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NOAA FORM 76-35A	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE	
DESCRIPTIVE REPORT	
Type of Survey	HYDROGRAPHIC
Field No.	RA-10-16-02
Registry No.	H-11180
LOCALITY	
State	ALASKA
General Locality	NORTHEAST PRINCE WILLIAM SOUND
Sublocality	EASTERN PORT VALDEZ AND VALDEZ HARBOR
<hr/> 2002 <hr/>	
CHIEF OF PARTY	
CAPT. James C. Gardner, NOAA	
LIBRARY & ARCHIVES	
DATE	

HYDROGRAPHIC TITLE SHEET**H11180**

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.
RA-10-16-02State AlaskaGeneral Locality Northeast Prince William SoundSublocality Eastern Port Valdez and Valdez HarborScale 1:10,000Date of Survey Sept. 13 - 23, 2002Instructions Date 9/23/2002Project No. OPR-P159-RA-02Vessel Noaa Ship Rainier Launches 2121, 2122, 2124, 2125, 2126Chief of Party CAPT. J.C. GardnerSurveyed by RAINIER Personnel and PHB Physical Scientist K. SampadianSoundings taken by echo sounder, hand lead, pole Seabeam/Elac 1180, Reson 8101/8125, Knudsen 320MGraphic record scaled by RAINIER PersonnelGraphic record checked by RAINIER PersonnelEvaluation by R. Davies Automated plot by HP Designjet 1050CVerification by R. Davies, E. DomingoSoundings in Fathoms and tenths at MLLWREMARKS: Time in UTC. UTM Projection Zone 6Revisions and annotations appearing as endnotes weregenerated during office processing.All separates are filed with the hydrographic data.As a result, page numbering may be interrupted or non-sequential

Descriptive Report to Accompany Hydrographic Survey H11180

Project OPR-P151-RA-02

Port Valdez and Valdez Harbor, AK

Scale 1:10,000

September 2002

NOAA Ship RAINIER

Commanding Officer: Captain James C. Gardner, NOAA

Lead Hydrographer: Kimberley Sampadian, NOAA

A. AREA SURVEYED

This hydrographic survey was completed as specified by the Hydrographic Survey Letter Instructions OPR-P151-RA-02, dated September 23, 2002 and the Draft Standing Project Instructions dated March 21, 2001.¹ The survey area is located within the Eastern Port of Valdez and Valdez Harbor. This survey corresponds to sheet "A" in the sheet layout provided with the Letter Instructions.

Additionally, two Office of Coast Survey initiatives were tested during this survey. First, a personnel and data management paradigm was implemented in which a hydrographic team, under the direction of a Lead Hydrographer, was responsible for the oversight of acquisition, processing, and quality control of the data. Upon completion of the survey requirements the team and field certified data were transferred to the branch for final processing, verification and report writing. Second, the survey data were acquired and processed to produce S-57 compliant data for updating a NOAA Electronic Navigational Chart (ENC). As a result, a proposed procedure and product is in development at Pacific Hydrographic Branch.²

One hundred percent shallow-water multibeam (SWMB) coverage was obtained in the survey area in waters 8 meters and deeper.³ In waters from 4 meters to 8 meters, SWMB data were acquired at 25-meter line spacing, and in these areas additional coverage was obtained to ensure least depths over features or shoals and in areas designated as Home Land Security.⁴ Vertical-beam echo sounder (VBES) data were acquired in depths from 4 to 50 meters to define the four-meter curve and to aid in the planning of SWMB data acquisition in areas subject to frequent change.⁵

Data acquisition was conducted from September 13 to September 23, 2002 (DN 256 to 266).⁶

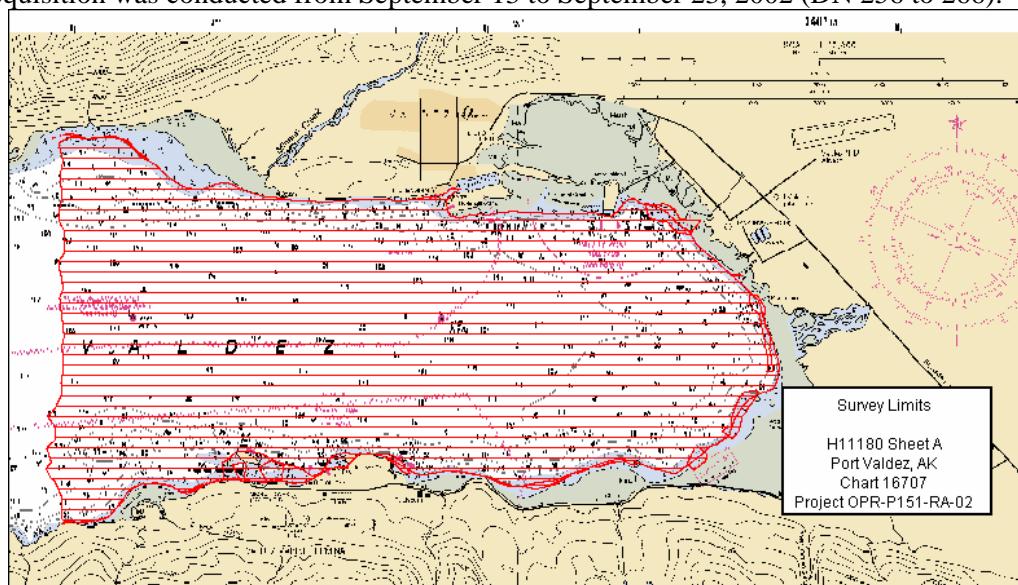


Figure 1. H11180 Survey Limits.

B. DATA ACQUISITION AND PROCESSING

A complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods can be found in the *OPR-P151-RA-02 Data Acquisition and Processing Report*, submitted under separate cover. Items specific to this survey, and any deviations from the aforementioned report are discussed in the following sections.

B1. Equipment and Vessels

Data were acquired by RAINIER survey launches (vessel numbers RA1, RA2, RA4, RA5, and RA6). Vessels RA4, RA5 and RA6 were used to acquire shallow-water multibeam (SWMB) soundings and sound velocity profiles. Vessels RA1 and RA2 were used to acquire vertical-beam echo soundings (VBES), detached positions (DPs) and collect bottom samples.

As a supplemental positioning system, a Trimble GPS Pathfinder ProXRS receiver (backpack system) connected to a Trimble TSC1 data collector, on loan from NOAA's Alaska Navigation Advisor, was used to collect detached positions on navigationally significant high water features (e.g. berths, piers, aids to navigation, etc.) and AWOIS item investigations unreachable by survey launch. Trimble Asset Surveyor version 5.20 was used for data collection. Processing was accomplished using Trimble Pathfinder Office version 2.90, MapInfo version 6.5, Pydro version 2.90 through 2.9.4, and CARIS HIPS version 5.2 using the vessel configuration file "TB_2002". Configuration settings for the TSC1 data collector were as follows: one second logging interval; 30 second to 1 minute occupation time per point; 15 degree elevation mask; PDOP mask of 6; and manual 3D position mode. Initial processing consisted of exported .MIF files for review and comparison to the nautical chart and ortho-photos in MapInfo. Final processing required the manual creation of .tgt files for insertion into Pydro and from that point forward standard processing of detached positions occurred for the inclusion in the Preliminary Smooth Sheet (PSS).

In support of S-57 compliant data, Pydro was modified by Hydrographic Systems and Technology Programs (HSTP) to include a user interface that enabled object selection and attribution of point features. After insertion into Pydro, each detached position was edited to verify the object(s) selection and complete the required and additional attribution. Once encoded, the features were exported as an Access database file .mdb that contains individual tables of each S-57 object for importing into CARIS Hydrographic Object Manager (HOM) via the object import utility.⁷

The traditional fix numbers associated with detached positions (DPs) have been replaced with a unique identifier. The unique identifier consists of the combination of vessel, day number and the numerical sequence, beginning with one, in which the feature was positioned (e.g. the unique identifier 22643 refers to a feature positioned by RA2 on day number 264 and it was the third position taken on that day). Similarly for the Trimble backpack system, but the vessel is "BP" rather than a number (e.g. BP26383 refers to a feature positioned by the backpack on day number 263 and it was the 83rd position taken on that day).

B2. Quality Control

Crosslines

Shallow-Water Multibeam (SWMB) crosslines totaled 11.17 nautical miles, comprising 5.5% of SWMB hydrography. A CARIS HIPS Quality Control Report (QCR) was conducted for each of the three shallow water multibeam acquisition systems used on this survey. The depth tolerance factor for each report was 0.013, which conforms to International Hydrographic Organization Order 1

specifications detailed in Special Publication S-44, Edition 4, as well as NOS Hydrographic Surveys Specifications and Deliverables Manual. See Appendix V for the detailed reports.⁸

Vessel RA4 QCR for the checkline file averaged 35%. Low QCR agreement can be attributed to the extremely steep bathymetry in the survey area. RA4 was used near shore where the steepest gradation occurred (see figure 2). In addition, positional errors of up to 3 meters were observed in these steep sloping areas that are likely due to navigational jumps from satellites entering and leaving the constellation over the fjord at any given time. The associated vertical error on steep slopes can rapidly affect the specified accuracy and therefore cause low checkline agreement. Vessel RA5 and RA6 QCR for the checkline file averaged 70% and 77% respectively. However, the Hydrographer believes through manual examination of the data the accuracy standards have been met and crossline agreement is good.⁹

