Marine (1898) Department.

G.O., No. 799 Marine

DATED 16 Sept 1898.

[Despatch Abstract.]

Light Houses, Lights &c in the Bombay Presidency

Endorsement from the Post Master forwarding copies of the annual report on the —— for 1897-98, received.

Marine Department,

24th June 1898.

Engineer.

[M.—6. 200—16-7-98.]

Indexed. 25/9/98

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
Jo.	912	mar.	10.11.97				

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
Jo.	875	Mar.	20.9.98				

Marine (1898) Department.

CURRENT No. 1168

B/

Order 7990 dated 16th September 1898

Recorded

C.S. MS 16.9.98

From The Presidency Port Officer

No. 534 / 317 ***G.***

Dated 12-9-98

Received 14-9-98

Enclosures one

Spare copies one & c.

SUBJECT.

Annual Report on the Lighthouses &c in the Bombay Presidency for the year 1897-98

forwarding 2 copies of the

BACK PAPERS.

BACK PAPERS.

No.	Date.
G.O 917	8-10-11 G
G.O 815	8-24-11 G

FURTHER PAPERS.

No.	Date.

Heading

No. 534/3174

Presidency Port Office,

Madras, 12th September 1898.

From

The Presidency Port Officer, Madras.

To

Forwarded to the Secretary to Government, Marine Department, with reference to G.O., Financial, No.751, dated 6th November 1896.

G.O 815
24-11-96

Commander, R.I.M.,
Ag. Presidency Port Officer.

Enc.

2 copies of Annual Report on the Light-houses, Lights, &c. in the Bombay Presidency for 1897-98.

ANNUAL REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

IN THE

BOMBAY PRESIDENCY

FOR THE

YEAR 1897-98.

Mar. Coll
11685/98

B 458—1

REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

UNDER THE CONTROL

OF THE

BOMBAY PORT TRUST.

B 458—2

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Prongs Light-house.	Near extreme of reef extending southward from Colába.	18° 53′	72° 48′	Circular masonry tower with white, red, white and black bands.	White...	Flashing .	Ten seconds.	18	All round the horizon ...
Kennery Light-house.	On the highest part of the Kennery Island.	18° 42′	72° 48′	Octagonal masonry tower on centre of a flat-roofed house.	White with red sector.	Fixed ...	.....	19	From N. 25° W., through North, East and South to S. 20° W.
Sunk Rock Light-house.	On the rock ...	18° 53′	72° 50′	Circular masonry tower painted black.	Red and white.	Occulting.	Five seconds.	14	From S. 7° W., through West and North to N. 69° E. *White* between S. 7° W. and S. 30° W. *Red* from S. 30° W. through West to N. 15° E. *White* from N. 15° E. to N. 31° E., and *Red* from N. 31° E. to N. 69° E.
Dolphin Rock Light-house.	Do. ...	18° 55′	72° 50′	Grey masonry tower with white dome.	Green and white.	Fixed ...	.....	5	*Green* from North to West, *White* from West to S. 56° W. and *Green* from S. 56° W. to S. 34° E.
Light Vessel "Bombay."	In 6½ fathoms, 4½ miles S., 22° W. from Colába Point.	18° 49′	72° 47′	Light vessel, painted red; by day shows a red ball at mast head.	Red ...	Revolving.	Twenty seconds.	10	All round the horizon.

Port Office, Bombay, 1st April 1898.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since Last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs.	Rs.	Rs.		
D, 1st order.	136	All round.	1874 ...	Repairs estimated to cost Rs. 800.	Repairs estimated to cost Rs. 800.	6,067	3,485	9,552	In good order.	Electric Telegraph to Bombay.
C. D. 1st order.	153	Do. ...	1867 ...	Repairs estimated to cost Rs. 500.	Repairs estimated to cost Rs. 510.	5,099	4,574	9,673	Do. ...	A *Red* ray is visible from seaward from North to N. 25° W. A flag-staff 200 feet high with yard stands N.-E. by N. from the Light Tower. Electric Telegraph to Bombay *vid* Alibág.
D. 3rd order.	64	Do. ...	1884 ...	Repairs estimated to cost Rs. 300.	Repairs estimated to cost Rs. 500.	3,321	2,000	5,321	Do. ...	The eclipses are from one to two seconds.
D. 5th order.	35	Do. ...	1856; altered 1878, altered 1897.	Extensive improvements at a cost of Rs. 8,000.	Repairs estimated to cost Rs. 200.	516	800	1,316	Do. ...	The *White* light indicates the anchorage for the English Mail Steamers at night. Improvements completed and mineral oil burnt from 1st January 1898.
C. ...	36	Do. ...	1842 ...	Repairs estimated to cost Rs. 1,500.	Repairs estimated to cost Rs. 800.	8,631	7,500	16,131	None ...	A *Blue* light is burnt every half hour from 1st June to 30th September, and from 1st October to 31st May a *Blue* light is burnt every hour and a torch every half hour. In daylight a *Red* flag is hoisted when a vessel is seen.

T. G. R. FINNY, Commander, R.I.M.,
Officiating Port Officer, Bombay.

REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

UNDER THE CONTROL

OF THE

POLITICAL RESIDENT, ADEN.

B 458—3

ADEN.

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Aden Cape ...	On Ras Marshag S. E. part of Cape.	12° 45′	45° 03′	Dark Grey Stone...	White...	F. ...	.....	20	All round the horizon ...
Aden Light Vessel.	South side of Channel, inner harbour, moored in 18 feet of water.	12° 47′	44° 58′	Light Vessel painted red	White...	Fl. ...	One minute	10	Ditto. ...
Morbat Shoal Light Vessel, Aden.	On the edge of Morbat Shoal in 22 feet of water 2¾ cables S. 27° W. from Aden Light Vessel.	12° 47′	44° 58′	Light Vessel painted red. By day shows a red ball at mast head.	Red ...	F. ...	.....	8	Ditto. ...
"Anadyr" Wreck Light Vessel."	At "Anadyr" Wreck.	12° 47′	44° 57′	Light Vessel painted green. By day shows two balls harizontally.	White...	F. ...	.....	5	.....

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during the current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs.	Rs.	Rs.		
D. 1st Order.	244 ...	Whole year.	1867 ...	Nil	.....	2,244			Good ...	.....
C.	39 ...	Do. ...	1850, altered 1889.	.....	.....	2,262			None ...	Fires a gun upon a vessel entering at night. By day the depth of water is hoisted.
D.	20 (Lower light).	Do. ...	15th January 1895.	.....	.....	432	3,537	8,907	None ...	Two lights vertical 8 feet apart. Inner harbour buoys on the starboard side shows *Red* lights and port side *Green* lights.
.....	...	Do. ...	...	.....	.....	432			None ...	Three lights in triangle.

H. B. SIMPSON, Commander, R.I.M.,
Port Officer, Aden.

B 458—4

PERIM.

B 458—5

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
High Light ...	On the summit 1,100 yards S. W. of Obstruction Point.	12° 39′	43° 25′	Dark blue stone ...	White...	Revolving.	One minute ...	22	All round horizon ...
Obstruction Point.	On Obstruction Point.	12° 39′	43° 26′	Grey Octagonal stone tower.	White...	Occulting.	Ten seconds, *i.e.*, light seven seconds, eclipse one second, light one second, eclipse one second.	14	From North 42° W. through West to S. 26° E.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs.	Rs.	Rs.		
C. D. 1st order.	249	Whole year.	1861; altered 1871.	Nil	.....	3,444	3,372	6,816	Good ...	Eclipses not total within 15 miles.
D. 4th order.	85	Do. ...	1885 ...	.....	New roof required.				Do. ...	The light appears dim about the bearing of limits of visibility; a bearing of the light is, therefore, a necessary precaution.

H. B. SIMPSON, Commander, R.I.M.,
Port Officer, Aden.

SOMALI COAST.

REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

UNDER THE CONTROL

OF THE

KARACHI PORT TRUST.

B 458—7

Letter from the Port Officer, Karáchi, No. 598, dated 11th April 1898.

In compliance with the Resolution of Government, No. 155, dated the17th July 1895, I have the honour to submit the accompanying statement showing the details required with respect to the Manora Light-house and the light at the end of the Breakwater for the past official year, with the following observations :—

2. During the year, no complaints were received, from the commanders of vessels visiting the port, regarding its range of visibility.

3. The heavy guns in the forts at Manora were fired during the year, but no damage was sustained by the lantern apparatus or structure.

4. The highest temperature registered inside the lantern was 96° at noon on the 8th June and the lowest 56° at 8 A.M. on the 2nd March last.

5. The light at the end of the Breakwater was efficiently maintained throughout the year.

6. Fifty-nine persons visited the light-house on permits issued by the Chairman, Port Trust, during the year under review.

