



HYDROGRAPHIC TITLE SHEET

FE-310

INSTRUCTIONS - 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.

PHP 5-1-87  
PHP 10-3-87

State California

General locality San Francisco Bay

Locality Vicinity of Hunters Point to Oakland Inner Harbor

Scale PHP 5-1-87 1:5,000  
PHP 10-3-87 1:10,000 Date of survey May 19 to December 1, 1987

Instructions dated February 10, 1987 w/change #1 Project No. OPR-L123-PHP-87

Vessel Launch 1101 (EDP 0651)

Chief of party LT Federico R. Diaz/LTJG John A. Miller

Surveyed by LTJG John A. Miller, LT Federico R. Diaz, LTJG Thomas Porta, Survey Tech. Felipe L. Rosario, Eng. Tech. Bruce Lund, Survey Tech. Ted R. Martin

Soundings taken by Survey Tech Mike E. Bigelow Pneumatic Pressure Gauge

Graphic record scaled by J.A. Miller, F.R. Diaz, T.K. Porta, F.L. Rosario, B.H. Lund, T.R. Martin, M.E. Bigelow

Graphic record checked by F.R. Diaz, J.A. Miller, T.K. Porta

Verification by: I. Almacen Automated plot by PMC Xynetics Plotter

Evaluation by: I. Almacen, J. Green

Soundings in ~~fathoms~~ feet at ~~MHW~~ MLLW

REMARKS: All times recorded in Universal Time Coordinate (UTC).

Revisions and marginal notes in black generated during processing.

Separates are filed with the hydrographic data.

*Updated - AWOIS + SURF ✓ RUD 11/89*

*XWW 1/6/93*

PROGRESS SKETCH TO ACCOMPANY ANNUAL FIELD OPERATIONS REPORT

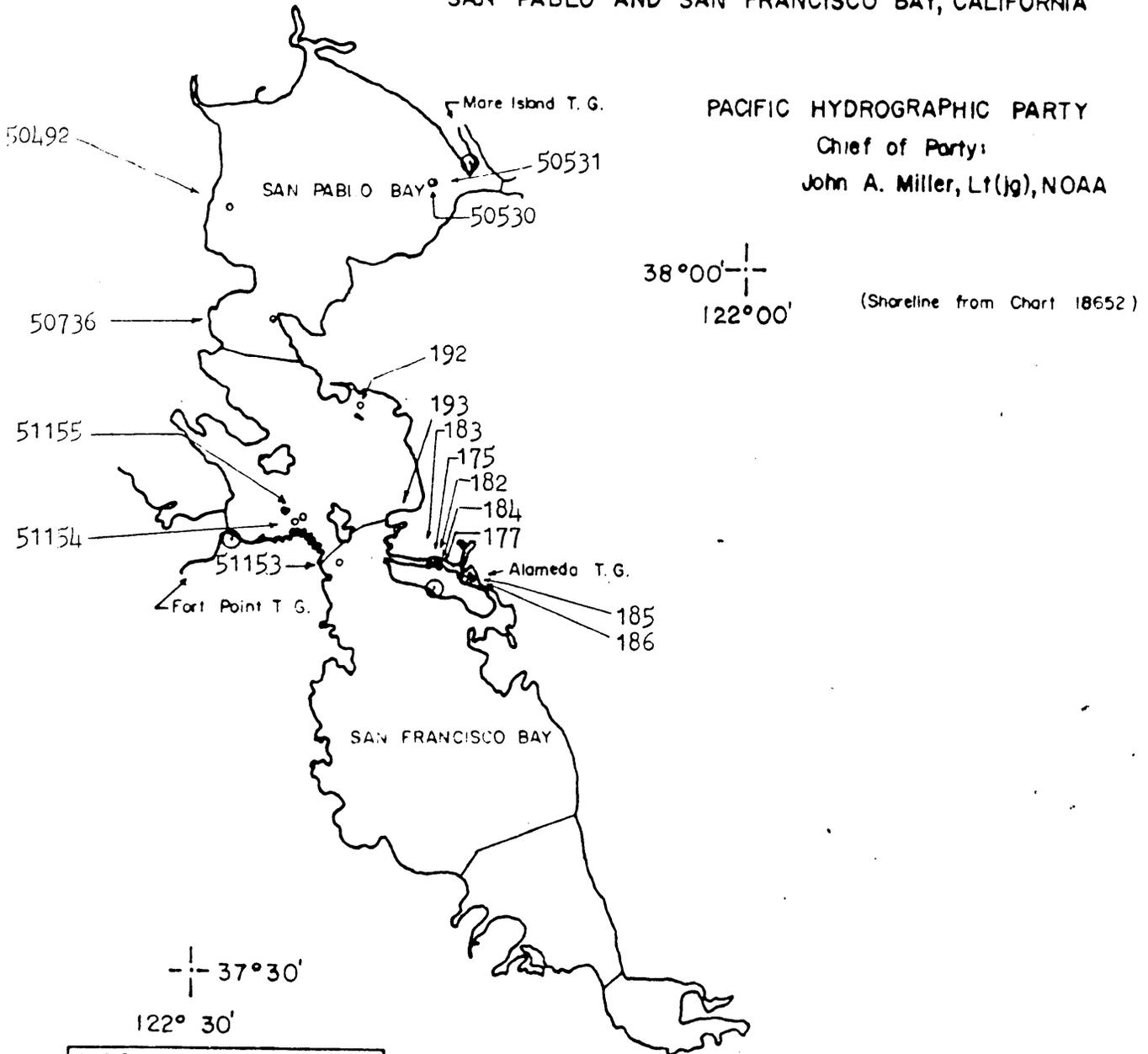
OPR-L123-PHP-87

SAN PABLO AND SAN FRANCISCO BAY, CALIFORNIA

PACIFIC HYDROGRAPHIC PARTY

Chief of Party:

John A. Miller, Lt(jg), NOAA

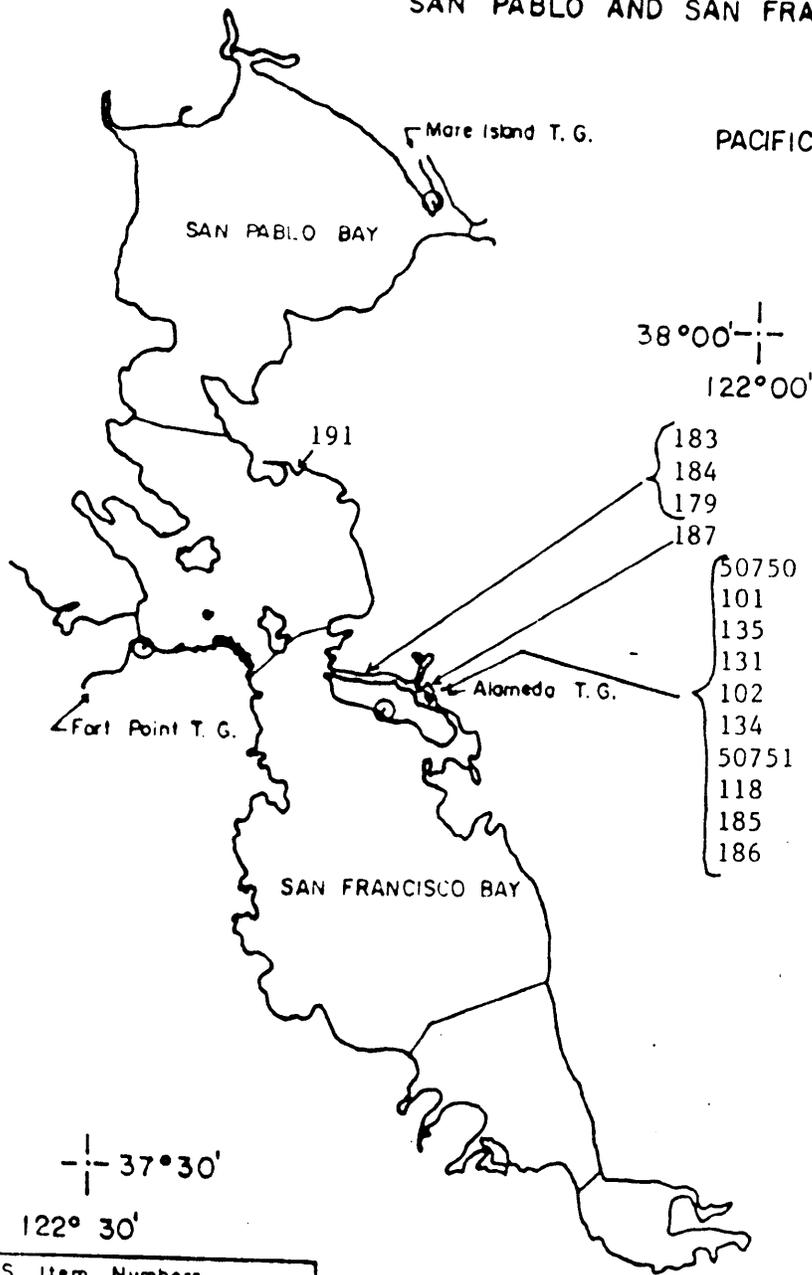


AWOIS Item Numbers		Month	Year
STATUS OF INVESTIGATION		MAY	1987
DISPROVED	192, 50531, 50492, 177		
VERIFIED	50530, 175, 182		
IN PROGRESS	183, 184, 185, 186, 193		
RESOLUTION NOT FEASIBLE			

PROGRESS SKETCH TO ACCOMPANY ANNUAL FIELD OPERATIONS REPORT

OPR-L123-PHP-87

SAN PABLO AND SAN FRANCISCO BAY, CALIFORNIA



PACIFIC HYDROGRAPHIC PARTY

Chief of Party:

John A. Miller, Lt(jg), NOAA

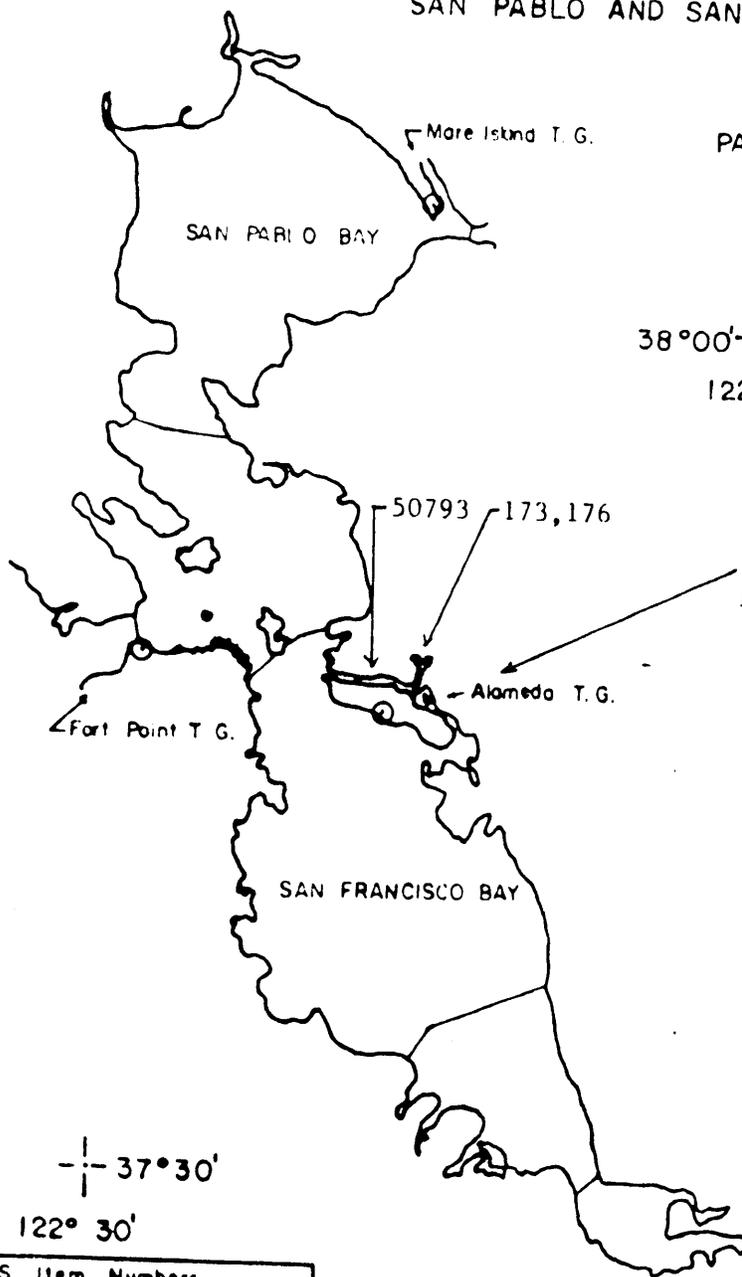
(Shoreline from Chart 18652)

AWOIS Item Numbers	STATUS OF INVESTIGATION	
	Month	Year
	June	1987
DISPROVED		
VERIFIED	183, 184, 187, 191, 101, 135, 131, 102, 179, 134	
IN PROGRESS	50751, 118, 185, 186, 50750	
RESOLUTION NOT FEASIBLE		

PROGRESS SKETCH TO ACCOMPANY ANNUAL FIELD OPERATIONS REPORT

OPR-L123-PHP-87

SAN PABLO AND SAN FRANCISCO BAY, CALIFORNIA



PACIFIC HYDROGRAPHIC PARTY

Chief of Party:

John A. Miller, Lt(jg), NOAA

38°00'—  
|  
—122°00'

(Shoreline from Chart 18652)

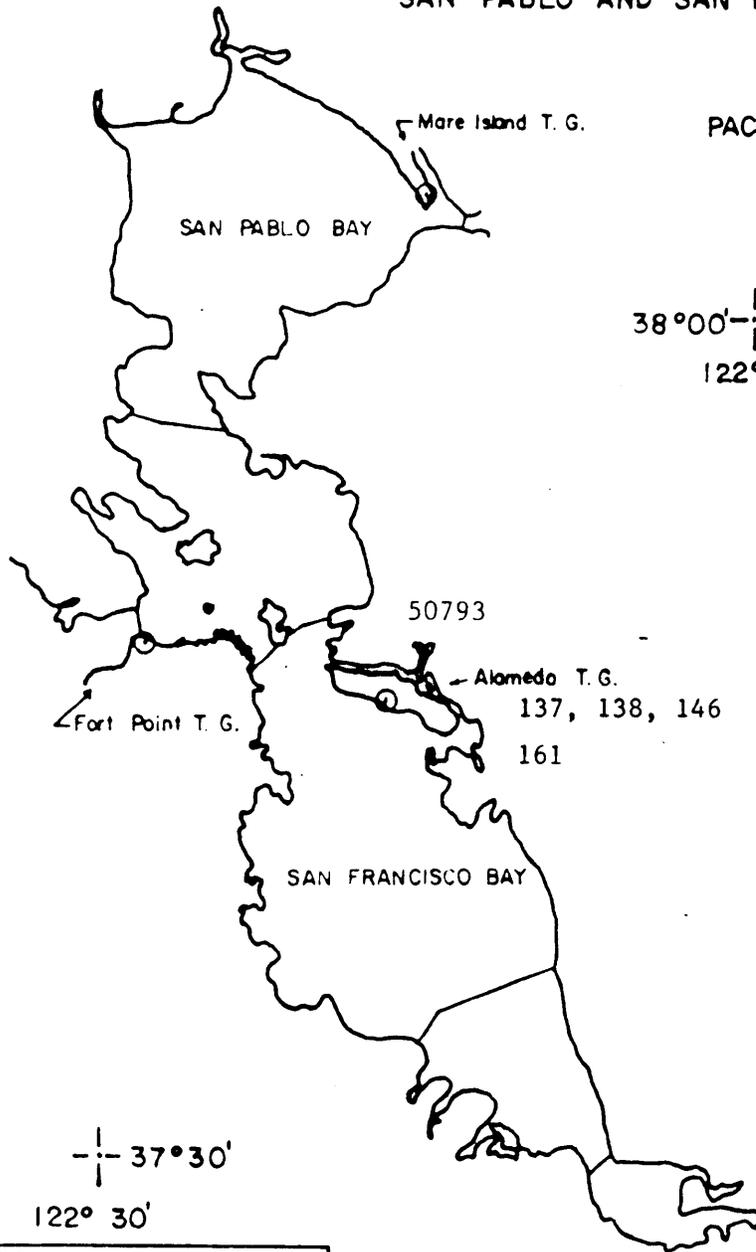
—37°30'  
|  
—122°30'

AWOIS Item Numbers STATUS OF INVESTIGATION	Month	Year
	July	1987
DISPROVED	50751, 174	
VERIFIED	101, 179, 185, 50750, 186	
IN PROGRESS	173, 176, 118, 50793, 51152	
RESOLUTION NOT FEASIBLE		

PROGRESS SKETCH TO ACCOMPANY ANNUAL FIELD OPERATIONS REPORT

OPR-L123-PHP-87

SAN PABLO AND SAN FRANCISCO BAY, CALIFORNIA



PACIFIC HYDROGRAPHIC PARTY

Chief of Party:

John A. Miller, Lt(jg), NOAA

38°00' —  
— 122°00'

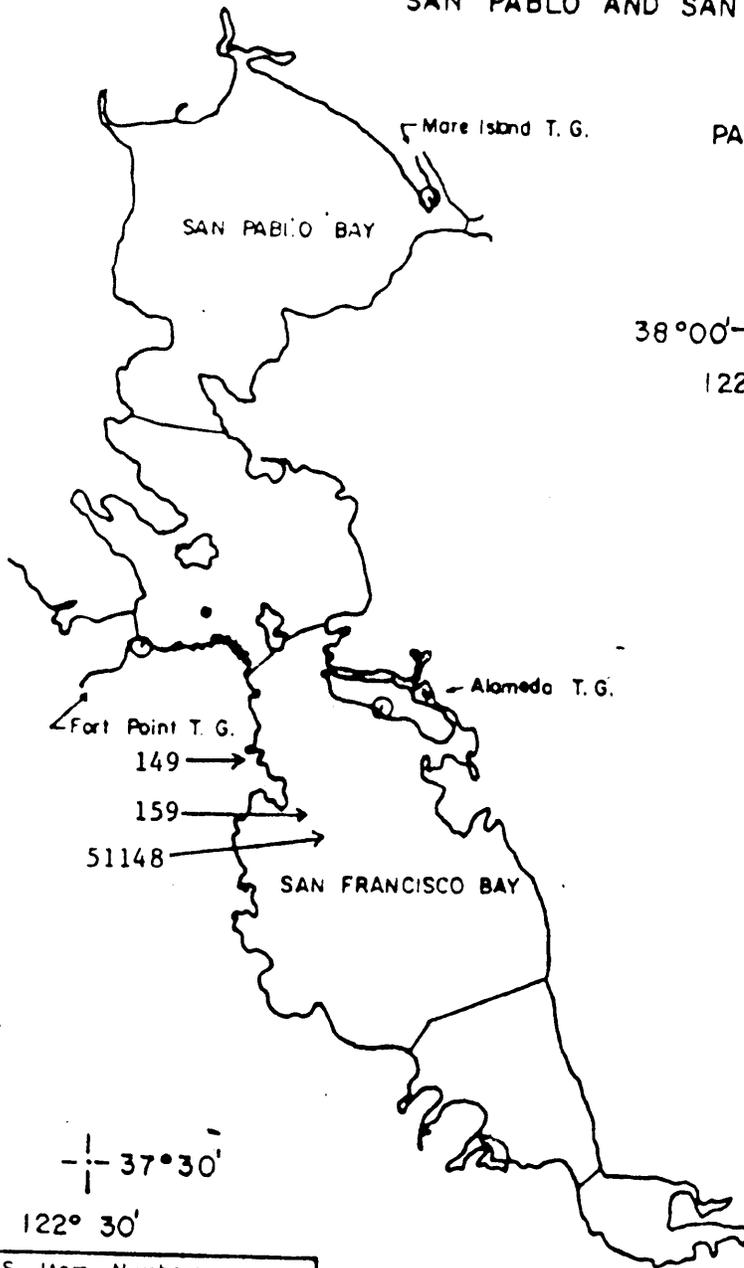
(Shoreline from Chart 18652)

AWOIS Item Numbers		Month	Year
STATUS OF INVESTIGATION		AUGUST	1987
DISPROVED			
VERIFIED	137, 138, 146, 161, 50793		
IN PROGRESS			
RESOLUTION NOT FEASIBLE			

PROGRESS SKETCH TO ACCOMPANY ANNUAL FIELD OPERATIONS REPORT

OPR-L123-PHP-87

SAN PABLO AND SAN FRANCISCO BAY, CALIFORNIA



PACIFIC HYDROGRAPHIC PARTY  
 Chief of Party:  
 John A. Miller, Lt(jg), NOAA

38°00' —  
 |  
 122°00'

(Shoreline from Chart 18652)

AWOIS Item Numbers		Month	Year
STATUS OF INVESTIGATION		SEPTEMBER	1987
DISPROVED			
VERIFIED	149, 159		
IN PROGRESS	51148		
RESOLUTION NOT FEASIBLE			

PROGRESS SKETCH TO ACCOMPANY ANNUAL FIELD OPERATIONS REPORT

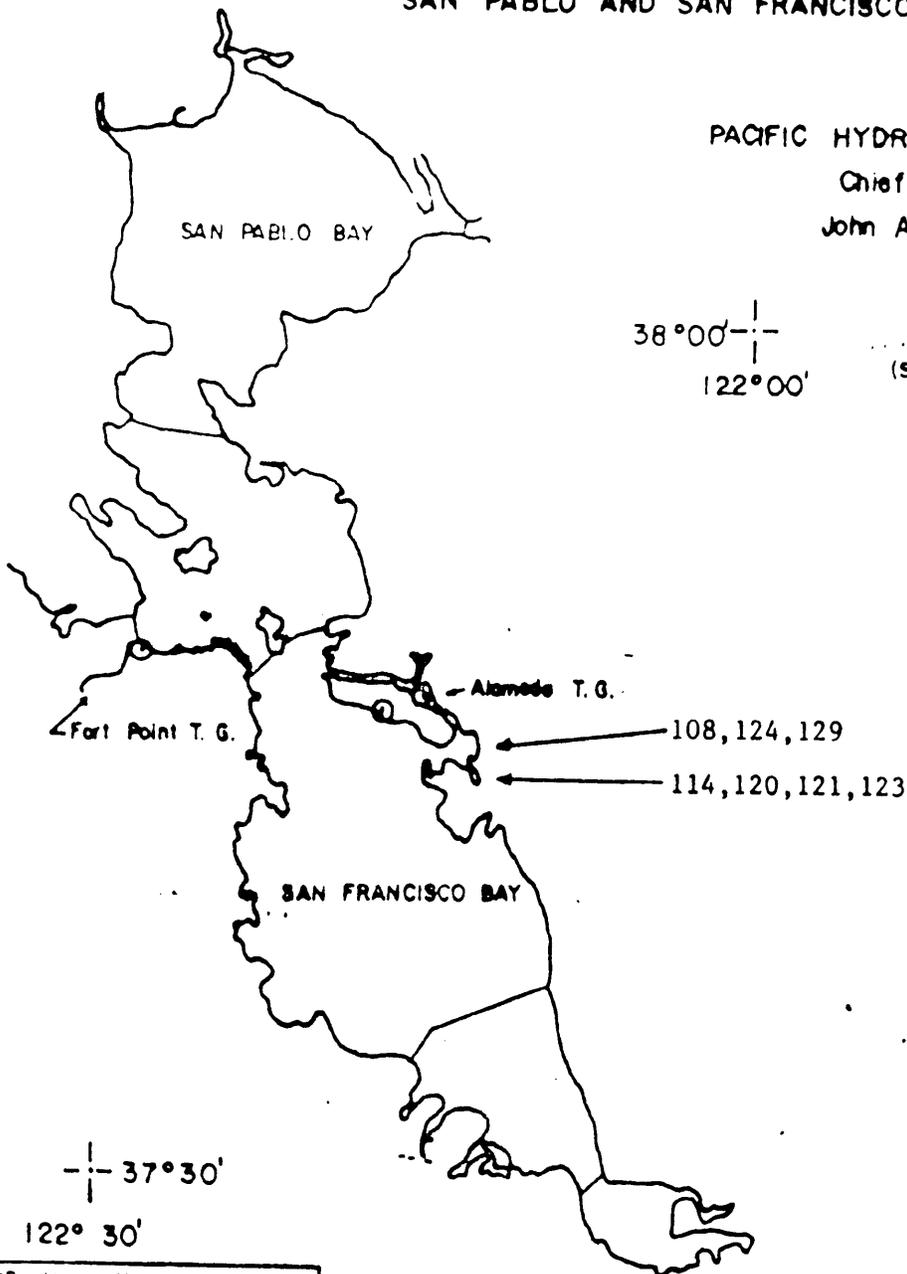
OPR-L123-PHP-87

SAN PABLO AND SAN FRANCISCO BAY, CALIFORNIA

PACIFIC HYDROGRAPHIC PARTY

Chief of Party:

John A. Miller, Lt(jg), NOAA



AWOIS Item Numbers		Month	Year
STATUS OF INVESTIGATION		OCTOBER	1987
DISPROVED			
VERIFIED	108, 114, 120, 121, 123, 124, 129		
IN PROGRESS			
RESOLUTION NOT FEASIBLE			

PROGRESS SKETCH TO ACCOMPANY ANNUAL FIELD OPERATIONS REPORT

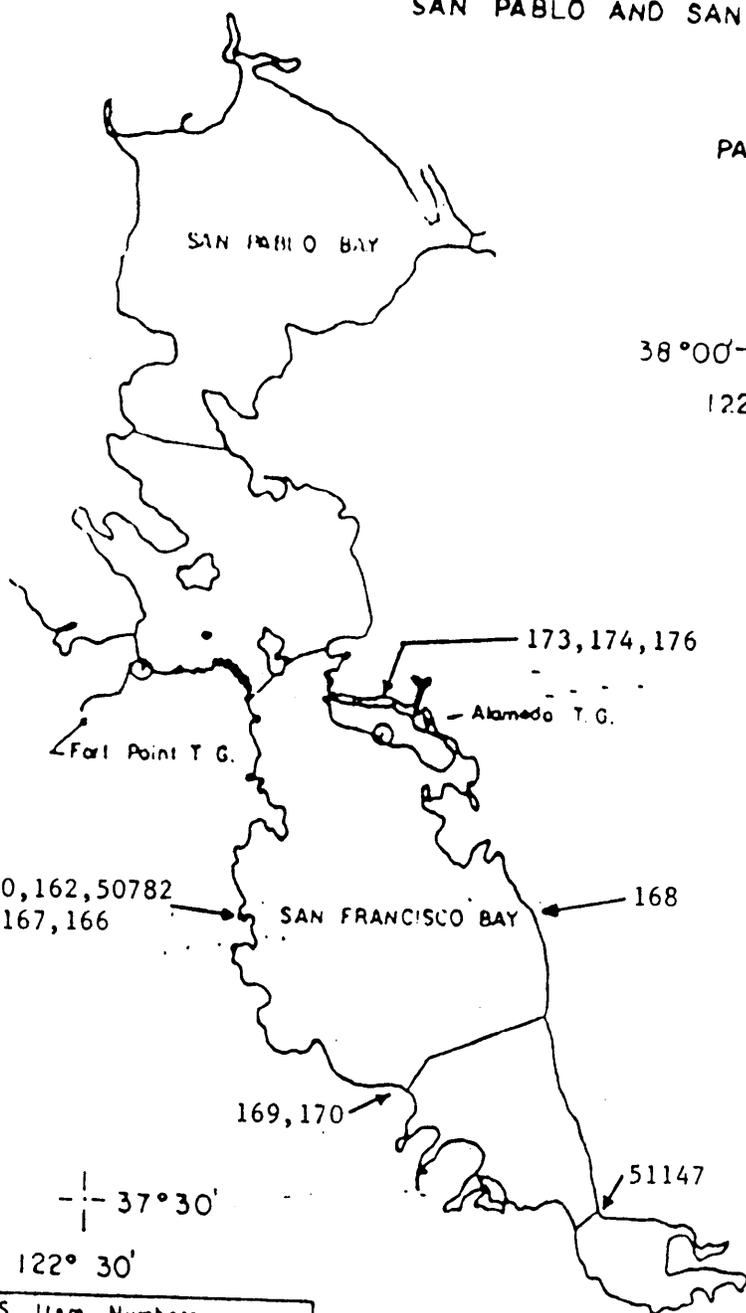
OPR-L123-PHP-87

SAN PABLO AND SAN FRANCISCO BAY, CALIFORNIA

PACIFIC HYDROGRAPHIC PARTY

Chief of Party:

FRED DIAZ, I.T., NOAA



AWOS Item Numbers		Month	Year
STATUS OF INVESTIGATION		November	1967
DISPROVED	173, 50782, 50781, 151, 160, 162, 166, 167, , 170		
VERIFIED	51147, 174, 176, 168, 169		
IN PROGRESS			
RESOLUTION NOT FEASIBLE			

PROGRESS SKETCH TO ACCOMPANY ANNUAL FIELD OPERATIONS REPORT

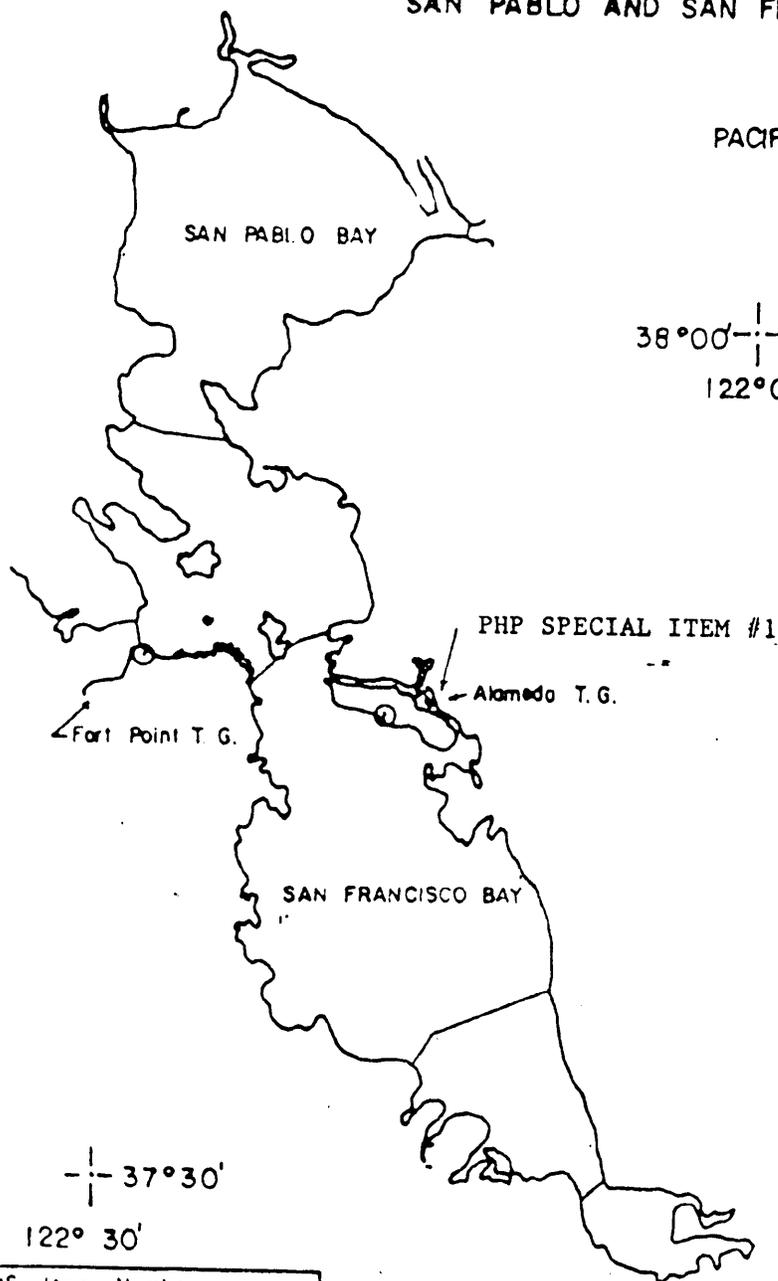
OPR-L123-PHP-87

SAN PABLO AND SAN FRANCISCO BAY, CALIFORNIA

PACIFIC HYDROGRAPHIC PARTY

Chief of Party:

LT Federico R. Diaz



AWOS Item Numbers		Month	Year
STATUS OF INVESTIGATION		DECEMBER	1987
DISPROVED			
VERIFIED	PHP SPECIAL ITEM #1		
IN PROGRESS			
RESOLUTION NOT FEASIBLE			

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY  
FE-310\_\_, FIELD NO. PHP-5-1-1987, PHP-10-3-1987  
Scales 1:5,000, 1:10,000, Year 1987  
Pacific Hydrographic Party (PHP)  
Chief of Party: LT Federico R. Diaz

A. PROJECT.

A field examination was performed in accordance with Project Instructions DPR-L123-PHP-87, dated February 10, 1987, and Change No. 1 dated March 20, 1987. These Project Instructions encompass all of San Francisco and San Pablo Bays.

The field examinations were conducted within the limits of the chart that covers the respective area. This field examination investigated unresolved items that remained from basic surveys used to upgrade nautical chart 18650. The items listed below, from the Office Review, dated October 25, 1984 (included with Project Instructions DPR-L123-PHP-87) have been completed:

ITEM NUMBER

101' 120' 130' 138' 173' 179' 185' 50793 ✓  
102' 121' 131' 146' 174' 180' 186' 51152 ✓  
108' 122' 133' 147' 175' 181' 187' PHP SPECIAL ITEM ✓  
112' 123' 134' 149' 176' 182' 193 ✓  
114' 124' 135' 159' 177' 183' 50750 ✓  
118' 129' 137' 161' 178' 184' 50751 ✓

The following items were not completed due to the time constraints set forth by the the project instructions. The following items were not priority one items:

ITEM NUMBER

104 111 132 141 144 ✓  
105 127 136 142 145 ✓  
107 128 140 143 172. ✓

These items, listed below, were within the foul limits positioned in Item 120. They were not positioned independently because they were within a foul area.

ITEM NUMBER

103 116 ✓  
106 117 ✓  
109 125-51149, 51150 ✓  
113 126-51151 ✓

PHF requested a side scan sonar from NMOP/21 to complete the following items at the beginning of field operations. The side scan sonar was not received because it was being used by other field units.

AWOIS NUMBER

51148 ✓    51153 ✓    51154 ✓    51155 ✓

B. AREA SURVEYED.

The investigations were performed in San Francisco Bay, CA, from Hunters Point to the Oakland <sup>INNER</sup> Outer Harbor. The dates of the survey were from May 19, to December 1, (DN 139-335) 1987. Limits of the investigations are:

37/42/00 N            to    37/49/30 N  
122/22/00 W            122/12/00 W.

Deep draft vessels of 20 feet or greater navigate in San Francisco Bay, Islais Creek, Oakland Outer Harbor, Oakland Inner Harbor to Coast Guard Island, and the NAS Alameda Channel. Tug and barge traffic were observed in the above localities along with the San Leandro Channel and the Tidal Canal. Small vessels were observed in all the areas mentioned above along with Airport Channel.

C. SOUNDING VESSEL.

PHF's launch 1101 (EDP 0651), a 29 ft. aluminum Jensen, equipped with a turbo Caterpillar diesel and a Hamilton jet drive, was used for bottom drags, dive searches, and all investigations.

There were no unusual problems encountered with Launch 1101 during the survey.

D. SOUNDING EQUIPMENT.

Launch 1101 is equipped with a standard Ross Fineline 5000 echo sounder and digitizing system which utilizes a centerline mounted, 7.5 degree, 100 KHz transducer. Launch 1101 is also equipped with two side looking digital transducers for navigational use in sloughs, narrow

channels, and creeks. The Ross system on Launch 1101 consists of the following instruments:

<u>Component</u>	<u>Model_No.</u>	<u>S/N</u>
Power Inverter	2000	1071
Transceiver	4000	1040-6
	DN 139 - 253	
	4000	1081
	DN 253 - 335	
Analog Recorder	5000	1080
Digitizer	6000	3787

The Ross system was used for depths of 0 - 74 ft.

Leadline PHF-1, 3D Instruments Inc. pneumatic gage (SN 8604205N), and fiberglass tapes were used for least depth and item measurements for depths under 20 ft. Final field sheet soundings were corrected for leadline, pneumatic gage, and (where appropriate) tape angle. For leadline, and pneumatic gage calibration information see Appendix IV, Sounding Correction Abstract, following this report.

On July 1 (DN 182), the fix marks on the analog trace became faint, until no marks were made. The problem was isolated to a bad board in the transceiver which was replaced on DN 183. The data collected on DN 182 were detached positions only. The echo sounder was not necessary for this day. No data was lost due to the malfunction. The proper operation of the echo sounder system was confirmed by subsequent bar checks.

On September 10 (DN 253), the transceiver SN 1040-6, was replaced with transceiver SN 1081. Transceiver 1040-6 caused the breaker to trip off. This problem was corrected with the new transceiver. No hydrography was lost or affected due to the malfunction. The proper operation of the echo sounder system was confirmed by subsequent bar checks.