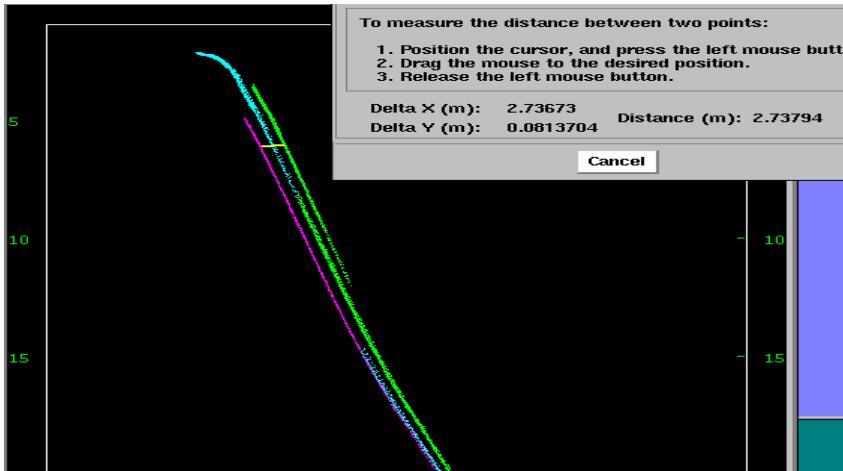


Figure 2. SWMB Slope Offset on RA4

Junctions

No contemporary survey junctions with H11180.¹⁰

Data Quality Factors

Due to melting glacial ice and river runoff a sharp demarcation of water masses was often observed in the field. This proved to be problematic in the acquisition and application of sound velocity correctors and virtually impossible to model the water column. After correction for sound velocity in HDCS, some lines still exhibited the characteristic "frowns" indicative of inaccurate sound velocity corrections despite increased sound velocity casts taken. To account for this, line spacing was reduced to two times the water depth and when necessary lines were filtered 45 degrees from nadir.

In several areas near shore thick eelgrass obscured the detection of the bottom. On the VBES fathograms, acoustic returns from eelgrass usually appeared as a faint trace clearly separated from the bottom that had a darker, more definitive trace. In these cases, the VBES digital data were edited as necessary to reflect the true bottom. In the SWMB data, removal of soundings obtained over eelgrass was not possible in HDCS SwathEdit, as there is no definitive way to determine if a sounding is on a feature such as a rock, or on eelgrass. In HDCS Subset Mode, in some instances, it was possible to discern the true bottom, as eelgrass often appeared as soundings "disconnected" from the continuous bottom. In these instances soundings over eelgrass were rejected. However, when unable to clearly distinguish between the bottom and eelgrass, the eelgrass was not rejected.¹¹ Areas with eelgrass were noted by the Hydrographer during shoreline verification and are also indicated in the "H11180_ShorelineNotes" table of the Detached Position and Bottom Sample Plot.¹²

B3. Data Reduction

Data reduction procedures for survey H11180 conform to those detailed in the *OPR-P151-RA-02 Data Acquisition and Processing Report*.¹³

C. VERTICAL AND HORIZONTAL CONTROL

A complete description of vertical and horizontal control for survey H11180 can be found in the *OPR-P151-RA-02 Horizontal and Vertical Control Report*, submitted under separate cover. A summary of horizontal and vertical control for this survey follows.

Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83).¹⁴ Differential GPS (DGPS) was the sole method of positioning.¹⁵ Differential corrections from U.S. Coast Guard beacon at Potato Point (298 kHz) and Cape Hinchinbrook (292 kHz) were utilized during this survey. Launch-to-launch DGPS performance checks were performed weekly in accordance with Section 3.2 of the FPM. Copies of the performance checks are included in the *OPR-P151-RA-02 Horizontal and Vertical Control Report*.

Vertical Control

The vertical datum for this project is Mean Lower-Low Water (MLLW).¹⁶ The operating National Water Level Observation Network (NWLON) primary tide station at Valdez, AK (945-4240) served as control for datum determination and as the primary source for water level reducers for survey H11180.

All data were reduced to MLLW with unverified observed tides from station Valdez, AK using the tide file 9454240.tid and time and height correctors using the zone corrector file P151RA2002CORP.zdf.

The Pacific Hydrographic Branch will apply final approved (smooth) tides to the survey data during final processing.¹⁷ A request for delivery of final approved (smooth) tides for survey H11180 was forwarded to N/OPS1 on October 4, 2002 in accordance with FPM 4.8. A copy of the request is included in Appendix IV¹⁸.

D. RESULTS AND RECOMMENDATIONS

D.1 Automated Wreck and Obstruction Information System (AWOIS) Investigations

A total of thirteen (13) AWOIS items were located within the limits of H11180 and investigated during this survey. Investigation methods, results, and charting recommendations have been entered into the Microsoft Access AWOIS database and are submitted with the digital data. Printouts of the AWOIS Database forms are included in this report.

D.2 Chart¹⁹

Survey H11180 was compared with chart 16707 (10th Ed.; September 29, 2001; 1:40,000) and Valdez and Valdez Marine Terminal Inset (10th Ed.; September 29, 2001, 1:10,000).²⁰

Chart 16707

Depths from survey H11180 generally agreed with chart 16707 to within one to two fathoms.²¹ Greater differences between adjacent charted and survey soundings can be attributed to the steep and rugged character of the bathymetry, and to increased bottom coverage using SWMB methods.²² In addition, the mud flats at the mouth of the Lowe River, annotated as frequently changing, have migrated approximately 300 meters seaward, resulting in survey depths that are 20 to 25 fathoms shallower than charted depths in this area.²³

Chart 16707 Valdez and Valdez Marine Terminal Inset

Depths from survey H11180 were significantly deeper than chart 16707 Inset between the 50 and 100-fathom contour. The greater differences between charted and survey soundings can be attributed to the steep and rugged character of the bathymetry and to increased bottom coverage using SWMB methods.²⁴

Several submerged obstructions were located immediately east of the City Dock in the general vicinity of 61°07'26.6" N, 146°21'30.2" W; please refer to H11180_AWOIS database item number 52,990 for further details.²⁵

The following three submerged obstructions were located in the SWMB data after the ship left the survey area and the nature of the obstructions were not determined. The least depths on the obstructions are comparable to the charted depth in the area.

A new submerged obstruction was located at 61°07'24.342" N, 146°21'30.268" W (534565.94 E, 6776704.95 N, position # 21/213). The least depth from SWMB (corrected with unverified observed tides) is 14.76 fathoms. The Hydrographer recommends charting a new obstruction at the surveyed position.²⁶

A new submerged obstruction was located at 61°05'16.947" N, 146°24'32.832" W (531869.45 E, 6772737.64 N, position # 712/36) approximately 50 meters northeast of the charted "BM" private mooring buoy. The least depth from SWMB (corrected with unverified observed tides) is 15.9 fathoms. The Hydrographer recommends charting a new obstruction at the surveyed position.²⁷

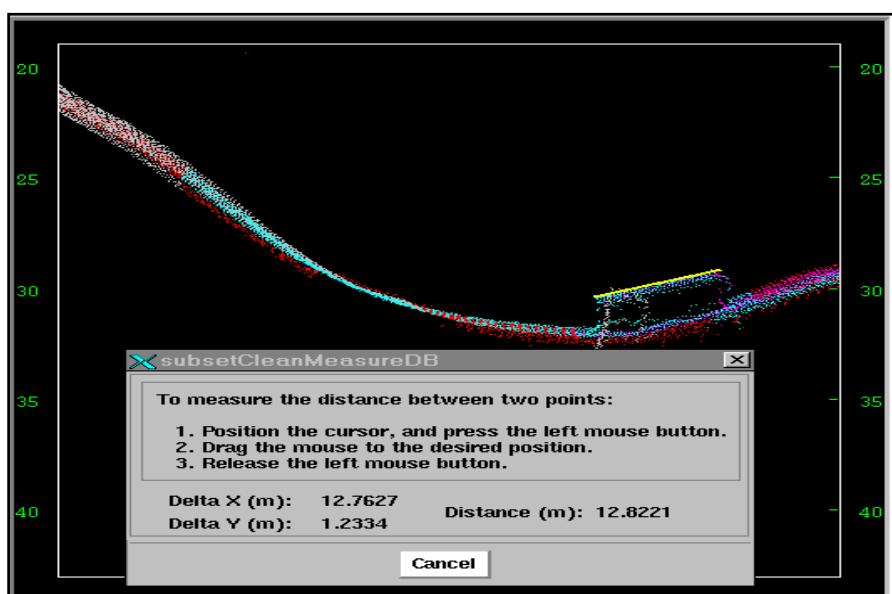


Figure 3. Saw Island Mooring Buoys Obstruction

A new submerged obstruction was located at $61^{\circ}05'13.383''$ N, $146^{\circ}23'56.996''$ W (532407.34 E, 6772632.26 N, position # 375/202). The least depth from SWMB (corrected with unverified observed tides) is 5.01 fathoms. The Hydrographer recommends charting a new obstruction at the surveyed position.²⁸

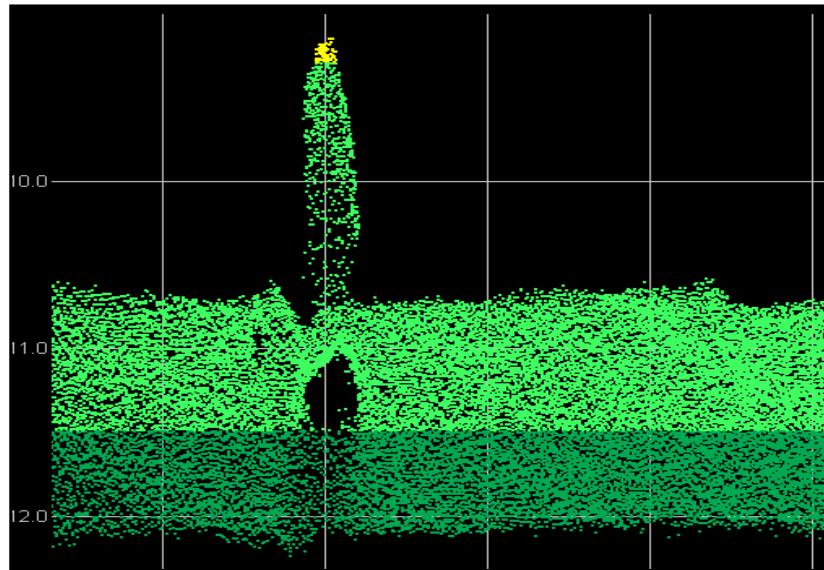


Figure4. Obstruction between Berths 4 and 5

The Hydrographer has determined that data accuracy standards and bottom coverage requirements have been met and survey data are adequate to supersede charted data in their common areas. Final chart comparisons should be made by the cartographer after the application of smooth tides.

