5071

Diag. Cht. No. 9000-1

Original

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, *Director*

State: California

DESCRIPTIVE REPORT

~~*Topographic*~~ / *Hydrographic* | *Sheet No.* 5071 *Field #1*

LOCALITY

Pacific Ocean

Erben Bank

to

San Francisco

1929

CHIEF OF PARTY

K. T. Adams

5071

Form 537
Ed. Sept., 1929

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

REG. NO. 5071

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. 1a

REGISTER NO. 5071

State California

General locality ~~Erben Bank to San Francisco~~ Pacific Ocean

Locality Erben Bank to San Francisco

Scale 1:1,000,000 Date of survey November 21-25, 1929

Scale of sub-plan 1:60,000

Vessel G U I D E

Chief of Party K. T. Adams

Surveyed by K. T. Adams

Protracted by K. T. Adams

Soundings penciled by M. G. Ricketts

Soundings in fathoms ~~feet~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by J. Fleming Sept 1931

Verified by D.F.

Instructions dated Supplemental, 8/20, 1929

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1929

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET NO. 5971.
Erben Bank, California

INSTRUCTIONS: The hydrography executed on this sheet was done in compliance with Supplemental Instructions dated August 20, 1929, and the work was performed while this vessel was enroute from Hawaiian Islands to San Francisco, California.

SURVEY METHODS: The survey being at a great distance offshore was necessarily controlled by dead reckoning and astronomical sights.

The Fathometer was used for sounding throughout, except that after completing the survey a vertical wire cast was obtained at the shoalest depth.

On approaching from the westward an attempt was made to hit the shoal proper and cross it, then returning on a series of parallel courses, crossing the shoal area within one thousand fathoms.

These courses were so chosen that the long lines would be run as direct as possible into and away from the prevailing wind, and the short lines normal thereto, with the wind abeam.

After this first system of lines was run a return was made to the shoaler area and another system of similar lines was run, over the shoal but with very much closer spacing.

This scheme was timed to be completed just before dawn and the vessel was then stopped on the shoalest spot while star sights were taken.

After this a vertical wire sounding on the shoalest spot was obtained, serial temperatures were obtained, and the line was resumed eastward toward the Farallone Islands.

DISCREPANCIES: Certain discrepancies must necessarily exist in work of this nature due to the fact that dead reckoning may not be carried with entire accuracy were so many turns are involved.

In adjusting the work as many as possible of these discrepancies have been eliminated and it is felt that the remaining ones are of slight importance.

To make the work fit, certain astronomical sights had to be disregarded entirely and certain others used as being absolutely correct. This is necessarily so due to the fact that all astronomical sights have a comparatively large probable error. However, no sights were rejected without due consideration and it is felt that the most

probable use of them has been made.

PATENT LOG RATES: Just before leaving the Hawaiian Islands the rates on our patent logs changed. No new tests were made for new rates as it was thought that more useful values could be obtained enroute from Honolulu to San Francisco.

The rates used on this sheet were obtained in the following manner:- After all the star sights were worked up and positions of these points adopted the log runs were compared with the true distances and rates arrived at.

Three such intervals, on practically straight runs, were used, two of which cover a period of about twelve hours and one of which covers a period of about twenty-four hours. One of these intervals was before the arrival at Erben Bank and two of them after departure from Erben Bank.

This gave the curious result of a great change in one log factor. The change apparently occurred at the time the vessel was stopped for the vertical cast.

No satisfactory explanation could be given for this change because from the log rates this log was running too fast before arrival at the shoal and running normal after leaving the shoal.This apparently could not be accounted for by any foreign object being attached to the log before arrival at Erben Bank and being removed when the log was taken in at the vertical cast.

However, the log factors give remarkably correct results,and no hesitance is felt about the use of them on this work.

ASTRONOMICAL SIGHTS: Astronomical sights were taken as is customary in this type of work. Three officers took star sights independently at each dawn and dusk. These sights were worked out independently and three independent positions of the ship were obtained,from which a mean ship position was adopted.

