

Midway between the sand patch and Rame head, is a small green headland 146 feet high, having some sunken rocks a quarter of a mile off it, between which and Rame head is a large dry ledge.

RAME HEAD, 410 feet high, situated E. by S. $\frac{1}{2}$ S. $5\frac{1}{2}$ miles from Rocky head, is sharp and perpendicular, having a high rock close to; at a quarter of a mile S. by E. from the head are two rocks above water, with some sunken rocks off their south-west and south-east sides, nearly a mile from the shore.

Between Nuyts point and Rame head are three remarkable peaks named Sugar-loaf, Rugged, and Caldyanup, each nearly 1,400 feet high, lying in a N.N.W. and S.S.E. direction, Cald-

yanup, the south-eastern peak being N.E. by N. 16 miles from Nuyts point and N. by W. 14 miles from Rame head. 3 miles East of Caldyanup, there is a detached ridge 4 miles long E. by S. and W. by N. having several peaks, the highest 1,339 feet high, being near its western end.

The coast from Rame head trends E. by S. $\frac{1}{2}$ S. 3 miles to Irwin point. Eastward of the head the cliffs gradually descend to a small green hilly projection at three-quarters of a mile distant, off which are some rocks. East of this projection is a sandy bight, three quarters of a mile wide, backed by high cliffs terminating in a point having a rock 20 feet high off it. From this rock to Irwin point the shore is rocky, with a sand patch near the middle.

From Irwin point, which is 170 feet high, steep and cliffy, the land is low, and trends 3 miles N.N.E. to the mouth of Irwin inlet, and at a mile from the point is a bare sand patch conspicuous from the eastward.

Irwin inlet is about $2\frac{1}{2}$ miles long in a N.E. and S.W. direction, and upwards of a mile wide; its mouth is seldom altogether closed, but it is too shallow for a boat to enter, except, perhaps, immediately after a heavy freshet. Notwithstanding the shallowness over the bar, it is dangerous to ford in consequence of the quicksands.

On the east side of the entrance is a bushy-topped hill 370 feet high, fronting which is a bare sand patch.

The coast from Irwin inlet trends S.E. by E. 3 miles, to a small dark round head, three-quarters of a mile west of which is a conspicuous green peak rising abruptly from the beach to a height of 320 feet. The bight between Irwin point and the round head, named Poul bay, is full of reefs and sunken rocks, and in bad weather the whole bay for a distance of over two miles from the shore is a mass of breakers.

From the round head (which has a dry ledge off its east point) the shore trends to the northward three-quarters of a mile, thence 2 miles E.S.E. to a small dark head about 160 feet high with some rocks half a cable off its south-east extreme, on its eastern side is a small rocky opening named Boat harbour, about half a cable wide and 2 cables deep, with rocks extending nearly half a mile from the north entrance point; the entrance is safe for boats in moderate weather; at the head of the harbour there is a small sandy beach where landing might be effected.

The swampy flats in this vicinity extend to the beach, forming a break in the coast ridges a mile wide. From this break the coast becomes precipitous, the grassy coast ridges gradually increasing in height to Hillier point, when they attain a height of 530 feet.

About a mile east of Boat harbor and half a cable from the shore, lies a small islet 120 feet high, with outlying rocks between it and Hillier point extending nearly a mile from the coast.

Hillier point, 440 feet high, situated east 11 miles from Irwin Point, is a narrow projection with a cliffy face and flat top, thence the land abruptly rises to an elevation of 532 feet.

Stanley islet, 160 feet high, lies one cable south of Hillier point, having its summit covered with coarse grass; off its south side is a rock, and off its north-west side a ledge, between which and the point there is a clear passage.

At three-quarters of a mile E. by S. from Stanley islet a heavy swell was observed, which would doubtless break during bad weather. At 5 or 6 miles off this part of the coast there are 30 to 40 fathoms water.

William bay, the bight between Hillier point, and Edward point E. by N. $\frac{1}{2}$ N. 5 miles from it, is about 2 miles deep with numerous sunken rocks, and having at its eastern side small dry ledges.

Parry inlet, the mouth of which is generally closed, lies 2 miles north of Hillier point, and extends 2 miles in a north-westerly direction. Kangaroo, wild duck, and black swan are plentiful on this inlet.

Edward point is low, rocky, and fronted by small rocky ledges: at half a mile north of the point is a green ridge 500 feet high, on which are several large granite boulders.

The coast from Edward point is rocky and fronted by ledges for about $1\frac{1}{2}$ miles in an E.N.E. direction to two small streams which run into the sea. Thence the shore trends S.E. by E. 3 miles to Wilson head, a broad cliffy projection 400 feet high.

Two miles N.N.W. of Wilson head rises a dark wooded peak, 1,047 feet high, it is the southern peak of an irregular and broken range named Bennett Range, which extends in a northerly direction and terminates at mount Lindsay 1,469 feet high, from which a long spur extends to the eastward. This mount is $12\frac{1}{2}$ miles north from Wilson head, and is conspicuous from seaward.

From Wilson head the shore trends in a northerly direction $1\frac{1}{2}$ miles to the mouth of Wilson inlet, thence S.E. by E. $\frac{1}{2}$ E. 8 miles to Knapps head.

Ratcliffe bay, into which Wilson inlet empties itself, has on the north and east sides several sunken rocks. This bay appears shallow for a considerable distance seaward, and a heavy rolling swell is generally setting into it.

A little to the eastward of the mouth of Wilson inlet are two sand drifts, thence the coast rapidly rises to a height of 500 feet and upwards, with a perpendicular cliffy front, which continues 7 miles in an E.S.E. direction to Knapps head. Against this coast a heavy surf is constantly rolling.

One mile and a half north-west of Knapps head and one-third of a mile off shore is a sunken rock, on which the sea always breaks.

Wilson inlet, the entrance to which (generally blocked with sand) is half a mile wide, is over 8 miles long and $1\frac{1}{2}$ to 3 miles broad. Several streams run into it, the principal being the Hay on the north-east and the Denmark on the north-west side.

The only habitation near the coast between cape Leeuwin and King George sound is a small farm and cattle station on the south-east side of Wilson inlet. Fish and wild fowl are plentiful.