D.3 Shoreline

Shoreline Source

Shoreline for this project was from the NOAA ENC US5AK23M digital vector database and supplied by N/CS31 in native format (.000) and as MapInfo tables (.tab) of S-57 objects. Remote Sensing Division N/NGS3 supplied ortho-rectified aerial photography (once compiled this photogrammetry will be the source for the official shoreline) for reference purposes only. In addition, features shown on the current raster edition of chart 16707 that were not depicted on the ENC shoreline were digitized in MapInfo and displayed in Hypack for field verification. The Hydrographer recommends that if processing of the photogrammetric shoreline is complete at the time of cartographic review, revisions and recommendations from the shoreline verification conducted by RAINIER personnel should be incorporated to update the official shoreline.²⁹

Shoreline Verification

Limited shoreline verification was conducted near predicted low water in accordance with the Standing Project Instructions and FPM sections 6.1 and 6.2. Detached positions (DPs) taken during shoreline verification were recorded in HYPACK and on DP forms, and processed in Pydro. These indicate revisions to features and features not found on the verified shoreline. In addition, annotations describing shoreline were recorded on hard copy plots of digital shoreline and included in the accordion file.³⁰ DP forms are included in Section I of the *Separates to be Included with Survey Data*.³¹

A detailed Detached Position and Bottom Sample plot, in both paper copy and MapInfo format, is provided showing all detached positions and bottom samples with notes relating to each feature. The updated shoreline and features are also depicted on the final sounding plot. Verified ENC shoreline that did not require revision are in corresponding object type MapInfo tables and shown in brown. New MHW features and changes to the MHW are displayed in red on the “H11180_ShorelineUpdates” MapInfo table.³²

Source Shoreline Changes and New Features

The new Solomon Gulch Fish Pen (see Figure 5), hatchery barge and oil containment boom buoys were positioned west of Lowe River. The fish pen has been expanded and reconfigured since the acquisition of photogrammetry (photo 2289). The Hydrographer has learned from the hatchery manager that the pen is subject to change based on salmon runs. The Hydrographer recommends charting the Solomon Gulch Fish Pen boundary area based on the buoy positions.³³



Figure 5. Left, 1997 Ortho-Rectified Aerial Photography -Circular Configuration, Right, Current Survey-Rectangular Configuration of the Solomon Gulch Fish Pen

Two new “Fisheries” oil containment boom buoys were located at the following positions:³⁴

Latitude	Longitude	Easting	Northing	Pos. #
61°07'04.947" N	146°16'56.928" W	538663.04	6776147.38	12624
61°07'02.879" N	146°16'55.695" W	538682.19	6776083.61	12625

In addition, the charted mooring buoy at 61°06'58.374" N 146°16'45.854" W (538831.02 E, 6775945.83 N, Pos. # 12626) is, in fact, also a “Fisheries” oil containment boom buoy. The Hydrographer recommends charting the “Fisheries” oil containment boom buoys at the surveyed positions.³⁵

Charted Features

The charted PA mooring buoy at 61°07'13.39" N, 146°17'50.7" W was disproved with a visual and echo sounder search. The mooring buoy was not visible at the surface and was not observed in 100% SWMB coverage. The Hydrographer recommends removing the charted PA mooring buoy.³⁶

The charted PA mooring buoy at 61°06'44.58" N, 146°17'19.39" W was disproved with a visual and echo sounder search. The mooring buoy was not visible at the surface and was not observed in 100%

SWMB coverage.³⁷ Two new mooring buoys at the following locations flank the charted mooring buoy symbol:

Latitude	Longitude	Easting	Northing	Pos. #
61°06'50.296"	146°17'32.203"	538139.97	6775688.34	22605
61°06'39.321"	146°16'54.671"	538705.53	6775354.89	22606

The Hydrographer recommends removing the PA mooring buoy from chart 16707 and charting the two new mooring buoys at the surveyed positions.³⁸

The charted PA poles located in the vicinity of 61°05'15.58" N, 146°16'41.25" W were visually verified above the mean low water line. There are fifteen poles in a row. Due to the shoal nature of the area no further investigation was possible. The Hydrographer recommends retaining the charted poles and removing the PA notation.³⁹

Recommendations

The Hydrographer recommends that the shoreline as depicted on the Detached Position and Bottom Sample plot and Final Field Sheet supersede and complement shoreline information compiled on the ENC and charts as noted.⁴⁰ In addition, field notes made by the Hydrographer, including verification of source features or charted features if no source shoreline was available, are submitted in the digital MapInfo file "H11180_ShorelineNotes."⁴¹

D.4 Dangers to Navigation

Five (5) Dangers to Navigation (DTONs) were found and reported to the Marine Chart Division (MCD) on March 3, 2003. A copy of the Danger to Navigation Report is included in this report.⁴²

D.5 Aids to Navigation

Survey H11180 included twenty-nine aids to navigation (ATONs). Each of the charted ATONs was found to serve its intended purpose; however, it appears that the published positions in the Light List correspond, mainly, to smallest scale chart. In some cases the published positions differed noticeably (70 to 130 meters) from the largest scale chart and surveyed positions. Notable discrepancies were reported to the Seventeenth Coast Guard District with recommendations for correcting the published Light List positions.⁴³ A copy of the correspondence is included in this report.⁴⁴

Listed below are significant discrepancies between ATON positions on the largest scale chart and surveyed positions.

Chart 16707

There are nine (9) new private oil containment boom buoys, of which four are lighted, surrounding the Solomon Gulch Fish Pen and correspond to Light List number 25813. The Hydrographer recommends charting the new mooring buoys as depicted on the MapInfo Detached Position and Bottom Sample Plot.⁴⁵

Chart 16707 Valdez and Valdez Marine Terminal Inset

The charted Port Valdez SERVS Dock Light (LLN 25822) at 61°07'18.47" N, 146°20'35.85" W (535382.05 E, 6776531.41 N, position # 12623) was disproved with a visual search. Two new red lights were positioned at 61°07'18.54" N, 146°20'41.41" W (535298.89 E, 6776532.70 N, position #

226015) and 61°07'19.83" N, 146°20'30.69" W (535458.98 E, 6776574.34 N, position # 226014). The Hydrographer recommends removing the charted SERVS light and charting the two new lights at the surveyed position.⁴⁶

The privately maintained Valdez Marine Terminal Lighted Mooring Buoys (LLN 25753) have been reconfigured. The Hydrographer recommends charting the eight (8) oil containment boom buoys based on the current survey.⁴⁷

All ATONs were positioned with DGPS.

D.6 Miscellaneous

Bottom samples were collected and are depicted on the Detached Position and Bottom Sample Plot.⁴⁸

E. APPROVAL

As Lead Hydrographer, I have ensured that standard field surveying and processing procedures were followed in producing this examination in accordance with the Hydrographic Manual, Fourth Edition, Hydrographic Survey Guidelines, Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables, as updated for 2001.

Field certification and transfer of data from NOAA Ship RAINIER to the Pacific Hydrographic Branch occurred on September 30, 2002. See attached memorandum.

The digital data and supporting records have been reviewed by me, are considered complete and adequate for charting purposes, and are approved.

Survey H11180 is complete and adequate to supersede charted soundings in their common areas. No additional work is required for this survey.⁴⁹

Listed below are supplemental reports submitted separately that contain additional information relevant to this survey:

<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Data Acquisition and Processing Report for OPR-P151-RA-02	10/01/2002	N/CS34
Horizontal and Vertical Control Report for OPR-P151-RA-02	TBD	N/CS34
Coast Pilot Report for OPR-P151-RA-02	TBD	N/CS26

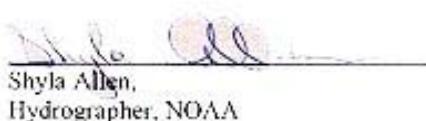
Approved and Forwarded:



Kimberley Sampadian
Lead Hydrographer, NOAA

In addition, the following individuals were also responsible for overseeing data acquisition and processing of this survey:

Survey Sheet Manager:



Shyla Allen,
Hydrographer, NOAA

Revisions Compiled During Office Processing and Certification

¹ Concur

² See attached H-Cell supplemental report.

³ Concur

⁴ Concur

⁵ Concur

⁶ Concur

⁷ Concur

⁸ Filed with the hydrographic records.

⁹ Concur

¹⁰ Survey H11180 junctions with H11181. Survey H11181 is in preliminary office processing and the junction discussion will be addressed in survey H11181 descriptive report.

¹¹ In the areas of eel grass, the data is shoal biased and there is no significant effect to safe navigation.

¹² Eel grass areas have been transferred to the smooth sheet wherever the hydrographer has noted.

¹³ Concur

¹⁴ Concur

¹⁵ Concur

¹⁶ Concur

¹⁷ See attached tide note dated Oct 30, 2002.

