

Diag. Cht. No. 6300-2.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE Environmental science services administration COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. H0-10-2-67 Office No. H-8929

LOCALITY

State Washington

General locality Strait of Juan De Fuca

Locality Gungeness Bay

1)

1967

CHIEF OF PARTY

W. F. Forster

LIBRARY & ARCHIVES

DATE Jan. 23, 1969

USCOMM-DC 37022-P66



FORM	C&GS-537
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U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SÉRVICES ADMINISTRATION COAST AND GEODETIC SURVEY

REGISTER NO.

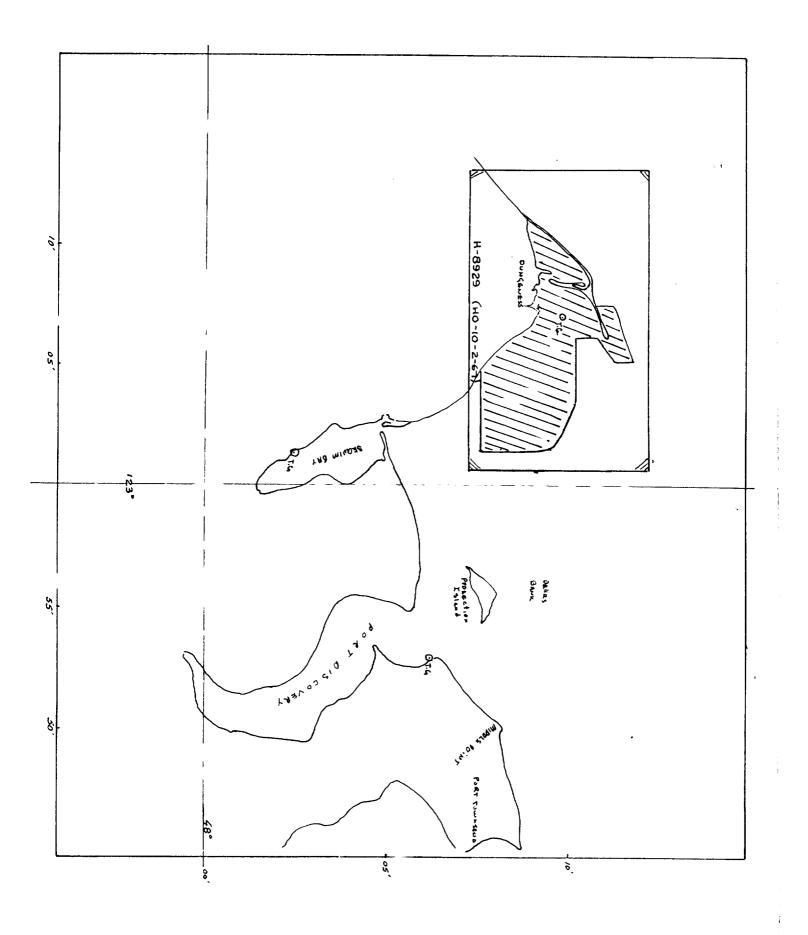
H-8929

HYDROGRAPHIC TITLE SHEET

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

HO-10-2-67

State Washington	· .
General locality Strait of Juan de Fuca	·
Locality Dungeness Bay	
	Date of survey 1967 6 April 1967-25 May 1967
Instructions dated 6 February 1967	· · · · · · · · · · · · · · · · · · ·
Chief of party Walter F. Forster, II	
Surveyed by LT. W. F. Forster, LT(j.g.) D. J.	
Soundings taken by echo sounder, XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	3 Fathometers
Graphic record scaled by Ship Personnel	
Graphic record checked by Ship Personnel	
Protracted by Gerber Digital Plotter	Automated plot by <u>Pacific Marine Center</u>
Soundings penciled by Gerber Digital Plotter	
Soundings in fathoms for at MKW MLLW	
REMARKS:	
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·	
•	
	9.7. J.



To Accompany

HYDROGRAPHIC SHEET H-8929 (HO-10-2-67)

Dungeness Bay, Washington

Scale 1:10,000

USC&GS Ship Hodgson, CSS 27

LT. Walter F. Forster II, COMDG.