7. Mahomed Salleh, Light-keeper, died on the 15th November 1897, and Shabudin, Probationary Light-keeper, was appointed in lieu.

ANNUAL Report of Light-houses, Lights, &c., under the control of the Karáchi Port Trust for the year ending 31st March 1898.

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Candle Power.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward.)	Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
																	Establishments.	Stores.	Total.		
																	Rs.	Rs.	Rs.		
(1) Karáchi ...	Near St. Paul's Church on Manora Point, west side of entrance, 16 yards to the northward.	24° 47′ 37	66° 58′ 36	Round tower built of drab colcured stone; seaward half white-washed and 91 feet in height from ground to top of coping.	10,000	White...	Fixed ...	Nil ...	20	Visible seaward with full brilliancy from N. 56 W. to S. 56 E.; landward semi-circle, partially screened by a dioptric mirror.	Dioptric 1st order.	148	Throughout the year.	1849; improved 1877; altered 1888.	Ordinary repairs, costing Rs. 235.	Nil	3,444	2,192	5,636	Good ...	During the S. W. monsoon visible from 10 to 15 miles.
(2) Breakwater Light.	At the extreme end of the Breakwater.	24° 47′ 23	66° 59′ 6	Run out from top of cliff to Beacon at end of Breakwater, from whence it is exhibited by means of an endless wire-rope supported by masts at intervals.	...	Red ...	Fixed ...	Nil ...	5		Anchor Lamp No. 3; Cera Light Coy.	54½	Do. ...	Improved 1890: altered 1897.	Nil	Nil	...*	...	...	Nil ...	During the S. W. monsoon visible at least 2½ miles.

Karáchi Harbour Channel Buoys.

6 Starboard-hand buoys show red lights.

5 Port-hand buoys show green lights.

*This light is worked by the Light-house establishment.

PORT OFFICER'S OFFICE, MANORA,
11th April 1898.

CHARLES C. HEWETT,
Commander, R. I. M., Port Officer, Karáchi.

B 548—8

REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

UNDER THE CONTROL OF THE

SALT DEPARTMENT.

E 458—9

Letter from the Collector of Salt Revenue, Bombay, No. 2749, dated 23rd June 1898.

I have the honour to submit the annual report on light-houses under the control of this Department, for the year 1897-98, in the form prescribed by Government in their Resolution in the Marine Department, No. 155 of the 17th July 1895.

2. The number of Coast and Harbour lights maintained during the year is the same as that during the last year. The new lamp and panes required for the Oyster Rock Light-house at Kárwár sanctioned in Government Resolution, Revenue Department, No. 874 of the 8th February last, have been indented for from England and are expected to arrive shortly.

3. All the light-houses were repeatedly visited and inspected during the year under report by the Sarkárkúns, Coast Guard Inspectors and Assistant Collectors of Salt Revenue. They were efficiently maintained throughout the year, and the conduct of the establishment was satisfactory.

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating, or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Bulsár	At the mouth of the Auranga River (Southern side).	20° 37′ 15″	72° 32′ 35″	Wooden staff with service cabin at the base, *White*.	White ...	Fixed ...	Nil ...	9 to 10	180° E. ... ...
Tápti	At the mouth of the Tápti River (North side).	21° 5′ 0″	72° 37′ 0″	Stone masonry column, white, plate glass lantern house.	Do. ...	Do. ...	Do. ...	18	South, through Eastward and North to S° W. 250°.
Bhugwa Dándi..	On a sand mound S. W. by W. ½ W. from Dándi Village.	21° 19′ 20″	72° 35′ 0″	Wooden staff with iron travellers, *White*.	Do. ...	Do. ...	Do. ...	10	S½ W., through East and North, to N ½ W., 213° 45′ 0″.
Perain... ...	On the Island of Perain near Gogo, 3 miles from the mainland.	21° 35′ 30″	72° 20′ 0″	Stone masonry column with black balcony and plate-glass lantern house, *White*.	Do. ...	Do. ...	Do. ...	18	N. E. by N.½ N., through North and West, to S. E½ E., 288°.
Lohara ...	At the entrance of the Narbada River, Gulf of Cambay.	21° 39′ 0″	72° 30′ 0″	Trellis work, iron structure.	Red ...	Do. ...	Do. ...	8	S. E., through East and North to N. W. 202° 30′ 0″.
Deo-Jágan ...	On the north bank at the entrance of the Dhádhur river, Gulf of Cambay.	21° 55′ 0″	72° 30′ 0″	Brick masonry column, *White*.	White ...	Do. ...	Do. ...	12	South, through East and North to N. 67° W. 218°.
Gogo	On the southern side of the town of Gogo.	21° 40′ 43″	72° 15′ 38″	Trellis work, iron structure.	Do. ...	Do. ...	Do. ...	10	N, W., through West and South, to S. S. E. 247° 30′ 0″.
Dholera ...	Western shore of the Gulf of Cambay, 2 miles from Chilkhari or Whittle Bandar.	22° 13′ 0″	72° 13′ 33″	Wooden structure, with platform at the top for lantern.	Do. ...	Do. ...	Do. ...	12	E½ N., through North and West, to S. S. E., 270°.
Anjanvel Green Light.	Northernmost point of the Anjanvel Port.	17° 34′ 0″	73° 0′ 0″	Teakwood post with iron bracket for lantern to rest on.	Green ...	Do. ...	Do. ...	5	Seaward from N. 15° W. through East, to S. 17° E.
Dábhol Red Light.	West end of the Dábhol Bandar.	17° 35′ 0″	73° 0′ 0″	Do. do. ...	Red ...	Do. ...	Do. ...	4	Do. ...
Talkeshvar Light.	On Tolkeshvar Point, south side of entrance to Dábhol Creek.	17° 34′ 0″	73° 0′ 0″	An iron column with house at base painted white.	White ...	Do. ...	Do. ...	15	Seaward from N. 15° W., through East to S. 17° E.
Jaigad Headland Outer Light.	Jaigad Headland near Dhaman Khol.	17° 18′ 0″	73° 11′ 0″	A structure of open iron work.	Do. ...	Do. ...	Do. ...	13	Seaward from South through East to North.
Jaigad Port Inner Light.	Northern Bastion of Jaigad Fort.	17° 18′ 0″	73° 11′ 0″	Mounted on the wall of the Fort.	Red ...	Do. ...	Do. ...	13	.....
Ratnágiri Light	On the westernmost point of the south and the highest bastion of the Fort.	16° 59′ 0″	73° 0′ 0″	White masonry tower.	White ...	Do. ...	Do. ...	15	From N. 17° W. through North and East, to S. 30° W.
Jaitápur Light..	On the end of the cliff at the south point of the Bay.	16° 36′ 0″	73° 0′ 0″	Do. do. ...	Do. ...	Do. ...	Do. ...	9	S. 30° W., through South and East, to N. 15° W.
Málvan Floating Light.	South-east of the rock at the entrance.	16° 0′ 0″	73° 0′ 0″	A small red barge fitted as a light vessel.	Red ...	Floating...	Do. ...	4	.....
Málvan Green Shore Light.	On the beach, 230 yards north of a white stone cross.	16° 0′ 0″	73° 0′ 0″	White mast ...	Green ...	Fixed ...	Do. ...	2	One quadrant between S. 67° E. and North 22° E.
Vengurla Rock Light.	On the north-west point of the extreme S.-E. Island.	15° 73′ 0″	73° 0′ 0″	White masonry tower on square building.	White ...	Do. ...	Do. ...	16	From S. 15° W., through East to North 75° W.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance. Establishments.	Stores.	Total.	State of Lightning Conductor.	Remarks.
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
6th order dioptric, two flat wicks, kerosine.	About 58	9 monthly, 1st September to 31st May.	1883 ...	Nil	Nil	597 5 3	80 2 0	677 7 3	No Lightning Conductor attached.	
4th order dioptric, two round wicks, Douglas burner, heavy mineral oil.	91	Throughout the year.	1867 ...	Nil	New platform boards in the light-house room.	622 12 3	453 14 6	1,076 10 9	In good order.	
6th order dioptric, 2 flat wicks, kerosine.	About 36	9 monthly, 1st September to 31st May.	1886 ...	Nil	Earthwork at the base of the cabin.	440 9 7	78 14 0	519 7 7	No Lightning Conductor attached.	
4th order dioptric, two round wicks, Douglas burner, heavy mineral oil.	115	Throughout the year.	1865 ...	Nil	New iron bracing straps on the outside of the lantern house.	996 2 4	445 6 6	1,441 8 10	In good order.	
6th order dioptric, one round wick, kerosine.	About 30	9 monthly, 1st September to 31st May.	1887 ...	Nil	New quarters for the Khallasis.	511 14 8	78 14 0	590 12 8	No Lightning Conductor attached.	
5th order dioptric, kerosine, 2 flat wicks.	40½	9½ monthly, 1st September to 15th June.	1889 ...	Nil	Nil	486 15 3	108 1 6	595 0 9	In good order.	
6th order dioptric, one round wick, kerosine.	25	Throughout the year.	1895 ...	Nil	Nil	475 15 4	92 1 6	568 0 10	No Lightning Conductor attached.	
5th order dioptric. 2 flat wicks, kerosine.	44	9 monthly, 1st September to 31st May.	1888 ...	Nil	Nil	737 1 3	108 0 6	845 1 9	Do.	
Ordinary lantern, country made.	36	9 monthly, 16th September to 15th June.	1889 ...	Nil	Nil	.....	46 3 0	46 3 0	Do.	
Do. ...	24	Do. ...	1889 ...	Nil	Nil	83 0 0	50 13 0	133 13 0	Do.	
5th order dioptric.	333	Throughout the year.	1880 ...	Nil	Nil	533 7 7	209 8 0	742 15 7	Good.	
Do. ...	134	Do. ...	1896 ...	Nil	Nil	674 1 0	348 6 6	1,022 7 6	Do.	
.....	...	Do. ..	1896 ...	Nil	Nil	479 3 4	140 8 9	619 12 1	No Lightning Conductor attached.	
6th order dioptric.	320	Do. ...	1867 ...	Nil	Nil	549 13 3	249 0 3	798 13 6	Good.	
Do. ...	75	Do. ...	1873 ...	Nil	Nil	673 15 10	355 15 7	1,029 15 5	No Conductor attached.	
Round lantern.	28	9 monthly, 16th September to 15th June.	1878 ...	Nil	Nil	360 0 0	246 2 8	606 2 8	Do.	
Square lantern.	20	Do. ...	1878 ...	Nil	Nil	.....	31 4 0	31 4 0	Do.	
4th order dioptric.	132	Throughout the year.	1890 ...	Nil	Nil	1,032 0 0	1,015 14 7	2,047 14 7	Good.	