¹⁸ Filed with the hydrographic records

¹⁹ The present survey was compared to the following prior surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>
H8899	1966	5,000
H8900	1966	20,000
H8900A	1967	20,000

Prior surveys H-8899, H-8900 and H-8900A cover the entire area of the present survey. The registration of these prior surveys to the present survey was good. The legibility of the three digital copies was good. This area has experienced earthquakes, the latest one was in 1964, possible isostatic rebound and natural accretion and erosional processes. These processes and the greater sounding density and accuracy account for the differences between the present soundings and the prior surveys especially inshore of the 50 fathoms depth curve. In addition, numerous cultural changes to the shoreline have occurred since the prior work. Numerous features were transfer to the present survey especially in the area of submerged ruins and submerged piles at latitude 61°6'47.37N, longitude 146°16'13.15.

With the transfer of features, survey H11180 is adequate to supersede the above prior surveys within the common area.

²⁰ Chart 16707 11th Edition, dated Sept. 1, 2004 was compared to during office processing.

²¹ Concur

²² Concur, differences range from 5-20 fathoms with the present survey reflecting a consistently deeper bias. The areas involved are around steeply sloping bottom and in depths of 50 to over 100 fathoms. Poor echo sounder performance and position over these areas are likely the main factors that have effected the prior depth information.

²³ Concur, chart area according to the smooth sheet.

²⁴ Concur

²⁵ See attached AWOIS form for the charting recommendation for AWOIS item 52990.

²⁶ Concur with clarification, due to scale of the chart, the 15 Obstruction could not be portrayed. A note, *Obstns* has been placed in the vicinity to define numerous obstructions in the survey area. See smooth sheet for depiction of the area.

²⁷ Concur, chart 16 Obstruction at the survey position, see smooth sheet for depiction of the area.

²⁸ Concur, chart 5 Obstruction at the survey position, see smooth sheet for depiction of the area.

²⁹ Concur, the latest CFF shoreline was used for the smooth sheet.

³⁰ Shoreline verification conducted by the hydrographer was analyzed during office processing and shown on the smooth sheet as warranted. Hard copy plots are filed with the hydrographic data.

³¹ Filed with the hydrographic records.

³² Filed with the hydrographic records.

³³ Concur, chart fish pen as shown on the smooth sheet

³⁴ Chart buoys as shown on the smooth sheet.

³⁵ Concur, chart area as shown on the smooth sheet.

³⁶ Concur

³⁷ Concur, remove charted mooring bouy.

³⁸ Concur

³⁹ Concur

⁴⁰ Concur, unless there is more recent photogrammetric shoreline.

⁴¹ Concur, chart area as shown on the smooth sheet

⁴² Concur

⁴³ It is recommended that these aids to navigation be charted with the most recent information from the US CG.

District 17.

⁴⁴ Concur

⁴⁵ Concur, chart area as shown on the smooth sheet.

⁴⁶ Concur

⁴⁷ Concur

⁴⁸ Concur, chart bottom samples as depicted on the smooth sheet.

⁴⁹ Do not concur, additional work on a time available basis is recommended to verify or disprove the features in the vicinity of latitude 61/6/47.37N, longitude 146/16/13.15, latitude 61/7/22N, longitude 146/21/58.46W and latitude 61/7/29N, longitude 146/23/56.8W.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of Marine and Aviation Operations
Marine Operations Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

NOAA Ship RAINIER
September 30, 2002

MEMORANDUM FOR: Commander John E. Lowell, NOAA
Chief, Pacific Hydrographic Branch

James C. Gardner
Captain James C. Gardner, NOAA
Commanding Officer

SUBJECT: Field certification and transfer of data for hydrographic survey
H11180

Custody of data for hydrographic survey H11180 is hereby transferred from NOAA Ship RAINIER to the Pacific Hydrographic Branch. Survey coverage and data accuracy requirements have been met in accordance with Project Instructions, the NOS Hydrographic Surveys Specifications and Deliverables Manuals, and the Field Procedures Manual. All data have been subject to preliminary shipboard data processing and quality assurance procedures.

Please refer to the enclosed Letter Transmitting Data for a complete list of deliverables and data submitted to the Pacific Hydrographic Branch.

Acceptance: I hereby concur and accept custody of data for hydrographic survey H11180 on behalf of the Pacific Hydrographic Branch.

Kim Sampadian

Kim Sampadian, Lead Hydrographer

Enclosure



Danger to Navigation Report

Hydrographic Survey Registry Number: H11180

Survey Title: State: Alaska
Locality: Prince William Sound
Sub-locality: Eastern Port Valdez and Valdez Harbor

Project Number: OPR-P151-RA-02

Survey Dates: September 13-23, 2002

Depths are reduced to Mean Lower Low Water using unverified observed tides.
Positions are based on the NAD83 horizontal datum.

CHARTS AFFECTED:

Chart	Scale	Edition	Date
16707	1:40,000	10 th	9/29/01
16707 inset	1:10,000	10 th	9/29/01
16708	1:79,291	25 th	10/6/01

DANGERS:

Feature	Depth	Latitude (N)	Longitude (W)
Shoal	7 fathoms 3 feet	61°05'22.55"	146°25'21.33"
Shoal	6 fathoms 5 feet	61°05'20.58"	146°25'42.04"
Shoal	8 fathoms 4 feet	61°05'19.55"	146°25'17.28"
Shoal	5 fathoms 2 feet	61°05'19.91"	146°25'00.57"
Shoal	0 fathoms 0 feet	61°05'27.52"	146°17'00.94"

COMMENTS:

Questions concerning this report should be directed to the Chief, Pacific Hydrographic Branch (N/CS34), at 526-6836.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF COAST SURVEY
Pacific Hydrographic Branch
Seattle, Washington 98115-6349

April 18, 2003

Commander
Seventeenth Coast Guard District
PO Box 25517
Juneau AK 99802-5517
Staff Symbol: OAN
Att: E. Sinclair

Commander, Seventeenth Coast Guard District:

As part of the RAINIER's scheduled survey operations in Valdez, Alaska, several aids to navigation (ATONs) were positioned to NOS hydrographic standards. NOAA Chart 16707 and inset (10th Edition corrected through NTM 14/03) and the USCG Light List were evaluated for agreement with the surveyed positions. In all cases the charted position of each ATON was found to be in agreement, or differ by a small amount that is not navigationally significant. These minor chart corrections will be reflected in the next edition of the chart.

In some cases the Light List published positions for fixed private aids differed noticeably (120 to 170 meters) from the results of the surveyed positions. Attached find corrections recommended for the USCG Light List, Volume VI, Edition 2003, corrected through NTM 14/03. Existing text is shown in black (listed first for each ATON) with the corresponding recommended correction listed below it in red.

For any questions please contact me at the Pacific Hydrographic Branch at 206.526.6836.

Sincerely,

John E. Lowell, Jr.
Chief, Pacific Hydrographic Branch

Attachment



Hydrographic Survey Registry Number: H11180

Survey Title:

State: Alaska

Locality: Prince William Sound

Sub-locality: Eastern Port Valdez and Valdez Harbor

Project Number:

OPR-P151-RA-02

Survey Dates:

September 13-23, 2002

CHARTS AFFECTED:

<u>Chart</u>	<u>Scale</u>	<u>Edition</u>	<u>Date</u>
16707	1:40,000	10 th	9/29/01
16707 inset	1:10,000	10 th	9/29/01
16708	1:79,291	25 th	10/6/01

LIGHT LIST:

<u>No</u>	<u>Name and Location</u>	<u>Position</u>
25822	PORT VALDEZ SERVS DOCK LIGHTS (2)	No position 61-07-18.54 N 146-20-41.41 W 61-07-19.83 N 146-20-30.69 W
25780	BREAKWATER LIGHT	61 05 10 N 146 23 37 W 61-05-13.1 N 146-23-28.18 W
25755	BERTH 5 LIGHTS (2)	61 05 22 N 146 24 37 W 61-05-25.52 N 146-24-28.07 W 61-05-20.79 N 146-24-04.17 W
25765	BERTH 4 LIGHTS (2)	61 05 16 N 146 24 01 W 61-05-20.44 N 146-24-00.34 W 61-05-17.56 N 146-23-30.7 W
25785	BERTH 3 LIGHTS (2)	61 05 16 N 146 23 13 W 61-05-19.44 N 146-23-09.48 W 61-05-24.78 N 146-22-50.65 W

Positions are based on the NAD83 horizontal datum.

RECRD 52988 VESSLTERMS OBSTRUCTION CHART 16707 AREA P
CARTOCODE 067 SNDINGCODE DEPTH

LAT83 61/07/38.04 LONG83 146/20/10.51 NATIVDATUM 06
LATDEC: 61.127233333333 LONDEC: 146.33625277778 GPQUALITY High
GPSOURCE Direct

PROJECT OPR-P151 ITEMSTATUS Assigned SEARCHTYPE Full
RADIUS 100 INIT DAS ASSIGNED 8/28/2002
TECHNIQ SD, VS, DI, ES, HRSWMB, HRSSS

Technique

History HISTORY
T12657, T12658--1977, 1:5000 NOS Class III Photo/topo, charted as part of a jetty in ruins through CL805/74 and BP99874 at Lat. 61°07'39N, Lon. 146°20'02W.
ENC US5AK23M/2002-- Shoreline construction, ENC SLCONS object provided on Project CD as MapInfo table AWOIS_52988_SLCONS.lab.. Investigation radius center position scaled in MapInfo at lat. 61°07'38.04N, lon. 146°20'10.51W from center of ENC jetty extents. (ENT DAS 28 Aug 2002)

Fieldnote INVESTIGATION
DATE(S): 09/21/02 (DN: 264)
HYDROGRAPHIC SURVEY NUMBER: H11180
VN: NA TIME: 16:38:08
INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) VS
SURVEYED POSITION: LAT. 61°07'39.201" LON. 146°20'12.876" 535719.45 E 6777176.22 N
LAT. 61°07'32.428" LON. 146°19'58.622" 535934.87 E 6776968.85 N
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: The charted (16707 Inset) "Jetty in Ruins" is above the MLLW line. The extents were obtained with a Trimble Pathfinder Pro XRS receiver backpack system (position # BP2642 and BP2641).
See digital photograph AWOIS_52988
CHARTING RECOMMENDATION (HYDROGRAPHER): Modify charted ruins to reflect the new seaward most extent.
EVALUATOR COMMENTS: Concur, chart feature as shown on the smooth sheet.