A. Project

The survey was accomplished under OPR-412, project insturctions dated 6 February 1967.

B. Area Surveyed

The survey includes Dungeness Bay, the inshore area on Dungeness Spit from Long. 123°07.7 won the north side of the spit extending north about one half mile and east to about one mile off the end of the spit, (see project sketch), the inshore area southeast of Dungeness Spit was surveyed from Lat. 48°10.1 who Lat. 48°07.5 when and enxtending offshore about 0.2 mile past the 20 fathom curve (approximate Long. 123°01.5 where allowing adequate junction with 1:20,000 scale survey H-8927 (HO-20-1-67). The southern limits of the survey are junctioned by 1:10,000 scale survey H-8928 (HO-10-1-67).

The control was partially established during 6 April to 12 April 1967 and completed during the events of the survey. Hydrography was started on 24 April 1967 and completed on 25 May 1967.

Prior surveys in the area are as follows:

H-4573	1:20,000	1926
H - 6651	1:10,000	1941
H - 6653	1:40,000	1943

C. <u>SoundingsVessel</u>

Soundings were obtained with Launch 122 shown on the boatsheet in lowercase violet letters. Bottom samples taken by Ship Hodgson are shown in uppercase red letters. Bottom samples and field edit locations taken by #1 tin skiff (vol XIII) are shown in lowercase blue letters. Pole soundings and detached positions taken by #2 tin skiff (vol XIII) are shown in lowercase orange letters.

The arbitrary numbering system used for automated plotting is as follows:

Launch 122	Nos. 1 to 284
Sh a p Hodgson	Nos. 3001-302
#l Skiff	Nos. 4001-402
#2 Skiff	Nos. 5001-522

D. Sounding Equipment

Raytheon DE-723 fathometers were used on Launch 122 and Ship Hodgson. Serial / no. 554 was used on Ship Hodgson. Launch 122 used no. 554 on 24 and 25 April 1967 and no. 534 from 26 April to 25 May 1967.

The echo sounder corrections were determined from serial temperatures, salinity and B. T. observations. The corrections for launch 122 also include bar check results such that a table of total corrections may be used which include transducer draft, velocity corrections and instrument error. These corrections are accounted for under a separate report. An abstract of corrections is included with this report.

E. √Smooth Sheet

The signal overlay was plotted by Gerber Digital Plotter and verified by ship personnel. The position overlay will be plotted electronically and verified by personnel at Pacific Marine Center. The soundings will be logged and the final smooth sheet will also be plotted electronically and verified by personnel at PMC. ANC

F. Control

All hydrography was accomplished by visual fix methods. The control was obtained from recovered triangulation stations and photo identified stations on incomplete manuscripts, scale 1:10,000, Nos. T-13097 and T-13098. Five signals were located by sextant and t-2 cuts.

G. Shoreline

Shoreline was transferred directly to the boat sheet from the incomplete manuscripts, scale 1:10,000, nos. T-13097 and T-13098.

The shoreline for the smooth sheet is to be obtained from advanced manuscripts of the same numbers and will be applied at recipie Marine Center.

VThe low water line could not be defined in some areas around the Dungeness Spit due to steeply sloping share.

H. Crosslines

Crosslines, consisting of about 10% of the regular system of sounding lines, were in good agreement except in a few cases of very steep or irregular bottom characteristics.

I. <u>Junctions</u>

Junctions were made with contemporary surveys, nos. H-8927 (HO-20-1-67) and H-8928 (HO-10-1-67). These junctions are adequate and complete.

Junctions with prior surveys H-6651, scale 1:10,000 and H-6653, scale 1:40,000, indicate a generally close agreement with this survey.

J. Comparison with Prior Surveys

Comparison of soundings from prior surveys H-4573, ascale 1:20,000, H-6651, scale 1:10,000, and H-6653, scale 1:40,000, indicate a generally good agreement with the exception of slight shifting of the soft mudflats in the Dungeness River delta area.