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour or any peculiarity of Light-houses.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward.)
Vengurla Port Light.	On Vengurla Point one mile west of the town.	15° 51′ 0″	73° 0′ 0″	Mast above roof of a white masonry house.	White. Two vertical lights, one 20 ft. above the other.	Fixed ...	Nil ...	9	180° from S. 18° E., through E. to N. 15° W.
Oyster Rock Light.	On the summit of the Oyster Rocks.	14° 49′ 25″	74° 2′ 50″	Circular masonry tower painted white	White ...	Do. ...	Do. ...	20	185° Seaward also visible, rest of the circle Landward.
Koney Light ...	Post Office, Kárwar	14° 48′ 20″	74° 6′ 20″	Flag staff	Red ...	Do. ...	Do. ...	3	In every direction Seaward.
Tádri Light ...	On the summit of a hill to the north of the entrance of the Tádri River.	14° 31′ 0″	74° 29′ 0″	Wooden mast ...	White ...	Do. ...	Do. ...	8	In every direction Seaward, through N. to N. by W½ W.
Kumta Light...	On the headland forming the north horn of the Bay.	14½°	74½°	Bright fixed light hoisted and lowered by a small chain leading through an iron tubular mast.	Do. ...	Do. ...	Do. ...	12	270° of Horizon ...
Honávar Light	On the south bank of the Honávar Creek near the fish-curing yard.	.....	.....	Wooden mast ...	Do. ...	Do. ...	Do. ...	6	In every direction Seaward.
Bhatkal Light .	On the summit of the hill which forms the northern boundary of the Bay.	13° 58′ 0″	74° 31′ 0″	Do. ...	Do. ...	Do. ...	Do. ...	8	Do. ...

POONA, *23rd June 1898.*

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
6th order dioptric.	Upper 371, lower 350.	Throughout the year.	1869 ...	Nil	Nil	670 15 5	340 4 6	1,011 3 11	No Conductor attached.	
1st order dioptric.	138	Do. ...	1864 ...	Nil	Nil	3,146 12 0	2,816 4 10	5,963 0 10	Good.	
Red lantern ...	65	Do. ...	1864 ...	Nil	Nil	154 15 9	24 13 9	179 13 6	.....	
Ship's mast head light.	120	9 monthly, from 16th September to 15th June.	27th January 1891.	Nil	Nil	287 8 4	213 4 0	500 12 4	.....	
5th order dioptric.	116	Throughout the year.	1888 ...	Nil	Nil	657 1 11	129 7 8	786 9 7	.....	
Ship's mast head light.	23	9 monthly, from 16th September to 15th June.	1891 ...	Nil	Nil	291 8 0	104 5 6	395 13 6	.....	
Do. ...	120	Do. ...	1890 ...	Nil	Nil	291 8 0	95 2 9	386 10 9	.....	

H. O. QUIN,
Acting Collector of Salt Revenue.

REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

UNDER THE CONTROL

OF THE

POLITICAL DEPARTMENT.

B 458—11

KAIRA POLITICAL AGENCY.

REPORT on the Cambay Light Boat for the year ending 31st March 1898.

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
1	2	3	4	5	6	7	8	9	10
Cambay Light Boat.	Situated at the mouth of the Creek.	22° 17′ 20″	72° 38′ 50″	There is no Light-house at Cambay, but the light is exhibited from a light boat specially built for the purpose.	White ...	Fixed ...	...	8 miles ...	All round the horizon.

CAMBAY, *4th April 1898.*

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during the current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
11	12	13	14	15	16	17	18	19	20	21
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
It is a simple large kerosine oil lamp attached to the mast head of the Light Boat.	25 feet ...	From 1st October to 15th of June.	1885 ...	Ordinary repairs were made.	Petty repairs, such as oiling or painting the boat, may be necessary.	156 0 0	19 8 6	175 8 6	The Light has no Conductor.	

MADHAVRAM, H.,
Dewán, Cambay State.

B 458—12

KOLABA POLITICAL AGENCY.

B 458—13

Letter from the State Kárbhári, Janjira, No. 601, dated 6th April 1898.

* * * * * *

2. The light was regularly exhibited from its white masonry tower throughout the year under report, and has been kept efficiently to the entire satisfaction of the navigators for whose assistance and guidance it was set up. 182½ gallons of heavy mineral oil of 250° test were consumed on the exhibition of the light.

3. As said in the last year's report, one head light-keeper and 3 subordinate light-keepers worked during the whole year, and kept the lighting apparatus, &c., in good order.

4. The light-house was inspected by Mr. F. S. Framjee, Assistant Engineer, Belgaum District, in April 1897, and by Mr. Payne, Inspector, Coast Guard Service, in the months of April and November 1897, and January 1898; from the remarks passed by these officers, it will be seen that the machine and apparatus have been maintained in a satisfactory order. I myself visited the light-house and examined the apparatus on 30th instant, and found everything well kept up.

5. Comparative statements of expenses, &c., are herewith appended.

ANNUAL REPORT of the Nánowli Light-house

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Rájpuri Point ...	Near the village of Nánowli on a rock point near extreme.	18° 17′	72° 56′	Masonry tower painted white.	White.	Flashing...	Ten seconds "Light" and 5 seconds "Dark."	24	From S. 35° W., through South and East, to N. 40 W.

MURUD JANJIRA, *6th April 1898.*

ending 31st March 1898.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Additions, Alterations, Improvements, or Repairs executed since last Annual Report.	Additions, Alterations, Improvements, or Repairs considered necessary during current year.	Year in which first exhibited.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishment.	Stores.	Total.		
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
Dioptric 4th order.	179	Throughout the whole year.	Nil	Nil	1884 ...	432 0 0	517 1 3	949 1 3	In good order.	

V. S. KOPPIKAR,
State Kárbhári, Janjira.

B 458—14

BARODA POLITICAL AGENCY.

B 458—15

ANNUAL information as regards Light-houses

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Dwárka Point ...	On cliff West of Town and 117 yards within high water line.	22° 14′	68° 57′	Circular white stone tower.	White ...	Fixed ...	...	12 miles...	Arc of illumination 180°. Bearings seaward from N. 33° W. through North and East to S. 33° E.
Sámiani (Bet Harbour).	On the highest and nearly central part of Samiani Island Entrance to Harbour.	22° 29′	69° 04′	Circular white stone tower.	White with red sector.	Fixed ...	...	12 miles...	Arc of illumination 360°. Bearings seaward from N. 53° E. through East, South and West to N. 80 E. A red sector visible between the bearings of S. 37½° W. and 67½° W. is shown over the Chinri reef. A red sector is also shown over the Pagar sand bank lying to S. E. of Chinri and between the bearings 80° W. and N. 69° W.
Madhmad Point near Div Head (Baroda State).	On a high rock near the Velan Creek.	20° 41′	70° 50′	Tower is built of limestone and masonry, and is hexagonal in form and the colour is white.	White ...	Revolving.	10 seconds.	14	Every direction and seaward.