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Print Record

RECRD	52989	VESLTERMS	OBSTRUCTION	CHART	16707	AREA	<input type="checkbox"/>
		CARTOCODE	067	SNDINGCODE	<input type="checkbox"/>	DEPTH	<input type="checkbox"/>
LAT83	61/07/31.14	LONG83	146/21/7.70	NATIVDATUM	<input type="checkbox"/>		
LATDEC:	61.125316666667	LONDEC:	146.35213888889	GPQUALITY	High		
				GPSOURCE	Direct		
PROJECT	OPR-P151	ITEMSTATUS	Assigned	SEARCHTYPE	Full		
RADIUS	50	INIT	DAS	ASSIGNED		8/28/2002	
TECNIQ	SD, VS, DI, ES, HRSWMB, HRSSS						
Technique note							
History	HISTORY T12657, T12658-1977, 1:5000 NOS Class III Photo/lope, added 4 dolphins not shown on BP102650 as submerged. CL450/77, BP99675, USCG Site Plan for new concrete float in Valdez Small Boat Harbor (5/12/75). References L-1617 (year not specified). 7 pile dolphins to be cut off 1'0" max. above bottom charted as submerged. Carted positions derived from T12657. ENC US5AK23M/2002- Shoreline construction, ENC MORFAC objects provided on Project CD as MapInfo table AWOIS_52989_MORFAC.tab. Investigation radius center positon scaled in MapInfo from center of ENC PONTON object concrete pier at Lat. 61/07/31.14N, Lon. 146/21/7.70W. (ENT DAS 28 Aug 2002)						
Fieldnote	INVESTIGATION DATE(S): 9/22/02 (DN:265) HYDROGRAPHIC SURVEY NUMBER: H11180 VN: 2121 TIME: 18:43:21 INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) Visual and echo sounder searches were conducted during shoreline verification. 100% SWMB coverage was obtained where possible. SURVEYED POSITION: LAT. 61°07'31.301" LON. 146°21'06.840" POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: A visual and shallow-water multibeam search disproved the existence of the seven charted dolphins. Since water visibility was reduced to a meter or less due to glacial and river run off a 0.25 meter digital terrain model (DTM) was created. No piles were detected in the SWMB during acquisition, processing or in the DTM. Vessel speed was limited to less than 3 knots to ensure object detection. Furthermore, the new pier is actively used by the USCG which docks directly over the charted position of five of the dolphins. The least depth for the East side of the pier is 2.0 fathoms (3.6 meters). Two dolphins, in a row, were observed on the West side of the pier. The seaward dolphin is located at 61°07'31.81" N, 146°21'08.66" W (534887 E, 6776939.3 N Position # 12647). These two dolphins are also depicted on the digital ortho photograph (2279_1) supplied from RSD as a reference. See digital photographs AWOIS_52989_Overview, AWOIS_52989_S_Seaward and AWOIS_52989_facing_north CHARTING RECOMMENDATION (HYDROGRAPHER): Remove all charted (16707 and Inset) dolphins and chart two dolphins in a row at the surveyed position. EVALUATOR COMMENTS: Concur, chart dots as shown on the smooth sheet.						

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Print Record

RECORD	52990	VESLTERMS	OBSTRUCTION	CHART	16707	AREA	P
CARTOCODE	067		SNDINGCODE			DEPTH	

LAT83	61/07/26.71	LONG83	146/21/27.10	NATIVDATUM	06
LATDEC:	61.124086111111	LONDEC:	146.35752777778	GPQUALITY	High

PROJECT	OPR-P151	ITEMSTATUS	Assigned	SEARCHTYPE	Full
RADIUS	50	INIT	DAS	ASSIGNED	8/28/2002
TECHNIQ	VS, ES, DI, HRSWMB, HRSSS				

Technique

History	HISTORY CL17/69--ACOE site plan for Port Valdez Wharf and approach dated 1/14/69. Dolphin not shown on BP102650 (1977 photo) and carried forward as submerged. ENC US5AK23M/2002-- Obstruction, ENC OBSTRN object provided on Project CD as MapInfo table AWOIS_52990_OBSTRN.tab. Investigation radius center position scaled in MapInfo from ENC OBSTRN object, submerged dolphin at Lat. 61/07/26.71N, Lon. 146/21/27.10W. (ENT DAS 28 Aug 2002)
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Fieldnote	INVESTIGATION DATE(S): 09/22/2002 (DN:265) HYDROGRAPHIC SURVEY NUMBER: H11180 VN: 2124 TIME: See Below INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) VS, ES, and SWMB SURVEYED POSITIONS: (New) 61°07'26.56" 146°21'30.22" (534566 N, 6776773.5 E) Time 00:14:35 Depth 4.03 Fathoms Submerged Obstruction (New) 61°07'27.24" 146°21'30.41" (534563 N, 6776794.6 E) Time 00:16:12 Depth 1.26 Fathoms Submerged Obstruction (Chd) 61°07'26.97" 146°21'27.17" (534611 N, 6776785.7 E) Time 23:32:23 Depth 0.08 Fathom Submerged Dolphin POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: One hundred percent shallow-water multibeam was obtained to the limits of safe navigation. The charted submerged dolphin was found with SWMB. Two new submerged obstruction were also found within the search radius with SWMB. The Hydrographer does not believe that the new obstructions are submerged dolphins. See CARIS screen grab AWOIS_52990 CHARTING RECOMMENDATION (HYDROGRAPHER): Chart submerged obstructions and dolphin at surveyed positions. EVALUATOR COMMENTS: Concur with clarification, chart submerged dol at survey position. Several obstructions were found in the area of the AWOIS item. Due to the scale of the chart, only two obstructions, with a least depth of 1.3 fathoms and 5.5 fathoms at MLLW are recommended to chart. See smooth sheet for depiction of the obstructions.
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Print Record

RECRD	52991	VESSELTERMS	OBSTRUCTION	CHART	16707	AREA	P
		CARTOCODE	085	SNDINGCODE		DEPTH	
LAT83	61/07/26.49	LONG83	146/21/20.01	NATIVEDATUM	06		
LATDEC:	61.124025	LONDEC:	146.35555833333	GPQUALITY	High		
				GPSOURCE	Direct		
PROJECT	OPR-P151	ITEMSTATUS	Assigned	SEARCHTYPE	Full		
RADIUS	50	INIT	DAS	ASSIGNED		8/28/2002	
TECHNIQ	VS, ES, DI, HRSWMB, HRSSS						
Technique note							
History	<p>HISTORY CL17/69--ACOE site plan for Port Valdez Wharf and approach dated 1/14/69. Mooring deadman applied through BP102650 (1977 photo) and T12657 charted as dolphin and obstruction at above location. L1471/84--OPR-P132-DA-84, Reconnaissance survey, Chart comparison Item 3. The dolphin charted at lat. 61/07.47N, lon. 146/21.33W from information provided by the Valdez Dock Company (CL17B/69) subsequent to the present survey should be retained on the chart. ENC US5AK23M/2002-- Mooring/warping facility, ENC MORFAC object provided on Project CD as MapInfo table AWOIS_52991_MORFAC.tab. Investigation radius center position scaled in MapInfo from ENC MORFAC object, dolphin and obstruction at Lat. 61/07/26.49N, Lon. 146/21/20.01W. (ENT DAS 28 Aug 2002)</p>						
Fieldnote	<p>INVESTIGATION</p> <p>DATE(S): 09 / 22/02 (DN:265)</p> <p>HYDROGRAPHIC SURVEY NUMBER:H11180</p> <p>VN: 2121 TIME: 18:30:53</p> <p>INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) Visual and echo sounder searches were conducted during shoreline verification. SWMB coverage was obtained where possible.</p> <p>SURVEYED POSITION: Disposal position of Charted Dol: LAT. 61°07'26.49" LON. 146°21'20.01"</p> <p>New Piles: LAT. 61°07'24.93" LON. 146°21'22.49" 534682.21 E 6776724.34 N LAT. 61°07'25.17" LON. 146°21'23.83" 534682.00 E 6776731.38 N</p> <p>POSITION DETERMINED BY: DIFFERENTIAL GPS</p> <p>INVESTIGATION SUMMARY: The dolphin and obstruction are charted above the MLLW line and were not observed during shoreline verification nor were they observed by personnel walking the shore at low water. A shallow water multibeam line was run at high water over the charted position and the mooring deadman was not observed during acquisition or processing.</p> <p>Two new piles were observed (position # 12645 and 12646) just outside the AWOIS radius.</p> <p>See digital photographs AWOIS_52991_view looking north and AWOIS_52991_view looking south</p> <p>CHARTING RECOMMENDATION (HYDROGRAPHER): Remove dol and Obstn from chart and chart two new piles at surveyed position.</p> <p>EVALUATOR COMMENTS: Concur</p>						

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Print Record

RECRD 52992 VESSLTERMS OBSTRUCTION CHART 16707 AREA P
CARTOCODE 067 SNDINGCODE DEPTH

LAT83 61/07/13.52 LONG83 146/17/17.72 NATIVDATUM 06
LATDEC: 61.1204222222 LONDEC: 146.26825555556 GPQUALITY Low
GPSOURCE Scaled

PROJECT OPR-P151 ITEMSTATUS Assigned SEARCHTYPE Full
RADIUS 200 INIT DAS ASSIGNED 8/26/2002
TECHNIQ VS, ES, DI, HRSWMB, HRSSS
Techniqnote Verify or disprove existence of charted piles and pier ruins in water depths less than 20 fathoms within search radius.