The 5th fathom shoal, Lat. 48°09.5' Long. 123°05.8', shown on presurvey review dated 3 November 1965 was thoroughly investigated indicating a least depth of 5 of fathoms (unverified from boat sheet). 5th sounding in original there were no other presurvey review items indicated for this area.

K. Comparison with the Chart

A comparison of this survey with chart 6382 (the largest scale chart of this area) shows a generally good agreement in the deeper waters. Some slight shifting can be noted in the mud flat and tide flat areas, however, the scale of the chart is too small (1:80,000) to make an accurate comparison.

L. Adequacy of the Survey

The survey is considered complete and adequate to super ede prior surveys for charting.

M. Aids to Navigation

The only fixed aid to navigation in the area of the survey is New Dungeness Light House which is in agreement with the light list.

√The location of bouy N"2" northeast of Dungeness Spit was determined by sextant fix and is plotted on the boat sheet. Its position is:

Lat. 48°11.44N

Long. 123°05564W

N. Statistics

	Hodgson	Launch 122	Skiffs	
Positions	21	2842	255	3118
	bottom sample			351.4
Area surveyed (sq. nautical miles))	16.2		16.2
Oceanographic stations	2			2
Bottom samples	20	0	20	40

O. Miscellaneous

A sunken wreck baring 5 feet @ 1244 P. S. T. on 23 May 1967 was located at approximate Lat. 48°08.89, Long. 123°06.25.

P. Recommendations

None

Q. Reference to Reports

- 1. Corrections to Echo Soundings, Port Discovery to Dungeness Bay, 1967.
- 2. Coast Pilot Report, Port Discovery to Dungeness Bay, 1967.

Respectfully submitted

Walter F. Forster, II

LT. USESSA

C. O. USC&GS Ship Hodgson

Registry Number H-8929 Field Number H0-10-2-67

Dungeness Bay, Washington

A portable bubbler gage was installed at Lat. 48°09!34" Long. 123°07'00" on 8 April 1967 in Dungeness Bay for the purpose of determining tide reducers. On 4 May the bubbler gage was replaced by a Porter Fischer digital recording gage at the same location. The main staff was located at Lat. 46°09.16 N. Long. 123. And could be read from shore. An auxillary staff was located at the gage site. One new bench mark was set and two existing marks were used to maintain datum. Levels were never run to the auxillary, however, simultaneous readings were taken periodically.

The digital punch tapes and the bubler gage marigram have been submitted to the Rockville office for verification and computation of reducers for soundings.

Time Meridian: 120°W

MLLW on staff: (unknown at this time)

Dates of levels to main staff: 7-8 April 1967

4 May 1967 29 June 1967

APPROVAL SHEET

Project OPR 412 Sheet H-892**9**

Dungeness Bay, Washington

The field work on this survey was accomplished under direct supervision of the commanding officer. The boat sheet was given daily inspection to check for adequacy and accuracy. The survey is considered complete and adequate and no additional field work is considered necessary.

The signal overlay was plotted and verified and the positions have been log-ged. However, the position overlay has not been plotted and the soundings have not been logged or plotted at the time of this approval.

Walter F. Forster, II

LT. USESSA

Commanding Officer USC&GSS Hodgson

Tabulated Echo Sounder Corrections for:

Launch 122

	44. gr •	
<u>De pt</u>		Total Correction (+)
0 to	8 fathoms	+0.3 fathoms
8 to	18	0.4
27		0.5
37.		0.6
47		0.7
56		0.8
65		0.9
73		1.0
82		1.1
91		1.2
100		1.3

The above corrections include transducer draft, velocity correction, and instrument error. These corrections are applicable to survey nos. H-8928, H-8929, H-8930, and H-8933.

TIDE NOTE FOR HYDROGRAPHIC SHEET

January 5, 1968

NAMES OF THE PROPERTY NAMES OF THE PROPERTY OF

HYDROGRAPHIC SHEET 8927; 8929

Locality: Port Discovery - Dungeness Bay, Washington

Chief of Party: W. F. Forster, 1967

Plane of reference is mean lower low water

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

Sequim Bay Cape George Dungeness Bay

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

Sequim Bay = 6.9 feet Cape George = 6.9 " Dungeness Bay = 6.7 "

Remarks Tide reducers for the following positions have been revised in red and verified.