Knapps head, 400 feet high, is conspicuous and presents to seaward a cliffy front; three-quarters of a mile northward of this head grassy ridges rise to an elevation of 600 feet, sloping rapidly to the swampy ground one to $1\frac{1}{2}$ miles inland.

The coast from Knapps head trends N.E. by E. 2 miles to a small sandy beach; from which the coast abruptly rises, and extends S.E. by E. 7 miles to West Cape Howe; the first 2 miles of this distance is fronted by high cliffs, thence for a mile is a low sandy ridge, which rises to a flat-topped hill 864 feet high; this hill slopes suddenly on its south-east side to a valley extending in a north-east direction, having at its head a lagoon of fresh water.

WEST CAPE HOWE, situated E. by S. $\frac{1}{2}$ S. 23 miles from Hillier point, is the westernmost of three bluff headlands, each 300 feet high and steep. Northward of the cape the ridges of hills rise suddenly, to a height of 300 and 900 feet.

Torbay head, the easternmost of the three bluff headlands, has a round dark, scrubby top.

Tides.—No regular tides occur in the vicinity of West Cape Howe, and the rise seldom exceeds 2 feet, except during north-west and westerly gales, when the rise is affected as on other parts of the coast.

Soundings at 5 or 6 miles south of West Cape Howe are 40 to 42 fathoms.

TORBAY, which includes ports Harding and Hughes, extends from Torbay head E. $\frac{1}{2}$ N. $7\frac{1}{2}$ miles to Stoney islet, and is 4 miles deep; but it is too much exposed to the south-east to afford secure anchorage, although the islets and reefs in the bay give shelter to coasting vessels. From Torbay head the coast trends N.E. $\frac{1}{2}$ N. 3 miles to Forsyth bluff, forming a bight about three-quarters of a mile deep, in which there are three sandy beaches. Seagull isle, 65 feet high, lying E.N.E. $1\frac{1}{2}$ miles from Forsyth bluff, is small and rocky, but conspicuous, with a reef partly fringing three-quarters of a mile from its west and south-west sides, and a sunken reef near its south-east point.

Port Harding.—At $1\frac{1}{2}$ miles west from Seagull isle there is good shelter for coasting vessels, in port Harding, formed by Migo and Richards isles, which lie about a cable from the shore, with $1\frac{1}{2}$ to 3 fathoms water between. Several dry and covered reefs extend half a mile north-east and northward from Migo isle, which is the northern of the two; and between these reefs a 5-fathom channel leads in a south-west direction towards the best sheltered anchorage, in 3 fathoms, except close on the north side of a small bare rock that fronts a sandy beach abreast Migo isle; for larger vessels, there is anchorage in 5 fathoms, sandy bottom, at one-third of a mile north from Migo isle, but the space is limited and surrounded by reefs and 3-fathom patches. The approach to these anchorages is intricate and should not be attempted without local knowledge.

Anchorage may also be obtained in 5 fathoms, sand and rock, but with less shelter about three-quarters of a mile north-westward of Seagull isle, with Migo isle bearing S.W. by W. $\frac{1}{2}$ W. distant nearly a mile. The approach to this anchorage is round the north side of Seagull isle, which on its eastern and northern sides may be passed at a cable distance. The shore abreast Migo isle is low and gradually curves to the north-east 2 miles to port Hughes.

Torbay inlet.—Inshore north-westward of Torbay are extensive swamps, and several high wooded ridges. At 2 miles north-east of Migo isle is the mouth of Torbay inlet, generally blocked with sand, it is however broken through occasionally, forming a deep and rapid channel.

The inlet is not of great extent, but numerous streams and swamps drain into it, the chain of swamps extending (at a distance of one or 2 miles from the coast) to the western shore of Princess Royal harbour.

Port Hughes, formed by Shelter isle and the mainland, is merely a boat harbor sheltered on its eastern side by several dry ledges.

The entrance to port Hughes is close round the north-west side of Shelter isle and is not more than 10 or 15 yards wide, with a spit extending from the northern shore nearly across to the island.

At $1\frac{1}{2}$ cables from the south-west side of Shelter isle lies a sunken rock, on which the sea breaks with a moderate swell; the south-east and south sides are also foul to about the same distance.

The coast.—From the mouth of Torbay inlet the land rises, and at three-quarters of a mile north-east from Shelter isle attains a height of 470 feet.

From Shelter isle the coast trends N.E. about three-quarters of a mile, with an elevation of nearly 400 feet, thence E.S.E. 9 miles to Sharp point, 540 feet high. At half a mile S. by W. from Sharp point, lies Green island, 210 feet high, and nearly a quarter of a mile in diameter. At half a mile S.W. by S. from the point lies a rocky islet, 134 feet high and about 200 yards in diameter; at one cable W.N.W. of this islet is a black ledge 20 feet high, having a small rock near its south-west side.

There is a clear channel between Green island and Sharp point, with depths of 11 and 12 fathoms.

Stony island, 148 feet high, situated E. by N. $7\frac{1}{2}$ miles from Torbay head and $2\frac{1}{2}$ miles from the shore, is composed of granite, steep-to, and may be approached to within a cable; between it and the shore there are depths of 23 to 12 fathoms.

North rock situated S.W. $\frac{1}{2}$ W. half a mile from the highest point of Green island, has 8 fathoms over its shoalest part, with 20 fathoms at less than a cable around.

Passage reefs† consist of three rocky patches, on which the sea breaks heavily with southerly gales.

The South-west reef with 18 feet water and 20 fathoms at the distance of a cable around, lies N.W. $\frac{3}{4}$ W. $4\frac{1}{2}$ miles from the summit of the largest Eclipse isle; S.S.E. $\frac{1}{2}$ E., $2\frac{1}{2}$ miles from Stony island; and S.W. by W. $\frac{1}{2}$ W. 3 miles from Green island.

The South-east reef with 5 fathoms on it and 20 fathoms at a cable around, lies E.S.E. from south-west rock, distant two-thirds of a mile, N.W. $\frac{1}{2}$ W. $3\frac{1}{2}$ miles from the largest of the Eclipse isles; N.W. $\frac{3}{4}$ N. $2\frac{1}{2}$ miles from North-west Eclipse rock; and S.W. $\frac{1}{2}$ W. $2\frac{1}{2}$ miles from Green island.

