

NOAA FORM 76-35A

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

## DESCRIPTIVE REPORT

Type of Survey .....

Field No. ....

Registry No. ....

### LOCALITY

State .....

General Locality .....

Sublocality .....

\_\_\_\_\_  
\_\_\_\_\_  
CHIEF OF PARTY

### LIBRARY & ARCHIVES

DATE .....

NOAA FORM 77-28 (11-72) <p style="text-align: center;">U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION</p> <p style="text-align: center;"><b>HYDROGRAPHIC TITLE SHEET</b></p>	REGISTRY No  <p style="text-align: center;"><b>H11370</b></p>
<b>INSTRUCTIONS</b> –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.  <p style="text-align: center;"><b>NRT3-10-01-05</b></p>
<p><b>State:</b> Washington</p> <p><b>General Locality:</b> Olympia Harbor <del>and Budd Inlet</del></p> <p><b>Sub-Locality:</b> Budd Inlet</p> <p><b>Scale:</b> 1:10,000 <span style="float: right;"><b>Date of Survey:</b> 03-08-2005 to 08-22-2005</span></p> <p><b>Instructions dated:</b> 01-12-2005 <span style="float: right;"><b>Project No. :</b> OPR-N375-NRT3-04</span></p> <p><b>Vessel:</b> NOAA Survey Launch 1212</p> <p><b>Chief of party:</b> Kathryn Simmons</p> <p><b>Surveyed by:</b> Kathryn Simmons, Janice Landsfeld, Vitad Pradith</p> <p><b>Soundings by echo sounder, hand lead, pole <del>Echosounder</del></b></p> <p><b>Graphic record scaled by:</b> NRT-3</p> <p><b>Graphic record checked by:</b> NRT-3 <span style="float: right;"><b>Automated Plot:</b> <i>N/A</i></span></p> <p><b>Verification by:</b> <i>Atlantic Hydrographic Branch Personnel</i></p> <p><b>Soundings in <del>fathoms</del> -feet <u>meters</u> at MLW <u>MLLW</u> <i>Charted depths in feet at MLLW</i></b></p>	
<p><b>REMARKS:</b> <i>For data collected on DNs 067, 070, 073, 094 and 095, times were recorded in Pacific (local) time. On all following days times were recorded in UTC.</i></p> <p><i><b>Bold, Italic, Red notes in the Descriptive Report were made during office processing.</b></i></p>	

# Descriptive Report to Accompany H11370

1:10000

2005

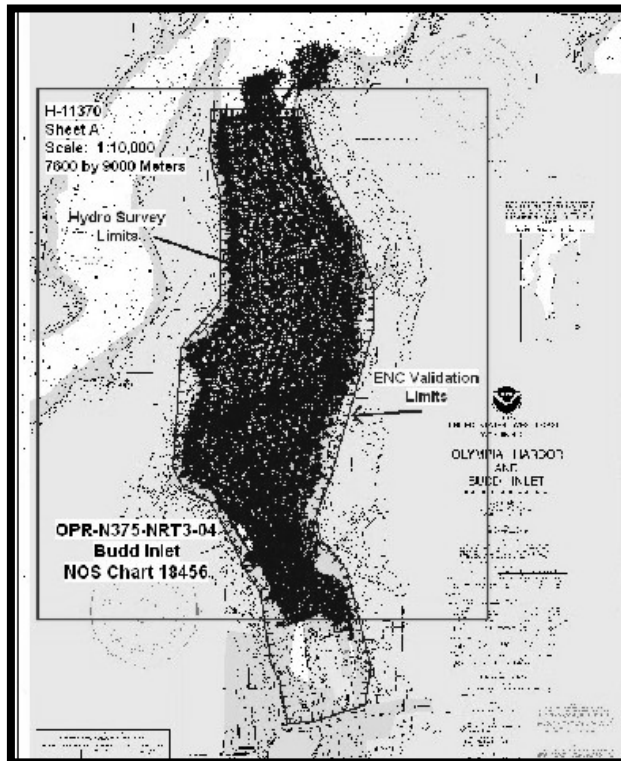
Navigation Response Team 3

Team Leader: Kathryn Simmons

## A. AREA SURVEYED

This basic hydrographic survey was conducted in accordance with Port Instructions OPR-N375-NRT3-04\*, Olympia Harbor and Budd Inlet, Washington, issued January 12, 2005. Budd Inlet was last surveyed in 1936. Since then, traffic has increased in the Port of Olympia, composed primarily of container vessels, roll-on roll-off and break bulk. During a meeting with the Puget Sound Pilots on January 16, 2004, the addition of Budd Inlet to the critical area in the National Survey Plan was recommended. This decision was based on the age of previous surveys in this area and the possibility of shoaling. In response to a subsequent request from the Puget Sound Pilots, the survey area was extended northward to completely cover the shoal area east of Dofflemyer Point. *\*Filed with original field records.*

The area surveyed extends from latitude 47°08'52.2"N, southward to latitude 47°03'25.5"N, and from longitude 122°56'07"W, eastward to longitude 122°53'37"W. The total area surveyed is approximately six square nautical miles. Areas of hydrography and side scan sonar coverage are shown below.



H11370 is the only survey in Project OPR-N375-NRT3-04 and includes hydrographic data, side scan data, and detached positions.

## **B. DATA ACQUISITION AND PROCESSING**

Data acquisition was conducted from March 8, 2005 (*DN 067*) through August 22, 2005 (*DN 234*).

### **B1. Equipment and Vessels**

NOAA Launch 1212 was the only vessel used for this survey. See Data Acquisition and Processing Report\*.

### **B2. Quality Control**

See Data Acquisition and Processing Report\*.

### **B3. Corrections to Echo Soundings**

See Data Acquisition and Processing Report\*.

## **C. VERTICAL AND HORIZONTAL CONTROL**

### **C1. Tides and Water Levels**

The data acquisition computer was inadvertently set for local time rather than UTC for the first five days of the survey (DNs 067, 070, 073, 094 and 095). HSTP attempted to write a fix for this problem but NRT3 was unable to apply it successfully. As a result, water level data for those days were downloaded in local time (PST and PDT as appropriate) and saved in a separate tide file. Correctors for the remaining days were downloaded in UTC. See Data Acquisition and Processing Report\*. *Concur with clarification. Approved water levels with final tide zoning were applied by the field unit..*

### **C2. Horizontal Datum**

The horizontal control datum for this project is North American Datum of 1983 (NAD83). *Concur.*

### **C3. Position Control**

See Data Acquisition and Processing Report\*.

*\*Filed with original field records*

#### C4. Velocity of Sound

Twelve sound velocity casts were conducted for the project as shown in the table below:

Day	Latitude/Longitude	Depth(m)	Location
066	47°03'37" / 122°54'27"	12.8	Budd Inlet
073	47°04'26" / 122°54'58"	9.9	Budd Inlet
094	47°06'17" / 122°54'58"	20.8	Budd Inlet
102	47°05'21" / 122°55'10"	16.1	Budd Inlet
110	47°07'08" / 122°55'02"	23.5	Budd Inlet
116	47°07'49" / 122°54'34"	40.2	Budd Inlet
137	47°08'03" / 122°54'31"	36.4	Budd Inlet
146	47°08'00" / 122°55'14"	38.2	Budd Inlet
158	47°07'53" / 122°55'19"	30.4	Budd Inlet
209	47°08'31" / 122°55'15"	40.4	Budd Inlet
224	47°08'26" / 122°55'18"	38.2	Budd Inlet
234	47°02'26" / 122°55'18"	19.3	Budd Inlet

See attached Data Acquisition and Processing Report\*.

*\*Filed with original field records*

#### D. RESULTS AND RECOMMENDATIONS

##### D1. Chart Comparison

Comparison will be limited to the largest scale chart covering the survey area which is represented on the following chart:

Chart No.	Date	Edition	Scale
18456	March 2005	20 <sup>th</sup>	1:20,000

High water shoreline updates defined by point and line data acquired with the Trimble ProXRS receiver have been submitted directly to Marine Chart Division via Navigation Response Branch, NSD.

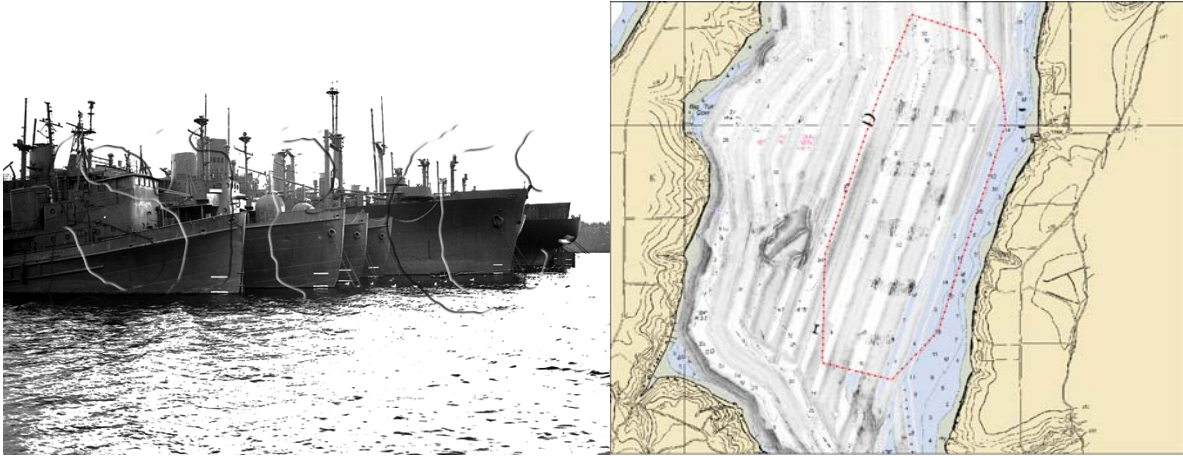
##### Comparison of Soundings

Although the contours of the survey area do not indicate dramatic differences from the chart, there is some evidence of scouring and shifting throughout. *Concur.*