BARODA, *22nd April 1898.*

in Baroda Territory for the year 1897-98.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during curent year.	Annual Cost of Maintenance. Establishment.	Stores.	Total.	State of Lightning Conductor.	Remarks.
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
C. D. 4th order.	70	Whole year.	1866 ...	Petty repairs and fixing Lightning Conductor.	.....	232 8 0	330 13 8	563 5 8	Lightning Conductor in good order.	Maintained at the cost of His Highness the Gáekwár. Cost of petty repairs and fixing Lightning Conductor, Rs. 576-0-7.
D. 4th order.	71	Whole year.	1876 ...	Petty repairs and fixing Lightning Conductor.	.....	360 0 0	287 15 7	647 15 7	Lightning Conductor in good order.	Maintained at the cost of His Highness the Gáekwár. Cost of petty repairs and fixing Lightning Conductor, Rs. 523-9-6
D. 5th order.	106	Throughout the year.	1882 ...	Except white-washing, no other repairs have been executed.	None except the renewal of two or three cracked panes of glass and slight repair to Lightning Conductor.	528 0 0	628 6 7	1,156 6 7	In need of slight repair.	Erected at the cost of His Highness the Gáekwár of Baroda.

N. C. MARTELLI, Lieut-Colonel,
Agent to the Governor-General at Baroda.

KATHIÁWAR POLITICAL AGENCY.

B 458—16

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Rojhi ...	Rojhi Island ...	22° 33′	70° 01′	Cast iron column on circular white tower.	White...	Fixed. ...	.....	12	All round ... ...
Karambhar...	On the Karambhar Island in the Salaya Creek.	22° 26′	69° 35′	White square tower...	Do. ..	Do. ...	.....	10	S 59° W. to N. 18°W ...
Porbandar ...	Sea face of town	21° 38′	69° 36′	Round Bastion White Stone Tower.	Do. ...	Do. ...	.....	15	From North 48° W. through North to South 48° E.
Navibandar,..	Do.	21° 26′	69° 47′	Square Bastion in Town wall, white.	Do. ..	Do. ...	.....	5	180° from North 48° W. through North to South 48° E.
Mángrol ...	On a bungalow situated opposite the anchorage.	21° 06′	70° 06′	On the top of a square house with wooden roof having a dark appearance.	Do. ...	Do. ...	.....	4	N.-W. to S.-E.
Verával ...	On the Verával Wharf.	20° 54′	70° 22′	White octangular building with two outside galleries in the form of a plain tower and painted green and red.	Do. ...	Do. ...	.....	10 or 12	141° seaward, made up as under :—35° from the South to the East, 106° from the South to the West as already ascertained.
Jáfrábad ...	On the promontory at the entrance to the Port of Jáfrabad.	20° 52′	71° 23′	The light is fixed at the top of the building painted white. The building has two stories. The first square and the second round.	Do. ...	Flashing...	Single flash every 20 seconds and a complete revolution of the apparatus in every 2 minutes.	16	360° visible all round the compass.
Mahuva ...	Mainland ...	21° 02′	71° 45′	Masonry standing on a prominent cliff, the armature being placed on a terrace over the Keeper's residence.	Do. ...	Fixed ...	.....	13·2 English miles.	360° ... ...
Gopnáth ...	Mainland, Gopnáth Point.	21° 12′	70° 06′	Limestone masonry tower.	Do. ...	Do. ...	.....	6	180° ... ...
Bhávnagar ...	Mainland ...	21° 47′	72° 14′	An iron cabin 12 feet square and 10 feet high to the eave on iron screw piles through the roof of which rises a wrought iron taper mast 40 feet high to centre of light all painted white.	Do. ...	Do. ...	.....	8·8 English miles.	360° ... ...

KATHIÁWÁR POLITICAL AGENT'S CAMP,
19th May 1898.

in Káthiáwár for 1897-98.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance. Establishments.	Stores.	Total.	State of Lightning Conductor.	Remarks.
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
Dioptric, 6th order.	48	Whole year.	1869 ...	Old light replaced by 6th order Dioptric port light on C. I. column.	None	111 0 0	87 4 11	198 4 11	Good order.	
2 common kerosine lamps.	36	Do. ...	1882 ...	None	Repair and alteration to tower, to replace old light with 6th order Dioptric port light.	210 0 0	50 6 6	260 6 6	Do.	
Dioptric, 4th order.	90	Do. ...	1876 ... 1887	Do.	Nil	261 0 0	454 7 8	715 7 8	Do.	
Anchor light lens Duplex Lamp, mineral oil.	60	1st April to 14th June 1897. 16th September 1897 to 31st March 1898.	1896 ...	Do.	Do.	84 0 0	42 6 2	126 6 2	No Lightning Conductor.	
A country lantern containing 5 burners, burning kerosine oil.	75	All the year round.	1877 ..	Do.	Do.	72 0 0	44 6 3	116 6 3	Nil.	
Dioptric, 4th order.	56	Do. ...	1865 ...	Do.	Do.	240 0 0	135 8 0	375 8 0	Good.	
Do. ...	85	Do. ...	1876 .. 1895	Ordinary repairs executed.	Do.	372 0 0	710 11 1	1,082 11 1	Do.	
Catoptric sideral, 3rd order.	99	Whole year.	1871 ...	Do. ...	Do.	366 0 0	224 0 0	590 0 0	Do.	
Cato Dioptric, 6th order.	67′ 7″	Do. ...	1879 ...	Do. ...	Do.	252 0 0	240 0 0	492 0 0	Do.	
Dioptric, sideral, 5th order.	43′ 6″	Do. ...	1891 ...	Do. ..	Do.	411 0 0	120 0 0	531 0 0	Do.	

J. M. HUNTER, Colonel,
Political Agent, Káthiáwár.

CUTCH POLITICAL AGENCY.

458—17

Report on the Light Houses in

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Cutch Mándvi .	On the South-West bastion of the Fort.	22° 49' 41"	69° 20' 21"	White masonry tower above the Fort wall	White ...	Revolving.	Three flashes; short intervals, every 30 seconds.	18 miles...	Visible all directions Seaward 180° facing S. W.
Mándvi Breakwater.	At the end of Breakwater.	...	...	On the Jib of the Hercules (crane).	Red ...	Fixed ...	.....	8 to 9 miles.	.....
Navinal ...	Navinal Point ...	22° 44' 18"	69° 41' 36"	White masonry tower.	White ...	Do. ...	.....	15 miles...	E. N. E. round by the N. to W. S. W. 180°.
Tekru	Tekru Island South of Tuna.	22° 55' 30"	70° 7' 10"	Cast iron column based on masonry platform.	Do. ...	Do. ...	.....	12 miles...	270° ... ...

BHUJ, *21st April 1898.*

Cutch for the year 1897-98.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet.)	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during the current year.	Annual Cost of Maintenance. Establishments.	Stores.	Total.	State of Lightning Conductor.	Remarks.
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
Holophotal 4th order.	115	Throughout the whole year.	December 1873; altered December 1889.	New canvas curtains provided.	Petty repairs, such as whitewashing and painting, may be necessary.	414 12 6	938 1 7	1,352 14 1	Good working order.	
Dioptric 6th order.	30	Do. ...	1st April 1890.	.....	.....	...	4 8 2	4 8 2	No Lightning Conductor attached.	
4th order Cato Dioptric.	58 above mean sea level.	Do. ...	23rd April 1892.	Ordinary petty repairs.	Petty repairs, such as whitewashing and painting, may be necessary.	410 13 2	364 10 4	775 7 6	.....	
Dioptric 6th order.	322' 2" ...	Do. ...	1878-79 ...	Dry stone pitching was made to the mound on which the masonry platform is raised to protect it from the action of the sea. Costing Rs. 217-3-3.	Do. ...	210 2 9	30 2 3	240 5 0	No Lightning Conductor attached.	

HATHIRAM TRIKAMJI,
In charge, State Engineer.

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(Sd/ W. B. DW

ANNUAL REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

IN THE

BOMBAY PRESIDENCY

FOR THE

YEAR 1897-98.

B 458—1

REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

UNDER THE CONTROL

OF THE

BOMBAY PORT TRUST.