Day No. Time

9:49 & 10:29

Chief, Tides and Currents Branch

USCOMM-DC 8680-P64

			SIGNALS (comp	uter pr	int out)
	· · · · · · · · · · · · · · · · · · ·	DUNGENESS BA	. ,		
	NUMBER	LATITUDE	LONGITUDE	NA ME	SOURCE
8929	201 🛆 🗸	48091864	123094838)BAC	Dungeness Bay, measured mile S.W. rear range, 1966
8929	202 /	48105151	123064825	BEL	T-13098
8929	203 /	48091340	123083045	вох	T-13097 /
8929	204 /	48093380	123070009	BUB	T-13098 /
8929	205(H) X	48072072	123041005	CAN /	vol. XIII,p.10 (hydrographic)
8929	206 √	48083554	123062384	cow	T-13098 /
8929	207 /	48073597	123045779	DIE	T-13098 /
8929	208 🛮	48081631	123055952) DON	DON, 1962
8929	209 💇	48091635	123090004) DUXC	DUCK, 1940 /
29	210(T)X	48090696	123071239) DUN	T-13098
8929	211 /	48090822	123083776	EAR	T-13097 /
8929	212 /	48073014	123044643	FAR	T-13098 / ·
8929	213 /	48085646	123095640)FUN	T-13097 / ,
8929	214 /	48075021	123052523	GAB	T-13098 /
8929	215 💇	48105494	123063228	GEN	NEW DUNGENESS LIGHT HOUSE,
8929	216 🗸	48084571	123111017	GOT	T-13097 /
8929	217 🗸	48075008	123052262) HED	T-13098 /
29	218 (H) N	48102897	123075407)HIT*	vol.XIII,p.10 (hydrographic)
8929	219 🗸	48085031	123101874)KRIS	T-13097 /
8929	220 💇	48094299	123095811	LAF	Dungeness Bay, measured mile, S.W. front range, 1966
8929	221 🗸	48102535	123080358	LEG	T-13097
8929	222 🛆	48102570	123084237)NOR	Dungeness Bay, measured mile, N.E. front range, 1966
8929	223 /	48072246	123042019)ONE	T-13098 /
8929	224 /	48092739	123083035)OUT	T-13097/
8929	225	48090032	123094475)PUD	T-13097
8929	226 /	48084416	123063197)RAT	T-13098 /
8929	227 AV	48070738	123034685	RAY	RAY, 1962 /

8929	NUMBER 229		LONGITUDE 123070701	NAME)STA	SOURCE T-13098
8929	230 🗸	48074144	123050792)TWO)	z T-13 098 /
8929	231 :/	48084772	123104499	TEN	T-13097
8929	232(T) X	48110424	123060159) USE	vol.XIII,pl2 (T2 angles)
8929	233	48090197	123090552) W I T	T-13097 /
8929	234	48082784	123061470) WOF	T-13098 /
8929	235 (H) X	48104115	123071660	YEL /	vol.XIII,p.10 (hydrographic
^ 729	236 🛆	48100165	123083273)ZAP	Dungeness Bay, measured mil
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FORM 197 (3-16-55)

Or tho. P.O. Guide of Her **GEOGRAPHIC NAMES** On local Magos ori information Survey No. H-8929 Or No. Name on Survey FORM C&GS-946
(REV. 13-65)
(PRESC. NY
HYDROGRAPHIC
MANUAL 20-2.
6-94, 7-13)

U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION COAST AND GEODETIC SURVEY NAUTICAL CHART DIVISION

HYDROGRAPHIC SURVEY STATISTICS HYDROGRAPHIC SURVEY NO. H-8929 (HO-10-2-67)

