8997

Diag. Cht. No. 1211-2 & 1212-2.

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. 742-10-3-68 Office No. H-8997

LOCALITY

State CONNECTICUT

General locality COAST OF CONNECTICUT

Locality NIANTIC TO SAYBROOK

19 68 & 69

CHIEF OF PARTY

JOHN D. BOON, III & A.P. SIBOLD III

LIBRARY & ARCHIVES

DATE 18 NOV 1970

USCOMM-DC 37022-P66

8997

IMPORTANT

PAGE 47 WAS ADDED

IT IS NOT A PAGE IN THE REPORT

IT SHOWS DETAIL FROM

ORIGINAL DOCUMENT MISSING

FROM THE SCAN OF PAGE 46

FORM C&GS-537
(8-15-59)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

REGISTER NO.

H-8997

HYDROGRAPHIC TITLE SHEET

FIELD NO.

742-10-3-68

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

State Connecticut

General locality Coast of Connecticut

Locality Niantic to Saybrook, Connecticut

Scale 1:10,000 Date of survey Aug & Sept 1968 June & July 1969

Instructions dated (1) 3/31/66 (2) 5/19/67 (3) 5/14/68 (4) 6/6/69 Project No. OPR 414

Vessel 1968: Hydrographic Field Party 742
1969: Hydrographic Field Party 745

Chief of party LT Arthur P Sibold (HFP 745) LT John D Boon III (HFP 742)

Surveyed by Lloyd C Gilden

Soundings taken by echo sounder, hand lead, pole DE-723 #758, #1889, #1885, #1888, #1998

Graphic record scaled by Field Party personnel

Graphic record checked by Field Party personnel

Protracted by Gerber Digital Plotter Automated plot by Pacific Marine Center

Soundings penciled by Gerber Digital Plotter

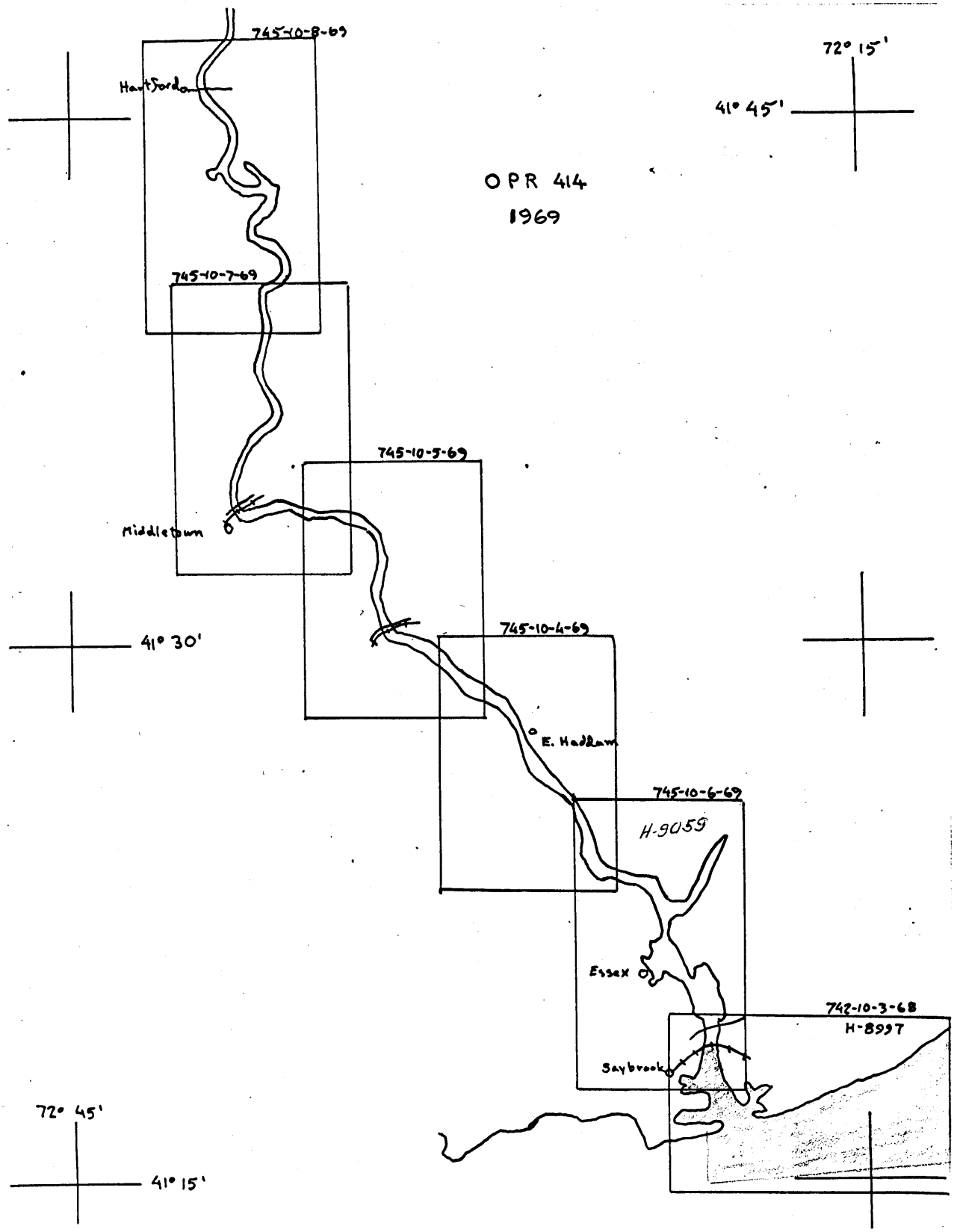
Soundings in ~~fathoms~~ feet at MLW ~~and MLLW~~

