U. S. COAST AND GEODETIC SURVEY.

T. C. Mendenhall, Superintendent.

State: Oregon.

DESCRIPTIVE REPORT.

Hydrographic Sheets Nos. 1945 & 1946.

LOCALITY:

Coast of Oregon.

1889.

CHIEF OF PARTY:

Lt. J. M. Helm, U.S.N.

357,

ack'd 2/C.

Report A.

U.S. C. & G. Survey Stmr. Gedney,

Lt. J. M. Helm, U.S.N., Comdg.

Section XI.

Hydrographic Sheets 1 and 2.

Coast of Oregon.

1889.

1.

Mr T. C. Mendenhall,
Supt. C. and G. Survey,
Washington, D.C.,

Sir:-

I have the honor to submit the following Report "A" of the season's work of the Hydrographic Party under my command.
The numbers of the paragraphs refer to the corresponding numbers of the synopsis of the Report on page 6 of the "Instructions and Memoranda for Descriptive Reports to accompany Original Shots":-

2. No reference is made in this Report to anything not on the Shots. Statements are derived from both personal observation and local information.

3. Three channels are embraced in the limits of the two projections covering our season's work on the coast of Oregon, from Mack's Arch to Cape Blanco, viz:- On Shot 1, (a) a channel inside of Rogue River Ruf, (b) a channel to Rogue River. On Shot 2, (c) a channel between Orford Rocks and the main land.

(a) The depth of water in Rogue River Ref Channel was from 7 to 15 fms., and the shoalest water, 7 fms., was found $\frac{3}{5}$ of a mile N.E. mag., of Pyramid Rock in the Ref. This channel has been so infrequently used that the draught of such vessels as have passed through it could not be ascertained. A pilot would not be necessary with the use of a chart and the lead.

(b) The channel into Rogue River is of the kind so frequently met with on this coast, subject to the changing conditions of a bar. At high tide from 1 to 1½ fms., was found. The draught of vessels entering is very light, they being small schooners towed in by a tug, built for work in the breakers which are always found on the bar, and under the guidance of an experienced pilot. The Geodesy's whaleboat twice entered Rogue River, but each time was partly filled with water either in going or coming.

(c) The channel between Orford Rocks and the main land had been previously surveyed. Search, however, was made for a reported shoal spot, but no material change was found from the former

survey. It can be, and is used by vessels of all sizes, nor is a pilot necessary.

4. Channels (a) and (c) have hard sand and rocky bottoms and are permanent. Channel (b) is affected by every shift of the sandy bar outside it, which being exposed to the whole sweep of the sea, causes the channel to change frequently. The bottom of this channel is sand.

5. The construction of a harbor of refuge was at one time contemplated at Port Orford (Chart 2) by the Government. At present no harbor improvements are anywhere here in progress by either Government or local authorities.

6. The best anchorage in this locality is at Port Orford (Chart 2), in from 6 to 8 fms., water hard sand bottom, the end of the wharf bearing N.N.W. ½ W. true, distant ¼ of a mile. A few small steam schooners and sailing vessels, probably twenty-five per year, enter this harbor which is mostly used during Summer weather and the prevalence of N.W. winds, it being open, unprotected and unsafe in winter or with Southerly gales.

To the southward of Cape Blanco in from 5 to 7

fms., water, hard sand bottom, a fair lee from northerly weather may be found and a boat landing made under the bluff. The light house bears North, true, from this anchorage, distant 8/10 of a mile. The light house tender sometimes uses this place, but more frequently she anchors in Port Orford harbor close in and to the Eastward of Battle Rock where her boats land stores which are then transported overland to the light house.

This vessel during last summer anchored several times in the deepest part of the bight to the southward of Humbug Mt., about 3/4 of a mile off shore, generally in 15 or 16 fms., water as in shoaler water the chain dragged heavily over rocks on the bottom. This anchorage affords some protection from the N.W. winds. Behind the Sister's Rocks is an anchorage we frequently used as offering protection against the N.W. wind and swell. The ship was anchored behind these Rocks with Island Rock open between them in from 7 to 9 fms., water, 2/10 of a mile S.E. by E. true, from outer large Sister's Rock.

The launch would be sent into a small cove behind the largest of the Sister's Rocks which

affords an excellent refuge for a boat or launch, except in S.E. weather, and where a landing can be effected. The ship was occasionally anchored at Hunter's Cove, 4/10 of a mile South, true, of the Southward end of Cove Island, in about 8 fms. water, and the launch in the cove behind Cove Island. A very small vessel of light draught might go in behind Cove Id. Some protection was found here for the ship from northerly wind and sea.

