

8899

Diag. Cht. No. 8551-3.

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT  
(HYDROGRAPHIC)

Type of Survey ..... HYDROGRAPHIC .....  
Field No. .... HO-5-1-66 .....  
Office No..... H-8899 .....

LOCALITY

State ..... Alaska .....  
General Locality ... Prince William Sound .....  
Locality ..... Vicinity of Valdez .....

19 66

CHIEF OF PARTY

J. B. Watkins, Jr. ....

LIBRARY & ARCHIVES

DATE ..... Jan. 26, 1970 .....

INDEXED  
APP

6688

HYDROGRAPHIC TITLE SHEET

H-8899

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.

HO-5-1-66

State Alaska

General locality Prince William Sound

Locality Vicinity of Port Valdez

Scale 1:5000 Date of survey July<sup>11</sup> - August<sup>5</sup> 1966

Instructions dated 19 January 1966, amendment dated 14 March 1966 Project No. OPR-452

Vessel HODGSON

Chief of party CDR John B. Watkins, Jr.

Surveyed by CDR Watkins, LT Forster, LTJG Ensign, and ENS Lystrom

Soundings taken by echo sounder, ~~hand lead, pot~~ Echo Sounder - DE-723

~~Bathograms~~ ~~Graphic record~~ scaled by Personnel of Ship HODGSON

~~Bathograms~~ ~~Graphic record~~ checked by Personnel of Ship HODGSON

Protracted by ENS Hogue

Soundings penciled by ENS Hogue

Soundings in fathoms <sup>and tenths</sup> ~~feet~~ at MLW MLLW

REMARKS:

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DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY H-8899

SCALE 1:5000

USC&GS SHIP HODGSON, CSS-27

CDR. J. B. WATKINS, JR., COMDG.

A. PROJECT

The survey comes under Project Number OPR-452 Prince William Sound, Alaska dated 19 January 1966. Amendment dated 14 March 1966 also applies.

B. AREA SURVEYED

The survey included the north east section of Port Valdez from the new town site to the old site. The geographical limits of the 1:5000 scale survey are from  $61^{\circ} 05.15' N$  to  $61^{\circ} 06.4' N$  and  $146^{\circ} 15.4' W$  to  $146^{\circ} 22.0' W$ . The shoreline is characterized by shallow mud flat areas, that are covered at high water.

Control was established from the 13th to the 26th of June 1966. Hydrography was started on 11 July 1966 and completed on 5 August 1966.

A 1:20,000 scale survey, with limits of  $61^{\circ} 03.85' N$  to  $61^{\circ} 08.35' N$  and  $146^{\circ} 14.85' W$  to  $146^{\circ} 41.6' W$ , was conducted of the whole Port Valdez area. Two tagline surveys were conducted, one off the Alaska Steam Dock and one off the Standard Oil Dock.

A 1:2500 scale survey was made in the area of the new city dock to supplement the 1:5000 scale survey and is shown as an inset on the smooth sheet.

This survey duplicates and extends the reconnaissance surveys conducted by the SURVEYOR in 1964.

Prior surveys in the area are as follows:

No. 2627	17 September 1902
No. 2554	17 September 1901
No. 2628	1902

C. SOUNDING VESSEL

This survey was conducted from two vessels. Launch 1192 designated by violet lower case letters. The motor whaleboat designated by green lower case letters.

D. SOUNDING EQUIPMENT

Raytheon 723 echo sounding equipment was used on all of the vessels. The serial numbers are as follows:

Launch 534  
MWB 146

The echo sounder corrections were determined from serial temperature, salinity, B.T. and bar check information.

E. SMOOTH SHEET

The grid and the control were plotted by the X-Y Plotter at Pacific Marine Center. The grid was inked by HODGSON personnel.

F. CONTROL

Visual control was used in all aspects of the survey. The bulk of the control was established by third order triangulation methods: "NOR" was a signal placed over the reference mark of a first order triangulation station. Several of the stations on the 1:2500 scale were located by tape and sextant cuts.

G. SHORELINE

Boat sheet shoreline came from incomplete manuscripts no. <sup>T-12657,</sup> T-12658, and T-12659. Smooth sheet shoreline will come from advanced manuscripts to be provided by the Washington office.

The broken zero curve was a result of extended mud flats over many areas of the surveyed shoreline. Because of strong afternoon winds inshore hydrography was unavoidably done in the morning during a period of low tides.

The dolphins off of each end of the Valdez Standard Oil Dock were located using the tagline survey manuscript of the Valdez Standard Oil Dock attached to this report.

H. CROSSLINES

Eight to ten percent of the survey was run as crosslines. Crossings were good where the bottom was regular. No major discrepancies were noted in other areas.

I. JUNCTIONS

The junction with contemporary survey HO-20-1-66 indicates satisfactory agreement in all areas.

J. COMPARISON WITH PRIOR SURVEYS

Comparison of the survey with past surveys of the area is not very enlightening because of the age of the prior surveys and changes caused by the earthquake of 1964.

Pre-survey review item no. four, subm sewer and pipeline ruins, were located as shown. It is recommended that the symbols remain on the chart.

Pre-survey review item no. <sup>cht. 8519</sup> five involves the moving of the city dock at Valdez. The move has been made. Tagline surveys and a 1:2500 scale blow up of the new area were made. It is recommended that an insert of the new dock area be made on the new charts and previous inset of the old city be deleted.

K. COMPARISON WITH THE CHART

A comparison of the survey with chart 8519 May 17, 1965 the largest scale chart of the area indicates that the area has risen anywhere from 3 to 9 feet.

*Subsidence indicated in Report on Earthquake.*

The reported depth of the small boat basin at the new town site given on the chart is correct.