On November 24 (DN 328), the 24 VDC system was not producing sufficient voltage to operate the echo sounder. A side scan sonar was requested from US Geological Survey in Redwood City, CA. The 24 V DC system was returned to service on November 30 (DN 334). The proper operation of the echo sounder system was confirmed by subsequent bar checks.

There were no faults in the equipment that affected the accuracy of the soundings.

#### **Sounding Instrument Accuracy and Adjustments.**

The Ross echo sounding system simultaneously produces an analog echogram and a digitized depth value. Digitized

soundings sampled by the logging system at predetermined time intervals are the primary source of sounding line data on the field sheet, but these are supplemented by depths scaled from the analog record in areas where digitized depths were incorrect or lacking. The digitized depths are sometimes triggered by a source other than the bottom (sea weeds, fish, etc.) or from an instrument generated source such as side echos. In these instances the digitized depths were replaced by values scaled from the echogram.

Initial error occurs when the echo sounder's transmit pulse trace is not adjusted to coincide with the zero on the echogram paper. The initial trace alignment was monitored and adjusted during survey operations. Any depths scaled from echograms with initial error were corrected before being applied to the survey.

Phase errors are caused by faulty stylus belt timing in the analog recorder due to belt stretching or improper internal adjustment. The system was checked for phase error at the beginning of each survey day and, with few exceptions, at the end of each survey day (or whenever the analog paper was changed) by introducing simulated depths (e.g. 10', 20', 30', etc.) into the analog recorder via the digitizer phase calibration mode. The analog trace was then compared to the simulated digital depth and the equipment was adjusted as necessary.

The analog's speed had no inconsistencies on this survey.

#### **Static Transducer Draft.**

The static transducer draft values for the hull mounted transducer on Launch 1101 was physically measured in two parts. The first part was done while the launch was out of the water. The distance between the transducer face and the bottom of a black line painted on the hull above the water line was measured using a surveying level (Lietz B-1, S/N 214303) and rod. The second part was done with the launch in the water with a normal fuel load on board. The distance between the bottom of the painted black line and the actual water line was measured with a steel tape.

The actual static transducer depth is the distance obtained in part 1 minus the distance measured in part 2. The actual static draft was measured at 1.63 feet.

#### **Sound Velocity Correctors.**

Sound velocity correctors were derived from bar check data. Bar checks were made once daily when wind and sea conditions permitted. Most days the wind is too strong in the afternoon for the keel-less jet launch to obtain usable bar check data.

An 11 x 1 foot aluminum bar suspended on 1/4 inch steel chains with wire-tied and painted markings at 5 foot intervals was used to obtain bar check data. Chain markings were checked for accuracy prior to beginning the survey and were found to be accurate. Bar checks were abstracted daily using a measured static draft value of 1.6 feet.

On DN 295 this bar was lost in the water. A replacement bar was requested from the Pacific Marine Center. The replacement bar is 6 x 1.5 foot. The mounts on the bar were adjusted so the chains could be used without introducing an error. ✓

Sound velocity correctors were computed using the mean of the daily values for each bar depth and the appropriate static draft and instrument corrector values. The bar checks were grouped by time. All the bar checks from a one or two month period were used to determine a velocity curve. The hydrography during these times were in the same general locality.

Three sound velocity curves were calculated from the bar check data. The standard deviation was computed for each bar depth to identify blunders or suspicious data. On DN 335 there appears to be blunders on the correctors over 25 feet. These correctors were rejected. The overall point corrector values for depths were plotted on a depth versus velocity corrector graph. From this graph a line was drawn through the points and a table of correctors was determined. The differences in the correctors from the three curves were not statistically significant. Therefore a single curve was drawn and one velocity table was used to plot the soundings. The following table is appropriate for the dates shown: ✓

Table	Inclusive Dates (Year days)
I	139/87 - 335/87

Sounding data was acquired during most of the bottom drag operations. This information was acquired for the launch crew to facilitate drag operations and should not be used for charting purposes since bar checks were not performed. No velocity or other correctors were applied to bottom drag soundings. *These soundings were not plotted.* ✓

A bar check was not possible on DN 139 due to wind, sea and traffic conditions. A bar check was conducted on DN 140 in the same area. The data on DN 139 should be retained since crosslines and junctions agree within one foot. All other days of hydrography had accurate bar checks.

## Settlement and Squat Corrections.

The digital speed log for Launch 1101 was originally acquired in April, 1984 to test for ground effect, which is the change in speed when moving to and from shallow water (see Ground Effect Report, May, 1984). From this testing it was determined that one method to help reduce the need for ground effect correctors was to operate the launch by constant speed through the water instead of fixed rpm. This decision was cleared through PMC and the speed log was permanently mounted in the hull of Launch 1101. All soundings collected with Launch 1101 were annotated as to speed through the water, not rpm. Speed through the water was likewise used during the settlement and squat measurements. ✓

Settlement and squat measurements were observed for the Pacific Hydrographic Party's Launch (EDP 0651), on April 7, 1987 (DN 97). This test was conducted during survey operations on OPR-L123-PHP-86 and OPR-L123-PHP-87. The settlement and squat correctors apply to all data acquired on this survey (DN 139 - DN 335). ✓

Equipment on the launch at the time of the test consisted of normal electronic positioning and depth finding gear (Mini-Ranger, HDL system, Ross echo sounder). The launch is equipped with a Caterpillar Diesel engine coupled to a jet pump. Three people were on board the launch at the time of the test (a normal crew for surveying).

The test was conducted between the General Mills pier ruins (38/04/50 N and 122/14/50 W) and Mare Island Strait Light 4. The test was in the limits of OPR-L123-PHP-86. The launch ran in depths of 20 to 40 feet of water. The weather during the test was calm, with winds 0 to five knots, seas were 0 feet and the current was slack. ✓

The level was set up on stable pier ruins at the General Mills flour company, Vallejo, California. A level rod was held on the cabin top, over the position of the hull mounted transducer. The launch made runs ranging from 3 nm to 10 nm towards the instrument, stopping for dead in the water (DIW) measurements before and after each run to account for the change in tide levels. These point values were plotted and connected to yield continuous speed versus draft correction curves. ✓

Settlement and squat corrections are not applied to the field sheet, but are incorporated on the TC/TI tape.

### Tide Correctors.

Predicted tides were used to to reduce the soundings to MLLW. See Appendix II. Field Tide Note for further information.

### Correctors Applied to the Expansion Sheets.

Launch 1101 (EDP 0651)	Predicted tide correctors Static Draft correction
PHP-1 Leadline	Leadline correctors Predicted tide correctors
Pneumatic gage	Pneumatic gage correctors Predicted tide correctors
Fiberglass tape	Predicted tide correctors tape angle correctors

### Correctors Applied to the Final field Sheet.

Launch 1101 (EDP 0651)	Predicted tide correctors Static Draft correction Velocity corrections
PHP-1 Leadline	Leadline correctors Predicted tide correctors
Pneumatic gage	Pneumatic gage correctors Predicted tide correctors
Fiberglass tape	Predicted tide correctors tape angle correctors

### E. HYDROGRAPHIC SHEETS.

Six 1:10,000, and nine 1:5,000 field sheets were constructed with program RK 201 on a Modified Transverse Mercator projection with a Houston Instruments DP-3 Complot Flatbed plotter. Four expansion sheets (three 1:5000 and one 1:2000) were constructed using the same method.

The expansion sheets were made to aid PHP in the analysis of the data. All essential soundings were transferred to the final field sheets. The 1:5000 expansion sheets could not be made to fit the size limitations of FE items and are not included in the binder of the Descriptive Report. However, the parameter tapes for all sheets, as well as the paper expansion sheets, are included in the field records that accompany this report.

Field records were forwarded to the Pacific Marine Center, Nautical Chart Branch, Seattle, Washington, for verification and smooth plotting. Final field sheets were not completed at PHP, as arranged by both PHP and PMC due to the lack of a full complement of personnel and time constraints.

See Eval Rpt  
Sect 4

E. CONTROL STATIONS.

Control stations used on field examinations are:

NEW POSITION OR VERIFICATION OF OLD	STATION	LOCATION METHOD
Verified by PHP	Mt Sutro TV Tower N Antenna (1976)	Intersection
"	Mt Sutro TV Tower S Antenna (1976)	"
"	Mt Sutro TV Tower W Antenna (1976)	"
"	Oakland Alameda Co Cthse Fp (1947)	"
"	Ward (1947)	Traverse
Positioned by PHP	Jack London SQ Flagpole (1987)	Intersection
Verified by PHP	Oakland Mormom Temple Spire (1977)	"
"	Oakland Navy <sup>SUPPLY</sup> Depot Check Tk (1947)	"
"	Trans America Building (1976)	"
Positioned by PHP	Alameda NAS W Breakwater E Lt (1953)	"
"	Vet 1 (1979)	Resection
"	Oakland Tribune Bldg Flagpole (1925)	Intersection
"	Yerba Buena Lighthouse (1919)	"
"	Chan (1980)	Resection
Positioned by PHP	9th Ave (1987)	Traverse
"	9th Ave Rm 1 (1987)	Traverse
"	Oakland Tribune Bldg Flag Ecc (1987)	Intersection

NEW POSITION OR VERIFICATION OF OLD	STATION	LOCATION METHOD
Verified by PHF	Oakland PG And E <sup>57 1/2 AVE</sup> Gasholder (1947)	"
"	Sohio (1980)	Traverse
"	Vet 2 (1979)	Resection
"	Mole 1947 (1947)	Traverse
"	Army 2 1947	"
"	Building 253 1948	"
Positioned by PHF	Alameda NAS E Breakwater S Lt (1953)	"
"	Alameda Nas Channel Rng F Lt (1987)	"
"	Alameda Nas Channel Rng R Lt (1987)	"
"	Bay Farm NW (1987)	"
"	Bay Farm NW Rm 1 (1987)	"
Verified by PHF	Hospital 1947	"
"	Hospital 1947 Rm 3	"
"	San Leandro Chan (1980)	"
"	Uniflex (1980)	Resection
"	Oakland Safeway Tower Steeple (1947)	Intersection
"	Vortac Oakland Oak (1977)	"
<u>Hydrographic Signals</u>		
Positioned by PHF	San Leandro Bay Airport DBCN 3 (1987)	Traverse
"	San Leandro Bay Airport DBCN 4 (1987)	Traverse
"	Oak AP Chan Hydro Signal (1987)	Resection

All stations were positioned to Third Order, Class I, or better accuracy, with the exception of the hydrographic signals. The hydrographic signals were positioned according to methods in the Hydrographic Manual. Geodetic computations were based on the 1927 North American Datum. See the Horizontal Control Report, San Francisco Bay and San

Pablo Bay, CA., OPR-L123-PHP-87 dated March, 1987 to October, 1987 which has been submitted to the Pacific Marine Center, Nautical Charts Branch, for verification.

## G. HYDROGRAPHIC POSITION CONTROL.

Electronic launch position control on these investigations were accomplished with a Motorola Mini-Ranger III ultra-high frequency transponder system in the range-range or range-azimuth configuration. Range-azimuth and/or visual configuration was the only type used on the 1:5000 scale investigations. ✓

The detached positions have check positions. The inverse distance from the detached position to the check were calculated and were required to be within 0.5 millimeters at the scale of the survey.

There were no problems that could contribute to position inaccuracies.

### Electronic Control Equipment.

The following electronic positioning equipment were used on this survey:

#### **Motorola Mini-Ranger III Mobile Station Launch 1101**

Mini-Ranger Console        S/N 701  
Transceiver (RT Console)    S/N B1419 ✓

#### **Motorola Mini-Ranger III Reference Stations**

Mini Ranger Transponder, Code A	S/N F3233
Mini Ranger Transponder, Code B	S/N 911059
Mini Ranger Transponder, Code C	S/N E2712
Mini Ranger Transponder, Code 7	S/N 4709
Mini Ranger Transponder, Code 9	S/N 1628

### Position Control Equipment Operation.

Baseline calibrations for data collected on this survey were performed April 27 (DN 107), June 18 (DN 169), August 17 (DN 229), September 29 (DN 272) and December 23 (DN 357) 1987. ✓

✓

### Corrector/Minimum Signal Strength

Date of BLC	Code	Code	Code	Code	Code	Applicable Dates
	A	B	C	7	9	
April 27, 1987	0/10	-1/9	+1/11	-1/9	0/9	139-146
June 18, 1987	0/10	0/8	+3/11	+2/9	+1/9	174-216
August 17	-1/11	0/11	+2/11	+1/12	+1/11	233-267
September 29,	-2/8	0/9	+3/11	0/11	+1/12	274-335
December 23,	-2/9	-1/7	+3/8	-4/8		

✓

Daily critical systems checks confirm that the Mini-Ranger correctors determined from the September 29 baseline are valid for data collected after September 29, 1987.

There were no positioning equipment failures that effect the accuracy of the positions acquired during these investigations.

#### Daily Calibrations.

Critical system checks were performed EDM/T2 or sextant angles at a fixed point. All daily system checks on the Mini-Rangers and console/RT unit during this time period resulted in a variance of less than 3 meters for 1:5000 scale sheets and less than 5 meters for 1:10000 scale sheets. PHP considers these system checks a confirmation of the BLC and proper Mini-Ranger operation.

Mini-Ranger critical system checks were performed once each day with the following exceptions: DN 239, and DN 258 the sextant angles did not check, DN 259 a non critical three range method was used. Since a good critical system check was performed on the next day the accuracy of the position data is not suspect.

✓

The geometric configuration of the control stations and the signal strengths for all positions were good. Angles of intersection for all survey data were between 30 and 150 degrees. Signal strength was annotated on the raw data printout frequently during sounding acquisition. No data was submitted with less than minimum signal strength.

See Eval  
Rpt Sect 2

There were no unusual methods of electronic control operations, and no unusual atmospheric conditions on these item investigations.

✓

RK 561 was used to correct detached positions for offset. The range-azimuth geodetic positions were converted to range-range distances from electronic control stations with good intersection using RK 300. These distances and the computed distances for the check fix were input to RK 561, along with the launch's heading and the ANDIST to the

feature. The output range-range distances derived from the range-azimuth positions were used for plotting. For further information see the letter to Lieutenant Marlene Mozgala, N/MQP21x2, dated 7 July 1987 in Appendix XIII Supplemental Information. *Filed with the survey records.*

The theodolites used for range-azimuth control and calibrations were Wild T-2, S/N 276812 and S/N 35797.

The sextants used were Tamaya & Co. LTD. S/N T3725 and T3852.

The EDM used for these investigations was a DM 102, SN 293684.

#### EQUIPMENT FAILURES

Mini-Ranger code 9 became inoperable on October 8, 1987. There was no ending baseline calibration for this code. Daily system checks confirm its accuracy prior to the failure.

For further information on electronic calibrations see Appendix V, Abstracts of Corrections to Electronic Position Control. *Filed with the survey records*

#### H. SHORELINE.

Shoreline information was taken from the most recent shoreline manuscript listed below.

Source	Scale	Class
TP-00530	1:5000	III
TP-00531	1:10000	"
TP-00532	1:10000	"
TP-00533	1:5000	"

Shoreline verification was conducted by the hydrographer for all shoreline within the search radii of the investigations. An outline of the shoreline has been transferred to the final field sheet in order to provide a frame of reference. Shoreline details and features have been transferred to the field sheet. Changes to the shoreline are shown in red on the final field sheet. *No final field sheet.*

Position 1156, (DN 280) shows erosion of the shoreline at the southern tip of San Leandro Bay. For a complete description see Item 121 section L. Comparison with the Chart. *Now filed following the Eval Rpt*

\* All PSR Item discussions moved to follow the Eval Rpt

Position 1412, (DN 286) shows a new pier at the north end of San Leandro Bay. For a complete description see Item 129 section L. Comparison with the Chart. ✕

Position 265, (DN 140) shows the new section of pier charted as pier ruins. For a complete description see Item 173 section L. Comparison with the Chart. ✕

Positions 1-6, (DN 180) show the new pier at the Howard terminal. For a complete description see Item 180 section L. Comparison with the Chart. ✕

Positions 534, and 535 show the northern extent of a new pier into the channel at Fortmann Basin. See Item 186 in section L. of this report. ✕

### I. CROSSLINES.

Crossline soundings were acquired to check mainscheme sounding lines. The results are listed below.

Item	%	Mainscheme - Crossline Difference_(ft)
123	33	0
124	20	0
137,138	16	1
146	9	2-3 *
159	10	± 1
161	30	1
183,184	11	0-2**
185	20	0-2**
186	33	1

\* Item 146 was plotted without tide correctors RK 215 would not accept tide correctors and the bottom is very irregular. ✓

\*\* The irregular bottom and use of predicted tides causes the 2 ft difference in soundings. ✓

### J. JUNCTIONS.

Not applicable according to the project instructions, however all soundings were compared to the junction ✓

✕ All PSR Item discussions moved to follow Eval Rpt

soundings from the prior surveys. Any discrepancies are discussed in section L. Comparison with the Chart.

See Eval Rpt  
Sect 5

**K. PRIOR SURVEYS.**

Not applicable according to Project Instructions. See Section L below. *Evaluation Report and evaluation supplements to PSR items.*

**L. COMPARISON WITH THE CHART.**

The items on this survey were compared to chart 18650 40th ed. June 13, 1987.

See EVAL  
RPT & supplement  
to PSR items.

**DANGERS TO NAVIGATION**

Two Dangers to Navigation letters were written to the Commander, Eleventh Coast Guard District. A copy of these letters are included in Appendix XII, Dangers To Navigation. Copies of these letters were also sent to the Chart Information Section, N/CG222, and PMC (N/MOP 21). The letters are dated September 11, and December 16, 1987. ✓

**CHARTS 18649, 18650**

Description	Latitude	Longitude (NAD 1927)	Least Depth (MLLW)	POS
Row of Piles	37/46/41.13' N	122/15/33.31' W	<del>0.2</del> <sup>0.0</sup>	305
Foul Area	37/43/50.40 N	122/12/26.24 W		1156
South Shore	37/43/52.69 N	122/12/30.77 W		1157
Foul Area	37/43/59.58 N	122/12/30.76 W		1413
East Shore	37/44/33.36 N	122/12/49.49 W		1416
Pile	37/44/45.23 N	122/13/11.07 W	<del>7.8</del> <sup>8.0</sup>	1531
Subm. pile (concrete)	37/49/01.8 <sup>8</sup> N	122/20/45.8 <sup>6</sup> W	4.8	591
Subm. pipe (4 in. diam., metal)	37/49/01.3 <sup>6</sup> N	122/20/39.5 <sup>4</sup> W	5.4	600
Subm. pile (concrete)	37/49/01.03' N	122/20/41.29' W	6.0	601
Submerged Obstruction	37/47/40.45' N	122/17/21.95' W	8.8 <sup>8</sup>	1639 -
Submerged Pipe	37/47/41.42' N	122/17/21.85' W	11.8 <sup>8</sup>	1642

ANALYSIS ITEM 50793

CHARTS 18649, 18650

Description	Latitude	Longitude (NAD 1927)	Least Depth (MLLW)	POS
Submerged Pipe	37/47/36. <sup>3</sup> <del>48</del> N	122/17/37. <sup>37</sup> <del>42</del> W	11. <sup>8</sup> <del>4</del>	1645
Submerged Obstruction	37/46/59. <sup>7</sup> <del>8</del> N	122/15/38.96 <sup>9</sup> W	<sup>8</sup> <del>9</del> 4. <sup>3</sup>	528
Wreck	37/47/05. <sup>3</sup> <del>62</del> N	122/14/49.7 <sup>6</sup> <del>3</del> W	-0. <sup>0</sup> <del>4</del>	548
File	37/46/31.9 <sup>9</sup> <del>8</del> N	122/14/36. <sup>17</sup> <del>20</del> W	- <sup>1</sup> <del>0</del> . <sup>3</sup> <del>8</del>	564
Submerged File	37/46/32. <sup>32</sup> <del>28</del> N	122/14/37. <sup>38</sup> <del>41</del> W	<sup>10</sup> <del>6</del> 11. <sup>1</sup>	565
Submerged Obstruction	37/47/27. <sup>8</sup> <del>62</del> N	122/17/48.9 <sup>1</sup> <del>2</del> W		568
File	37/47/27. <sup>0</sup> <del>60</del> N	122/18/05.83 <sup>7</sup> W	- <sup>0</sup> <del>2</del> . <sup>7</sup>	573
Obstruction	37/46/03. <sup>19</sup> <del>20</del> N	122/17/29.77 <sup>0</sup> W	- <sup>7</sup> <del>6</del> . <sup>8</sup>	896
Obstruction	37/46/07. <sup>3</sup> <del>24</del> N	122/17/24.20 <sup>5</sup> W	-8. <sup>5</sup> <del>2</del>	897
Shoal	37/45/48.1 <sup>3</sup> <del>4</del> N	122/16/52.04 <sup>8</sup> W	6. <sup>8</sup> <del>0</del>	1155

Dangers to navigation in the vicinity of items 134, 102, and 118, east of Fortmann Basin were not reported because they were being dredged out at the time of this writing. The dredge was contracted by Kirkland Engineering Inc. of Alameda, CA. The dredge was observed working in the area from DN 204 through DN 335 when the launch left the vicinity.

*See EVAL  
Supplement  
to PSR Items.*

ITEM INVESTIGATIONS

All depths reported in this section are based on MLLW from predicted tides. Elevations and depths may change when smooth tides are applied. For a complete list of corrections to soundings see section D. of this report.

All times are Universal Coordinated Time (UTC).

The following method was used for circle bottom drag investigations. A center weight (50 or 25 pounds) with a float was attached to a length of 5/8-in nylon line. At the other end of the nylon line a second weight was attached to keep the line on the bottom. The weight on this end was lighter than the center weight so that the speed required to move the end weight would not move the center weight. A tow line of 25-m was attached to the end weight.

The length of the bottom drag line met or exceeded the minimum radius required by the project instructions. ✓

Two clockwise circles were steered around the center weight. The launch was then pulled to the center to check for hangs and the position of the center weight. Two circles were steered in the opposite direction and the launch was again pulled to the center weight to check for hangs and the position of the center weight. ✓

The launch speed (1 - 1.5 kts) was adjusted to ensure the drag line was on the bottom throughout the drag operation.

When a hang was observed it was investigated by a dive. The drag line was pulled in until the launch was directly over the hang. The divers would descend down the line to the object. The least depth was measured with a fiberglass tape or pneumatic gage. ✓

Inverse distances were calculated from the detached position to its check position. These distances are in meters (m). Any inverse distances not meeting the 0.5 millimeters at the scale of the survey are discussed under the Methods of Investigation. ✓

M. ADEQUACY OF SURVEY.

These investigations are complete and adequate to supersede all prior surveys, charted and item information except that the least depth over an obstruction was not determined for item 173. The error was discovered after the diver from FMC left the party. It was not possible to determine a least depth without a diver. Time constraints prevented this work from being completed. The obstruction was found on DN 202, position 568, and the position is latitude 37/47/27.62 N and longitude 122/17/48.92 W.

1  
See EVAL  
RPT and  
Supplement  
to PSR items.

See section A. Project of this report, for a discussion of the items which were not completed. ✓

N. AIDS TO NAVIGATION.

Non Floating Aids to Navigation

The only fixed aids to navigation assigned as investigation items were the Alameda NAS Channel Rng F Lt and the Alameda NAS Channel Rng R Lt. These were positioned to Third Order Class I accuracy. See the Horizontal Control Report, San Francisco Bay and San Pablo Bay, CA., DPR-L123-PHP-87 dated March, 1987 to October, 1987 which has been submitted to the Pacific Marine Center, Nautical Charts Branch, for verification. The other fixed aids were not required by the project instructions.

See EVAL  
RPT sec. 4.

See following pages for aids located during this survey. <sup>specifically</sup>

A letter dated January 19, 1988 was sent to the U. S. Coast Guard informing them of the positions and descriptions of the aids to navigation. ✓

Comparisons were made from field positions determined for the fixed aids to navigation to the positions in the U. S. Coast Guard Light List volume VI, 1988, and the September, 1986 DIPFILE Listing for fixed aids to navigation. This DIPFILE Listing is the most recent provided by NCG/241 covering chart 18650. ✓

Non Floating Aids to Navigation

Aid	Field Position	DIPFILE 9/24/86	Variance (m)	Accuracy *
	Lat. (N) Long. (W)	Lat. (N) Long. (W)		
Alameda NAS Channel RNG F LT (1987)	037/46/24.630' 122/17/56.041'	037/46/24.63 122/17/56.04	0.0	3
Alameda NAS Channel RNG R LT (1987)	037/46/23.264' 122/17/31.750'	037/46/24.326 122/17/31.25	34.9	3
Alameda NAS E Breakwater S Lt (1953)	037/46/02.578' 122/18/25.655'	not listed		3
Alameda NAS W Breakwater E Lt (1953)	037/46/06.895' 122/18/34.818'	not listed		3
Ballena Bay Light 1	037/45/47.01 122/16/53.50	037/45/49.066 122/16/53.582	2.6	H
San Leandro Bay Airport DBCN 3	037/44/56.214' 122/13/19.641'	037/44/56.00 122/13/19.00	17.0	H
San Leandro Bay Airport DBCN 4	037/44/55.519' 122/13/20.656'	037/44/55.560 122/13/20.750	2.6	H

\* 3 = Third Order class I. See the Horizontal Control Report mentioned above.

H = Hydro Signals. See field records for position methods.

Non Floating Aids to Navigation

Aid	Field Position Lat. (N) Long. (W)	Light List # Lat. (N) Long. (W)	Var (m)	Charac- teristic
Alameda NAS Channel RNG F LT (1987)	037/46/24.630 122/17/56.041	4743 037/46/30 122/17/54	172.9	F1 W 5s KRW on tower pile
Alameda NAS Channel RNG R LT (1987)	037/46/23.264 122/17/31.750	4744 665 yd 094 degrees from 4743	652 yd 094 deg frm 4743	F1 R 5s KRW on tower pile
Alameda NAS E Breakwater S Lt (1963)	037/46/02.578 122/18/25.655	4772 037/46/06 122/18/24	113.0	F1 R 4s TR on pile
Alameda NAS W Breakwater E Lt (1953)	037/46/06.894 122/18/34.818	4773 037/46/06 122/18/36	40.0	F1 G 4s SG on pile
Ballena Bay Light 1	037/45/47.01 122/16/53.70	4780 037/45/48 122/16/54	33.5	F1 G 5s on dolphin
San Leandro Bay Airport DBCN 3	037/44/56.214 ✓ 122/13/19.641 ✓	4725 not listed		SG
San Leandro Bay Airport DBCN 4	037/44/55.519 ✓ 122/13/20.656 ✓	4730 not listed		TR

It is recommended that the new positions, except for Ballena Bay Light 1\*, be used to update all fixed aids to navigation. *concur.*  
 \* and San Leandro Bay Airport Daybeacon 3 & 4  
 NOAA Form 76-40 has been attached in Appendix X,

Floating Aids to Navigation

Floating aids to navigation within the radii of the item investigations completed were all privately maintained. The floating aids are hydrographic ~~posi~~ positions. All the East Bay

Regional Park's buoy mentioned below were set in 1982. The following are characteristics, geographic positions and the owner of the floating aids:

Aid	Floating Aids to Navigation Field Position		DIPFILE 9/24/86	Var (m)	Pos
	Lat. (N) Long. (W)	Lat. (N) Long. (W)	Lat. (N) Long. (W)		
Shoal Buoy, 1982 Encinal Yacht Club	37/46/58.9 <sup>2</sup> 122/15/39.93 <sup>✓</sup>		not listed		529
Red Nun Buoy, 1980 Ballena Bay Marina	37/46/02.6 <sup>10</sup> 122/17/18.8 <sup>9</sup> <sub>70</sub>		"		674
Red Nun Buoy, 1980 Ballena Bay Marina	37/45/51.87 <sup>✓</sup> 122/16/49.34 <sup>✓</sup>		"		980
Red Nun Buoy, 1980 Ballena Bay Marina	37/45/54.7 <sup>2</sup> 122/16/49.97 <sup>✓</sup>		"		981
Red Nun Buoy, 1980 Ballena Bay Marina	37/45/57.15 <sup>✓</sup> 122/16/51.49 <sup>✓</sup>		"		982
Red Nun Buoy, 1980 Ballena Bay Marina	37/45/58.76 <sup>✓</sup> 122/16/53.35 <sup>✓</sup>		"		983
Red Nun Buoy, 1980 Ballena Bay Marina	37/45/59.5 <sup>4</sup> 122/16/54.88		"		984
State waterway Buoy "Hazard", East Bay Regional Parks	37/44/02.77 <sup>✓</sup> 122/12/32.64 <sup>✓</sup>		"		1404
State waterway Buoy "Hazard", East Bay Regional Parks	37/44/12.1 <sup>4</sup> 122/12/36.9 <sup>7</sup>		"		1405
State waterway Buoy "Hazard", East Bay Regional Parks	37/44/15.3 <sup>2</sup> 122/12/38.40 <sup>✓</sup>		"		1406
State waterway Buoy "Hazard", East Bay Regional Parks	37/44/20.0 <sup>3</sup> 122/12/39.44 <sup>5</sup>		"		1407

Floating Aids to Navigation					
Aid	Field Position		DIPFILE	Var (m)	Pos
	Lat. (N)	Long. (W)	9/24/86 Lat. (N) Long. (W)		
State waterway Buoy					
"Hazard", East Bay	37/44/26.94 <sup>7</sup> ✓		"		1409
Regional Parks	122/12/41.8 <sup>7</sup>				
State waterway Buoy					
"Hazard", East Bay	37/43/59.5 <sup>7</sup> ✓		"		1413
Regional Parks	122/12/30.76 <sup>7</sup>				
State waterway Buoy					
"Hazard", East Bay	37/44/21.7 <sup>8</sup> ✓		"		1414
Regional Parks	122/12/37.39 <sup>8</sup>				
State waterway Buoy					
"Hazard", East Bay	37/44/28.15 <sup>7</sup> ✓		"		1415
Regional Parks	122/12/45.3 <sup>8</sup>				

The submarine cables and pipelines within the search radii of the investigations were adequately charted. There were no ferry routes or ferry terminals within the investigations. ✓

#### 0. STATISTICS.

Vessel:	Launch 1101, EDP 0651
Number of Positions:	1650
N. miles of Sounding Lines:	107
Square nm of Hydrography:	5
Detached positions:	148
N. miles of Bottom Drag:	7
Square nm of Bottom Drag:	.2
Number of bottom samples:	2
Number of tide gages:	2 (POG gages: 2. See Field Tide Note.)
Number of current stations:	0
Number of velocity casts:	0
Number of magnetic stations:	0
Days of production:	81

**P. MISCELLANEOUS.**

There were no anomalous currents, tides, or submarine features in the areas of investigation. ✓

Two bottom samples were acquired but were not sent to the Smithsonian Institute since submission of the bottom samples was not required by the project instructions. ✓

**Q. RECOMMENDATIONS.**

The Oakland Inner Harbor is utilized daily by container ships, tugs and barges, large Navy ships, Coast Guard ships, and private vessels. The container ships, Navy ships and Coast Guard use the area from the Oakland Inner Harbor Entrance Channel to the Brooklyn Basin. Tugs and barges use the area from the Brooklyn Basin to the Oakland Tidal Canal. San Leandro Bay and the Airport Channel are used by small private vessels only. ✓

The Oakland Inner Harbor is dredged annually. Both the Port of Oakland and the City of Alameda are planning dredging and construction of marinas. The locations are shown on a map filed under "proposed construction" in the cahier.

The charted cultural features and the shoreline from the Oakland Inner Harbor to San Leandro Bay are outdated. The area is expanding rapidly and these features are constantly changing. Since most of the waterway is maintained by the Corps of Engineers I recommend the shoreline features be remapped.

*See EVAL  
RPT &  
Supplement  
to PSR items.*

The remapping of the shoreline should be scheduled when the construction projects are complete. The telephone numbers of engineers who have this information are included in the Appendix XIII. Supplemental Information. Now filed with

*PSR Itch discussion*

R. AUTOMATED DATA PROCESSING.

DEC PDP 8/e Computer

<u>Number</u>	<u>Name</u>	<u>Version Date</u>
RK201	Grid, Signal, and Lattice Plot	4/18/75
RK215	Visual and Non-Real Time Plot	2/11/81
RK221	Range-Range Non-Real Time Plot	2/13/84
RK226	Range-Azimuth Non-Real Time Plot	7/25/86
RK300	Utility Computations	10/21/80
RK330	Reformat and Data Check	5/04/76
RK360	Electronic Corrector Abstract	2/02/76
RK362	Reformat and Data Check and Elinore-Line Oriented Generator	8/20/84
RK407	Geodetic Inverse Direct Comp.	9/25/87
AM500	Predicted Tide Generator	11/10/72
RK561	H/R Geodetic Calibration	12/01/82

Hewlett Packard 9815A Calculator.

<u>Number</u>	<u>Name</u>	<u>Version Date</u>
811101	Geodetic Package	Feb. 1985

Hewlett Packard 97 Calculator.

<u>Number</u>	<u>Name</u>	<u>Version Date</u>
	Geodetic Inverse	

IBM PC

<u>Number</u>	<u>Name</u>	<u>Version Date</u>
MTEN	Micro - Terminal Entry Command	Nov. 1984

S. REFERRAL TO REPORTS.

Other reports covering this survey area are:

- 1) Horizontal Control Report, PHP, San Francisco Bay to San Pablo Bay, OPR-L123-PHP-87 March, 1987 to October, 1987.