While working in the locality of Rogue River Reef we anchored several times in the lee of the Reef, 1 1/4 miles E. by S. true, from Pyramid Rock, in about 11 fms., hard sand bottom, and found the force of both wind and sea considerably broken. Vessels awaiting a tug usually anchor about 1/2 a mile closer to the mouth of Rogue River in about 6 fms. water, but are exposed to more swell than when up under the Reef. The launch found an excellent refuge close under Pyramid Rock where she went several times with heavy N.W. winds. The best anchorage on Shot I was at Mack's Arch where good protection is given by Mack's Reef from northerly weather, it is open to the Southward however.

These anchorages, except Port Orford, are seldom used. Occasionally a coaster may use one of them in a heavy N.W. blow while waiting for the wind to go down. Of them it may be said that frequently at night local southerly winds were found to spring up which caused the vessel to ride broadside to a northerly swell and roll heavily.

7. There are no dangers in approaching Port Orford anchorage. At Sisters Rocks, Mack's Arch and around Humbug Mt., with strong N.W. winds a very heavy sea prevails and small vessels seeking these anchorages or coasting along shore should give these places, and also Cape Sebastian, a good berth.

8. No satisfactory current observations were made on account of bad weather.

9. Ranges have been established for entering Rogue River by its channel approach. These consist of a white and red beacon on the north spit at the mouth of the river. These beacons are shifted as the channel changes from time to time and are of no value to a stranger. When standing through the channel inside of Rogue River Reef a vessel should haul out to the westward when

the split in Big Rock begins to close up or when Big Rock bears W.S.W. true, so as to clear the rocks to the northward of the channel near North Rock.

10. The general character of the bottom is hard sand, rocky in the vicinity of reefs, and sand and mud are found outside of 50 fms.

11. As far as known there are no local names not on the chart, and the names on the chart seem to agree with local authorities.

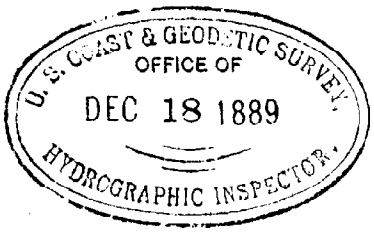
12. This work was not a resurvey. A little work had been previously done near Cove Island, and the channel between Orford Rocks and the main land and the anchorage at Port Orford had been surveyed. No material change in these localities was found from the previous surveys.

Very respectfully,

J. M. Sellers

Lt. U.S.N., Asst. C&G. Survey,

Comdg.



Forwarded

Chas. H. Thomas ..... Lt. Comd'r., U. S. N.,

Hydrographic Inspector C. & G. Survey.

365.

ackd_ 21
C.

Report B.

U.S. C.&G. Survey Stmr. Gedney.

Lt. J.M. Helm, U.S.N., Comd'g.

Section XI.

Hydrographic Sheets 1 and 2.

Coast of Oregon.

1889.

Mr T. C. Mendenhall,
Supt. C&G. Survey,
Washington, D.C.,

Sir:-

I have the honor to submit the following Report "B" of the season's work of the Hydrographic Party under my command. The numbers of the paragraphs refer to the corresponding numbers of the Synopsis of the Report on page 7 of the "Instructions and Memoranda for Descriptive Reports to accompany Original Sheets":-

1. Statistics are appended on separate sheets.

2. This report covers Sheets Nos. 1 and 2, Port Orford, Section XI, Coast of Oregon, extending from Mack's Arch to Cape Blanco. The only well recognized harbor on this stretch of coast is that at Port Orford; it is a summer harbor or when N.W. winds prevail, being open to all southerly winds. Its only commerce consists in the shipment of small quantities of lumber, which is mostly white cedar peculiar to this locality, a little wool and hides, some butter and a few other articles which are shipped by small steam

and sailing schooners, about twenty-five of these coasters annually entering the harbor. A considerable quantity of salmon is shipped by small schooners from Ellensburg, on Rogue River, where there is a cannery.

3. The shores are high and abrupt, the beach narrow and fringed with rocks, lines of breakers are found all along them. The water trade is in lumber, wool &c, from Port Orford and canned salmon from Ellensburg, this trade is carried on by small steam and sailing schooners. The approximate number of vessels so engaged could not be ascertained, no statistics or records being available, it is small however.

4. The aspect of the coast in approaching from seaward is that of high foot hills backed by successive broken ranges of mountains well timbered, except between Port Orford and Cape Blanco where there is a long range of sand hills backed by timbered ranges.

Orford Rocks off Cape Blanco, the Redfish Rocks 3 miles to the southward of Port Orford, Island Rock, the Sisters Rocks, Rogue River Reef and Mack's Arch are prominent and well recognized groups of rocks along the coast. In approaching Port Orford or this

part of the coast from Seaward, Humbug Mt., 4½ miles to the Southward of Port Orford, is a prominent land mark. This mountain from Seaward presents a Symmetrical shape, broad at its base it rises gradually from northward and Southward to a peak about 1800 feet high, it has a reddish-brown appearance. This same landmark will be seen in approaching along the coast from the Southward. Coasting along the shore from the northward Cape Blanco Light House is the most prominent object; it stands on a high bare bluff about 7 miles north of Port Orford and will not be confounded with anything Else.