Two shoal areas were found in the vicinity of the new city dock area. One shoal, whose off shore point is 200 ft. west and 60 ft. south of the southwest corner of the Alaska Steam Dock, was reported to the Coast Guard. A least sounding of 2.8 fathoms was found at 61° 07' 27.5" N and 146° 21' 43.5" W. This area was developed by tagline and on the 1:2500 blow up of the area. The entrance to the small boat basin is shoal. A line extended across the face of the Standard Oil Dock to the south <sup>east</sup> crosses a ~~1.8~~ <sup>2.0</sup> fathom shoal area.

*44-13785  
this shoal*

L. ADEQUACY OF THE SURVEY

The survey is complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

A danger range has been established at the corner of the Alaska Steam Dock. It was established by the Coast Guard to keep ships off the shoal explained in (K). A fix on the ranges was taken and recorded in ships hydro Vol. HO-5-1-66 Launch 1192 Vol. V.

A square frame structure with a flashing red light is located on the south end of the east breakwater.

Two Alaska ferries put into Valdez. One ties up at the Standard Oil pier and the other uses the pier in the small boat basin on a regular schedule.

REMARKS

N. MISCELLANEOUS

Heavy currents of undetermined variable set and drift were encountered during the work at the extreme east end of the bay. This is in the area where the Lowe and Robe rivers enter the bay. Sizeable waves develop at the east end of the bay during the afternoons due to a west wind. These waves sometimes caused trouble when running hydro. ✓

O. STATISTICS

The statistics for the survey are as follows: ✓

## Launch 1192

Positions	1146
Miles of Sounding Line	78.3
Square Mile Hydro	1.9

## Motor Whaleboat

Positions	31
Miles of Sounding Line	0.5
Number of Bottom Samples	11
Number of Tide Stations	1
Number of Temperature & Salinity OBS	2

P. RECOMMENDATIONS:

None

Q. REFERENCES TO REPORTS

## Reports:

Corrections to Echo Soundings, 1966 Valdez, Alaska

## References Forwarded Separately:

	<u>DATE FWD'D</u>
Coast Pilot, 1966 Valdez Arm	Oct. 1966
Tide Station Reports and Level Records	June 14, 1966
Report on Shoal Investigation, Valdez	June 18, 1966

(5)

Chart Letter, Valdez

July 26, 1966

Report on Shoreline Mapping,  
Valdez

July 26, 1966

Records Forwarded with Sheet:

- (1) Triangulation Data
- (2) Tidal Data
- (3) Five (5) Sounding Volumes
- (4) Fathograms
- (5) Corrections to Echo Soundings
- (6) General Layout, Valdez City Dock
- (7) Boat Basin (4 sheets), Valdez Alaska
- (8) Tagline Survey of Valdez Standard Oil Dock (1 sheet)
- (9) Tagline Survey of Valdez New City Dock (1 sheet)

Respectfully submitted,

A. Hogue, Jr.  
ENS, USESSA

APPROVAL SHEET

PROJECT OPR-452  
SHEET H-899

PORT VALDEZ  
ALASKA

The field work on this survey was done under the direct supervision of the Commanding Officer. The boat sheet was given a daily examination to check adequacy and accuracy of the hydrography. The survey is considered complete and adequate and no additional field work is deemed necessary.

*John B. Watkins, Jr.*  
John B. Watkins, Jr.  
CDR, USESSA



## LIST OF SIGNALS

H-8899

HO-5-1-66

NAME USED IN  
HYDROGRAPHIC SURVEY

ORIGIN OF STATION

ANT	Triangulation, 1966
BAG	Triangulation, 1966
BREAK	BREAK, 1965 (USE)
BUG	Triangulation, 1966
BUL	Triangulation, 1966
CAR	Triangulation, 1966
CAT	Triangulation, 1966
DIK	Vol. III, Pge 28 Vol. IV, Pge 65
DOC	Triangulation, 1966
DOL	Triangulation, 1966
FOX	Vol. III, Page 28
FAT	Triangulation, 1966
GAB	Triangulation, 1966
KIT	Triangulation, 1966
LIT	E. BREAKWATER LIGHT, 1966
NAN	Triangulation, 1966
NOR	Valdez N. Base, 1901, 1941 R.M.I.

(CON'T)

OIL	Triangulation, 1966
POL	Triangulation, 1966
PUS	Triangulation, 1966
ROC	Triangulation, 1966
SAG	Triangulation, 1966
SHE	Triangulation, 1966
STA	Valdez B.P.R. Asphalt Tank Farm Stack, 1959
TIC	Triangulation, 1966
TIT	Triangulation, 1966
TRE	Triangulation, 1966
UNK	Triangulation, 1966

REPORT ON CORRECTIONS TO ECHO SOUNDINGS

PROJECT OPR 452

Valdez Sheets HO-5-1-66  
HO-20-1-66

VELOCITY CORRECTIONS

Velocity corrections for hydrography accomplished at Valdez, Alaska were determined by standard methods. Water samples and temperatures of 10 layers were obtained from Nansen casts dated July 8, and July 26, 1966. Bathythermograph observations were also taken these dates and incorporated to determine the accuracy of the serial temperatures using protected reversing thermometers. Hydrometers were used to determine the density and salinity of each sample. The velocity of sound through water was based on a calibration velocity of 800 fathoms per second. Velocity corrections were computed in accordance with the Hydrographic Manual and reference was made to setting of "initial" on DE 723 Survey Fathometer in memorandum of October 1, 1962 from Chief, Instrument Division.

