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U. S. COAST & GEODETIC SURVEY
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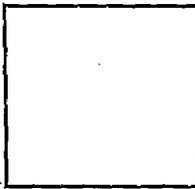
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Form 504
Ed. June, 1923

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director



State: California

DESCRIPTIVE REPORT

Topographic

~~Hydrographic~~

Sheet No. B 4775

LOCALITY

San Nicolas Island

Pacific Coast.

1932

CHIEF OF PARTY

Robert W. Knox

applied to Chart 5202 Mar 1936 R.M.3
" " " 5101 May 1936 R.M.3.

DESCRIPTIVE REPORT
to accompany

Sheet No. B - San Nicolas Island, California
Robert W. Knox, H. & G. E., Chief of Party.

1932

INSTRUCTIONS:

The survey was made in accordance with the instructions of the DIRECTOR dated April 14th, 1932.

GENERAL DESCRIPTION:

San Nicolas Island lies 53 miles off the nearest point of the coast and is 24 miles southwestward from Santa Barbara Island. It is 8 miles long in an east and west direction, with an average width of 3 miles.

The profile of the island is gently rounding from the distance and has no definite points or features that can be readily identified. The shores are either sand beaches or rocky ledges with the exception of a short stretch of about 1000 meters between OTAR and OMER which is a coarse gravel and pebble beach.

The south side of the island from close in presents a steep and jagged profile, rising rapidly to an elevation of about 800 feet at the steepest point and averaging an elevation of about 600 feet within about a $\frac{1}{2}$ mile from shore.

At the east end a low, flat sand spit extends about 0.6 miles eastward into the sea.

On the north side the island rises roughly in a series of irregular steps to a average elevation of about 400 feet about a $\frac{1}{2}$ mile

Back from the shore line and then rises irregularly in gentle slopes to the higher points on the south side of the island. On top, a stretch about a mile long, in the vicinity of Δ NORTH BASE and Δ SOUTH BASE is quite flat and can be used as an emergency landing field for airplanes.

The west end of the island is broken up by several indefinite sand and shell mounds and rises gradually to an elevation of about 400 feet at a distance of about 2 miles from shore. The slopes are fairly regular due to the sandy surface in this area.

The western two thirds of the island is barren and sand covered, the eastern third has a coarse growth of grass on the top ridges, enough to support about 1000 sheep. The island is inhabited by two families engaged in the raising of these sheep. Wild animal life, with the exception of seals, sea fowl and several small foxes about the size of an ordinary cat, is extinct.

Fresh water is found at two small springs, one at each garden at the west end of the island. Four other springs are intermittent, brakish and unfit for use.

The island is believed by geologist to be of eocene age.

CHARACTER OF CONTROL:

Eight triangulation stations established in 1858 and 1879 were recovered and used to locate eight new stations along the shore for control of the traverse around the island. The new stations were determined by triangulation of third order accuracy. These are Δ 's CONEY, MAGNETIC 2, GARDEN, LANDS END, FENCE, SURF, SPIT and KNOB.

METHOD:

The standard survey methods outlined in the Topographic Manual, Special Publication No. 144, were used throughout. On the south side of the island where the traverses between triangulation stations were comparatively long and the possibility of distance checks by resection were absent, the traverse was measured and adjusted prior to filling in the detail between plane table stations.

TRAVERSE CLOSURES:

The traverse between Δ CONEY and Δ MAGNETIC 2, a distance of 1.5 miles, closed without error.

The traverse between Δ MAGNETIC 2 and Δ GARDEN, a distance of 1.3 miles, closed without error.

The traverse between Δ GARDEN and Δ LANDS END, a distance of 3.6 miles, closed with an error of 8 meters in distance. This error was adjusted throughout.

The traverse between Δ LANDS END and Δ FENCE, a distance of 6.9 miles, was in error 65 meters in distance and orientation, which exceeded the allowable error. A preliminary adjustment was made and the traverse was then rerun in the opposite direction. The closing error of the rerun was 4 meters long in distance and the final adjustment was made by inspection.

The traverse between Δ FENCE and Δ SURF, a distance of 1.0 mile, was closed without error.

The traverse between Δ SURF and Δ SPIT, a distance of 3.2 miles, was in error 30 meters long in distance. A preliminary adjustment was made and the traverse rerun in the opposite direction, and closed with-

out error.

The traverse between Δ SPIT and KNOB, a distance of 1.3 miles, closed without error.