The Inner reef with 6 fathoms on it, bears N. by E. distant 8 cables from South-west reef; N.W. $4\frac{1}{2}$ miles from the largest Eclipse isle; and W. by S. $\frac{3}{4}$ S., $2\frac{1}{2}$ miles from Green island.

Cave point, situated 2 miles S.E. by E. from Sharp point, is about 200 feet high, and faced with low dark cliffs, from which the shore trends suddenly to the northward for half a mile, thence east one mile to Black head, which projects a quarter of a mile, and has off its extremity a small black rock 50 feet high.

Northward of Cave point the grassy ridges gradually rise to 500 feet, and half a mile N.N.W. of Black head the tops of two dark bushy sandhills may be seen.

The coast from Black head trends E.S.E. $1\frac{1}{2}$ miles to Peak head, with a deep bight between, having at its head a narrow rocky cove. At one-third of a mile E. by S. from Black head and $1\frac{1}{2}$ miles off shore is a rock on which the sea generally breaks; nearly three-quarters of a mile eastward of this rock and abreast the rocky cove is another sunken rock with $\frac{3}{4}$ fathoms over it, which breaks with a heavy southerly swell.

Landing.—On the eastern side of the bight, and half a mile N.W. of Peak head, is a small cove with a sand beach, on which, during easterly winds, landing may be effected, this being the only landing place between Torbay and King George Sound.

Peak head, 491 feet high, is a bluff rocky projection, the south face presenting a slightly sloping bluff resembling when viewed from E. by N. and W. by S. the profile of a human face; about a quarter of a mile to the northward the land rises abruptly to a height of 735 feet, terminating in a conspicuous mass of granite boulders named Stony hill. Close to Peak head lies a small rock above water.

The coast from Peak head trends in a N. by E. direction $1\frac{1}{2}$ miles to a bluff, thence northward half a mile to a small sandy bight. A short distance round this bluff is a deep and precipitous ravine, out of which a stream of fresh water is constantly flowing, its northern side being formed by a narrow grass-topped ridge 500 feet high, sloping suddenly to the sandy bight. At the east end of this sandy bight is a dark round head of granite 60 feet high, being the western head of the peninsula extending to Bald head. Landing cannot be effected in this sandy bight as it is fronted by a ledge of rocks.

Bald head, 400 feet high, the eastern extremity of the peninsula forming the south side of the entrance to King George Sound, rounds off with a smooth surface of rock almost destitute of vegetation, which gives it the appearance of being an elevated island of sterile-white aspect when approached from the eastward.

Limestone head, 767 feet high, is the highest point of this peninsula, and bears N.W. $\frac{1}{2}$ N. about one mile from the extremity of Bald head.

At half a cable from the south side of Bald head is a ledge of rocks, 12 feet high, steep-to, and with 11 fathoms between them and the shore.

Eclipse islands, of Vancouver, are a cluster of rocky islands lying S. by W. 3 miles from Cave point, and S.W. by W. 7 miles from Bald head. The largest island, 357 feet high, is one mile long east and west, a third of a mile broad, and scantily covered with grass and shrub; a small spring of water, with a bitter taste, but not unwholesome, runs from the south-east slope of the island. Landing may be effected in a small indentation on the north-east side of this island, but not without some risk, as it requires exceptionally fine weather and smooth water.

At the south-east extremity of the largest island is a narrow, perpendicular rock, 85 feet high, almost detached from the island.

A rock nearly awash, on which the sea generally breaks, lies 2 cables from the north-east extreme of this island.

South-west islet, 137 feet high, barren and steep-to, with two other islets, 60 and 40 feet high respectively, north of it, lie off the south-west end of the largest island distant a third of a mile, with an apparently clear channel between; the northernmost islet has a detached ledge off its north end, and about a quarter of a mile west of it is a sunken rock on which the sea generally breaks.

Eclipse North-west rock,† 5 feet above water, small, and steep-to, lies W.N.W. from the largest Eclipse island, distant and three-quarters of a mile. From the centre of the rock the highest part of the largest Eclipse island and bears $1\frac{1}{2}$ E. by S. miles, and Green island N. $\frac{3}{4}$ E. $3\frac{1}{2}$ miles; this rock and South-west islet there are 24 fathoms.

The channel between Passage reefs and Eclipse North-west rock, is $2\frac{1}{2}$ miles wide, with depths of 30 to 33 fathoms; this channel should not be used at night.

Eclipse channel, between Passage reefs and the North-west rock off Eclipse island, is $2\frac{1}{2}$ miles wide, and has a depth of over 30 fathoms. The extremes of Bald and Peak heads in line E. by N. $\frac{1}{2}$ N. leads through this channel.

Cave shoal lies S. by E. one-third of a mile from Cave point, after a heavy gale, a swell was observed on it, but the least water found was 13 fathoms; less water may however exist.

Maude reef,† the shoalest part of which is about 200 yards long in a north-east and south-west direction, and 150 yards wide; there is an overhanging pinnacle rock near its south-west extreme with 8 feet water on it, 5 to 7 fathoms close around, and depths of 25 to 34 and 37 fathoms, rocky ground at the distance of a quarter of a mile. On Maude reef the sea breaks only with a heavy south-westerly swell.

The west extreme of Breaksea island open of Bald head, bearing N. by E. $\frac{3}{4}$ E., leads eastward; and West cape Howe open south of the south-westernmost Eclipse isle, leads southward of Maude reef.

Vancouver rock, 15 feet high, 160 yards long, E.S.E. and W.N.W. and about 80 yards broad, is steep-to on all sides, and the swell which generally rolls in from the southward and westward on this part of the coast, breaks violently over it; from the highest point of Vancouver rock Peak head bears N.W. by W. $\frac{1}{2}$ W. 2 miles and extreme of Bald head N.E. $\frac{1}{2}$ N. $2\frac{1}{2}$ miles. There are 20 to 28 fathoms between this rock and the shore.

Directions.—The channel north of Eclipse islands is safe, but when working through stand no nearer Passage reef than to bring Stony hill in line with Black head; and with light winds do not approach the shore too closely, as there is always a heavy swell setting on it.