Submitted by,



LT(JG) Thomas K. Porta, NOAA  
Asst. Chief, PHP

SIGNAL TAPE LISTING

401	P	37	45	19565	122	27	05924	139	0000	000000	MT SUTRO TV TOWER N ANTENNA
402	P	37	45	18578	122	27	05923	139	0000	000000	MT SUTRO TV TOWER S ANTENNA
403	P	37	45	19077	122	27	06995	139	0000	000000	MT SUTRO TV TOWER W ANTENNA
404	P	37	47	59626	122	15	42892	139	0000	000000	OAKLAND ALAMEDA CO CTHSE FP
405	P	37	46	44253	122	13	46237	139	0050	000000	WARD 1947
406	P	37	47	40195	122	16	34215	139	0000	000000	JACK LONDON SQ FLAGPOLE
407	P	37	48	28403	122	11	52784	139	0000	000000	OAKLAND MORMON TEMPLE SPIRE
408	P	37	48	28021	122	19	11606	139	0000	000000	OAKLAND NAVY DEPOT CHECK TK
410	P	37	47	42826	122	24	06079	139	0264	000000	TRANS AMERICA BUILDING
<del>415</del>	<del>P</del>	<del>27</del>	<del>52</del>	<del>19650</del>	<del>122</del>	<del>15</del>	<del>24221</del>	<del>139</del>	<del>0000</del>	<del>000000</del>	<del>CAMPANILE UNIVERSITY OF CALIF</del>
421	P	37	46	06095	122	18	34818	139	0007	000000	ALAMEDA NAS W BREAKWATER E LT
<del>422</del>	<del>P</del>	<del>37</del>	<del>38</del>	<del>13146</del>	<del>122</del>	<del>07</del>	<del>00007</del>	<del>139</del>	<del>0000</del>	<del>000000</del>	<del>DUMBARTON PG E WEST TOWER LT</del>
<del>423</del>	<del>P</del>	<del>37</del>	<del>29</del>	<del>51518</del>	<del>122</del>	<del>06</del>	<del>31065</del>	<del>139</del>	<del>0000</del>	<del>000000</del>	<del>DUMBARTON DRAWBRIDGE LIGHT</del>
<del>424</del>	<del>P</del>	<del>27</del>	<del>31</del>	<del>34352</del>	<del>122</del>	<del>06</del>	<del>01838</del>	<del>139</del>	<del>0000</del>	<del>000000</del>	<del>KGO RADIO STATION CENTER MAST</del>
<del>604</del>	<del>P</del>	<del>37</del>	<del>53</del>	<del>47366</del>	<del>122</del>	<del>01</del>	<del>16177</del>	<del>250</del>	<del>0048</del>	<del>000000</del>	<del>BROOKS ISLAND 2 1905</del>
<del>605</del>	<del>P</del>	<del>37</del>	<del>54</del>	<del>34400</del>	<del>122</del>	<del>01</del>	<del>34101</del>	<del>250</del>	<del>0002</del>	<del>000000</del>	<del>HARBOR USE 1929</del>
606	P	37	46	55688	122	15	04361	250	0002	000000	VET 1
607	P	37	48	11576	122	16	11226	139	0109	000000	OAKLAND TRIBUNE BLDG FLAGPOLE
608	P	37	48	26462	122	21	40177	250	0029	000000	YERBA BUENA LIGHTHOUSE
609	P	37	47	26646	122	18	04118	250	0003	000000	CHAN
610	P	37	47	09600	122	15	27834	250	0003	000000	9TH AVE
611	P	37	45	54676	122	12	50885	139	0000	000000	OAKLAND PG AND E GASHOLDER
612	P	37	48	11504	122	16	11245	250	0109	000000	OAKLAND TRIBUNE BLDG FLAG ECC

613 0 37 46 30847 122 14 31590 250 0003 000000 SOHIO  
~~614 0 37 54 08978 122 21 35710 250 0006 000000 POINT PETRERO RCH RNG E LT~~  
616 0 37 47 02222 122 14 50935 250 0002 000000 VET 2  
617 0 37 47 09168 122 15 26443 250 0003 002000 9TH AVE RM 1  
618 0 37 49 14966 122 19 44838 250 0003 000000 MOLE 1947  
619 0 37 48 50558 122 21 30637 139 0024 000000 ARMY 2 1947  
620 0 37 43 36125 122 21 28488 250 0039 000000 BUILDING 253 1948  
621 0 37 46 02578 122 18 25655 250 0007 000000 ALAMEDA NAS E BREAKWATER S LT  
622 0 37 46 24630 122 17 56041 250 0012 000000 ALAMEDA NAS CHANNEL RNG F LT  
623 0 37 46 23064 122 17 31750 139 0023 000000 ALAMEDA NAS CHANNEL RNG R LT  
624 0 37 44 36414 122 15 34434 250 0003 000000 BAY FARM NW  
625 0 37 44 36876 122 15 33410 250 0003 000000 BAY FARM NW RM 1  
626 0 37 45 46418 122 15 28227 139 0029 000000 HOSPITAL 1947  
627 0 37 45 46511 122 15 08308 139 0000 000000 HOSPITAL 1947 RM 3  
628 0 37 44 58069 122 14 07210 250 0013 000000 SAN LEANDRO CHAN  
629 0 37 45 36186 122 13 19302 250 0003 000000 UNIFLEX  
630 0 37 45 56541 122 12 00425 139 0000 000000 OAKLAND SAFEWAY TOWER STEEPLE  
631 0 37 44 56214 122 13 19641 243 0000 000000 SAN LEANDRO BAY AIRPORT DBCN 3  
632 0 37 44 55519 122 13 20656 243 0000 000000 SAN LEANDRO BAY AIRPORT DBCN 4  
635 0 37 43 50240 122 12 28227 243 0000 000000 OAK AP CHAN HYDRO SIGNAL  
637 0 37 43 33562 122 13 21019 139 0000 000000 VORTAC OAKLAND OAK  
~~638 0 37 42 55060 122 23 33741 139 0120 000000 BAY PARK 1932~~  
~~639 0 37 39 12295 100 23 01817 250 0055 000000 POINT SAN BRUNO 1925~~  
~~640 0 37 40 07540 100 23 33060 250 0140 000000 SIERRA POINT 1851~~  
~~641 0 37 39 50908 122 02 05098 139 0000 000000 OYSTER POINT MARINA LT 1~~  
~~642 0 37 39 52110 122 02 05186 139 0000 000000 OYSTER POINT MARINA LT 2~~  
~~643 0 37 35 26724 122 18 41294 139 0000 000000 GOYOTE POINT YACHT HARB LT 1~~  
~~644 0 37 35 28840 122 19 06017 250 0013 000000 POINT SAN MATEO 1925~~  
~~645 0 37 30 49716 122 08 01870 139 0000 000000 SAN FRANCISCO BAY S CH LT 14~~  
~~646 0 37 30 02107 100 06 00944 250 0004 000000 HETCHY 1983~~  
~~647 0 37 30 14065 122 05 36907 250 0009 000000 RED HILL TOP 1958~~



RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	Thomas K. Porta LTJG NOAA
POSITIONS DETERMINED AND/OR VERIFIED	Bruce Lund, Michael Bigelow, Ted Martin
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	<input type="checkbox"/> PHOTO FIELD PARTY <input checked="" type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION': (Consult Photogrammetric Instructions No. 64.)	
<b>OFFICE</b> <b>I. OFFICE IDENTIFIED AND LOCATED OBJECTS</b> Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	<b>FIELD (Cont'd)</b> <b>B. Photogrammetric field positions** require</b> entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982
<b>FIELD</b> <b>I. NEW POSITION DETERMINED OR VERIFIED</b> Enter the applicable data by symbols as follows: F - Field                      P - Photogrammetric L - Located                    Vis - Visually V - Verified 1 - Triangulation            5 - Field Identified 2 - Traverse                    6 - Theodolite 3 - Intersection              7 - Planetable 4 - Resection                 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	<b>II. TRIANGULATION STATION RECOVERED</b> When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 <b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 <b>**PHOTOGRAMMETRIC FIELD POSITIONS are dependent</b> <b>entirely, or in part, upon control established</b> <b>by photogrammetric methods.</b>
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	



**UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration**

NATIONAL OCEAN SERVICE

PACIFIC HYDROGRAPHIC PARTY  
614-A EAST 5TH STREET  
BENICIA, CA. 94510  
PHONE: 707-746-8189

11 SEPTEMBER 1987

Commander (oan)  
Eleventh Coast Guard District  
400 Ocean Gate Blvd.  
Union Bank Building  
Long Beach, CA. 90822

Sir:

The Pacific Hydrographic Party is currently conducting field examinations of charted ruins, obstructions, and hazards in the San Francisco Bay area. The following important items were found by PHP and should be reported in the Local Notice To Mariners. All listed positions are based on the NAD 27 Datum; all depths are reduced to the chart datum of mean lower low water (MLLW).

**CHARTS 18649, 18650**

PHP investigated the submerged ruins south of the eastern-most bend of the San Francisco-Oakland Bay Bridge, centered at 37/49/02N, 122/20/28W, between Yerba Buena Island and the Oakland Mole. The ruins were verified by PHP. The ruins are in a line running east-west; and are approximately 300 feet wide. PHP found the area of the ruins to be larger than what is shown on the charts. The limits are as follows;

37/49/03.89N  
122/20/23.09W  
to  
37/49/02.00N  
122/20/47.98W



In addition to the charted depths within this ruins area, the following least depths on obstructions should be added to the charts:

ITEM NAME	LAT.	LONG.	DEPTH (MLLW)
subm. pile (concrete)	37/49/01.87N	122/20/45.87W	4.8 ft.
subm. pipe (4 in. diam., metal)	37/49/01.37N	122/20/39.53W	5.4 ft.
subm. pile (concrete)	37/49/01.03N	122/20/41.29W	6.0 ft.

Respectfully,

*John A. Miller*

LTJG John A. Miller, NOAA  
Chief of Party

cc: Chart Information Section, N/CG222  
Nautical Charts Branch, N/MOP21

Emeryville Marlene

37 50 00 N

GENERAL ANCHORAGE NO 6  
110 224 (see note A)

CHART 18650  
39TH ED.

122 20 00

Cable and Pipeling Area

SAN FRANCISCO OAKLAND BAY BRIDGE

SUBM. RUINS (WITH LEAST DEPTHS)

OAKLAND OUTER HARBOR

OUTER CHANNEL

RESTRICTED AREA 207 640 (see note A)

BAR CHANNEL  
(see note A)

33 FEET AUG-SEPT 1963

MIDDLE HARBOR

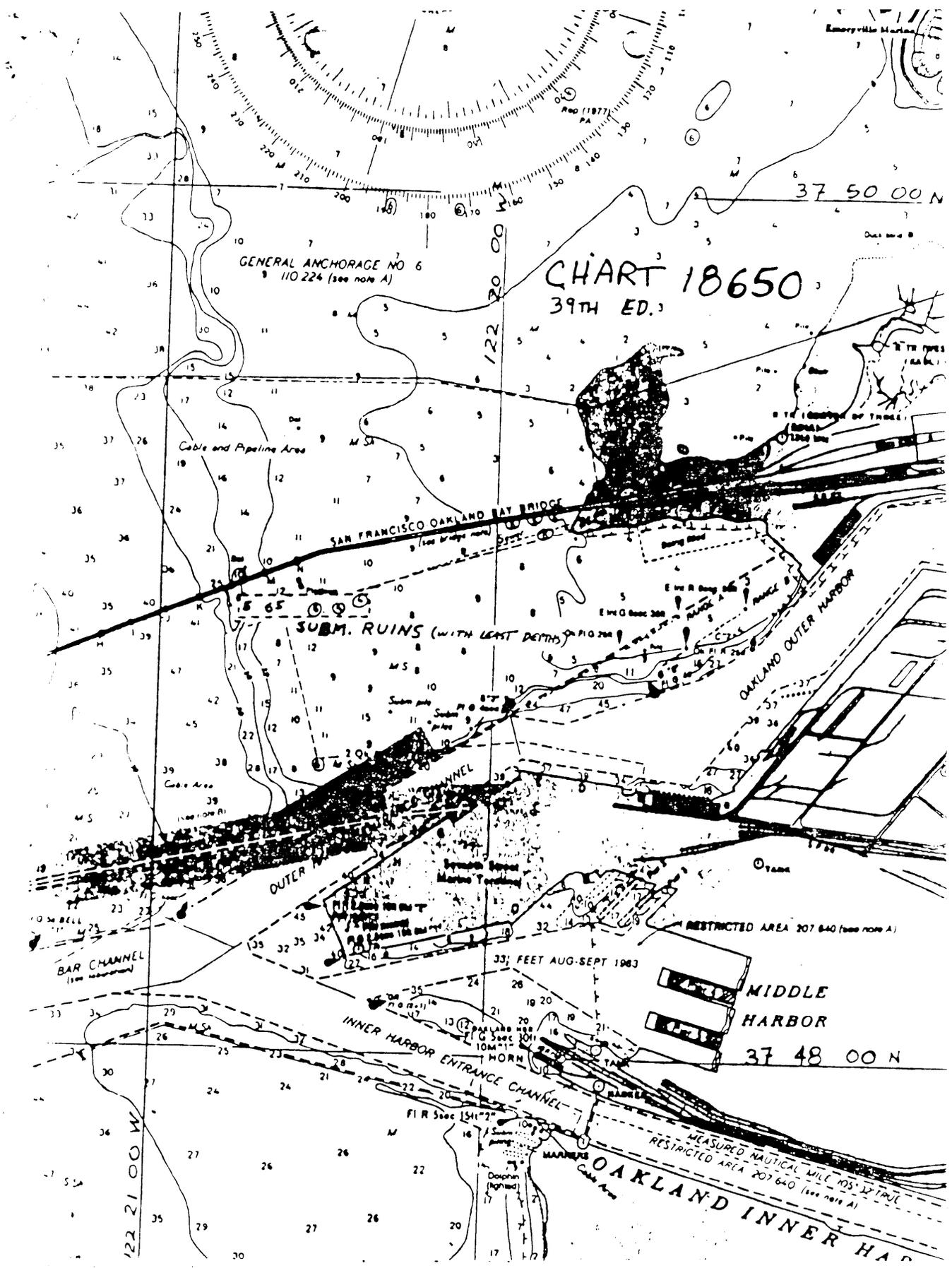
37 48 00 N

INNER HARBOR ENTRANCE CHANNEL

MEASURED NAUTICAL MILE 105 17 TIME  
RESTRICTED AREA 207 640 (see note A)

OAKLAND INNER HARBOR

122 21 00 W





**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL OCEAN SERVICE**

Pacific Hydrographic Party  
 614 A East Fifth St.  
 Menlo Park, CA 94025

10 December 1987

Commander (Can)  
 Eleventh Coast Guard District  
 400 Ocean Gate Blvd.  
 Union Bank Building  
 Long Beach, CA 90802

Sir:

The following features were observed by the Pacific Hydrographic Party, NOS, NOAA, during a field examination of the Oakland Inner Harbor and San Francisco Bay. This field examination is entitled San Francisco Bay, CA, Vicinity of Hunters Point to the Oakland Outer Harbor, May 19, 1987 to December 1, 1987. This information is field data, which is subject to verification, and will be used to update future editions of nautical charts 18649 and 18650. It is, however, considered important enough to warrant immediate publication.

**DANGERS TO NAVIGATION**

The following uncharted obstructions, shoals, and hazards were found during the item investigations. The surveyed depths have been corrected to the chart datum, which is mean lower low water (MLLW), by applying predicted tides. The geographic positions are based on the North American Datum 1927 (NAD 1927). Negative soundings signify that the object bares at MLLW.

**CHARTS 18649, 18650**

Description	Latitude	Longitude	Least Depth
	(NAD 1927)	(NAD 1927)	(ft @ MLLW)
Row of Piles	37/46/41.13 N	122/15/33.31 W	-0.2
Foul Area	37/43/50.40 N	122/12/26.24 W	
South Shore	37/43/52.69 N	122/12/30.77 W	
Foul Area	37/43/59.58 N	122/12/30.76 W	
East Shore	37/44/33.36 N	122/12/49.49 W	
Pile	37/44/45.23 N	122/13/11.07 W	-7.8

Dup

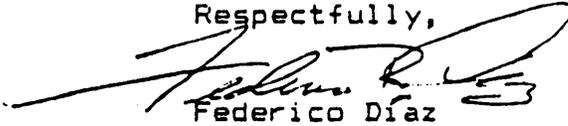


CHARTS 18649, 18650

Description	Latitude	Longitude (NAD 1927)	Least Depth (ft @ MLLW)
Submerged Obstruction	37/47/40.45 N	122/17/21.95 W	8.2
Submerged Pipe	37/47/41.42 N	122/17/21.85 W	11.3
Submerged Pipe	37/47/36.48 N	122/17/37.42 W	11.4
Submerged Obstruction	37/46/59.78 N	122/15/38.96 W	9.3
Wreck	37/47/05.62 N	122/14/49.73 W	-0.4
Pile	37/46/31.95 N	122/14/36.20 W	-0.8
Submerged Pile	37/46/32.28 N	122/14/37.41 W	11.1
Submerged Obstruction	37/47/27.62 N	122/17/48.92 W	
Pile	37/47/27.60 N	122/18/05.83 W	-2.5
Obstruction	37/46/03.20 N	122/17/29.77 W	-6.8
Obstruction	37/46/07.24 N	122/17/24.20 W	-8.3
Shoal	37/45/48.14 N	122/16/52.04 W	6.0

For further information concerning the above mentioned dangers to navigation contact the Chief of Party, Pacific Hydrographic Party-NOAA, 614 A East 5th St. Benicia, CA 94510. The Chief of Party may be reached locally in Benicia at the following phone number: 707-746-8189.

Respectfully,

  
Federico Diaz  
LT NOAA  
Chief of Party

cc: Chart Information Section, N/CG222  
Nautical Charts Branch, N/MOP21



**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SERVICE

Pacific Hydrographic Party (FHP)  
614 A East Fifth St.  
Benicia, CA 94510

19 January 1988

Commander (Com)  
Eleventh Coast Guard District  
100 Oceangate Blvd.  
Union Bank Building  
Long Beach, CA 90822

Sir:

The following Fixed and Floating Aids to Navigation were observed by the FHP, NOS, NOAA, during a field examination of the Oakland Inner Harbor and San Francisco Bay. This field examination is entitled San Francisco Bay, CA, Vicinity of Hunters Point to the Oakland Outer Harbor, May 19, 1987 to December 1, 1987. This information is field data, which is subject to verification, and will be used to update future editions of nautical charts 18649 and 18650. It is, however, considered important enough to warrant immediate publication.

The positions are based on the North American Datum 1927 (NAD 27).

#### Non Floating Aids to Navigation

Comparisons were made of the fixed aids to navigation positions from the field positions to the U. S. Coast Guard Light List Volume VI, 1988, and the September 24, 1986 DIPFILE Listing for fixed aids to navigation. This DIPFILE Listing is the most recent provided by NCG/241 covering chart 18650.



Aid	Field Position Lat. (N) Long. (W)	DIPFILE 9/24/86 Lat. (N) Long. (W)	Variance (m)	Accuracy *
Alameda NAS Channel RNG F LT	037/46/24.630 122/17/56.041	037/46/24.63 122/17/56.04	0.0	3
Alameda NAS Channel RNG R LT	037/46/23.264 122/17/31.750	037/46/24.326 122/17/31.25	34.9	3
Alameda NAS E Breakwater S Lt	037/46/02.578 122/18/25.655	not listed		3
Alameda NAS W Breakwater E Lt	037/46/06.894 122/18/34.818	not listed		3
Hallena Bay Light 1	037/45/49.01 122/16/53.50	037/45/49.066 122/16/53.582	2.6	H
San Leandro Bay Airport DECN 3	037/44/56.214 122/13/19.641	037/44/56.00 122/13/19.00	17.0	H
San Leandro Bay Airport DECN 4	037/44/55.519 122/13/20.656	037/44/55.560 122/13/20.750	2.6	H

→ 3 = Third Order class I. See the Horizontal Control Report, San Francisco Bay and San Pablo Bay, CA., OPR-L123-PHF-87 dated March, 1987 to October, 1987 which has been submitted to the Pacific Marine Center, Nautical Charts Branch, for further information.

H = Hydrographically positioned, less than Third Order.

Aid	Field Position Lat. (N) Long. (W)	Light List # Lat. (N) Long. (W)	Var (m)	Charac- teristic
Alameda NAS Channel RNG F LT	037/46/24.630 122/17/56.041	4743 037/46/30 122/17/54	172.9	F1 W 5s KRW on tower
Alameda NAS Channel RNG R LT	037/46/23.264 122/17/31.750	4744 665 yd 094 degrees from 4743	652 yd 094 deg frm 4743	F1 R 5s KRW on tower
Alameda NAS E Breakwater S Lt	037/46/02.578 122/18/25.655	4772 037/46/06 122/18/24	113.0	F1 R 4s TR
Alameda NAS W Breakwater E Lt	037/46/06.894 122/18/34.818	4773 037/46/06 122/18/36	40.0	F1 G 4s SG
Ballena Bay Light 1	037/45/49.01 122/16/53.50	4780 037/45/48 122/16/54	33.5	F1 G 5s
San Leandro Bay Airport DBCN 3	037/44/56.214 122/13/19.641	4725 not listed		SG
San Leandro Bay Airport DBCN 4	037/44/55.519 122/13/20.656	4730 not listed		TR

It is recommended that the field positions, except for Ballena Bay Light 1, be used to update all fixed aids to navigation.

#### Floating Aids to Navigation

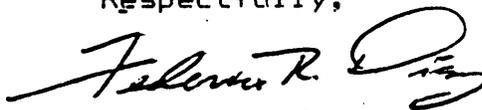
Floating aids to navigation within the radii of the item investigations completed were all privately maintained. The floating aids were positioned hydrographically. The following are positions, descriptions and who maintains these aids:

Aid	Field Position		DIPFILE	Var (m)
	Lat. (N)	Long. (W)	9/24/86 Lat. (N) Long. (W)	
Shoal Buoy	37/46/58.91	122/15/39.93	not listed	
Red Nun Buoy	37/46/02.69		"	
Ballena Bay Marina	122/17/18.89			
Red Nun Buoy	37/45/51.87		"	
Ballena Bay Marina	122/16/49.34			
Red Nun Buoy	37/45/54.73		"	
Ballena Bay Marina	122/16/49.97			
Red Nun Buoy	37/45/57.15		"	
Ballena Bay Marina	122/16/51.49			
Red Nun Buoy	37/45/58.76		"	
Ballena Bay Marina	122/16/53.35			
Red Nun Buoy	37/45/59.55		"	
Ballena Bay Marina	122/16/54.88			
State Waterway Buoy			"	
"Hazard", East Bay	37/44/02.77			
Regional Parks	122/12/32.64			
State Waterway Buoy			"	
"Hazard", East Bay	37/44/12.13			
Regional Parks	122/12/36.96			
State Waterway Buoy			"	
"Hazard", East Bay	37/44/15.33			
Regional Parks	122/12/38.40			
State Waterway Buoy			"	
"Hazard", East Bay	37/44/20.05			
Regional Parks	122/12/39.44			
State Waterway Buoy			"	
"Hazard", East Bay	37/44/26.94			
Regional Parks	122/12/41.89			
State Waterway Buoy			"	
"Hazard", East Bay	37/43/59.58			
Regional Parks	122/12/30.76			
State Waterway Buoy			"	
"Hazard", East Bay	37/44/21.79			
Regional Parks	122/12/37.39			

Aid	Field Position	DIPFILE	Var
	Lat. (N)	9/24/86	(m)
	Long. (W)	Lat. (N)	
		Long. (W)	
State Waterway Buoy			
"Hazard", East Bay	37/44/28.15		"
Regional Parks	122/12/45.38		

For further information concerning the above mentioned Fixed and Floating Aids to Navigation contact the Chief of Party, Pacific Hydrographic Party-NOAA, 614 A East 5th St. Benicia, CA 94510. The Chief of Party may be reached locally in Benicia at the following phone number: 707-746-8189.

Respectfully,



Federico Díaz  
 LT NOAA  
 Chief, PHP

cc: Chart Information Section, N/CG222  
 Nautical Charts Branch, N/MOP21

Approval Sheet

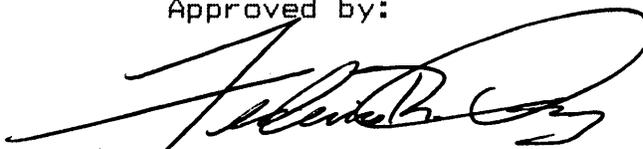
OPR-L123-PHP-87

Field Examination

Vicinity of Hunters Point to the Oakland Outer Harbor

The Chief of Party has inspected all paper field sheets and field data on a weekly basis. All reports and records are complete. This survey is adequate for charting purposes and no additional field work is necessary except that the least depth over an obstruction was not determined for item 173. The obstruction was positioned on DN 202, position 568, and the position is latitude 37°47'27.62" N and longitude 122°17'48.92" W.

Approved by:



LT Federico R. Diaz, NOAA  
CHIEF  
PACIFIC HYDROGRAPHIC PARTY  
NATIONAL OCEAN SERVICE (NOS)

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SERVICE

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: January 29, 1988

MARINE CENTER: Pacific

OPR: L123

HYDROGRAPHIC SHEET: Field Examination of Chart 18650 FE-310

LOCALITY: Oakland Area of San Francisco Bay, CA

TIME PERIOD: May 19, 1987 - December 1, 1987

TIDE STATION(S) USED: 941-4290 San Francisco, CA  
941-4750 Alameda, CA

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 941-4290 = 5.77 ft.  
941-4750 = 3.27 ft.

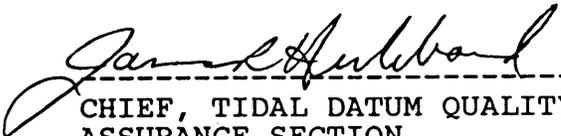
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 941-4290 = 5.2 ft.  
941-4750 = 5.9 ft.

REMARKS: RECOMMENDED ZONING

1. For AWOIS Items 191 and 50793 zone on 941-4290 and apply a +0 hr 25 minute time correction and a X1.03 range ratio to all heights.
2. For AWOIS Items located in Oakland Inner Harbor between longitude 122 18.0' east and southeast to latitude 37 43.5' zone direct on 941-4750.
3. For AWOIS Items 149, 159, and 51148, zone direct on 941-4750.

\* 4. FOR AWOIS ITEMS 137, 146 ZONE DIRECT ON 941-4750.

\* FROM PHONE CONV. W/ JOE M. ON 2-25-88.

  
CHIEF, TIDAL DATUM QUALITY  
ASSURANCE SECTION

GEOGRAPHIC NAMES

Name on Survey  
CALIFORNIA, SAN FRANCISCO BAY  
VICINITY OF HUNTERS POINT  
TO OAKLAND OUTER HARBOR

A ON CHART NO.  
B ON PREVIOUS SURVEY NO.  
C ON U.S. QUADRANGLE MAPS  
D FROM LOCAL INFORMATION  
E ON LOCAL MAPS  
F P.O. GUIDE OR MAP  
G RAND McNALLY ATLAS  
H U.S. LIGHT LIST  
K

Name on Survey	A	B	C	D	E	F	G	H	K
AIRPORT CHANNEL									1
ALAMEDA									2
AVISADERO, POINT ✓									3
BALLENA BAY									4
BALLENA ISLAND MARINA (cultural feature)									5
BAY FARM ISLAND									6
CALIFORNIA (title)									7
<del>COAST GUARD</del> ISLAND									8
ENCINAL BASIN									9
FORTMANN BASIN									10
HUNTERS POINT ✓									11
ISLAIS CREEK CHANNEL									12
OAKLAND INNER HARBOR									13
OAKLAND OUTER HARBOR (title)									14
SAN FRANCISCO BAY ✓									15
SAN FRANCISCO-OAKLAND BAY BRIDGE (cultural feature)									16
SAN LEANDRO BAY									17
									18
									19
									20
									21
									22
									23
									24
									25

Approved:

*Charles E. Harrington*  
Chief Geographer - N/CA 245

APR 29 1988

**HYDROGRAPHIC SURVEY STATISTICS**

FE-310

RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET 15 (in report)		SMOOTH OVERLAYS: POS., ARC, EXCESS	15 (with data)
DESCRIPTIVE REPORT 1		FIELD SHEETS AND OTHER OVERLAYS	none

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDION FILES	2				
ENVELOPES					
VOLUMES					
CAHIERS					
BOXES				1	

**SHORELINE DATA**

- SHORELINE MAPS (List):
- PHOTOBATHYMETRIC MAPS (List):
- NOTES TO THE HYDROGRAPHER (List):
- SPECIAL REPORTS (List):
- NAUTICAL CHARTS (List):

**OFFICE PROCESSING ACTIVITIES**

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET			1317
POSITIONS REVISED	19		19
SOUNDINGS REVISED	152		152
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	117		117
VERIFICATION OF SOUNDINGS	180		180
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	208		208
COMPARISON WITH PRIOR SURVEYS AND CHARTS		65	65
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		107	107
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS	<b>TOTALS</b>	505	172
			677

Pre-processing Examination by <b>J. Miller</b>	Beginning Date	Ending Date 3/30/88
Verification of Field Data by <b>I. Almacen</b>	Time (Hours) 505	Ending Date 6/3/88
Verification Check by <b>B. Olmstead</b>	Time (Hours) 97	Ending Date 10/12/88
Evaluation and Analysis by <b>I. Almacen, J. Green</b>	Time (Hours) 166	Ending Date 7/21/89
Inspection by <b>D. Hill</b>	Time (Hours) 5	Ending Date 7-24-89

PACIFIC MARINE CENTER  
EVALUATION REPORT  
FE-310

1. INTRODUCTION

Survey FE-310 is a field examination accomplished by the Pacific Hydrographic Party under the following Project Instructions.

OPR-L123-PHP-87, dated February 10, 1987  
CHANGE NO. 1, dated March 20, 1987

This field examination occurred in California and covers the southern portion of San Francisco Bay including adjacent waterways, particularly Oakland Inner Harbor and San Leandro Bay. The purpose of this field examination is to resolve uncompleted item, shoal and channel investigations from 1979 through 1981 prior surveys. The items for investigation are identified by item numbers on the modified presurvey review, titled Office Review, dated October 25, 1984, with addendum dated January 21, 1987, attached to the project instructions. These investigations extend from latitude 37°59'00"N to latitude 37°43'00"N. The bottom consists of sand and mud. Depths range from 0 to 77 feet.

In order to simplify the handling and utilization of the various field investigations, the discussion of specific items previously contained in section L of the hydrographer's report have been moved to follow the evaluator's report. The evaluator's supplements, where necessary, are attached to each of the item discussions.

A preliminary copy of this field examination was forwarded to the Nautical Chart Branch in order to meet a production schedule. Information from the preliminary data is shown on chart 18650, 41st Edition, February 25, 1989.

Predicted tides for San Francisco, California were used for the reduction of soundings during field processing. Approved hourly heights zoned from San Francisco, gage 941-4290, and Alameda, gage 941-4750, were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. The TRA and electronic control correctors are adequate. The velocity correctors were extrapolated beyond 60 feet to provide velocity correctors for depths up to 77 feet. This was necessary because the field party did not have the capability to measure oceanographic data beyond bar check depths. The soundings in the one area of this survey with depths in the extrapolated range agree well with the prior

survey. An accompanying computer printout contains the parameters and the correctors.

A digital file, generated for this survey, includes categories of information required to comply with N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983. Certain descriptive information, however, may not be in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for complete information.

## 2. CONTROL AND SHORELINE

Sections F and G of the hydrographer's report and the Horizontal and Electronic Control Reports for OPR-L123-PHP-87 contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are NGS published and 1987 field values based on NAD 27. These values were used during office processing for the computation of positions. The smooth sheet and accompanying overlays are annotated with NAD 83 adjustment ticks based on values determined by N/CG121. Geographic positions based on NAD 83 may be plotted on the smooth sheet utilizing the NAD 27 projection by applying the following corrections:

Latitude: +0.259 seconds (+8.0 meters)  
Longitude: -3.891 seconds (-95.2 meters).

The year of establishment of control stations shown on the page sized smooth sheets originates with the hydrographer's signal list.

There are 56 weak fixes (angles of intersection less than 30 degrees or more than 150 degrees) noted on this survey. However, there are no significant plotting differences between the soundings located by these fixes and those in adjacent areas. Also, none of these fixes are used to position dangers to navigation. These fixes are considered acceptable.

The following shoreline maps apply to this survey.

	<u>Photo Date</u>	<u>Class</u>
TP-00530	March 1977	III
TP-00531	March 1977	Registered
TP-00532	March 1977	Registered
TP-00533	March 1977	Registered

## 3. HYDROGRAPHY

With the exceptions noted in this report, hydrography is adequate to:

- a. Delineate the bottom configuration, determine least depths, and draw the standard depth curves;
- b. Reveal there are no significant discrepancies or anomalies requiring further investigation; and
- c. Show the survey was properly controlled and soundings are correctly plotted.

#### 4. CONDITION OF SURVEY

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3; the Hydrographic Survey Guidelines; the PMC OORDER except as follows.

- a. San Leandro Bay Airport Daybeacons 3 and 4 were not located to third order accuracy as required by the Hydrographic Manual.
- b. Ballena Bay Light 1 was repositioned during this survey but not to third order accuracy as required by the Hydrographic Manual.
- c. Documentation of some investigations is not adequate. Although detached positions within the search area were provided, sketches and descriptions were not adequate to plot the feature. PSR Items 101 and 179 are examples where items are not resolved because of inadequate documentation.
- d. Final field sheets were not submitted by the hydrographer. The preliminary field sheets that were provided contained sounding data and did not address the shoreline features. The plotting of this type of data on a field sheet would reveal to the hydrographer the documentation inadequacies noted previously.

#### 5. JUNCTIONS

Junction comparisons are not required according to the project instructions. The comparison with charted depths in the adjacent areas of each specific investigation reveals satisfactory agreement.

#### 6. COMPARISON WITH PRIOR SURVEYS

H-9927(1981) 1:5,000  
 H-9873(1980-81) 1:5,000  
 H-9844(1979-81) 1:10,000  
 H-9819(1979) 1:10,000  
 H-9810(1979) 1:10,000

Presurvey review items 101, 102, 108, 112, 114, 118, 120, 121, 122, 123, 124, 129, 130, 133, 134, 135 and 186 originate with

survey H-9927. Presurvey review items 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186 and 187, of the area along Oakland Inner Harbor, originate from survey H-9873. Presurvey review items 137, 138, 146, 147 and 149, south of San Francisco-Oakland Bay Bridge, originate from survey H-9844. Presurvey Review Items 159 and 161 originate from survey H-9819. Presurvey Review Item 193 originated from survey H-7622 (1947) and has been carried forward to survey H-9810.

All of these items were investigated during this survey. The description and disposition of each of these items are included in the discussions that follow the Evaluation Report.

The following AWOIS items originate with prior surveys: 50750 and 50793. The descriptions and disposition of all these items are also included in the discussions that follow the Evaluation Report.

Except where mentioned in the discussions that follow the Evaluation Report, survey FE-310 is adequate to supersede these prior surveys within the common areas of coverage.

## 7. COMPARISON WITH CHART

Chart 18650, 40th Edition, dated June 13, 1987;  
scale 1:20,000

Chart 18650, 41st Edition, dated February 25, 1989;  
scale 1:20,000

### a. Hydrography

All charted information originates with surveys H-9927, H-9873, H-9844, H-9819, H-9810 and other miscellaneous sources.

Survey FE-310 is adequate to supersede charted hydrography within the common area covered by each field investigation except as mentioned in this report.

### b. AWOIS

AWOIS Item 50751, a dangerous submerged wreck at latitude 37°46'43"N, longitude 122°14'40"W, originates from an unknown source. This item is adequately disposed of in the discussion that follows the Evaluation Report.

AWOIS Item 51152, a dangerous submerged wreck charted at latitude 37°46'24.0"N, longitude 122°14'20.0"W, originates from Notice to Mariners No. 49/86. This item is adequately disposed of in the discussion that follows the Evaluation Report.

### c. Controlling Depths

The results of the investigations in the charted channels are included in the discussions that follow the Evaluation Report.

d. Aids to Navigation

Fixed and floating aids to navigation were observed and verified around the southern area of San Francisco Bay. The fixed aids listed in the hydrographer's letter to the Coast Guard were located to third order accuracy, except for Ballena Bay Light and San Leandro Bay Airport Daybeacons 3 and 4. The floating aids located during this survey are all privately maintained. All fixed and floating aids were found in good condition and serve their intended purpose. A copy of the letter to the Coast Guard and of the NOAA Form 76-40 are attached.

e. Geographic Names

Names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer.

f. Dangers to Navigation

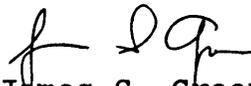
Two dangers to navigation reports were generated during the survey. The hydrographer reported uncharted obstructions, shoals and hazards found during field investigations to the USCG. Copies of the reports are attached. No additional dangers were discovered during office processing.

8. COMPLIANCE WITH INSTRUCTIONS

<sup>FE-310</sup>  
Survey ~~H-10197~~ adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is an adequate field examination. Additional field work may be required to verify the status of item investigations in areas where development projects were in progress during the time of the survey and an adequate alternative charting source is not available.



James S. Green  
Supervisory Cartographer

This survey has been examined and it meets Charting and Geodetic Services' standards and requirements for use in nautical charting. Approval is recommended.



Dennis Hill  
Chief, Hydrographic Unit

CHART: 18650 40th ed. June 13, 1987 ITEM: 101

ITEM DESCRIPTION: Small boat harbor

SOURCE: H-9927 1981

INVESTIGATION DATE: 6/26/87 (DN 177) TIME: 1454-1557

OIC: LTJG Porta

REFERENCES:

Sheet (2) of (15)

See the aerial 1:300 scale photograph (located in the cahier) provided by the Port of Oakland. ✓

Position No: 549-562

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/15	122/15/00	
. Observed (flt pier)	37/47/15	122/15/00	✓

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-visual or visual checks. ✓

METHOD OF INVESTIGATION:

The ends of each pier were positioned. The number of slips were counted, the length of the piers and the distance were measured with a range finder. ✓

CHARTING RECOMMENDATION:

Delete the small boat harbors presently charted. Chart the harbor described by positions 549-562 and the aerial photograph. *concur.*

*See Eval. Supplement to PSR Item 101.*

Position	Cartographic Code
549-562	016

# PORT OF OAKLAND



## BOARD OF PORT COMMISSIONERS CITY OF OAKLAND

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WALTER ABERNATHY *Executive Director*

April 20, 1987

LT(jg) Thomas K. Porta  
Pacific Hydrographic Party  
P.O. Box 1001  
Sonoma, California 95476-1001

Dear Lt. Porta:

At a meeting held at the Port of Oakland on April 14, 1987, you inquired about the possible existence of pile ruins at locations circled and numbered on a map in your possession. At that time, I provided you with some maps and a brief explanation of the condition at each of the following sites:

<u>Loc. No.</u>	<u>Port Description</u>	<u>Description</u>
101	North Basin Marina	Area dredged to about -12 MLLW and small boat marina built about 1978.
122	Union Point Basin	Water area dredged to about -12 MLLW. Port plans to construct small boat marina later this year. See enclosed AA-2571.
179	Rusty Scupper Restaurant	Site now occupied by restaurant. Old wharf westerly (see enclosed plan C-2496) was demolished with timber piles cut off at mud line.
182	Berths 67 and 68 Container Facility	Area cleaned, filled and shoreline re-shaped. New container facility dredged to -42 MLLW, about 1981.
193	Berth 24 Container Facility	Old oil pier demolished about 1975. Berth 24 (formerly Berth 4) now occupies site.

If you have questions on any other pile ruins in the Oakland Harbor area, give me a call at (415) 444-3188, extension 268.

