**DEPARTMENT OF COMMERCE**  
U. S. COAST AND GEODETIC SURVEY  
E. Lester Jones, Director

State: California

**DESCRIPTIVE REPORT**

Localities:
- Northern California
- Point St. George
- St. George Reef

**1988**

**CHIEF OF PARTY**  
F. G. Engle, U.S. G. E.
DESCRIPTIVE REPORT

To accompany Hydrographic Sheet No. 8

ST. GEORGE REEF AND VICINITY -- CALIFORNIA

Instructions dated March 13, 1928

F. G. Engle, H.& G.E.

Commanding

Party of the Str. DISCOVERER

Surveyed by C. M. Durgin and R. W. Knox July 26 to Oct. 29, 1928

LAUNCH MARTHA

SURVEY METHODS:

Both the hand lead and 30 hand sounding machine were used in the surveying of this area, twelve and eighteen pound leads being used respectively. The sheave was read to the nearest half-fathom. The lead-lines were carefully made from phosphor bronze wire core lead-line and were frequently checked. No difficulty was experienced in keeping the corrections within one percent of the depth below the reference plane. In general, the machine was used in depths over 15 fathoms, it being found that it was more economical in time to back and stop than to run slowly enough to obtain up-and-down soundings with the hand lead.

DISCREPANCIES:

Positions 60' - 70' were rejected because soundings show that they are in error.

DANGERS:

The dangers in the area cover by this sheet consist of the rocks and ledges of St. George Reef and the rocks fringing Point St. George. The dangers are correctly noted in the Coast Pilot, with the following additions:

A sunken rock, breaking in a very heavy swell, in Latitude 41° 17' 55° m. North, Longitude 124° 17' 540 m. West, position 40'6'.

This is in the approximate position of the 3/4 fm. reported sounding on Chart 5095.

A 2 1/2 fathom spot in Latitude 41° 17' 700 m. North, Longitude 124° 17' 430 m. West. (An extension of the above.)

A sunken rock, breaking in moderate swells at all stages of the tide, 300 m. 25 degrees (true) from Hump Rock (New rock)

A sunken rock, breaking in very heavy swells only, 300 m. 60° (true) from Long Rock. Position 30'. Shown in approximate position on Chart 5095.

A sunken rock, with 1 2/6 (estimated) fathoms of water on it, 500 m. North of Long Rock. Position 95'. (New rock)

The least depth found in the vicinity of the sunken rock marked as reported on Chart 5095 920 m. ExN of Hump Rock was 6 fathoms.

CHANNELS:

St. George Channel with a width of almost one mile is clear
between the visible rocks fringing Brown Rock and the reef extending 3/8 of a mile westward from Pt. St. George on the east side of the channel and the reefs which extend 3/8 of a mile to the eastward from a line through Star Rock and East Rock on the west side of the channel.

Dragon Channel is used only by small fishing boats.

ANCHORAGES:
There are no anchorages in the area covered by this sheet.

COMPARISON WITH PREVIOUS SURVEYS:
In addition to the sunken rocks and breakers noted under the Head of DANGERS, which were not shown in previous surveys, the following comparison is listed:

No trace of a sunken rock in Latitude 41 47 0 m. North, Longitude 124 17 520 m. West, shown on Chart 5895 as reported, was found; although several hours were spent in searching for it, both by running lines and drifting over the reported position. Also by lying to for a half hour on a calm day, during heavy seas, in vicinity of reported breaker, no evidence of a breaker was observed other than a slight humping of water in the vicinity. A depth of 6 fathoms was obtained. Position 3-4V.

PLOTTING:
Due to congestion of soundings positions 46V - 49V and 63V - 83V were transferred to vellum and the soundings plotted thereon.

Respectfully submitted,

Robert W. Knox

Approved and forwarded,

F. G. Engle
H. & G. Engr.
Chief of Party.
TIDAL NOTE FOR SHEET #8 (Field).

The auto-portable gauge at Crescent City, California, Latitude 41 - 45 North, Longitude 124 - 12 West, was used in reducing the soundings except on X, Y, and X2 days. On these days the auto-portable gauge at Brookings, Oregon, Latitude 42 - 03 North, Longitude 124 - 16 West, was used.

The plane of mean lower low water on the gauges was used in each case. The reading of mean lower low water on the Crescent City gauge was 3.00 feet; on the Brookings gauge, 1.59 feet.

The tabulations for highest and lowest tides observed have not been made.
APPROVAL BY CHIEF OF PARTY

Sheet #8 and accompanying records have been examined by me and approved. The field work was done by a detached party not under my immediate supervision. The office work was done under my immediate supervision. No additional work is considered necessary.