B 458—2

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Prongs Light-house.	Near extreme of reef extending southward from Colába.	18° 53′	72° 48′	Circular masonry tower with white, red, white and black bands.	White...	Flashing .	Ten seconds.	18	All round the horizon ...
Kennery Light-house.	On the highest part of the Kennery Island.	18° 42′	72° 48′	Octagonal masonry tower on centre of a flat-roofed house.	White with red sector.	Fixed ...	.....	19	From N. 25° W., through North, East and South to S. 20° W.
Sunk Rock Light-house.	On the rock ...	18° 53′	72° 50′	Circular masonry tower painted black.	Red and white.	Occulting.	Five seconds.	14	From S. 7° W., through West and North to N. 69° E. *White* between S. 7° W. and S. 30° W. *Red* from S. 30° W. through West to N. 15° E. *White* from N. 15° E. to N. 31° E., and *Red* from N. 31° E. to N. 69° E.
Dolphin Rock Light-house.	Do. ...	18° 55′	72° 50′	Grey masonry tower with white dome.	Green and white.	Fixed ...	.....	5	*Green* from North to West, *White* from West to S. 56° W. and *Green* from S. 56° W. to S. 34° E.
Light Vessel "Bombay."	In 6½ fathoms, 4½ miles S., 22° W. from Colába Point.	18° 49′	72° 47′	Light vessel, painted red; by day shows a red ball at mast head.	Red ...	Revolving.	Twenty seconds.	10	All round the horizon.

Port Office, Bombay, 1st April 1898.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since Last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs.	Rs.	Rs.		
D. 1st order.	136	All round.	1874 ...	Repairs estimated to cost Rs. 800.	Repairs estimated to cost Rs. 800.	6,067	3,485	9,552	In good order.	Electric Telegraph to Bombay.
C. D. 1st order.	153	Do. ...	1867 ...	Repairs estimated to cost Rs. 500.	Repairs estimated to cost Rs. 510.	5,099	4,574	9,673	Do. ...	A *Red* ray is visible from seaward from North to N. 25° W. A flag-staff 200 feet high with yard stands N.-E. by N. from the Light Tower. Electric Telegraph to Bombay *vid* Alibág.
D. 3rd order.	64	Do. ...	1884 ...	Repairs estimated to cost Rs. 300.	Repairs estimated to cost Rs. 500.	3,321	2,000	5,321	Do. ...	The eclipses are from one to two seconds.
D. 5th order.	35	Do. ...	1856; altered 1878, altered 1897.	Extensive improvements at a cost of Rs. 8,000.	Repairs estimated to cost Rs. 200.	516	800	1,316	Do. ...	The *White* light indicates the anchorage for the English Mail Steamers at night. Improvements completed and mineral oil burnt from 1st January 1898.
C. ...	36	Do. ...	1842 ...	Repairs estimated to cost Rs. 1,500.	Repairs estimated to cost Rs. 800.	8,631	7,500	16,131	None ...	A *Blue* light is burnt every half hour from 1st June to 30th September, and from 1st October to 31st May a *Blue* light is burnt every hour and a torch every half hour. In daylight a *Red* flag is hoisted when a vessel is seen.

T. G. R. FINNY, Commander, R.I.M.,
Officiating Port Officer, Bombay.

REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

UNDER THE CONTROL

OF THE

POLITICAL RESIDENT, ADEN.

B 458—3

ADEN.

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Aden Cape ...	On Ras Marshag S. E. part of Cape.	12° 45′	45° 03′	Dark Grey Stone...	White...	F. ...	.....	20	All round the horizon ...
Aden Light Vessel.	South side of Channel, inner harbour, moored in 18 feet of water.	12° 47′	44° 58′	Light Vessel painted red	White...	Fl. ...	One minute	10	Ditto. ...
Morbat Shoal Light Vessel, Aden.	On the edge of Morbat Shoal in 22 feet of water 2¾ cables S. 27° W. from Aden Light Vessel.	12° 47′	44° 58′	Light Vessel painted red. By day shows a red ball at mast head.	Red ...	F. ...	.....	8	Ditto. ...
"Anadyr" Wreck Light Vessel."	At "Anadyr" Wreck.	12° 47′	44° 57′	Light Vessel painted green. By day shows two balls harizontally.	White...	F. ...	.....	5	.....

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during the current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs.	Rs.	Rs.		
D. 1st Order.	244 ...	Whole year.	1867 ...	Nil	.....	2,244			Good ...	.....
C.	39 ...	Do. ...	1850, altered 1889.	.....	.....	2,262			None ...	Fires a gun upon a vessel entering at night. By day the depth of water is hoisted.
D.	20 (Lower light).	Do. ...	15th January 1895.	.....	.....	432	3,537	8,907	None ...	Two lights vertical 8 feet apart. Inner harbour buoys on the starboard side shows *Red* lights and port side *Green* lights.
.....	...	Do. ...	...	.....	.....	432			None ...	Three lights in triangle.

H. B. SIMPSON, Commander, R.I.M.,
Port Officer, Aden.

B 458—4

PERIM.

B 458—5

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
High Light ...	On the summit 1,100 yards S. W. of Obstruction Point.	12° 39′	43° 25′	Dark blue stone ...	White...	Revolving.	One minute ...	22	All round horizon ...
Obstruction Point.	On Obstruction Point.	12° 39′	43° 26′	Grey Octagonal stone tower.	White...	Occulting.	Ten seconds, *i.e.*, light seven seconds, eclipse one second, light one second, eclipse one second.	14	From North 43° W. through West to S. 26° E.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs.	Rs.	Rs.		
C. D. 1st order.	249	Whole year.	1861; altered 1871.	Nil	.....	3,444	3,372	6,816	Good ...	Eclipses not total within 15 miles.
D. 4th order.	85	Do. ...	1885 ...	.....	New roof required.				Do. ...	The light appears dim about the bearing of limits of visibility; a bearing of the light is, therefore, a necessary precaution.

H. B. SIMPSON, Commander, R.I.M.,
Port Officer, Aden.

SOMALI COAST.

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward.)
Berberah Port ...	Near the old light-house, south shore of the Port close to high-water mark.	10° 25′	44° 59′	A. Mast	White...	F. ...	.....	8 ...	Between the bearings of N. 65° E. through South to S. 65° W.
Berberah Harbour.	Custom House.	10° 27′	45° 01′	On top of a white building near the beach painted red.	Red ...	Do. ...	.....	6 ...	From S. 67° E. through East to N. 57° E.
Do. ...	On a frame work above one of the highest houses.	...	...	Frame work painted red above one of the highest houses.	Red ...	Do. ...	.....	6 ...	Merely a country lamp; the exact arc of visibility cannot be given.
Bulhar	Above prison on beach.	10° 24′	44° 24′	Above old prison ...	White...	Do. ...	.....	8 ...	Every direction seaward.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs.	Rs.	Rs.		
D. 6th order.	49 ...	Whole year.	1887 ...	.....	.....	Unknown.	Unknown.	Unknown.	None.	
Kerosine lamps.	20 ...	Do. ...	1886, 1894	.....	.....	Do.	Do.	Do.	Do.	These two lights in line bearing N. 77° E. lead through mid-channel.
Do. ...	30 ...	Do. ...	1894 ...	.....	.....	Do.	Do.	Do.	Do.	
.....	14 ...	Do. ...	1886 ...	.....	.....	Do.	Do.	Do.	Do.	

H. B. SIMPSON, Commander, R.I.M.,
Port Officer, Aden.

REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

UNDER THE CONTROL

OF THE

KARACHI PORT TRUST.

B 458—7

Letter from the Port Officer, Karáchi, No. 598, dated 11th April 1898.

In compliance with the Resolution of Government, No. 155, dated the17th July 1895, I have the honour to submit the accompanying statement showing the details required with respect to the Manora Light-house and the light at the end of the Breakwater for the past official year, with the following observations :—

2. During the year, no complaints were received, from the commanders of vessels visiting the port, regarding its range of visibility.

3. The heavy guns in the forts at Manora were fired during the year, but no damage was sustained by the lantern apparatus or structure.

4. The highest temperature registered inside the lantern was 96° at noon on the 8th June and the lowest 56° at 8 A.M. on the 2nd March last.

5. The light at the end of the Breakwater was efficiently maintained throughout the year.

6. Fifty-nine persons visited the light-house on permits issued by the Chairman, Port Trust, during the year under review.

7. Mahomed Salleh, Light-keeper, died on the 15th November 1897, and Shabudin, Probationary Light-keeper, was appointed in lieu.

ANNUAL Report of Light-houses, Lights, &c., under the control of the Karáchi Port Trust for the year ending 31st March 1898.