RECORD	DESCRIPTION	AMOU	NT RECORD DESCRIPTION		THUOMA	
MOOTH SHEFT		1	BOAT SHEETS		1	
ESCRIPTIVE REA	PORT	1	OVERLA	YS		8
DESCRIPTION	DEPTH RECORDS	HORIZ, CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
NVELOPES		1			1.00	
AHIERS	1					
DLUMES	14				Traffic Tra	
OXES			4			
SHEET PRINTS		trol Manusc 2053, 12054 (Mylar)		,		
		atistics will be sub	omitted with the C		OUNTS	
55.	OCESSING ACTI	/ITY	PRE•	AMO	OUNTS	T
r n v			VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SE	HEET					3118
POSITIONS	CHECKED		500	- /		0-7
POSITIONS	REVISED		222	54		276
ÖEPTH SOUNDIN	OS REVISED					
DEPTH SOUNDIN	IGS ERRONEOUSL	Y SPACED				1
	EOUSLY PLOTTE	D OR TRANSFERRED	None			None
SIGNALS ERRON				TIME (N	MANHOURS)	
SIGNALS ERRON			 		1	
	PHIC DETAILS			9		-4
TOPOGRAF	PHIC DETAILS			1		4
TOPOGRAF	PHIC DETAILS	GS FROM		62		-62
TOPOGRAF JUNCTIONS VERIFICA GRAPHIC I	PHIC DETAILS	GS FROM		62		-62
TOPOGRAF JUNCTIONS VERIFICA GRAPHIC I	PHIC DETAILS TION OF SOUNDIN RECORDS ADJUSTMENTS	GS FROM		62 286		286
TOPOGRAF JUNCTIONS VERIFICA GRAPHIC I SPECIAL A ALL OTHE	PHIC DETAILS TION OF SOUNDING RECORDS ADJUSTMENTS R WORK TOTALS			2:86 412	159 RE ENQU	286 412
TOPOGRAF JUNCTIONS VERIFICA GRAPHIC I SPECIAL A ALL OTHE	PHIC DETAILS TION OF SOUNDING RECORDS ADJUSTMENTS R WORK TOTALS		Tre fethon	2:86 412	67 ENDIN	286 412
TOPOGRAF JUNCTIONS VERIFICA GRAPHIC I SPECIAL A ALL OTHE	PHIC DETAILS TION OF SOUNDING RECORDS ADJUSTMENTS R WORK TOTALS	geld & G.F.	Tre fethon	2:86 412		19/67

Fig. 18.

DESCRIPTIVE REPORT DATA RECORD		
Part I Smooth Sheet Preparation		D
A. PLOTTER OPERATOR	PREPARED BY/OPERATOR	DATE
A. PLOTTER OPERATOR B. DISTORTION MARKS PLOTTED	EDAT	
C. Projection Intersections	EUN 1	
PLOTTED	EDAT	
D. POINTS OF ELECTRONIC CON-		
TROL ARCS PLOTTED	NONE	
E. OVERLAYS PREPARED BY	EDAT	
1. Position Number	EDAT	
2. Excess Soundings	EDAT	
3. PRELIMINARY SMOOTH	2017	
PLOT	EDAT	
4. LIST OTHERS		
A•		
₿.		
F. Sounding Selection by	EDAT	
G. PLOTTER INPUT PREPARED	EDAT	
H. CHECKED	EDAT	
1. DESCRIPTIVE REPORT		
Addendums		
PART II SMOOTH SHEET COMPLETION		
	CARTOGRAPHER	DATE
A. Distortion Scale Ticks	www.Eensel	11/12/62
IDENTIFIED BY NOTE	W.W. FEAZEL	11/10/00
B. Projection Intersections	W.W. FEAZEL	11/18/68
VERIFIED BY		1110100
C. PROJECTION LINES RULED BY	W.W. FEAZEL	11/17/68
D. ELECTRONIC CONTROL ARCS	NONE	
RULED AND LOCATION	NONE	
VERIFIED E. OVERLAYS COMPLETED BY	•	
1. Position Number		
LEADERS ADDED	W. W. FERZEL	12/3/68
2. Excess sounding		
OVERLAY COMPARED	W. W. FEAZEL	12/13/68
3. PRELIMINARY SMOOTH	W. W. FEAZEL W. W. FEAZEL	12/13/68
PLOTS COMPARED	W. W. FEAZEL	12/17/68
4. OTHERS UTILIZED		•
Α.		
8.		
F. DESCRIPTIVE REPORT	int with Comment	110/10
Addendum	W.W. FEAZEL	1/8/69
G. CONTROL STATIONS VERIFIED	W. L. JONNS	1/9/68
H. POSITIONS MANUALLY PLOTTED	W. L. JONNS	1/22/68
1. MANUAL PLOT VERIFIED	AKS, GFT. WWF	12/17/68
J. SHORELINE APPLIED	W. W. FEAZEL	12/6/68
Y. BOTTOM CHARACTERISTICS ADDED	W. W. FEAZEL	12/17/68
L. Notes and Depth Curves Added	W.W. FEAZEL	12/31/68