5. There are no life saving stations on either of these shuts.

6. There are no characteristic entrance marks to Port Orford as the harbor opens wide to Seaward.

7. Ranges have been established at Rogue River by the local pilot for entering its Channel, but their position is liable to change and they are of no use to a Stranger. The only light house on these shuts is at Cape Blanco, it is readily picked up except in foggy weather, at such times from its elevation it may be obscured by the fog when the beach below is

visible. A whistling buoy, painted red with "Fox Rock" on it in white letters, and actuated by the motion of the sea was placed last spring 4/5 of a mile S.W. by S. mag., of Fox Rock and is the only buoy on these shuts except one or two log buoys in Port Orford harbor for hauling vessels out from the wharf.

I recommend that buoys be placed to show the channel inside Rogue River Ruf in the positions indicated by the red capital letters A, B, C and D on Shut 1. They may be located by the following angles:-

Buoy A { Sun to Gabe 38° 20' / Cone 50° 21' }

Buoy B { Gabe to Dog 26° 00' / Cone 91° 10' }

Buoy C { Ruf to Mid 42° 35' / Dog 79° 10' }

Buoy D { Mid to High 34° 35' / Small 28° 00' }

8. There is a pilot at Ellensburg, in Rogue River, in the employment of the canning company there; his services are always taken by the small schooners entering here, which are towed in. Rate of charge

is not known. His services could probably be obtained by a stranger by anchoring off the bar and signalling. The best place to anchor under such circumstances is a little to the northward of the entrance in about 6 fms. of water. No regular system of signals is used as occasion has not demanded them.

9. There are no quarantine regulations, or boarding stations, no fees.

10. There is a small tow boat at Ellensburg which is used by the schooners to tow through the channel. Rates of charge are not known.

11. Anchorages are not limited by rules. Strangers should consult the chart and use their judgment.

12. There are no harbor regulations or dues, nor any officials having to deal with harbor control, pilotage, quarantine &c. The only wharf at Port Orford is owned by Crawford and Wilbur whose office is in their store in the village. Wharfage of 60 cents per ton of 42 ft., is charged by them on articles landed at their wharf.

13. A limited supply of general goods can be found at Port Orford, but no special ship chandlery stores. Fresh meat and a few vegetables can be had.

Meat can also be obtained from the several ranches which are scattered along the beach and was gotten by this vessel at Crook's Ranch, near Mack's Arch, in which place a boat landing was made, and also from a ranch near Sister's Cove. Fish are found of very good quality and in considerable quantities near all the reefs and outlying rocks. Deer are numerous a mile or two back from the beach and bear are sometimes found. Sea lions are quite plentiful on the rocks off the coast and sometimes men make a business of killing them in Orford Reef. A small stream of water was found at Hunter's Cove, it might be troughed and a ship watered from it by boat service.

This vessel has obtained water from a small stream in Nellie's Cove, in Port Orford harbor, bringing it off slowly by boats. No coal can be purchased, cord wood can generally be had at Port Orford.

Repairs to a wooden vessel could be made at North Bend, Coos Bay, about 40 miles from Port Orford, where schooners of considerable size are built. No extensive repairs could be made to machinery any where nearer than San Francisco, Cal., or Portland, Ore.; very limited minor repairs might be made at

Empire City, Coos Bay, with a ship's own Enquiries force.

14. There are no hospitals of any kind at Port Orford.

15. There are no docks or marine railways.

16. There is one wharf at Port Orford, that of Crawford and Wilbur, alongside this wharf to the Eastward (the best side for a vessel to approach) there is from 12 to 18 feet of water and from 3 to 4 fms., off the end of it.

17. There is no time ball.

18. No special offices for mariners.

19. There is no weather service.

20. There are no special Signals used in this vicinity.

21. There is no station for reporting vessels.

22. There are no regular lines of Steamers plying to Port Orford, a small steam schooner calls in about once a fortnight, but even this depends largely on the weather or whether there is freight to be delivered.

There are no railroad or telegraph lines. There are postoffices at Port Orford and at Ellensburg and mail is also left near Crook's Ranch by the carrier.

Port Orford has a stage mail daily, except Sunday, at Ellensburg the mail arrives by horseback three times

per week. The post office at Ellensburg, from what has already been said of the river and bar, is not easily accessible to the mariner, we communicated with it once by an overland trip of about 12 miles each way from Mack's Arch.

23. Port Orford and Ellensburg are the only settlements on the shute, Ellensburg, the county seat, is about ¼ of a mile from the mouth of Rogue River on its left bank. Ranches, however, are not infrequent along the coast near the beach, where one or two houses may be found and live stock purchased. Communication between Port Orford and Ellensburg and the nearest railroad station, distant more than 100 miles, is kept up by stage and horseback mail routes. Steam schooners occasionally call at Port Orford.