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Candle Power.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward.)
(1) Karáchi ...	Near St. Paul's Church on Manora Point, west side of entrance, 16 yards to the northward.	24° 47′ 37	66° 58′ 36	Round tower built of drab coloured stone; seaward half white-washed and 91 feet in height from ground to top of coping.	10,000	White...	Fixed ...	Nil ...	20	Visible seaward with full brilliancy from N. 56 W. to S. 56 E.; landward semi-circle, partially screened by a dioptric mirror.
(2) Breakwater Light.	At the extreme end of the Breakwater.	24° 47′ 23	66° 59′ 6	Run out from top of cliff to Beacon at end of Breakwater, from whence it is exhibited by means of an endless wire-rope supported by masts at intervals.	...	Red ...	Fixed ...	Nil ...	5	

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs.	Rs.	Rs.		
Dioptric 1st order.	148	Throughout the year.	1849; improved 1877; altered 1888.	Ordinary repairs, costing Rs. 235.	Nil	3,444	2,192	5,636	Good ...	During the S. W. monsoon visible from 10 to 15 miles. *Karáchi Harbour Channel Buoys.* 6 Starboard-hand buoys show red lights. 5 Port-hand buoys show green lights.
Anchor Lamp No. 3; Cera Light Coy.	54½	Do. ...	Improved 1890: altered 1897.	Nil	Nil	...*	...	...	Nil ...	During the S. W. monsoon visible at least 2½ miles. *This light is worked by the Light-house establishment.

PORT OFFICER'S OFFICE, MANORA,
11th April 1898.

CHARLES C. HEWETT,
Commander, R. I. M., Port Officer, Karáchi.

B 548—8

REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

UNDER THE CONTROL OF THE

SALT DEPARTMENT.

B 458—9

Letter from the Collector of Salt Revenue, Bombay, No. 2749, dated 23rd June 1898.

I have the honour to submit the annual report on light-houses under the control of this Department, for the year 1897-98, in the form prescribed by Government in their Resolution in the Marine Department, No. 155 of the 17th July 1895.

2. The number of Coast and Harbour lights maintained during the year is the same as that during the last year. The new lamp and panes required for the Oyster Rock Light-house at Kárwár sanctioned in Government Resolution, Revenue Department, No. 874 of the 8th February last, have been indented for from England and are expected to arrive shortly.

3. All the light-houses were repeatedly visited and inspected during the year under report by the Sarkárkúns, Coast Guard Inspectors and Assistant Collectors of Salt Revenue. They were efficiently maintained throughout the year, and the conduct of the establishment was satisfactory.

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating, or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Bulsár	At the mouth of the Auranga River (Southern side).	20° 37′ 15″	72° 32′ 35″	Wooden staff with service cabin at the base, *White*.	White ...	Fixed ...	Nil ...	9 to 10	180° E. ... ...
Tápti	At the mouth of the Tápti River (North side).	21° 5′ 0″	72° 37′ 0″	Stone masonry column, white, plate glass lantern house.	Do. ...	Do. ...	Do. ...	18	South, through Eastward and North to S° W. 250°.
Bhugwa Dándi..	On a sand mound S. W. by W. ½ W. from Dándi Village.	21° 19′ 20″	72° 35′ 0″	Wooden staff with iron travellers, *White*.	Do. ...	Do. ...	Do. ...	10	S½ W., through East and North, to N ½ W., 213° 45′ 0″.
Perain... ...	On the Island of Perain near Gogo, 3 miles from the mainland.	21° 35′ 30″	72° 20′ 0″	Stone masonry column with black balcony and plate-glass lantern house, *White*.	Do. ...	Do. ...	Do. ...	18	N. E. by N.½ N., through North and West, to S. E½ E., 288°.
Lohara ...	At the entrance of the Narbada River, Gulf of Cambay.	21° 39′ 0″	72° 30′ 0″	Trellis work, iron structure.	Red ...	Do. ...	Do. ...	8	S. E., through East and North to N. W. 202° 30′ 0″.
Deo-Jágan ...	On the north bank at the entrance of the Dhádhur river, Gulf of Cambay.	21° 55′ 0″	72° 30′ 0″	Brick masonry column, *White*.	White ...	Do. ...	Do. ...	12	South, through East and North to N. 67° W. 248°.
Gogo	On the southern side of the town of Gogo.	21° 40′ 43″	72° 15′ 38″	Trellis work, iron structure.	Do. ...	Do. ...	Do. ...	10	N, W., through West and South, to S. S. E. 247° 30′ 0″.
Dholera ...	Western shore of the Gulf of Cambay, 2 miles from Chilkhari or Whittle Bandar.	22° 13′ 0″	72° 13′ 33″	Wooden structure, with platform at the top for lantern.	Do. ...	Do. ...	Do. ...	12	E½ N., through North and West, to S. S. E., 270°.
Anjanvel Green Light.	Northernmost point of the Anjanvel Port.	17° 34′ 0″	73° 0′ 0″	Teakwood post with iron bracket for lantern to rest on.	Green ...	Do. ...	Do. ...	5	Seaward from N. 15° W. through East, to S. 17° E.
Dábhol Red Light.	West end of the Dábhol Bandar.	17° 35′ 0″	73° 0′ 0″	Do. do. ...	Red ...	Do. ...	Do. ...	4	Do. ...
Talkeshvar Light.	On Tolkeshvar Point, south side of entrance to Dábhol Creek.	17° 34′ 0″	73° 0′ 0″	An iron column with house at base painted white.	White ...	Do. ...	Do. ...	15	Seaward from N. 15° W., through East to S. 17° E.
Jaigad Headland Outer Light.	Jaigad Headland near Dhaman Khol.	17° 18′ 0″	73° 11′ 0″	A structure of open iron work.	Do. ...	Do. ...	Do. ...	13	Seaward from South through East to North.
Jaigad Port Inner Light.	Northern Bastion of Jaigad Fort.	17° 18′ 0″	73° 11′ 0″	Mounted on the wall of the Fort.	Red ...	Do. ...	Do. ...	13	.....
Ratnagiri Light	On the westernmost point of the south and the highest bastion of the Fort.	16° 59′ 0″	73° 0′ 0″	White masonry tower.	White ...	Do. ...	Do. ...	15	From N. 17° W. through North and East, to S. 30° W.
Jaitápur Light..	On the end of the cliff at the south point of the Bay.	16° 36′ 0″	73° 0′ 0″	Do. do. ...	Do. ...	Do. ...	Do. ...	9	S. 30° W., through South and East, to N. 15° W.
Málvan Floating Light.	South-east of the rock at the entrance.	16° 0′ 0″	73° 0′ 0″	A small red barge fitted as a light vessel.	Red ...	Floating...	Do. ...	4	.....
Málvan Green Shore Light.	On the beach, 230 yards north of a white stone cross.	16° 0′ 0″	73° 0′ 0″	White mast ...	Green ...	Fixed ...	Do. ...	2	One quadrant between S. 67° E. and North 22° E.
Vengurla Rock Light.	On the north-west point of the extreme S.-E. Island.	15° 73′ 0″	73° 0′ 0″	White masonry tower on square building.	White ...	Do. ...	Do. ...	16	From S. 15° W., through East to North 75° W.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
6th order dioptric, two flat wicks, kerosine.	About 58	9 monthly, 1st September to 31st May.	1883 ...	Nil	Nil	597 5 3	80 2 0	677 7 3	No Lightning Conductor attached.	
4th order dioptric, two round wicks, Douglas burner, heavy mineral oil.	91	Throughout the year.	1867 ...	Nil	New platform boards in the light-house room.	622 12 3	453 14 6	1,076 10 9	In good order.	
6th order dioptric, 2 flat wicks, kerosine.	About 36	9 monthly, 1st September to 31st May.	1886 ...	Nil	Earthwork at the base of the cabin.	440 9 7	78 14 0	519 7 7	No Lightning Conductor attached.	
4th order dioptric, two round wicks, Douglas burner, heavy mineral oil.	115	Throughout the year.	1865 ...	Nil	New iron bracing straps on the outside of the lantern house.	996 2 4	445 6 6	1,441 8 10	In good order.	
6th order dioptric, one round wick, kerosine.	About 30	9 monthly, 1st September to 31st May.	1887 ...	Nil	New quarters for the Khallásis.	511 14 8	78 14 0	590 12 8	No Lightning Conductor attached.	
5th order dioptric, kerosine, 2 flat wicks.	40½	9½ monthly, 1st September to 15th June.	1889 ...	Nil	Nil	486 15 3	108 1 6	595 0 9	In good order.	
6th order dioptric, one round wick, kerosine.	25	Throughout the year.	1895 ...	Nil	Nil	475 15 4	92 1 6	568 0 10	No Lightning Conductor attached.	
5th order dioptric. 2 flat wicks, kerosine.	44	9 monthly, 1st September to 31st May.	1888 ...	Nil	Nil	737 1 3	108 0 6	845 1 9	Do.	
Ordinary lantern, country made.	36	9 monthly, 16th September to 15th June.	1889 ...	Nil	Nil	.....	46 3 0	46 3 0	Do.	
Do. ...	24	Do. ...	1889 ...	Nil	Nil	83 0 0	50 13 0	133 13 0	Do.	
5th order dioptric.	333	Throughout the year.	1880 ...	Nil	Nil	533 7 7	209 8 0	742 15 7	Good.	
Do. ...	134	Do. ...	1896 ...	Nil	Nil	674 1 0	348 6 6	1,022 7 6	Do.	
.....	...	Do. ..	1896 ...	Nil	Nil	479 3 4	140 8 9	619 12 1	No Lightning Conductor attached.	
6th order dioptric.	320	Do. ...	1867 ...	Nil	Nil	549 13 3	249 0 3	798 13 6	Good.	
Do. ...	75	Do. ...	1873 ...	Nil	Nil	673 15 10	355 15 7	1,029 15 5	No Conductor attached.	
Round lantern.	28	9 monthly, 16th September to 15th June.	1878 ...	Nil	Nil	360 0 0	246 2 8	606 2 8	Do.	
Square lantern.	20	Do. ...	1878 ...	Nil	Nil	.....	31 4 0	31 4 0	Do.	
4th order dioptric.	132	Throughout the year.	1890 ...	Nil	Nil	1,032 0 0	1,015 14 7	2,047 14 7	Good.	