The North-west rock and the north side of the largest Eclipse island may be safely approached, care being taken to avoid the rock to the N.E.; vessels from the westward should, after passing North-west rock, steer to pass on either side of Vancouver rock, and close round Bald head into King George sound.

The south side of Eclipse island may be approached to within half a mile, the extreme of Bald head in line with Vancouver rock, bearing N.E. $\frac{1}{2}$ N. leads between Eclipse islands and Maude reef.

Caution by night.—Approaching King George sound at night this channel should not be used, neither should a vessel come nearer than 45 fathoms until Breaksea light (remembering that the light can be seen over the low neck of land behind Bald head bearing N.E.) bears N.N.E. $\frac{1}{2}$ E., which will lead east of Maude reef and Vancouver rock.

KING GEORGE SOUND † is the most convenient port on this part of the coast for refitting, wooding, and watering, but only a small supply of provisions can be obtained; it is also the West Australian mail station for the Peninsular and Oriental Steam Navigation vessels.

The entrance of King George Sound lies between Bald head and Herald point, at 5 miles N. by E. from it, and is divided into three channels by Breaksea and Michaelmas islands. The sound is about 5 miles wide, north and south, and 5 miles deep, with average depths of 10 to 5 fathoms, sand: on the south side of the sound there is a deep 2 miles long north and south, and one mile broad, having 11 to 20 fathoms, with 7 to 10 fathoms close around.

From Bald head the shore trends to the north-west $1\frac{1}{2}$ miles to Limestone head, thence nearly three miles westward to a low narrow neck of land which projects about 3 miles north to abreast Mistaken island, forming a bight named Frenchman bay.

From abreast Mistaken island the shore trends round nearly a mile in a north-west direction to Quarantine head, with a small cove between, formerly a whaling station. From this head a narrow strip of sandy hillocks extends about half a mile north to Possession point 151 feet high, scantily covered with bush, and forming the south side of the entrance to Princess Royal harbour. Northward of Possession point there are several sunken rocks.

Breaksea island, N.E. by N. 3 miles from Bald head, is an elevated and rugged mass of rock $1\frac{1}{2}$ miles long E. by S. $\frac{1}{2}$ S. and W. by N. $\frac{1}{2}$ N., and a quarter of a mile broad, with a small round islet 65 feet high close to its eastern end; at twenty yards from the south-east extreme of this islet lies a small rock 4 feet high. Near the south-west end of Breaksea island there is a small head 140 feet high, almost detached from the island. On the north-west side in a slight indentation a landing stage is erected, but owing to the constant swell washing round the island, it is necessary to drop an anchor a short distance off shore and haul in to the stage. The light keeper on the approach of a boat will attend to lowering the ladder.

LIGHT.—An iron light tower, 43 feet high, rising from the centre of the keeper's dwelling, stands on the summit of Breaksea island, and 1,200 yards from its eastern extremity. The lighthouse is painted white, and exhibits a fixed white light at an elevation of 384 feet above the sea. The light is dioptric, of the third order, and is visible seaward in clear weather 24 miles, between the bearings of N.E. $\frac{1}{2}$ N. and W. by S. $\frac{1}{2}$ S.; it is also visible over the low neck of land inside Bald head on a N.E. bearing. From within the sound it is visible all round, except when obscured by Michaelmas island.

Belches Foul Ground, † on which during southerly gales there is a confused and dangerous sea, lies E.N.E. about $1\frac{1}{2}$ miles from Bald head, and consists of several patches, the shoalest being near the south-east and south-west extremes.

The easternmost patch, (breaking heavily in southerly gales,) with 5 fathoms on it and 20 fathoms at the distance of a cable, lies with Breaksea island lighthouse bearing N $\frac{1}{4}$ E., 2 miles; and Bald head W. by S. $\frac{1}{2}$ S., distant $1\frac{1}{2}$ miles.

The westernmost patch, with 9 fathoms and 20 fathoms around, lies with Breaksea island lighthouse N.N.E. $\frac{1}{2}$ E., 2 and one-sixth miles; and Bald head S.W. by W. $\frac{1}{2}$ W., distant 1 and one-tenth miles.

King point light bearing N.W. by W. $\frac{1}{2}$ W. leads through the fairway into King George sound, between Breaksea island and Belches foul ground. The summit of a remarkable, dark, wooded hill (on the main land about $4\frac{1}{2}$ miles N.W. by N. from mount Gardner) seen open to the eastward of the east extreme of Breaksea island bearing N.N.E. $\frac{1}{2}$ E. leads eastward; the south-west extreme of Seal islet touching the north-west extreme of Limestone head N.W. by W. $\frac{1}{2}$ W. leads westward, and the high land north of Peak head in sight southward of Bald head west, leads southward of Belches foul ground, and King point lighthouse bearing N.W. $\frac{1}{2}$ W. leads between it and Breaksea island.

Michaelmas island, separated from the north-west side of Breaksea island by a deep passage three-quarters of a mile wide, is covered with grass and stunted trees: it is a mile long east and west, and one-third of a mile broad, the summit, 500 feet high, being near its west end.

From the north-west end of Michaelmas island a shoal extends north-west two-thirds of a mile with 3 fathoms nearly a quarter of a mile off and 4 to 5 fathoms beyond. A spit extends across from a short distance west of Herald point and nearly joins the spit extending from Michaelmas island; there are depths of $5\frac{1}{2}$ and 6 fathoms between them.

Landing may be effected on the north-west side or in a small bight on the north-east side of Michaelmas island.

Michaelmas reefs † consist of several patches extending westward of Michaelmas island, the shoalest of which, with 14 feet water, bears W. by S., distant one mile from the west extreme of Michaelmas island.

Two other patches with $4\frac{1}{2}$ and 6 fathoms on them and 7 to 8 fathoms close around, bear respectively S.W., one cable, and S.W. by W. $\frac{1}{2}$ W., $1\frac{1}{2}$ cables from the shoalest part of Michaelmas reefs.

A buoy, chequered black and white, with staff and drum, is moored in 9 $\frac{1}{2}$ fathoms water, S.W. by W., distant one-third of a mile from the 14 feet rock. Large vessels should not pass between Michaelmas island and this buoy.