History HISTORY
CL257/15--The dock at Valdez, extending out from the triangulation station "North Base" has been destroyed. Location of pier indicated on chart No. 8519.
H08493/59--The pier in ruins charted in lat. 61/05.28, lon. 146/17.98 and lat. 61/05.2, lon. 146/21.0 from BP70279 were previously charted as piers from CL257/15 and CL470/12 respectively. These ruins were not disproved by the present survey and should be retained on the chart.
BP102650/77--Dock not shown on BP102650 (1977 photo) and carried forward as submerged.
ENC US5AK23M/2002-- Charted submerged piles and ruins, ENC SLCONS objects as piles in ruins and ENC OBSTR objects as piles provided on Project CD as MapInfo table AWOIS_52992_SLCONS.tab and AWOIS_52992_OBSTRN.tab. Investigation radius center position scaled in MapInfo from ENC OBSTRN object, seaward-most pile at Lat. 61/07/13.52N, Lon. 146/17/17.72W. (ENT DAS 28 Aug 2002)

Fieldnote INVESTIGATION
DATE(S): 09/21/02 (DN:264)
HYDROGRAPHIC SURVEY NUMBER:H11180
VN: 2121 TIME: 22:05
INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) Visual and echo sounder searches were conducted during shoreline verification. SWMB coverage was obtained where possible.
SURVEYED POSITION: LAT. LON.
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: Numerous pile ruins were observed above the MLLW line during shoreline verification. The piles are approximately one meter high and submerge at higher stages of water. Due to the shoal nature of the area no further investigation was possible.
See digital photograph AWOIS_52992_Piles_on_beach and AWOIS_52992_Piles_on_beach_NE_by_wreck
CHARTING RECOMMENDATION (HYDROGRAPHER): Retain as charted
EVALUATOR COMMENTS: Concur with clarification, two rows of piles and two subm piles were transferred from prior survey H8899(1967). Chart area according to the smooth sheet.

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Print Record

RECRD 52993 VESLTERMS OBSTRUCTION CHART 16707 AREA P
CARTOCODE 067 SNDINGCODE DEPTH

LAT83 61/06/46.81 LONG83 146/16/19.44 NATIVDATUM 06
LATDEC: 61.113002777778 LONDEC: 146.272066666667 GPSOURCE Low
GPQUALITY Scaled

PROJECT OPR-P151 ITEMSTATUS Assigned SEARCHTYPE Full
RADIUS 300 INIT DAS ASSIGNED 8/28/2002
TECNIQ VS, ES, DI, HRSWMB, HRSSS
Techniqnote Verify or disprove existence of charted piles and pier ruins in water depths less than 20 fathoms within search radius.

History HISTORY
CL257/15-The east dock extending out from the town is in good condition and belongs to and is operated by the city of Valdez. Location of pier indicated on chart No. 8519. Dock not shown on BP102650 (1977 photo) and carried forward as submerged. ENC US5AK23M/2002- Charted submerged piles and ruins, ENC SLCONS objects as piers in ruins and ENC OBSTR objects as piles provided on Project CD as MapInfo table AWOIS_52992_SLCONS.tab and AWOIS_52992_OBSTRN.tab. Investigation radius center position scaled in MapInfo from ENC OBSTRN object, seaward-most pile at Lat. 61/06/46.81N, Lon. 146/16/19.44W. (ENT DAS 28 Aug 2002)

Fieldnote INVESTIGATION
DATE(S): 09/20/02 (DN: 263)
HYDROGRAPHIC SURVEY NUMBER:H11180
VN: 2122 TIME:18:39:28.00
INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) Visual and SWMB
SURVEYED POSITION: LAT.61-06-45.17 N LON.146-16-16.4 W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: The pier ruins which consist of three (3) rows of piles were located during shoreline verification (position # 22807). In addition two new pile ruins were located near shore (position # 22608 and 22609). The area between position 22607 and 22608 is considered foul with piles.
See digital photograph AWOIS_52993, AWOIS_52993_22608 and AWOIS_52993_22609
CHARTING RECOMMENDATION (HYDROGRAPHER): Retain piles as charted and add two new piles based on current survey positions and a "piles" notation.
EVALUATOR COMMENTS: Concur with clarification, rows of piles and subm piles were transferred from prior survey H8899(1967). Chart area according to the smooth sheet. Whole area should be charted as foul with piles.

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Print Record

RECRD	52994	VESLTERMS	OBSTRUCTION	CHART	16707	AREA	P
		CARTOCODE	067	SNDINGCODE		DEPTH	
LAT83	61/06/37.87	LONG83	146/16/03.32	NATIVDATUM	06		
LATDEC:	61.110519444444	LONDEC:	146.267588888889	GPQUALITY	Low		
				GPSOURCE	Scaled		
PROJECT	OPR-P151	ITEMSTATUS	Assigned	SEARCHTYPE	Full		
RADIUS	300	INIT	DAS	ASSIGNED		8/27/2002	
TECNIQ	VS, ES, DI, HRSWMB, HRSSS						
Techniqnote	Verify or disprove existence of charted ruins in water depths less than 20 fathoms within search radius.						
History	HISTORY CL257/15-The west in good condition and belongs to and is operated by the Valdez Dock Company. Location of pier indicated on chart No. 8519. Dock not shown on BP102650 (1977 photo) and carried forward as submerged. H8493/59—Coast Pilot notes: The Union Oil Copany has built a fuel receiving station at lat 61/06/35N, lon. 146/16/11W about 250 yards south of the cannery wharf. A pipeline extending from shore terminates in a pile supported wooden platform about 12 feet square. Cluster piles lie to the north and south of the platform. ENC US5AK23M/2002—Charted submerged ruins, ENC SLCONS objects as piers in ruins provided on Project CD as MapInfo table AWOIS_52994_SLCONS.tab . Investigation radius center positon scaled in MapInfo from ENC SLCONS object, center of ruins at Lat. 61/06/37.87N, Lon. 146/16/03.32W. (ENT DAS 28 Aug 2002)						
Fieldnote	INVESTIGATION DATE(S): 09/17/02 (DN:260) HYDROGRAPHIC SURVEY NUMBER: H11180 VN: 2124 TIME:21:46 INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) VS, VBES, SWMB SURVEYED POSITION: LAT. LON. POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: The submerged ruins were not observed during shoreline verification or in SWMB during aquistion or processing. Depths range from 0 fathom near shore to 48 fathoms seaward. There was no indication visually or in the SWMB that submerged ruins exist. Numerous piles were observed above the MLLW that were, at one time, probably associated with the charted pier in ruins. CHARTING RECOMMENDATION (HYDROGRAPHER): Remove submerged ruins and retain, as charted, pier in ruins. EVALUATOR COMMENTS: Concur with clarification, remove charted pier in ruins. Chart pipeline ruins, features was transferred from prior survey H8899(1967). Remove charted subm ruins at latitude 61/6/38.50N, longitude 146/16/9.8W. Chart area as foul with piles and the single feature as pipeline ruins. See smooth sheet for depiction of the area.						

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Print Record

RECRD	52995	VESLTERMS	OBSTRUCTION	CHART	16707	AREA	P
		CARTOCODE	067	SNDINGCODE		DEPTH	
LAT83	61/06/50.31	LONG83	146/16/26.45	NATIVDATUM			
LATDEC:	61.113975	LONDEC:	146.27401388889	GPQUALITY	High		
				GPSOURCE	Direct		
PROJECT	OPR-P151	ITEMSTATUS	Assigned	SEARCHTYPE	Full		
RADIUS	300	INIT	DAS	ASSIGNED	8/28/2002		
TECNIQ	VS, ES, DI, HRSWMB, HRSSS						
Techniqnote	Verify or disprove existence of charted piles and pier ruins in water depths less than 20 fathoms within search radius.						
History	HISTORY CL17/69—Chart Correction Letter - CFA/CG&S 8551. Follow up of ACOE permits on 7 January 1969 confirms completion of Passage Canal rail barge terminal for Puget Sound Alaska Van Lines, July 15, 1965. Dock not shown on BP102650 (1977 photo) and carried forward as submerged. ENC US5AK23M/2002—charted submerged piles and ruins, ENC SLCONS objects as piers in ruins and ENC OBSTR objects as piles provided on Project CD as MapInfo table AWOIS_52995_SLCONS.tab and AWOIS_52995_OBSTRN.tab. Investigation radius center position scaled in MapInfo from ENC OBSTRN object, seaward-most pile at Lat. 61/06/50.31N, Lon. 146/16/26.45W. (ENT DAS 28 Aug 2002)						
Fieldnote	INVESTIGATION DATE(S): 09/17/02 (DN:260) HYDROGRAPHIC SURVEY NUMBER:H11180 VN:2122 TIME:18:39:28 INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) VS, ES SURVEYED POSITION: LAT. 61°06'49.369" N LON. 146°16'17.746" W 539258.56 E 6775574.43 N POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: Numerous piles were observed above the MLLW that were, at one time, probably associated with the charted pier in ruins. The seaward most extent of the charted pile ruins (position # 226010) was located during shoreline verification. Area is considered foul with piles. See digital photograph AWOIS_52995_226010 and AWOIS_52995_226010_overview CHARTING RECOMMENDATION (HYDROGRAPHER): Chart area based on the current survey with a "piles" notation. EVALUATOR COMMENTS: Concur with clarification, rows of piles and subm piles were transferred from prior survey H8899(1967). Whole area should be charted as foul with piles. Chart area according to the smooth sheet.						