Sunsights were obtained about every hour by alternate experienced officers.

During this entire survey the weather was slightly hazy, making the sights less accurate than could have been obtained under better atmospheric conditions. On one evening no star sights whatsoever were obtainable and on a second evening, that, just before making a landfall,star sights were taken experimentally although it was known to be so hazy as to make the value of these extremely doubtful. Actually this last set of sights was not used at all.

Star sight positions are shown on the smooth sheet by small red

triangles around the positions. Sun sights are indicated by a red line about one and one-half inches long and the position at which they are taken is either on the sight or is linked to it by a dotted line.

BOAT SHEET: The boat sheet, as submitted, contains no adjustments whatsoever. It does however contain dead reckoning of all work done on the insert.

It has no projection, merely a north and south azimuth line and the work was completed on a scale of 1:100,000.

FATHOMETER SOUNDING CORRECTIONS: All soundings were taken by the Fathometer. All soundings were corrected for velocity and all soundings which came within the limits of the insert were corrected for slope.

Velocity factor tables were constructed by the use of the serial temperatures obtained on Erben Bank, supplemented by a mean of the Hawaiian Island temperatures, and the Ship PIONEER's temperatures off the California coast in the deeper water. Slope corrections were made by the use of a celluloid scale originally constructed by Lieut. J. A. Bond, the slope being taken off in terms of percentage.

METHOD OF ADJUSTMENT: On the 1:1,000,000 scale sheet all star sight positions and sun sights were first plotted. Then the dead reckoning was completed from one star sight to the next and this adjusted by a straight line time adjustment. The relative fit to the sun sights was then studied and the line further adjusted to make as reasonable a fit to all the sun sights as was logical. The above method was used throughout on the straight line work.

On the insert the dead reckoning was completed, great care being taken around turns, from one star sight to the next. Then a straight line time adjustment was made and the relative fit to the sun sights studied and the line further adjusted to these sun sights.

After the entire work on the insert was completed in this fashion, tracings were made upon which the soundings were placed. These tracings were laid over the sheet, one on top of the other, and the relative depths studied. Of course it was found that the work did not agree in places. After long study and many trial adjustments a compromise was made by moving some of the work away from the star sight positions. Thus it will be seen that the shoal proper is about one-half mile south of the star fix which was supposed to have been taken on the shoal. Also, it will be noticed that Position 113 A is about one-quarter of a mile east of the point given by the star sights. This movement away from the fix positions was done only after due consideration and I feel sure that the best position of the shoal and coordination of all the sounding lines is thereby reached.

On leaving the Erben Bank after obtaining the serial temperature

and vertical cast the line was necessarily without a fixed position. It was thought that the ship was west-south-west of the shoal proper and that the line would run over the shallow depths and thus it's position could be fixed by the depth curve.

However, it went north of the shoal proper and through more or less flat depths. However, in adjusting this piece of the line it was fitted to the sun sights and the depth curve and it is felt to be reasonably in its proper location.

On approaching the coast of California the weather became increasingly hazy and later foggy so that no landfall was made. On approaching the Farallone Islands about one-half dozen radio compass bearing positions were obtained. These, however, were not very accurate. This end of the line was fixed relatively to the radio compass bearings, to the soundings obtained by the Ship PIONEER in 1929, and to the soundings appearing on Chart 5402, and it is felt that no improbable discrepancy exists on this end of the line.

K. T. Adams

K. T. Adams,
Commanding,
Steamer GUIDE.

KTA/h

#1

VERIFICATION REPORT
to accompany
Hydrographic Sheet
ERBEN BANK.

This is to certify that I have examined the completed smooth sheet and records and hereby approve same. All of the field work was done under my direct supervision.

It is to be regretted that more sounding lines were not run over the eastern half of the shoal in the 400 fathom area but it was thought to be sufficiently covered at the time. In this type of work it is very difficult to tell at the time where the work has been done due to drift and set.