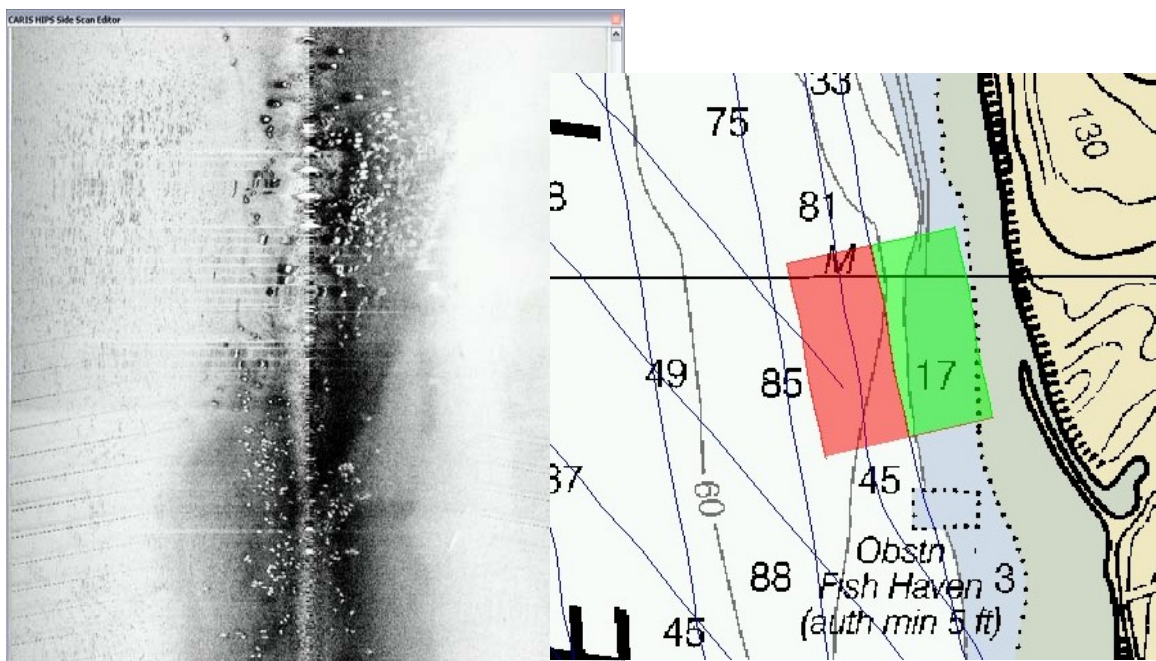
##### Comparison of Non-Sounding Features

A series of dark 'blobs' were observed on the sonargram along the east side of Budd Inlet. The SSS mosaic reveals a line of impressions spaced at regular intervals. These artifacts do not represent obstructions but may have been left by the "Mothball Fleet." According to local

sources, a mothball fleet of 185 ships was moored in Budd Inlet for 30 years – until the early 1970s.



The charted Obstruction Fish Haven centered at latitude  $47^{\circ}7'51.1''\text{N}$ , longitude  $122^{\circ}54'24.6''\text{W}$ , was not visible on the side scan sonargram; however, a rocky area was observed 200 meters to the north of the charted feature in the vicinity of latitude  $47^{\circ}7'57.7''\text{N}$ , longitude  $122^{\circ}54'27.8''\text{W}$ . Several contacts were selected for investigation and the area was developed with three to five-meter line spacing. The source of the charted Fish Haven is not known; however, it may have been positioned incorrectly or the fish haven itself may have been constructed where the features were observed. The hydrographer recommends relocating the Obstruction Fish Haven to the above position and charting current soundings over the charted obstruction. The graphics below show the sonargram image of the debris field and the swath graphic shows the location of the image. ***Concur with clarification. Defer to MCD for charting recommendation.***



The Obstruction Fish Haven charted at latitude 47° 7' 20.6"N, longitude 122° 54' 9.2"W, was surveyed with 200 percent side scan sonar and developed with ten-meter line spacing. No obstructions were observed on the sonagram or fathogram. A debris field was located north of the charted fish haven centered at latitude 47° 7' 57.3924"N, longitude 122° 54' 26.766'W and, again, it seems the fish haven may not have been constructed at the charted location. **Concur.**

#### ENC Evaluation

N/A. **Concur, no ENC available for this area.**

#### AWOIS Items

N/A. **Do not concur. See Evaluation Report.**

#### Dangers to Navigation

Four Dangers to Navigation were submitted over the course of this survey. The first two have already been applied to the current chart. All are included in Appendix I\*. **See Evaluation Report.**

#### Cables, Pipelines, Ferry Routes

A building indicating the existence of a high voltage submarine cable area was located at latitude 47°07'18.2"N, longitude 122°53'56.15"W. No other information was obtained. **Concur.**

### **D2. Additional Results**

#### Shoreline

Near shore high water features and fixed aids were positioned with the Trimble backpack receiver for direct submission to Marine Chart Division via Navigation Response Branch, NSD. Detached positions were acquired on offshore high water features. The zero-curve was obtained where it could be safely acquired.

#### Comparison with Prior Surveys

The following prior surveys are the primary sources for charted soundings and features.

Registry No.	Year Surveyed	Scale	Datum
H-06198	1936	1:10,000	NAD27
H-06199	1936	1:5,000	NAD27

Given the age of the prior surveys, a comparison was not made. The current survey is adequate to supercede the prior surveys in their common areas. **Concur.**

**\*Filed with original field records**



Aids to Navigation

Fixed aids to navigation positioned with the Trimble ProXRS receiver have been submitted directly to NOAA’s Marine Chart Division. A text file of these positions is included in Appendix IV\*. *Concur.*

Bridges, Cables, Pipelines

NA

Statistics

Description	Quantities
Total Nautical Miles	310.6
Side Scan Sonar	121.2
MS Hydrography	150.8
Development	333.4
Crosslines	5.2
Square Nautical Miles Hydrography	5.3
Square Nautical Miles SSS	4.0
Velocity Casts	12
Bottom Samples	0
AWOIS Items	0
Tide Stations Installed	1
Position Control Stations Established	0

Miscellaneous

Observations in the field were logged to a target file and imported into Mapinfo as Field Notes. The daily field notes are included in subfolder “Field Notes” within folder “Field Products.” The daily notes are combined in the table, H11370 Field Notes, which is included with the Mapinfo files for information.

A separate table, H11370 Indexed Notes, was created in Mapinfo to include recommendations to the cartographer. This table is included in the “Field Plots” subfolder “Mapinfo.” A text file of these notes is included in Appendix IV\*. *Concur.*

Recommendations

Both low and high water shoreline could be improved with new photogrammetry.

*\*Filed with original field records*



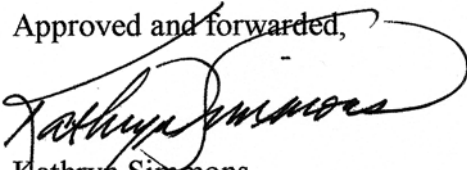
## E. APPROVAL SHEET

Standard field surveying and processing procedures were followed in producing this survey in accordance with the Navigation Response Branch Operations Manual, the Hydrographic Manual, Fourth Edition; the Hydrographic Survey Guidelines; and NOS Hydrographic Surveys Specifications and Deliverables.

The data were reviewed daily during acquisition and processing.

The digital data and supporting records have been reviewed by me, are considered complete and adequate for charting purposes, and are approved. All records are forwarded for final review and processing to N/CS33, Atlantic Hydrographic Branch.

Approved and forwarded,



Kathryn Simmons  
Team Leader

# **APPENDIX I – Survey Feature Report**

# H11370 - Dangers to Navigation

**Registry Number:** H11370  
**State:** Washington  
**Locality:** Budd Inlet  
**Sub-locality:** Olympia Harbor  
**Project Number:** OPR=N375-NRT3-04  
**Survey Dates:** 04/12/2005 - 08/22/2005

## Charts Affected

Number	Version	Date	Scale
18445	31st Ed.	04/01/2006	1:20000
18456	20th Ed.	03/01/2005	1:20000
18448	34th Ed.	07/01/2006	1:80000
18440	28th Ed.	12/01/2005	1:150000
18003	20th Ed.	11/01/2006	1:736560
18007	32nd Ed.	07/01/2005	1:1200000
501	12th Ed.	11/01/2002	1:3500000
530	31st Ed.	06/01/2005	1:4860700
50	6th Ed.	06/01/2003	1:10000000

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	DtoN #1 - DP	Wreck	-5.49 m	47° 05' 14.428" N	122° 55' 49.277" W	---
1.2	DTON #3 - 773/1	Obstruction	5.21 m	47° 04' 26.872" N	122° 55' 08.847" W	---
1.3	DTON #4 - 913/1	Sounding	8.92 m	47° 08' 31.054" N	122° 54' 58.381" W	---
1.4	AHB_DTON #1 - 509/1	Sounding	3.52 m	47° 03' 57.466" N	122° 54' 27.194" W	---
1.5	AHB_DTON #2 - 4650/1	Sounding	3.23 m	47° 03' 49.861" N	122° 54' 12.340" W	---

**1 - DR\_DToN**

**1.1) DtoN #1 - DP****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 47° 05' 14.428" N, 122° 55' 49.277" W  
**Least Depth:** -5.49 m  
**Timestamp:** 2005-102.18:06:16.000 (04/12/2005)  
**DP Dataset:** h11370 / 1212dpones / 2005-102 / 04122005\_dp  
**Profile/Beam:** 2/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Center of two visible masts of submerged wrecl

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212dpones/2005-102/04122005_dp	2/1	0.00	000.0	Primary
h11370/1212dpones/2005-102/04122005_dp	1/1	31.12	199.4	Secondary (grouped)

**Hydrographer Recommendations**

DTON was submitted - chart was corrected.

A sunken sailboat with masts visible was located at latitude 47:05:14.2856N, longitude 122:55:49.0968W. The position was recorded from the survey launch at the center of the two masts on the offshore side using the Trimble backpack receiver. The launch was alongside the masts and an offset of 5 meters, bearing 290, was entered. Three meters of the masts were exposed at a tide level of three meters: height of the masts above MLLW = 6.0 meters.

According to Jim Hanson, Commander, Harbor Patrol, Olympia Police Department, (360-943-1104), the wreck is a 60-foot ferro-cement schooner which was sunk in 2004 and there are no expectations that it will be raised. Vessel is oriented with bow to the south. An Oscar flag deployed automatically from the stern after the vessel sunk and serves as a second marker for the submerged vessel which is also marked by an orange buoy.

Height is reduced to Mean Lower Low Water using preliminary tides. Position is based on the NAD83 horizontal datum.

**Cartographically-Rounded Depth (Affected Charts):**

-18ft (18456\_1)

-3fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)

-3fm 0ft (18445\_15, 18445\_17, 18445\_8)

-5.5m (501\_1, 50\_1)

### **S-57 Data**

**Geo object 1:** Wreck (WRECKS)  
**Attributes:** CATWRK - 4:wreck showing mast/masts  
SORDAT - 20050822  
SORIND - US,US,Survy,H11370  
VALSOU - -5.493 m  
WATLEV - 4:covers and uncovers

### **Office Notes**

Concur, Chart wk with masts.

Wk has already been added to the continual update raster as of 3/26/07.