The traverse between Δ KNOB and Δ CONEY, a distance of 3.0 miles, closed without error.

COMPARISON WITH PREVIOUS SURVEY:

The configuration in general agrees with that shown by the survey of 1879 very well.

The principle discrepancies found between the two surveys are as follows:

The sand spit at the east end of the island has shifted about 800 meters SE and extends in an east and west line about 1000 meters to seaward of the old shore. The old spit has disappeared, and the shore is practically straight as far west as \odot IS.

From \odot IS westward to \odot SPRI the shore line is virtually unchanged except in size and extent of sandy points and bights which are of a changeable nature. The sunken rocks or reefs adjacent to shore are as now shown, no others having been noticed at the time of the new survey.

From \odot SPRI to Δ LANDS END the deliniation of the shore line differs only in minor detail, due probably to differences in the two topographers points of view.

The shore line between Δ LANDS END and Δ FENCE while showing the same general features and characteristics as before, vary in the position of these features, probably due to a lack of control along shore for the old survey. The present location of these points was verified by an independent traverse measured in the opposite direction.

No large discrepancies exist between the old and new survey of the shore line between Δ FENCE and Δ SURF. Only minor changes due to the erosion or building up of the sand beach exist.

The difference between the old and new shore line as shown from Δ SURF to Δ SPIIT is probably due to the lack of control along the shore for the old survey. In general the features and characteristics are the same.

The existence of any rocks, adjacent to shore and above high water, are as now shown, and were located either by two or more cuts or by a cut and stadia distance.

A careful inspection was made for breakers that might indicate the presence of under water reefs or rocks adjacent to the shore where previously shown. The existence of any rocks, awash or under water, adjacent to shore, except as now shown, is extremely doubtful.

Houses or shelters previously shown are no longer in existence. New houses now exist as follows; one small shack at the east end (\odot SHAK); three small houses and a barn on the north shore in the vicinity of \odot BARN; and two small shacks at the west end (\odot HAM and vicinity).

The contours were checked at frequent intervals around the island between the HW line and 200 feet elevation and agree so well that the contours as previously shown above the 200 foot elevation were considered correct and were not verified in great detail. A rough verification was determined by a general inspection on trips over the top and by comparison with barometric elevations at numerous points on top, determined by a geologist at work on the island.

NEW NAMES:

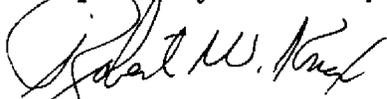
The name DUTCH HARBOR has been applied to the area between Δ FENCE

and SURF on the south side of the island, by fishermen and sheep-shearers, for about 30 years. The name started from the fact that a sheep-herder of that nationality lived in that vicinity for a few years about that period.

Respectfully submitted,


William F. Malnate,
Jr. H. & G. E., C. & G. S.

Respectfully forwarded,



Robert W. Knox,
H. & G. E., Chief of Party.

PLANE-TABLE POSITIONS

Hydro Name	Latitude °	D.M. m.	Longitude °	D. P. m.	Description
SHAK	33 13	1383	119 26	229	: NE corner of a white washed : shack at the east end of : the island
BARN	33 15	1368	119 29	1181	: N. Gable of barn
HAM	33 16	1026	119 34	423	: Center of small white wash- : ed shack at the west end : of the island.
NW House	33 15	1478	119 29	1234	: Center of the NW house of : two houses close together : N of ○ BARN
SE House	33 15	1474	119 29	1220	: Center of the SE house of : the above group.
Concrete House	33 15	1399	119 29	1242	: Center of small concrete : house NW of ○ BARN
West Shack	33 16	1040	119 34	463	: Center of the most wester- : ly shack at the west end.

STATISTICS

Topographic Sheet B - 1952

Area surveyed in square statute miles - 11.7

Statute miles of shore line surveyed - 27.9

Number of hydrographic stations located - 61

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REG. NO. 4775

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 Letter B

REGISTER NO. **4775**

State California

General locality Pacific Coast, Sonoma

Locality San Nicolas Island

Scale 20,000 Date of survey July 9 to August 21, 1932

Vessel Launch and Shore Party

Chief of Party Robert W. Knox

Surveyed by William F. Malnate

Inked by do

Heights in feet above H.W. to ground ~~to tops of rocks~~

~~Contours~~ Approximate contour ~~every 100~~ interval 40 feet

Instructions dated April 14th, 1932

Remarks: _____