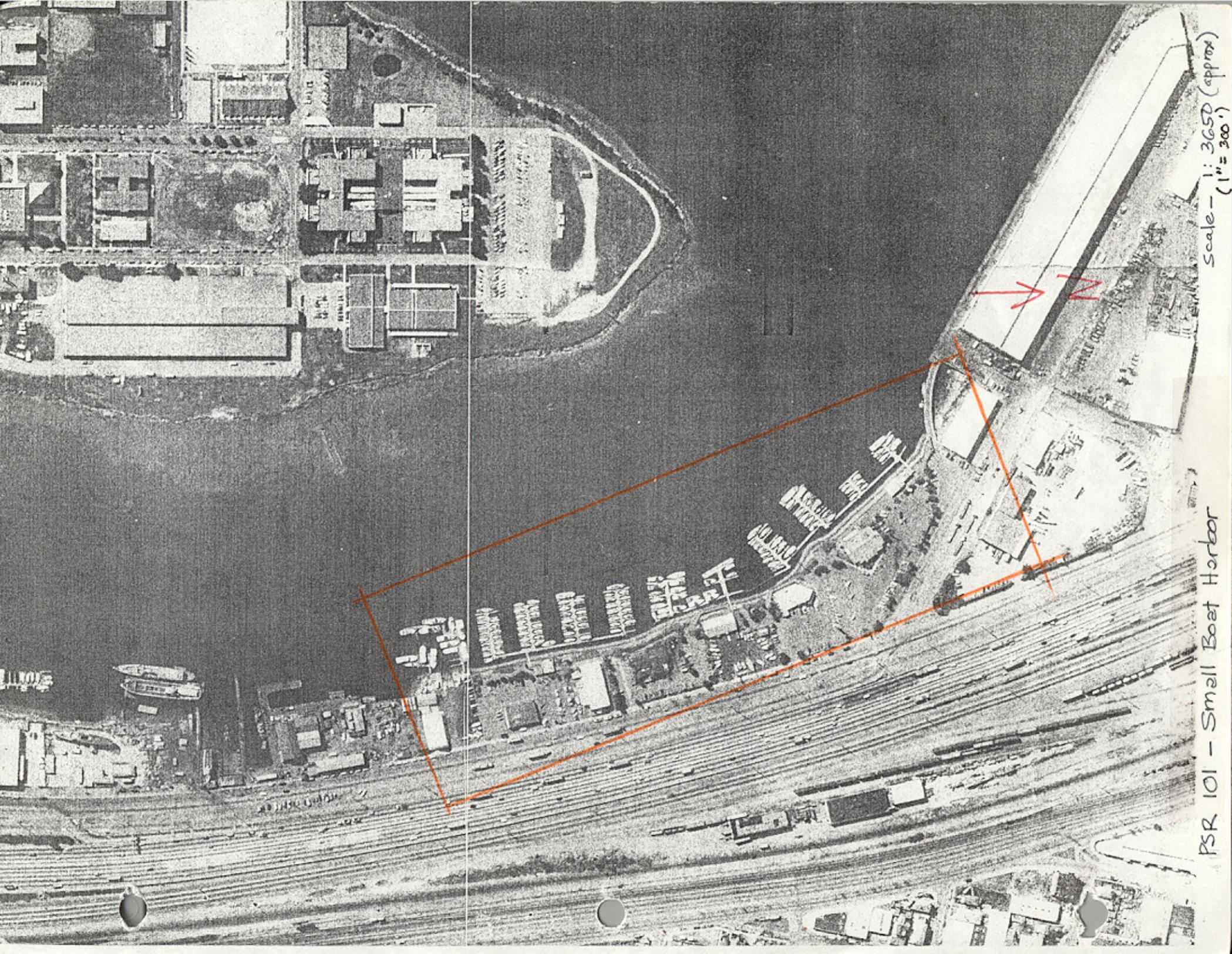
Sincerely,

RALPH D. GIN  
Supervising Civil Engineer

RDG:sh

66 Jack London Square • P.O. Box 2064 • Oakland, California 94604 • Phone (415) 444-3188  
Cable Address PORTOFOAK, Oakland • Telex 336-334

MEMBER OF THE AMERICAN ASSOCIATION OF PORT AUTHORITIES, INC., THE AIRPORT OPERATORS COUNCIL INTERNATIONAL, INC.  
AND THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS



PSR 101 - Small Boat Harbor

Scale - 1: 3650 (approx)  
(1" = 300')

## EVALUATION SUPPLEMENT TO PSR 101

The results of this investigation, to provide position information for the small boat harbor located north of Coast Guard Island along Brooklyn Basin North Channel, are depicted on survey graphic, sheet 12 of 15.

The shoreline source in the area of investigation is shoreline map TP-00530, enlarged to the scale of the survey.

This investigation was compared with survey H-9927(1981). Item 101, known as the "North Basin Marina", was constructed in 1978 according to information received from the Port of Oakland. The area was dredged to a depth of about 12 feet at MLLW. The marina was further developed and expanded by constructing additional floating piers in the area since the 1981 survey.

During this field investigation, only the offshore ends of each pier was located. Unfortunately, the data acquired is not adequate for the complete portrayal of these piers. The aerial photograph provided by the port authority appears to be confirmed by the positions acquired during this investigation. This investigation is adequate to supersede survey H-9873 for this area.

This item was compared with chart 18650, 41th Edition, February 25, 1989. The piers appear to have been updated by the preliminary copy of this survey. This area should be charted from the attached aerial photograph of the area, or a more current source if available, supplemented by the positions of the ends of the piers as shown on the approximate depiction on paged sized graphic, sheet 12 of 15.

CHART: 18650 40th ed. June 13, 1987 ITEM: 102 ✓

ITEM DESCRIPTION: Submerged ruins ✓

SOURCE: H-9927 1981

INVESTIGATION DATE: 6/25/87 (DN 176) TIME: 1438-1749

OIC: LTJG Porta

REFERENCES:

Sheet (2) of (15)

See the letter, dated December 17, 1987, from Mr. Merrill Anderson in Supplemental Information Appendix XIII. See also the blueprints for Encinal Marina. Letter attached, blueprints filed with the survey records.

Position Nos: 540-543

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/45 to 37/46/50	122/15/10 to 122/15/14	
Search	37/46/50.14	122/15/09.82	540
Observed			
(7.3ft subm pile)	37/46/46.90	122/15/11.49	541
(12.1ft subm pile)	37/46/47.73	122/15/11.12	542

OK  
Charted as  
Subm Pile  
7 abstr  
11 abstr

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-range checks.

METHOD OF INVESTIGATION:

The center position of the search was chosen to be in line with the pier ruins so that the entire area of the pier ruins were swept. The inshore end of the drag touched the visible ruins. The offshore end of the drag was in the dredged channel. A 60-m radius bottom drag was performed. The drag consisted of a 25 lb. center weight with a float attached to 60-m of 5/8 inch nylon line. A ten lb weight was attached to the other end of the nylon line. A 25-m tow line was attached to this weight.

Two hangs were investigated by dives. A pile was found at position 541 (7.3 ft) and wooden debris was found at position 542 (12.1 ft).

11 abstr

CHARTING RECOMMENDATION:

Delete the pier ruins presently charted. Chart the new Encinal Marina now under construction (blueprints enclosed in the cahier). Do not chart\* the pile (pos 541) as dredge operations are underway at this time. The project depth is eight ft. Do not chart\* the wooden debris<sup>(piles)</sup> (542) since it will be removed by dredging.

*piles extant at time of survey.*

*See Eval. supplement  
to PSR Item 102.*

**ENCINAL MARINA**

2051 Grand Street • Alameda, CA 94501 • (415) 865-1200

December 17, 1987

Fred R. Diaz  
Chief of Party  
Pacific Hydrographic Party  
614-A East 5th Street  
Benicia, California

Dear Mr. Diaz:

This letter will serve as confirmation that Encinal Marina property has been swept to a depth of eight feet:

- To the East of Fortman Basin;
- To the South of the pier head line;
- To the West of Grand Street; and,
- To the North of the land.

If you have any questions, please contact Curt Bolton, our Project Superintendent.

Very truly yours,



Merrill Dean Anderson  
President

MDA/lb

OK 18652

EVALUATION SUPPLEMENT TO PSR ITEM 102

PSR Item 102 is a submerged ruins located east of Fortmann Basin at latitude 37°46'47"N, longitude 122°15'12"W. This item was verified by 60-meter radius bottom drag and by dive investigation. Two submerged obstructions were found and were plotted on the smooth sheet (sheet 12 of 15).

Dredging operations were started after the completion of this investigation to clear the area of all the remaining obstructions. It was swept to a project depth of 8 feet, according to the letter from Mr. Merrill Anderson of Encinal Marina property, prior to the construction of the new marina.

The submerged ruins should be removed from the chart and the area of Encinal Marina charted as under construction, until advised that the construction has been completed. A drawing of the proposed marina is included with the survey data. Upon completion of construction, the marina should be charted from this drawing or a more accurate source if available.

— This area may have  
been cleared by  
now



CHART: 18650 40th ed. June 13, 1987 ITEM: 108

ITEM DESCRIPTION: Tripod

SOURCE: H-9927 1981

INVESTIGATION DATE: 10/07/87 (DN 280) TIME: 2041

OIC: LTJG Porta

REFERENCES:

Sheet 15 of 15

Position No: 1159

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/45/0 <sup>7</sup> <del>8</del>	122/13/26 ✓	
Observed (-12.8ft pile)	37/45/04.36	122/13/31.40	1159

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-visual check.

METHOD OF INVESTIGATION:

Disproof was not required for this item. The only feature in the area was the pile which was positioned from the launch.

CHARTING RECOMMENDATION:

Delete the tripod presently charted. Chart pile at *Do not concur*, 37/45/04.3 N, and 122/13/31.40 W.

Position  
1159

Cartographic Code  
110

*See Eval. Supplement to  
PSR item 108.*

OK 10/32

EVALUATION SUPPLEMENT TO PSR ITEM 108

PSR Item 108 is a tripod at latitude 37°45'07"N, longitude 122°13'26"W, shown on chart markup for OPR-L123 and listed as item "h" in section 2 of the Evaluation Report for H-9927. This same item was erroneously listed in section "g" of the Office Review for OPR-L123-PHP-84 at latitude 37°45'03"N, longitude 122°13'26"W .

The hydrographer located a pile near by, at latitude 37°45'04"N, longitude 122°13'31"W, instead of the tripod designated as item 108. This pile was believed to be the same pile charted at latitude 37°45'04"N, longitude 122°13'32"W, originating from survey H-9927.

The tripod has been carried forward to this survey from survey H-9927. It is recommended that the located pile be charted according to the present survey. The tripod, referred to as Item 108, should remain charted at its present position until an investigation can be accomplished.

J

CHART: 18650 40th ed. June 13, 1987 ITEM: 112

ITEM DESCRIPTION: Submerged pipe

SOURCE: H-9927 1981

INVESTIGATION DATE: 10/19/87 (DN 292) TIME: 1814

OIC: LTJG Porta

REFERENCES:

Sheet (13) of (15)  
Position No: 1416

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/44/34	122/12/50	
Observed (-8.5ft pipe)	37/44/33.36	122/12/49.49	1416

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with a visual (sextant) check.

METHOD OF INVESTIGATION:

Disproof was not required for this item. The only feature in the area was the pipe which was positioned from the launch. The area was seen bare\* and the pipe is the most seaward hazard.

CHARTING RECOMMENDATION:

Delete the charted pipe. Chart the pipe described by position 1416.

Position  
1416

Cartographic Code  
105

*See Eval. supplement to PSR,  
Item 112*

\*Records indicate more than +4ft. tide at time of investigations.

EVALUATION SUPPLEMENT TO PSR ITEM 112

PSR Item 112 is a submerged pipe shown on H-9927 (1981) at latitude  $37^{\circ}44'34.0''N$ , longitude  $122^{\circ}12'50.0''W$ . This pipe was not investigated during this survey. Instead, the hydrographer located the presently charted visible pipe at latitude  $37^{\circ}44'33.4''N$ , longitude  $122^{\circ}12'49.5''W$ , approximately 20 meters south of the submerged pipe. The two documented investigations were conducted at over 4 feet of tides and no adequate disproval of the submerged item is documented in the field records.

The foul limits have been extended to cover the location of the submerged pipe. It is recommended that PSR Item 112 be charted as shown on the smooth sheet.

$37^{\circ}44'33''$   
 $122^{\circ}12'53''$

CHART: 18650 40th ed. June 13, 1987 ITEM: 114

ITEM DESCRIPTION: Gas Pumping Pier

SOURCE: H-9927 1981

INVESTIGATION DATE: 10/07/87 (DN 280) TIME: 1158

OIC: LTJG Porta

REFERENCES:

Sheet (14) of (15)  
Position No: 1158

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/44/13	122/12/42	
Observed (pier)	37/44/12.99	122/12/41.43	1158

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-visual configuration with visual checks.

METHOD OF INVESTIGATION:

The pier was in the position stated in the project instructions. It has a new deck but does not appear to be usable as a pumping station.

CHARTING RECOMMENDATION:

Retain the charted pier at the new position. *concur.*  
*This feature was shown in red and labelled as "fuel pier" on the smooth sheet.*

Position	Cartographic Code
1158	030

*18652 OK*

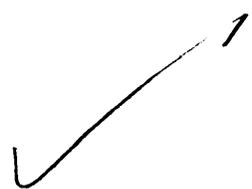


CHART: 18650 40th ed. June 13, 1987 ITEM: 118

ITEM DESCRIPTION: Pile

SOURCE: H-9927 1981

REFERENCES: Sheet ⑫ . ⑩ ⑪

A letter, dated April 20, 1987, from the Alameda City Engineer Mr. T. D. Edwards, states that the pile will be removed. ✓

See the <sup>attached</sup> letter, dated December 17, 1987 from Mr. Merrill Anderson in ~~Supplemental Information Appendix XIII~~, and the blueprints for Encinal Marina which describes the marina and list the project depth. The blueprints are in the cahier. ✓

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/43	122/15/06	

CHARTING RECOMMENDATION:

Delete the piles and chart the new Encinal Marina. *Do not concur.*

*See Eval. Supplement to PSR Item 118.*



CITY OF ALAMEDA • CALIFORNIA  
CITY HALL • SANTA CLARA AT OAK STREET 94501 • (415) 522-4100

PUBLIC WORKS  
DEPARTMENT

April 20, 1987

LTJG Tom Porta  
Pacific Hydrographic Party  
P. O. Box 10001  
Sonoma, CA 95476-10001

Dear Sir:

As discussed at our meeting on April 16, 1987, the following information is supplied as requested:

Item No.	Longitude	Latitude	Description	Status
180	30°47'00.5"	122°15'58.0"	Pile	Piles have been removed and new berthing facilities constructed.
181	37°47'02.0"	122°15'57.5"	Pile	
133	37°46'40"	122°15'18"	Five Dolphins	These have been removed.
102	37°46'45-50"	122°15'10-14"	Submerged Ruins	Permits for this area have been applied for and are currently being reviewed. The proposed work includes the removal of these obstructions and the installation of new berthing facilities.
134	37°46'44"	122°15'07"	Pier Ruins	
118	37°46'43"	122°15'06"	Pile	
130	37°46'18"	122°14'13"	Two Dolphins	Permits for this area have been applied for and will be issued shortly. The proposed work includes removal of these obstructions and installation of new berthing facilities.

I hope this will be helpful to you in updating Chart 18650. When you complete your task, I would appreciate it if you would send me a copy of the updated chart.

Very truly yours,

T. D. Edwards, City Engineer

TDE:fw

December 17, 1987

Fred R. Diaz  
Chief of Party  
Pacific Hydrographic Party  
614-A East 5th Street  
Benicia, California

Dear Mr. Diaz:

This letter will serve as confirmation that Encinal Marina property has been swept to a depth of eight feet:

- To the East of Fortman Basin;
- To the South of the pier head line;
- To the West of Grand Street; and,
- To the North of the land.

If you have any questions, please contact Curt Bolton, our Project Superintendent.

Very truly yours,



Merrill Dean Anderson  
President

MDA/lb

EVALUATION SUPPLEMENT TO PSR ITEM 118

The proposed work within the area of Item 118, includes the removal of all obstructions and installation of berthing facilities for the new Encinal Marina, according to the letter from the Chief Engineer of the city of Alameda, dated April 20, 1987.

It was confirmed in a letter from Mr. Merrill Anderson, dated December 17, 1987, that the Encinal Marina property has been swept to a depth of 8 feet as part of the construction project.

This pile is considered disproven. It is presently not charted, so no action is required. Refer to PSR Item 101 for the charting of the new Encinal Marina.

10652 OK

CHART: 18650 40th ed. June 13, 1987 ITEM: 120

ITEM DESCRIPTION: Foul Area

SOURCE: H-9927 1981

INVESTIGATION DATE: 10/13/87 (DN 286) TIME: 1700-1910  
10/19/87 (DN 292) 1720-1814

OIC: LTJG Porta

REFERENCES:

Sheets (13) and (14) of (15)  
Position No: 1404-1407, 1409, 1413-1416,

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/43/53	122/12/27	
	37/44/30	122/12/45	
Observed (buoy and foul area)	37/43/59.58	122/12/30.76	1413
	37/44/33.36	122/12/49.49	1416
	" 37/44/02.77	122/12/32.64	1404
	" 37/44/12.13	122/12/36.96	1405
	" 37/44/15.33	122/12/38.40	1406
	" 37/44/20.05	122/12/39.44	1407
	" 37/44/26.94	122/12/41.89	1409

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-visual or visual checks.

METHOD OF INVESTIGATION:

Thirty-two buoys were set by the East Bay Regional Parks to show the limits of a foul area. The foul area and the most seaward buoys are delineated by the positions listed above. Position 1416 is item 112 but it is the north limit of the foul area on the east shore.

CHARTING RECOMMENDATION:

as shown on page sized graphics (13) and (14)  
Chart the foul limits delineated by positions 1404-1407,  
~~1409, 1413-1416.~~

Retain the charted features within the foul limits. Also

retain the charted features described by these items.

Concur

ITEM NUMBER

103 116  
106 117  
109 125-51149, 51150  
113 126-51151

Positions  
1404-1407, 1409, 1413-1415  
1416

Cartographic Code  
212, 894  
105, 894

Item	Description	Lat (N)	Long (W)	Recommendation
103	Ruins	37-44-28	122-12-41	Retain as charted /
106	Dol in ruins	44-02	12-32	
109	Dol in ruins, pile dol	44-07	12-34	
113	Two rocks	44-17	12-38	
116	Pile	44-12	12-35	
117	Dol	44-12	12-36	
Awois 51149 (125)	Vis. wk.	44-16	12-38	
51150 (125)	Vis. wk.	44-16	12-39	
51151 (126)	Vis. wk.	44- <sup>2</sup> / <sub>32</sub>	12-38	

1961 12 20

*[Handwritten signature]*

CHART: 18650 40th ed. June 13, 1987 ITEM: 121

ITEM DESCRIPTION: Foul area

SOURCE: H-9927 1981

INVESTIGATION DATE: 10/07/87 (DN 280) TIME: 1904-1941

OIC: LTJG Porta

REFERENCES:

Sheet (14) of (15)

Position No: 1156-1157

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/43/53 to 37/44/45	122/12/34 to 122/13/13	
Observed (foul limits)	37/43/50.40 37/43/52.69	122/12/26.24 122/12/30.77	1156 1157

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-visual or visual checks.

METHOD OF INVESTIGATION:

The whole western shoreline of San Leandro Bay was observed at low tide. The only area that merited a foul description was between positions 1156 and 1157.

CHARTING RECOMMENDATION:

Change the shoreline as shown by position 1156, 37/43/50.40 N and 122/12/26.24 W. *Shown as dashed red line on the smooth sheet.*

Chart the foul area from 37/43/50.40 N, 122/12/26.24 W to 37/43/52.69 N and 122/12/30.77W. *Shown as dashed black to delimit foul with pikes.*

Retain the charted ruins which lie within the foul area.

Position	Cartographic Code
1156,1157	894

*CONCUR.*

CHART: 18650 40th ed. June 13, 1987 ITEM: 122

ITEM DESCRIPTION: Foul area

SOURCE: H-9927 1981

REFERENCES:

Sheet ⑩ of ⑫

A letter, dated April 20, 1987, from the Supervising Civil Engineer Mr. Ralph D. Gin, states that the area has been dredged to 12 ft MLLW.

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/37	122/14/28	
	37/46/42	122/14/33	

CHARTING RECOMMENDATION:

Delete the ruins and the foul area.

*CONCUR.*

*See Eval. supplement to FSR Item 122.*

# PORT OF OAKLAND

## BOARD OF PORT COMMISSIONERS CITY OF OAKLAND

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PATRICIA PINEDA *Commissioner*  
CHRISTINE SCOTLAN *Commissioner*

WALTER ABERNATHY *Executive Director*

April 20, 1987

LT(jg) Thomas K. Porta  
Pacific Hydrographic Party  
P.O. Box 1001  
Sonoma, California 95476-1001

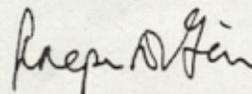
Dear Lt. Porta:

At a meeting held at the Port of Oakland on April 14, 1987, you inquired about the possible existance of pile ruins at locations circled and numbered on a map in your possession. At that time, I provided you with some maps and a brief explanation of the condition at each of the following sites:

<u>Loc. No.</u>	<u>Port Description</u>	<u>Description</u>
101	North Basin Marina	Area dredged to about -12 MLLW and small boat marina built about 1978.
122	Union Point Basin	Water area dredged to about -12 MLLW. Port plans to construct small boat marina later this year. See enclosed AA-2571.
179	Rusty Scupper Restaurant	Site now occupied by restaurant. Old wharf westerly (see enclosed plan C-2496) was demolished with timber piles cut off at mud line.
182	Berths 67 and 68 Container Facility	Area cleaned, filled and shoreline re-shaped. New container facility dredged to -42 MLLW, about 1981.
193	Berth 24 Container Facility	Old oil pier demolished about 1975. Berth 24 (formerly Berth 4) now occupies site.

If you have questions on any other pile ruins in the Oakland Harbor area, give me a call at (415) 444-3188, extension 268.

Sincerely,



RALPH D. GIN  
Supervising Civil Engineer

RDG:sh

66 Jack London Square • P.O. Box 2064 • Oakland, California 94604 • Phone (415) 444-3188  
Cable Address PORTOFOAK, Oakland • Telex 336-334

MEMBER OF THE AMERICAN ASSOCIATION OF PORT AUTHORITIES, INC., THE AIRPORT OPERATORS COUNCIL INTERNATIONAL, INC.  
and THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

## EVALUATION SUPPLEMENT TO PSR ITEM 122

Item 122 covers the area known as Union Point Basin. This area was dredged to a depth of about 12 feet at MLLW, according to the letter from the Supervising Engineer Ralph Gin of the City of Oakland, dated April 20, 1987. The Port of Oakland plans to construct a small boat marina in this area during the later part of 1987. A copy of the plan for the proposed marina is included with the survey records.

It is recommended that the construction of this new marina be monitored and the area be charted accordingly.

CHART: 18650 40th ed. June 13, 1987 ITEM: 123

ITEM DESCRIPTION: Survey Airport Channel

SOURCE: H-9927 1981

INVESTIGATION DATE: 10/19/87 (DN 292) TIME: 1720-1814  
10/20/87 (DN 293) 1738-2115  
10/22/87 (DN 295) 1740-2029

OIC: LTJG Porta

REFERENCES:

Sheet 13 of 15

Position No: 1417-1607

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/45/15	122/13/22	
Observed (-7.8 ft pile)	37/44/45.23	122/13/11.07	1531 ✓

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration.

METHOD OF INVESTIGATION:

Twenty-five-m spacing mainscheme lines were run from the west shore to the foul limit on the east shore. Three channel lines were run in the channel. ✓

An uncharted pile was observed at position 1531. ✓

The deepest soundings in the channel agree with the charted soundings. Soundings are up to 2 ft shoaler close to the charted soundings due to the narrowness of the channel. ✓

The soundings from this survey are within one foot of those of H-9927. ✓

*18650 A inc  
Applied in sect "B"*

CHARTING RECOMMENDATION:

The contour lines reveal a slight narrowing of the channel, ✓  
but less than ten meters.

Survey soundings should supersede charted soundings in this *concur.*  
area.

Chart the pile described by position 1531 above. *concur.*

Delete the "(shoaling rep 1984)". *concur*

POS  
1531

CARTO CODE  
110

*See Eval. supplement to  
PSR Item 123.*

EVALUATION SUPPLEMENT TO PSR ITEM 123

The results of this investigation, to develop the area of Airport channel, are shown on the page-sized graphic, sheet 13 of 15.

The shoreline source for the area of this investigation is shoreline map TP-00533, enlarged to a scale of 1:5,000.

This investigation was compared with survey H-9927 (1981). Comparison with this prior survey is good and no significant differences were found, except for an indication of a slight increase in depths along the inshore areas of the channel.

San Leandro Bay Daybeacon 5 and 6 were not positioned by the hydrographer on this survey. They were carried forward on the smooth sheet from prior survey H-9927.

The pile originating from H-9927 at latitude  $37^{\circ}44'31''N$ , longitude  $122^{\circ}12'53''W$  was not investigated nor was it discussed in the hydrographer's report. This pile was carried forward to the present survey.

With the exception of the features mentioned above, this investigation is adequate to supersede H-9927 within the common area of the channel.

Chart 18650, 41th Edition, February 25, 1989, has been updated from a preliminary copy of this survey. Agreement is good. This investigation is adequate to supersede the charted information within the common area of coverage.

CHART: 18650 40th ed. June 13, 1987 ITEM: 124

ITEM DESCRIPTION: Survey San Leandro Bay Channel

SOURCE: H-9927 1981

INVESTIGATION DATE: 10/08/87 (DN 281) TIME: 1927-2109  
10/09/87 (DN 282) 1651-1804  
10/22/87 (DN 295) 1942-2029

OIC: LTJG Porta

REFERENCES:

Sheet (15) of (15)  
Position No: 1160-1402, 1608-1637

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/45/06	122/12/53	

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration. ✓

METHOD OF INVESTIGATION:

Twenty-five-m spacing mainscheme lines were run to the zero foot curve on either side of the channel. Three channel lines were run in the channel. ✓

The soundings in the channel agree with the charted soundings except for the soundings listed below.

Charted (ft)	Depth Discrepancies		Present Survey Position	
	Present Survey (ft)	Lat (N)	Long (W)	
14	12 <sup>5</sup>	37/45/00	122/12/45	
6	3 <sup>4</sup>	37/45/11	122/13/19	
0.5	2 <sup>5</sup>	37/45/05	122/12/54	

The soundings from this survey are within one foot of those of H-9927. The contour lines are in the same position except that there is a zero foot curve island not shown on the chart.

CHARTING RECOMMENDATION:

Revise the charted soundings with the survey soundings listed above. Chart the mudflat island.

Survey depths supersede charted depths in the area.

See Eval. supplement  
to PSR item 124.  
18650 A' HW  
18650

EVALUATION SUPPLEMENT TO PSR ITEM 124

The results of the investigation, to develop San Leandro Bay Channel in the vicinity of latitude 37°45'06"N, longitude 122°12'53"W, are shown on the page-sized graphic, sheet 15 of 15.

The shoreline source for this area of investigation is TP-00533, enlarged to the scale of the survey.

This survey was compared with survey H-9927 (1981). Agreement is good; however, some soundings have been carried forward to supplement and delineate the 6-foot depth curves along the narrow unmarked channel leading to San Leandro Bay. The two obstructions shown on the prior survey at latitude 37°45'09"N, longitude 122°13'13"W and latitude 37°44'59"N, longitude 122°12'53"W were not investigated nor discussed in the hydrographer's report. These obstructions were also carried forward to this survey. With the transferring of the above features, this investigation is considered adequate to supersede H-9927 within the common area.

This investigation was compared with Chart 18650, 41th Edition, February 25, 1989. There are no significant changes found in the area, except for some indication of slight increase in depths along the western portion of the channel. This investigation is adequate to supersede the charted information within the area of common coverage.

CHART: 18650 40th ed. June 13, 1987 ITEM: 129

ITEM DESCRIPTION: Pier

SOURCE: H-9927 1981

INVESTIGATION DATE: 10/13/87 (DN 286) TIME: 2037

OIC: LTJG Porta

REFERENCES:

Sheet (15) of (15)  
Position No: 1412

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/45/28	122/13/25	
Observed (flt pier)	35/45/28.48	122/13/24.60	1412 ✓

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-visual check.

METHOD OF INVESTIGATION:

The position from the project instruction was converted to a range-azimuth position. The launch was driven to this range azimuth position. There were two piers in the vicinity. One was positioned by range-azimuth the other was positioned by compass bearings and range finder distances from the range azimuth position.

The reason the second pier was positioned by range finder and compass bearings was that a rotted pile snapped off at the mudline when the launch came alongside. The pier would not stand up to thrust necessary to keep the launch alongside. Therefore it was positioned from a newer pier close by.

CHARTING RECOMMENDATION:

Chart the new pier at 35/45/28.48 N, 122/13/24.60 W. *Concur.*

Position  
1412

Cartographic Code  
016

*See Eval. Supplement  
to PSR Item 129.*

*18652  
M/E  
Pier seem to fall  
in area of other Piers  
18652 agrees with  
19650*

EVALUATION SUPPLEMENT TO PSR ITEM 129

PSR Item 129 is an old pier charted from a miscellaneous source at latitude  $37^{\circ}45'28.5''N$ , longitude  $122^{\circ}13'25''W$ . It has been removed from the 41st Edition of chart 18650, apparently after the preliminary application of the data from FE-310.

During this investigation, a new floating pier was found at latitude  $37^{\circ}45'28''N$ , longitude  $122^{\circ}13'25''W$ , about 7 meters north of another old pier originating from survey H-9927. This older pier was found to be partly supported by rotten piles that could no longer withstand the pressures necessary for the survey vessel to acquire a position.

It is recommended that the old pier, PSR Item 129, be recharted as ruins from its original charting source, the newly located floating pier be charted according to this survey and the verified old pier be retained as ruins at its charted position.

CHART: 18650 40th ed. June 13, 1987 ITEM: 130

ITEM DESCRIPTION: Two dolphins

SOURCE: H-9927 1981

REFERENCES:

No plot for this investigation

A letter, dated April 20, 1987, from the City Engineer, Alameda, Mr. T. D. Edwards, states that proposed work includes removal of these dolphins. PHP observed this work being done by the contractors.

*(filed with survey records)*

The site plans, ~~and letter dated July 27, 1987,~~ from Kirkland Engineering, Inc., for the project located at item 130 are included. The piers have not been built at the time of writing.

Site plans from Kirkland Engineering, Inc., are included for another set of piers at 37/47/12 N and 122/16/05.

*(filed with survey records)*

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/18	122/14/13	

CHARTING RECOMMENDATION:

Delete the dolphins ~~and piers.~~ Concur

Chart the new piers as shown from the drawings by Kirkland Engineering, Inc. See Eval Supp to PSR Item 130

*may have been Piers Deleted?  
I have no idea what's been  
Done for this chart - can't find old  
Histories.*

*may have been Piers  
Deleted?  
can't find old Histories*

*25  
400  
1000  
1100  
45*



CITY OF ALAMEDA • CALIFORNIA  
CITY HALL • SANTA CLARA AT OAK STREET 94501 • (415) 522-4100

PUBLIC WORKS  
DEPARTMENT

April 20, 1987

LTJG Tom Porta  
Pacific Hydrographic Party  
P. O. Box 10001  
Sonoma, CA 95476-10001

Dear Sir:

As discussed at our meeting on April 16, 1987, the following information is supplied as requested:

Item No.	Longitude	Latitude	Description	Status
180	30°47'00.5"	122°15'58.0"	Pile	Piles have been removed and new berthing facilities constructed.
181	37°47'02.0"	122°15'57.5"	Pile	
133	37°46'40"	122°15'18"	Five Dolphins	These have been removed.
102	37°46'45-50"	122°15'10-14"	Submerged Ruins	Permits for this area have been applied for and are currently being reviewed. The proposed work includes the removal of these obstructions and the installation of new berthing facilities.
134	37°46'44"	122°15'07"	Pier Ruins	
118	37°46'43"	122°15'06"	Pile	
130	37°46'18"	122°14'13"	Two Dolphins	

I hope this will be helpful to you in updating Chart 18650. When you complete your task, I would appreciate it if you would send me a copy of the updated chart.

Very truly yours,

T. D. Edwards, City Engineer

TDE:fw

Item 130

## Italo A. Calpestri III, AIA Architect & Associates

Member of the American Institute of Architects

December 17, 1987

Pacific Hydrographic Party  
614 East 5th St.  
Benicia, CA 94510

Attn: Tom Porta

Subject: Off-shore Improvements  
8311 Park Street Landing  
Alameda, CA 94501

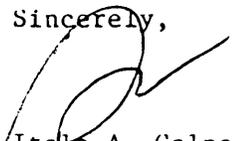
Dear Mr. Porta,

I'm sorry it has taken us so long to respond to your request regarding the marina being developed at the foot of the Park Street Bridge in Alameda. The most current site/berth plan for the project is enclosed. We are directly responsible for coordination of the work being done on the land and do not have the berth depth information you require. However, we will pass on the name of the engineer who is designing the marina. He will be able to provide you with the necessary data.

William Kirkland  
2000 Santa Clara Ave.  
Alameda, CA 94501

415-521-1600

Sincerely,



Italo A. Calpestri, III AIA

Attachments  
cc: Wm. Kirkland  
83cor\8311HYDRO

EVALUATION SUPPLEMENT TO PSR ITEM 130

Item 130 consists of two dolphins charted at latitude 37°46'18"N, longitude 122°14'13"W, located inside the area of a proposed marina. The contract on this project includes the removal of these two dolphins and the installation of new berthing facilities, according to the letter from the City Engineer of the City of Alameda, dated April 20, 1987 (copy attached).

Delete the two dolphins. The construction of the proposed piers should be monitored and, when construction has begun, the area charted according to the site plan contained with the survey records or a better source if available.

CHART: 18650 40th ed. June 13, 1987 ITEM: 131

ITEM DESCRIPTION: Pier ruins

SOURCE: H-9927 1981

INVESTIGATION DATE: 6/26/87 (DN 177) TIME: 1811-1856

OIC: LTJG Porta

REFERENCES:

Sheet 11 of 15

Position No: 563-566

The plans, located in the cahier, for berths constructed west of item 131 are included. The plans are from Wayne Milani, project supervisor. See letter dated October 19, 1987. The letter and plans are attached.

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/33	122/14/38	
Search	37/46/33.01	122/14/38.02	563
Observed			
(-0.8ft subm pile)(2)	37/46/31.95	122/14/36.20	564
(7 ft subm pile) <del>100ft</del>	37/46/32.28	122/14/37.41	565
(-15.6 ft dol) (19)	37/46/31.69	122/14/35.99	566

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-range checks.

METHOD OF INVESTIGATION:

A bottom drag of 80-m radius was conducted with center at position 563. An 80-m length of 5/8th inch nylon line was weighted with a 25-lb. and a 10-lb. weight on either end. A 25-m tow line was attached to the 10 lb. weight and a buoy was attached to the 25-lb. weight. Two circles were made in both directions to completely cover the required area.

The two hangs were investigated by dives. Position 564 pile bares -0.8 ft. (2) Position 565, a cement pile laying flat on the bottom is at depth ~~11.4~~ ft. A dolphin at position 566 bares -15.6 ft. 10 ft

19 ft. @ MHW

**CHARTING RECOMMENDATION:**

Delete the piers and the pier ruins charted between 37/46/32 N, 122/14/37 W and 37/46/32 N, 122/14/44 W. *concur*

Chart the piles and the dolphin. Chart the new berths referenced above. *concur.*

Position	Cartographic Code	<i>See Eval. supplement to PSR Item 131.</i>
564	279	
565	234	
566	010	

Wayne Milani  
1310 Sherman Street  
Alameda, California 94501

It... 131 /

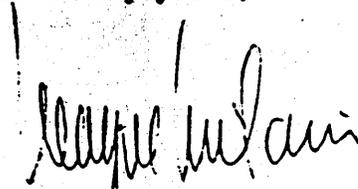
October 19, 1987

Mr. Tom Porta  
Pacific Hydrographic Party  
National Ocean Service  
614 A East 5th Street  
Benicia, California 94510

Dear Mr. Porta:

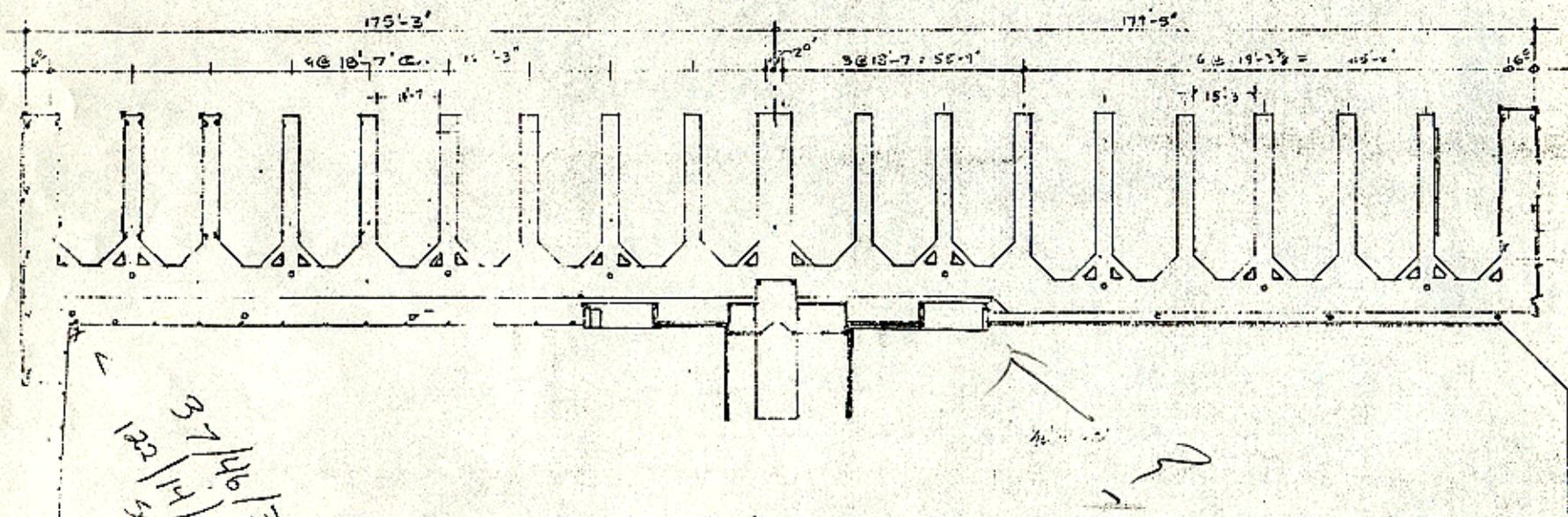
Enclosed is a sketch of the berths in the Alameda/Oakland estuary that you recently requested.