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour or any peculiarity of Light-houses.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward.)
Vengurla Port Light.	On Vengurla Point one mile west of the town.	15° 51′ 0″	73° 0′ 0″	Mast above roof of a white masonry house.	White. Two vertical lights, one 20 ft. above the other.	Fixed ...	Nil ...	9	180° from S. 18° E., through E. to N. 18° W.
Oyster Rock Light.	On the summit of the Oyster Rocks.	14° 49′ 25″	74° 2′ 50″	Circular masonry tower painted white	White ...	Do. ...	Do. ...	20	185° Seaward also visible, rest of the circle Landward.
Koney Light ...	Port Office, Kárwár	14° 48′ 20″	74° 6′ 20″	Flag staff	Red ...	Do. ...	Do. ...	3	In every direction Seaward.
Tádri Light ...	On the summit of a hill to the north of the entrance of the Tádri River.	14° 31′ 0″	74° 29′ 0″	Wooden mast ...	White ...	Do. ...	Do. ...	8	In every direction Seaward, through N. to N. by W½ W.
Kumta Light...	On the headland forming the north horn of the Bay.	14½°	74½°	Bright fixed light hoisted and lowered by a small chain leading through an iron tubular mast.	Do. ...	Do. ...	Do. ...	12	270° of Horizon ...
Honávar Light.	On the south bank of the Honávar Creek near the fish-curing yard.	.....	.....	Wooden mast ...	Do. ...	Do. ...	Do. ...	6	In every direction Seaward.
Bhatkal Light .	On the summit of the hill which forms the northern boundary of the Bay.	13° 58′ 0″	74° 31′ 0″	Do. ...	Do. ...	Do. ...	Do. ...	8	Do. ...

Poona, *23rd June 1898.*

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
6th order dioptric.	Upper 371, lower 350.	Throughout the year.	1869 ...	Nil	Nil	670 15 5	340 4 6	1,011 3 11	No Conductor attached.	
1st order dioptric.	138	Do. ...	1864 ...	Nil	Nil	3,146 12 0	2,816 4 10	5,963 0 10	Good.	
Red lantern ...	65	Do. ...	1864 ...	Nil	Nil	154 15 9	24 13 9	179 13 6	.....	
Ship's mast head light.	120	9 monthly, from 16th September to 15th June.	27th January 1891.	Nil	Nil	287 8 4	213 4 0	500 12 4	.....	
5th order dioptric.	116	Throughout the year.	1888 ...	Nil	Nil	657 1 11	129 7 8	786 9 7	.....	
Ship's mast head light.	23	9 monthly, from 16th September to 15th June.	1891 ...	Nil	Nil	291 8 0	104 5 6	395 13 6	.....	
Do. ...	120	Do. ...	1890 ...	Nil	Nil	291 8 0	95 2 9	386 10 9	.....	

H. O. QUIN,
Acting Collector of Salt Revenue.

REPORT

ON THE

LIGHT-HOUSES, LIGHTS, &c.,

UNDER THE CONTROL

OF THE

POLITICAL DEPARTMENT.

B 458—11

KAIRA POLITICAL AGENCY.

REPORT on the Cambay Light Boat

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
1	2	3	4	5	6	7	8	9	10
Cambay Boat. Light	Situated at the mouth of the Creek.	22° 17′ 20″	72° 38′ 50″	There is no Light-house at Cambay, but the light is exhibited from a light boat specially built for the purpose.	White ...	Fixed ...	...	8 miles ...	All round the horizon.

CAMBAY, *4th April 1898.*

the year ending 31st March 1898.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during the current year.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishments.	Stores.	Total.		
11	12	13	14	15	16	17	18	19	20	21
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
It is a simple large kerosine oil lamp attached to the mast head of the Light Boat.	25 feet ...	From 1st October to 15th of June.	1885 ...	Ordinary repairs were made.	Petty repairs, such as oiling or painting the boat, may be necessary.	156 0 0	19 8 6	175 8 6	The Light has no Conductor.	

MADHAVRAM, H.,
Dewán, Cambay State.

B 158—12

KOLABA POLITICAL AGENCY.

Letter from the State Kárbhári, Janjira, No. 601, dated 6th April 1898.

* * * * * *

2. The light was regularly exhibited from its white masonry tower throughout the year under report, and has been kept efficiently to the entire satisfaction of the navigators for whose assistance and guidance it was set up. 182½ gallons of heavy mineral oil of 250° test were consumed on the exhibition of the light.

3. As said in the last year's report, one head light-keeper and 3 subordinate light-keepers worked during the whole year, and kept the lighting apparatus, &c., in good order.

4. The light-house was inspected by Mr. F. S. Framjee, Assistant Engineer, Belgaum District, in April 1897, and by Mr. Payne, Inspector, Coast Guard Service, in the months of April and November 1897, and January 1898; from the remarks passed by these officers, it will be seen that the machine and apparatus have been maintained in a satisfactory order. I myself visited the light-house and examined the apparatus on 30th instant, and found everything well kept up.

5. Comparative statements of expenses, &c., are herewith appended.

ANNUAL REPORT of the Nánowli Light-house

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Rájpuri Point ...	Near the village of Nánowli on a rock point near extreme.	18° 17′	72° 56′	Masonry tower painted white.	White.	Flashing...	Ten seconds "Light" and 5 seconds "Dark."	24	From S. 35° W., through South and East, to N. 40 W.

MURUD JANJIRA, *6th April 1898.*

ending 31st March 1898.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Additions, Alterations, Improvements, or Repairs executed since last Annual Report.	Additions, Alterations, Improvements, or Repairs considered necessary during current year.	Year in which first exhibited.	Annual Cost of Maintenance.			State of Lightning Conductor.	Remarks.
						Establishment.	Stores.	Total.		
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
Dioptric 4th order.	179	Throughout the whole year.	Nil	Nil	1884 ...	432 0 0	517 1 3	949 1 3	In good order.	

V. S. KOPPIKAR,
State Kárbhári, Janjira.

B 458—14

BARODA POLITICAL AGENCY.

B 458—15

ANNUAL information as regards Light-houses

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Dwárka Point ...	On cliff West of Town and 117 yards within high water line.	22° 14′	68° 57′	Circular white stone tower.	White ...	Fixed ...	...	12 miles...	Arc of illumination 180°. Bearings seaward from N. 33° W. through North and East to S. 33° E.
Sámiani (Bet Harbour).	On the highest and nearly central part of Samiani Island Entrance to Harbour.	22° 29′	69° 04′	Circular white stone tower.	White with red sector.	Fixed ...	...	12 miles...	Arc of illumination 360°. Bearings seaward from N. 53° E. through East, South and West to N. 80 E. A red sector visible between the bearings of S. 37½° W. and 67½° W. is shown over the Chinri reef. A red sector is also shown over the Pagar sand bank lying to S. E. of Chinri and between the bearings 80° W. and N. 69° W.
Madhmad Point near Div Head (Baroda State).	On a high rock near the Velan Creek.	20° 41′	70° 50′	Tower is built of limestone and masonry, and is hexagonal in form and the colour is white.	White ...	Revolving.	10 seconds.	14	Every direction and seaward.