Sce Verifiers Notes

OFFICE OF HYDROGRAPHY AND OCEANOGRAPHY

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8929	FIELD NO. HO-10-2-67
Washington - Straits of Juan de	e Fuca - Dungeness Bay
SURVEYED: April 6, 1967 - May	25, 1967
<u>SCALE</u> : 1:10,000	PROJECT NO.: OPR-412
SOUNDINGS: Pole Soundings DE-723 Fathometer	
Chief of Party	W. F. Forster II D. J. Lystrom
Protracted by	Gerber Digital Plotter Gerber Digital Plotter W. W. Feazel (Norfolk)

..... Date: 04/18/69

l. Description of the Area

This survey of Dungeness Bay and the inshore area of Dungeness Spit, extends to Kulakala Point on the south and long. 123°01.5'W. to the east. Dungeness Bay is formed by a sandspit extending northeastward about 4 miles. From the end of this spit, a shoal covered with pebbles extends northeastward 3/4 mile. The bottom of the Bay is characterized by a steep slope to depths of over 30 fathoms near the spit. On the southern portion of the area, there are mud flats inshore and the bottom slopes gently to depths over 20 fathoms. At the head of Dungeness Harbor a channel leads into a small lagoon. The bottom in this area consists of mud and sand.

Inspected by...... R. H. Carstens

2. Control and Shoreline

The origin of control is adequately covered in Part F of the Descriptive Report. Five signals were located

by sextant and theodolite cuts by the hydrographic party. The shoreline originates with advanced photogrammetric manuscripts T-13097(1966-67) and T-13098(1966-67).

The floating pier located at lat. 48°08.47', long. 123° 06.23' was obtained from hydrographic information and is shown in red on the smooth sheet.

3. Hydrography

Depths at crossings are in good agreement and the usual depth curves were adequately delineated except for the low water line in some areas around Dungeness Spit where the low water line is close inshore. The development of bottom configuration and the investigation of least depths is considered adequate.

4. Condition of the Survey

The plotting, sounding records, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual, supplemented by the Instruction Manual for Automated Hydrographic Surveys, except that the record "Parameter for Digital Computing Polyconic Projection" was not inserted in the Descriptive Report.

5. Junctions

Adequate junctions were made with H-8927(1967) on the east, H-6653(1940-43) on the northeast, and H-8928(1967) on the south. The present survey overlaps a large portion of survey H-6651(1940-41) on the north and in Dungeness Bay. At the limit of the present survey, junction depths are in adequate agreement with H-6651.

6. Comparison With Prior Surveys

Α.	H-333	(1852)	1:214,240
	H-405	(1853)	1:211,798

These small-scale reconnaissance surveys provide only general depths in the area. The lack of development precludes a detailed comparison with the present survey. General depths are in good agreement. The present survey is adequate to supersede these prior surveys in the common area.

```
1:10,000
B. H-500
            (1855)
   H-1516A (1881)
                     1:20,000
            (1882)
                     1:20,000
   H-1534
   H-1629 (1884)
                     1:80,000
   H-2211
            (1894)
                     1:40,000
   H-2212
            (1894)
                     1:40,000
```

Since 1855, the area surrounding the end of Dungeness Spit has changed significantly. Along the northwest side of the Spit, depths have increased as much as 1.3 fathoms. The end of the Spit has extended about 400 meters northeastward. Deepening of as much as 1 fathom has occurred within the present 5-fathom curve off the northeast end of the Spit.