**1.2) DTON #3 - 773/1****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 47° 04' 26.872" N, 122° 55' 08.847" W  
**Least Depth:** 5.21 m  
**Timestamp:** 2005-125.19:26:51.713 (05/05/2005)  
**Survey Line:** h11370 / 1212sb / 2005-125 / 018\_1926  
**Profile/Beam:** 773/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Least Depth of submerged feature

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sb/2005-125/018_1926	773/1	0.00	000.0	Primary
h11370/1212sss_100/2005-102/sonar_data050412154600	0011	13.35	156.9	Secondary
h11370/1212sss_200/2005-103/sonar_data050413162500	0001	17.70	312.7	Secondary

**Hydrographer Recommendations**

Chart depth.

**Cartographically-Rounded Depth (Affected Charts):**

17ft (18456\_1)

2 ¾fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)

2fm 5ft (18445\_15, 18445\_17, 18445\_8)

5.2m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Obstruction (OBSTRN)

**Attributes:** SORDAT - 20050822



SORIND - US,US,Survy,H11370

VALSOU - 5.212 m

WATLEV - 3:always under water/submerged

## Office Notes

Concur. Chart Obstn with Least Depth 17ft.

Obstn 17ft has already been added to the continual update raster as of 3/26/2007.

## Feature Images



*Figure 1.2.1*

**1.3) DT0N #4 - 913/1****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 47° 08' 31.054" N, 122° 54' 58.381" W  
**Least Depth:** 8.92 m  
**Timestamp:** 2005-159.17:41:03.147 (06/08/2005)  
**Survey Line:** h11370 / 1212sb / 2005-159 / 011\_1740  
**Profile/Beam:** 913/1  
**Charts Affected:** 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Sounding of 29 feet acquired 100 meters north of charted 27-foot depth.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sb/2005-159/011_1740	913/1	0.00	000.0	Primary

**Hydrographer Recommendations**

Report as DT0N

**Cartographically-Rounded Depth (Affected Charts):**

29ft (18456\_1)

4 ¾fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)

4fm 5ft (18445\_8)

8.9m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Sounding (SOUNDG)

## Office Notes

Concur. Chart 29ft sounding.

29ft sounding has already been added to the continual update raster as of 3/26/2007.

**1.4) AHB\_DTON #1 - 509/1****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 47° 03' 57.466" N, 122° 54' 27.194" W  
**Least Depth:** 3.52 m  
**Timestamp:** 2005-234.17:04:29.023 (08/22/2005)  
**Survey Line:** h11370 / 1212sb / 2005-234 / 048\_1703  
**Profile/Beam:** 509/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

11 foot sounding in 15 feet maintained channel.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sb/2005-234/048_1703	509/1	0.00	000.0	Primary
ChartGPs - Digitized	12	2.73	209.5	Secondary (grouped)

**Hydrographer Recommendations**

[None]

**Cartographically-Rounded Depth (Affected Charts):**

11ft (18456\_1)

1 ¾fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)

1fm 5ft (18445\_15, 18445\_17, 18445\_8)

3.5m (501\_1, 50\_1)

**S-57 Data**

[None]

## Office Notes

[None]

**1.5) AHB\_DTON #2 - 4650/1****DANGER TO NAVIGATION****Survey Summary**

**Survey Position:** 47° 03' 49.861" N, 122° 54' 12.340" W  
**Least Depth:** 3.23 m  
**Timestamp:** 2005-137.20:35:26.700 (05/17/2005)  
**Survey Line:** h11370 / 1212sb / 2005-137 / 022\_2030  
**Profile/Beam:** 4650/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

[None]

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sb/2005-137/022_2030	4650/1	0.00	000.0	Primary

**Hydrographer Recommendations**

10 foot sounding in 15 feet maintained channel.

**Cartographically-Rounded Depth (Affected Charts):**

10ft (18456\_1)

1 ¾fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)

1fm 4ft (18445\_15, 18445\_17, 18445\_8)

3.2m (501\_1, 50\_1)

**S-57 Data**

[None]



## Office Notes

[None]

# H11370 - AWOIS Items

**Registry Number:** H11370  
**State:** Washington  
**Locality:** Budd Inlet  
**Sub-locality:** Olympia Harbor  
**Project Number:** OPR=N375-NRT3-04  
**Survey Date:** 04/12/2005

## Charts Affected

Number	Version	Date	Scale
18445	31st Ed.	04/01/2006	1:20000
18456	20th Ed.	03/01/2005	1:20000
18448	34th Ed.	07/01/2006	1:80000
18440	28th Ed.	12/01/2005	1:150000
18003	20th Ed.	11/01/2006	1:736560
18007	32nd Ed.	07/01/2005	1:1200000
501	12th Ed.	11/01/2002	1:3500000
530	31st Ed.	06/01/2005	1:4860700
50	6th Ed.	06/01/2003	1:10000000

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	AWOIS # 53162 - 3564/1	Sounding	7.71 m	47° 06' 03.078" N	122° 55' 44.143" W	53162

**1 - DR\_AWOIS**

**1.1) AWOIS # 53162 - 3564/1****Primary Feature for AWOIS Item #53162**

**Search Position:** 47° 06' 03.346" N, 122° 55' 44.510" W  
**Historical Depth:** [None]  
**Search Radius:** 150  
**Search Technique:** MB,ES,S2,SD,DI,VI  
**Technique Notes:** [None]

**History Notes:**

HISTORY L-276/72--2/22/72; FROM AN INVESTIGATION PERFORMED BY THE UNITED STATES POWER SQUADRON ON OCTOBER 9, 1971, A PILE (PA) WAS ADDED TO THE CHART AT 47°06'04"N 122°55'40"W (NAD27).

**Survey Summary**

**Survey Position:** 47° 06' 03.078" N, 122° 55' 44.143" W  
**Least Depth:** 7.71 m  
**Timestamp:** 2005-102.16:10:35.930 (04/12/2005)  
**Survey Line:** h11370 / 1212sb / 2005-102 / 020\_1605  
**Profile/Beam:** 3564/1  
**Charts Affected:** 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Disproval DP - Charted Pile PA not seen on 200 percent side scan coverage.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sb/2005-102/020_1605	3564/1	0.00	000.0	Primary
ChartGPs - Digitized	1	8.54	348.7	Secondary (grouped)
awois53126	AWOIS # 53162	11.35	137.0	Secondary

## Hydrographer Recommendations

Delete charted pile and text, "Pile PA"

### Cartographically-Rounded Depth (Affected Charts):

25ft (18456\_1)

4 ¼fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)

4fm 1ft (18445\_8)

7.7m (501\_1, 50\_1)

### S-57 Data

[None]

### Office Notes

Concur. Remove charted Pile PA.

# H11370 - Charted Items

**Registry Number:** H11370  
**State:** Washington  
**Locality:** Budd Inlet  
**Sub-locality:** Olympia Harbor  
**Project Number:** OPR=N375-NRT3-04  
**Survey Dates:** 04/04/2005 - 08/16/2005

## Charts Affected

Number	Version	Date	Scale
18445	31st Ed.	04/01/2006	1:20000
18456	20th Ed.	03/01/2005	1:20000
18448	34th Ed.	07/01/2006	1:80000
18440	28th Ed.	12/01/2005	1:150000
18003	20th Ed.	11/01/2006	1:736560
18007	32nd Ed.	07/01/2005	1:1200000
501	12th Ed.	11/01/2002	1:3500000
530	31st Ed.	06/01/2005	1:4860700
50	6th Ed.	06/01/2003	1:10000000

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	167	Sounding	-6.24 m	47° 05' 56.633" N	122° 55' 54.864" W	---
1.2	1722	Rock	-1.23 m	47° 06' 25.138" N	122° 55' 26.454" W	---
1.3	0001	SSS	[None]	47° 07' 58.270" N	122° 54' 27.874" W	---
1.4	0006	SSS	[None]	47° 07' 34.209" N	122° 54' 16.630" W	---
1.5	0001	SSS	[None]	47° 05' 30.133" N	122° 55' 19.948" W	---
1.6	2981	Mooring buoy	-3.41 m	47° 06' 07.677" N	122° 53' 41.345" W	---
1.7	2986	Sounding	-3.41 m	47° 05' 58.591" N	122° 53' 44.436" W	---
1.8	0004	SSS	[None]	47° 03' 54.653" N	122° 54' 44.761" W	---
1.9	360/1	Sounding	0.36 m	47° 05' 30.929" N	122° 55' 18.800" W	---
1.10	435/1	Sounding	0.47 m	47° 05' 30.050" N	122° 55' 21.313" W	---

**1 - DR\_Charted**



**1.1) 167****Survey Summary**

**Survey Position:** 47° 05' 56.633" N, 122° 55' 54.864" W  
**Least Depth:** -6.24 m  
**Timestamp:** 2005-110.20:12:59.000 (04/20/2005)  
**DP Dataset:** h11370 / 1212dpones / 2005-110 / 04202005\_dp  
**Profile/Beam:** 1/1  
**Charts Affected:** 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Offshoremost pile in line of five piles marking location of private floating dock

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212dpones/2005-110/04202005_dp	1/1	0.00	000.0	Primary
ChartGPs - Digitized	6	28.60	156.1	Secondary (grouped)

**Hydrographer Recommendations**

Retain pile and floating dock as charted.

**Cartographically-Rounded Depth (Affected Charts):**

-21ft (18456\_1)  
-3 ¼fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)  
-3fm 2ft (18445\_17, 18445\_8)  
-6.3m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Pile (PILPNT)  
**Attributes:** SORDAT - 20050822  
SORIND - US,US,Survy,H11370

## Office Notes

Concur. Retain charted Pile and floating dock as charted.

**1.2) 1722****Survey Summary**

**Survey Position:** 47° 06' 25.138" N, 122° 55' 26.454" W  
**Least Depth:** -1.23 m  
**Timestamp:** 2005-111.19:24:29.000 (04/21/2005)  
**DP Dataset:** h11370 / 1212dpones / 2005-111 / 04202105\_dp  
**Profile/Beam:** 2/1  
**Charts Affected:** 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Partially submerged charted rock

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212dpones/2005-111/04202105_dp	2/1	0.00	000.0	Primary
ChartGPs - Digitized	5	6.82	107.1	Secondary (grouped)

**Hydrographer Recommendations**

Retain rock as charted.

**Cartographically-Rounded Depth (Affected Charts):**

-4ft (18456\_1)

0 ½fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)

0fm 4ft (18445\_8)

-1.3m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Underwater rock / awash rock (UWTROC)

**Attributes:** SORDAT - 20050822  
 SORIND - US,US,Survy,H11370  
 VALSOU - -1.23 m  
 WATLEV - 5:awash

## Office Notes

Concur. Retain charted rock.