REMARKS: 95% of survey completed in 1968. Remainder of survey completed in 1969.

This is a basic hydrographic survey.

HR

USCOMM-DC 19086-P65


745-10-8-69
Hartford
72° 15'
41° 45'
OPR 414
1969
745-10-7-69
745-10-5-69
Middletown
41° 30'
745-10-4-69
E. Haddam
745-10-6-69
H-9059
Essex
742-10-3-68
H-8997
Saybrook
72° 45'
41° 15'

DESCRIPITIVE REPORT

to accompany

Hydrographic Survey H- 8997

(Boatsheet 742-10-3-68)

Scale 1:10,000 — 1968-1969

Connecticut (OPR 414) — Hydrographic Field Party 745

LT Arthur P Sibold — Chief of Party

A. PROJECT

Work on this survey in 1968 was done in accordance with Revised Instructions dated 31 March 1966 and Supplemental Instructions OPR 414 dated 19 May 1967 and 14 May 1968.

1969 field work was done in accordance with Instructions OPR 414 dated 6 June 1969.

B. AREA SURVEYED

The area covered by this survey is in the vicinity of Black Point, northeast Long Island Sound, and covers the area between a line from 41° 16.5' & 72° 12.5' to 41° 15.0' & 72° 21.5' northward to the shoreline of Connecticut, and up the Connecticut River at Saybrook to 41° 18.4'.

Field work on this survey commenced on the 12th day of August 1968. The survey was approximately 95 % completed in 1968, by Hydrographic Field Party 742 under LT John D Boon III.

The remaining field work was completed in 1969 by Hydrographic Party 745, during June and July. under LT. Arthur P. Sibold III

Junction was made on the east with contemporary survey H-8996 (Field No. 742-10-2-68) Scale 1:10,000.