Nansen cast #1 on July 8, 1966 L 61° 06' 14"N, Long. 146° 28' 30"W produced data which was in good agreement with temperatures obtained from BT #12117. On July 26, 1966 the second Nansen cast #2 L 61° 05'.9 N, Long. 146° 30'.9 W was taken and temperatures varied slightly from the BT comparison but within the 2° C range. Because of the high degree of fresh water run off in Port Valdez it was found that surface salinities were very low, producing a rather substantial change to velocity corrections in upper layers. The velocity corrections therefore reflect a lower correction than is normally found in salt water densities of higher ranges.

Velocity corrections for Nansen cast #1 and #2 were meaned and the resultant corrections are given below:

Correction to Depth

Tabulated Velocity Corrections

Depth in Fathoms

<u>Correction</u>	<u>Depth</u>
+ 0.0	6.9
+ 0.1	33.5
0.0	59.9
- 0.1	94.4
- 0.2	160.0

The corrections based on these stations are to be applied to all ship hydrography accomplished in Port Valdez from July 11 to August 6, 1966. MWB #1 and Launch 1192 has combined velocity and barcheck corrections.

SUMMARY OF BARCHECK CORRECTIONS.

Barchecks were taken whenever hydrography was accomplished except when weather did not permit accurate readings. A correction of .2 Fath, was found for depths from 0 ft to 6.9 fathoms for all work accomplished by MWB #1 and Launch 1192 on sheets HO-20-1-66 and HO-5-1-66. Abstracts of barchecks are included with the report.

A combined velocity and barcheck correction table was made for Launch 1192 and MWB #1. For depths between 0 - 6.9 fathoms the velocity and draft corrections are incorporated into one correction and for depths greater than 6.9 fathoms the velocity corrections obtained from the Nansen cast stations 1 and 2 were used. Therefore a draft correction must be applied to Launch 1192 hydrography, for soundings over 27.0 fathoms. MWB #1 has a 2.5 draft correction.

Combined Barcheck and Velocity Corrections

for Sheets

HO-20-1-66

HO-5-1-66

(For Launch 1192 and MWB#1)

<u>Corr Fath.</u>	<u>Depth Fath.</u>
+ 0.2	00 - 6.9 Draft included
+ 0.1	33.5
00	59.9
- 0.1	94.4
- 0.2	160.0

No correction was applied if the correction did not exceed 1/2 of 1% of the depth of water sounded.

PHASE COMPARISONS

The DE 723 fathometers used on the HODGSON and Launch 1192 during the 1966 field season were bench tested for phase comparison correction. The phase correction was adjusted to zero for scales A through F on each fathometer. The only resulting phase error found was in water depths greater than 250 fathoms. No soundings were found greater than 140 fathoms. No phase corrections therefore were applied.

TIDE REDUCERS

The tide reducers entered in all volumes on sheets HO-5-1-66 and HO-20-1-66 are based on hourly heights obtained from the Valdez standard tide gage. Heights of tides were reduced by using frequent staff comparisons and a valve of 9' MLLW on the Valdez staff. This valve was supplied by the Washington Office.

DRAFT CORRECTIONS

Motor Whaleboat # 1	2.5 Draft
Launch 1192	1.8 feet Draft
HODGSON	Determined daily

INITIAL CORRECTIONS

The Launch 1192 maintained an initial setting of zero throughout the survey. The HODGSON on 11 July started hydrography with a zero initial and changed to a one fathom initial throughout the survey from 12 July to completion. Motor Whaleboat #1 maintained an initial of 0.0 fathoms.

TABULATED CORRECTIONS TO ECHO SOUNDINGS

Project No. OPR 452

Sheet HO-05-1-66

Launch 1192

Abstract of Bar Checks  
Bar Depth in Fathoms

		a - k days					
<i>2.0 fms</i>		<i>3.0 fms</i>		<i>4.0 fms</i>		<i>5.0 fms</i>	
Down	Up	Down	Up	Down	Up		
+ .4	+ .3	+ .3	+ .3	+ .3	+ .3		.3
.2	.4	.2	.2	.2	.2		.2
.2	.1	.2	.2	.2	.2		.2
.1	.1	.1	.1	.1	.1		.1
.2	.1	.2	.1	.1	.1		.1
.1	.1	.1	.1	.1	.1		.1
.2	.1	.1	.1	.2	.2		.2
.1	.1	.1	.2	.1	.2		.2
.2	.1	.2	.2	.2	.1		.2
.2	.0	.1	.1	.2	.2		.2
.1	.1	.1	.2	.2	.3		.2
.1	.1	.1	.2	.1	.2		.2
.1	.1	.2	.1	.2	.2		.3
.2	.2	.2	.2	.2	.2		.2
.2	.2	.3	.2	.2	.2		.2
Mean	.15		.17		.19		.205
MWB #1	.2	.2	.3	.2	.2	.1	.3
	.2		.2		.2		.3

TABULATED CORRECTIONS TO ECHO SOUNDINGS (Cont'd)

Project No. OPR 452

Sheet HO-20-1-66

Launch 1192

Abstract of Bar Checks  
Bar Depth in Fathoms

a - h days

2.0'		3.0'		4.0'		5.0'
Down	Up	Down	Up	Down	Up	
+ 0.1	+ 0.1	+ .1	+ .1	+ .2	+ .1	+ .1
.2	.1	.2	.2	.2	.2	.2
.0	.0	.0	.0	.1	.1	.2
.1	.1	.1	.1	.1	.0	.0
.2	.1	.2	.1	.2	.2	.2
.2	.1	.2	.1	.2	.2	.3
.1	.0	.0	.1	.1	.2	.1
.2	.2	.2	.1	.2	.2	.2
.2	.2	.2	.3	.3	.3	.6 R
.2	.2	.2	.2	.3	.2	.2
.2	.2	.2	.2	.2	.2	.3
Mean	.2	.2		.2		.2

USC&GSS HODGSON (CSS-27)  
JOHN B. WATKINS, JR., COMDG.