Comparable soundings in Dungeness Bay reveal a definite stability of the bottom offshore. In the delta region of the Dungeness River, the tidal mud flats have accreted about 175 meters. A comparison of the prior and present surveys in the lagoon indicates very little bottom changes. A gradual deepening of 0.5 to 1 fathom in depths has occurred in the natural channel entering the lagoon. A comparison in the southern part of the survey reveals no major changes, but a few variable .2 to .5 fathom differences. A deepening of .2 to .5 fathom on the shoal flats inshore has occurred and has resulted in marked changes in the position of the low water line.

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

These prior surveys cover the area of the present survey. A comparison of the prior and present depths over the shoal at the end of Dungeness Spit reveals a general deepening of .1 to .4 fathoms, as for example a 2-3/4 fathoms charted in lat. 48°11.16', long. 123° 05.8' from H-665l has now deepened to 3.3 fathoms. The high water line in this area has gradually migrated northeastward about 160 meters. Along the northwest slope of the Spit within the 5-fathom depth curve slight erosion has occurred. In the offshore areas no significant changes in depths were found.

.

Attention is directed to the following soundings:

- 1. The $2\frac{1}{4}$ charted in lat. $48^{\circ}11.3^{\circ}$, long. 123° 6.3' from H-4573(1926) is probably an error in recording handlead soundings and should be disregarded. Falling in depths of about $3\frac{1}{4}$ fathoms on both the present survey and H-6651, the $2\frac{1}{4}$ is considered to be one fathom in error and should be disregarded.
- 2. The $5\frac{1}{4}$ charted in lat. $48^{\circ}09.6^{\circ}$, long. $123^{\circ}05.8^{\circ}$ from H-4573 falls in depths of 6 fathoms on the present survey. The $5\frac{1}{4}$ is an error in the reduction of the sounding in the original record and should be $6\frac{1}{4}$.
- 3. The 2¼ charted in lat. 48°08.45′, long. 123° 04.1′ from H-4573 falls in depths of 3 to 3.3 fathoms on the present survey. Although specific investigation of this sounding was not made, the general depths and smooth bottom configuration in this area discredits the possibility of a feature at this position. The unsupported 2¼ is probably in error by 1 fathom as a result of reading or recording handlead soundings and should be disregarded.

Since 1926, extension of the shoal has narrowed the entrance to the natural channel leading into the lagoon. In some inshore areas, a slight deepening of depths over shoal inshore flats has resulted in a considerable recession in the position of the low water line.

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

7. Comparison With Charts

Chart 6403 (latest print date 09/16/68) Chart 6382 (latest print date 10/14/68)

A. Hydrography

The charted hydrography originates with the previously discussed surveys which require no further consideration.

Several soundings were charted from Bp-57272, a Navy Oceanographic Office survey, and falls in present depths which are .5 to 1.5 fathoms greater than the charted soundings. It is considered that the present survey adequately provides the least depths in these areas and the Navy soundings should be disregarded.

Included among them are the following:

Soundings (fm.)_	Latitude	Longitude
4 3/4	48°09.15'	123°05.2'
6	48°09.55'	123°03.5'
5 1/2	48°09.7'	123°04.2'
6	48°09.7'	123°05.1'
7	48°10.0'	123°04.9'
6	48°10.0'	123°05.3'

The present survey is adequate to supersede the prior charted hydrography.

B. Topography

The piling and ruins charted in the immediate vicinity of lat. 48°09', long. 123°10.75' originate with T-4193 (1926). Since no evidence was found from recent topographic information, an examination of the present survey records reveals that some of these structures may exist as submerged piling. Therefore, a general note "scattered submerged piling" has been shown on the smooth sheet.

C. Aids to Navigation

The aids to navigation shown on the present survey are in substantial agreement with the charted positions and adequately mark the features intended.