Rock Dunder open south of Michaelmas island bearing E. $\frac{1}{2}$ N. leads to the southward, and the tangent of Bald head S. by E. or Gull rock North leads west of Michaelmas reefs.

Herald rocks with 12 feet water, lie nearly half a mile south of Herald point; between Herald and Mount Pleasant rocks the depths are from $6\frac{1}{2}$ to 7 fathoms; and from Mount Pleasant rock to Michaelmas island 6 to $6\frac{1}{2}$ fathoms.

Middle rock, with 5 $\frac{1}{2}$ fathoms over it and 7 fathoms around lies nearly half a mile from the northern extreme of Michaelmas island, and nearly midway between Mount Pleasant and Herald rocks.

Mount Pleasant rock, † with 18 feet water, lies nearly midway between Michaelmas island and Herald rocks, with north extreme of Rocky islet in line with cape Vancouver bearing East; and the eastern extreme of Herald point N. $\frac{1}{2}$ E.

Vessels drawing more than 10 feet should not use the North channel without a pilot.

Seal islet, 105 feet high and 200 yards in diameter, situated nearly midway between Limestone head and Mistaken island, is steep-to except on its west side, from which a rocky spit extends three-quarters of a cable.

South Flat rock, 10 feet high and 100 yards in diameter, lies nearly 2 cables from the south shore of Frenchman bay, and $1\frac{1}{2}$ miles from Limestone head, with $3\frac{1}{2}$ to $3\frac{3}{4}$ fathoms between it and the shore.

Mistaken island (Rabbit island), 143 feet high, one-third of a mile long east and west, 300 yards broad, covered with grass and stunted trees, is separated from the shore by a narrow channel half a cable wide in which there are several dry rocks. Off its east end lie several sunken rocks, and two dry rocks 6 to 8 feet high, named the Two Sisters; the easternmost of which lies one cable from the extreme of the island, with a small sunken rock half a cable north-east of it.

PRINCESS ROYAL HARBOUR is the most convenient of the inner ports of King Georgesound. The entrance, which is about a quarter of a mile wide, lies between Possession and King points, and bears from Breaksea island lighthouse W. by N. $\frac{1}{2}$ N. 6 miles, the deepest water, 20 to 29 feet, being on the northern side, deepening to 32 and 42 feet within the narrows. The harbour which is $4\frac{1}{2}$ miles long N.W. and S.E., and about 2 miles wide, is very shoal at its west and southern sides, the available portion for vessels drawing more than 8 or 9 feet being about 2 miles square. The sand-banks in the harbour are gradually becoming more shallow, owing to the constant drifting of the sand from a bare sand patch $1\frac{1}{2}$ miles in length, situated at the south-west corner of the harbour.

Albany, founded in 1826, is situated on the north side of Princess Royal harbour between mount Clarence on the east and mount Melville on the west. The town jetty is $1\frac{1}{2}$ miles inside the lighthouse. Perth, the chief town of the colony, is 256 miles from Albany, between which there is a fair road and a line of telegraph.

Supplies of provisions may be obtained in Albany, but stores for refitting vessels cannot.

Water can be procured from a pipe on the town jetty by sending a boat at high water.

Coal can be obtained from the Peninsular and Oriental Company's agents at the rate of 4l. the ton (1877).

Climate.—Albany is situated in one of the most healthy parts of the continent, and the thermometer is seldom below 60° or above 85°; this evenness of temperature at all seasons of the year is remarkable, and renders this spot particularly suitable for invalids.

Beacons, buoys.—The north side of the channel leading into Princess Royal harbour is marked by two beacons, the outer situated about half way through the channel at the edge of a 19-foot bank, and the inner in 19 feet near the extremity of the shoal sand spit extending from Semaphore point; 50 yards south of the inner beacon a black buoy is moored in 22 feet. The south side of the channel is marked by two white buoys, the outer moored in 22 feet just north of the extremity of the sunken rocks extending from Possession point; the inner on the edge of 19-foot bank just north of the west extreme of Possession point. A black buoy is moored on the edge of a bank in 24 feet south-west of the harbour master's flagstaff and W. by N. $\frac{1}{2}$ N. from the Semaphore spit beacon.

A black buoy is also moored on the northern side of a 16-foot bank W. $\frac{1}{2}$ N. nearly a mile from the Semaphore spit beacon, with the Episcopal church bearing N.N.W.

A small red buoy is moored just outside Jail rock (dry at low water), which lies $1\frac{1}{2}$ cables E. by S. $\frac{1}{2}$ S. from the end of the town jetty, and one cable from the shore.

LIGHT.—Princess Royal harbour lighthouse, consisting of a small wooden square tower 17 feet high, with the keeper's dwelling attached, is erected on the extremity of King point, the northern bluff of the narrow entrance to this harbour, and exhibits at an elevation of 37 feet above high water a fixed white light of the fifth order, visible in clear weather (through the approaches to the harbour) from a distance of 10 miles.

Tides.—It is high water, full and change, in Princess Royal harbour at 11h. 3m.; springs rise $2\frac{1}{2}$ feet except during north-westerly gales when they rise 4 or 5 feet; neaps 2 feet.

At King George sound there is a large diurnal inequality, which sometimes reduces the two daily tides to one. There is no tidal stream in the sound, but it runs with considerable strength in the entrances of Princess Royal and Oyster harbour.

Middle channel, between Breaksea and Michaelmas, is clear, and for steam vessels from the eastward is to be preferred, taking care, however, not to shut Rock Dunder in with Michaelmas island until past the chequered buoy off the Michaelmas reefs or the extreme of Bald head bears S. by E. At night when abreast the west end of Breaksea island steer more to the southward, and bring King point lighthouse north of W.N.W. before steering for it.

Northern passage is not recommended for vessels drawing more than 11 feet water, without a pilot, there being neither leading marks or buoys to define the channels between the rocks.

A vessel from the south-west or westward, having passed Bald head, should haul gradually to the westward, and steer a course directly for King point lighthouse if bound into Princess Royal harbour; but for the anchorages in Frenchman bay haul close round Limestone head.