VELOCITY CORRECTIONS  
VALDEZ, ALASKA

To be applied to all hydrography accomplished in the Valdez area  
on Project OPR 452 from 11 July 1966 to 5 August 1966.

CORRECTIONS TO DEPTH

HO-05-1-66  
HO-20-1-66

<u>HODGSON</u>		<u>Launch 1192</u>	
Corr Fa.	Depth Fa.	Corr Fa.	Depth Fa.
0.0	6.9	+0.2	6.9
+0.1	33.5	+0.1	33.5
0.0	59.9	0.0	59.9
-0.1	94.4	-0.1	94.4
-0.2	160.0	-0.2	160.00

If correction is less than  $\frac{1}{2}$  of 1% of depth then correction need  
not be applied.

The above data was obtained from the following sources:

Nansen Station # 1  
8 July 1966  
Lat. 61° 06' 14" N  
Long. 146° 28' 30" W

Nansen Station # 2  
24 July 1966  
Lat. 61° 05' 54" N  
Long. 146° 30' 54" W

Bar checks obtained on various days of hydrography.



TIDE NOTE

PROJECT OPR-452

SHEET: 8899

HO-5-1-66

The standard tide gage at Valdez, Alaska was used for the reduction of soundings on all work on this sheet. The hourly heights were scaled by shipboard personnel prior to submission to the Washington office by the Valdez tide observer.

MLLW on the 1966 Valdez staff was provided by the Washington office and is equal to 9.0 feet.

LAT: 61° 07' 29.5"  
LONG: 146° 21' 34.0"

TIDE NOTE FOR HYDROGRAPHIC SHEET

December 10, 1969

~~Nautical Chart Division~~ Pacific Marine Center

Plane of reference approved in  
5 volumes of sounding records for

HYDROGRAPHIC SHEET 8899

Locality: Port Valdez, Prince William Sound, Alaska

~~Chart No. 1787~~ Year: 1966

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):

Valdez, Alaska

Height of Mean High Water above Plane of Reference is as follows:

11.1 feet

Remarks

  
Chief, Tides and Currents Branch

**GEOGRAPHIC NAMES**

Survey No. H-8899

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
Mineral Creek Islands											1
Port Valdez											2
Valdez											3
Valdez (Abandoned)											4
Robe River											5
Lowe River											6
											7
											8
											9
											10
											11
											12
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											23
											24
											25
											26
											27

MAY 13, 1970

PREPARED BY

*Frank W. Dickert*  
CARTOGRAPHIC TECHNICIAN

APPROVED BY

*CSH*  
7-7-77


*A. J. Wright*  
CHIEF GEOGRAPHER

APPROVAL SHEET


H-8899

The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's report.)

Examined and approved

  
William M. Martin  
Supervisory Carto. Tech.

Approved and forwarded

  
K. William Jeffers, CDR, USESSA  
Chief, Processing Division, PMC

Jan. 14, 1970

Note:

No records were received for the Tagline surveys off the City Dock or the Standard Oil Dock. The tracings are enclosed with the smooth sheet and made a part of this report.

W.M.M.

HYDROGRAPHIC SURVEY STATISTICS  
HYDROGRAPHIC SURVEY NO. 11-8899

11-5-66

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS		1	
DESCRIPTIVE REPORT		1	OVERLAYS		2	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1 file					
VOLUMES		5 <del>11</del>				
BOXES						
T-SHEET PRINTS (List) <i>5</i>						
SPECIAL REPORTS (List)						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				1188
POSITIONS CHECKED		497		
POSITIONS REVISED		59		
DEPTH SOUNDINGS REVISED		601		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		521		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		2		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		24	4	
JUNCTIONS			16	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS <i>&amp; Report</i>		171	34	
SPECIAL ADJUSTMENTS <i>relocate Pol &amp; Dik</i>		2	14	
ALL OTHER WORK		75	2	
TOTALS		272	70.10 (80 hrs) total	
PRE-VERIFICATION BY		BEGINNING DATE	ENDING DATE	
VERIFICATION BY <i>C/arence R. Lehman</i>		Dec 2 1968	Jan 30 1969	
REVIEW BY <i>George K. Myers</i>		BEGINNING DATE	ENDING DATE	
			July 14, 1971	

*Insp. R.W. Wellman*  
D.R. ENGLE

55 hrs  
13

H-8899

Items for Future Presurvey Reviews

This is an inshore survey of the northeast part of Port Valdez. Significant changes of the bottom caused by the earthquake in this area are included in determining the Bottom Change Factor for the area.

Otherwise, this is considered a slightly changeable area characterized by a mud bottom, except at the head of the bay where the presence of sand covered alluvial flats are affected to a small degree by the interaction of normal tides and currents.

<u>Position Index</u>		<u>Bottom Change Index</u>	<u>Use Index</u>	<u>Resurvey Cycle</u>
<u>Lat.</u>	<u>Long.</u>			
610	1462	5	1	25 years
610	1463	5	1	25 years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE SURVEYS DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8899

FIELD NO. HO-5-1-66

Alaska, Prince William Sound, Vicinity of Valdez

SURVEYED: July 11 - August 5, 1966

SCALE: 1:5,000, 1:2,500

PROJECT NO.: OPR-452

SOUNDINGS: DE-723 Echo Sounder

CONTROL: Sextant Angles  
on Shore Signals

Chief of Party .....	J. B. Watkins, Jr.
Surveyed by .....	G. M. Ensign
.....	D. J. Lystrom
.....	A. Hogue
.....	W. F. Forster
Protracted by .....	A. Hogue
Soundings Plotted by .....	A. Hogue
Verified and Inked by .....	C. R. Lehman (PMC)
Reviewed by .....	G. K. Myers
	Date: July 14, 1971
Inspected by .....	K. W. Wellman

1. Description of the Area

This survey covers the northeast part of Port Valdez between the old and new towns of Valdez. An inset at a scale of 1:2,500 in the area of the new town site was made to supplement hydrography on the 1:5,000 scale. Here, newly constructed waterfront facilities appear, while at the old town site areas of ruins and wreckage are found. Shallow mud flats extend some 700-800 feet offshore. The gradient outside the low water line is very sharp with depths of 75 to 100 fathoms within a quarter to a half mile offshore.