8. Compliance With Project Instructions

This survey adequately complies with the Project Instructions.

9. Additional Field Work

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

Examined and Approved:

Chief Marine Chart Division ssociate Director ffice of Hydrography and

Oceanography

INFORMATION FOR FUTURE PRE-SURVEY REVIEW

The pilings and ruins charted at lat. 48°11.03', long. 123°06.09' originating with T-4193(1926) should be included in a future Pre-Survey Review for further investigation to prove or disprove their existence.

Reg. No. <u>H-8929</u>

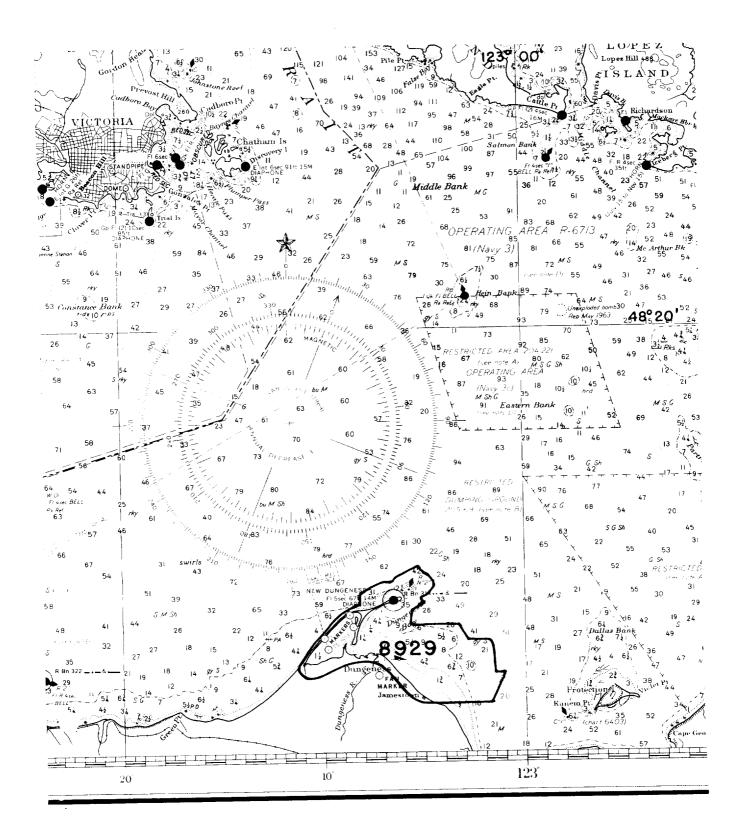
The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE 1/12/12 TIME REQUD 15 hrs. INITIALS GKH.

REMARKS:



FORM	C&G5-8352	
3-25-6	3)	

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

H-8929 FILE WITH DESCRIPTIVE REPORT OF SURVEY NO.

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.

2. In "Remarks" column cross out words that do not apply.

3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
6403	6/24/69	S.H. 14.11An	Full Pur Before After Verification Review Inspection Signed Via
	<u> </u>		Drawing No. 10 - Consider Fully Applied
5382	6/20/69	SHO MILLAN	Full Purt Defore After Verification Review Inspection Signed Via
2002	732167	01) = ///////////	Drawing No. 30 Fully Applied
1300	1/24/69	J. Nº Hillan	Full Part Defore After Verification Review Inspection Signed Via Drawing No. 32 Fully Applied Thru chf. 6382
			Dwg #20
6401	6-15-70	B. Fernanders	Part Part Patter Verification Review Inspection Signed Via
·			Drawing No.
6382	7-11-72	J.S. Stugat	Full Part Before After Verification Review Inspection Signed Via
			Drawing No. Revised Rock Symbols on chart
12.01	UIAIVA		per 1968 memo, "
18471	418183	1 A Graham	Full Part Before After Verification Review Inspection Signed Via Drawing No.
		. 07	
 			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
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			Drawing No.
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			Full Part Before After Verification Review Inspection Signed Via Drawing No.
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			Drawing No.