The following prior surveys cover the area of H-8997:

No. 1603-a	1883	1:10,000
No. 1603-b	1883	1:10,000

C. SOUNDING VESSELS

The following vessels were used to obtain hydrographic data on this survey:

Vessel	Identifying Color	Unit	Vol.
Launch EX-1 (1968)	Violet Pos. 3000-3850	HFP 742	7-10
Launch EX-2 (1968)	Blue Pos. 5000-5713	HFP 742	11-14
Skiff 758 (1968)	Red Pos. 1-1340	HFP 742	1-6
Launch C.S. 1258 (1969)	Brown (Pos. 6001--6435)	HFP 745	15-16
Skiff (1969)	Green (Pos. 9001--9054)	HFP 745	17

D. SOUNDING EQUIPMENT

1968:

Raytheon Graphic Recorder, Model DE-723, Serial No. 535 was used on skiff 758; Serial No. 1889 was used on Launch EX-1; Serial No. 1885 and 1888 were used on EX-2. Pole and leadline soundings were taken from all three vessels. Corrections to be applied to echo soundings were determined from daily bar checks and temperature- salinity data. An abstract of these corrections are tabulated in APPENDIX " B " of Descripitive Report H-8996 (Field No. 742-10-2-68). The positive constant of 1.0 ft. has been added to all the corrections to meet the Plotter Center's requirement that such corrections be positive. The 1.0 ft must be subtracted from all soundings. Removed when Vel. Corr. Were relogged during verification.

1969:

DE-723 Recorder, Serial No.1998 was used by Launch C.S. 1258. Corrections derived from bar check. " Abstract of Corrections to 1969 Echo Soundings " appended to this Report.
1969 Skiff soundings all obtained by sounding pole.

E. SMOOTH SHEET

The 1968 survey data will be smooth plotted at Atlantic Marine Center (Norfolk, Virginia) using automated data processing punched tapes produced by HFP 742 personel.

1969 survey data will be smooth plotted by Atlantic Marine Center, partly in the automated data processing format, and partly by conventional smooth- plot methods. See Appendix of this Report for recommended breakdown of 1969 field data into automated and conventional processing.

F. CONTROL

Horizontal control was obtained by visual three- point sextant fix method. Appendix contains a complete list of control used and its quality and source.

Raydist was used for steering arcs; the station for the east end of the survey was located on Millstone Point. The station for the west end of the survey was located near Old Saybrook Light.

G. SHORELINE

Changes to the shoreline, as determined by the hydrographer, are indicated in red ink. Shoreline for boatsheet from photogrammetric manuscripts listed in Appendix. See Review Field edit was accomplished on these manuscripts in 1968 and 1969. Shoreline for smoothsheet will be furnished from the updated manuscripts.

H. CROSSLINES

Crosslines were run at approximately 10% of the regular system of hydrography and were in good agreement.

I. JUNCTIONS

Depths from the contemporary survey junction H-8996 (742-10-2-68) on the east are in excellent agreement.

J. COMPARISON WITH PRIOR SURVEYS

The depth curves and soundings are in general agreement, with these exceptions:

1- The contours in the Connecticut River entrance , between the jetties, have changed due to dredging.

All pre- survey review items will be discussed under the next section (K).

K. COMPARISON WITH THE CHART

This survey compared with the following charts:

Chart	Edition	Scale
C&GS 214	6th Ed; Sept/65	1:20,000 east of long 72°16'30"
C&GS 116SC	4th Ed; Nov/ 65	1:40,000
C&GS 215	9th Ed; Aug/ 68	1:20,000 west of long 72°15'30"

All features will be discussed starting at the edge of the boatsheet and working west.