Should there be a heavy sea running and it be desirable to pass south of Belches foul ground, Seal island (north extreme) should be kept, touching Limestone head N.W. by W. $\frac{1}{2}$ W. or King point lighthouse N.W. $\frac{1}{2}$ W. until Breaksea lighthouse bears N.E. $\frac{1}{2}$ N. If wishing to pass north of the foul ground King point lighthouse N.W. by W. $\frac{1}{2}$ W. will lead between it and Breaksea island. It should be remembered that in squally weather with the wind from the southward and westward the gusts come down with great strength when in the vicinity of Bald and Limestone heads. Working in or out of King George sound, and not wishing to cross the foul ground, the channel between it and Breaksea should be used. The island is

steep-to within half a cable, and standing towards the foul ground Seal islet should not be shut in with the fall of the high land inside Mistaken island W. by N. $\frac{1}{4}$ N., or King point lighthouse brought to bear to the northward of N.W. by W. $\frac{1}{4}$ W. until Breaksea island lighthouse bears N.E. $\frac{1}{2}$ N.

King point lighthouse is sometimes difficult to make out, but the cluster of boulders on the rising ground above can always be seen, and may be used until near enough to see the building.

If bound for Princess Royal harbour a pilot should be obtained, but if proceeding without, on closing King point bring a remarkable bushy topped sandhill on the ridge, south-west side of the harbour, in line with the south extreme of a small sand patch about two-thirds down the hill bearing W. by S. $\frac{1}{2}$ S. This mark will lead between King point and the outer white buoy, which should be passed about half a cable distant; when abreast this buoy steer a little to the southward to pass midway between the inner white buoy and outer beacon, giving the black buoy outside spit beacon a berth of half a cable, having passed which steer to the westward and anchor when convenient, observing that the residency open south of the town jetty leads outside the 3 fathoms edge off the north shore; and the church tower not brought to bear north of N.N.W. $\frac{1}{2}$ W. will keep a vessel east of the same depth, except on the 16 feet shoal marked by a black buoy.

When a steam vessel is signalled at night the pilots place a light on the Semaphore spit, and outer beacons, as they pass out to board the vessel.

OYSTER HARBOUR.—The shore from King point trends N.E. $\frac{2}{3}$ miles to the entrance of Oyster harbour, which is half a cable wide, with a bar at a quarter of a mile outside, having 10 feet water, but during spring tides the depth is increased to 14 feet. Captain P. P. King, R.N., remarks that high water always occurs at night during springs, it would therefore not be prudent to attempt to cross the bar at that time.

Two rivers, the King and Kalgan, empty themselves into the harbour; the entrance to King river is nearly dry at low water, but the Kalgan is navigable for boats some 4 or 5 miles, where much useful timber is obtained. Oyster harbour abounds in fish, and a few oysters can be obtained by dredging on the banks.

Directions.—A vessel intending to go into Oyster harbour to refit or heave down (for which purpose it is more suitable than Princess Royal harbour) should anchor off the entrance and send a boat to sound the bar and mark the channel, as there are no well-defined leading marks. The channel inside the bar is clearly defined by the sand banks on either side, and when past the narrows the vessel can be moored as convenient.

Water may be obtained by digging in the swampy ground near the beach, just round the eastern point of the entrance.

Telegraph.—The overland telegraph line from Albany to South Australia crosses the mouth of Oyster harbour and extends through the country behind Mount Manypeak to the eastward. Communication by this line was opened in 1877, thus placing the colony of West Australia in telegraphic communication with England.

The shore.—From the eastern entrance point to Oyster harbour trends S.E. nearly $\frac{1}{2}$ miles to Cheynes head, 513 feet high, and densely wooded. Half a mile from the entrance, and a cable off shore, lies Cheynes ledge, awash at high water, with 2 to three fathoms between it and the shore; at half a cable outside there are 4 fathoms water.

From Cheynes head the shore trends in an E. by N. direction about a mile, thence S. by W. half a mile to Ledge point, forming a deep sandy cove, sheltered from the winds between N.W. round by North and East to South.

Ledge point, 70 feet high, has high boulders extending half a cable from its extremity. Between Ledge point and Herald point E. $\frac{1}{2}$ S. $\frac{1}{2}$ miles from it the high sandy coast recedes about a quarter of a mile; the beach is fronted by sunken rocks about one cable from the shore.

Gull rock, about 32 feet high and 200 yards in diameter, lies W. $\frac{1}{2}$ S. one-third of a mile from Ledge point. Between it and the point is a clear channel with 3 to 5 fathoms water. Small vessels will find good anchorage in the cove, north-east of Gull rock in 3 fathoms sand, with Seal islet seen over the rock, and the west extreme of Breaksea island, just shut in by Ledge point. At the back of this cove are two lakes of fresh water; $\frac{1}{2}$ miles north-east of it is a high grassy ridge, 625 feet high, having on its summit a small but conspicuous bush, and on its western slope a remarkable granite boulder. There is another ridge $\frac{3}{4}$ miles N. $\frac{1}{2}$ E. from Ledge point, on the west slope of which is also a mass of granite boulders; between these ridges are extensive swamps, almost impassable during the winter.

Herald point, 200 feet high, is covered with grass, and about a quarter of a mile north of it a small stream of fresh water empties itself.

From Herald point Islet point bears N.E. about one mile having between a high rocky head half a mile long; on either side of this head the shore recedes forming two sandy bights, both of which have a small stream of fresh water running into them; at the back is a grassy ridge 695 feet high, which gradually slopes towards Ledge point.

Islet point, 80 feet high, situated $\frac{1}{4}$ miles north-east of Herald point, is composed of rock, and connected with the shore by a narrow sand beach; on its western side is a small creek with an entrance about twenty yards wide through which boats may pass, and find safe landing on the beach inside. Landing may also be effected on its north side, but in easterly winds a heavy surf breaks on the whole of this coast.

A quarter of a mile N.N.E. of Islet point is Taylor inlet, always closed, the beach is however so low that a heavy sea washes over. It is about two-thirds of a mile long north-east and south-west, and a quarter of a mile wide. Oysters are found on the shoal sand banks within. From Taylor inlet the sandy coast trends in an E. by N. direction for $\frac{2}{3}$ miles to Rocky point. The whole beach is fronted by detached sunken rocks, extending about a quarter of a mile from the shore.