**1.3) 0001****Survey Summary**

**Survey Position:** 47° 07' 58.270" N, 122° 54' 27.874" W  
**Least Depth:** [None]  
**Timestamp:** 2005-145.06:56:01 (05/25/2005)  
**Survey Line:** h11370 / 1212sss\_100 / 2005-144 / sonar\_data050524140700  
**Contact/Point:** 0001/1  
**Charts Affected:** 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Debris Field - Possibly Manmade Fish Haven. Contacts close to fish - heights exaggerated

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sss_100/2005-144/sonar_data050524140700	0001	0.00	000.0	Primary
h11370/1212sss_100/2005-144/sonar_data050524140700	0002	12.02	134.7	Secondary (grouped)
h11370/1212sss_100/2005-146/sonar_data050526155500	0002	46.58	356.0	Secondary (grouped)
h11370/1212sss_100/2005-144/sonar_data050524140700	0005	77.36	152.3	Secondary (grouped)
ChartGPs - Digitized	7	231.12	342.8	Secondary (grouped)

**Hydrographer Recommendations**

Chart soundings from current survey. Consider repositioning charted fish haven

**S-57 Data**

[None]

**Office Notes**

Concur with clarification. Defer to MCD for charting recommendation.

**1.4) 0006****Survey Summary**

**Survey Position:** 47° 07' 34.209" N, 122° 54' 16.630" W  
**Least Depth:** [None]  
**Timestamp:** 2005-164.09:16:45 (06/13/2005)  
**Survey Line:** h11370 / 1212sss\_100 / 2005-144 / sonar\_data050524140700  
**Contact/Point:** 0006/1  
**Charts Affected:** 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Rock cluster 36x40 meters - most likely the fish haven charted at latitude 47:07:20.49N, longitude 122:54:09.144W.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sss_100/2005-144/sonar_data050524140700	0006	0.00	000.0	Primary
h11370/1212sss_100/2005-146/sonar_data050526155500	0001	22.02	260.0	Secondary (grouped)
ChartGPs - Digitized	8	413.49	341.3	Secondary (grouped)

**Hydrographer Recommendations**

Revise position charted fish haven to feature location.

**S-57 Data**

[None]

**Office Notes**

Concur with clarification. Defer to MCD for charting recommendation.

**1.5) 0001****Survey Summary**

**Survey Position:** 47° 05' 30.133" N, 122° 55' 19.948" W  
**Least Depth:** [None]  
**Timestamp:** 2005-151.07:07:10 (05/31/2005)  
**Survey Line:** h11370 / 1212sss\_100 / 2005-146 / sonar\_data050526145700  
**Contact/Point:** 0001/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Contact over rocky shoal. Shoal development located a feature rising 0.9 meters from the bottom. Least depth 0.4 meters/1 foot.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sss_100/2005-146/sonar_data050526145700	0001	0.00	000.0	Primary
h11370/1212sss_200/2005-104/sonar_data050414165400	0001	7.63	350.5	Secondary
ChartGPs - Digitized	11	27.68	286.7	Secondary (grouped)

**Hydrographer Recommendations**

Chart soundings from this survey.

**S-57 Data**

**Geo object 1:** Underwater rock / awash rock (UWTROC)  
**Attributes:** SORDAT - 20050822  
 SORIND - US,US,Survey,H11370  
 WATLEV - 5:awash

**Office Notes**

Do not concur. Retain 1/2 RK as charted. Cannot verify with VBES that least depth was found.



**1.6) 2981****Survey Summary**

**Survey Position:** 47° 06' 07.677" N, 122° 53' 41.345" W  
**Least Depth:** -3.41 m  
**Timestamp:** 2005-094.14:38:37.000 (04/04/2005)  
**DP Dataset:** h11370 / 1212dp\_gp / 2005-094 / 04042005\_dp  
**Profile/Beam:** 1/1  
**Charts Affected:** 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Revised position charted mooring buoy

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212dp_gp/2005-094/04042005_dp	1/1	0.00	000.0	Primary
h11370/1212dp_gp/2005-094/04042005_dp	2/1	133.48	027.7	Secondary (grouped)
ChartGPs - Digitized	4	134.16	027.4	Secondary (grouped)

**Hydrographer Recommendations**

Chart mooring buoy

**Cartographically-Rounded Depth (Affected Charts):**

-11ft (18456\_1)  
-1 ¾fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)  
-1fm 5ft (18445\_8)  
-3.4m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Mooring/warping facility (MORFAC)  
**Attributes:** BOYSHP - 3:spherical  
CATMOR - 7:mooring buoy  
COLOUR - 1:white  
INFORM - mooring buoy

SORDAT - 20050822

SORIND - US,US,Survy,H11370

## **Office Notes**

Concur. Update position of currently charted mooring buoy.

**1.7) 2986****Survey Summary**

**Survey Position:** 47° 05' 58.591" N, 122° 53' 44.436" W  
**Least Depth:** -3.41 m  
**Timestamp:** 2005-094.14:42:35.000 (04/04/2005)  
**DP Dataset:** h11370 / 1212dp\_gp / 2005-094 / 04042005\_dp  
**Profile/Beam:** 3/1  
**Charts Affected:** 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Disproval charted mooring buoy

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212dp_gp/2005-094/04042005_dp	3/1	0.00	000.0	Primary
ChartGPs - Digitized	3	12.29	186.4	Secondary (grouped)

**Hydrographer Recommendations**

Delete charted mooring buoy.

**Cartographically-Rounded Depth (Affected Charts):**

-11ft (18456\_1)  
-1 ¾fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)  
-1fm 5ft (18445\_17, 18445\_8)  
-3.4m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Cartographic symbol (\$CSYMB)  
**Attributes:** INFORM - Delete Charted Mooring Buoy

## Office Notes

Concur. Remove Charted Mooring Buoy.

**1.8) 0004**

**Survey Summary**

**Survey Position:** 47° 03' 54.653" N, 122° 54' 44.761" W  
**Least Depth:** [None]  
**Timestamp:** 2005-115.09:42:49 (04/25/2005)  
**Survey Line:** h11370 / 1212sss\_200 / 2005-103 / sonar\_data050413165300  
**Contact/Point:** 0004/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Remnants of charted dol - height 0.46 meters/1.5 feet - surrounding depths: 10 to 12 feet

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sss_200/2005-103/sonar_data050413165300	0004	0.00	000.0	Primary
ChartGPs - Digitized	2	4.04	031.8	Secondary (grouped)

**Hydrographer Recommendations**

Delete charted dol. Chart current soundings.

**S-57 Data**

[None]

**Office Notes**

Concur. Remove charted dol.

**1.9) 360/1****Survey Summary**

**Survey Position:** 47° 05' 30.929" N, 122° 55' 18.800" W  
**Least Depth:** 0.36 m  
**Timestamp:** 2005-228.21:53:45.356 (08/16/2005)  
**Survey Line:** h11370 / 1212sb / 2005-228 / 070\_2152  
**Profile/Beam:** 360/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

[None]

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sb/2005-228/070_2152	360/1	0.00	000.0	Primary
ChartGPs - Digitized	9	8.67	176.3	Secondary (grouped)
h11370/1212dp_gp/2005-228/08162005_228_dp	1/1	10.06	178.3	Secondary

**Hydrographer Recommendations**

[None]

**Cartographically-Rounded Depth (Affected Charts):**

1ft (18456\_1)

0 ¼fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)

0fm 1ft (18445\_15, 18445\_17, 18445\_8)

.3m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Underwater rock / awash rock (UWTROC)  
**Attributes:** SORDAT - 20050822  
 SORIND - US,US,Survy,H11370  
 VALSOU - 0.360 m

WATLEV - 5:awash

## Office Notes

Retain charted rk awash.

**1.10) 435/1****Survey Summary**

**Survey Position:** 47° 05' 30.050" N, 122° 55' 21.313" W  
**Least Depth:** 0.47 m  
**Timestamp:** 2005-228.22:26:48.447 (08/16/2005)  
**Survey Line:** h11370 / 1212sb / 2005-228 / rock2  
**Profile/Beam:** 435/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

[None]

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sb/2005-228/rock2	435/1	0.00	000.0	Primary
ChartGPs - Digitized	10	5.50	085.6	Secondary (grouped)
h11370/1212dp_gp/2005-228/08162005_228_dp	2/1	6.49	094.2	Secondary

**Hydrographer Recommendations**

[None]

**Cartographically-Rounded Depth (Affected Charts):**

1ft (18456\_1)

0 ¼fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)

0fm 1ft (18445\_15, 18445\_17, 18445\_8)

.4m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Underwater rock / awash rock (UWTROC)  
**Attributes:** SORDAT - 20050822  
 SORIND - US,US,Survy,H11370  
 VALSOU - 0.475 m



WATLEV - 5:awash

## Office Notes

Retain charted rk awash.

# H11370 - Uncharted Items

**Registry Number:** H11370  
**State:** Washington  
**Locality:** Budd Inlet  
**Sub-locality:** Olympia Harbor  
**Project Number:** OPR=N375-NRT3-04  
**Survey Dates:** 04/13/2005 - 08/22/2005

## Charts Affected

Number	Version	Date	Scale
18445	31st Ed.	04/01/2006	1:20000
18456	20th Ed.	03/01/2005	1:20000
18448	34th Ed.	07/01/2006	1:80000
18440	28th Ed.	12/01/2005	1:150000
18003	20th Ed.	11/01/2006	1:736560
18007	32nd Ed.	07/01/2005	1:1200000
501	12th Ed.	11/01/2002	1:3500000
530	31st Ed.	06/01/2005	1:4860700
50	6th Ed.	06/01/2003	1:10000000

## Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	0005	SSS	[None]	47° 04' 07.980" N	122° 54' 58.468" W	---
1.2	1240	Rock	-1.22 m	47° 06' 24.614" N	122° 55' 26.859" W	---
1.3	2433	Rock	-1.86 m	47° 06' 59.556" N	122° 53' 40.697" W	---
1.4	3058	Stationary structure, floating or fixed	-2.16 m	47° 07' 18.239" N	122° 53' 55.806" W	---
1.5	7849	Mooring buoy	-2.47 m	47° 04' 04.277" N	122° 54' 21.791" W	---
1.6	8833	Sounding	[None]	47° 04' 01.750" N	122° 54' 25.814" W	---
1.7	0001	SSS	[None]	47° 04' 06.666" N	122° 54' 55.678" W	---
1.8	0009	SSS	[None]	47° 04' 15.663" N	122° 55' 02.023" W	---
1.9	408/1	Sounding	5.05 m	47° 04' 30.394" N	122° 54' 55.606" W	---

## **1 - DR\_UnCharted**

**1.1) 0005****Survey Summary**

**Survey Position:** 47° 04' 07.980" N, 122° 54' 58.468" W  
**Least Depth:** [None]  
**Timestamp:** 2005-110.03:10:49 (04/20/2005)  
**Survey Line:** h11370 / 1212sss\_100 / 2005-102 / sonar\_data050412154600  
**Contact/Point:** 0005/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Debris pile in log boom area adjacent to charted pile.