Feature	Position	Remarks
PSI # 45 chart 214	41° 17.34'	(1) 1 hr 15 min spent searching for
Charted rock	72° 12.97'	charted rock in this position, with
charted 6 RK from H-1603a (1883)		fathometer, hand lead, and pole.
6½ R on H-1603a		Least depth found ~~10~~ 9 ft with lots
		of kelp in area. Recommend ~~be~~ that 6 be deleted
		and charted as ~~10~~ 9 ft.
		See ~~Pos. 5638~~ detached pos. 5658 has leadline depth of 9.8 ft.
PSI # 46 chart 214	41° 17.27'	(2) Charted rock at this position (Between Pos. 132-133.
Rock	72° 13.38'	~~121~~). Submerged 2 ft at MLW. Det. pos. 121 is a
RK deleted & 2 RK added from H-8997.		3 RK at lat. 41°17.02' long. 72°13.50' 500 meters away
Rock (Johns) RK.	41° 17.20' cht 214	Rock with least depth of 5 ft was
5 sndg from H-1603a on	72° 14.98'	found at Pos. 5589 but pos. 3239 has a
chart 214 (1975 Ed.)		shoaler depth of 6.2 ft.
Rock (near S. Brother	41° 17.42' cht 214	Least depth found was 2 ft. Pos.
RK not charted 2 sndgs from	72° 14.48'	5663 & 5662 20 m. to the south. Both are RKS
H-8997 boat sheet. These two sndgs reduce to 1 ft. shown as * cav 1' MLW.		
Rock (Not charted	41° 17.04'	(3) Rock with least depth of 4 ft was
or listed as a rock)	72° 15.52' cht 214	found. Pos. 5646. 4 sndg. charted on 75 Ed.
		cht 214
	41° 17.16'	(4) Least depth found of 4 ft at Pos.
Least depth	72° 13.45' cht 214	139. 4 RK on chart 214 (1975 Ed.)
3 Rocks subm.	41° 17.14'	(7) Rocks awash as charted. detached Pos. 439 & see
from H-1603a (1883)	72° 15.28' cht 214	440 60 meters apart. Review
Concrete Block	41° 18.02'	(8) Square concrete block about 50 m.
bares 3 ft MLW	72° 14.28'	from shore bares at MLW. Pos. 349 (3)
		This shown on chart 214 (1975 Ed.)
Rocks	41° 17.51'	(9) There are numerous rocks awash at
Long RK area	72° 13.68' cht 214	MLW in this area, that could be a
		hazard to small boats. Pos. 262,
		263, 180, 181. Area is outlined by
		a dashed black line.
Hatchett Reef	41° 16.13'	(10) Least depth of 6 ft obtained by see
Least depth	72° 15.98'	leadline. Pos. 5572. Recommend be Review
charted 5 sounding		retained as 5 ft as shown on chart
from H-42 (1838) on cht 214 (75 Ed)		for safety.
on cht 215 (77 Ed.)		

✓ Rock 2 RK on cht 214 (75 Ed.) 215 (77 Ed.) from H-8997 — 41° 16.88' ✓ 72° 15.96' ✓ (11) — 2 ft. sdg. Submerged rock surrounded by 8 to 10 ft soundings. Could be hazardous to navigation for boats transiting close to shore. Pos. 675 2RK on H-8997

✓ Submerged Rock on cht 214 (75 Ed.) 215 (77 Ed.) from H-8997 — 41° 16.82' ✓ 72° 15.98' (12) — Submerged rocks in area are a menace to smallboat operators. Pos. 676. shown as ✱ cov 1 ft MLW on H-8997

✓ Shoal 4 sndg. from H-8997 on cht. 215 (77 Ed.) — 41° 15.50' ✓ 72° 19.45' (13) — Shoal east of Saybrook breakwater at this position is believed to have flattened out from wind and current. In place of the 2 to 6 ft charted depths, this survey shows soundings ranging from 4 to 10 ft.

1977 Ed.

✓ PSI # 48 Sunken Wreck Charted as 2 sndg. from H-1603b (1883) — Chart 215 — 41° 16.00' 72° 19.87' 24 wreck ont — Not found 1969. Recommend delete from chart. Hydro investigation pos 6084-6109 also see next page

✓ Sand Shoal This sand shoal on cht 215 (77 Ed.) — 41° 16.49' 72° 20.00' (15) — Shoal not shown on chart. Located during this survey by hydrographer. Lies in a SE by NW axis from Pos. 1160, 1161, 1162, 1163. This shoal awash at MLW. (1)

✓ Rocky Shoal — 41° 16.57' 72° 20.17' (16) — Rock awash at Pos. 1164. (1) RK awash with danger curve from H-8997 on chart 215 (77 Ed)