K. T. Adams,
Commanding Officer,
Steamer GUIDE.

KTA/s

ERBEN BANK

Salinity Observations

Note: Refer to copy of Salinity observations made by GUIDE, sent to the DIRECTOR by the Scripps Institute of Oceanography of the University of California, under date of January 25, 1930.

Sample No. Date Time	Latitude Longitude	Therm. No. Reading Cor. Temp.	Haul No. Apparatus Depth	Salinity	Remarks
262 11/21/29 6:00 a.m.	32-40.7 133-13.0	18.2	W.S. 218 Canv. buck Surface	34.27	
264 11/21/29 5:00 p.m.	32-49.2 132-30.6	18.5	W.S. 219 Canv. buck Surface	34.14	
267 11/22/29 9:00 a.m.	32-51 132-33	6.1	W.S. 220 Spec.cup T77 240 fms.	34.07	Erben Bank
268 11/22/29 9:00 a.m.	32-51 132-33	4106 18.8	W.S.221 Canv.buck Surface	34.34	Erben Bank
270 11/22/29 12:30 p.m.	32-51 132-33	No temp.	W.S. 222 Cup T-77 749 fms	34.51	Erben Bank bottle 2/3 full
272 11/22/29 5:20 p.m.	33-08.1 131-51.8	4095 18.6	W.S. 223 Canv. buck Surface	34.13	Erben Bank
275 11/23/29 6:20 a.m.	33-56.2 129-42.0	16.8	W.S. 224 Canv. buck Surface	33.50	Erben Bank
278 11/23/29 6:00 p.m.	34-48 127-40	16.1	W.S. 225 Canv.buck Surface	33.27	Erben Bank
281 11/24/29 7:00 a.m.	35-50.5 125-19.5	15.25-C	W.S. 226 Canv.buck Surface	33.47	Erben Bank
283 11/24/29 10:00 a.m.	35-53 125-19	15.4	W.S. 227 Canv.buck Surface	33.47	Erben Bank
285 11/24/29 5:20 p.m.	36-40 124-23	4095 13.0-C	W.S. 228 Canv.buck Surface	33.61	

calc. 820 fms.

ERBEN BANK

700 (?) miles off California
(Salinity = 33.5 ‰)

Depth Fms.	Temp. °C.		Sum	Mean °C. for layer	Factor	Fathoms Correction
				19.10	+ 0.0139	+ 0.19
13-1/3	19.1		- -	19.15	0.0140	0.37
26-2/3	19.2		38.3	18.70	0.0132	0.53
40	17.8		56.1	18.10	0.0122	0.65
53-1/3	16.3		72.4	17.48	0.0109	0.73
66-2/3	15.0	(5)	87.4	16.83	0.0097	0.775
80	13.6		101.0	16.17	0.0083	0.775
93-1/3	12.1		113.1	15.51	0.0068	0.77
106-2/3	11.0		124.1	14.93	0.0056	0.67
120	10.3		134.4	14.40	0.0044	0.59
133-1/3	9.6	(10)	144.0	13.92	0.0033	0.48
146-2/3	9.1		153.1	13.48	0.0025	0.40
160	8.6		161.7	13.07	0.0016	0.28
173-1/3	8.2		169.9	12.69	0.0009	0.17
186-2/3	7.8		177.7	12.33	+0.0001	+ 0.02
200	7.4	(15)	185.1	12.01	-0.0005	- 0.11
213-1/3	7.0		192.1	11.68	0.0012	0.27
226-2/3	6.5		198.6	11.37	0.0019	0.46
240	6.0		204.6	11.07	0.0026	0.66
253-1/3	5.7		210.3	10.78	0.0032	0.85
266-2/3	5.4	(20)	215.7	10.52	0.0038	1.06
280	5.3		221.0	10.28	0.0044	1.29
293-1/3	5.1		226.1	10.04	0.0049	1.50
306-2/3	4.9		231.0	9.82	0.0055	1.76
320	4.8		235.8	9.62	0.0060	1.99
333-1/3	4.7	(25)	240.5	9.43	0.0066	2.28
346-2/3	4.6		245.1	9.24	0.0071	2.56
360	4.5		249.6	9.09	0.0075	2.80
373-1/3	4.4		254.0	8.91	0.0080	3.09
386-2/3	4.4		258.4	8.76	0.0084	3.36
400	4.3	(30)	262.7	8.61	0.0088	3.63
413-1/3	4.3		267.0	8.48	0.0092	3.93
426-2/3	4.2		271.2	8.35	0.0096	4.23
440	4.2		275.4	8.22	0.0099	4.49
453-1/3	4.2		279.6	8.10	0.0102	4.76
466-2/3	4.1	(35)	283.7	8.00	0.0105	5.04
480	4.1		287.8	7.90	0.0108	5.32
493-1/3	4.1		291.9	7.79	0.0110	5.56
506-2/3	4.0		295.9	7.69	0.0113	5.87
520	4.0		299.9	7.60	0.0115	6.13
533-1/3	4.0	(40)	303.9	7.51	0.0117	6.40
546-2/3	3.9		307.8	7.42	0.0120	6.71
560	3.9		311.6	7.34	0.0122	7.00
573-1/3	3.8		315.4	7.26	0.0124	7.28
586-2/3	3.8		319.2	7.18	-0.0126	-7.56
600	3.8	(45)	323.0			