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sss_100/2005-102/sonar_data050412154600	0005	0.00	000.0	Primary
h11370/1212sss_200/2005-103/sonar_data050413165300	0002	2.47	182.6	Secondary

**Hydrographer Recommendations**

Include contact in log boom area.

**S-57 Data**

**Geo object 1:** Pile (PILPNT)

**Office Notes**

Concur. Extend log boom area to include contact.

**1.2) 1240****Survey Summary**

**Survey Position:** 47° 06' 24.614" N, 122° 55' 26.859" W  
**Least Depth:** -1.22 m  
**Timestamp:** 2005-111.18:37:14.000 (04/21/2005)  
**DP Dataset:** h11370 / 1212dpnones / 2005-111 / 04202105\_dp  
**Profile/Beam:** 1/1  
**Charts Affected:** 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Partially submerged rock adjacent to charted second rock

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212dpnones/2005-111/04202105_dp	1/1	0.00	000.0	Primary

**Hydrographer Recommendations**

Retain as charted

**Cartographically-Rounded Depth (Affected Charts):**

-4ft (18456\_1)

0 ½fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)

0fm 4ft (18445\_8)

-1.2m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Underwater rock / awash rock (UWTROC)

**Attributes:** SORDAT - 20050822

SORIND - US,US,Survy,H11370

VALSOU - -1.22 m

WATLEV - 5:awash

## Office Notes

Concur with clarification chark rks awash.

**1.3) 2433****Survey Summary**

**Survey Position:** 47° 06' 59.556" N, 122° 53' 40.697" W  
**Least Depth:** -1.86 m  
**Timestamp:** 2005-111.20:25:40.000 (04/21/2005)  
**DP Dataset:** h11370 / 1212dpones / 2005-111 / 04202105\_dp  
**Profile/Beam:** 3/1  
**Charts Affected:** 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Partially submerged uncharted rock

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212dpones/2005-111/04202105_dp	3/1	0.00	000.0	Primary

**Hydrographer Recommendations**

Chart rock.

**Cartographically-Rounded Depth (Affected Charts):**

-6ft (18456\_1)  
-1fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)  
-1fm 0ft (18445\_8)  
-1.9m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Underwater rock / awash rock (UWTROC)  
**Attributes:** SORDAT - 20050822  
SORIND - US,US,Survy,H11370  
VALSOU - -1.86 m  
WATLEV - 5:awash

## Office Notes

Concur. Chart rock awash.



**1.4) 3058****Survey Summary**

**Survey Position:** 47° 07' 18.239" N, 122° 53' 55.806" W  
**Least Depth:** -2.16 m  
**Timestamp:** 2005-111.21:32:11.000 (04/21/2005)  
**DP Dataset:** h11370 / 1212dpnones / 2005-111 / 04202105\_dp  
**Profile/Beam:** 4/1  
**Charts Affected:** 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Building with sign: "High voltage submarine cable area"

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212dpnones/2005-111/04202105_dp	4/1	0.00	000.0	Primary

**Hydrographer Recommendations**

Chart text "Cable Area"

**S-57 Data**

**Geo object 1:** Shoreline Construction (SLCONS)  
**Attributes:** NATCON - 7:metal  
 OBJNAM - High voltage submarine cable area building  
 WATLEV - 1:partly submerged at high water

**Office Notes**

Do not concur. Defer to MCD for charting recommendation.

**1.5) 7849****Survey Summary**

**Survey Position:** 47° 04' 04.277" N, 122° 54' 21.791" W  
**Least Depth:** -2.47 m  
**Timestamp:** 2005-103.18:37:37.000 (04/13/2005)  
**DP Dataset:** h11370 / 1212dp\_gp / 2005-103 / 04132005\_dp  
**Profile/Beam:** 1/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Mooring buoy; used by barge traffic

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212dp_gp/2005-103/04132005_dp	1/1	0.00	000.0	Primary
h11370/1212sss_200/2005-103/sonar_data050413152300	0008	49.26	322.6	Secondary

**Hydrographer Recommendations**

Chart new mooring buoy.

**Cartographically-Rounded Depth (Affected Charts):**

-8ft (18456\_1)  
-1 ¼fm (18448\_1, 18440\_1, 18003\_1, 18007\_1, 530\_1)  
-1fm 2ft (18445\_15, 18445\_17, 18445\_8)  
-2.5m (501\_1, 50\_1)

**S-57 Data**

**Geo object 1:** Mooring/warping facility (MORFAC)  
**Attributes:** CATMOR - 7:mooring buoy  
PICREP - 7849.jpg  
SORDAT - 20050822  
SORIND - US,US,Survy,H11370

## Office Notes

Concur. Chart Mooring buoy.

**1.6) 8833****Survey Summary**

**Survey Position:** 47° 04' 01.750" N, 122° 54' 25.814" W  
**Least Depth:** [None]  
**Timestamp:** 2005-234.17:15:29.000 (08/22/2005)  
**DP Dataset:** h11370 / 1212dp\_gp / 2005-234 / 08222005\_dp  
**Profile/Beam:** 1/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Disproval charted submerged dol

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212dp_gp/2005-234/08222005_dp	1/1	0.00	000.0	Primary
h11370/1212sss_100/2005-146/sonar_data050526143700	0001	30.65	287.3	Secondary

**Hydrographer Recommendations**

Chart soundings from current survey.

**S-57 Data**

[None]

**Office Notes**

Concur. Remove charted subm dol.

**1.7) 0001****Survey Summary**

**Survey Position:** 47° 04' 06.666" N, 122° 54' 55.678" W  
**Least Depth:** [None]  
**Timestamp:** 2005-110.03:04:11 (04/20/2005)  
**Survey Line:** h11370 / 1212sss\_200 / 2005-103 / sonar\_data050413165300  
**Contact/Point:** 0001/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Contact adjacent to log boom area - Not investigated

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sss_200/2005-103/sonar_data050413165300	0001	0.00	000.0	Primary
h11370/1212sss_100/2005-102/sonar_data050412154600	0004	2.18	181.4	Secondary

**Hydrographer Recommendations**

Extend log boom area to include contact.

**S-57 Data**

**Geo object 1:** Pile (PILPNT)

**Office Notes**

Concur. Extend log boom area to include contact.

**1.8) 0009****Survey Summary**

**Survey Position:** 47° 04' 15.663" N, 122° 55' 02.023" W  
**Least Depth:** [None]  
**Timestamp:** 2005-115.10:05:34 (04/25/2005)  
**Survey Line:** h11370 / 1212sss\_200 / 2005-103 / sonar\_data050413165300  
**Contact/Point:** 0009/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Visible Pile - part of log boom area

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sss_200/2005-103/sonar_data050413165300	0009	0.00	000.0	Primary
h11370/1212sss_100/2005-102/sonar_data050412154600	0014	1.41	241.1	Secondary

**Hydrographer Recommendations**

Extend log boom area to include contact.

**S-57 Data**

**Geo object 1:** Pile (PILPNT)

**Office Notes**

Concur. Extend log boom area to include contact.

**1.9) 408/1****Survey Summary**

**Survey Position:** 47° 04' 30.394" N, 122° 54' 55.606" W  
**Least Depth:** 5.05 m  
**Timestamp:** 2005-234.21:20:06.834 (08/22/2005)  
**Survey Line:** h11370 / 1212sb / 2005-234 / 106\_2119  
**Profile/Beam:** 408/1  
**Charts Affected:** 18445\_15, 18445\_17, 18456\_1, 18445\_8, 18448\_1, 18440\_1, 18003\_1, 18007\_1, 501\_1, 530\_1, 50\_1

**Remarks:**

Separate contact near green light; Remnants of old light support structure?  
 INVESTIGATED. Least Depth: 16 feet/5.0 meters

**Feature Correlation**

Address	Feature	Range	Azimuth	Status
h11370/1212sb/2005-234/106_2119	408/1	0.00	000.0	Primary
h11370/1212sss_100/2005-234/sonar_data050822210900	0001	5.67	282.3	Secondary
h11370/1212sss_100/2005-070/sonar_data050311200800	0001	10.84	329.7	Secondary
h11370/1212sss_200/2005-103/sonar_data050413152300	0001	10.90	159.6	Secondary

**Hydrographer Recommendations**

Chart soundings from current survey.

**S-57 Data**

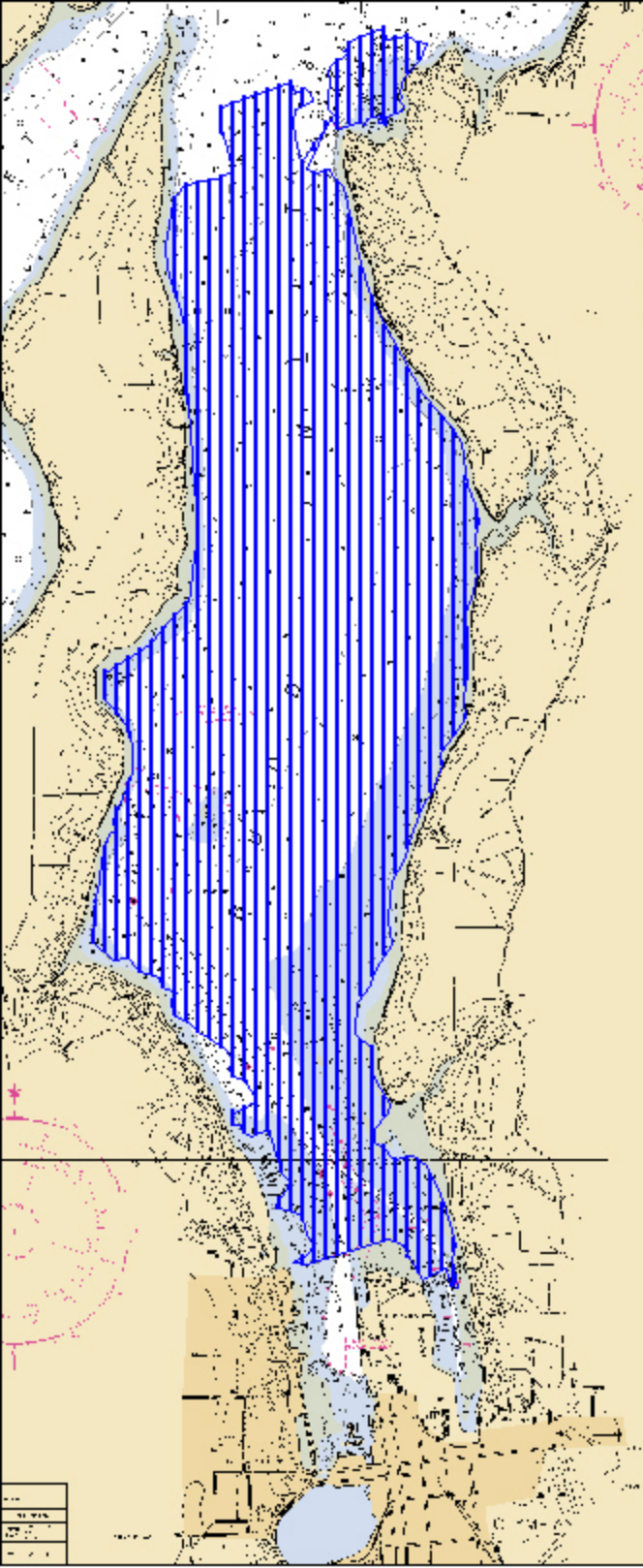
[None]

**Office Notes**

Concur with clarification. Chart 16ft sounding.