Behind the east end of this beach is a black bushy-topped peak rising from the southern edge of a bare sand drift over a mile square. Behind the sand drifts are several lakes and swamps, from the vicinity of which rise several bushy ridges, varying from 200 to 300 feet in height. A conspicuous dark wooded hill, 540 feet high, lies N.N.E. $\frac{3}{4}$ miles from Rocky point.

Off rocky point are several rocks, the highest being 10 feet high, at one cable west from the point.

From Rocky point the shore trends E. $\frac{1}{4}$ S. $\frac{2}{3}$ miles, thence S.S.E. one mile to False islet; at one mile east of Rocky point, and a cable off shore lies Black rock, about a cable in diameter, and 40 feet high, having 2 and 3 fathoms between it and the shore, and 14 fathoms close to its southern side. The coast-line is fronted by a flat ledge of rock, outside of which there is deep water, but several sunken rocks lie about half a cable off it.

Inner islet, 100 feet high, rocky and covered scantily with grass, lies $\frac{1}{2}$ miles east of Black rock. A dry ledge extends from its southern end. East of this islet the land rises precipitously to a height of 700 feet.

False islet, nearly 300 feet high, situated two-thirds of a mile from Inner islet, is a third of a mile long N.W. and S.E., and 300 yards broad, with a rocky ledge near its south-east extremity. False islet is connected with the mainland at low water by a short narrow ridge of rocks.

Mount Gardner, 1,300 feet high, is a peaked mass of granite, partially covered with grass and poisonous scrub, the deep gullies on either side having a dense growth of stunted gum trees. It bears from Bald head N.E. by E. $\frac{1}{4}$ E. nearly $10\frac{1}{2}$ miles. The east extreme of the Eclipse islands and the extreme of Bald head are in line from the mount, which is visible in clear weather about 50 miles.

On its seaward sides it has a steep descent to a cliffy rock-bound shore, terminating to the southward in a projection named cape Vancouver, 167 feet high, and perpendicular on its south and south-east sides.

Between False islet and cape Vancouver is a deep rocky bight the northern shore of which is almost perpendicular its east side slopes gradually to a height of 448 feet. There is a depth of 20 fathoms rocky bottom close to the shore in this bight.

Rock Dunder, 195 feet high, is nearly a quarter of a mile long E.S.E. and W.N.W., and 100 yards broad. Close to its south-east extreme is a rock a few feet above water. It is steep to on all sides, but should not be approached by sailing vessels nearer than half a mile, as the swell and current set directly on to it with considerable strength, especially during south-west winds.

The coast from cape Vancouver trends to the northward nearly 3 miles to Two-People bay, about midway between which lies Calfin island, 48 feet high, half a mile long N.W. and S.E. and 300 yards broad, its north-west extreme being separated from the main by a channel a little more than a cable wide, having apparently about 3 fathoms over a white sandy bottom. Its north-west and north-east sides are steep-to, and off its south-east extremity are several dry and sunken rocks, the outer rock 8 feet above water and 250 feet in diameter lies S.S.E. 2 cables from the south-east extreme of the island, and N.E. by E. $\frac{1}{2}$ miles from the south-east extreme of cape Vancouver.

Two small rocks, on which the sea continually breaks, lie about $\frac{1}{2}$ cables S.E. by E. from Calfin island, and nearly quarter of a mile N.E. from the 8 feet rock. Between these rocks and the south-east extremity of the island is another dry rock and several sunken rocks.

PORT TWO-PEOPLE, open to the eastward, is about 2 miles wide north and south, and 2 miles deep: about a cable N.W. from South point which projects a short distance from the south shore of the bay lies a dry ledge of rocks, with a sunken rock on which the sea generally breaks, a quarter of a mile to the eastward.

The western shore of port Two-People is a low sandy beach, behind which are two lakes; the southern is a mile in diameter having a small stream, emptying itself over the sand beach at the south-west corner of the bay. On the south side of the bay is a low rocky ledge one cable from the shore, having shallow water and rocks between.

In the north-west corner of the bay is a small bushy-topped rocky headland projecting a third of a mile. From this head the shore trends E. by S. to North point, which is a rough stony headland with scant vegetation on its top, and connected with the main by a narrow ledge of rocks. Behind the point the coast rises steeply to a height of 640 feet, having on its summit a remarkable square granite boulder.

The coast from north point trends W.N.W. half a mile, thence N.E. by E. $\frac{1}{2}$ miles, the latter part being composed of a ridge of bushy-topped sand hillocks 90 to 100 feet high, fronted by a long sandy beach, fringed with rocks. At the west end of this beach is a small stream, and another two-thirds of a mile from its eastern end. Both are salt for a considerable distance from their mouths. At the east end of the beach, the rocky shore projects nearly half a mile, and thence continues with several steep and rocky indentations $\frac{7}{8}$ miles in an easterly direction to Mermaid point.

Waychinicup river, situated 7 miles east of port Two-people, having a deep but narrow entrance, runs in a N.N.E. direction 3 cables; east 2 cables; thence north-westward for some distance, abruptly terminating at the foot of a high cliff, over which the inland stream falls, forming in winter a picturesque fall. Excellent shelter may be found inside the second bend of the river.

Mount Manypeak, 1,855 feet high, is situated $\frac{3}{4}$ miles west of the Waychinicup river and falls gradually towards the river in a succession of granite-topped peaks, the eastern peak being 1,050 feet high. The ridge is a mass of broken granite, rising abruptly from the sea, with deep gulches from which run several springs of fresh water.

Mermaid point.—The coast ridge in the vicinity of Mermaid point rises to a height of 500 or 600 feet, surmounted with huge granite boulders, and terminates about 2 miles north-east of the point.

The south-east and south-west sides of this point are high cliffs; its west side slopes gradually to two small sand beaches fronted by rocks; S.W. 4 cables from the south-west extreme of the point is a sunken rock on which the sea generally breaks.

Twin Islets, each 86 feet high, situated S.W. by S. 2 miles from Mermaid point, are two cables apart, with sunken rocks between. A shoal patch extends a quarter of a mile northward of the north islet.