ERBEN BANK

Serial Temperatures

Latitude 32-15.0-N
Longitude132-33.0-W

Depth in fathoms	Thermometer 14996	Number 4110
Surface	19.0	19.0
1½	0 19.0	# 19.1
15	19.1	19.1
30	0 19.3	# 19.0
30-1/3	19.3	19.3
40½	18.0	18.0
50-1/6		16.6
60	18.0?	15.7
70-1/6		15.0
85½	13.2	
95-2/3	13.2?	* (0) □ 12.4
105-2/3	13.2?	11.0
120-2/3	10.3	10.3
140-5/6	9.5	9.4
160-5/6		8.7
186-1/6		7.8
216		7.0
240-1/3		6.1
256½		5.7
302		5.0
362½		4.5
454½	4.2	4.2
749	NO REGISTER	

□ 4095 - Remainder in this column
* 4110 - Broken, replaced by No. 4095.
0 4095 - On these temperatures.
9218 - On these temperatures.

Depth of layer	Temp. Average of layer	Velocity. Fm/sec	Adiabatic Corr.	Corr. Velocity	Mean Velocity	Factor	Correction	Fms.
600-800	3.42	809.5	+1.0	810.5	810.8	-0.0116	- 8.1	(700)
800-1000	2.95	811.9	1.1	813.0	811.2	0.0107	10.0	(900)
1000-1200	2.70	814.9	1.2	816.1	812.0	0.0098	11.2	(1100)
1200-1400	2.45	816.6	1.3	817.9	812.8	0.0088	12.1	(1300)
1400-1600	2.27	820.2	1.5	821.7	814.0	0.0073	11.7	(1500)
1600-1800	2.20	823.0	1.7	824.7	815.2	0.0059	10.9	(1700)
1800-2000	2.08	827.6	1.9	829.5	816.6	0.0041	9.5	(1900)
2000-2200	2.00	829.5	2.1	831.6	818.0	0.0024	7.8	(2100)
2200-2400	1.85	834.1	2.3	836.4	819.5	-0.0006	-4.6	(2300)
2400-2600	1.75	835.9	2.5	838.4	821.0	+0.0012	+0.5	(2500)
2600-2800	1.7	839.7	+2.7	842.4	822.5	0.0031	4.0	(2700)
					824.0	0.0049		(2900)
					825.7	0.0070		(3100)