## **APPENDIX II – Survey Outline**





Scale  
 1:50,000  
 1:100,000  
 1:200,000



UNITED STATES - WEST COAST  
 WASHINGTON

**OLYMPIA HARBOR  
 AND  
 BUDD INLET**

Scale  
 1:50,000  
 1:100,000  
 1:200,000

Chart No. 17  
 Date 1980

Scale  
 1:50,000  
 1:100,000  
 1:200,000

SOUNDINGS	
10	10
20	20
30	30
40	40
50	50
60	60
70	70
80	80
90	90
100	100

Chart No. 17  
 Date 1980

Scale  
 1:50,000  
 1:100,000  
 1:200,000

Scale  
 1:50,000  
 1:100,000  
 1:200,000

Chart No. 17  
 Date 1980

Scale  
 1:50,000  
 1:100,000  
 1:200,000

## **APPENDIX III – Tide Request**

November 30, 2005

MEMORANDUM FOR: Chief, Requirements and Development Division, N/OPS1

FROM: Kathryn Simmons, NRT3

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

1. Tide Note
2. Final zoning in MapInfo and .MIX format
3. Six Minute Water Level data (Co-ops web site)

Transmit data to:

NOAA/NOS/Atlantic Hydrographic Branch  
N/CS33, Building #2  
439 West York Street  
Norfolk, VA 23510  
ATTN: Chief AHB

These data are required for the processing of the following hydrographic survey:

Project No.: OPR=N375-NRT3-04  
Registry No.: H11370  
State: Washington  
Locality: Budd Inlet  
Sublocality: Olympia Harbor

Attachments containing:

- 1) an Abstract of Times of Hydrography,
- 2) digital MID MIF files of the track lines from pydro on CD/diskette

cc: N/CS33

Year_DOY	Min Time	Max Time
2005_067	13:05:09	15:19:34
2005_070	10:50:40	12:14:26
2005_073	09:36:56	13:31:55
2005_094	09:13:08	14:42:35
2005_095	08:54:57	15:15:03
2005_102	15:39:52	18:06:16
2005_103	15:17:14	19:22:21
2005_104	15:40:32	17:54:49
2005_108	16:57:44	17:30:05
2005_110	18:47:24	22:13:09
2005_111	17:56:58	22:21:32
2005_116	16:04:22	18:57:00
2005_125	17:42:15	21:27:27
2005_137	19:07:59	21:46:09
2005_140	15:58:46	17:51:46
2005_144	14:00:45	20:44:53
2005_146	14:30:35	20:39:29
2005_158	15:48:04	18:16:59
2005_159	15:53:25	19:34:12
2005_224	17:11:16	22:23:23
2005_228	20:37:03	22:43:45
2005_229	20:40:40	22:45:53
2005_234	16:56:21	21:32:36



## **APPENDIX IV – Supplemental Correspondence**

"Object\_Class":user\_ID,"BCNSHP","CATSPM","COLOUR","COLPAT","CONDNT","CONRAD","CONVIS","NATCON","L\_CATLIT","COLOUR","L\_LITCHR","L\_ORIENT","L\_SECTR1","L\_SECTR2","L\_SIGGRP","L\_SIGPER","COLOUR","L\_TOPSHIP","COLPAT","INFORM","PKCREP","ORBNAM","HEIGHT","SORDAT","RECDAT","STATUS","Max\_PDOF","GPS\_Date","GPS\_Time","Unlit\_Pos","GPS\_Height","Horz\_Prec\_cm","Sid\_Dev\_cm","Latitude","Longitude","LatitudeDMS","LongitudeDMS","Position\_Difference"  
"Special Purpose Beacon (P)710.000":tower,"leading mark","grey","","","visually conspicuous","metal","rear","white","","0.000,000","0.00","red, black","rectangle, vert","vertical stripes","Structure is a tower, not a dot","LLN17485.jpg","LLN 17485 Olympia Inner Range Rear Light","23/20050421/20050421","Permanent","2,020050421/04-04-49pm","300-11.747161/190.35947/069876966-122.908935066/47-41.15571","-122.54-52.16037","7 meters"  
"Special Purpose Beacon (P)112.004":tower,"leading mark","brown","","","visually conspicuous","wooden","front","green","","0.000,000","0.00","red, black","rectangle, vert","vertical stripes","Structure is a tower, not a dot","LLN17430.jpg","LLN 17430 Olympia Harbor Range Front Light","15/20050422/20050422","Permanent","2,720050422/08-27-50am","300-12.62520/349.03347/064622866-122.907037329/47-3.526424","-122.54-25.3344","30 meters"  
"Special Purpose Beacon (P)112.003":tower,"leading mark","brown","","","visually conspicuous","wooden","front","white","","0.000,000","0.00","red, black","rectangle, vert","vertical stripes","LLN17480.jpg","LLN 17480 Olympia Inner Range Front Light","14/20050422/20050422","Permanent","2,220050422/08-52-56am","300-14.81917/3541.58347/0678287878-122.908627109/47-44.18036","-122.54-31.0876","12 meters"  
"Special Purpose Beacon (P)112.003":tower,"leading mark","brown","","","visually conspicuous","wood, metal","rear","green","","0.000,000","0.00","red, black","rectangle, vert","vertical stripes","LLN17435.jpg","LLN 17435 Olympia Harbor Range Rear Light","40/20050422/20050422","Permanent","2,720050422/08-11-14am","300-6.70619/6720.33247/062403047-122.904697708/47-3.446773","-122.54-16.911","10 meters"  
"Object\_Class":user\_ID,"BCNSHP","CATLAM","COLOUR","COLPAT","CONDNT","CONRAD","CONVIS","NATCON","L\_CATLIT","COLOUR","L\_LITCHR","L\_ORIENT","L\_SECTR1","L\_SECTR2","L\_SIGGRP","L\_SIGPER","COLOUR","L\_TOPSHIP","COLPAT","INFORM","PKCREP","ORBNAM","HEIGHT","SORDAT","RECDAT","STATUS","Max\_PDOF","GPS\_Date","GPS\_Time","Unlit\_Pos","GPS\_Height","Horz\_Prec\_cm","Sid\_Dev\_cm","Latitude","Longitude","LatitudeDMS","LongitudeDMS","Position\_Difference"  
"Lateral Beacon (P)110.001":pile, dot,"Port-hand lateral","grey","","","visually conspi","wooden","leading light","green","","0.000,000","0.00","green","board","squares","","LLN17410.jpg","LLN 17410 West Olympia Shoal Lt","02/20050420/20050420","Permanent","3,720050420/03-45-59pm","180-13.50914/4130.28118947/091776969-122.925053547/47-5.30.5971","-122.55-30.1928","2 meters"  
"Lateral Beacon (P)110.002":pile, dot,"starboard lateral","grey","","","visually conspi","wooden","leading light","red","","0.000,000","0.00","red","triangle, point up","border stripe","","LLN17415.jpg","LLN 17415 Budd Inlet Light 2","8/20050420/20050420","Permanent","1,920050420/08-08-37pm","180-13.18316/1030.31534647/092141595-122.930736225/47-5.31.7097","-122.55-50.6504","2 meters"  
"Lateral Beacon (P)112.001":pile, dot,"starboard lateral","grey","","","visually conspi","metal","leading light","red","","0.000,000","0.00","red","triangle, point up","border stripe","","LLN17465.jpg","LLN 17465 East Bay Light 2","02/20050422/20050422","Permanent","2,220050422/07-48-35am","180-13.43118/7820.32642947/061798958-122.899541374/47-3.42.4763","-122.53-58.3489","13 meters"  
"Lateral Beacon (P)112.002":pile, dot,"Port-hand lateral","grey","","","visually conspi","metal","leading light","green","","0.000,000","0.00","green","square","border stripe","","LLN17460.jpg","LLN 17460 East Bay Light 1","02/20050422/20050422","Permanent","1,420050422/07-58-00am","180-13.53418/9700.20654047/062233976-122.898784436/47-3.44.0063","-122.53-55.624","14 meters"  
"Lateral Beacon (P)112.003":pole,post,stack,"Port-hand lateral","grey","","","visually conspi","metal","leading light","green","","0.000,000","0.00","green","square","border stripe","private","LLN17478.jpg","LLN 17478 Olympia Harbor East Bay Light 7","02/20050422/20050422","private","3,220050422/09-25-64am","30-18.52226/200.275521/47.055572659-122.89622275/47-3.20.0616","-122.53-44.2402","115 meters"  
"Lateral Beacon (P)111.001":pile, dot,"Port-hand lateral","grey","","","visually conspi","metal","leading light","red","","0.000,000","0.00","green","square","border stripe","light, color unknown","LLN17477.jpg","LLN 17477 Olympia Harbor East Bay Light 5","02/20050421/20050421","private","2,220050421/10-31-40am","30-18.89718/9750.214088747/057607595-122.896166814/47-3.21.3873","-122.53-46.2005","123 meters"  
"Lateral Beacon (P)111.002":pile, dot,"Port-hand lateral","brown","","","visually conspi","wooden","none","","0.000,000","0.00","green","square","border stripe","private - no light","LLN17470.jpg","LLN 17470 East Bay Daybeacon 3","02/20050421/20050421","private","2,020050421/10-37-25am","30-18.99027/8850.350001/47.059820299-122.896555012/47-3.35.3531","-122.53-47.598","8 meters"  
"Lateral Beacon (P)111.003":pile, dot,"Port-hand lateral","brown","","","visually conspi","wooden","leading light","green","","0.000,000","0.00","green","square","border stripe","","LLN17420.jpg","LLN 17420 Olympia Entrance Light 3","02/20050421/20050421","Permanent","2,120050421/03-33-19pm","180-12.97115.6220/27413047/08550302-122.925866520/47-5.7.81189","-122.55-33.0979","10 meters"  
"Lateral Beacon (P)111.004":pile, dot,"Port-hand lateral","brown","","","visually conspi","metal","leading light","green","","0.000,000","0.00","green","square","border stripe","","LLN17440.jpg","LLN 17440 Olympia Channel Light 5","02/20050421/20050421","Permanent","2,420050421/03-47-40pm","180-13.34314/4530.2507047/05016946-122.91831310/47-4.50.061","-122.54-56.9567","15 meters"  
"Lateral Beacon (P)112.007":lattice beacon,"starboard lateral","grey","","","visually conspi","metal","leading light","red","","0.000,000","0.00","red","triangle, point up","border stripe","","LLN17475.jpg","LLN 17475 East Bay Light 4","02/20050422/20050422","private","2,720050422/09-11-06am","35-17.79025.000001/400047/058930275-122.897000675/47-3.32.149","-122.53-49.2024","12 meters"  
"Lateral Beacon (P)112.006":pole,post,stack,"Port-hand lateral","grey","","","visually conspi","metal","leading light","green","","0.000,000","0.00","green","square","border stripe","","LLN17479.jpg","LLN 17479 Olympia Harbor East Bay Light 9","02/20050422/20050422","private","4,220050422/04-17-35pm","30-19.85031/1000.10547347/05342628-122.895285078/47-3.12.3575","-122.53-43.0263","5 meters"  
"Lateral Beacon (P)137.001":pole,post,stack,"pref\_channel/starboard","brown","","","visually conspi","metal","leading light","green","","0.000,000","0.00","green, red","square","horizontal stripes","preferred channel marker","LLN17455.jpg","LLN 17455 East Bay Junction Light","02/20050517/20050517","Permanent","2,8020050517/09-39-39am","300-14.71424/4000.28046347/066833820-122.907622117/47-3.57.00108","-122.54-27.4397","14 meters"  
"Isolated Danger Beacon" 110.007":pile, dot,"brown","","","visually conspicuous","metal","","0.00, 0.00, 0 "" 0.00, black, white","rhombus","squared","structure is metal dot","LLN17045.jpg","LLN 17405 Olympia Shoal Light 25" 20050420 20050420 "Permanent" 2.7 20050420 "03-26:09pm" 180 -10.769 17.566 0.452019 47.092056636 -122.920083597 47-5:31.4039" "-122.55:12.3009"