F. G. Engle
H. & G. Engr.
Chief of Party.
<table>
<thead>
<tr>
<th>Date</th>
<th>Letter</th>
<th>Vol.</th>
<th>Pos.</th>
<th>Soundings Wire</th>
<th>Miles (stat) Wire</th>
<th>Vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 25</td>
<td>a</td>
<td>1</td>
<td>42</td>
<td>64</td>
<td>6.5</td>
<td>Launch Martha</td>
</tr>
<tr>
<td></td>
<td>b</td>
<td>1</td>
<td>133</td>
<td>174</td>
<td>20.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c</td>
<td>1</td>
<td>63</td>
<td>84</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d</td>
<td>1</td>
<td>190</td>
<td>128</td>
<td>28</td>
<td>16.8</td>
</tr>
<tr>
<td>August 2</td>
<td>e</td>
<td>1</td>
<td>28</td>
<td>43</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>f</td>
<td>182</td>
<td>105</td>
<td>175</td>
<td>12.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>g</td>
<td>2</td>
<td>102</td>
<td>90</td>
<td>9.4</td>
<td>12.0</td>
</tr>
<tr>
<td></td>
<td>h</td>
<td>2</td>
<td>103</td>
<td>277</td>
<td>13.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>k</td>
<td>2</td>
<td>110</td>
<td>60</td>
<td>6.2</td>
<td>13.5</td>
</tr>
<tr>
<td></td>
<td>l</td>
<td>2</td>
<td>47</td>
<td>125</td>
<td>7.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>m</td>
<td>223</td>
<td>127</td>
<td>158</td>
<td>8.9</td>
<td>13.4</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>3</td>
<td>10</td>
<td>25</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>3</td>
<td>89</td>
<td>259</td>
<td>13.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>q</td>
<td>3</td>
<td>124</td>
<td>404</td>
<td>20.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>r</td>
<td>3</td>
<td>85</td>
<td>257</td>
<td>14.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>s</td>
<td>33</td>
<td>13</td>
<td>42</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>t</td>
<td>3</td>
<td>86</td>
<td>389</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>u</td>
<td>4</td>
<td>134</td>
<td>500</td>
<td>35.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>v</td>
<td>4</td>
<td>83</td>
<td>256</td>
<td>13.6</td>
<td></td>
</tr>
<tr>
<td>September 8</td>
<td>w</td>
<td>4</td>
<td>48</td>
<td>158</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>x</td>
<td>4</td>
<td>155</td>
<td>595</td>
<td>29.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>y</td>
<td>5</td>
<td>74</td>
<td>245</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td>October 9</td>
<td>z</td>
<td>5</td>
<td>33</td>
<td>76</td>
<td>5.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>aa</td>
<td>5</td>
<td>42</td>
<td>98</td>
<td>6.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>bb</td>
<td>5</td>
<td>13</td>
<td>57</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>-</td>
<td>-</td>
<td>1945</td>
<td>737</td>
<td>4514</td>
<td>84.5 258.7</td>
</tr>
</tbody>
</table>
The computing records are complete and were neatly kept.

The protracting was accurately done.

The computations were carefully plotted according to time intervals.

The sheet was clean and the work was legible.

The drafting conformed to General Instructions.

Position 44 & 45 r. was rejected by the field party. I did not plot these positions either but their rejection seemed a little doubtful.

Hydrographic sheets 4560, 65, 72 and 76 overlap this sheet but as none of them are finished, no overlap was transferred. There is considerable overlap on 4560 and where this overlap
occurs on 4862 the curves were not
risked in so they would probably have to
be moved when the overlap is applied.

Reviewed by

Respectfully submitted

J.W. Walker
7/1/29
Section of Field Records
Report on Hyd. Sheet No 4862
St. George Reef and Vicinity, California
Surveyed in 1928

Instructions dated March 13, 1928 (Discover)
4. The sounding line crossings are satisfactory.
5. The information is sufficient for drawing the usual depth curves.
6. The junction on the north with H. 4872 is satisfactory. The junction on the western limits with H. 4860 is satisfactory and the junction on the south with H. 4865 is also satisfactory. H. 4860 is the only one of these sheets which is finished and overlapped at this time.
7. The usual amount of field plotting was carefully and accurately done by the field party.
8. The work in general agrees well with the chart. New dangers found are listed in the descriptive report. On chart #5895 there are two reported rocks just north of Star Rock. The northernmost one of these, which is shown as a 3/4 fathom spot on the chart, was located close to the charted position. No indication was found of the
lower one, which is shown on the chart as a sunken rock, about 900 meters north of Star Rock, and was placed on the chart by authority of letter #385, 1926. The least depth obtained at this point was 6½ fathoms and no breakers were observed. (See descriptive report)

A spot of 4½ fathoms was found south of this point about 490 meters N.N.E. of Star Rock, where the chart shows 8 fathoms. As the depth over the rock is not stated in the letter, it might be any of these points. Its existence at the charted position has been fairly well disproved and its removal from the chart is recommended. (Approved by A.M. S.)

9. Character and scope of survey - very good.

10. No additional hydrography within the limits of this work is necessary. In the descriptive report of H. 4860, Capt. Engle suggests that St George Channel be dragged. Should this be done, it would be desirable to pass the drag over the position of the reported rock (described in para. 8) and over the 13 and 17 fathom sounding, shown on H. 4860, in Lat 41° 47.3' and Long. 124° 20.1'.

Section of Field Records. April 18, 1929.

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in 5 volumes of sounding records for

HYDROGRAPHIC SHEET 4862

Locality: St. George Reef, Northern California.


Plane of reference is mean lower low water reading 3.8 ft. on tide staff at Crescent City, Calif.

1.5 ft. below on tide staff at Brookings, Oregon.

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.

Paul C. Whitney
Chief, Division of Tides and Currents.
DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 8

REGISTER NO. 4862

State. California

General locality. Northern California, Point St. George

Locality. St. George Reef

Scale, 1/20,000. Date of survey. July 26 - Oct. 29, 1928

Vessel. DISCOVERER

Chief of Party. F. G. Engle

Surveyed by. C. M. Durgin and R. W. Knox

Protracted by. C. J. Wagner

Soundings penciled by. C. J. Wagner

Soundings in fathoms. FIS.

Plane of reference. MLLW

Subdivision of wire dragged areas by.

Inked by.

Verified by.

Instructions dated. March 13, 1928

Remarks:

(Original Signature)
HYDROGRAPHIC SHEET No. 4862

The following statistics will be submitted with the cartographer's report on the shoot:

Number of positions on shoot \(1,945\)
Number of positions checked \(1,144\)
Number of positions revised .. 8
Number of soundings recorded \(5,751\)
Number of soundings revised \(3.0\)
Number of signals erroneously plotted or transferred . . . . 0

Date: ___________July 14, 1979__________
Cartographer: ___________J. Walker____________