SUMMARY

Depth fms.	Corr. Fms.	Depth Fms.	Cor. Fms.	Depth Fms	Corr. Fms.
13		503		2435	
	+ 0.2		-6.0		+ 2.0
19.7		551		2479	
	+ 0.3		-7.0		+ 3.0
27.1		597		2520	
	+ 0.4		-8.0		+ 4.0
35.4		774		2559	
	+ 0.5		-9.0		+ 5.0
45.0		884		2597	
	+ 0.6		-10.0		+ 6.0
57.5		1050		2633	
	+ 0.7		-11.0		+ 7.0
119		1614		2669	
	+ 0.6		-10.0		+ 8.0
135		1758		2704	
	+ 0.5		-9.0		+ 9.0
148		1847		2739	
	+ 0.4		-8.0		+10.0
163		1923		2777	
	+ 0.3		-7.0		+11.0
174		2000		2811	
	+ 0.2		- 6.0		+12.0
186		2073		2844	
	+ 0.1		- 5.0		
195		2133			
	0.0		-4.0		
245		2189			
	-1.0		- 3.0		
307		2244			
	-2.0		- 2.0		
357		2295			
	-3.0		-1.0		
407		2343			
	-4.0		0.0		
454		2390			
	-5.0		+ 1.0		

ERBEN BANK

Log Factors

Period	Log 194 Factor	Log 195 Factor
Nov. 20, 22; 5:46 A.M.	1.1544	.83240
Nov.22, 12:52 P.M. to Nov. 25	1.1544	1.00280

SHEET NO. 1

ERBEN BANK
Statistics

Day	Date	No of soundings W.L	R.L.	V.C.	Stat.Miles Sounding W.L.	R.L.	Total for the day. Sdgs	Sta Mi.	No. of Positions.
A	11/21-22	432		2	377	10.5	434	387.5	198
B	11/22-25	723	12		651.0	4.5	735	655.5	367
TOTALS		1155	12	2	1028.0	15.0	1169	1043.0	565

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 80-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 5071

Erben Bank to San Francisco

Surveyed in 1929

Fathometer

Instructions dated August 20, 1929 (GUIDE)

Chief of Party, K. T. Adams

Surveyed by K.T.A.

Protracted by K.T.A.

Soundings by M. G. Ricketts

Verified and inked by J. Fleming

1. The records are excellent.

2. The plan and character of the survey satisfy both general and specific instructions.

3. The crossings are good except in lat. 32 51', long. 132 30' where there is a difference of about 60 fathoms and which could not be rectified further.

4. The necessary depth curves can be completely drawn.

5. Junction with H. 5014 was made by adjusting the line to soundings from that sheet, and by "Radio Compass Bearings." The junction is satisfactory.

5-a Further surveying in this area is not required.

6. Comparison with previous surveys:

The 388 fathoms on H. 5002 falls about 3.6 miles north of the shoalest soundings obtained in this survey. The fact that the other soundings defining this bank on chart 5002 fall in corresponding depths in this survey leads to the conclusion that this sounding is out of position, and it is considered improbable that such depths exist where, by interpolation, depths of about 800 fms. may be inferred.

It is considered pertinent to call attention to a few indications on H. O. 527 which do not fall within the limits of this survey:

a. A 2014 fm. sounding west of Erben Bank in long. 135 00'.
b. A 1779 fm. sounding and a 1729 fm. sounding about 300 mi. and 570 mi. respectively southwest of Erben Bank.
c. A 774 fm. sounding in lat. 32 30', long. 127 50'. Chart 5002 shows a 978 fm. sounding nearby.

7. Remarks:

This survey having been executed prior to the issuance of Special Publication No. 165 (Slope Correction) does not have a correction factor based upon 100 fm. depth curves as described in that publication, but has one based upon the difference in depth between consecutive soundings. The slope scale designed by Mr. Bond and referred to in the Descriptive Report is based upon the latter method according to the statement of Mr. Bond who is now in the office. In accordance with instructions, the field correction method was, in general, accepted. However, the nature of the formation indicated that the method would be inadequate in some cases and recourse must be had to the 100 fm. depth curve method in order to iron out some of the curves.