Mud is the predominant bottom characteristic of the area.

The Alaskan Earthquake of March 27, 1964, caused a subsidence of about 3 1/2 feet in this area according to the report, Volume III, Prince William Sound, Alaska Earthquake of 1964 and Aftershocks. The effect of subsidence has been altered, however, in the slumping of inshore sediments and their redistribution in deeper water.

## 2. Control and Shoreline

The origin of control is adequately described in part F of the Descriptive Report.

The shoreline originates with advanced photogrammetric manuscript surveys T-12657 (1966), T-12658 (1966), and T-12659 (1965 and 1966). The mean high water line is shown for guidance only, and the true position is shown on the topographic surveys previously mentioned.

## 3. Hydrography

- a. Depths at crossings are in good agreement.
- b. The usual depth curves are adequately delineated with the exception of sections of inshore depth curves which are in proximity to the shallow mud flats alongshore.
- c. The development of the bottom configuration and investigation of shoals and unusual deeps as required by the project instructions are considered adequate.

## 4. Condition of Survey

The plotting, sounding records, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual, except for the following:

- a. Many depth curves on the present survey were broken at soundings of equal depth, rather than being drawn to include these soundings within the represented curves. Major revisions to these depth curves were made by the reviewer.
- b. Depth curves on the inset were not in agreement with those on the main part of the smooth sheet.

## 5. Junctions

An adequate junction was made with H-8900 (1966) on the south and west.

## 6. Comparison with Prior Surveys

- a. H-2554 (1901) 1:20,000

The prior survey covers the area of the present survey. The reconnaissance nature of the prior survey offers no adequate basis for a detailed



comparison with the present survey. However, in the eastern portion of the survey, present depths are deeper. A portion of the alluvial flats near Valdez has disappeared into deep water. This deepening is noted even in areas of depths over 50 fathoms. A contributing factor must have been bottom currents caused by the tsunami subsequent to the 1964 earthquake.

In the northern portion of the present survey the construction of waterfront facilities and the sparse number of prior soundings preclude a comparison of inshore depths.

The present survey is adequate to supersede the prior survey within the common area.

b. FE #4 (1954) 1:600  
H-8493 (1959) 1:2,500

Due to the significant bottom changes resulting from the 1964 earthquake in the area, no realistic comparison can be made with these prior surveys. The present survey is considered adequate to supersede the prior surveys within the common area.

7. Comparison with Chart 8519 and Inset (latest print date February 20, 1971)

a. Hydrography

A few of the charted soundings originate with the previously discussed survey H-2554 which needs no further consideration. The remaining hydrography originates with the boat sheet and smooth sheet of the present survey, its contemporary adjoining survey H-8900, and miscellaneous Corps of Engineers blueprints and chart letters.

Attention is directed to the following:

(1) The following charted soundings originate with Bp-73785 (1967) (Corps of Engineers), subsequent to the present survey, and should be retained on the chart:

<u>Sounding</u>	<u>Latitude</u>	<u>Longitude</u>
0 fathom 4 feet	61°07.48'	146°21.72'
6 fathoms	61°07.46'	146°21.70'
6 fathoms 5 feet	61°07.47'	146°21.52'

(2) The ferry facilities - piers and dolphins - charted in the immediate vicinity of latitude 61°07.47', longitude 146°21.70' from

Corps of Engineers and Coast Pilot information (CL-1571, 1969, and CL-1660, 1970, respectively) subsequent to the present survey should be retained on the chart.

(3) The dolphin charted at latitude  $61^{\circ}07.47'$ , longitude  $146^{\circ}21.33'$  from information provided by the Valdez Dock Company (CL-17-B, 1969) subsequent to the present survey should be retained on the chart.

(4) The barge dock charted at latitude  $61^{\circ}07.2'$ , longitude  $146^{\circ}16.7'$  from Corps of Engineers information (CL-17-A, 1969, and CL-1264, 1970) subsequent to the present survey should be retained on the chart.

(5) The dolphin charted in latitude  $61^{\circ}07.00'$ , longitude  $146^{\circ}17.00'$  originated as a fixed aid to navigation with NM 1/61 and was subsequently revised to a dolphin on the authority of NM 1/65. Although not specifically investigated by the hydrographer, this dolphin is considered discredited inasmuch as the depths in this area are presently about 20 fathoms deeper than before the 1964 earthquake. Recommend the dolphin be deleted from the chart.

(6) The two 2-foot soundings charted in latitude  $61^{\circ}07.45'$ , longitude  $146^{\circ}21.27'$  and latitude  $61^{\circ}07.43'$ , longitude  $147^{\circ}21.24'$  originate with the tag line survey attached to the Descriptive Report of the present survey and should be retained on the chart.

Except as noted above, the present survey is adequate to supersede the charted hydrography in the common area.

b. Aids to Navigation

The fixed aid to navigation located on the present survey is in substantial agreement with the chart and adequately marks the feature intended.

8. Compliance with Instructions

The present survey adequately complies with the project instructions.