24. The only tributaries consist of a few small creeks which are un-navigable and at times almost dry, except Rogue River where Ellensburg is situated.

25. There is no custom house. The regular landing at Port Orford is at Crawford and Wilbur's wharf. A landing can be made at Nellie's Cove, in the western part of Port Orford harbor, where the high bluff offers a lee when boating is rough at the wharf.

9.

In moderate weather a landing can be made on either side of Battle Rock, preferably the western side, by running the boat on the beach. A boat landing can be made in the lee of the bluff at Cape Blanco Light House, except in southerly weather, and also at Hunter's Cove, inside of Cove Island. With favorable weather a boat can sometimes land to the southward of Rocky Point and Humbug Mt. A landing can nearly always be made in Sister's Cove, inside the largest of the Sister's Rocks and inside of Mack's Ref at the head of the bight.

26. There is no ice in this locality.

27. There are no dangerous freshets.

28. The prevailing winds are from N.W. during the summer and from S.E. during the winter. Southerly winds were observed to be more common near Rogue River and Mack's Arch, or on the southern part of our Sheet No. 1, than about Port Orford. It has been the case that with a strong N.W. wind blowing at Cape Blanco a southerly wind would be blowing off Rogue River and the two would meet to the northward of the Ref. In several of the anchorages occupied by this vessel along the coast local southerly winds came up during the night, causing the ship to come head

to wind and then roll heavily to the old northerly swell. A N.W. wind is not usually indicated by the barometer. This wind often commences to blow hard with a very high barometer, the barometer commences to fall slowly with the wind. Bad S.E. weather is foretold by a falling barometer. Light S.E. winds and fog are often accompanied by a rising barometer. In June the wind was strongest and most frequent. Heavy gales blow in summer from the N.W., and in winter from the S.E., anchorage on this coast is dangerous in a S.E. gale.

29. Most fog was found in August, and they are of frequent occurrence in Spring and Summer; they come with Southerly winds and clear away with the N.W. wind. A thick smoke from forest fires usually prevails from August until the heavy rains come.

There are no reliable local indications of fog.

30. One or two wrecks have occurred in Port Orford harbor; they were schooners which attempted to ride out winter southeasters and being carried on the rocks forcing the beach rapidly went to pieces. The steamer Victoria struck a rock near Orford Reef and was beached in Port Orford harbor. Her upper works

have been torn off, her hull, full of coal, is marked on the chart.

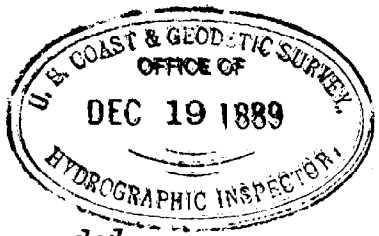
31. The approaches to Port Orford itself and the coast are, in fine weather, unattended by any dangers. Approaching in thick weather the greatest care should be exercised to be certain of the reckoning. Approaching along shore from the Southward the usual class of vessels on this coast will find it advantageous to hug the land closely, thus obtaining considerable lee and making better time. With strong N.W. winds, however, small coasters should give the point at Humbug Mt., the Sister's Rocks, Cape Sebastian and Mack's Arch a good berth as at such times a very heavy sea is found here. The break off Cape Sebastian and the Southernmost break off Rogue River Ruf should also be given a good berth, they are occasionally visible with a heavy N.W. swell and in Southerly weather.

The general character of the bottom is hard sand to 50 fms., rocky in the vicinity of reefs, and mud and sand are found outside of 50 fms.; the lead will not give much indication of position as regards latitude. The rocks are of a dull grayish black color, the hills green and timbered though

Humbug Mt., from seaward (and it is a prominent landmark) presents a reddish brown appearance.

Between Cape Blanco and Port Orford there is a stretch of low sand ridges backed by green hills.

32. Kelp was found in the steamer channel between Orford Rocks and the main land during September in large patches and of heavy character, it had not been observed here in June. Upon investigation no shoal water was found under these patches. On Blanco Reef, just off the Light House, there were in September very thick fields of strong kelp, so much so as to render a boat unmanageable, a ship, however, would not get in this locality. Kelp is also found near Rogue River Reef and other rocks in considerable quantities late in Summer, very little was observed in June. On the wreck of the Victoria, in Port Orford harbor, in 3 fms. water, two small patches of kelp were found late in the Summer.



Very respectfully,

J. M. Sellers

Lt. U.S.N., Asst. C&G. Survey,

Comdg.

Forwarded

Chas. M. Thomas, Lt. Comd'r., U. S. N.,
Hydrographic Inspector C. & G. Survey.

1-378.

U. S. Coast and Geodetic Survey, Stmr. Gedney, [Form 11.—Statistics of Field Work.]

Statistics of Field Work executed by Lt. J.M. Helm, U.S.N., Asst. C&G.S.