Sincerely yours,



Wayne Milani

WM/ldf  
encl



37/116/33.5  
 122/14/42.5  
 part of  
 total

20°  
 120

EVALUATION SUPPLEMENT TO PSR ITEM 131

The results of this investigation to verify the existence of an old pier ruins charted at latitude  $37^{\circ}46'33''\text{N}$ , longitude  $122^{\circ}14'38''\text{W}$ , is depicted on a page-sized graphic, sheet 11 of 15.

The area of the old pier ruins was investigated by an 80-meter radius bottom drag during this survey. The only remains of the old pier found was a submerged concrete pile at latitude  $37^{\circ}46'32''\text{N}$ , longitude  $122^{\circ}14'37''\text{W}$ . A pile baring 2 feet at MLLW at latitude  $37^{\circ}46'32''\text{N}$ , longitude  $122^{\circ}14'36''\text{W}$  and a dolphin at latitude  $37^{\circ}46'31.5''\text{N}$ , longitude  $122^{\circ}14'36''\text{W}$ , also found during this field investigation, were believed to be what were left of the dolphins depicted on survey H-9927. The other pier ruins from this prior survey, at latitude  $37^{\circ}46'33''\text{N}$ , longitude  $122^{\circ}14'40''\text{W}$  are now covered by the newly constructed berthing spaces in the area. The new berthing spaces were located in the vicinity of latitude  $37^{\circ}46'33''\text{N}$ , longitude  $122^{\circ}14'41''\text{W}$  and constructed as shown on the plan received from Project Supervisor Wayne Milani.

The old pier ruins should be deleted and the piles, dolphin and the newly constructed berthing spaces shown on the smooth sheet charted.

OP  
11/15

CHART: 18650 40th ed. June 13, 1987 ITEM: 133

ITEM DESCRIPTION: Five dolphins

SOURCE: H-9927 1981

REFERENCES:

Sheet ⑫ of ⑮

A letter, dated April 20, 1987, from the City Engineer, Alameda, Mr. T. D. Edwards, states that these dolphins have been removed.

The blueprints for the marina in Fortmann Basin, the Encinal Marina are enclosed.

GEODETIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/40	122/15/18	

CHARTING RECOMMENDATION:

Delete the five dolphins. *concur*

Chart the marina in Fortmann Basin according to the blueprints of Encinal Marina.

*Do not concur.  
See PSR Item 102  
for charting  
recommendation for  
the new Encinal  
Marina*

*?*



# CITY OF ALAMEDA • CALIFORNIA

CITY HALL • SANTA CLARA AT OAK STREET 94501 • (415) 522-4100

PUBLIC WORKS  
DEPARTMENT

April 20, 1987

LTJG Tom Porta  
Pacific Hydrographic Party  
P. O. Box 10001  
Sonoma, CA 95476-10001

Dear Sir:

As discussed at our meeting on April 16, 1987, the following information is supplied as requested:

Item No.	Longitude	Latitude	Description	Status
180	30°47'00.5"	122°15'58.0"	Pile	Piles have been removed and new berthing facilities constructed.
181	37°47'02.0"	122°15'57.5"	Pile	
133	37°46'40"	122°15'18"	Five Dolphins	These have been removed.
102	37°46'45-50"	122°15'10-14"	Submerged Ruins	Permits for this area have been applied for and are currently being reviewed. The proposed work includes the removal of these obstructions and the installation of new berthing facilities.
134	37°46'44"	122°15'07"	Pier Ruins	
118	37°46'43"	122°15'06"	Pile	
130	37°46'18"	122°14'13"	Two Dolphins	Permits for this area have been applied for and will be issued shortly. The proposed work includes removal of these obstructions and installation of new berthing facilities.

I hope this will be helpful to you in updating Chart 18650. When you complete your task, I would appreciate it if you would send me a copy of the updated chart.

Very truly yours,

T. D. Edwards, City Engineer

TDE:fw

CHART: 18650 40th ed. June 13, 1987 ITEM: 134

ITEM DESCRIPTION: Pier ruins / EAST OF FORTMANN BASIN - NEW ENCINAL MARINA

SOURCE: H-9927 1981

INVESTIGATION DATE: 6/23/87 (DN 174) TIME: 1929-1953  
6/24/87 (DN 175) 1843-1922  
7/01/87 (DN 182) 1656

OIC: LTJG Porta/Miller

REFERENCES:

Sheet (2) of (15)

See the letter, dated December 17, 1987, from Mr. Merrill Anderson in Supplemental Information Appendix XIII. See also the blueprints for Encinal Marina filed in the cahier.

Position Nos: 522-525, 536, 537, 550

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/44	122/15/07	
Search	37/46/45.14	122/15/06.77	536
Observed			
(9.5 ft subm pile)	37/46/45.83	122/15/06.10	537
(-0.2 ft ruins)	37/46/44.20	122/15/07.94	550
(-4.3 ft ruins)	37/46/43.67	122/15/06.81	522
(change	37/46/43.42	122/15/05.13	523
shoreline)	37/46/43.37	122/15/10.57	524
(-21.8 ft dol)	37/46/46.37	122/15/07.75	525

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth or T2 EDM configuration with range-range, range-visual or visual checks.

METHOD OF INVESTIGATION:

Detached positions were taken at approximately mean high water to shore the new shoreline in the area (positions 523 and 524). Four dolphins were also positioned in the vicinity on the same day (DN 174).

The position of the search was chosen to cover the area of the charted pier ruins. The position of the ruins from the project instructions was on shore. The 30 m radius drag covered from the area seen bare on DN 174 and the onshore end of the ruins (position 522) to the dredged channel. The drag consisted of a 25-lb. center weight with a float attached to 30 m of 5/8 inch nylon line. A ten-lb weight was attached to the other end of the nylon line. A 25-m tow line was attached to this weight.

One hang was dive investigated. A wooden pile was found at position 537 (9.5 ft) laying on the bottom. The maximum height off the bottom was two ft.

CHARTING RECOMMENDATION:

Delete the pier ruins presently charted. Chart the new Encinal Marina now under construction in the same location (blueprints enclosed in raw data). Chart the change in the shoreline ~~from positions 523 and 524.~~

*as shown on page sized graphic, sheet ⑫*

Do not chart any of the other features described under this item because they are being removed before the construction of the new marina.

*Concur*

*See Eval Supp  
to PSR Item 134*

*concur*

*?*

December 17, 1987

Fred R. Diaz  
Chief of Party  
Pacific Hydrographic Party  
614-A East 5th Street  
Benicia, California

Dear Mr. Diaz:

This letter will serve as confirmation that Encinal Marina property has been swept to a depth of eight feet:

- To the East of Fortman Basin;
- To the South of the pier head line;
- To the West of Grand Street; and,
- To the North of the land.

If you have any questions, please contact Curt Bolton, our Project Superintendent.

Very truly yours,



Merrill Dean Anderson  
President

MDA/lb

EVALUATION SUPPLEMENT TO PSR ITEM 134

The ruins, dolphin, piles and other obstructions are included in the area that has been dredged after the field investigation was completed. The attached letter from Mr. Merrill Anderson confirms that the project area was swept to a depth of 8 feet, in preparation for the construction of the new marina.

The submerged ruins should be removed from the chart and the area of Encinal Marina charted as under construction, until advised that the construction has been completed. A drawing of the proposed marina is included with the survey data. Upon completion of construction, the marina should be charted from this source or a more accurate source if available.

CHART: 18650 40th ed. June 13, 1987 ITEM: 135

ITEM DESCRIPTION: Pier ruins

SOURCE: H-9927 1981

INVESTIGATION DATE: 6/26/87 (DN 177) TIME: 1430

OIC: LTJG Porta

REFERENCES:

Sheet (12) of (15)  
Position No: 548

See the letter, dated 3 JUN 1987, from CDR D. A. Wilson included in Appendix XIII Supplemental Information.

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/04	122/14/50	
Observed (-0.4ft barge ruins)	37/47/05. <sup>3</sup> <del>6</del>	122/14/49. <sup>6</sup> <del>7</del>	548

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-range checks. ✓

METHOD OF INVESTIGATION:

The area was observed at low water. The ruins positioned above were the most seaward. ✓

CHARTING RECOMMENDATION:

Revise the charted symbol from pier ruins to wreck. ✓ Concur  
Coast Guard Island was built on fill reinforced by old wrecks.  
The wrecks are still visible on the north and west shorelines of the island.

See Eval Supp to PSR Item 135

Position	Cartographic Code
548	098



U.S. Department  
of Transportation

United States  
Coast Guard



Commander (ecv)  
Twelfth CG District

Coast Guard Island  
Alameda, CA 94501-5100  
(415) 437-3632

3 JUN 1987

United States Dept of Commerce  
National Oceanic & Atmospheric Adm  
Pacific Hydrographic Party  
P.O. Box 1001  
Sonoma, CA 95476-1001

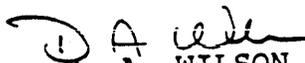
Gentlemen:

This is in reference to your letter of 22 April 1987 requesting advice on four items around Coast Guard Island that appear as features on chart 18650.

We have no specific knowledge on the first three (3) items, ie, #50750, 50751 and #135. Item #136 was a small boat mooring facility that was removed a number of years ago as part of the project that built the present moorings. The above water portion of the moorings were removed completely of course. There are no records for what were the contract requirements for removal of the underwater portion of the old pile. We have no plans regarding the disposition of any of these items.

If you have questions relative to the advice above, please call RAY MCALLISTER on (415)437-3638.

Sincerely,

  
D. A. WILSON

EVALUATION SUPPLEMENT TO PSR ITEM 135 (AWOIS 51779)

This item was found by the hydrographer to be a wreck and not a pier ruins as listed in section "g" of the Office Review for OPR-L123-PHP-84, dated October 25, 1984.

This newly located wreck found at latitude 37°47'05.6"N, longitude 122°14'49.7"W, plots where a pile is presently charted. It is recommended that this wreck be charted in place of the presently charted pier ruins and pile.

CHART: 18650 40th ed. June 13, 1987 ITEM: 137, 138

ITEM DESCRIPTION: *Ballena Bay and Vicinity, East and West Channels Development.*  
~~Survey San Leandro Bay Channel~~

SOURCE: H-9844 1979-81

INVESTIGATION DATE: 8/21/87 (DN 233) TIME: 1916-2028  
8/26/87 (DN 238) 1717  
8/27/87 (DN 239) 1635-2110  
8/28/87 (DN 240) 1853-2101  
9/14/87 (DN 257) 1722-1733  
10/01/87 (DN 274) 1800-1947

OIC: LTJG Porta

REFERENCES:

*Sheet ⑤ of ⑮*  
Position No: 613-618, 661-663, 674, 839, 839-933, 936-985, 986-982, 1155

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted (137)	37/46/03	122/17/17.4	
(138)	37/45/46.8	122/16/57.0	
Search	37/45/48.1 <sup>#</sup>	122/16/52.04	1155 ✓
Observed (6.0 ft Shoal), <i>gy MS</i>	37/45/48.1 <sup>3</sup>	122/16/52.04	1155

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-range or range-azimuth configuration. ✓

METHOD OF INVESTIGATION:

Fifty-meter spacing mainscheme lines were run across the channels. Three channel lines were run in the channel. One dive investigation (position 839) was performed to investigate peaks on the echo gram. These peaks were caused from sea grass, therefore position 839 DN 238 was not plotted. ✓

A 50-m radius bottom drag composed of 50-m of 5/8 inch nylon line between a 50lb and a 20-lb weights, with a 25-m towline attached to the 20-lb weight was used to investigate the 6.0 ft shoal at position 1155. There were no hangs and the area was swept with two passes in each direction. The launch was anchored on the least depth and leadline soundings were taken around the boat. The least depth was 6.0 ft at 37/45/48.14 N, 122/16/52.04 W. The shoal was composed of grey mud and sand. *Plots as a 7-foot sounding on smooth sheet. Added notation "gy MS" to further describe bottom characteristics.*

The soundings agree with the charted soundings except for the soundings listed below. ✓

Charted (ft)	Depth Discrepancies		Present Survey Position	
	Present Survey (ft)		Lat (N)	Long (W)
4	8		37/45/48	122/17/58

The soundings from this survey are within one foot of those of H-9844. The contour lines are in the same position except that there is a zero foot curve island, not shown on the chart. No zero curve island on smooth sheet. *Disregard this sentence.*

**CHARTING RECOMMENDATION:**

The contour lines around Ballena <sup>Island</sup> ~~Isle~~ Marina should be changed to show the 6 ft or <sup>8</sup> greater depths available in the channels on the west south and east sides. concur

Chart the 6.0 ft controlling depth in the east channel at 37/45/48.14 N, 122/16/52.04 W. Chart the 7 ft controlling depth for the west channel at 37/45/56 N and 122/17/20 W. concur

Revise the charted soundings with the <sup>present</sup> survey soundings, ~~listed above.~~ concur

Delete the presently charted buoys and chart the buoys as described in section N. Aids To Navigation of this report. Sec Eval Supp  
to PSR Items  
187 & 188

Current survey soundings to supersede charted soundings. concur

Position	Cartographic Code
1156	126



EVALUATION SUPPLEMENT TO PSR ITEM 137 AND 138

The results of this investigation, to develop the two channels located along the east and west sides of Ballena Island as required by CPM letter, dated October 14, 1982, are depicted on a page-sized graphic (Sheet 5 of 15).

The shoreline source for the area of this investigation is TP-00532.

This survey was compared with H-9844 (1979-81). The east and west channels were generally deeper by 1 to 2 feet than the prior survey. The area off the southern coast of the island was found to be deeper by about 2 to 4 feet, with the exception of the 7-foot shoal sounding located in the vicinity of Ballena Bay Light 1, at latitude  $37^{\circ}45'48''N$ , longitude  $122^{\circ}16'52''W$ . This investigation is adequate to supersede H-9844 within the common area of coverage.

This investigation was compared with Chart 18650, 41th edition, February 25, 1989. Charted information originates from survey H-9844 and other miscellaneous sources. The 1 to 4 feet differences between the charted depths and those obtained during this survey could be the result of some previous dredging operations undertaken in the vicinity of the island.

Five (5) red nun buoys marking the channel leading to Ballena Bay Marina were located during this survey. However, only two of these buoys, N"8" and N"10", were identified in the field by their respective markings. The presently charted buoys N"2" and N"12" were not found during this investigation, instead, a new buoy was found next to buoy N"10" at latitude  $37^{\circ}45'59.5''N$ , longitude  $122^{\circ}16'54.9''W$ .

The two charted buoys marking the west channel, B"1" at latitude  $37^{\circ}46'00''N$ , longitude  $122^{\circ}17'19''W$  and B"2" at latitude  $37^{\circ}46'01''N$ , longitude  $122^{\circ}17'17''W$  were not found. Only one unmarked red nun buoy at latitude  $37^{\circ}46'02.7''N$ , longitude  $122^{\circ}17'18.9''W$  was located along this area of the channel.

The charted booms at latitude  $37^{\circ}46'07''N$ , longitude  $122^{\circ}17'14''W$ , marking the entrance to the west channel, were verified by the hydrographer. These booms were found to be made up of tire floats attached across the length of a 20 and 30-meter metal pipes. The booms are being secured to each side of the channel, as shown on the smooth sheet.

A new boat ramp and floating dock at latitude 37°46'10"N, longitude 122°17'23"W were located during this investigation. These features were depicted in red on the smooth sheet.

This investigation is adequate to supersede the charted information for the area of common coverage.

6/15

CHART: 18650 40th ed. June 13, 1987 ITEM: 146

ITEM DESCRIPTION: Alameda NAS Channel RNG F LT

SOURCE: H-9844 1979-81

INVESTIGATION DATE: 8/24/87 (DN 236) TIME: 1817-2152

OIC: LTJG Porta

REFERENCES: *sheets 5 & 6 of 15*

See section N. AIDS TO NAVIGATION of this report.

Position Nos.: 690-753

POSITION DETERMINED BY:

Sextant fixes.

METHOD OF INVESTIGATION:

One line was run down the range. Lines were also run approximately 75 m on either side of the range line.

CHARTING RECOMMENDATION:

Chart the range lights at the positions described in section N. Aids to Navigation. *See Eval. Supplement to PSR Item 146.*

Chart the <sup>lighted</sup> dolphin located at position 745, 37/46/27.42 N and 122/18/17.15 W. *concur*

Revise "Consult Naval Port Services Office San Francisco for Controlling Depths" to "Consult Naval Port Services Office Alameda for Controlling Depths". *concur.*

EVALUATION SUPPLEMENT TO PSR ITEM 146

The results of this investigation, to determine the status of the two Alameda NAS channel range lights, determine the azimuths of the ranges and run sounding lines along the ranges, are shown on survey graphics, sheet 5 of 15 and sheet 6 of 15.

Eight fixed aids were transferred from shoreline maps TP-00531 and TP-00532 to show the limits of the channel on the smooth sheet. The front and rear range lights presently charted as position approximate were located to third order accuracy.

This survey was compared with survey H-9844. Soundings along the channel agree to within 2 feet. The shallowest depth obtained in the area is 39 feet. This investigation is adequate to supersede H-9844 within the area of common coverage.

Comparison of soundings in the area was not possible, because the channel depths are not published on the chart for military security reasons. The latest controlling depth information for the channel could only be obtained through the office of Naval Port Services in Alameda, instead of San Francisco, as previously noted on the chart.

This investigation is adequate to update chart 18650, 41st Edition, February 25, 1989 and supplement the existing U.S. Navy classified chart information for this area of the channel.

CHART: 18650 40th ed. June 13, 1987 ITEM: 147

ITEM DESCRIPTION: Ballena Bay Front Range Light

SOURCE: H-9844 1979-81

REFERENCES:

Sheet 5 of 10

There are no range lights in Ballena Bay Marina. PHP's searches were confirmed by Harbor Master Don Anderson, telephone number 415-523-5528, who stated that there are no range lights to the marina. ✓

The front range light is disproved by local knowledge. <sup>concur</sup>

There is one fixed aid to navigation "Ballena Bay Light 1" (on dolphin) which is located within Ballena Bay.

CHART: 18650 40th ed. June 13, 1987 ITEM: 149

ITEM DESCRIPTION: Three piles

SOURCE: H-9844 1979-81

INVESTIGATION DATE: 9/16/87 (DN 259) TIME: 1746-2020  
9/22/87 (DN 265) 1714-1757

OIC: LTJG Porta

REFERENCES:

Sheet ③ of ⑩

Position No: 1095-1110, 1103, 1104

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/44/50	122/22/30	
Search	37/44/50.52	122/22/30.27	1103
Observed			
pile (3) (-2.9ft pile)	37/44/50.55	122/22/30.40	1104
platform (6) (-12.4 ft platform)	37/44/50.16	122/22/38.45	1102
" (19) (-25.6 ft platform)	37/44/50.47	122/22/31.93	1095
dol (4) (-10.6 ft dolphin)	37/44/50.54	122/22/32.74	1096

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-range checks.

METHOD OF INVESTIGATION:

Two platforms were positioned on DN 259. In between these platforms were, from east to west, an outfall, two dolphins, a pier and another dolphin beside the pier. These features were positioned with a range finder and compass bearings from position 1095. These features have been plotted on the smooth sheet from the offset data.

On DN 265 a 75-m radius bottom drag was performed to investigate the existence the row of piles charted on the 37 edition, April 17, 1982, of chart 18650. The drag consisted of 75-m of 5/8 inch nylon line between a 50-lb and 20-lb weight. The 50-lb weight was attached to a float. The 20 lb weight was towed with a 25-m line. Since the drag was so close to shore, the dragline was laid out alongside the rip rap shoreline, then the drag was towed around the center weight to the shore covering a semi circle. This procedure was repeated in the opposite direction. The entire area in the vicinity of the previously charted piles was covered by the bottom drag. Bottom drag does not cover the charted piles west of lat. 122° 22' 30" W.

One hang was investigated by a dive to discover the pile at position 1104.

**CHARTING RECOMMENDATION:**

Revise the presently charted piles and dolphins with the positions and elevations listed above. Retain the charted position of the dolphin described by position 1096.

*Concur.*

*See Eval. Supplement  
to PSR Item 149.*

Position	Cartographic Code
1104	279
1102	248
1095	248
1096	010

EVALUATION SUPPLEMENT TO PSR ITEM 149

The results of this investigation, to positively locate and describe the three piles in the vicinity of latitude 37°44'50"N, longitude 122°22'30"W, are depicted on a page-sized graphic (sheet 3 of 15).

Two platforms were located along the channel during this investigation at latitude 37°44'50.5"N, longitude 122°22'31.9"W and latitude 37°44'50.2"N, longitude 122°22'38.4"W.

The dolphin at latitude 37°44'50.5"N, longitude 122°22'35.5"W and the sewer outfall mentioned in the hydrographer's report were positioned from offsets from a detached position and not depicted on the field sheet. These two features were plotted on the smooth sheet without adequate supporting positional data.

Bottom drag and dive investigation were used to locate and position the pile found at latitude 37°44'50.6"N, longitude 122°22'30.4"W.

The pile on the smooth sheet at latitude 37°44'50.0"N, longitude 122°22'37"W was carried forward from H-9844. This investigation was compared with chart 18650, 41th Edition, February 25, 1989. Comparison with the few charted soundings along the channel is satisfactory. The locations of the two charted platforms were verified on this survey. Other new features found in the area are shown on the smooth sheet. This investigation is adequate to supersede the charted information within the common area.

CHART: 18650 40th ed. June 13, 1987 ITEM: 159

ITEM DESCRIPTION: 39-40 ft soundings

SOURCE: H-8023 1954, H-9819 1979

INVESTIGATION DATE: 9/15/87 (DN 258) TIME: 1744-2022  
9/24/87 (DN 267) 1806-1958

OIC: LTJG Porta

REFERENCES:

Sheet ② of ⑮  
Position No: 994-1094, 1105-1155

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/43/20	122/21/05	

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with a visual check.

METHOD OF INVESTIGATION:

Forty-five meter spacing mainscheme lines were run in the area of the charted 39-40 ft depths on DN 258. On DN 267 development lines were run at 20 meter spacing. The development lines verified the mainscheme lines and were not smooth plotted since they did not contain shoaler depths than the mainscheme.

The soundings agree with the charted soundings except for the soundings listed below.

Charted _ (ft) _	Depth Discrepancies		
	Present Survey (ft)	Present Survey Lat (N)	Position Long (W)
40	42 <sup>3</sup>	37/43/07.0	122/21/13
40	44 <sup>7</sup>	37/43/19	122/21/14
40	39 <sup>42</sup>	37/43/33	122/21/04
39	44 <sup>8</sup>	37/43/26	122/20/57
	42 <sup>4</sup>	37/43/24	122/20/58
40	44 <sup>6</sup>	37/43/21	122/20/54

The soundings from this survey are within two feet of those of H-9819.

**CHARTING RECOMMENDATION:**

Delete the charted 39-40 ft soundings. Chart the present survey soundings listed above with the <sup>and</sup> exception of the 44 ft at 37/43/26 N and 122/20/57 W because <sup>in the</sup> it is in the same vicinity of the <sup>20 & 45</sup> 42 ft sounding at 37/43/24 N, 122/20/58 W. (en H-9819)

Current survey depths to supersede all charted depths in this area. *concur.*

*see Eval. Supplement to  
PSR Item 153.*

EVALUATION SUPPLEMENT TO PSR ITEM 159

The results of this investigation, to develop the area of five 39-40-foot soundings carried forward from H-8023 (1954) to H-9819 (1979) in the vicinity of latitude 37°43'20"N, longitude 122°21'05"W, are depicted on the page-sized graphic, sheet 2 of 15.

The shoreline source for the area of this investigation is TP-00532.

This investigation was compared with H-9819 (1979). The soundings from this survey generally agree to within 2 feet with the prior survey. In spite of the indications of shoaling noted in some areas, there are no 39 or 40-foot soundings found during this investigation. Considering the 20-meter line spacing accomplished during this investigation, this survey is adequate to supersede H-9819 within the area of common coverage.

This investigation was compared with chart 18650, 41st Edition, February 25, 1989. The charted information originates with a preliminary copy of survey provided in order to meet the chart update schedule. This investigation is adequate to supersede the charted information within the common area.

CHART: 18650 40th ed. June 13, 1987 ITEM: 161

ITEM DESCRIPTION: 3 ft sounding

SOURCE: H-8027 1955-56, H-9819 1979

INVESTIGATION DATE: 8/25/87 (DN 237) TIME: 1649-1950  
8/28/87 (DN 240) 1700  
9/14/87 (DN 257) 1940

OIC: LTJG Porta

REFERENCES:

Sheet ④ of ⑮

Position No: 754-838, 934, 993

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/43/34	122/16/33	
Search	37/43/33.36	122/16/33.01	993
g Observed (2.7ft least depth)	37/43/35.19	122/16/30.78	934 ✓

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with a visual check. ✓

METHOD OF INVESTIGATION:

Ten-meter spacing mainscheme lines were run in the area of the charted 3-6 ft depths on DN 237. ✓

A shoal consisting of sand and shell was investigated by a diver walking along its shoalest part for about 100m. The shoal is marked on the surface at low water on flooding currents. The north edge of the shoal is steep then it gradually tapers out to the south. ✓

The soundings agree with the charted soundings except for the soundings listed below.

Charted _(ft)_	Depth Discrepancies		Present Survey Position	
	Present Survey (ft)		Lat_(N)	Long_(W)
3 *	2.7 <sup>s</sup>		37/43/35.19	122/16/30.78

The soundings from this survey are within one foot of those of H-9819. \* 37/43/34 ; 122/16/33 (Charted pos.)

CHARTING RECOMMENDATION:

Delete the charted 3 ft sounding. *Chart the 3-foot sounding according to this survey*

Chart the present survey soundings. ~~listed above.~~

Revise the 6-ft contour to show the present shoal.

*Concur.*

The present survey soundings supersede prior survey and charted soundings.

*See Elev. Supplement  
to PSR Item 161..*

EVALUATION SUPPLEMENT TO PSR ITEM 161

The results of this investigation, to verify or disprove the 3-foot sounding carried forward from H-8027 (1955-56) to H-9819 (1979) at latitude 37°43'34"N, longitude 122°16'33"W, is depicted on the page-sized graphic (sheet 4 of 15).

This investigation was compared with H-9819, which subsequently superseded prior survey H-8027. Comparison is good, except for the present location of the 3-foot shoal determined during this investigation. The shoal was found at latitude 37°43'35.2"N, longitude 122°16'30.8"W, about 60 meters northeast of its previous location. The shoal depicted on the prior surveys now falls in the area of 4-foot soundings on this recent survey. Sandwaves are noted in the area, indicating that the bottom may be shifting. This investigation is adequate to supersede H-9819 within the area of common coverage.

This investigation was compared with chart 18650, 41st Edition, February 25, 1989. The charted information for the area covered by this investigation originates from a preliminary copy of this survey. The 3-foot shoal and its surrounding area should be charted according to this survey. This investigation is adequate to supersede the charted information within the area of common coverage.

CHART: 18650 40th ed. June 13, 1987 ITEM: 173

ITEM DESCRIPTION: Pier ruins

SOURCE: H-9873 1980-81

INVESTIGATION DATE: 5/20/87 (DN 140) TIME: 2130  
7/21/87 (DN 202) 1606-1925  
11/03/87 (DN 307) 2156-2240

OIC: LTJG Forta, LT Diaz

REFERENCES:

Sheet ⑦ of ⑮

Position No: 265, 567-569, 1643

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/26.8	122/17/45	
Search	37/47/27.04	122/17/50.99	567
	37/47/26.85	122/17/45.06	569
	37/47/27.04	122/17/50.99	1643
Observed (pier) <sup>extension</sup>	37/47/26.31	122/17/46.85	265
	(obstr) 37/47/27.62	122/17/48.92	568

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-range check. ✓

METHOD OF INVESTIGATION:

On DN 140 the end of the pier was positioned and sounding lines were run in the area to determine the bottom characteristics. No evidence of pier ruins was evident from the sounding lines. ✓

On DN 202 two 100-m radius bottom drags were conducted to cover the entire charted ruins area with overlap. One of the bottom drags (pos 569) was alongside the pier. Two circles were swept clockwise and counterclockwise for each drag. The drag covered the area from alongside the pier to the 1ft curve to the dredged channel. ✓

One hang was found (position 568). On DN 307 the drag centered at position 567 was run to relocated the hang so the divers could measure the least depth. The drag was only 30-m long instead of 100m so it missed the hang. The error was discovered when the data was processed. Time constraints prevented PHP to return to the item to obtain a least depth. This is noted in section M. ADEQUACY OF SURVEY. ✓

CHARTING RECOMMENDATION:

Delete the charted ruins.      CONCUR

Chart obstruction at 37/47/27.62 N, 122/17/48.92 W, no least depth was measured.      CONCUR

Position  
568

Cartographic Code  
287

CHART: 18650 40th ed. June 13, 1987 ITEM: 174

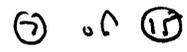
ITEM DESCRIPTION: Ruins

SOURCE: H-9873 1980-81

INVESTIGATION DATE: 7/22/87 (DN 203) TIME: 1633-1709  
11/03/87 (DN 307) 2240-2302

OIC: LTJG Porta, LT Diaz

REFERENCES:

Sheet   
Position No: 570, 1645

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/37.0	122/17/41	
Search	37/47/36.50	122/17/40.00	570
Observed ( <del>11.4</del> ft subm pipe) 12	37/47/36. <sup>3</sup> <del>48</del>	122/17/37. <sup>37</sup> <del>42</del>	1645

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-visual or visual checks.

METHOD OF INVESTIGATION:

On DN 203 a 50-m bottom drag was conducted around position 570. The inverse distance from this position to the check was 7.8 m, however the drag exceeded the required search radius by 20 m so the entire area was covered. The drag swept the area from the charted pier to about 40 m beyond the charted pier ruins and from the low water line to the dredged channel. Two circles were run clockwise and then counter clockwise.

The only hang was dive investigated on DN 307 position 1645. A submerged pipe at ~~11.4~~ ft was found.  
12

CHARTING RECOMMENDATION:

Delete the charted ruins. *Concur. See Eval Supp to PCR Item 174*

Chart the pipe submerged ~~11.4~~ ft at 37/47/36.<sup>3</sup>~~48~~ N, *concur*  
122/17/37.<sup>37</sup>~~42~~ W.  
37

Position	Cartographic Code
1645	235

EVALUATION SUPPLEMENT TO PSR ITEM 174

This investigation is adequate to disprove the ruins centered at latitude 37°47'37.0, longitude 122°17'41.0"W. It does not cover the entire area of the nearby charted ruins centered at latitude 37°47'36.5"N, longitude 122°17'38.0"W. These ruins should remain as charted.

CHART: 18650 40th ed. June 13, 1987 ITEM: 175

ITEM DESCRIPTION: Pier ruins

SOURCE: H-9873 1980-81

INVESTIGATION DATE: 6/23/87 (DN 174) TIME: 1739-1822

OIC: LTJG Porta,

REFERENCES:

Sheet ① of ①

See the letter, dated April 16, 1987, from Mr. Nick Andrusyshyn, Operations Manager, Schnitzer Steel (Appendix XIII. Supplemental Information) and photographs from the Port of Oakland. Mr. Andrusyshyn's letter states that the pier ruins are still there and the end of the ruins is marked by a breasting dolphin.

Position No: 500, 522

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/41.0	122/17/ <del>22</del> <sup>23</sup>	
Observed			
dol (a) (-13.8 ft dol)	37/47/39.8 <sup>a</sup>	122/17/23.4 <sup>3</sup>	500
dol (11) (16.4 ft dol)	37/47/37.3 <sup>a</sup>	122/17/33.32	522

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with visual checks.

METHOD OF INVESTIGATION:

The launch went alongside each the dolphin and detached positions were taken.

CHARTING RECOMMENDATION:

Retain the charted ruins.

Chart the dolphin bearing ~~13.8~~ ft at <sup>a</sup> 37/47/39.8<sup>a</sup> N, <sup>11</sup> 122/17/23.4<sup>3</sup> W, (position 500) and the dolphin bearing 16.4 ft (MHW) at 37/47/37.34 N, 122/17/33.32 W (position 522). <sup>Concur</sup>

Position	Cartographic Code
500	010
522	010

# SCHNITZER STEEL PRODUCTS CO.

PO Box 747 Oakland, California 94604 Phone 415-444-3919 Telex WU 33 5324

April 16, 1987

Pacific Hydrographic Party  
PO Box 10001  
Sonoma, CA 95476-10001  
Attn: Lt. Tom Porta

Dear Lt. Porta:

In response to your letter dated April 14, 1987, here is the information you requested:

<u>Feature</u>	<u>Latitude</u>	<u>Long</u>	<u>Item</u>	<u>Comments</u>
Pier ruins	37 47 41.0	122 17 22	175	Pier deck removed. Most piles still in place. End of pier was converted to breasting dolphin.
Pier ruins	37 47 41.5	122 17 19.6	176	No maintenance last 20 years. No evidence of piles above mud line
Pier ruins	37 47 42.5	122 17 17.0	178	Have been removed by dredging.

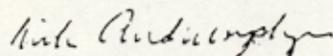
There is a mooring dolphin located approximately at the end of what is referred to as item 17~~8~~5

The shoreline that runs SE around items 176 and 178 is linear at its toe. This area has never been dredged.

We hope the foregoing information is helpful for updating Chart 18650.

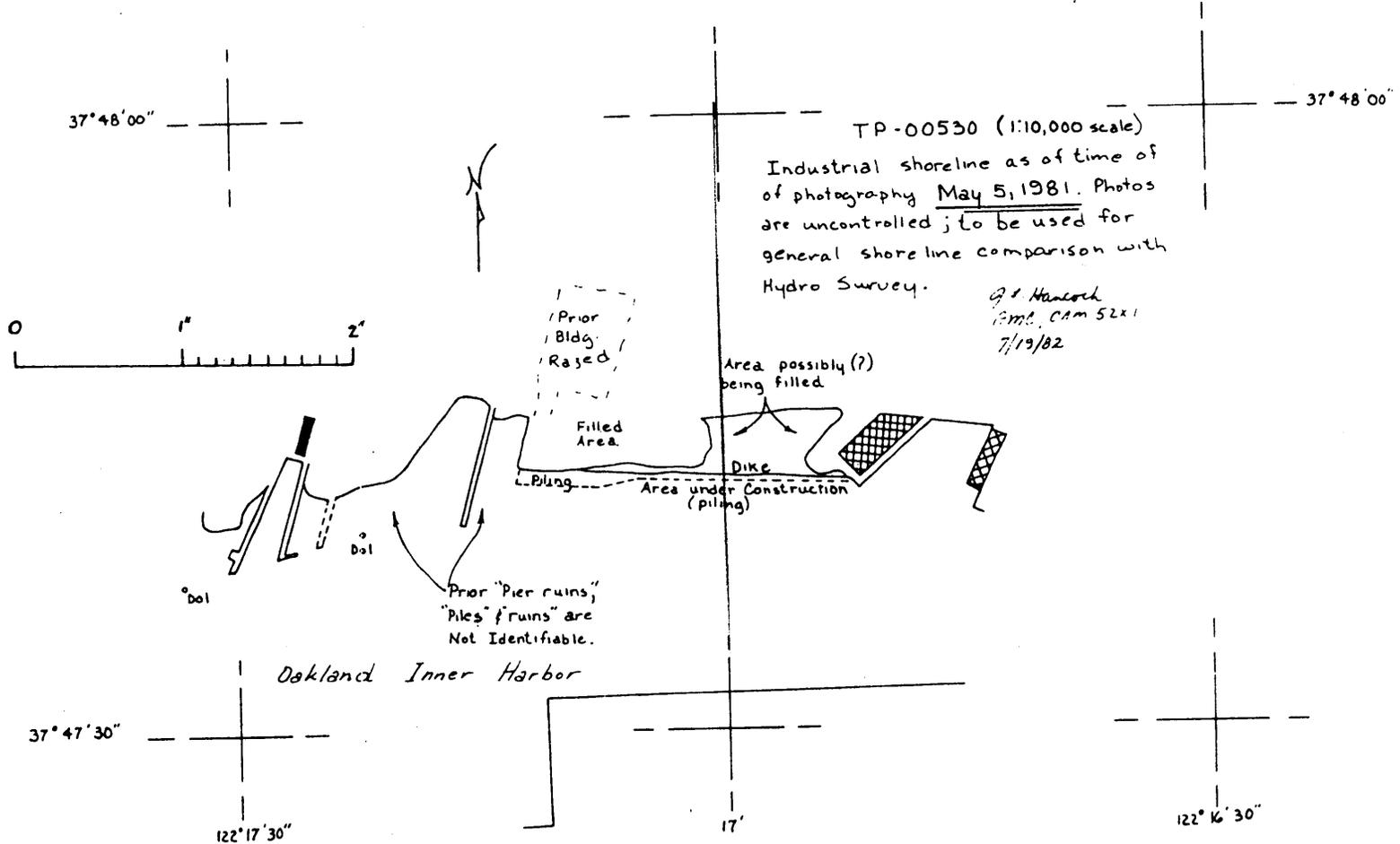
Yours truly,

SCHNITZER STEEL PRODUCTS CO.