9. Additional Field Work

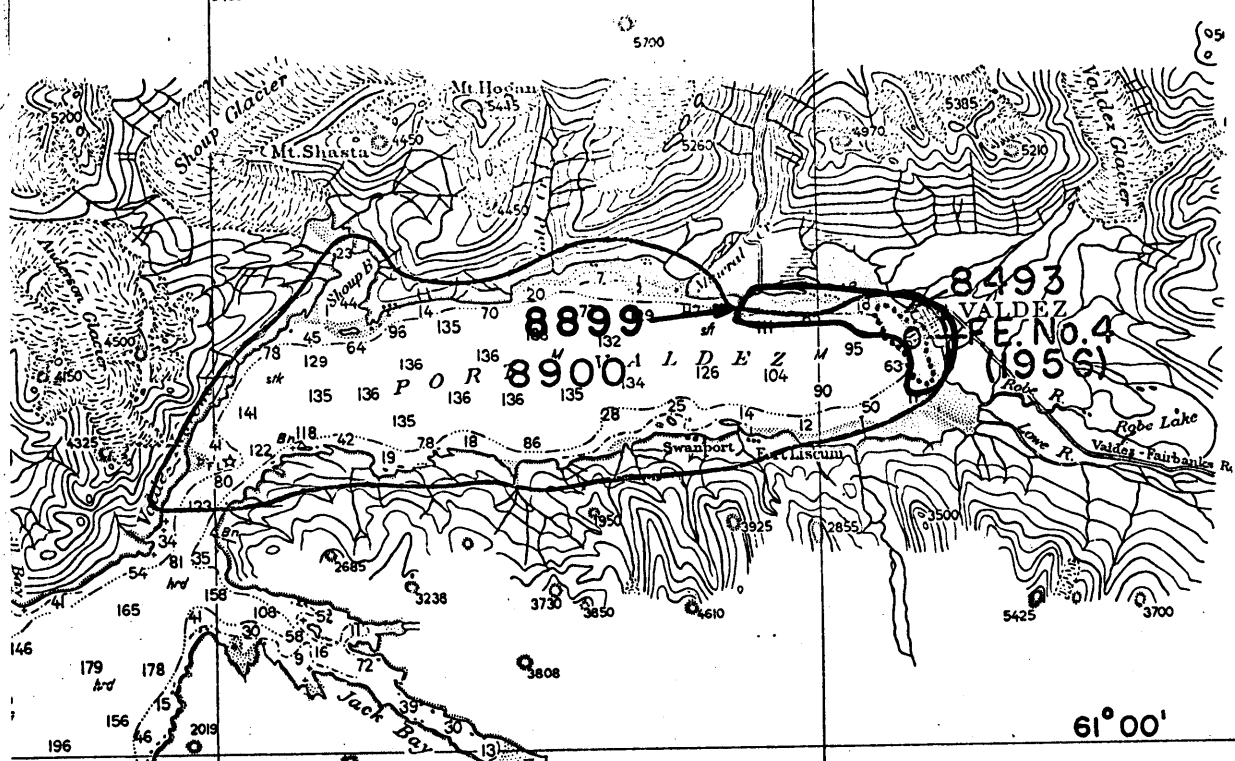
This survey is considered to be a very good basic survey and no additional field work is recommended.

Examined and Approved:

for R. H. Carstens  
Chief  
Marine Surveys Division

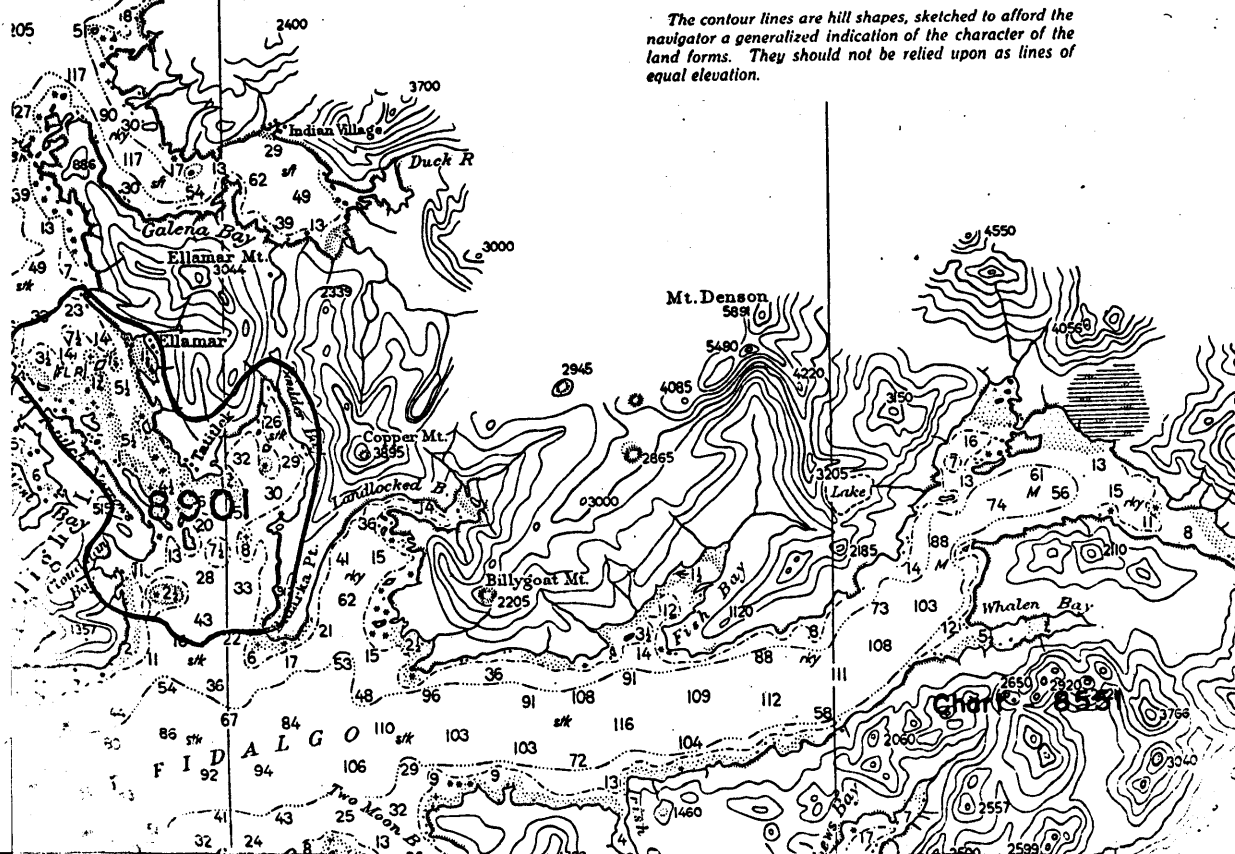
R. H. Howland  
Associate Director  
Office of Marine Surveys  
and Maps