Accordingly, a suitable scale was prepared and 100 fm. depth curves drawn lightly through the soundings uncorrected for slope. In the verification, small differences between the field and office determinations were ignored. It will, therefore, be noted in the sounding record that, usually, the difference in per cent between the field factor and the office factor (in blue) is considerable.

Three examples will be cited to illustrate the range and character of the office correction for slope:

(1) 114-115 A, lat. 32 51'.5, long. 132 34'. Here the sounding line is at right angles to a normal drawn between depth curves at the point. The difference in depth between soundings did not (according to the field) warrant the application of a factor, while the depth curves indicated a slope of 19 or 20 degrees.
(2) 179-180 A, lat. 32 49', long. 132 32'. Field factor, .03; office factor, .30.
(3) The office omitted the application of the factor for slope in depths of 300 fms. or less, the slope here being less than 10 degrees.

Several tests for the log factors were made and that part of the sounding line between the two sun sights following pos. 62 A (insert) is thought to be strongest.

Measured distance between sun sights = 12.7

		factor	
Log A = 10.62	x	1.14	= 12.1
Log B			= 12.89
Mean of logs			= 12.49

The above relation with but slight variation, appeared to obtain throughout the verification.

See page preceding statistics for log factor (Descriptive Report). Profile sections of Erben Bank, drawn in the office, accompany the sheet.

Recommendation: The 388 fms. referred to in paragraph 6 appears from this survey to be displaced about 1 1/2 miles to the north. Its removal from the chart is recommended.

The work is considered excellent.

8. Reveiwed by J. Fleming, September 10, 1931.

Note by A.L. Shalowitz

The adjustment of the work having been carefully considered in the field by the Chief of Party, no further adjustments were made in the office. In the verification particular attention was paid to any time irregularities resulting from such adjustment and no violence was noted.

The protrudence in the 1000 fm. curve on the north side of the bank seems somewhat unnatural, but any further adjustment of this curve would play havoc with the 500 fathom curve.

~~In view of~~ The fact that the location of the bank is entirely controlled by astronomic positions taken under not too favorable conditions (see Descriptive Report, page 2) gives ~~the bank~~ a somewhat approximate location, probably unimportant from a navigational standpoint, but nevertheless approximate. It is therefore suggested that if at any future time a better location for the bank is obtained, the entire work on this sheet be adjusted to conform to that location.

The soundings charted at present in the vicinity of Erben Bank are from the U.S.S. ALBATROSS. The difference in location of some of the soundings, particularly the 388 fms. (see reviewer's report, paragraph 6) is doubtless due to the more approximate methods used to locate the soundings. It is therefore recommended that all the charted soundings which fall within the limits of the new survey be superseded by the latter.

As stated in the Chief of Party's note, it is regrettable that more work was not accomplished over the eastern half of the shoal to the limits of the 500 fathom depth curve.

Inspected by A.L.S., Jan. 1932.

Approved:

A. M. Sobiewalski
Chief, Section of Field Records

F. S. Borden
Chief, Section of Field Work

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5071

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

Number of positions on sheet	565
Number of positions checked	105
Number of positions revised	1
Number of soundings recorded	1169
Number of soundings revised	54
Number of signals erroneously plotted or transferred	.....

Date: 2 Sept. 10, 1931

Cartographer: John F. Fleming

May 7, 1931

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET 5071

Locality **Erben Bank to San Francisco**

Chief of Party: **K. T. Adams**, in 1930
Plane of reference is
ft. on tide staff at
ft. below B. M..

No tide reducers entered. Less than one per cent. of depths.

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.
13. Remarks.

H A Marmer

Acting Chief, Division of Tides and Currents.

PLEASE ADDRESS REPLY TO "THE DIRECTOR" AND REFER TO FILE NUMBER:

Code 541

U. S. NAVY ELECTRONICS LABORATORY
SAN DIEGO 52, CALIFORNIA

for PEACE OF MIND- BUY SAVINGS BONDS

13 May 1948

Mr. Harold W. Murray
Chief, Hydrographic Surveys Section
U. S. Coast and Geodetic Survey
Room 1102, Commerce Building
Washington 25, D. C.