Nick Andrusyshyn  
Operations Manager

NA:ea



**H-9873**

CHART: 18650 40th ed. June 13, 1987 ITEM: 176/175

ITEM DESCRIPTION: Pier ruins

SOURCE: H-9873 1980-81

INVESTIGATION DATE: 7/22/87 (DN 203) TIME: 1908-2037  
7/24/87 (DN 205) 1712-1750  
8/04/87 (DN 216) 1753-2036  
11/03/87 (DN 307) 1912-2134

OIC: ST Rosario, LTJG Porta, LT Diaz

REFERENCES:

Sheet ⑦ of ⑮

See the letter, dated April 16, 1987, from Mr. Nick Andrusyshyn, Operations Manager, Schnitzer Steel (Appendix XIII. Supplemental Information) and 1: 100 scale photographs, located in the cahier, from the Port of Oakland.

Position No: 572, 574, 602, 604, 1638, 1639, 1642

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/41.5	122/17/19.6	
Search	37/47/40.99	122/17/19.25	572
	37/47/41.13	122/17/19.01	574
	37/47/40.99	122/17/19.49	602
	37/47/43.32	122/17/17.32	604
	37/47/39.74	122/17/23.30	1638
Observed			
9 obstr (8.28 ft subm obstr)	37/47/40.45	122/17/21.95	1639
12 obstr (11.78 ft subm pipe)	37/47/41.42	122/17/21.85	1642

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with visual checks. ✓

METHOD OF INVESTIGATION:

On DN 203, position 572, a 50-m radius bottom drag swept the area required by the project instructions with no hangs.

On DN 205, position 574, a 100-m radius drag was run to clear the entire area of the Schnitzer Steel dock. One hang was discovered and dive investigated on DN 307 position 1642. The drag was not completed because during the course of the drag, the dragline was sucked into the jet pump. No damage was done to the jet pump, however it destroyed the dragline for this day. ✓

On DN 216 two 108-m radius drags, positions 602 and 604, were completed covering the entire area of charted ruins for items 176 and 178. The inverse to the check position for 604 was 7.0 m, but the drag exceeded the necessary length and the entire area was swept. One hang was discovered and dive investigated on DN 307, pos 1639.

On DN 307 a 30-m radius drag was run centered at the breasting dolphin (pos 522) described under item 175 this was to delineate offshore extent of the ruins. ✓

The divers found the following dangers to navigation on DN 307. Position 1639, DN 307, is a group of four piles, all the piles were in a four ft radius, submerged 8.2 ft. Position 1642, DN 307, is a 4 inch pipe submerged 11.3 ft. ✓

CHARTING RECOMMENDATION:

Delete the charted ruins.

*concur*

Chart the group of four piles as an obstruction submerged 8.2<sup>8</sup> ft at 37/47/40.45 N, and 122/17/21.95 W. Chart the pipe submerged 11.3<sup>8</sup> ft at 37/47/41.42 N, 122/17/21.85 W.

*concur.*

*(12 Obstr)*

Position	Cartographic Code
1639	287
1642	235

*OK* ✓

# SCHNITZER STEEL PRODUCTS CO.

PO Box 747 Oakland California 94604 Phone 415 444 3919 Telex WU 03 5324

April 16, 1987

Pacific Hydrographic Party  
PO Box 10001  
Sonoma, CA 95476-10001  
Attn: Lt. Tom Porta

Dear Lt. Porta:

In response to your letter dated April 14, 1987, here is the information you requested:

<u>Feature</u>	<u>Latitude</u>	<u>Long</u>	<u>Item</u>	<u>Comments</u>
Pier ruins	37 47 41.0	122 17 22	175	Pier deck removed. Most piles still in place. End of pier was converted to breasting dolphin.
Pier ruins	37 47 41.5	122 17 19.6	176	No maintenance last 20 years. No evidence of piles above mud line.
Pier ruins	37 47 42.5	122 17 17.0	178	Have been removed by dredging.

There is a mooring dolphin located approximately at the end of what is referred to as item 17A5

The shoreline that runs SE around items 176 and 178 is linear at its toe. This area has never been dredged.

We hope the foregoing information is helpful for updating Chart 18650.

Yours truly,

SCHNITZER STEEL PRODUCTS CO.

*Nick Andrusyshyn*

Nick Andrusyshyn  
Operations Manager

NA:ea

CHART: 18650 40th ed. June 13, 1987 ITEM: 177

ITEM DESCRIPTION: Pier ruins

SOURCE: H-9873 1980-81

REFERENCES:

A letter, dated May 15, 1987 from engineer Stanley Kintz, from Alameda Gateway, LTD, which owns and operates the area covered by item 177, reports that the pier has been removed to the mudline.

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/28.0	122/17/17.5	

CHARTING RECOMMENDATION:

Delete the charted ruins.

*CONCUR.*

May 15, 1987

Lieutenant (jg) Thomas K. Porta  
Pacific Hydrographic Party  
P.O. Box 1001  
Sonoma CA 94576-1001

Dear Lt. Porta:

In response to your letter dated April 20, 1987, I hope the following information is adequate.

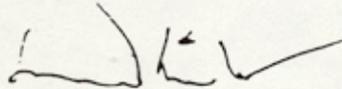
<u>Feature</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Item_#</u>
Pier ruins	37 47 28.0	122 17 17.5	177 & 184

Comments:

This pier (Todd Shipyards Pier 3) has been removed in its entirety, along with its piling to the mud line.

I hope the above information is helpful in your updating of chart 18650.

Sincerely,



Stanley Kintz

SMK:aa  
encl.

CHART: 18650 40th ed. June 13, 1987 ITEM: 178

ITEM DESCRIPTION: Pier ruins

SOURCE: H-9873 1980-81

REFERENCES:

A letter, dated April 16, 1987, from the Operations manager at Schnitzer Steel, Nick Andrusyshyn states that the pier ruins have been removed by dredging.

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/42.5	122/17/17.0	

CHARTING RECOMMENDATION:

Delete the charted ruins.

*concur.*

# SCHNITZER STEEL PRODUCTS CO.

First of Adelme St. PO Box 747 Oakland, California 94604 Phone 415-444-3919 Telex: W U 33 5324



April 16, 1987

Pacific Hydrographic Party  
PO Box 10001  
Sonoma, CA 95476-10001  
Attn: Lt. Tom Porta

Dear Lt. Porta:

In response to your letter dated April 14, 1987, here is the information you requested:

<u>Feature</u>	<u>Latitude</u>	<u>Long</u>	<u>Item</u>	<u>Comments</u>
Pier ruins	37 47 41.0	122 17 22	175	Pier deck removed. Most piles still in place. End of pier was converted to breasting dolphin.
Pier ruins	37 47 41.5	122 17 19.6	176	No maintenance last 20 years. No evidence of piles above mud line
Pier ruins	37 47 42.5	122 17 17.0	178	Have been removed by dredging.

There is a mooring dolphin located approximately at the end of what is referred to as item 17~~5~~

The shoreline that runs SE around items 176 and 178 is linear at its toe. This area has never been dredged.

We hope the foregoing information is helpful for updating Chart 18650.

Yours truly,

SCHNITZER STEEL PRODUCTS CO.

Nick Andrusyshyn  
Operations Manager

NA:ea

CHART: 18650 40th ed. June 13, 1987 ITEM: 179

ITEM DESCRIPTION: ~~Pier ruins~~ Piles

SOURCE: H-9873 1980-81

INVESTIGATION DATE: 6/25/87 (DN 176) TIME: 1805  
7/24/87 (DN 205) 1712-1750  
8/04/87 (DN 216) 1753-2036  
11/03/87 (DN 307) 1912-2134

OIC: LTJG Forta

REFERENCES:

Sheet ⑩ of ⑩

See the overhead 1:100 scale photograph (located in the cahier) provided by the Port of Oakland.

Position No: 544

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/24.0	122/16/08	
Observed (Flt pier and piles)	37/47/23.95	122/16/07.88	544

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with visual checks.

METHOD OF INVESTIGATION:

A reconnaissance was performed at the charted position of the piles. Several piles and a floating dock were observed. The piles and dock act as a barrier to protect vessels from getting too close to sewer outfalls.

CHARTING RECOMMENDATION:

Delete the charted piles and the railroad tracks by the shore. *concur*

Chart the floating pier at position 544, 37/47/23.95 N, 122/16/07.88 W. Chart the buildings and roads on the shore from the Port of Oakland Photograph. *See Eval Supp to PR Item 179*

Position	Cartographic Code
544	016

# PORT OF OAKLAND

## BOARD OF PORT COMMISSIONERS CITY OF OAKLAND

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WALTER ABERNATHY *Executive Director*

April 20, 1987

LT(jg) Thomas K. Porta  
Pacific Hydrographic Party  
P.O. Box 1001  
Sonoma, California 95476-1001

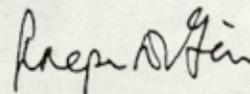
Dear Lt. Porta:

At a meeting held at the Port of Oakland on April 14, 1987, you inquired about the possible existance of pile ruins at locations circled and numbered on a map in your possession. At that time, I provided you with some maps and a brief explanation of the condition at each of the following sites:

<u>Loc. No.</u>	<u>Port Description</u>	<u>Description</u>
101	North Basin Marina	Area dredged to about -12 MLLW and small boat marina built about 1978.
122	Union Point Basin	Water area dredged to about -12 MLLW. Port plans to construct small boat marina later this year. See enclosed AA-2571.
179	Rusty Scupper Restaurant	Site now occupied by restaurant. Old wharf westerly (see enclosed plan C-2496) was demolished with timber piles cut off at mud line.
182	Berths 67 and 68 Container Facility	Area cleaned, filled and shoreline re-shaped. New container facility dredged to -42 MLLW, about 1981.
193	Berth 24 Container Facility	Old oil pier demolished about 1975. Berth 24 (formerly Berth 4) now occupi <del>ed</del> site.

If you have questions on any other pile ruins in the Oakland Harbor area, give me a call at (415) 444-3188, extension 268.

Sincerely,

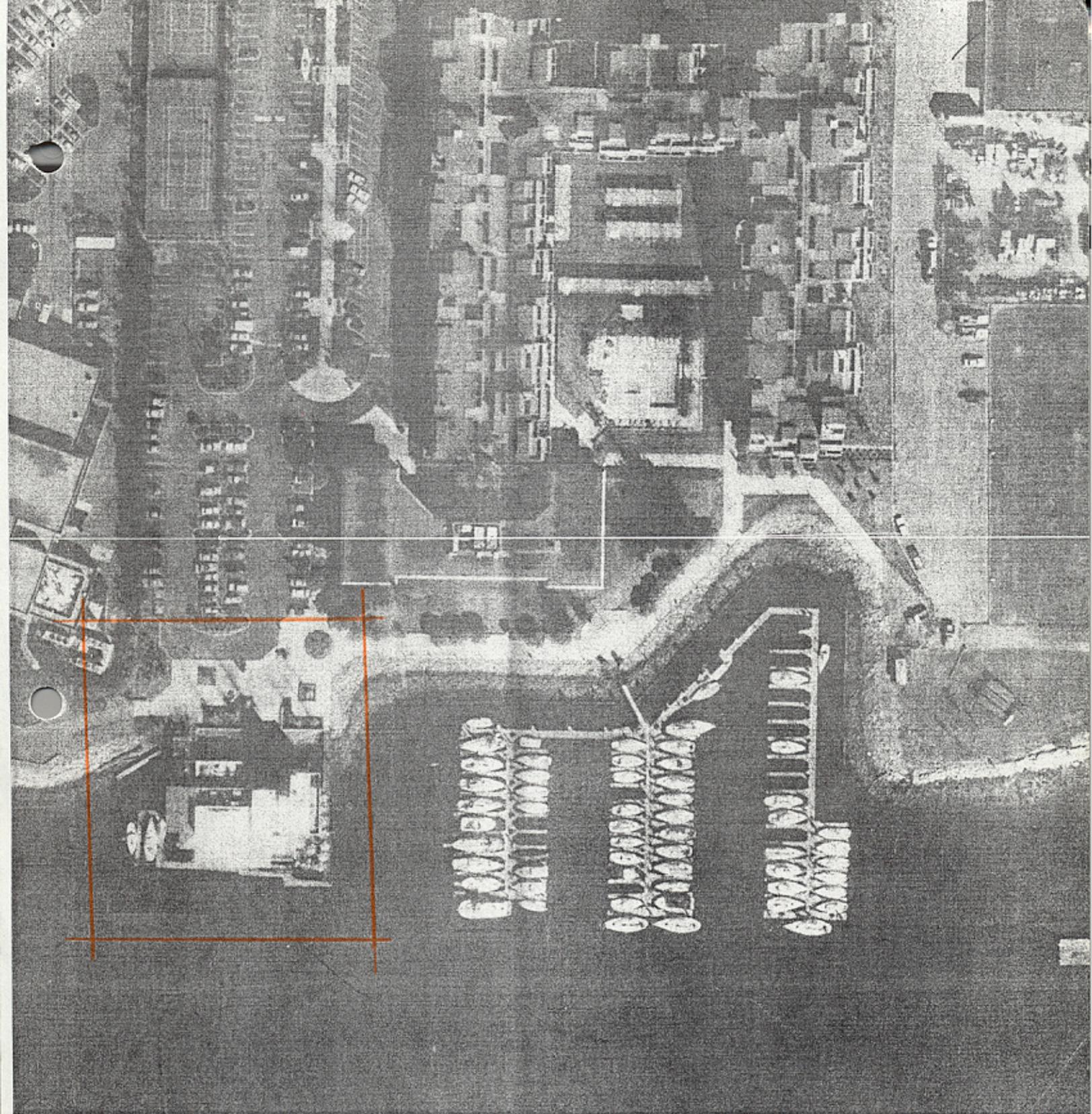


RALPH D. GIN  
Supervising Civil Engineer

RDG:sh

66 Jack London Square • P.O. Box 2064 • Oakland, California 94604 • Phone (415) 444-3188  
Cable Address PORTOFOAK, Oakland • Telex 336-334

MEMBER OF THE AMERICAN ASSOCIATION OF PORT AUTHORITIES, INC., THE AIRPORT OPERATORS COUNCIL INTERNATIONAL, INC.  
and THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS



Rusty Scupper  
Restaurant

REG. ENGINEER NO.

REG. ENGINEER NO.

REG. ENGINEER NO.

Item 179

# PORT OF OAKLAND



66 JACK LONDON SQ. OAKLAND, CALIFORNIA

PSR Item 179

EVALUATION SUPPLEMENT TO PSR ITEM 179

PSR Item 179 is a group of three piles centered at latitude 37°47'24"N, longitude 122°16'08"W, charted at the site where the Rusty Scupper Restaurant is now located. According to Mr. Ralph D. Gin, Supervising Civil Engineer for the Port of Oakland, the piles were cut off at the mud line and the restaurant constructed on the site. TP-00533 depicts the restaurant, however, the floating piers are not consistent with the attached photo and the data in the hydrographic records. Unfortunately, the data in the hydrographic records is not adequate for an accurate portrayal of the floating piers. The floating piers are shown on the page sized graphic, sheet 10 of 15, as approximate. The three piles should be deleted from the chart and this area charted from the attached photo, or a more current source if available.

CHART: 18650 40th ed. June 13, 1987 ITEM: 180, 181

ITEM DESCRIPTION: File

SOURCE: H-9873 1980-81

REFERENCES:

*Not on any plot*

A letter, dated April 20, 1987, from City Engineer, Alameda, T. D. Edwards states that the piles have been removed. See Appendix XIII. Supplemental Information.

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/00.5	122/15/58.0	
	37/47/02.0	122/15/57.5	

CHARTING RECOMMENDATION:

Since these piles have already been removed from the chart, remove these piles from the list of Items.

*CONCUR.*

+



CITY OF ALAMEDA • CALIFORNIA  
CITY HALL • SANTA CLARA AT OAK STREET 94501 • (415) 522-4100

PUBLIC WORKS  
DEPARTMENT

April 20, 1987

LTJG Tom Porta  
Pacific Hydrographic Party  
P. O. Box 10001  
Sonoma, CA 95476-10001

Dear Sir:

As discussed at our meeting on April 16, 1987, the following information is supplied as requested:

Item No.	Longitude	Latitude	Description	Status
180	30°47'00.5"	122°15'58.0"	Pile	Piles have been removed and new berthing facilities constructed.
181	37°47'02.0"	122°15'57.5"	Pile	
133	37°46'40"	122°15'18"	Five Dolphins	These have been removed.
102	37°46'45-50"	122°15'10-14"	Submerged Ruins	Permits for this area have been applied for and are currently being reviewed. The proposed work includes the removal of these obstructions and the installation of new berthing facilities.
134	37°46'44"	122°15'07"	Pier Ruins	
118	37°46'43"	122°15'06"	Pile	
130	37°46'18"	122°14'13"	Two Dolphins	Permits for this area have been applied for and will be issued shortly. The proposed work includes removal of these obstructions and installation of new berthing facilities.

I hope this will be helpful to you in updating Chart 18650. When you complete your task, I would appreciate it if you would send me a copy of the updated chart.

Very truly yours,

T. D. Edwards, City Engineer

TDE:fw

CHART: 18650 40th ed. June 13, 1987 ITEM: 182

ITEM DESCRIPTION: Shoreline and corner positions of new pier

SOURCE: H-9873 1980-81

INVESTIGATION DATE: 5/21/87 (DN 141) TIME: 1900-1925

OIC: ET Lund

REFERENCES:

Sheet 9 of 15

See the overhead 1:100 scale photograph (located in the cahier) and the blueprints provided by the Port of Oakland.

Position No: 1-6

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/42.0	122/17/00	
Observed	37/47/42.12	122/17/12.55	1
	37/47/42.31	122/17/13.43	2
	37/47/42.87	122/17/12.63	3
	37/47/44.61	122/17/11.98	4
	37/47/41.20	122/16/52.27	5
	37/47/44.73	122/16/47.38	6

POSITION DETERMINED BY:

Resection with a T2 and ranges with an EDM with checks.

METHOD OF INVESTIGATION:

Positions 1 and 5 were determined by resection. Azimuths were measured between five known Third Order Class 1 geodetic stations and positions 2-4, and 6. Ranges were measured from positions 1 or 5, to 6, and 2-4 respectively.

CHARTING RECOMMENDATION:

Revise the pier and the shoreline to match positions 1-6. Show the extension on the west end of the pier at position 2.

Chart as shown on page sized graphic 9 of 10

Delete the features charted on the pier, the railroad tracks and the buildings. Use the Port of Oakland photograph to update the cultural features on the pier.

CONCUR.

CONCUR.

Position	Cartographic Code
1-6	030

18650 182

# PORT OF OAKLAND



## BOARD OF PORT COMMISSIONERS CITY OF OAKLAND

G. WILLIAM HUNTER *President*  
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PATRICIA PINEDA *Commissioner*  
CHRISTINE SCOTLAN *Commissioner*

WALTER ABERNATHY *Executive Director*

April 20, 1987

LT(jg) Thomas K. Porta  
Pacific Hydrographic Party  
P.O. Box 1001  
Sonoma, California 95476-1001

Dear Lt. Porta:

At a meeting held at the Port of Oakland on April 14, 1987, you inquired about the possible existence of pile ruins at locations circled and numbered on a map in your possession. At that time, I provided you with some maps and a brief explanation of the condition at each of the following sites:

<u>Loc. No.</u>	<u>Port Description</u>	<u>Description</u>
101	North Basin Marina	Area dredged to about -12 MLLW and small boat marina built about 1978.
122	Union Point Basin	Water area dredged to about -12 MLLW. Port plans to construct small boat marina later this year. See enclosed AA-2571.
179	Rusty Scupper Restaurant	Site now occupied by restaurant. Old wharf westerly (see enclosed plan C-2496) was demolished with timber piles cut off at mud line.
182	Berths 67 and 68 Container Facility	Area cleaned, filled and shoreline re-shaped. New container facility dredged to -42 MLLW, about 1981.
193	Berth 24 Container Facility	Old oil pier demolished about 1975. Berth 24 (formerly Berth 4) now occupies site.

If you have questions on any other pile ruins in the Oakland Harbor area, give me a call at (415) 444-3188, extension 268.

Sincerely,

RALPH D. GIN

Supervising Civil Engineer

RDG:sh

66 Jack London Square • P.O. Box 2064 • Oakland, California 94604 • Phone (415) 444-3188  
Cable Address PORTOFOAK, Oakland • Telex 336-334

MEMBER OF THE AMERICAN ASSOCIATION OF PORT AUTHORITIES, INC., THE AIRPORT OPERATORS COUNCIL INTERNATIONAL, INC.  
and THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

CHART: 18650 40th ed. June 13, 1987 ITEM: 183, 184

ITEM DESCRIPTION: Develop <sup>ft depth ~~and~~</sup> 29 ~~and~~ 200 m holiday to the east, and the 27 ft depth and the holiday to the south.

SOURCE: H-9873 1980-81

INVESTIGATION DATE: 5/19/87 (DN 139) TIME: 1923-2127  
5/20/87 (DN 140) 1913-2127  
6/23/87 (DN 174) 1746-1813

OIC: LTJG Porta

REFERENCES:

Sheet ⑦ of ⑮

Position No: 103-170, 171-264, 501-521

GEODETTIC POSITION	Latitude N	Longitude W	ITEM
Charted	37/47/28.0	122/17/43.5	183
	37/47/32.5	122/17/17.0	184

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration.

METHOD OF INVESTIGATION:

Twenty-two-m spacing mainscheme lines were run in the area described by the project instructions. Shorelines were run alongside the pier except in one area where a tug was berthed.

The drydock and oil booms are no longer alongside this pier. Soundings were acquired in this area.

The soundings agree with the charted soundings except for the soundings listed below.

Charted ____(ft)____	Depth Discrepancies		
	Present Survey (ft)	Present Survey Lat____(N)	Position Long____(W)
33	<del>29</del> <sup>31</sup>	37/47/28	122/17/39
27	22	37/47/31	122/17/18
	29	37/47/28	122/17/43
	<del>27</del> <sup>26</sup>	37/47/27	122/17/48 <sup>4</sup>
drydock	38	37/47/29	122/17/28 <sup>9</sup>

The soundings from this survey are generally 3 ft shoaler than those from H-9873 in the vicinity of the pier. This shoaling could be caused by silting.

CHARTING RECOMMENDATION:

Revise the presently charted soundings with the soundings listed ~~above~~. *from this survey.*

Chart the 30-ft contour at the east and west ends of the pier. Chart the 18 ft contour at the west of the pier.

Revise the drydock area at the east end of the pier to show the ~~30~~ ft depths,  
*present*

Current survey soundings to supersede charted soundings. *concur.*

*See Eval. supplement to  
PSR Item 183 & 184.*

EVALUATION SUPPLEMENT TO PSR ITEMS 183 AND 184

The results of this investigation, to develop 29-foot and 27-foot depths on survey H-9073, are shown on a page-sized graphic, sheet 7 of 15.

The shoreline source for this area of investigation is TP-00530, enlarged to a scale of 1:5000.

This investigation was compared with survey H-9873 (1980-81). Soundings generally agree to within 1 to 3 feet, with the present survey usually shoaler, probably due to silting in some areas of the channel. A 26-foot sounding from survey H-9873 at latitude 37°47'39"N, longitude 122°17'19"W, was carried forward to the smooth sheet. This sounding is the shoalest in the area and was not developed. With the transfer of the 26-foot, this survey is adequate to supersede survey H-9873 within the common area of coverage.

This investigation was compared with chart 18650, 41st Edition, February 29, 1989. Most of the surveyed area is within Inner Harbor Reach channel. This survey indicates a shoaling of approximately 1 foot when compared to the published control depths. This survey is adequate to supersede charted data outside of the channel limits and to supplement the Corps of Engineers surveys within the channel limits.

CHART: 18650 40th ed. June 13, 1987 ITEM: 185

ITEM DESCRIPTION: Develop Encinal Basin

SOURCE: H-9873 1980-81

INVESTIGATION DATE: 5/22/87 (DN 142) TIME: 1814-1953  
7/13/87 (DN 194) 1817-1915

OIC: LTJG Porta

REFERENCES:

Sheet (12) of (15)

Position No: 266-305, 553-563

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/45	122/15/32	
Observed			
(0.6 ft subm pile)	37/46/41.27	122/15/34.32	304
(2.0 ft subm pile)	37/46/41.13	122/15/33.31	305

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with visual checks.

METHOD OF INVESTIGATION:

Channel lines spaced approximately forty-five-m were performed in the area described by the project instructions on DN 142. A line was performed close to the west shore to develop the 18 ft and 12 ft contours on DN 194. This shore was very steep (60 degrees).

The soundings agree with the charted soundings except for the soundings listed below.

Charted (ft)	Depth Discrepancies		Present Survey Position Lat (N) Long (W)
	Present Survey (ft)		
30	33		37/46/46 <sup>5</sup> 122/15/32 <sup>32</sup>
26	10 33		37/46/41 <sub>4</sub> 122/15/33 <sup>4</sup>

The shoalest sounding along the west pier on this survey was 33 ft compared to 31 from the prior survey. The prior survey did not find the piles or the ten ft depths at the south end of the basin. The depths on the present survey are 1-2 ft ~~shoaler~~ deeper than the prior survey on the east side.

CHARTING RECOMMENDATION:

- Revise the presently charted soundings with the soundings  
~~listed above.~~ *from this survey.* *Concur.*
- Revise the 30-ft contour to show the deeper depths along the  
~~western~~ *eastern* pier. *Concur.*
- Chart the 18-ft contour along the southern bulkhead. *Concur.*
- Current survey soundings to supersede present charted  
soundings.

Position  
304-305

Cartographic Code  
923

*See Elevation Supplement  
to RSR Item 185.*

EVALUATION SUPPLEMENT TO PSR ITEM 185

The results of this investigation, to develop Encinal Basin with at least two additional lines of soundings, are shown on a page size graphic plot, sheet 12 of 15.

The shoreline source for Encinal Basin is shoreline map TP-532.

This investigation was compared with H-9783(1980-81). The present survey appears to be generally deeper by 1 to 2 feet. The 30-foot sounding shown on the prior survey at latitude  $37^{\circ}46'49''\text{N}$ , longitude  $122^{\circ}15'32''\text{W}$  was not developed during this survey and was carried forward to the smooth sheet. Piles were found along the southernmost section of the basin, which did not appear on the prior survey of this area. With the transfer of the 30-foot sounding noted above, this investigation is adequate to supersede H-9873 for the area of common coverage.

This investigation was compared with Chart 18650, 41st Edition, February 25, 1989. The 26-foot depth at latitude  $37^{\circ}46'44''\text{N}$ , longitude  $122^{\circ}15'34''\text{W}$  originates from a miscellaneous source and has not been disproven. It should be retained as charted. Except for this 26-foot depth, this investigation is adequate to supersede the charted information within the common area of coverage.

CHART: 18650 40th ed. June 13, 1987 ITEM: 186

ITEM DESCRIPTION: Develop Fortmann Basin

SOURCE: H-9927 1981

INVESTIGATION DATE: 5/26/87 (DN 146) TIME: 1758-1917  
6/24/87 (DN 175) 1824-1828

OIC: LTJG Porta

REFERENCES:

Sheet (12) of (15)

Position No: 306-332, 339-345, 534-535

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/45	122/15/15	
Observed (flt pier)	37/46/53.12	122/15/17.71	534
(flt pier)	37/46/51.43	122/15/13.63	535

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-visual checks. ✓

METHOD OF INVESTIGATION:

Forty-five meter line spacing were performed in the area described by the project instructions on DN 146. A center channel line was also acquired in Fortmann Basin. ✓

The most seaward floating pier was positioned on DN 175. The piles for the floating pier bare about -13 ft.

The two charted soundings are the same as present survey soundings. However the contour lines have changed. ✓

The contour lines from this survey agree with those from the prior survey. ✓

Expansion of the marina has already begun (see the blueprints for Encinal Marina in the cahier). There are new piers and extensions to the old charted piers. The sounding lines cover the remainder of the basin. ✓

CHARTING RECOMMENDATION:

Revise the 18-ft contour to show the deeper depths along the eastern pier in Fortmann Basin. *Concur.*

Chart the new Encinal Marina from the blue prints and the most seaward pier face between 37°46'53.12" N, 122°15'17.71" W, and 37°46'51.43" N, 122°15'13.63" W. *Do not concur. The new marina should be charted upon completion of the project.*

Position  
534-535

Cartographic Code  
016

*See Evol. Supplement to  
BSR Item 186.*

EVALUATION SUPPLEMENT TO PSR ITEM 186

The results of this investigation, to provide hydrography in Fortmann Basin, in the vicinity of latitude  $37^{\circ}46'45''\text{N}$ ,  $122^{\circ}15'15''\text{W}$ , are depicted on a page-sized graphic, sheet 12 of 15.

Shoreline map TP-00532 was used to plot the high water line for this survey.

This investigation was compared with survey H-9927 (1981). Soundings agree to within 1 to 2 feet. A floating pier in the vicinity of latitude  $37^{\circ}46'52''\text{N}$ , longitude  $122^{\circ}15'15''\text{W}$  was located during this investigation. This new floating pier, shown in red on the smooth sheet, is the most seaward of all the piers in the area. This investigation is adequate to supersede H-9927 within the area of common coverage.

This investigation was compared with chart 18650, 41st Edition, February 25, 1989. The chart has been updated with preliminary data from this survey. The 32-foot depth charted at latitude  $37^{\circ}46'49.5''\text{N}$ , longitude  $122^{\circ}15'12.0''\text{W}$ , originating from H-9927, is in good agreement with this survey. This investigation is adequate to supersede the charted information within the common area.

CHART: 18650 40th ed. June 13, 1987 ITEM: 187

ITEM DESCRIPTION: File

SOURCE: H-9873 1980-81

INVESTIGATION DATE: 6/24/87 (DN 175) TIME: 1503-1814

OIC: LTJG Porta

REFERENCES:

Sheet (2) of (15)

Position No: 527-532

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/59.5	122/15/39.65	
Search	37/46/59.64 <sup>f</sup>	122/15/39.73	527
Observed (8.2 <sup>9</sup> ft subm ruins)	37/46/59.77 <sup>7</sup>	122/15/38.96	528
(4.3 ft shoal buoy)	37/46/58.91 <sup>2</sup>	122/15/39.93	529
(flt pier)	37/46/59.68 <sup>9</sup>	122/15/40.86 <sup>8</sup>	530
"	37/46/58.48 <sup>c</sup>	122/15/41.69 <sup>7</sup>	531
"	37/46/58.00 <sup>2</sup>	122/15/40.86 <sup>c</sup>	532
- 4 MHW (-8.7 ft ruins)	37/46/57.71 <sup>9</sup>	122/15/39.05 <sup>7</sup>	533

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with range-visual checks.

METHOD OF INVESTIGATION:

A 30-m radius bottom drag was performed in the position required by the project instructions. The charted ruins were found submerged 7.3 ft (pos 528). The inverse distance to the check was 5.1 m which is marginal but acceptable. No piles were found in the area.

A buoy, privately maintained by the Encinal Yacht Club, (tele. 415-522-3272), marking a 4.3 ft shoal was within the search radius and was also positioned.

Positions (530-532) were performed to verify the charted pier.

Position 533 marks the seaward extent of the portion of the ruins which do not cover at high water. The ruins bare ~~-8.7~~<sup>4.0</sup> (MHW) ft at this location.

CHARTING RECOMMENDATION:

Delete the charted pile. *concur.*

Chart the buoy at 37/46/58.91 N, 122/15/39.93 W. *concur.*

The existence of the charted ruins has been verified. Chart the extent of the ruins to position 528.

Position	Cartographic Code	
528	107	<i>Sea Eval. supplement to PSR Item 187.</i>
529	217	
530-532	016	
533	884	

J

EVALUATION SUPPLEMENT TO PSR ITEM 187

The result of this investigation, to provide positional information to substantiate the pile on H-9873(1980-81) at latitude 37°46'59.5"N, longitude 122°15'39.6"W, is shown on a page sized graphic, sheet 12 of 15.

The pile has been disproven and should not be charted. A privately maintained buoy at latitude 37°46'58.9"N, longitude 122°15'39.9"W, marking a 4.3-foot shoal, was located in the vicinity.

The pier ruins charted at latitude 37°47'00.0"N, longitude 122°15'39.0"W have been confirmed by the location of obstructions on this investigation and on H-9873. The limits of these ruins, however, have not been determined. These ruins should be retained as charted.

Except for the pile and the pier ruins mentioned above, this area should be charted according to H-9873, supplemented by this investigation.

CHART: 18650 40th ed. June 13, 1987 ITEM: 193

ITEM DESCRIPTION: Submerged Ruins

SOURCE: H-7622/47, H-9810/79

REFERENCES:

*Not on any plot.*

See package of material from Supervising Civil Engineer, Ralph Gin, under item 193 in the cahier. The material states the area in question is currently dredged to to about 40 ft, and the the old ruins have been removed.

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/48/51	122/19/08	

CHARTING RECOMMENDATION:

Delete the charted ruins.

*concur.*

*12657  
N 8*

*04*

# PORT OF OAKLAND

## BOARD OF PORT COMMISSIONERS CITY OF OAKLAND

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April 20, 1987

LT(jg) Thomas K. Porta  
Pacific Hydrographic Party  
P.O. Box 1001  
Sonoma, California 95476-1001

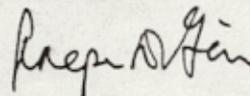
Dear Lt. Porta:

At a meeting held at the Port of Oakland on April 14, 1987, you inquired about the possible existence of pile ruins at locations circled and numbered on a map in your possession. At that time, I provided you with some maps and a brief explanation of the condition at each of the following sites:

<u>Loc. No.</u>	<u>Port Description</u>	<u>Description</u>
101	North Basin Marina	Area dredged to about -12 MLLW and small boat marina built about 1978.
122	Union Point Basin	Water area dredged to about -12 MLLW. Port plans to construct small boat marina later this year. See enclosed AA-2571.
179	Rusty Scupper Restaurant	Site now occupied by restaurant. Old wharf westerly (see enclosed plan C-2496) was demolished with timber piles cut off at mud line.
182	Berths 67 and 68 Container Facility	Area cleaned, filled and shoreline re-shaped. New container facility dredged to -42 MLLW, about 1981.
193	Berth 24 Container Facility	Old oil pier demolished about 1975. Berth 24 (formerly Berth 4) now occupies <del>the</del> site.

If you have questions on any other pile ruins in the Oakland Harbor area, give me a call at (415) 444-3188, extension 268.

Sincerely,



RALPH D. GIN  
Supervising Civil Engineer

RDG:sh

66 Jack London Square • P.O. Box 2064 • Oakland, California 94604 • Phone (415) 444-3188  
Cable Address PORTOFOAK, Oakland • Telex 336-334

MEMBER OF THE AMERICAN ASSOCIATION OF PORT AUTHORITIES, INC., THE AIRPORT OPERATORS COUNCIL INTERNATIONAL, INC  
and THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

# PORT OF OAKLAND



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*Executive Director*

June 2, 1987

LT(jg) Thomas K. Porta  
Pacific Hydrographic Party  
P.O. Box 1001  
Sonoma, California 95476-1001

Re: Pile Ruins, Former Oil Pier at Oakland Outer Harbor

Dear Tom,

Pursuant to our recent telephone conversation, I have enclosed a copy of documents which should verify the removal of pile ruins from the former Oil Pier at Oakland Outer Harbor. The original demolition plans and specifications calls for removing or cutting piles to the mud line - project depth of -35 feet, MLLW. Furthermore, Port file 20-102.23 indicates the area in question is currently dredged to about -40 feet, mean lower low water.

If you have further questions, please give me a call.