6250 146° 20'



61° 00'

The contour lines are hill shapes, sketched to afford the navigator a generalized indication of the character of the land forms. They should not be relied upon as lines of equal elevation.



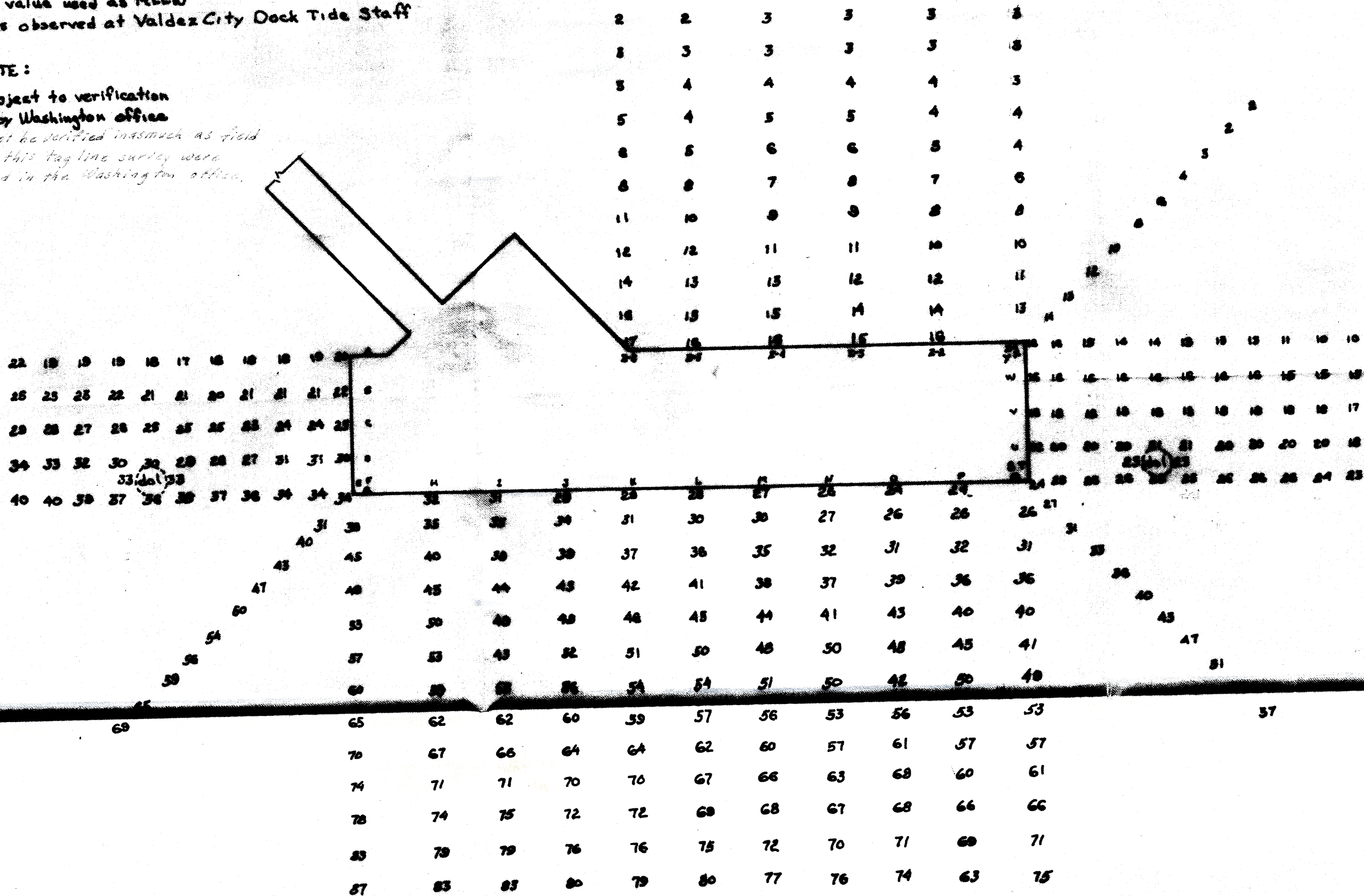
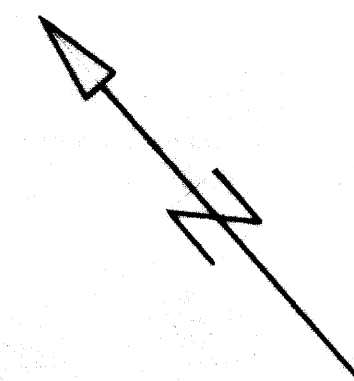
8900