Dear Mr. Murray:

I duly received your letter dated April 20, as well as the reprints of papers you so kindly sent me.

Under separate cover I am forwarding you an ozalid reproduction of the (unpublished) contours of Erben Bank as determined by the USS FIEBERLING (DE640) during a SOFAR survey in late 1946. Enclosed you will find a photographic reduction of same (numbered Figure 1). As you will notice, the survey did not extend beyond 800 fathoms because the vertical region of significance to SOFAR sound transmission is assumed to be on the order of 300 - 400 fathoms. For your further information, I am enclosing a photographic reduction of typical fathograms of Erben Bank.

Three fixes (sun lines and LAN, and 2 star fixes) were obtained at Erben Bank, and are indicated on Figure 1 by I, II, III. The three positions are plotted relative to each other but the contours of the seamount are related only to the coordinates for Position I. Even this position (I) is probably in error. A heavy overcast at the time of the survey made position determinations practically dependent upon LAN and the advancing of sun lines. However, Dr. Dietz of this Laboratory, who recently conducted the expedition in which Mr. Buell of the Hydrographic Office took part, is of the opinion that the correct position is more nearly that indicated on navigational charts of the NE Pacific.

TR600
Ext. 64

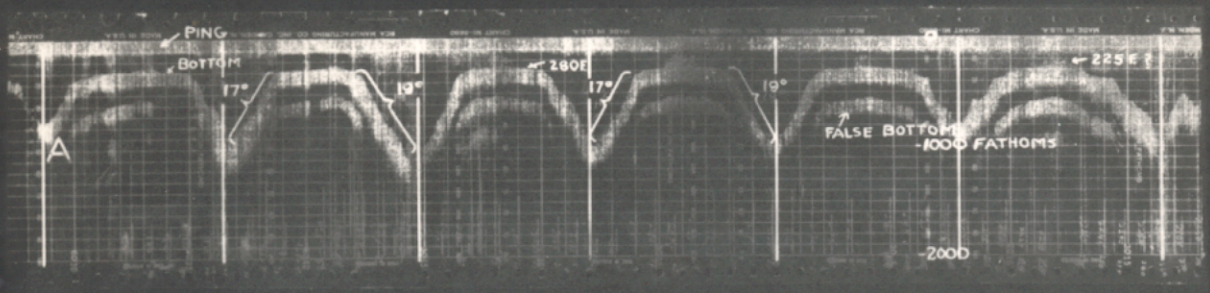
Dr. R.S. Dietz plans to write a paper in the near future concerning some investigations of Erben Bank and (West) Twin Bank (app. 32°24'N, 127°47'W) and will be glad to send you a copy of same when completed.

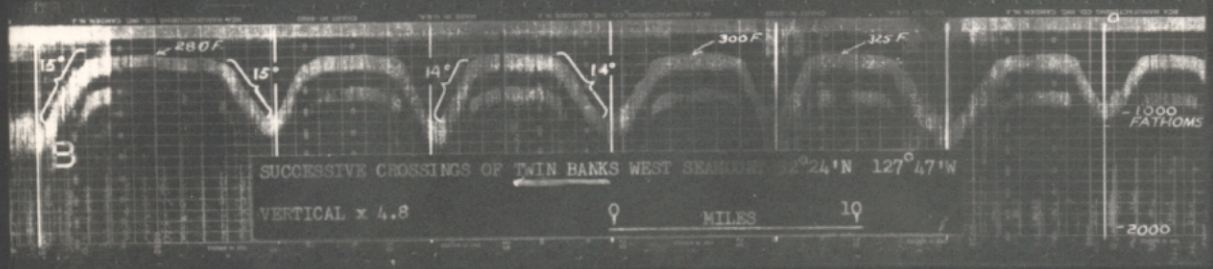
In this connection it would be appreciated if you would let me know whether the two seamounts (H.O. Chart No. 0527) at app. 32°25'N, 127°50'W and 32°05'N, 126°50'W are officially recognized as Twin Banks. If not, it is suggested that the westerly of the two (min. depth 225 fthms) be named FIEBERLING Seamount and the easterly of the two (min. depth 510 fthms) be given some other appropriate name. The two seamounts are quite dissimilar and are at such a distance from each other that other seamounts may exist between them.