"Symbol"	"Remark"
""	"Delete Charted Pile PA"
""	"Chart rock"
""	"Chart mooring buoy in position shown"
""	"Delete charted mooring buoy"
""	"Delete charted mooring buoy"
""	"Chart new mooring buoy"
""	"Delete Exposed Rocks. Chart submerged shoal and current soundings."
""	""
""	"Revised Position Fish Haven"
""	"Delete charted Obstn Fish Haven (auth min 5 ft)"
""	"Revised position Obstn Fish Haven"
""	"Delete charted Obstn Fish Haven (auth min 26 ft)"
""	""
""	"Revised Position Charted Buoy ""A"" - Delete text: ""A"""
""	"Delete charted features on green tint - none visible - see photos"
""	"Charted sewer line not seen - disposition unknown"
""	"Delete charted buoy ""G"" and text ""W Or C ""G"""
""	"Delete charted buoy ""B"" and text ""W Or C ""B"""
""	"Delete text ""C"""
""	"Delete text ""D"""
""	"Delete text ""E"""
""	"Delete text ""F"""

**Subject: Budd Inlet NOAA survey**

**Date:** Fri, 22 Feb 2008 15:49:20 -0800

**From:** David Neander <Dave.Neander@noaa.gov>

**To:** lonnie.m.reid-pell@usace.army.mil

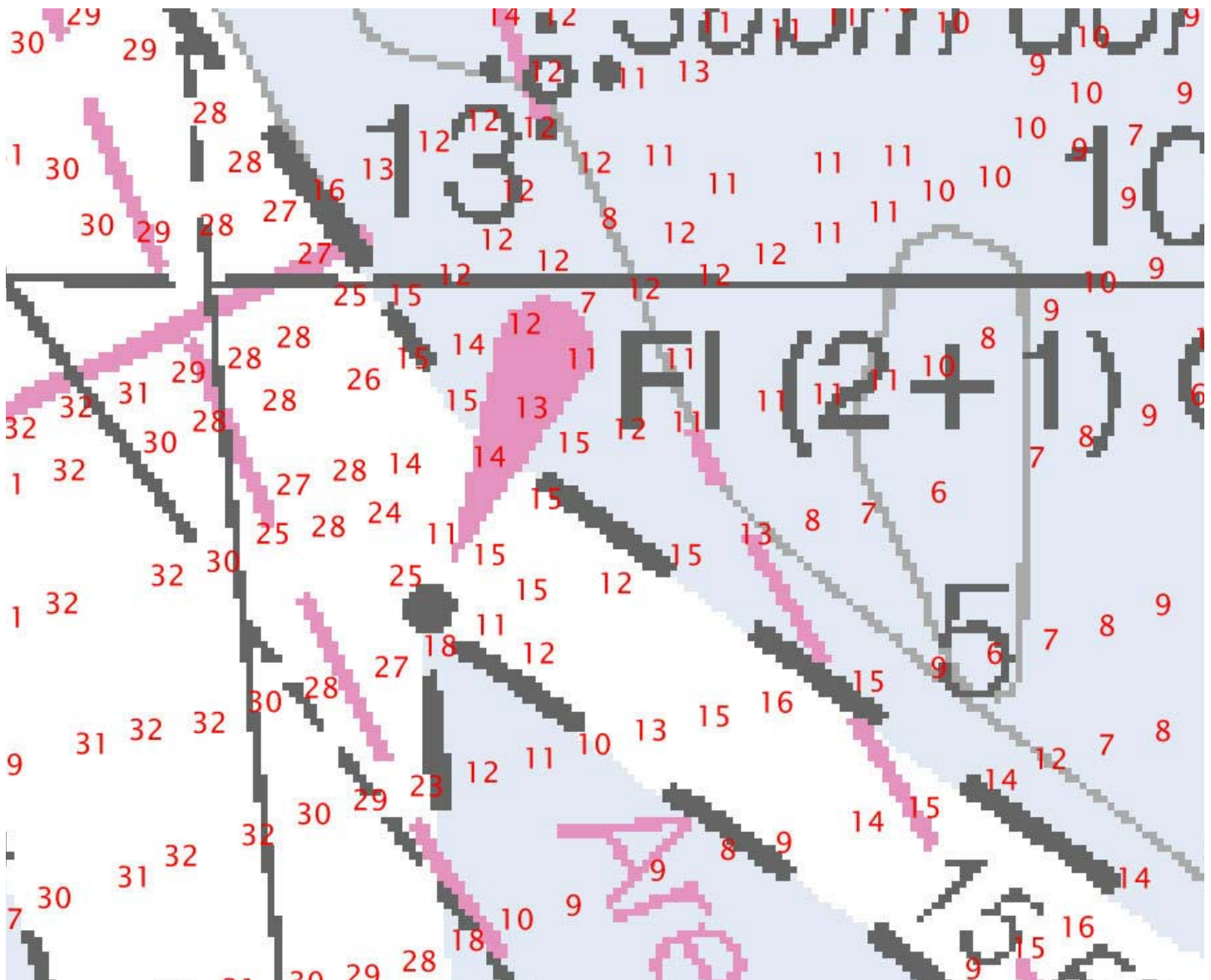
**CC:** Sarah Eggleston <Sarah.Eggleston@noaa.gov>

Hi Lonnie,

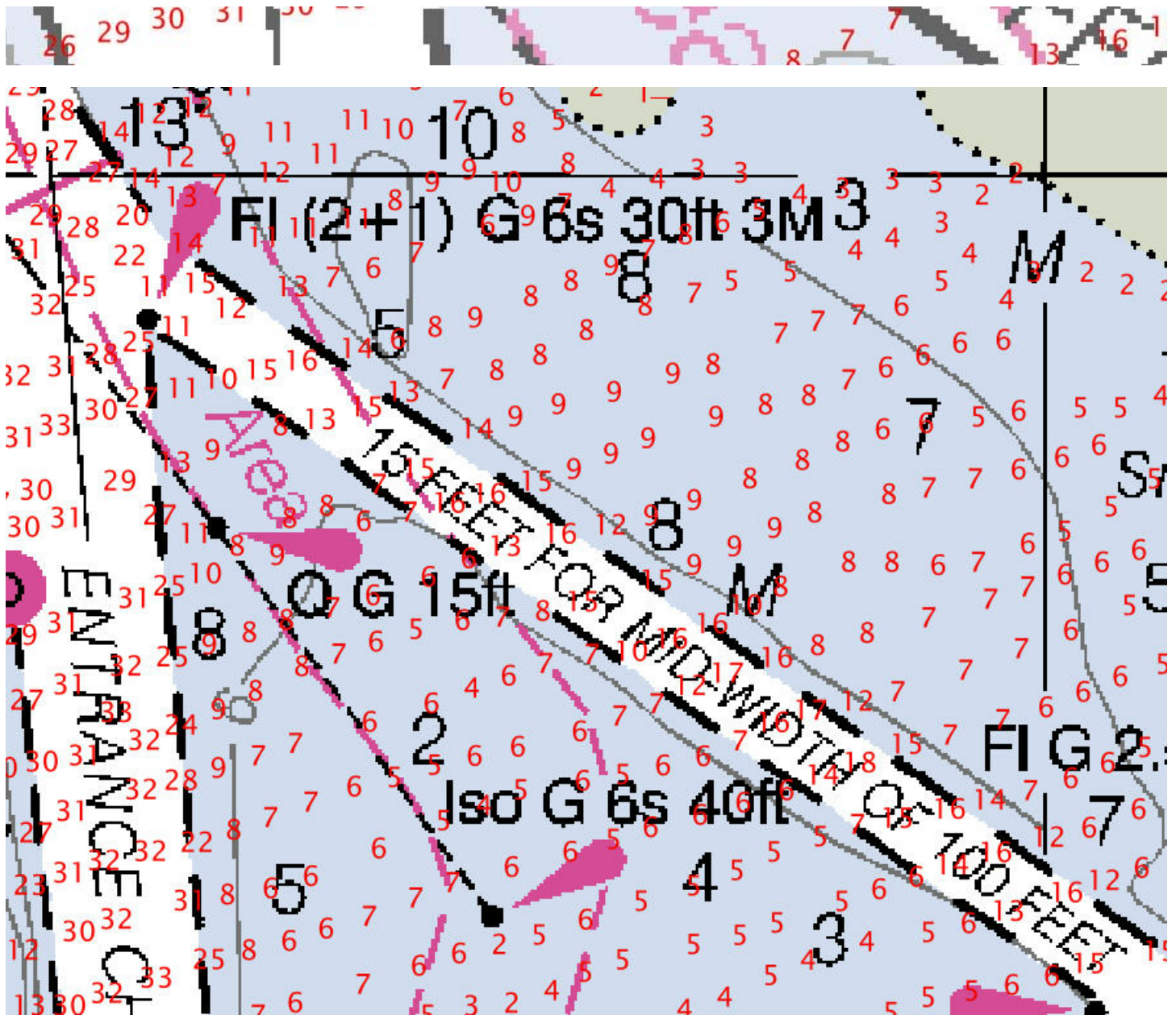
NOAA's Atlantic Hydrographic Branch is currently processing a 2005 survey by Navigation Response Team 3 completed in Budd Inlet. There is an area in the Corps maintained channel where the soundings are shoaler than the maintained depths. Do you know if this area has been subsequently surveyed by the Corps?