Date of beginning field work	May 28, 1889
Date of closing field work	Sept. 11, 1889
RECONNAISSANCE:	
Area of, in square statute miles	
Lines of intervisibility determined as per sketch submitted	
Number of points selected for scheme	
BASE LINES:	
Primary, length of	
Secondary, length of	
Beach measurements, length of	
Number of days employed in measurements of base	
Number of days employed in re-measurements	
TRIANGULATION:	
Area of, in square statute miles	
Signal poles erected, number of	
Observing tripods and scaffolds built, number of	
Observing tripods and scaffolds built, heights of	
Days occupied in opening and verifying lines of sight, number of	
Stations occupied for horizontal measures, number of	
Stations occupied for vertical measures, number of	
Geographical positions determined, number of	
Elevations determined trigonometrically, number of	
GEODESIC LEVELING:	
Elevations determined by spirit-leveling of precision, number of	
Lines of geodesic leveling, length of	
LATITUDE, LONGITUDE, AND AZIMUTH WORK:	
Latitude stations occupied, number of	
Pairs of stars observed for latitude, number of	
Average number of observations on a pair	
Longitude stations, telegraphic, number of	
Longitude stations, telegraphic, number of nights on which signals were exchanged	
Longitude stations, chronometric, etc., number of	
Azimuth stations, number of	
Number of nights of observations for azimuth	
Number of stars observed for azimuth	

GRAVITY DETERMINATIONS:	
Number of pendulum stations occupied	
MAGNETIC WORK:	
Stations occupied for observations of the magnetic declination, number of	
Stations occupied for observations of the magnetic dip, number of	
Stations occupied for observations of the magnetic intensity, number of	
TOPOGRAPHY:	
Area surveyed in square statute miles	
Length of general coast-line in statute miles	
Length of shore-line of rivers in statute miles	
Length of shore-line of creeks in statute miles	
Length of shore-line of ponds in statute miles	
Length of roads in statute miles	
Topographic sheets finished, number of	
Topographic sheets, scales of	

Topographic sheets, limits and localities of:

HYDROGRAPHY:	
Area sounded in square geographical miles	401 13/16
Number of miles (geographical) run while sounding	1126
Number of angles measured	7328
Number of soundings	12270
Number of tidal stations established	2
Number of specimens of bottom preserved	19
Current stations, number of	1
Hydrographic sheets finished, number of	2
Hydrographic sheets, scales of	1-20000

Hydrographic sheets, limits and localities of:

Shut 1, Mack's Arch to Lat. 42°-34' N.
Shut 2, Rogue River Reef to Cape Blanco, both shuts on Section XI, Coast of Oregon.

Statistics.

Sheets Nos. 1 and 2, Port Orford, Ore.

	May	June	July	Aug.	Sept.	Total
No. days on working grounds	4	30	31	31	11	107
No. days when hydrography was done	1	17	13	14	4	49
No. days prevented by bad weather or other causes	3	8	14	13	5	43
Sundays	0	5	4	4	2	15
No. days when signals were erected	3	3	1	1	0	8
No. signals erected	3	3	1	1	0	8
No. signals occupied	3	5	1	3	0	12
No signals determined						71

Sheet. 1.

Vessel	Number of Sdg. Books	Angle Books	Tide Books	Fair Journals	Smooth Angle Books	Smooth Tide Books	Specimens
Gedney	3			2			11
St. Launch	3			2			
W. Boat	2			1			
Total	8	1	1	5	1	1	11

Tide observations :- One station, at Port Orford

Statistics- cont'd.

Sheet 2.

Vessel	Number of Sdg. Books	Angle Books	Tide Books	Fair Journals	Smooth Angle Books	Smooth Tide Books	Specimens.
Gedney	4			2			8
St. Launch	2			1			
W. Boat	2			1			
Gig	1			1			
Dinghy	1			1			
Total	10	1	5	6	1	5	8

Tide observations :- One station, at Ellensburg.

Number of Officers attached to party, six until July 15 th then 7 until close of season

Number of men in party, 29 till Sept. 7th, then 30 until close of season.

Sheet 1.

Port Orford. Coast of Oregon. Scale 1/20000

Begun July 17, 1889
Ended Aug. 30, 1889

168 9/16 sq. mi.

Lt. J. M. Helm, U.S.N.
In charge of Party

Date	Letter	Book	Number of Miles	Number of Sdgs.	Number of Angles	Vessel	Observers.
July 17	A	1	11.20	160	61	Gedney	Lt. J. M. Helm
" 23	B	2	47.25	286	289	"	Ens. R. O Bitler
" 24	C	3	44.15	253	183	"	Ens. Jos. Strauss
" 25	D	1	38.50	167	152	"	Ens. W.H.G. Bullard
" 26	E	2	58.00	321	221	"	Ens. F. W. Jenkins
" 27	F	3	8.00	101	32	"	Ens. M. L. Bristol
" 31	G	1	1.90	11	12	"	Pay Mes. W.W. Joynes
Aug. 3	H	2	5.75	61	32	"	P.M. Christiansen, S.Writer
" 19	J	3	20.00	213	148	"	
" 20	K	1	36.75	343	196	"	
" 22	L	2	12.25	147	77	"	
" 24	M	3	5.20	78	30	"	
" 29	N	1	18.60	120	124	"	
" 30	O	2	22.30	6	30	"	
			329.85	2267	1587		