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Print Record

RECRD 52996 VESSLTERMS OBSTRUCTION CHART 16707 AREA P
CARTOCODE 067 SNDINGCODE DEPTH

LAT83	61/07/19.02	LONG83	146/17/40.24	NATIVDATUM	06
LATDEC:	61.12195	LONDEC:	146.294511111111	GPQUALITY	High
				GPSOURCE	Direct

PROJECT	OPR-P151	ITEMSTATUS	Assigned	SEARCHTYPE	Full
RADIUS	200	INIT	DAS	ASSIGNED	8/28/2002
TECHNIQ	VS, ES, DI, HRSWMB, HRSSS				
Technique	Verify or disprove existence of charted piles and pier ruins in water depths less than 20 fathoms within search radius.				

History HISTORY
H8900/66- Chart comparison: Item 4, The barge dock charted at lat. 61/07.2, lon. 146/16.7 from ACOE information (CL17-A/69 and CL1264/70) subsequent to the present survey should be retained on the chart.
BP124062/84-Item 20, Added obstruction symbol and extended curve at lat 61/07/23.79N, lon. 146/17/33.58W.
L1471/84-OPR-P132-DA-84, Reconnaissance survey in the vicinity of Valdez Transshipment Facility, Two submerged obstructions shown on the chart adjacent to the suvey area were investigated. The source of the obstructions was learned by telephone from N/CG241 to be the latest photogrammetric information available for the area. A single length of 1" pipe which uncovers 9.6 feet at MLLW was found on the area. Survey personnel attempted to dislodge the pipe but were unsucsessful. It is recommended that the submerged obstructions be retained as shown on the chart as their existence was not disproved and that a visible pipe also be shown on the chart at lat. 61/07/23.79N, lon. 146/17/33.58W.
ENC US5AK23M/2002- Charted submerged piles and ruins, ENC SLCONS objects as piers in ruins and ENC OBSTR objects as piles provided on Project CD as MapInfo table AWOIS_52996_OBSTRN.tab. Investigation radius center positon scaled in MapInfo from center of ENC OBSTRN object, unsurveyed area at Lat. 61/07/19.02N, Lon. 146/17/40.24W. (ENT DAS 28 Aug 2002)

Fieldnote INVESTIGATION
DATE(S): 09/22/02 (DN:265)
HYDROGRAPHIC SURVEY NUMBER:H11180
VN:2124 TIME: NA
INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) VBES, SWMB and VS
SURVEYED POSITION: See below
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: The three charted submerged obstructions were rigorously investigated during shoreline verification. One hundred percent shallow-water multibeam was also obtained where possible and VBES splits were run at 25 meter line spacing between the approximate zero fathom contour to the extent of the SWMB.
The charted submerged obstructions at 61-07-16.01 N, 146-17-38.12 W, 61-07-20.47 N, 146-17-40.92 W, and 61-07-22.32 N 146-17-41.04 W, were disproved with one hundred percent shallow-water multibeam. Furthermore, the items were investigated during a negative stage of tide that exposes the sandy beach area. The Hydrographer has confidence that the submerged obstructions do not exist.
CHARTING RECOMMENDATION (HYDROGRAPHER): Remove the three submerged obstructions and danger curve from chart 16707.
EVALUATOR COMMENTS: Concur, chart according to the smooth sheet.

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Print Record

RECRD	52997	VESLTERMS	OBSTRUCTION	CHART	16707	AREA	P
		CARTOCODE	100	SNDINGCODE		DEPTH	
LAT83	61/05/20.31	LONG83	146/18/05.30	NATIVDATUM	06		
LATDEC:	61.088975	LONDEC:	146.3014722222	GPOQUALITY	High		
				GPSOURCE	Direct		
PROJECT	OPR-P151	ITEMSTATUS	Assigned	SEARCHTYPE	Full		
RADIUS	300	INIT	DAS	ASSIGNED		8/28/2002	
TECNIQ	VS, ES, DI, SWMB, HRSWMB, HRSSS						
Techniqnote	Verify or disprove existence of charted wreck and pier ruins in water depths less than 20 fathoms within search radius.						
History	HISTORY Charted ruins and dangerous submerged wreck. Source of wreck unknown. CL257/15-Midas Copper Mine/Granby Smelting Co. approximate location of pier indicated on chart No. 8519. BP102650/77-Dock not shown on BP102650 (1977 photo) and carried forward as submerged ruins. CL1264/70-ACOE application from Hydro-Train, P.O. Box 592, Anchorage, AK 99501, for permit to expand present facility by dredging and placing fill material to construct barge dock near Valdez Alaska. Location of proposed construction indicated on inset. ENC US5AK23M/2002- Charted submerged wreck and ruins. ENC SLCNS object as pier in ruins and ENC OBSTR object as wreck provided on Project CD as MapInfo tables AWOIS_52997_SLCNS.tab and AWOIS_52997_WRECKS.tab. Investigation radius center position scaled in MapInfo from center of ENC WRECKS object, submerged wreck at Lat. 61/05/20.31N, Lon. 146/18/05.30W. (ENT DAS 28 Aug 2002)						
Fieldnote	INVESTIGATION DATE(S): 09/20/02 (DN:263) HYDROGRAPHIC SURVEY NUMBER:H11180 VN: 2121 TIME: See Below INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) Visual, VBES, SWMB SURVEYED POSITION: LAT. 61-05-21.11 N LON. 146-18-05.77 W Time 15:37:17 DN 263 Pos. # 12631 LAT. 61-05-19.49 N LON. 146-18-05.51 W Time 18:13:01 DN 262 Pos. # 12627 POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: A visual search verified the seaward most extent of the pier ruins (Pos. # 12631) as well as the high point (Pos. # 12627). The charted dangerous submerged wreck was disproved with a visual and echo sounder search. The depths in the vicinity of the charted wreck symbol are less than a fathom and the investigation was conducted at a stage of tide at or below MLLW. The Hydrographer is confident that the charted wreck is in fact the extent of pier ruins and sand bar that expose at MLLW. A VBES buffer line was also obtained around the extents of the sand bar (LN 400_1806, VN 2121, DN 262) which corresponds to the extents of the charted wreck symbol. See digital photograph 12627_12631 CHARTING RECOMMENDATION (HYDROGRAPHER): Remove charted wreck symbol and depict pier ruins and the shoreward extent of the sand bar based on the current survey. EVALUATOR COMMENTS: Concur with clarification, remove charted wreck and chart piles in ruins as found by the hydrographer. Retain inshore ruins at latitude 61/5/14.28N, longitude 146/18/3.89W. See smooth sheet for depiction of the area.						

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Print Record

RECRD	52998	VESLTERMS	OBSTRUCTION	CHART	16707	AREA	P
CARTOCODE	067		SNDINGCODE			DEPTH	

LAT83	61/05/13.40	LONG83	146/21/48.16	NATIVDATUM	06
LATDEC:	61.087055555556	LONDEC:	146.363377777778	GPQUALITY	High
				GPSOURCE	Direct

PROJECT	OPR-P151	ITEMSTATUS	Assigned	SEARCHTYPE	Full
RADIUS	50	INIT	DAS	ASSIGNED	8/28/2002
TECNIQ	VS, ES, DI, SWMB, HRSWMB, HRSSS				
Techniqnote	Verify or disprove existence of charted dolphins and obstruction area in water depths less than 20 fathoms within search radius.				

History	HISTORY BP102657/77-- TP-00476/66, Class III Map, Piles applied through BP102657 as described in DR with no field edit. Revised to dolphins through Class I map. ENC US5AK23M/2002-- Charted dolphins and obstruction area, ENC MORFAC objects as dolphins and ENC OBSTR object as obstruction area provided on Project CD as MapInfo tables AWOIS_52998_MORFAC.tab and AWOIS_52997_OBSTRN.tab. Investigation radius center position scaled in MapInfo from center of ENC OBSTRN, obstruction area at Lat. 61/05/13.40N, Lon. 146/21/48.16W. (ENT DAS 28 Aug 2002)
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Fieldnote	INVESTIGATION DATE(S): 09/20/02 (DN:263) HYDROGRAPHIC SURVEY NUMBER: H11180 VN: 2121 TIME:15:51 INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) Visual SURVEYED POSITION: LAT.61-05-14.94 N LON. 146-21-48.68 W POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: The charted dolphins were investigated during shoreline verification using a visual search. Further investigation was not possible due to the shoal nature of the area. The dolphins were not verified and may be submerged. CHARTING RECOMMENDATION (HYDROGRAPHER): Retain as charted with a submerged notation. EVALUATOR COMMENTS: Concur
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Print Record

RECRD	52999	VESLTERMS	OBSTRUCTION	CHART	16707	AREA	P
		CARTOCODE	067	SNDINGCODE		DEPTH	
LAT83	61/05/25.40	LONG83	146/22/49.94	NATIVDATUM	06		
LATDEC:	61.090388888889	LONDEC:	146.380538888889	GPQUALITY	High		
				GPSOURCE	Direct		
PROJECT	OPR-P151	ITEMSTATUS	Assigned	SEARCHTYPE	Full		
RADIUS	50	INIT	DAS	ASSIGNED		8/28/2002	
TECNIQ	VS, ES, DI, SWMB, HRSWMB, HRSSS						
Techniqnote	Verify or disprove existence of charted obstruction in water depths less than 20 fathoms within search radius.						
History	HISTORY BP102657/77-- TP-00476/66, Class III Map, Obstruction from BP99730 was charted as submerged because it was not visible on BP102657. ENC US5AK23M/2002-- Charted obstruction. ENC OBSTRN object as obstruction provided on Project CD as MapInfo table AWOIS_52999_OBSTRN.tab. Investigation radius center position scaled in MapInfo from center of ENC OBSTRN, obstruction at Lat. 61/05/25.40N, Lon. 146/22/49.94W. (ENT DAS 28 Aug 2002)						
Fieldnote	INVESTIGATION DATE(S): 09/20/02 (DN:263) HYDROGRAPHIC SURVEY NUMBER:H11180 VN: 2124 TIME: NA INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) VS, VBES, HRSWMB SURVEYED POSITION: LAT. 61°05'25.474"N LON. 146°22'49.735"W POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: One hundred percent shallow-water multibeam was obtained to the limits of safe navigation. The submerged obstruction was not observed in the field or during data processing. Depths range from 15 to 23 meters over the charted symbol. CHARTING RECOMMENDATION (HYDROGRAPHER): The Hydrographer recommends removing the charted submerged obstruction. EVALUATOR COMMENTS: Concur, chart area as depicted by the smooth sheet.						