Sincerely,

RALPH D. GIN  
Supervising Civil Engineer

RDG:sh

Enclosures

66 Jack London Square • P.O. Box 2064 • Oakland, California 94604 • Phone (415) 444-3188  
Cable Address PORTOFOAK, Oakland • Telex 336-334

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AND THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

CHART: 18650 40th ed. June 13, 1987 ITEM: AWOIS 50750

ITEM DESCRIPTION: Visible Wreck

SOURCE: H-9927/81

INVESTIGATION DATE: 6/24/87 (DN 175) TIME: 1431

OIC: LTJG Porta

REFERENCES:

Sheet (12) of (15)

Position No: 526

GEODETIC POSITION	Latitude N	Longitude W	POS
Charted	37/47/00.03	122/15/08.60	
Observed <sup>1.8</sup> (-2.4 ft wreck)	37/47/00.1 <sup>7</sup>	122/15/08.0 <sup>10</sup>	526

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with EDM check.

METHOD OF INVESTIGATION:

The remains of a wreck were visible at low tide and were positioned by the launch. The metal keel and ribs are all that remain. The wreck bares <sup>1.8</sup>-2.4 ft so it covers at high tide.

CHARTING RECOMMENDATION:

<sup>Retain</sup>  
~~Revise the visible wreck symbol to the symbol that shows that the (wreck covers at high tide) and the charted position to the position above.~~  
<sup>revise</sup>

Position  
526

Cartographic Code  
098

CHART: 18650 40th ed. June 13, 1987      ITEM: AWOIS 50751

ITEM DESCRIPTION:      Dang. Subm Wreck

SOURCE:      ~~H-9927/81~~ Unknown

INVESTIGATION DATE: 7/13/87 (DN 194)      TIME: 2005

OIC: LTJG Porta

REFERENCES:  
Sheet (12) of (15)  
Position No: 564

GEODETIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/43.00	122/14/40.00	
Search	37/46/43.02	122/14/40.02	564

**POSITION DETERMINED BY:**

Motorola Mini-Ranger III, range-azimuth configuration with range-range check.

**METHOD OF INVESTIGATION:**

A 100m radius drag was performed in the area required by the project instructions. The drag was repeated because the center weight slipped down the soft mud bank into the dredged channel. The drag covered from the 3-ft curve to the dredged channel. No hangs were observed.

**CHARTING RECOMMENDATION:**

Delete the charted wreck. Update the AWOIS item as disproved.      CONCUR

✓  
15664  
✓

CHART: 18650 40th ed. June 13, 1987 ITEM: AWDIS 50793

ITEM DESCRIPTION: 4 ft depth and 10 shoal depths

SOURCE: H-9810/79, H-7622/47

INVESTIGATION DATE: 7/28/87 (DN 209) TIME: 1744-2142  
7/29/87 (DN 210) 1615-2135  
7/30/87 (DN 211) 1659-2200

OIC: LTJG Porta

REFERENCES:

Sheet ① of ⑮

See the engineering diagrams from P. E. Robert Hall from the Spink Corporation ~~located in the cabinet~~ (attached)

Position No: 576-582, 583-588, 589-601

GEODETTIC POSITION	Latitude N	Longitude W	POS
11 ft scaled	37/48/59.70	122/20/46.65	
Search	37/48/59.76	122/20/46.44	576
Observed (12.7 ft pile)	37/48/59.1 <sup>5</sup> <del>4</del>	122/20/43.83	577 (12' obstr)
8 ft scaled	37/49/00.75	122/20/44.55	
Search	37/49/00.81	122/20/44.32	578
Observed (12.8 ft pile)	37/49/00.3 <sup>2</sup> <del>0</del>	122/20/44.09	579 (12' obstr)
4 ft scaled	37/49/02.70	122/20/24.3	
Search	37/49/02.73	122/20/24.19	580
Observed (7.8 ft pile)	37/49/02.25	122/20/26.86	581 (7' obstr)
(7.8 ft pile)	37/49/03.8 <sup>8</sup> <del>8</del>	122/20/23.09	582 (7' obstr)
4 ft scaled	37/49/01.50	122/20/28.20	
Search	37/49/01.51	122/20/28.27	583
Observed (8.7 ft obstr)	37/49/01.86	122/20/28.73	584 (8' obstr)
	7.8		
Shoal scaled	37/49/00.30	122/20/28.80	
Search	37/49/00.32	122/20/28.81	585
6 ft scaled	37/49/01.05	122/20/32.10	
Search	37/49/01.13	122/20/32.03	586
Shoal scaled	37/49/00.30	122/20/37.65	
Search	37/49/00.41	122/20/37.39	587
Observed (8.1 ft pile)	37/49/01.3 <sup>7</sup> <del>6</del>	122/20/36.0 <sup>1</sup> <del>0</del>	588 (8' obstr)

15659

GEODETTIC POSITION	Latitude N	Longitude W	POS
11 ft scaled	37/49/01.65	122/20/47.40	
Search	37/49/01.66	122/20/47.41	589
Observed <sup>3</sup>			
(7.7 ft pile)	37/49/00.37 <sup>4</sup>	122/20/46.11	590 (7' obstr)
(4.8 <sup>4</sup> ft pile)	37/49/01.87 <sup>8</sup>	122/20/45.87 <sup>6</sup>	591 (4' obstr)
(16.2 ft obstr)	37/49/02.00 <sup>1</sup>	122/20/47.98 <sup>7</sup>	592 (16' obstr)
<del>15.8</del>			
8 ft scaled	37/49/02.70	122/20/45.90	
Search	37/49/02.73	122/20/45.95	593
Observed			
(17.5 ft obstr)	37/48/59.53	122/20/43.82	594 (16' obstr)
(16.6 ft obstr)	37/49/01.55 <sup>6</sup>	122/20/45.52 <sup>1</sup>	595 (15' obstr)
(15.2 ft obstr)	37/49/02.04 <sup>7</sup>	122/20/43.38	596 (13' obstr)
(13.1 ft pipe)	37/49/01.48 <sup>7</sup>	122/20/44.64	597 (13' obstr)
<del>12.9</del>			
8 ft scaled	37/49/00.75	122/20/45.55	
Search	37/49/00.78 <sup>6</sup>	122/20/45.38 <sup>7</sup>	598
7 ft scaled	37/49/01.80	122/20/42.30	
Search	37/49/01.87	122/20/42.15	599
Observed <sup>3</sup>			
(5.4 ft pipe)	37/49/01.37 <sup>6</sup>	122/20/39.58 <sup>4</sup>	600 (5' obstr)
(6.6 ft pile)	37/49/01.03	122/20/41.29	601 (6' obstr)
<del>5.9</del>			

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with visual check. ✓

METHOD OF INVESTIGATION:

The AWOIS 50793 instructions did not list the positions of the 11 shoaler depths. The source document that the AWOIS claims was sent to PHP was not received by PHP. Transmittal N/CG241:143/84 ✓

The positions of the searches were scaled from an approximately 1:20000 scale paper reproduction of the smooth sheet as per instructions from N/CG241 (R. DerKazarian). The location of the searches were the shoal depths indicated on the smooth sheet. ✓

The radii of the searches were increased from 75 m to 100 m to compensate for scaling errors. The searches overlapped previous searches. When a hang occurred in the same location as a previous object position, and the diver verified it was the same object, the line was unsnagged and the drag continued. The same object was not positioned twice. ✓

The inverse distance to the check fix was 8.6 m for position 578. The bottom drag was retained since the radius of the drag exceeded the required radius by 25 m. ✓

**CHARTING RECOMMENDATION:**

Revise the 12 ft contour to reflect the soundings acquired for H9810. *Chart 12 ft contour according to H9810*

Chart "submerged ruins" symbol around the area where the piles and obstructions were found. This area agrees well with the ruins of the old ferry terminal. See the chartlet in the Dangers to Navigation Letter dated September 11, 1987 in Appendix XIII. *See page cited graphic ① of ⑩ for portrayal of ruins*

Concur

Delete the presently charted 4 and 6 ft depths and contours mentioned above because this area is inside the ruins area mentioned above.

Concur

Chart the ~~6 ft contour~~ and depths described by positions 591, 600 and 601 at the locations listed above. *Chart minimum depths according to page cited graphic ① of ⑩.*  
Survey soundings to supersede charted and prior survey soundings in the area.

Concur

Position	Cartographic Code
577	236
579	287
581	234
582	234
584	287
588	234
590-591	234
592	287
594-596	287
597	235
600	235
601	234

TO *Mr John Miller  
Pacific Hydro Party  
U.S. Dept of Commerce  
614-A East 5th Street  
Benicia, CA 94510*

FROM **THE SPINK CORPORATION**  
AN EQUAL EMPLOYMENT OPPORTUNITY, AFFIRMATIVE ACTION EMPLOYER  
2590 VENTURE OAKS WAY • SACRAMENTO, CA 95833  
P.O. BOX 2511 • ZIP 95811 • (916) 925-5550

SUBJECT \_\_\_\_\_ DATE *7/30/87*

MESSAGE: *Dear Mr. Miller:*

*Thank you for the latitude & longitude  
of station "Mole"  
As I mentioned to Mr Rosario  
I thought we had a plan that showed  
something about the Old Key System pier.*

ORIGINATOR DO NOT WRITE BELOW THIS LINE      REPLY TO →      SIGNED →

REPLY: *In looking today, I found it on the  
EBMUD plan for their outfall. Hope  
this helps you.*



**THE SPINK CORPORATION**

- ENGINEERING
- ARCHITECTURE
- PLANNING
- SURVEYING
- MAPPING
- PHOTOGRAMMETRY
- LANDSCAPE ARCHITECTURE

**ROBERT C. HALL, P.E.**  
VICE PRESIDENT

2590 VENTURE OAKS WAY • SACRAMENTO, CA 95833 • (916) 925-5550

*Bob Hall*

SIGNED

FACT-PART I WILL BE RETURNED WITH REPLY

# Parker Diving Service

P.O. Box 192  
Forest Knolls, CA 94933  
(415) 488-0537

January 1, 1988

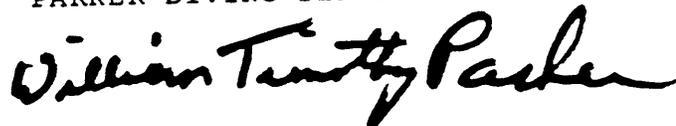
Mr. Tom Porter  
U. S. Geodetic Survey Office

Dear Mr. Porter:

On December 28, 1986, the 260-foot Ferryboat SS San Leandro was successfully salvaged by Parker Diving Service from the south side of the Oakland Estuary, approximately 1/4 mile west of the Park Street Bridge. This ferryboat had been designated a navigational hazard, and ceased to be one on the afternoon of December 28, 1986.

Sincerely,

PARKER DIVING SERVICE



William Timothy Parker

WP/lk

CHART: 18650 40th ed. June 13, 1987      ITEM: AWOIS 51152

ITEM DESCRIPTION:    Dang. Subm Wreck

SOURCE:    LNM49/86 (12/3/86)

REFERENCES:

The wreck was the Ferryboat SS San Leandro which was successfully salvaged on December 28, 1986 by Parker Diving. See the letter, dated January 1, 1988, from Mr. William T. Parker in Appendix XIII. of this report.

GEODETTIC POSITION	Latitude N	Longitude W	POS
Charted	37/46/24.00	122/14/20.00	

CHARTING RECOMMENDATION:

Update the AWOIS item as disproved.

*concur.*



CHART: 18650 40th ed. June 13, 1987    ITEM: PHP Special

ITEM DESCRIPTION: Request from J. H. Donahue, CO Coast Guard Island, Alameda, CA. USCG ships berthed at pier have 21 ft draft.

SOURCE: H-9873 1980-81

INVESTIGATION DATE: 11/24/87 (DN 328)    TIME: 2309-2358  
                          11/25/87 (DN 329)                    0000-0040  
                          12/01/87 (DN 335)                    1736-1848

OIC: LTJG Porta, LT Diaz

REFERENCES:

sheet (12) of (15)

See the blueprints in the cahier under PHP Special Item.

Position No: 1646-1768

GEODETTIC POSITION		Latitude N	Longitude W	POS
Observed	(pier)	37/46/52.27	122/15/01.64	1730
	(pier)	37/46/44.61	122/14/48.24	1768

POSITION DETERMINED BY:

Motorola Mini-Ranger III, range-azimuth configuration with EDM checks.

METHOD OF INVESTIGATION:

On DN 328 a malfunction in the alternator wiring rendered the Ross Echo sounding system inoperable. Therefore a Klein side scan sonar unit was obtained and operated by Mr. Dave Hogg of the USGS in Redwood City, CA. The side scan sonar unit was powered by a Honda generator.

Five-m line spacing was performed with the side scan sonar on the 25-m range scale. There were no significant contacts on the sonogram which indicated there were no significant obstructions in the vicinity.

On DN 334 the 24 VDC system on the launch was repaired. Seven lines spaced approximately ten m apart were performed parallel to the pier face. The first of these lines started about 10 m from the pier face. Four crosslines were perpendicular to the pier face were performed about 70 m apart.

This area is dredged yearly, and was dredged to 27 ft at the time the pier was constructed.

Survey soundings show a <sup>7</sup>/<sub>27</sub> ft controlling depth.

The soundings agree with the charted soundings except for the following:

Charted _(ft)_	Depth Discrepancies		Present Survey Position	
	Present Survey (ft)		Lat_(N)	Long_(W)
Shoreward of 18ft	2 <del>6</del> <sup>8</sup>		37/46/ <del>20</del> <sup>17</sup>	122/14/54
24	2 <del>7</del> <sup>7</sup>		37/46/4 <del>6</del> <sup>8</sup>	122/1 <del>8</del> <sup>9</sup> /0 <del>8</del> <sup>5</sup>
24	2 <del>9</del> <sup>9</sup>		37/46/4 <del>7</del> <sup>5</sup>	122/14/4 <del>6</del> <sup>50</sup>

**CHARTING RECOMMENDATION:**

Revise the presently charted soundings with the survey soundings listed above.

*concur*

Chart the new pier (see the blueprints and photographs in the cahier) between the positions 1730, and 1768 listed above. *Chart pier as shown on page-sized graphic sheet 12.*

Revise the 18-ft contour to show the deeper depths along the face of the pier.

*concur.*

Position  
1730, 1768

Cartographic Code  
030

*See page-sized graphic sheet 12 of 15.*

ATTACHMENT TO DESCRIPTIVE REPORT FOR FE-310

I have reviewed the smooth plots, accompanying data, and reports of this hydrographic survey. The hydrographic survey meets or exceeds Charting and Geodetic Services (C&GS) standards, complies with instructions, and is accurately and completely represented by the smooth plots and digital data file for use in nautical charting.

  
Chief, Pacific Hydrographic Section (Date) 7/25/89

After review of the smooth plots and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards with only the exceptions as noted above. The above recommendations are forwarded with my concurrence.

  
Director, Pacific Marine Center (Date) 7/28/89

CONTROL STATIONS

401 MT SUTRO TV TOWER N ANTENNA, 1976  
402 MT SUTRO TV TOWER S ANTENNA, 1976  
403 MT SUTRO TV TOWER W ANTENNA, 1976  
404 OAKLAND ALAMEDA CO CTHSE FP, 1947  
405 WARD, 1947  
406 JACK LONDON SQ FLAGPOLE, 1987  
407 OAKLAND MORMON TEMPLE SPIRE, 1977  
408 OAKLAND NAVY DEPOT CHECK TK, 1947  
412 TRANSAMERICA BUILDING, 1976  
421 ALAMEDA NAS W BREAKWATER E LT, 1953  
606 VET 1, 1979  
607 OAKLAND TRIBUNE BLDG FLAGPOLE, 1925  
608 YERBA BUENA LIGHTHOUSE, 1919  
609 CHAN, 1980  
610 9TH AVE, 1987  
(Field position)  
611 OAKLAND PG AND E GASHOLDER, 1947  
612 OAKLAND TRIBUNE BLDG FLAG ECC, 1987  
(Field position)  
613 SOHIO, 1980  
616 VET 2, 1979  
617 9TH AVE RM 1, 1987  
(Field position)  
618 MOLE, 1947  
619 ARMY 2, 1947  
620 BLDG 253, 1948  
621 ALAMEDA NAS E BREAKWATER S LT, 1953  
622 ALAMEDA NAS CHANNEL RNG F LT, 1987  
(Field position)  
623 ALAMEDA NAS CHANNEL RNG R LT, 1987  
(Field position)  
624 BAY FARM NW, 1987  
(Field position)  
625 BAY FARM NW RM 1, 1987  
(Field position)  
626 HOSPITAL, 1947  
627 HOSPITAL, 1947 RM 3  
628 SAN LEANDRO CHAN, 1980  
629 UNIFLEX, 1980  
630 OAKLAND SAFEWAY TOWER STEEPLE, 1947  
631 SAN LEANDRO BAY AIRPORT DBCN 3, 1987  
632 SAN LEANDRO BAY AIRPORT DBCN 4, 1987  
635 OAK AP CHAN HYDRO SIGNAL, 1987  
637 VORTAC OAKLAND OAK, 1977

122° 21' 00"

122° 20' 30"

37° 49' 30"

NAD 83

37° 49' 30"

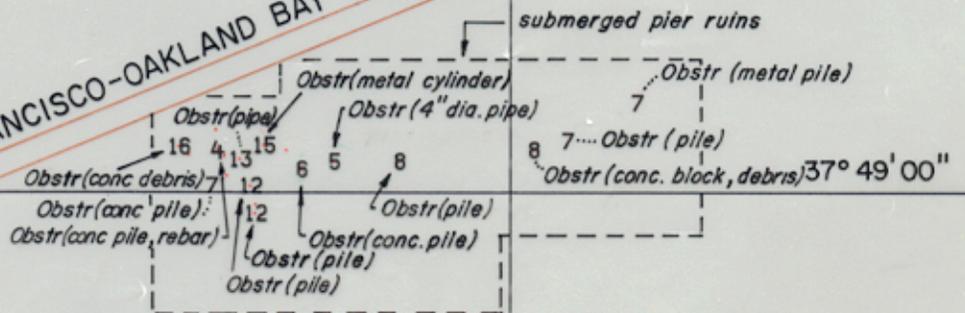
37° 49' 30"

7/12/88 I.A.R.  
J.S.G.

SAN FRANCISCO BAY

SAN FRANCISCO-OAKLAND BAY BRIDGE

37° 49' 00"



FE-310

CALIFORNIA

SAN FRANCISCO BAY

VICINITY OF SAN FRANCISCO-OAKLAND

BAY BRIDGE

Date of Survey: JULY 1987

Scale - 1:10,000

Soundings in FEET at MLLW

37° 48' 30"

37° 48' 30"

Sheet 1 of 15

AWOIS Item: 50793

Shoreline in brown from Chart I8650 for orientation only.

122° 21' 00"

122° 20' 30"

509  
n



122° 23' 00"

122° 22' 30"

37° 45' 30"

37° 45' 30"

# FE-310

## CALIFORNIA SAN FRANCISCO BAY ISLAIS CREEK CHANNEL

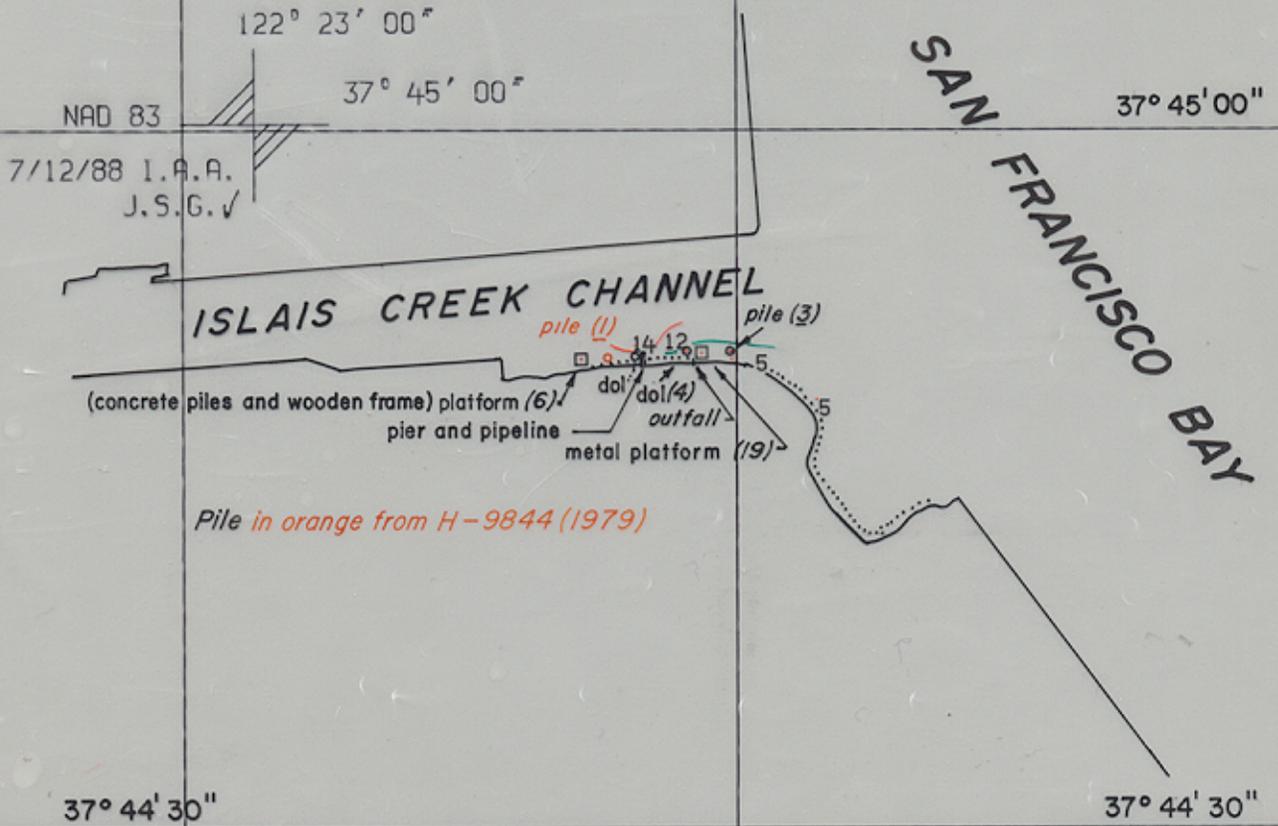
Date of Survey: SEPT. 1987

Scale - 1: 10,000

Soundings in FEET at MLLW

Sheet 3 of 15

PSR Item: 149



122° 23' 00"

122° 22' 30"

122° 17' 00"

122° 16' 30"

122° 16' 00"

FE-310

CALIFORNIA

SAN FRANCISCO BAY  
OFFSHORE OF BAY FARM  
ISLAND

122° 17' 00"

37° 44' 00"

NAD 83

7/12/88 I.A.A.  
J.S.G. ✓

Date of Survey: AUG. 1987

Scale - 1 : 10,000

37° 44' 00"

Soundings in FEET at MLLW

Sheet 4 of 15

PSR Item: 161

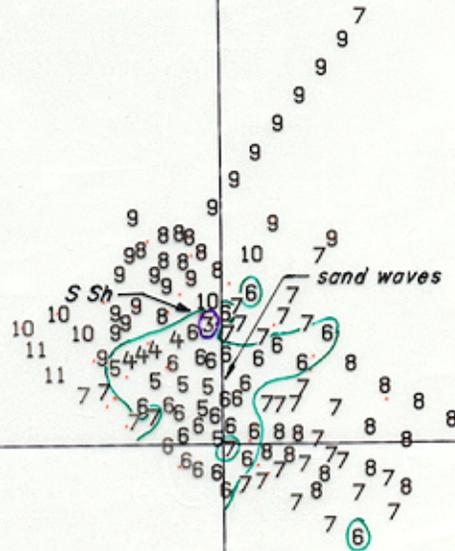
SAN

37° 43' 30"

37° 43' 30"

FRANCISCO

BAY



122° 17' 00"

122° 16' 30"

122° 16' 00"

SV

37° 46' 30"

122° 17' 30"

122° 17' 00"

122° 16' 30"

37° 46' 30"

37° 46' 30"

# ALAMEDA

NAD 83

7/12/88 I.A.A.  
J.S.G.

## FE-310

### CALIFORNIA SAN FRANCISCO BAY BALLENA BAY AND VICINITY

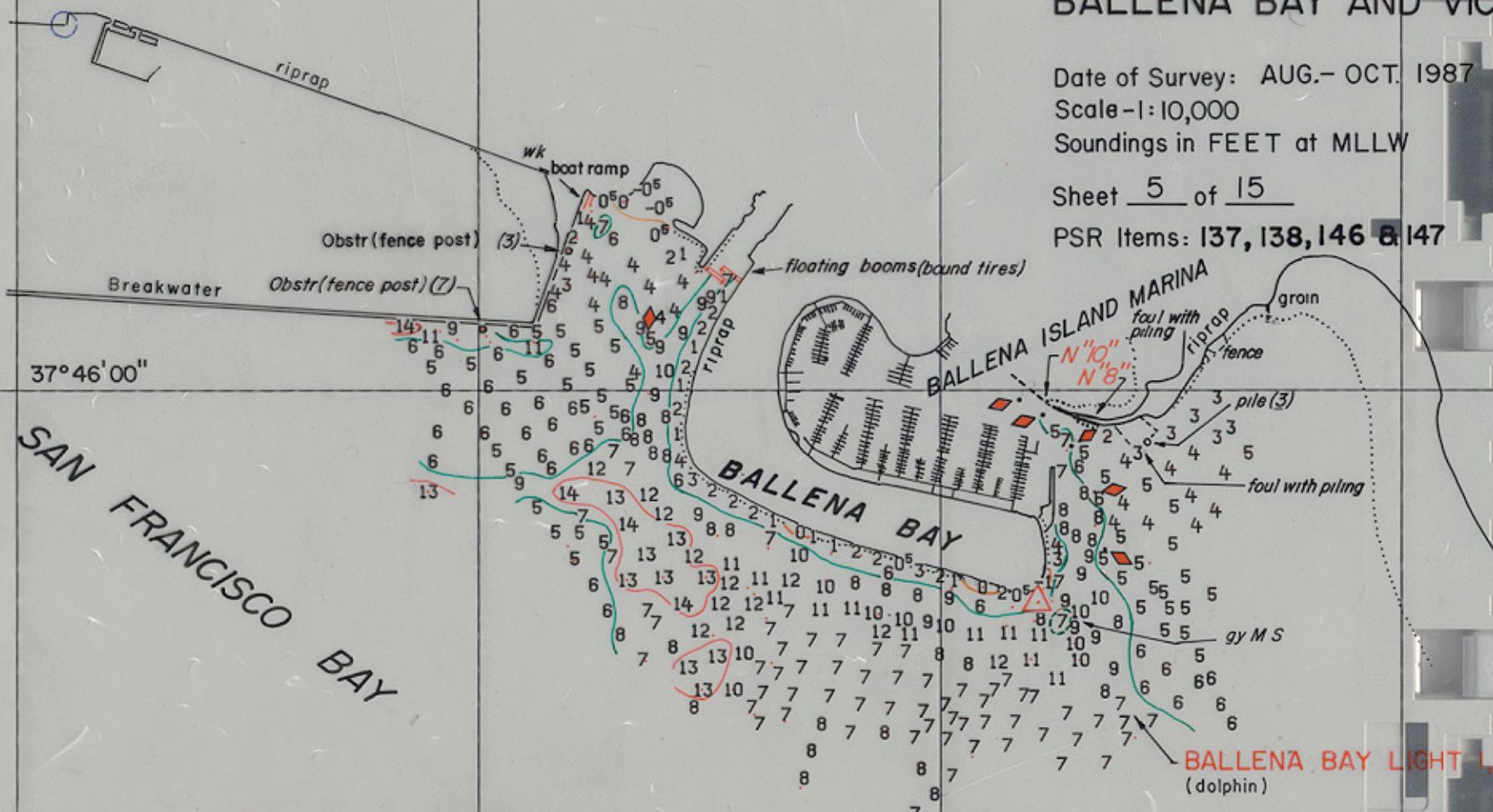
622 Alameda N A S Channel Entrance Range Front Light  
623 Alameda N A S Channel Entrance Range Rear Light

TIDE STATION

Date of Survey: AUG.- OCT. 1987  
Scale-1:10,000  
Soundings in FEET at MLLW

Sheet 5 of 15

PSR Items: 137, 138, 146 & 147



37° 46' 00"

SAN FRANCISCO BAY

37° 46' 00"

122° 17' 30"

122° 16' 30"

122° 20' 30"

122° 20' 00"

122° 19' 30"

122° 19' 00"

122° 18' 30"

37° 47' 00"

37° 47' 00"

FE-310

CALIFORNIA

SAN FRANCISCO BAY  
ALAMEDA NAS CHANNEL

Date of Survey: AUG. 1987

Scale - 1:10,000

Soundings in FEET at MLLW

Sheet 6 of 15

PSR Item : 146

riprap

riprap

dol (lighted)

37° 46' 30"

dol (lighted) (17)

SAN FRANCISCO BAY

(a) Alameda NAS Channel Light 3 (pile)

(b) Alameda NAS Channel Light 4 (pile)

(c) Alameda NAS Channel Light 5 (pile)

(d) Alameda NAS Channel Light 6 (pile)

(e) Alameda NAS Channel South Entrance Light 4 (pile)

(f) Alameda NAS Channel Daybeacon 8 (pile)

(g) Alameda NAS Inner Basin West Light

(h) Alameda NAS Inner Basin East Light

Alameda NAS Channel South Entrance Light 3 (pile)

122° 19' 00"

37° 46' 00"

NAD 83

7/12/88 I.A.A.  
J.S.G. ✓

Alameda NAS Channel South Entrance Light 2 (pile)

37° 46' 00"

37° 46' 00"

122° 20' 30"

122° 20' 00"

122° 19' 30"

122° 19' 00"

122° 18' 30"

**FE-310** 122° 17' 45" 122° 17' 30" 122° 17' 15"  
**CALIFORNIA**  
**SAN FRANCISCO BAY**  
**OAKLAND INNER HARBOR**

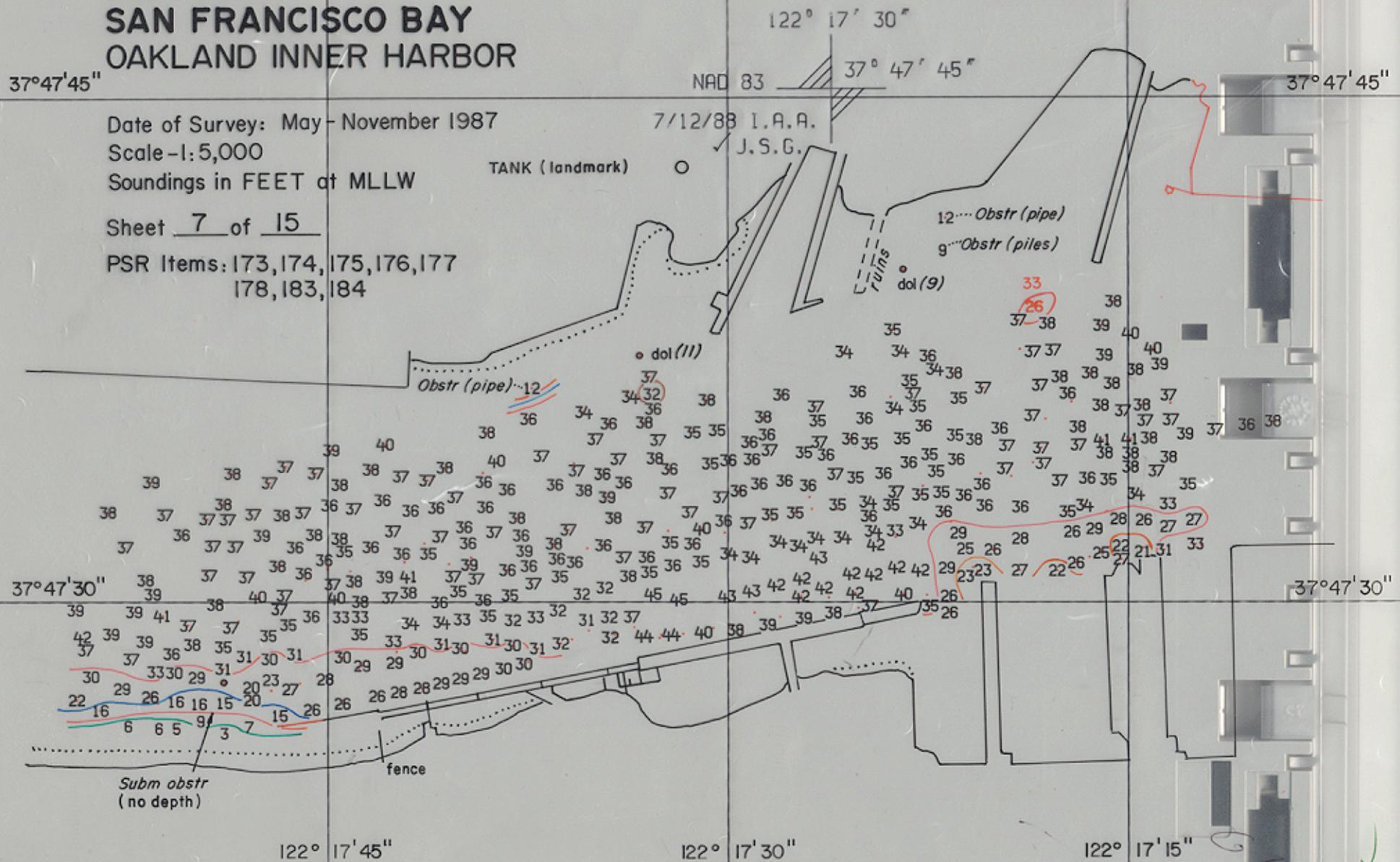
37° 47' 45"

Date of Survey: May - November 1987  
Scale - 1:5,000  
Soundings in FEET at MLLW

Sheet 7 of 15

PSR Items: 173, 174, 175, 176, 177  
178, 183, 184

*Detached soundings in red from H-9873(1980-81)*



122° 17' 45"

122° 17' 30"

122° 17' 15"

37° 47' 30"



122° 18' 15"

122° 18' 00"

122° 17' 45"

**FE - 310**  
**CALIFORNIA**  
**SAN FRANCISCO BAY**  
**OAKLAND INNER HARBOR**

122° 18' 15"

NAD 83

37° 47' 45"

37° 47' 45"

7/12/88 I.A.A.  
J.S.G.✓

Date of Survey: JULY 1987  
Scale - 1:5,000

Sheet 8 of 15

Item : Pile

OAKLAND INNER HARBOR

37° 47' 30"

37° 47' 30"



37° 47' 15"

37° 47' 15"

122° 18' 15"

122° 18' 00"

122° 17' 45"

122° 17' 30"

122° 17' 15"

**FE-310**

122° 17' 00"

122° 16' 45"

**CALIFORNIA  
SAN FRANCISCO BAY  
OAKLAND INNER HARBOR**

Date of Survey : MAY 1987  
Scale-1:5,000

122° 17' 30"  
NAD 83 37° 47' 45"  
7/12/88 I.A.A.  
J.S.G.V

Sheet 9 of 15  
PSR Items: 182

37° 47' 45"

*OAKLAND INNER HARBOR*

37° 47' 30"

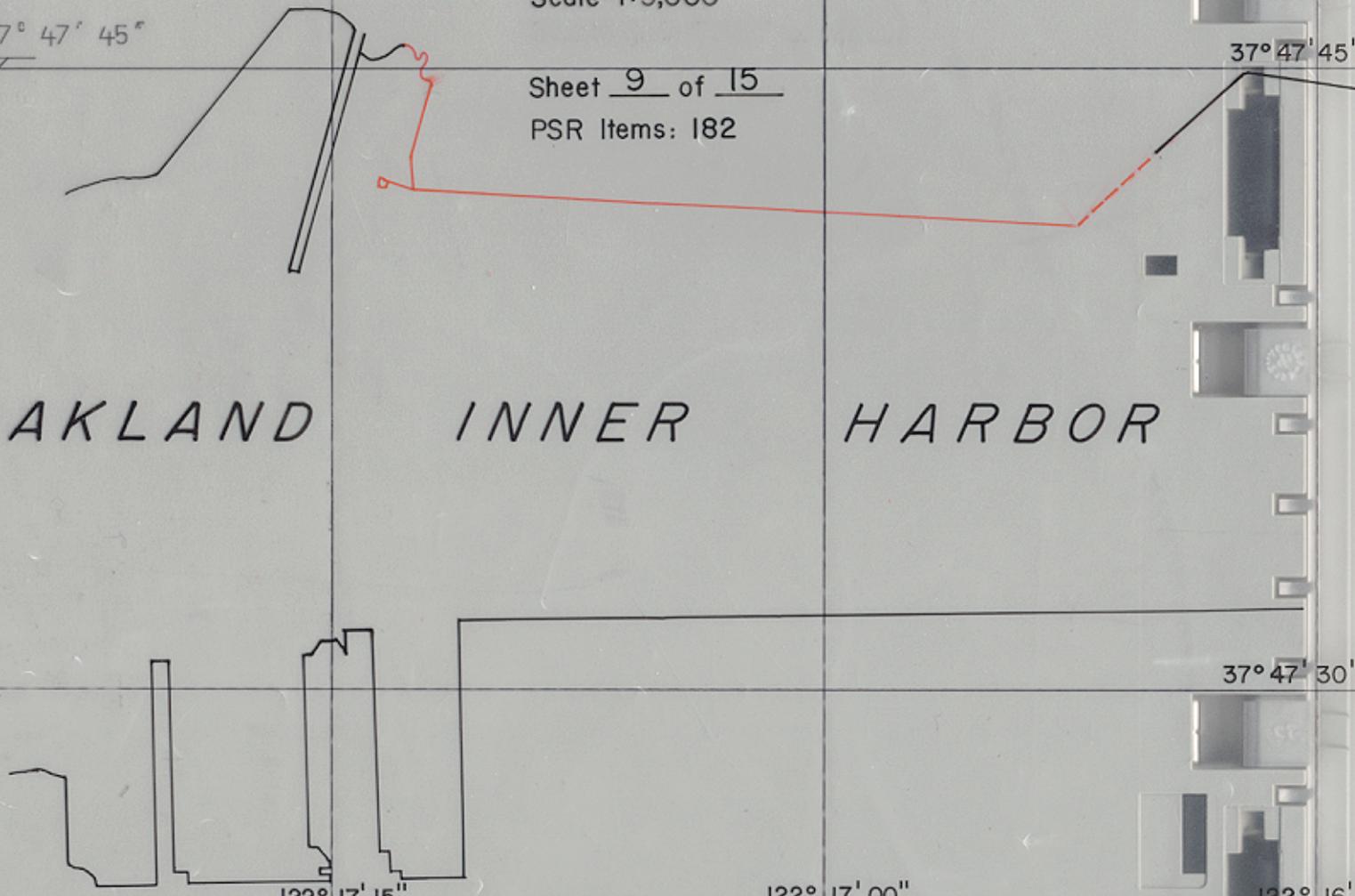
37° 47' 30"

122° 17' 30"

122° 17' 15"

122° 17' 00"

122° 16' 45"



122° 16' 15"

122° 16' 00"

**FE - 310**  
**CALIFORNIA**  
**SAN FRANCISCO BAY**  
**OAKLAND INNER HARBOR**

Date of Survey: JUNE-NOV. 1987  
Scale - 1:5,000

Sheet 10 of 15  
PSR Item: 179

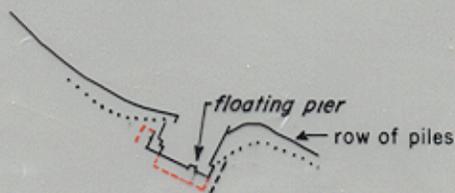
37° 47' 30"

37° 47' 30"

OAKLAND

INNER

HARBOR



37° 47' 15"

122° 16' 00"

37° 47' 15"

NAD 83

7/12/88 I.A.A.  
J.S.G. ✓

122° 16' 15"

122° 16' 00"



122° 14' 45"

122° 14' 30"

122° 14' 15"

OAKLAND

37° 46' 45"

122° 14' 30"

NAD 83

37° 46' 45"

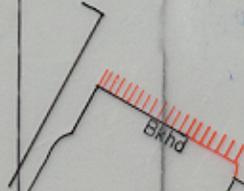
37° 46' 45"

7/12/88 I.A.A.  
J.S.G.