Sheet 1. Continued

Date	Letter	Book	Number of Miles	Number of Sdgs.	Number of Angles	Vessel	Observers.
July 17	a	1	6.25	147	58	St. Launch	Ens. J. Strauss
" 22	b	2	7.80	130	72	"	Ens. W.H.G. Bullard
" 23	c	1	27.00	445	219	"	Ens. F.W. Jenkins
" 24	d	2	24.00	463	216	"	Ens. M. L. Bristol
" 25	e	1	21.20	387	183	"	P.N. Christiansen, A.W.Wilis
" 26	f	2	24.00	476	220	"	
" 27	g	1	10.60	136	80	"	
Aug. 1	h	2	3.50	46	25	"	
" 2	i	1	12.25	177	90	"	
" 20	k	2	31.50	470	223	"	
" 21	l	3	.30	4	6	"	
" 22	m	3	12.00	233	124	"	
" 23	n	3	9.00	115	66	"	
" 30	o	3	10.00	138	80	"	
			199.40	3367	1662		

Sheet 1. Continued.

Date	Letter	Book	Number of Miles	Sdgs.	Angles	Vessel	Observers.
Aug. 2	a	1	7.10	267	78	Whaleboat	Ens. Wm G. Bullard
" 22	b	2	9.50	483	113	"	Ens. F.W. Jenkins
" 23	c	1	4.75	63	54	"	Ens. M. L Bristol
" 30	d	2	6.40	253	86	"	Pay Mr. W.W. Joynes
			27.75	1066	331		

Sheet 1. Recapitulation.

Vessel.	Number of Days.	Miles.	Soundings.	Angles.
Gedney	14	329.85	2267	1587
Steam Launch	14	199.40	3367	1662
Whaleboat	4	27.75	1066	331
Total		557.00	6700	3580

Recorders.
W.W. Joynes, Pay Mr.
P.N. Christiansen, Writer

Tide Observers
Geo. Eatlander, sea.
John Lorenz, sea.

Leadsmen
F. Andersen, Qr. Mr.
A. Arensen, B.M.
John Monson, sea.
M.A. Larsen, sea.

Sheet 2.

Port Orford, Coast of Oregon. Scale 1/20000

Begun May 31, 1889
Ended Sept. 11, 1889

233 1/4 sq. mi.

Lt. J.M. Helm, U.S.N.
In charge of Party

Date	Letter	Book	Number of Miles	Number of Sags.	Number of Angles	Vessel	Observers.
June 1	A	1	19.50	144	146	Gedney	Lt. J.M. Helm
" 3	B	2	13.50	99	96	"	Ens R.O. Billin
" 4	C	1	13.50	87	104	"	Ens. J. Strauss
" 5	D	2	19.20	100	88	"	Ens. W.H.G. Bullard
" 7	E	1	18.60	120	94	"	Ens. F.W. Jenkins
" 8	F	2	20.00	128	110	"	Ens. M.S. Bristol
" 17	G	1	22.50	153	148	"	W.W. Joyner, Pay Yeo.
" 18	H	2	13.50	64	60	"	P.N. Christianson, QM'n
" 19	J	1	20.50	95	104	"	
" 20	K	2	2.10	13	16	"	
" 21	L	1	14.75	63	78	"	
" 22	M	2	50.80	250	234	"	
" 24	N	3	9.00	14	28	"	
" 25	O	1, 2	60.50	247	288	"	
" 27	P	4	23.00	69	102	"	
" 28	Q	3	17.50	81	100	"	
July 1	R	4	19.10	75	144	"	
" 5	S	3	24.50	238	170	"	
Carried over			382.05	2552	2504		

Sheet 2. Continued.

Date	Letter	Book	Number of Miles	Sdgs.	angles	Vessel	Observers.
Brought over			382.05	2040	2110		
Aug. 17	T	4	12.50	97	80	Gedney	
" 24	U	4	15.00	199	56	"	
" 27	V	3	11.25	44	74	"	
" 30	W	4	5.80	4	12	"	
Sept. 2	X	3	12.00	55	64	"	
" 9	Y	4	17.20	113	108	"	
			455.80	2552	2504		
Sept. 10	a	1	5.00	186	52	Gig	Eus. J. Strauss
" 11	b	1	1.50	49	30	"	Eus. F.W. Jenkins
			6.50	235	82		Eus. M.L. Bristol P.R. Christiansen Recorder
Sept. 9	a	1	1.00	12	24	Dinghy	Eus. J. Strauss. Pay Geo. W.W. Jones

Sheet 2. Continued.