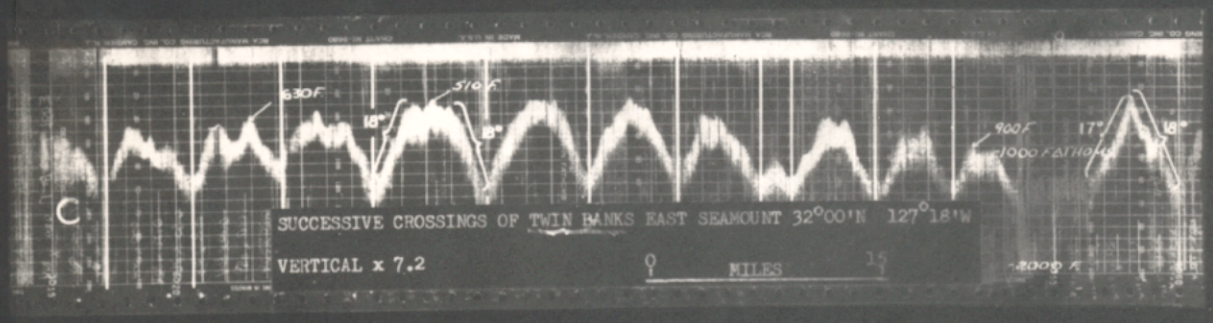
Yours truly,

B. E. Holtsmark

Dr. B. E. Holtsmark
Code 541







228 fms. (reduced)

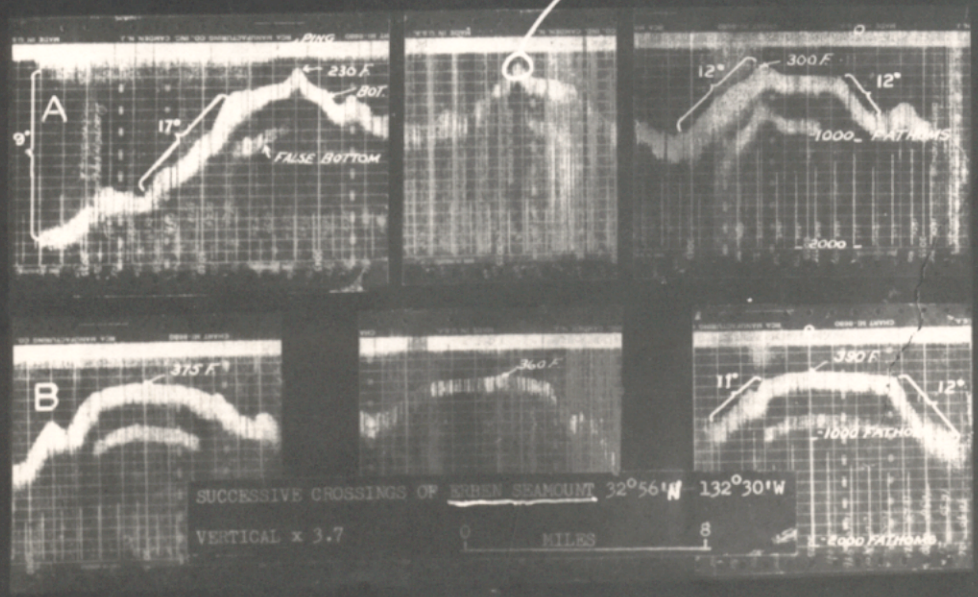


FIG. 1 DEPTH CONTOURS - ERBEN BANK

Applied to compilation of new chart No. 5020 — G.B. Maize Dec 1937

(Thru 5020) " " " " " " 5021 — G.R. 7/22/46