OAKLAND

INNER HARBOR

riprap



Obstr (pile, concrete)  
10  
pile (2)  
dol (19)

613

bulkhead

37° 46' 30"

37° 46' 30"

ALAMEDA

**FE-310**  
**CALIFORNIA**  
**SAN FRANCISCO BAY**  
**OAKLAND INNER HARBOR**  
**(BROOKLYN BASIN SOUTH CHANNEL)**

Date of Survey: JUNE - JULY 1987

Scale - 1:5,000

Soundings in FEET at MLLW

Sheet 11 of 15

PSR Item: 122, 131, AWOIS 51152

a2-65 65-45

37° 46' 15"

37° 46' 15"

122° 14' 45"

122° 14' 30"

122° 14' 15"

122° 14' 45"

122° 14' 30"

122° 14' 15"

122° 15' 30" 122° 15' 15" 122° 15' 00" 122° 14' 45" 37° 47' 15" 37° 47' 15"

**FE-310**  
**CALIFORNIA**  
**SAN FRANCISCO BAY**  
**OAKLAND INNER HARBOR**  
**(BROOKLYN, ENCINAL AND FORTMANN BASINS)**

Date of Survey: MAY-JULY, NOV-DEC 1987  
Scale-1:5,000  
Soundings in FEET at MLLW

Sheet 12 of 15

PSR Items: 101, 102, 118, 133, 135, 185, 186  
187, AWOIS 50750, 50751  
PHP SPECIAL

**OAKLAND**

**BROOKLYN BASIN**

*foul with wrecks*

(0)

616

MHD 83

7412/RR 1 4 4  
U.S.C.

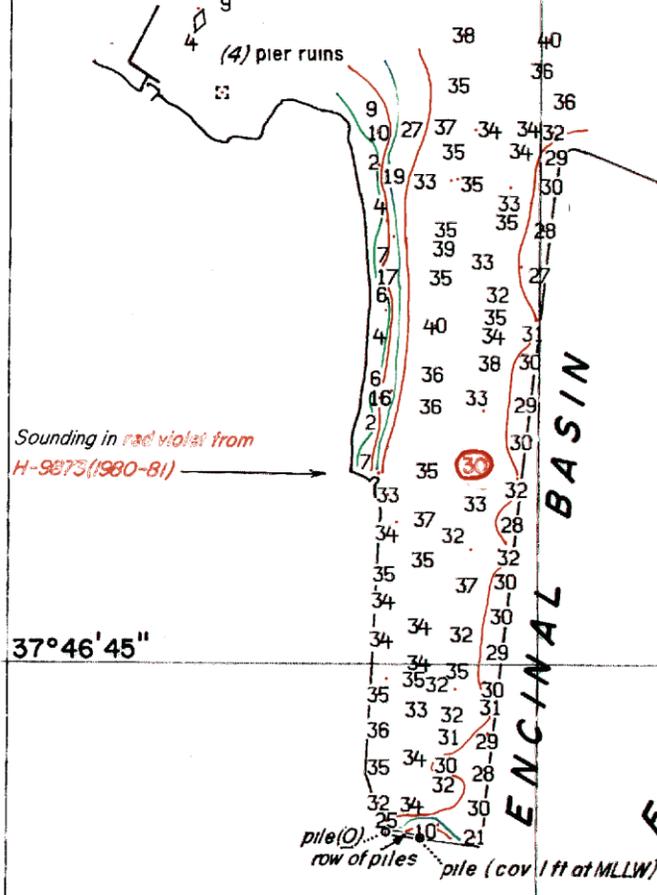
37° 47' 00"

**OAKLAND**

**INNER HARBOR**

**COAST GUARD ISLAND**

*Obstr (concrete and rebar)*



37° 46' 45"

37° 46' 45"

**ALAMEDA**

122° 15' 30" 122° 15' 15" 122° 15' 00" 122° 14' 45"

77-63



37°45'00"

37°45'00"

122° 13' 30"

122° 13' 15"

122° 13' 00"

122° 12' 45"

San Leandro Bay Channel Daybeacon "4" (pile)

San Leandro Bay Channel Daybeacon "3"

**SAN LEANDRO BAY**

37°44'45"

37°44'45"

**FE-310**  
**CALIFORNIA**  
**SAN FRANCISCO BAY**  
**SAN LEANDRO BAY**  
**(AIRPORT CHANNEL)**

Date of Survey: OCT. 1987  
 Scale-1:5,000  
 Soundings in FEET at MLLW

Sheet 13 of 15  
 PSR Item: 112,120,123

RADIO TOWER  
 (landmark)

37°44'30"

37°44'30"

NAD 83

7/12/88 I.A.A.  
 J.S.G. ✓

San Leandro Bay Channel Daybeacon "6" (pile)

**BAY FARM ISLAND**

San Leandro Bay Channel Daybeacon "5" (pile)

NOTE: positions of white and orange buoys delimit offshore extent of hazardous area.

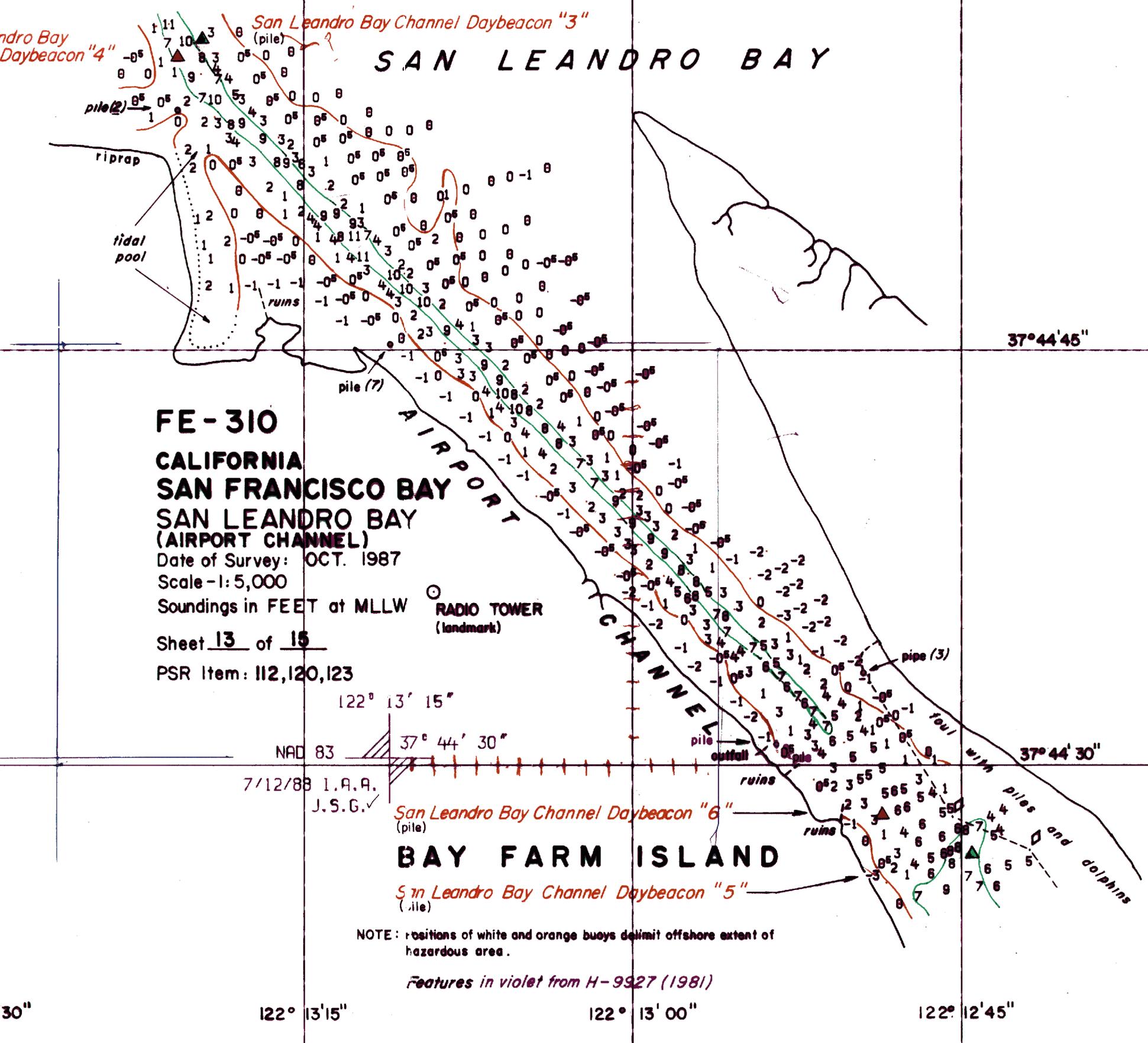
Features in violet from H-9927 (1981)

122° 13' 30"

122° 13' 15"

122° 13' 00"

122° 12' 45"



122° 12' 45"

122° 12' 30"

FE - 310

CALIFORNIA  
SAN FRANCISCO BAY  
SAN LEANDRO BAY  
(SE OF AIRPORT CHANNEL)

Date of Survey: OCT. 1987

Scale - 1:5,000

Sheet 14 of 15

PSR Items : 114, 120 & 121

122° 12' 30"

NAD 83

37° 44' 15"

7/12/88 I.A.A.

J.S.G. ✓

NOTE : Positions of white and orange buoys delimit offshore extent of hazardous area.

OAKLAND

37° 44' 15"

BAY FARM ISLAND

old fuel pier  
(no longer usable)

ramp piling

foul

with piles

and dolphins

ramp

37° 44' 00"

37° 44' 00"

AERO  
(landmark)

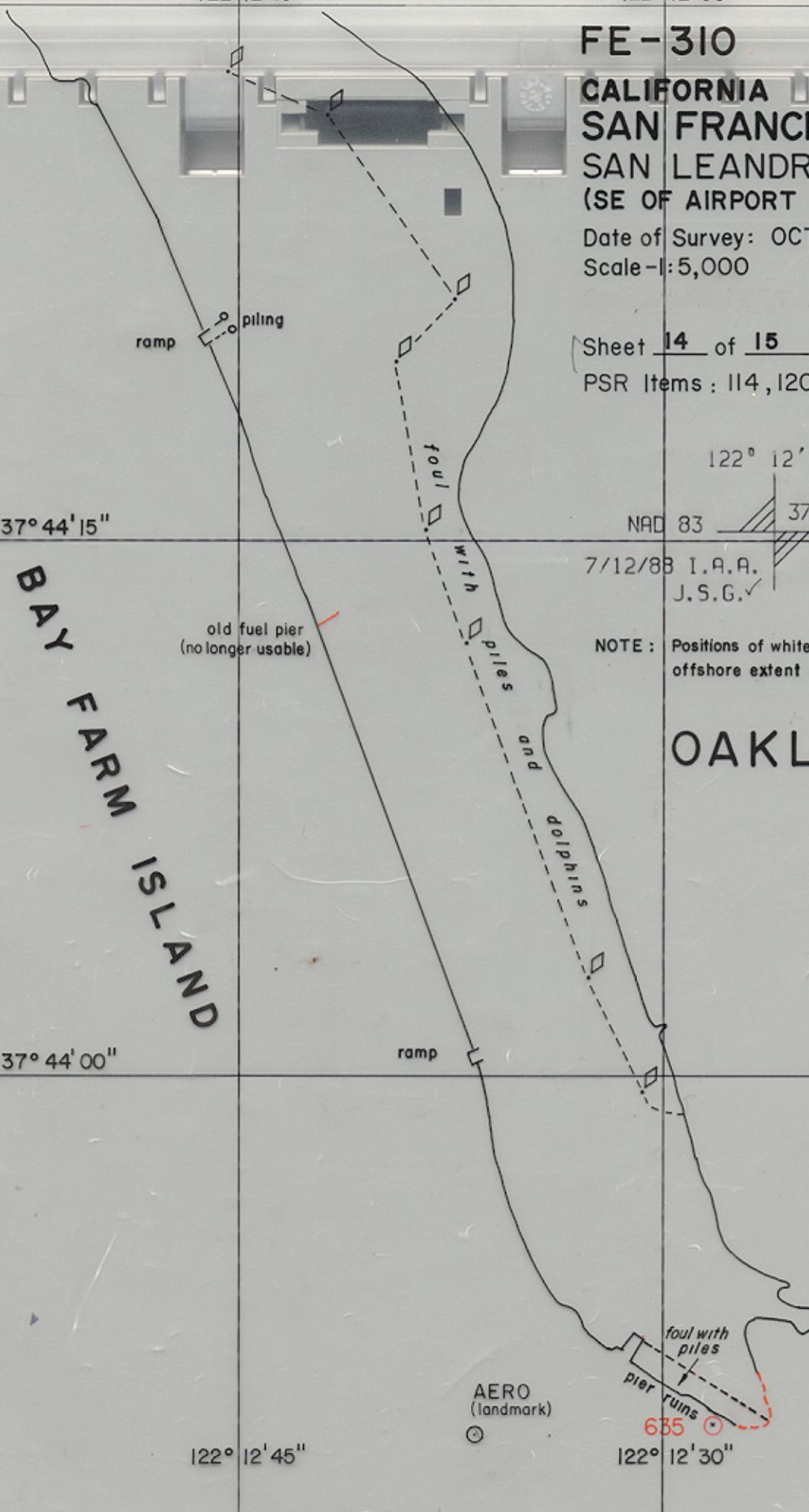
foul with piles

pier runs

635

122° 12' 45"

122° 12' 30"



ALAMEDA

**FE-310**  
**CALIFORNIA**  
**SAN FRANCISCO BAY**  
**SAN LEANDRO BAY**

Date of Survey: OCT. 1987  
Scale-1:5,000  
Soundings in FEET at MLLW  
Sheet 15 of 15  
PSR Items: 108, 124 & 129

*Soundings and obstructions in violet from H-9927 (1981)*

SAN LEANDRO BAY

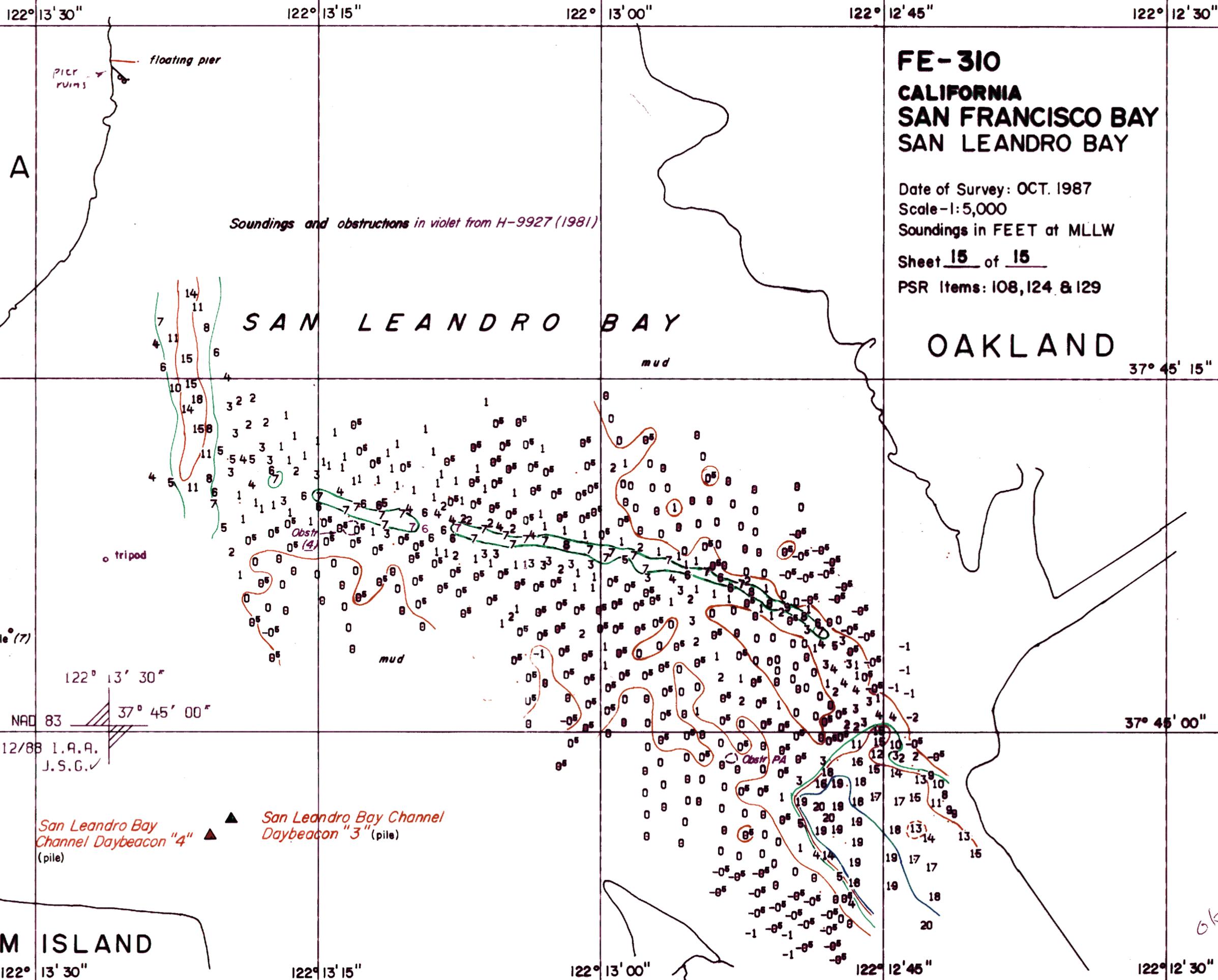
OAKLAND

37° 45' 15"

37° 45' 15"

37° 45' 00"

37° 45' 00"



NAD 83  
7/12/88 I.A.A.  
J.S.G. ✓

BAY FARM ISLAND

122° 13' 30"

122° 13' 15"

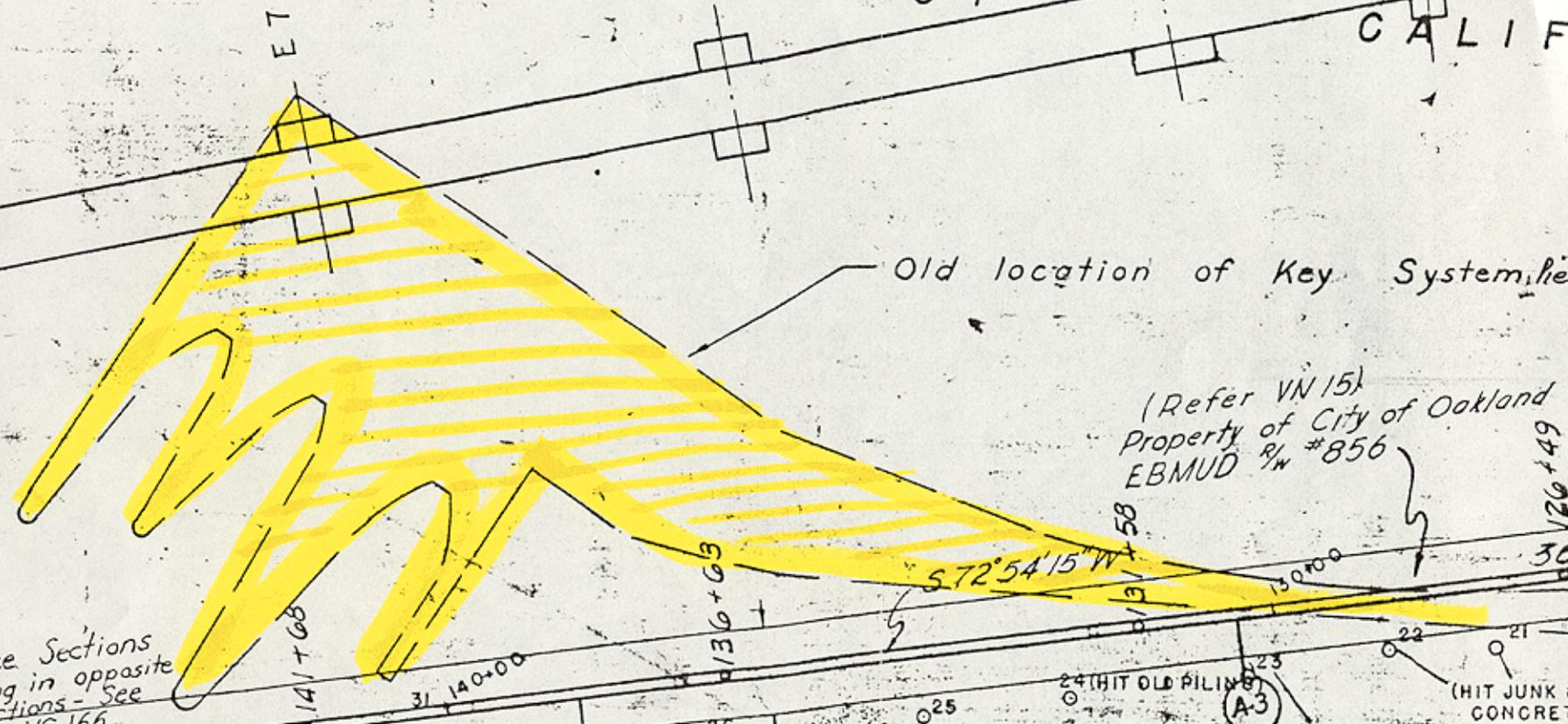
122° 13' 00"

122° 12' 45"

122° 12' 30"

US Pierhead Line of  
E 6 CITY OF SAN FRANCISCO

STATE OF CALIF



Old location of Key System Pier

(Refer VN 15)  
Property of City of Oakland  
EBMUD R/W #856

ction  
g. No. VG. 160  
857  
5

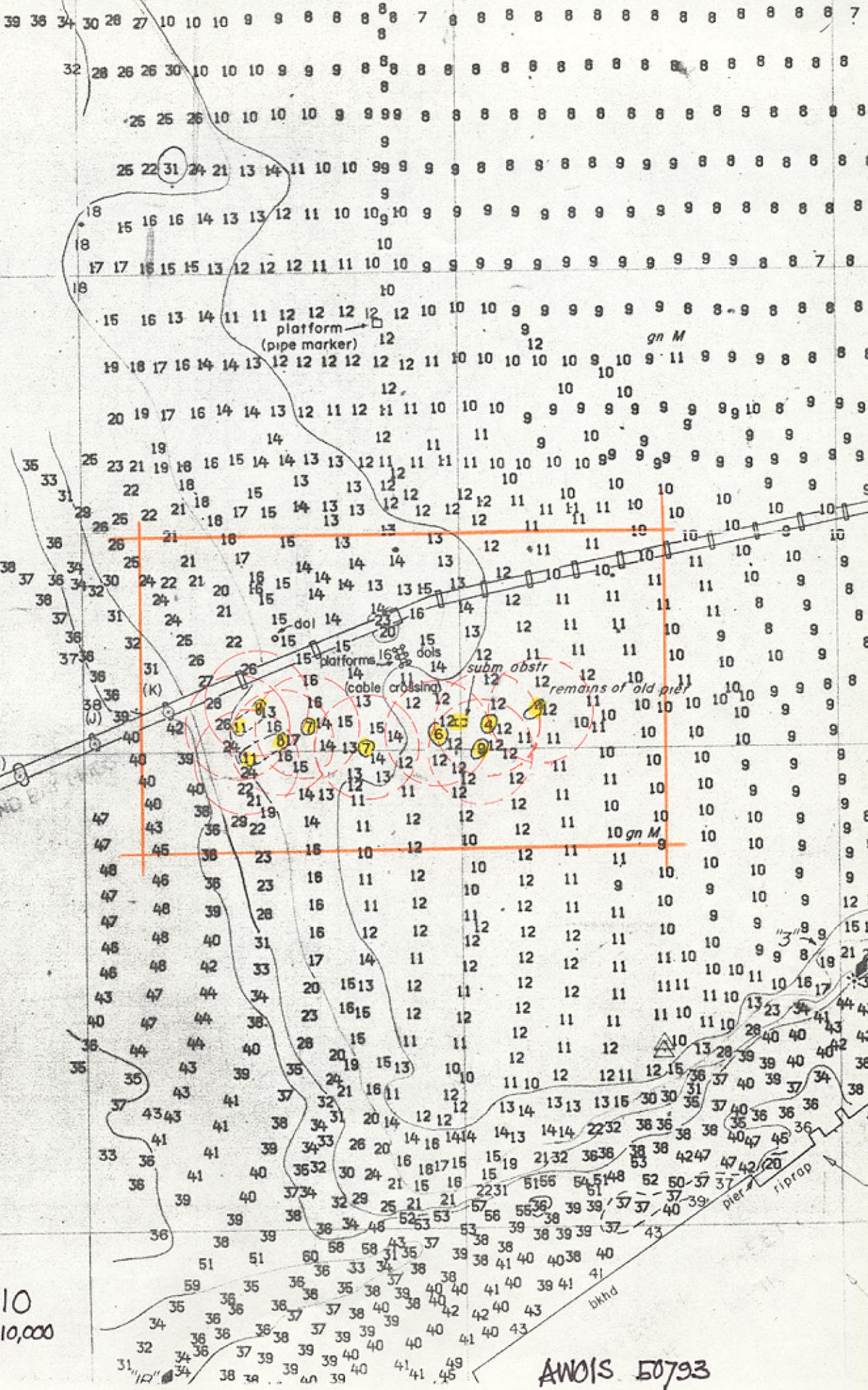
2 Tee Sections  
facing in opposite  
directions - See  
Dwg. VG 166.

#94

Length of the line may be shortened if, in the opinion

ANDIS ITEM 50733 U.S.

REFERENCES	
SUBJECT	SOURCE
FINAL TIES TO LINE	FB 1367 P



LAND BAY  
EACON, 1978

ARMY 2, 1947  
ARMY 2, ECC

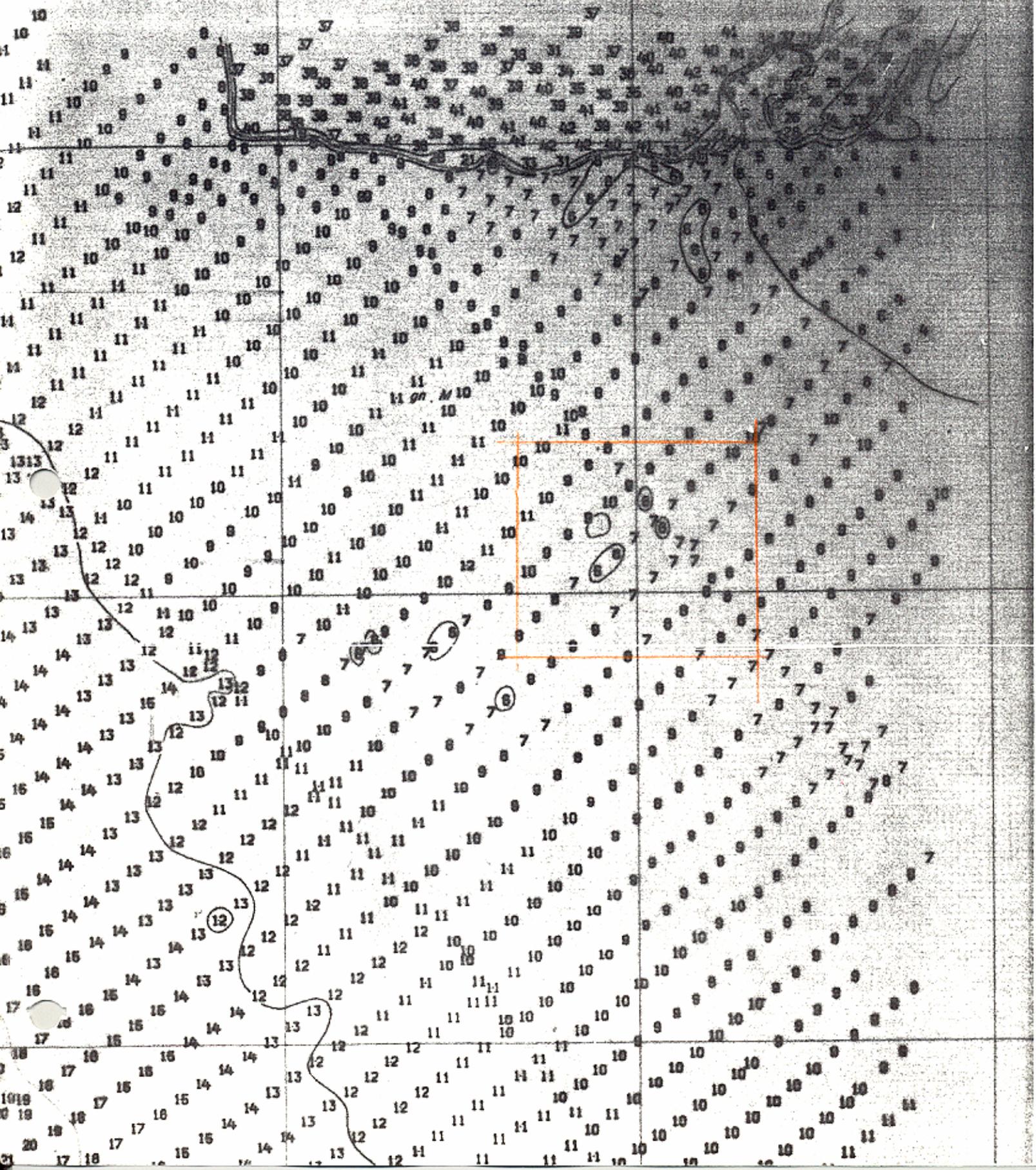
- Fog Signals*
- (H) Pier H (siren)
  - (I) Pier I (bell)
  - (J) Pier J (bell)
  - (K) Pier K (bell)

NA  
SE, 1919

H-9810  
Scale-1:10,000

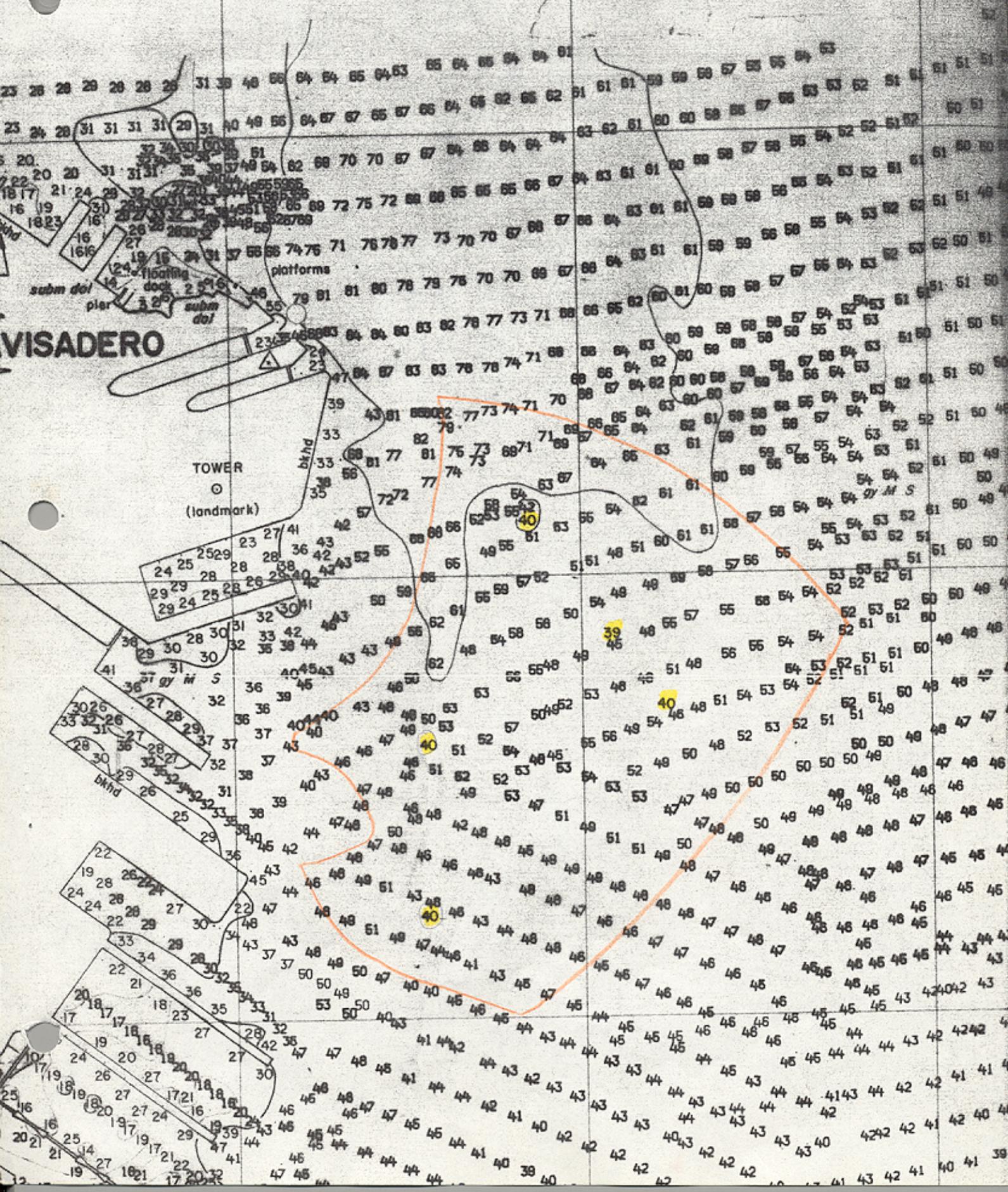
AWOIS 50793

# SOCO BAY



H-9819 (1979)  
(PSR 159)

(continued)



VISADERO

TOWER  
(landmark)

bkhd

subm dol  
platforms

40

39

40

40

40

40

40

DEPARTMENT OF COMMERCE  
 National Oceanic and Atmospheric Administration  
 National Ocean Survey  
 Rockville, Maryland

Hydrographic Index No. 96M