Date	Letter	Book	Number of Miles	Number of Sdgs.	Number of Angles	Vessel	Observers.
May 31	a	1	2.00	77	32	St. Launch	Ens. Jos. Strauss
June 1	b	2	10.00	266	94	"	Ens. F.W. Jenkins
" 3	c	1	5.75	162	50	"	Ens. M.L. Bristol
" 4	d	2	9.25	232	108	"	W.W. Joynes, Pay Yeo.
" 5	e	1	1.00	29	14	"	P.N. Christiansen, S.Writer
" 6	f	2	2.25	55	24	"	
" 7	g	1	6.80	159	81	"	
" 8	h	2	11.40	241	107	"	
" 17	i	1	.80	14	8	"	
" 18	k	2	6.40	97	53	"	
" 19	l	1	1.60	27	18	"	
" 20	m	2	6.10	95	67	"	
" 22	n	1	11.70	237	98	"	
July 31	o	2	2.80	107	34	"	
Aug. 1	p	1	.25	11	0	"	
			78.10	1809	788		

Sheet 2. Continued.

Date	Letter	Book	Number of Miles	Sdg's.	Angles	Vessel	Observers.
June 6	a	1	3.00	185	40	Whale boat	Ens. R.O. Billin
July 2	b	1	2.50	56	52	"	Ens. Jos. Strauss
" 5	c	1	3.50	155	52	"	Ens. W.H.G. Bullard
" 6	d	2	6.80	130	50	"	Ens. F.W. Jenkins
Aug. 1	e	2	3.60	165	24	"	Ens M. L Bristol
" 6	f	2	.50	37	0	"	W.W. Joynes, Pay Yeo.
" 17	g	1	2.70	45	26	"	P.N. Christianson, S.W.iter
" 26	h	2	.00	3	6	"	
Sept. 9	j	2	3.00	89	70	"	
" 10	k	2	2.00	97	30	"	
			27.60	962	350		

Sheet 2. Recapitulation.

Vessel	Number of Days	Miles	Soundings	angles
Gedney	24	455.80	2552	2504
Steam Launch	15	78.10	1809	788
Whaleboat	10	27.60	962	350
Gig	2	6.50	235	82
Dinghy	1	1.00	12	24
Total		569.00	5570	3748

Sheet 2. Continued.

Recorders	Tide Observers	Leadsmen
W.W. Joynes, Pay. Gen.	George Carlander, sea.	F. Anderson, Qr. M.
P.N. Christianson, Ship's Writer.	John Lorenz, sea.	W. Dahlgrin, Qr. M.
		A. Arenson, B. Mate
		John Monson, Sea.
		M.A. Larsen, Sea.

Day letters of Ship and boats, both sheets:-

Gedney, large red letter.

Steam Launch, small blue letter.

Whaleboat, small green letter.

Gig, small black letter.

Dinghy, small red letter.

PHYSICAL HYDROGRAPHY:

Number of soundings on cross-sections	
Current stations, number of	
Deep-sea current stations, number of	
Deep-sea surface current observations, number of	
Deep-sea sub-surface current observations, number of	
Number of observations of density of water	
Number of observations of temperature of water	
Tidal stations established, number of	
Miles (geographical) run in deep-sea sounding	
Number of deep-sea soundings	
Number of specimens of bottom preserved	

Locality of work; results, how shown, etc.:

Sailing Directions.

U.S. C. and G. Survey Stmr. Gedney.

Lt. J. M. Helm, U.S.N., Comd'g.

Section XI.

Hydrographic Sheets 1 and 2.

Coast of Oregon.

1889.

1.

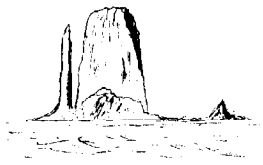
Mr T. C. Mendenhall,
Supt C. and G. Survey,
Washington, D.C.,

Sir,

I have the honor to submit the following Sailing directions for Shuts 1 and 2, Coast of Oregon, as only supplementary to Reports A and B, and information which can be better gotten off our Charts when printed.

A vessel coming up the coast from the southward against N.W., or prevailing winds, should pass Mack's Reef about $\frac{3}{4}$ of a mile distant to avoid the heavy swell sometimes found near the reef. Then keep close inshore until off Cape Sebastian which should be passed about a mile distant to avoid a sunken rock. The sea breaks on this sunken rock during S.E. weather, very rarely with a N.W. swell. A very small vessel might anchor in Hunter's Cove to the northward of Cove Island. The Gedney anchored several times to the southward of Cove Island, sending the launch above the Island for the night. The best anchorage is $\frac{4}{10}$ of a mile

