

4520

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: California

DESCRIPTIVE REPORT

Topographic

Hydrographic

Sheet No.

E

4520

LOCALITY

Duxbury Pt.

Rocky Point to Vicinity of

Double Point

1929

CHIEF OF PARTY

O. W. Swainson

C. & G. SURVEY

L & A

APR 5 1930

Acc. No.

DESCRIPTIVE REPORT

To Accompany Topographic Sheet No. E 4520

California Coast Double Point to Rocky Point

O.W. Swainson, H. & G. Eng. Chief of Party

1929

Reconstr. STB & L.V.E. Outer coast south of T5922 1955

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4520

TOPOGRAPHIC TITLE SHEET

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

Field No. E

REGISTER NO. **4520**

State California.

General locality ~~Pacific Ocean.~~ Duxbury Pt.

Locality ~~Double Point to~~ Rocky Point to Vicinity of Double Pt.

Scale 1:10,000 Date of survey July, 1929

Vessel U.S.C. & G.S.S. PIONEER.

Chief of Party O. W. Swainson, H. & G. Engr.

Surveyed by John A. Bond, H. & G. Engr.

Inked by John A. Bond, H. & G. Engr.

Heights in feet above M.H.W.L. to ground to ~~tops of trees~~

Contour, Approximate contour, Form line interval feet

Instructions dated April 9, 1929, 192

Remarks:

4520

DESCRIPTIVE REPORT

To Accompany Topographic Sheet E

Instructions

The topography on this sheet was executed under the Director's instructions to the Commanding Officer, Steamer PIONEER, dated April 9, 1929.

Limits and Scale

The topography included on the sheet, surveyed on a scale of 1 to 10,000, covers the shore line of California from the southern extremity of Drakes Bay to Rocky Point, and includes the shoreline of Bolinas Bay and Bolinas Lagoon. It is joined on the west by sheet D and on the east by sheet F, both of this season's work.

Control and Survey Methods

The usual survey methods were used. Control points were established by third order triangulation at intervals of about $1\frac{1}{2}$ miles along the shore line. Between these stations supplementary points were located by resection. The closing error of the small amount of traverse necessary was negligible. A system of plane table triangulation extended into Bolinas Lagoon furnished control for that area.

General Description of Topographic Features

The shore line from station Lake to Bolinas Lagoon is marked by nearly vertical, dirt bluff averaging about 120 feet in height, the foot of which forms the storm high water line. Throughout this area the mean high water line either coincides with or approaches very closely to the storm line. Outside of this stretches of sand beach are broken by rocky ledge which extends out from the storm high water line. Between Bolinas Point and Duxbury Point extensive areas of ledge bare at low water and are completely covered at high water.

The sand spit east of the entrance to Bolinas Lagoon is covered with grass and small dunes. At longitude $122^{\circ} 39'$ is shown a causeway crossing the lower end of Bolinas Lagoon. This is an earthen structure rising about ten feet above high water and originally carried a road which provided access to the sand beach. The causeway has been broken through near the northern end and is no longer used. The sand beach ends about $3/4$ mile northwest of Rocky Point and a boulder formation begins which extends to the southern limits of the sheet.

Back of the shore line the hills are grass covered, with occasional brush and small trees as indicated on the original sheet.

4520

- 2 -

Comparison with Previous Surveys

The area was originally surveyed on sheets 807, 456 and 452, scale 1 to 10,000.

In comparison with the present survey the following changes are noted:

On the original survey the storm high water line was shown instead of the mean high water line.

About 3/4 mile southeast of signal Lake sheet 807 shows a ledge formation. This area was visited at about low tide and no evidences of rock was then visible other than a thick patch of kelp as shown on the present sheet.

One and one quarter miles north of Bolinas Point a rock ledge extends out from the storm high water line. This is not shown on the original survey.

One half mile north of Bolinas Point the rounding point of bluff shown on sheet 456 has eroded about 40 meters.

Bolinas Point has eroded about 50 meters.

Several stretches of bluff between Bolinas Point and Duxbury Point seem to have eroded slightly.

The bight between Bolinas Point and Duxbury Point recedes about 70 meters from that shown on sheet 807. This may be due either to an error on the original sheet or to erosion. Signs of erosion are not plainly marked on the ground.

Duxbury Point appears to have eroded about 60 meters.

From here to the entrance to Bolinas Lagoon the shore line has receded about 30 meters.

The shore line inside Bolinas Lagoon was found to check almost exactly with that shown on the original survey.

The sand spit south of the lagoon has filled in slightly to the north and receded slightly on the south. The entrance to the lagoon has widened about 40 meters.

Several houses and docks have been located at Bolinas and on the east shore of the lagoon which are not shown on the original sheet. Those shown on the original sheet no longer exist.

The original location of Rocky Point is in error about 50 meters. A triangulation station established on the point this year checks the mapping of this area on the present survey, and the rocky formation of the area precludes the possibility of any emergence of the shore line since the original survey.

The form lines shown in pencil on the sheet were transferred from the original sheet and checked in the field. They were found to be exceptionally accurate.

- 3 -

Landmarks

The large white barn 1 mile east of station Lake is the only one in the vicinity and is conspicuous offshore.

The power house of the Marconi Radio Station at Bolinas Point is conspicuous inshore but from offshore is easily confused with other buildings of the group.

The club house at Bolinas is located by triangulation and is the largest building in the vicinity.

The Coast Guard mast at Bolinas, located by triangulation, is a white cage structure but not particularly prominent. A more conspicuous object is the lookout tower but as it is painted brown it blends with the landscape when viewed from offshore.

Triangulation station Rocky Point is located on the sharp summit of a large triangular boulder which rises about 30 feet above the surrounding ground. It is conspicuous when viewed from the northwest or southeast.

The locations of the above objects which were determined by plane table are contained in the list of plane table positions following.

Plane Table Positions

| | Latitude 0 ' meters | Longitude 0 ' meters | Remarks |
|---------------|------------------------|-------------------------|--|
| Barn | 37 56 217 | 122 44 1272 | Center dormer of south face. |
| Lookout tower | 37 54 677 | 122 40 1456 | Finial of small brown lookout tower at Coast Guard Station, Bolinas. |

John A. Bond
John A. Bond,
Lieut. U.S.C. & G. Survey

Approved:

O. W. Swainson
O. W. Swainson,
Commanding Str. PIONEER.

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