BARODA, *22nd April 1898.*

in Baroda Territory for the year 1897-98.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during curent year.	Annual Cost of Maintenance. Establishment.	Stores.	Total.	State of Lightning Conductor.	Remarks.
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
C. D. 4th order.	70	Whole year.	1866 ...	Petty repairs and fixing Lightning Conductor.	.....	232 8 0	330 13 8	563 5 8	Lightning Conductor in good order.	Maintained at the cost of His Highness the Gáekwár. Cost of petty repairs and fixing Lightning Conductor, Rs. 576-0-7.
D. 4th order.	71	Whole year.	1876 ...	Petty repairs and fixing Lightning Conductor.	.....	360 0 0	287 15 7	647 15 7	Lightning Conductor in good order.	Maintained at the cost of His Highness the Gáekwár. Cost of petty repairs and fixing Lightning Conductor, Rs. 523-9-6
D. 5th order.	106	Throughout the year.	1882 ...	Except white-washing, no other repairs have been executed.	None except the renewal of two or three cracked panes of glass and slight repair to Lightning Conductor.	528 0 0	628 6 7	1,156 6 7	In need of slight repair.	Erected at the cost of His Highness the Gáekwár of Baroda.

N. C. MARTELLI, Lieut-Colonel,
Agent to the Governor-General at Baroda.

KATHIÁWAR POLITICAL AGENCY.

B 458—16

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Rojhi ...	Rojhi Island ...	22° 33′	70° 01′	Cast iron column on circular white tower.	White...	Fixed. ...	.....	12	All round ... ...
Karambhar...	On the Karambhar Island in the Salaya Creek.	22° 26′	69° 35′	White square tower...	Do. ..	Do. ...	.....	10	S 59° W. to N. 18° W ...
Porbandar ...	Sea face of town	21° 38′	69° 36′	Round Bastion White Stone Tower.	Do. ...	Do. ...	.....	15	From North 48° W. through North to South 48° E.
Navibandar,..	Do.	21° 26′	69° 47′	Square Bastion in Town wall, white.	Do. ...	Do. ...	.....	5	180° from North 48° W. through North to South 48° E.
Mángról ...	On a bungalow situated opposite the anchorage.	21° 06′	70° 06′	On the top of a square house with wooden roof having a dark appearance.	Do. ...	Do. ...	.....	4	N.-W. to S.-E.
Verával ...	On the Verával Wharf.	20° 54′	70° 22′	White octangular building with two outside galleries in the form of a plain tower and painted green and red.	Do. ...	Do. ...	.....	10 or 12	141° seaward, made up as under :—35° from the South to the East, 106° from the South to the West as already ascertained.
Jáfrábad ...	On the promontory at the entrance to the Port of Jáfrabad.	20° 52′	71° 23′	The light is fixed at the top of the building painted white. The building has two stories The first square and the second round.	Do. ...	Flashing...	Single flash every 20 seconds and a complete revolution of the apparatus in every 2 minutes.	16	360° visible all round the compass.
Mahuva ...	Mainland ...	21° 02′	71° 49′	Masonry standing on a prominent cliff, the armature being placed on a terrace over the Keeper's residence.	Do. ...	Fixed ...	.....	13·2 English miles.	360° ... ...
Gopnáth ...	Mainland, Gopnáth Point.	21° 12′	70° 06′	Limestone masonry tower.	Do. ...	Do. ...	.....	6	180° ... ...
Bhávnagar...	Mainland ...	21° 47′	72° 14′	An iron cabin 12 feet square and 10 feet high to the eave on iron screw piles through the roof of which rises a wrought iron taper mast 40 feet high to centre of light all painted white.	Do. ...	Do. ...	.....	8·8 English miles.	360° ... ...

KATHIÁWÁR POLITICAL AGENT'S CAMP,
19th May 1898.

in Káthiáwár for 1897-98.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet).	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during current year.	Annual Cost of Maintenance. Establishments.	Stores.	Total.	State of Lightning Conductor.	Remarks.
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
Dioptric, 6th order.	48	Whole year.	1869 ...	Old light replaced by 6th order Dioptric port light on C. I. column.	None	111 0 0	87 4 11	198 4 11	Good order .	
2 common kerosine lamps.	36	Do. ...	1882 ...	None	Repair and alteration to tower, to replace old light with 6th order Dioptric port light.	210 0 0	50 6 6	260 6 6	Do.	
Dioptric, 4th order.	90	Do. ...	1876 ... 1887	Do.	Nil	261 0 0	454 7 8	715 7 8	Do.	
Anchor light lens Duplex Lamp, mineral oil.	60	1st April to 15th June 1897. 16th September 1897 to 31st March 1898.	1896 ...	Do.	Do.	84 0 0	42 6 2	126 6 2	No Lightning Conductor.	
A country lantern containing 5 burners, burning kerosine oil.	75	All the year round.	1877 ..	Do.	Do.	72 0 0	44 6 3	116 6 3	Nil.	
Dioptric, 4th order.	56	Do. ...	1865 ...	Do.	Do.	240 0 0	135 8 0	375 8 0	Good.	
Do. ...	85	Do. ...	1876 .. 1895	Ordinary repairs executed.	Do. ...	372 0 0	710 11 1	1,082 11 1	Do.	
Catoptric sideral, 3rd order.	99	Whole year.	1871 ..	Do. ...	Do. ...	366 0 0	224 0 0	590 0 0	Do.	
Cato Dioptric, 6th order.	67′ 7″	Do. ...	1879 ...	Do. ...	Do.	252 0 0	240 0 0	492 0 0	Do.	
Dioptric, sideral, 5th order.	43′ 6″	Do. ...	1891 ...	Do. ..	Do.	411 0 0	120 0 0	531 0 0	Do.	

J. M. HUNTER, Colonel,
Political Agent, Káthiáwár.

CUTCH POLITICAL AGENCY.

B 458—17

200—16-7-98.

Report on the Light Houses in

Name of Light.	Location.	Latitude N.	Longitude E.	Nature of Construction, Colour, or any peculiarity of Light-house.	Colour of Light.	Fixed, Flashing, Intermitting, Alternating or Revolving.	Interval of Revolution or Flash or Occultation.	Miles visible in clear Weather.	Arc of Illumination (Bearings are Magnetic and from Seaward).
Cutch Mándvi .	On the South-West bastion of the Fort.	22° 49' 41"	69° 20' 21"	White masonry tower above the Fort wall	White ...	Revolving.	Three flashes; short intervals, every 30 seconds.	18 miles...	Visible all directions Seaward 180° facing S. W.
Mándvi Breakwater.	At the end of Breakwater.	...	...	On the Jib of the Hercules (crane).	Red ...	Fixed ...	.....	8 to 9 miles.	.....
Navinal ...	Navinal Point ...	22° 44' 18"	69° 41' 36"	White masonry tower.	White ...	Do. ...	.....	15 miles...	E. N. E. round by the N. to W. S. W. 180°.
Tekru	Tekru Island South of Tuna.	22° 55' 30"	70° 7' 10"	Cast iron column based on masonry platform.	Do. ...	Do. ...	.....	12 miles...	270° ... ...

BHUJ, *21st April 1898.*

Cutch for the year 1897-98.

Character and order of Illuminating Apparatus.	Height of Lantern above High Water (in feet.)	For what period of the year exhibited.	Year in which first exhibited.	Additions, Alterations, Improvements or Repairs executed since last Annual Report.	Additions, Alterations, Improvements or Repairs considered necessary during the current year.	Annual Cost of Maintenance. Establishments.	Stores.	Total.	State of Lightning Conductor.	Remarks.
						Rs. a. p.	Rs. a. p.	Rs. a. p.		
Holophotal 4th order.	115	Throughout the whole year.	December 1873; altered December 1889.	New canvas curtains provided.	Petty repairs, such as whitewashing and painting, may be necessary.	414 12 6	938 1 7	1,352 14 1	Good working order.	
Dioptric 6th order.	30	Do. ...	1st April 1890.	.....	.....	...	4 8 2	4 8 2	No Lightning Conductor attached.	
4th order Catoptric.	58 above mean sea level.	Do. ...	23rd April 1892.	Ordinary petty repairs.	Petty repairs, such as whitewashing and paint ing, may be necessary.	410 13 2	364 10 4	775 7 6	.....	
Dioptric 6th order.	322' 2" ...	Do. ...	1878-79 ...	Dry stone pitching was made to the mound on which the masonry platform is raised, to protect it from the action of the sea. Costing Rs. 217-3-3.	Do. ...	210 2 9	30 2 3	210 5 0	No Lightning Conductor attached.	

HATHIRAM TRIKAMJI,
In charge, State Engineer.

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