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[Print Record](#)

RECRD 53000 VESSLTERMS OBSTRUCTION CHART 16707 AREA P
CARTOCODE 067 SNDINGCODE DEPTH

LAT83	61/05/24.47	LONG83	146/23/16.23	NATIVDATUM	06
LATDEC:	61.090130555556	LONDEC:	146.387841666667	GPQUALITY	Med
				GPSOURCE	Scaled

PROJECT	OPR-P151	ITEMSTATUS	Assigned	SEARCHTYPE	Full
RADIUS	200	INIT	DAS	ASSIGNED	8/28/2002
TECHNIQ	SWMB, HRSWMB, HRSSS				
Techniqnote	Verify or disprove existence of sewer outfall in water depths less than 20 fathoms within search radius.				

History HISTORY
CL97190-- Alaska ACOE Public Notice No. NPA 74-233, Application from Alyeska Pipeline Service Company, 1815 South Bragaw St., Anchorage, AK 99504, telephone (907) 277-1661, for permit to construct and install a ballast water effluent line at Jackson Point in Port Valdez as shown on enclosed plan. The proposed 42 inch steel outfall line is required for the discharge of treated ballast water from the proposed ballast treatment plant. The outer 480 feet of the line will provide diffusion of the discharge through six 6" and 10" outlets as shown on the plan. The outer, seaward end of the line will rest in about 290 feet of water below MLLW>
ENC US5AK23M/2002-- Charted sewer outfall ENC PIPSOL object provided on Project CD as MapInfo table AWOIS_53000_PIPSOL.tab. Investigation radius center position scaled in MapInfo from seaward end of ENC PIPSOL, sewer outfall at Lat. 61/05/24.47N, Lon. 146/23/16.23W. (ENT DAS 28 Aug 2002)

Fieldnote INVESTIGATION
DATE(S): 09/20/02 (DN: 263)
HYDROGRAPHIC SURVEY NUMBER:H11180
VN: 2121 TIME:16:52:14.00
INVESTIGATION METHODS USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) SWMB
SURVEYED POSITION: LAT.61-05-16.0 N LON.146-23-11.98 W
POSITION DETERMINED BY: DIFFERENTIAL GPS
INVESTIGATION SUMMARY: The charted (16707 Inset) "Sewer" line was verified with shallow-water multibeam bathymetry.
CHARTING RECOMMENDATION (HYDROGRAPHER): Retain sewer line as charted.
EVALUATOR COMMENTS: Concur

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Print Record



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: October 30, 2002

HYDROGRAPHIC BRANCH: Pacific

HYDROGRAPHIC PROJECT: OPR-P151-RA-2002

HYDROGRAPHIC SHEET: H11180

LOCALITY: Valdez Narrows, AK

TIME PERIOD: September 13-23, 2002

TIDE STATION USED: 945-4240 Valdez, Alaska

Lat. 61° 07.5'N Lon. 146° 21.8'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 3.389 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: PWS68.

Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time.

X Thomas N. Mero 10/30/02
CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION



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Final tide zone node point locations for OPR-P151-RA-2002, Sheet H11180.

Format: Tide Station (in recommended order of use)
Average Time Correction (in minutes)
Range Correction
Longitude in decimal degrees (negative value denotes
Longitude West),
Latitude in decimal degrees

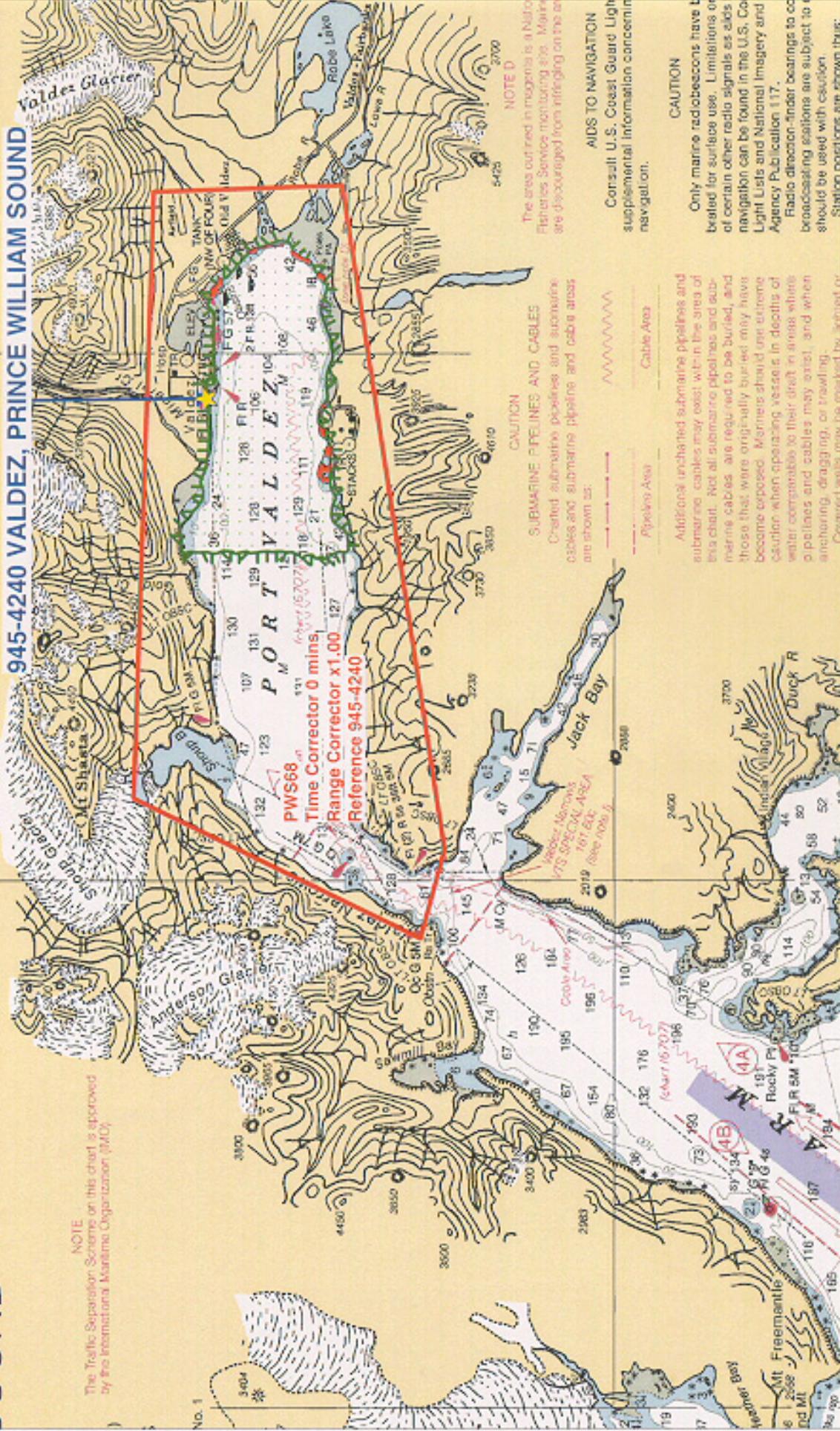
	Tide Station Order	AVG Time Correction	Range Correction
Zone PWS68	945-4240	0	1.00
-146.702896 61.058932			
-146.646956 61.051538			
-146.226838 61.08284			
-146.231047 61.140634			
-146.614604 61.146727			
-146.702896 61.058932			

Organic changes up to 1000 ft. above sea level may have occurred in the area of this chart as a result of the earthquake of March 27, 1964. Total observations since the earthquake indicate bottom uplift of +4.3 feet at Point Gravina. Mariners are urged to use extreme caution when navigating in the areas of this chart as the manmade and natural features in Port Valdez and Prince William Sound. Mariners are advised to exercise extreme caution and to report all ice sightings to "Valdez Traffic" on Channel 13 (156.85 MHz).

Final Tidal Zoning for OPR-P151-RA-2002
Port Valdez, AK - Sheet H11180

ST Final Tidal Zoning for OPR-P151-RA-2002
Port Valdez, AK - Sheet H11180
SOUND

NOTE
The Traffic Separation Scheme on this chart is approved by the International Maritime Organization (IMO).



IGHTS
Heights in feet above Mean High Water

AUTHORITIES
Hydrography and topography by the National Oceanic and Atmospheric Administration, Survey with additional data from the U.S. Geological Survey.

CAUTION
Temporary changes or defects in navigation are not indicated on this chart.

CAUTION
Survey with additional data from the U.S. Geological Survey.

CAUTION
Temporary changes or defects in navigation are not indicated on this chart.

APPROVAL SHEET
H11180

Initial Approvals:

The survey and associated records have been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The survey records and digital data comply with NOS requirements except where noted in the Descriptive Report and are adequate to supersede prior surveys and nautical charts in the common area.

Bruce Olmstead

Bruce Olmstead
Cartographic Team
Pacific Hydrographic Branch

Date: 3/29/2005

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Descriptive Report.

DWH

CDR/NOAA
Donald W. Haines
CDR, NOAA
Chief, Pacific Hydrographic Branch

Date: 12 APR 2005

MARINE CHART BRANCH

E I E WITH DESCRIPTIVE REPORT OF SURVEY NO.

H-11180

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.