U.S.C. & G.S.S. HODGSON  
J. B. WATKINS, JR., Comd.  
DATE: 9.11 JULY 1966

All soundings in feet, based on MLLW  
30 feet was value used as MLLW  
Actual tides observed at Valdez City Dock Tide Staff

NOTE:

All data subject to verification  
and review by Washington office.  
*Data could not be verified inasmuch as field  
records for this tag line survey were  
not received in the Washington office.*

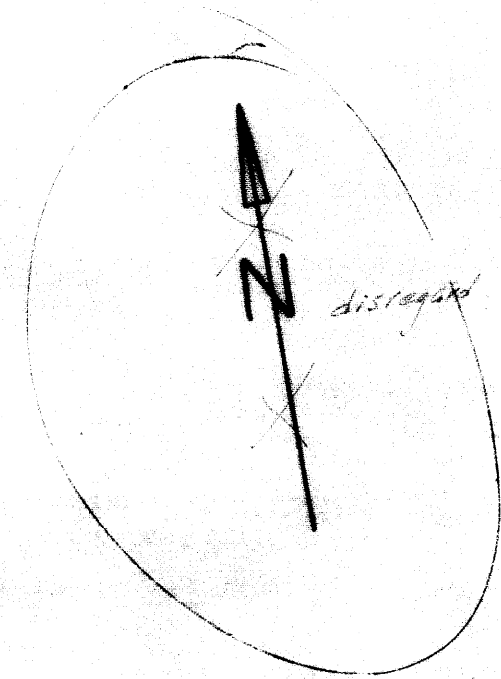


VALDEZ, ALASKA  
VALDEZ STANDARD OIL DOCK

SCALE 1" = 50 FT

H-8822  
H-8822  
247

H-8820



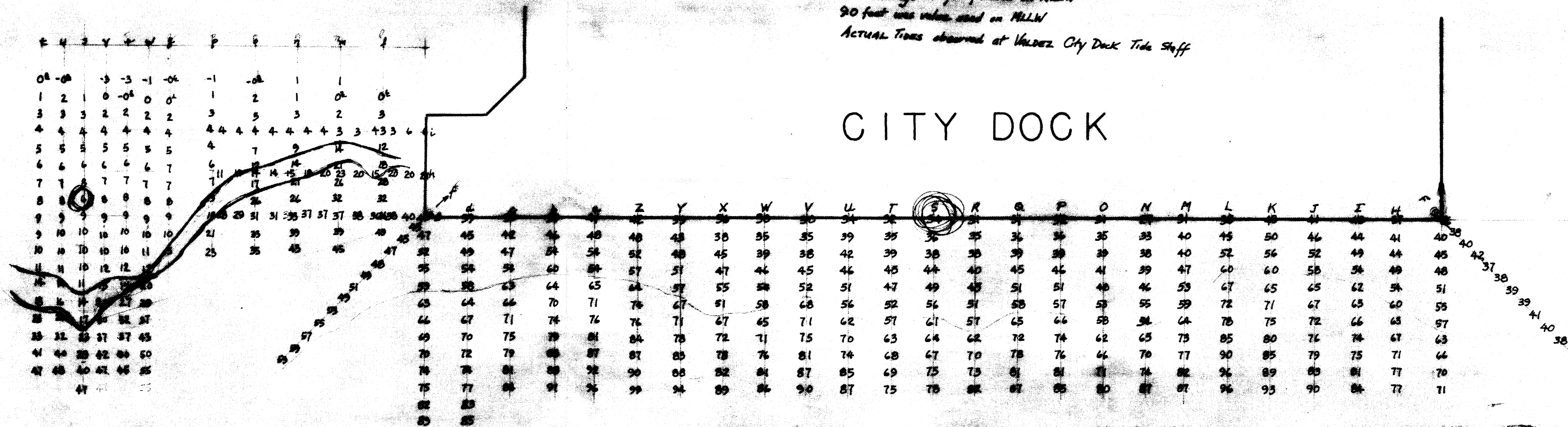
USC & GSS HODGSON  
J.B. WATKINS, Jr., Comdr

DATE: 13, 14 June 1966  
17 June 1966

All soundings in feet, based on MLLW  
90 feet was value used on MLLW

ACTUAL TIDES observed at Valdez City Dock Tide Staff

# CITY DOCK

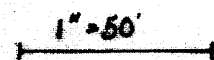


NOTE: All data subject to  
verification and review by  
the Hydrographic Office

*Data could not be plotted into reach as tide  
gauge was not installed in the Hydrographic  
Office for this regular survey.*

VALDEZ ALASKA  
TAGLINE SURVEY  
NEW CITY DOCK

SCALE 1" = 50'



H-8820

H-8820

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8899

INSTRUCTIONS

- A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
- 1. Letter all information.
- 2. In "Remarks" column cross out words that do not apply.
- 3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
8519	11-24-70	ERIC FREY	<del>Full</del> Part Before <del>After</del> Verification Review Inspection Signed Via Drawing No. <i>Examined, no critical corrections</i>
8551	3-22-71	C.S. Forbu	<del>Full</del> Part Before <del>After</del> Verification Review Inspection Signed Via Drawing No. <i>Examined thru 8519. App. 50% for curve. No critical corrections.</i>
8519	6/10/72	E. Frey	<del>Full</del> Part Before <del>After</del> Verification Review <sup>before</sup> Inspection Signed Via Drawing No. <i>Consider fully app'd before inspection</i>
16707		Nator	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>1 Appl</i>
16700		<i>see history Dwg 23</i>	<del>Full</del> Part Before After Verification Review Inspection Signed Via Drawing No. <i>Partly app'd after review thru chart 16708 (8519)</i>
16708	7/28/80	Nator	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>17 fully applied thru 16707 Dwg 1</i>
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
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