Bald island, 1,020 feet high, is $\frac{2}{3}$ miles long, N.W. $\frac{1}{2}$ N. and S.W. $\frac{1}{2}$ S., $\frac{1}{2}$ miles broad with its highest point bearing from mount Gardner E. by N. $\frac{1}{2}$ N. $14\frac{1}{2}$ miles; Bald island is visible in clear weather about 30 miles. Between the island and the main land there is a deep passage three-quarters of a mile wide, the North point of which is named Channel point; a rocky shoal extends one cable from the north-west side of the island.

A ledge 2 feet above water over which the sea constantly breaks, lies S. by E. $\frac{1}{4}$ E. nearly a quarter of a mile from Bald island with deep water between.

Half a mile from the north-east side of the island lies Bird rock, 12 feet high, near the south and west sides of which are two small dry rocks.

Landing may be effected during south-westerly winds in a small bight on the north side of Bald island.

Water may be obtained in the gullies at the north end of the island.

The coast from Mermaid point trends N.E. $\frac{3}{4}$ E. $1\frac{1}{2}$ miles, to Channel point, with a steep rocky indentation half a mile deep between; the north-west shore of the bight rises perpendicularly to a height of 668 feet, terminating in a huge mass of granite; from this it slopes gradually to the northward and eastward forming a cliffy shore.

From Channel point the coast trends northerly about half a mile to Lookout point, with a small deep bight between at the head of which is a sandy beach. Thence the coast extends N.W., and West $1\frac{1}{2}$ miles to a small rocky point, and a sandy beach (Whaling cove) where a boat might land at any time except during heavy easterly gales. Two or three boat parties make this cove their head-quarters during the winter months for whaling. From Whaling cove a sandy beach (Cheynes beach) extends to the N.E., and for 4 miles it is backed by grassy ridges 150 to 260 feet high. A long sand drift then continues for about $3\frac{1}{2}$ miles, backed at half a mile distant from the beach by bushy-topped hillocks 260 feet high.

At $10\frac{1}{2}$ miles north-east from Whaling cove is Warriup point, steep and rocky. There are four small streams of fresh water along Cheynes beach within a distance of 7 miles from Whaling cove.

At the back of Warriup point the coast rises to a conspicuous scrubby mount 1,020 feet high, north-west of which another grassy ridge 800 to 1,000 feet high continues for 10 miles.

Haul-off rock, 314 feet high, situated E. $\frac{1}{2}$ N. 8 miles from Warriup point, and N.E. $\frac{1}{2}$ N. 16 miles from the summit of Bald island, is conspicuous; off its south-west side is a low ledge of rocks, connected by a narrow rocky ridge, W.S.W. of which is a detached ledge, about half a mile from the highest point of the rock.

Cape Riche.—From Warriup point the coast trends about E. by N. 10 miles to cape Riche.

Stirling range, situated about 30 miles N. $\frac{1}{2}$ E. from mount Manypeak, is a high and rugged range of mountains about 30 miles long, in a general east and west direction, rising

abruptly from a comparatively level country. The most remarkable peak is named Toolbrunup or Castle peak, 3,341 feet high, near the centre of the range, bearing N.N.W. $\frac{3}{4}$ W. 38 miles from the summit of Bald islet, and N. $\frac{1}{2}$ W. $37\frac{1}{2}$ miles from mount Gardner. The highest peak, 3,000 feet high, is named Bluff Knoll, and lies 4 miles from the east end of the range. Ellen peak is a conspicuous sugar-loaf peak near the east end of the range.

The Porongorup range, consisting of several rugged peaks, is remarkable, and lies 12 miles to the south-westward of the Stirling range, and about north from King George sound. Its highest point is 2,145 feet above the sea, and bears N.W. by W. $22\frac{1}{2}$ miles from mount Gardner, and N. $\frac{3}{4}$ W., $24\frac{1}{2}$ miles from Limestone head.

Hydrographic Office, Admiralty, London,
7th October, 1878.

* See Admiralty charts:—Australia general, southern portion, No. 2,750 b; and cape Naturaliste to King George sound, and Doubtful island bay, No. 1,684; also Australia Directory, Vol. I., seventh edition, pages 6-22; and Hydrographic Notice, No. 13 of 1878, pages 1 and 2.

† Originally published in Notice to Mariners, No. 122 of 1877.

‡ See Admiralty plan:—King George Sound and Princess Royal Harbour, No. 2,619; scale, $m = 17$ inches.

Comptroller's Office,
Fremantle, 15th February, 1879.

A CERTIFICATE of Freedom has been issued to the undermentioned Convict, whose sentence has expired:—

Reg. No. 7474 David Liston

HIS Excellency the Governor has been pleased to revoke the Ticket-of-Leave of the undermentioned Convict:—

Reg. No. 6532 Michael Clarke

JOHN F. STONE,
Comptroller.

WESTERN AUSTRALIA.

Meteorological Observations for the week ending 14th February, 1879.

WIND Registered by Mr. Forsyth, Harbor Master, at Arthur's Head, Fremantle; altitude above the sea 55 feet, in Latitude $32^{\circ} 02' 14''$ S., Longitude $115^{\circ} 45' 12''$ E.

The other instruments registered are placed in the grounds adjoining the Survey Office, Perth; altitude above the sea 47 feet, in Latitude $31^{\circ} 57' 25''$ S., Longitude $115^{\circ} 52' 02''$ E.

MALCOLM FRASER,
Surveyor General.

Week ending.	BAROMETER: Mean Reading corrected, and reduced to sea level, and 32 deg. Fah.	THERMOMETERS IN SHADE.				RADIATION THERMOMETERS.		RAIN: Amount in inches.	WIND.		DEGREE OF HUMIDITY, Saturation = 100: mean amount.	CLOUD: Mean amount.	OZONE: Mean amount.	EVAPORATION: Amount in inches.
		Dry.		Wet.		Solar.	Terrestrial.		Horizontal velocity in miles, per 24 hours.	General direction.				
		Maximum.	Minimum.	Maximum.	Minimum.									
14th	29.973	88.1	62.6	79.5	57.9	146.1	56.1	0	443.33	S.E.	70	1.7	5.1	2.05

Highest reading of Barometer 30.17 11th
Lowest do. do. 29.797 8th

Thermometers in shade. { Maximum Day 93.8 13th
Minimum Day 57.5 11th

The Observations are taken at 10 a.m., (excepting Barometer, which is registered at 12 a.m.)

M. A. C. FRASER,
Observer.