South, true, from the Southern end of Cove Island, in 8 fathoms water, hard sand bottom. The ship rolled heavily and brought much strain on her chain; the Anchorage is not recommended. From Cape Sebastian Rup about 3/4 of a mile off shore until opposite Rogue River when haul out towards Pyramid Rock until clear of the sunken rocks inshore, then steer a mid-channel course until clear of the sunken rocks to the northward and Eastward of Pyramid Rock. These will have been cleared when the split in Big Rock begins to close in, or when Big Rock bears W.S.W., true, and presents the appearance shown in the accompanying Sketch,



These sunken rocks in Rogue River Ruf channel are usually marked by heavy breakers, but not always. When Big Rock bears W.S.W., true, haul out to clear the sunken rocks off North Rock; these are usually marked by breakers. There is a 6 fathom spot about 8/10 of a mile W.N.W., true, of North Rock and it

usually shows disturbed water. The Gedney used this channel without trouble, but it is not used by the coasters and should not be attempted by a stranger until a good chart is published and the dangers buoyed.

If not intending to go inside of Rogue River Ref, a vessel should haul off shore about two miles to the Southward of Rogue River and pass clear of two sunken rocks about two miles to the Southward of Rogue River Ref. The Southernmost of these is in about 5 or 6 fathoms of water and is marked by a breaker in heavy S.E. weather, by a swell in N.W. weather. The northwestern one of these two rocks is covered by about 2½ fathoms, it breaks here with S.E. weather and sometimes with a N.W. swell, not always. In heavy S.E. weather it has been seen from shore to break clear across the mouth of the channel behind Rogue River Ref. A small vessel desiring to enter Rogue River should anchor about ½ a mile off the mouth of the river, a little to the north of the river channel and await a pilot. No vessel should cross the bar without one. If desiring to enter with a small boat the best time will be found near the end of flood tide with ordinary

N.W. winds. The boat should be held outside of the bar some little time and the breaks carefully studied before making the attempt to cross. When there is no wind from the N.W. the swell gets more to the westward and causes a bad bar, which probably accounts for the local tradition that fog brings a bad bar. After clearing the sunken rocks and the 6 fathom spot off North Rock steer to pass about ½ a mile outside the Sisters Rocks. The Geduney anchored several times about 7/10 of a mile S.E. by E., true, from the outer large Sisters Rock, in from 7 to 9 fms. of water, Island Rock showing up in the opening between the Sisters Rocks. The launch found good shelter closer in behind the larger of the two Sisters Rocks and here a boat landing could be made. When it is blowing fresh a steamer will handle best if this anchorage is made from the Southward and inside of the flat outlying ledge of rocks near the outer Sisters Rock, in going out pass to the northward of this ledge. From the Sisters Rocks to Humbug Pt., hug the shore closely and a good lee will be found. This vessel anchored several times opposite the deepest part of the bight to the Southward of Humbug Mt., about ¾ of a mile

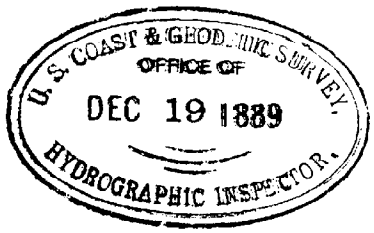
off shore, in 15 fathoms of water, hard sand bottom, and rode out heavy N.W. weather, the anchorage is not recommended. The Gedney usually passed within about two hundred yards of Humbug Pt., and inside of Island Rock and the Redfish Rocks into the anchorage at Port Orford. There is good shelter from northerly weather and plenty of room in Port Orford harbor, but if a vessel anchored well to the westward in N.W. weather the boating will be found easiest.

Low powered coasting vessels going up against strong winds generally anchor here until the wind lulls before trying to pass Cape Orford. Steamers of all sizes use the channel inside of Orford Ruf, navigating by the chart. The Gedney often hugged the shore closely from Pichenor's Rock to within about 1½ miles of the light house, thereby obtaining some lee, and then hauled out to clear the rocks in Blanco Ruf.

The Gedney anchored on several occasions to the leeward of the rocks just under Cape Orford in 5½ fms., hard sand, Cape Orford Light House bearing North, true, distant 8/10 of a mile. The ruf (Blanco Ruf) broke the sea to some extent; but the swell caused the vessel to roll heavily. A vessel should not

approach this coast in S.E. weather as there is neither an anchorage nor shelter. A sailing vessel at anchor on the coast should go to sea on indications of a S.E. gale and a steamer in good time. A vessel standing to the Southward and not intending to stop had best keep outside and get the full benefit of the wind and current. Large, full powered steamers going up the coast generally get a safe distance off shore and do not head the wind and sea. A good course to be pursued by a small vessel standing up against a strong N.W. wind will be found in the lines run by the Gedney under these circumstances from an anchorage to the Southward of Rogue River Reef to Port Orford harbor and plotted on our projections as M day, Sheet No. 1, and U day, Sheet No. 2.

Very respectfully,



Lt. U.S.N., Asst. C&G. Survey,
Comd'g.

Forwarded

Chas. M. Thomas, Lt. Comd'r., U. S. N.,
Hydrographic Inspector C. & G. Survey.