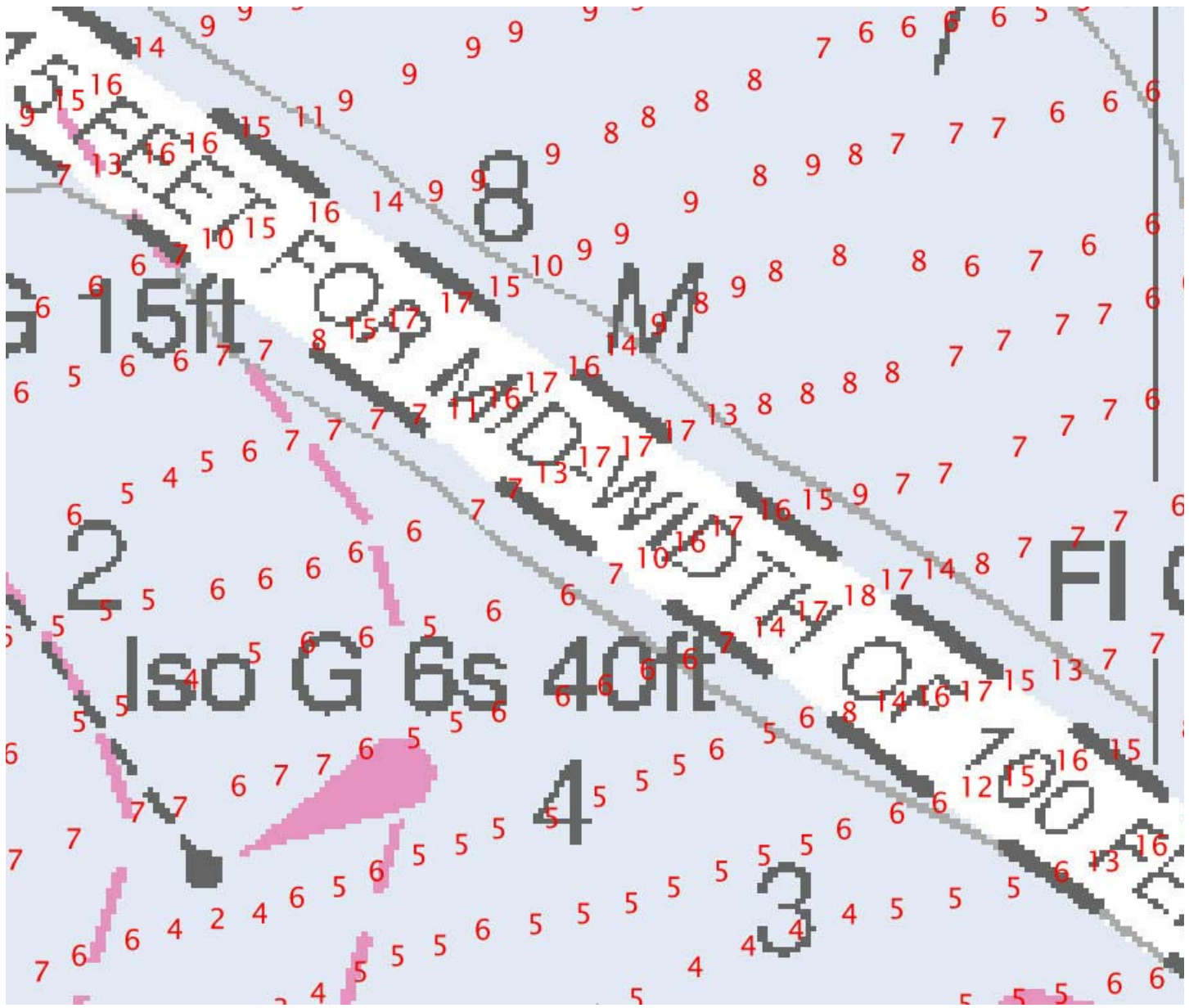
Specifically there are depth from 11-14 ft at the entrance to, and along the maintained 15 ft channel. I've included a few screen grabs of the chart (18456) and survey depths.

Thanks,  
Dave











**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
National Ocean Service  
Silver Spring, Maryland 20910

**TIDE NOTE FOR HYDROGRAPHIC SURVEY**

**DATE :** March 17, 2006

**HYDROGRAPHIC BRANCH:** Pacific  
**HYDROGRAPHIC PROJECT:** OPR-N375-NRT3-2004  
**HYDROGRAPHIC SHEET:** H11370

**LOCALITY:** Olympia Harbor, WA  
**TIME PERIOD:** March 8 - August 22, 2005

**TIDE STATION USED:** 944-6484 Tacoma, WA  
Lat. 47 16.0'N Long. 122 24.7' W  
**PLANE OF REFERENCE (MEAN LOWER LOW WATER):** 0.000 meters  
**HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:** 3.336 meters

**REMARKS:** RECOMMENDED ZONING  
Use zone(s) identified as: PS202 & PS203

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 on the 1983-2001 National Tidal Datum Epoch (NTDE).

Fa 

CHIEF, PRODUCTS AND SERVICES DIVISION



**ATLANTIC HYDROGRAPHIC BRANCH  
EVALUATION REPORT FOR H11370**

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

**B. DATA ACQUISITION AND PROCESSING**

**B.1 DATA PROCESSING**

The following software was used to process data at the Atlantic Hydrographic Branch:

HSTP PYDRO version 7.3  
CARIS HIPS/SIPS version 6.1 SP1 HF 1-6  
CARIS Bathy DataBase version 2.1 HF 1-4  
DKART INSPECTOR, version 5.0 Build 732

**B.2 QUALITY CONTROL**

**B.2.1 DATA QUALITY FACTORS**

**BASE Surfaces and Mosaics**

One 2-meter BASE Surface was generated by the office processor during in-office review. The resulting BASE surface was imported to CARIS BathyDataBase Manager for H-Cell processing.

**B.3**

**H-CELL**

The field unit did not submit any BASE surfaces for this survey. The object detection requirement for this survey was met by acquiring side scan sonar data. The AHB BASE Surface for Survey H11370 was filtered in CARIS HIPS to meet IHO Order I specifications. The BASE Surface model serves as the bathymetric and feature presentation source for all cartographic components incorporated within the submitted Electronic Navigational Chart (ENC) exchange file.

No TPE values were available for this survey, therefore the product of the survey is a Caris swath-angle BASE grid at 2-meter resolution which contains depth, sounding density, standard deviation, mean, shoal, and deep sounding child layers. The finalized depth layer incorporating designated



depths was used as the source of a 2m grid from which soundings were selected. The soundings were extracted from the 2m resolution surface model using a 100m radius. Soundings were truncated to millimeter precision and converted to whole feet (NOAA rounding regime) in HOM. Contours were hand digitized and used solely as a guide for sounding selection.

The following Base Cell final products were created using CARIS BathyDataBASE Manager:

H11370_CU.000	1:20,000 Scale	H-cell without Survey Scale Soundings
H11370_SS.000	1:20,000 Scale	H11370 Survey Scale Soundings
H11370_BlueNotes.000	1:20,000 Scale	H11370 Blue Notes
H11370_Contours.000	1:20,000 Scale	H11370 Reference Contours

The completed H-Cell was exported as a Base Cell File (ENC.000) in S-57 format with all values in metric units. The metric equivalent ENC.000 file was then converted to NOAA chart values (ENC\_CU.000) with all values measured in feet. Chart compilation was performed by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

### C. VERTICAL AND HORIZONTAL CONTROL

Horizontal control used for this survey during data acquisition is based upon the World Geodetic System-84 (WGS-84), UTM projection zone 15. Office ENC processing of this survey required translating the datum to meet S-57 ENC requirements. The horizontal geodetic datum was translated to Latitude and Longitude (LLDG) World Geodetic System-84 (WGS-84) during Caris HOM processing. The S-57 H-CELL format serves as the exchange file submitted to Marine Chart Division.

### D. RESULTS AND RECOMMENDATIONS

D.1 CHART COMPARISON 18456 (20<sup>th</sup> Edition, March./05)  
 Corrected through NM March 12/05  
 Corrected through LNM Feb. 22/05

#### HYDROGRAPHY

##### D.1.1 Charted Soundings and Items

The charted hydrography originates with prior surveys and

requires no further consideration. The hydrographer makes adequate chart comparisons in section "D" of the Descriptive Report except as follows:

Sixteen charted dolphins in the vicinity of 47° 04' 32.28"N, 122° 54' 28.85"W should be retained as charted.

Twenty-Nine charted submerged piles in the vicinity of 47° 03' 45.58"N, 122° 54' 44.44"W should be retained as charted.

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

#### **D.2 COMPARISON WITH PRIOR SURVEYS**

A comparison with prior surveys was not done during office processing in accordance with section 4 of the memorandum titled "Changes to Hydrographic Survey Processing", dated May 24, 1995.

#### **D.5 DTONS**

Two additional point Dtons were submitted by AHB:

An 11ft sounding in the 15 feet maintained channel at 47° 03' 54.466" N, 122° 54' 27.194" W.

A 10ft sounding in the 15 feet maintained channel at 47° 03' 49.861" N, 122° 54' 12.340" W

#### **D.8 ADEQUACY OF SURVEY**

The present survey is adequate to supersede the charted hydrography within the common area. This is an adequate navigable area survey. Refer to the Descriptive Report for further survey requirements recommended by the hydrographer.

#### **MISCELLANEOUS**

ENC products were created by Atlantic Hydrographic Branch personnel, Norfolk, Virginia, using CARIS HOM v3.3. ENC products and electronic data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

APPROVAL SHEET  
H11370

The completed survey has been inspected with regard to survey coverage, delineation of 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 Evaluation Report.

\_\_\_\_\_ Date: \_\_\_\_\_  
**Sarah Eggleston**  
Physical Scientist  
Atlantic Hydrographic Branch

I have reviewed the ENC exchange file (\*.000), 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 Evaluation Report.

Approved: \_\_\_\_\_ Date: \_\_\_\_\_  
**Shep Smith**  
Lieutenant Commander, NOAA  
Chief, Atlantic Hydrographic Branch