✓ PSI # 48A Bare Rocks — 41° 16.61' ✓ 72° 20.42' (17) — These rocks were searched for in clear water. They are shown on the chart as Griswold's Piers. This survey reveals no piers remain. see Review

Detached Pos. 1165-67 delineate piles of rock. (2)

✓ PSI # 48A Bare Rocks inside L.W area — 41° 16.86' 72° 20.53' cht 215 (18) — Rocks were searched for and found. Pos at Pos 1168 is submerged 1 ft at MLW. on pile of rks see Review

(2)

✓ PSI # 48A Sodom Rks. — 41° 16.98' 72° 20.65' cht 215 — Rocks were found and area awash at MLW. Pos. 1169. on pile of rks see Review

✓ PSI # 48B — 41° 16.66' 72° 20.48' cht 215 — This item was searched for on a day when the tide was extra low and the water very clear. It is recommended that item known as Great Pier be deleted from chart. Great Pier is on a narrow island 215 meters in length on H-233 (1849). This island which is no longer in existence has not been charted. This item lays in the vicinity of Griswolds Piers.

The rock awash at the above location is probably a remnant of Great Pier

✓ PSI #48A Rocks Dickersons Pier	41° 17.19' 72° 20.75'	cht 215 (21)	Numerous rocks are awash at MLW. Pos. 1082. Shaw *(0) and accompanying note "pile of rocks"	see Review
✓ Rock Groin PSI 48A Gibralter Rks	41° 17.54' 72° 20.74'	cht 215 22	Rock groin awash MLW. Pos. 1063, and 1064. are rks awash MLW marking N. and S end of rock groin.	
✓ PSI #48D Pile from unidentified source prior to 1944.	41° 17.55' 72° 20.75'	✓ 23 cht. 215	There is no sign of the pile at this location. Recommend this pile be deleted from chart.	see Review
✓ Wreck bares 1ft MLW	41° 17.41' 72° 21.42'	✓ 24 cht 215	Wreck lies on axis NE & SW 30 m. long by 10 m. wide. The wreck has deteriorated and is awash, MLW at Pos. 1014. Sunken wk on cht 215 (1977 Ed.) from T-9094 (1948)	see Review
Bare Rocks on cht 215 from unknown source	41° 17.77' 72° 21.34'	✓ 25	Pile of rocks at Pos. 1037 bares 1 ft at MLW. *(2) pile of rks. on H-8997	✓
Bare Rocks on cht 215 from unknown source	41° 17.95' 72° 21.28'	✓ 26	Pile of rocks awash (2) at MLW at Pos. 1317. *(2) pile of rks. on H-8997	
Bare Rocks on cht 215 from unknown source	41° 17.98' 72° 21.37'	✓ 27	Pile of rocks awash (1) at MLW at Pos. 1318. *(1) pile of rks on H-8997	✓ (12)
✓ Pile from H-8997	41° 16.82' 72° 20.48'	✓ 28	Lone pile 10" diameter, Pos. 1194. X(8) This pile near bulkhead not on cht. 215 (77 Ed)	✓
✓ Rocks	41° 18.36' 72° 21.22'	✓ 29	Pile of rocks awash 2ft at MLW at Pos. 1338. rk awash on cht 215 (77 Ed.) from H-8997	✓
Bare Rocks on cht. 215 (77 Ed.) from H-2032 (1890)	41° 18.38' 72° 21.22'	✓ 30	Pile of rocks awash 1ft. MLW at Pos. 1339. Revise chart	✓
✓ Wreck PSI "48" 2 sndg on cht. 215 from H-1603 b (1883)	41° 16.00' 72° 19.88'	✓ 31	Closely spaced sounding lines, (pos 6084-6109) and closely spaced development lines at right angles failed to reveal any trace of this wreck or to reveal any 2 ft sounding. Recommend deleting from chart.	✓ Concur
Bare Rocks on cht 215 (77 Ed.) from H-2032 (1890)	41° 18.42' 72° 21.23'	✓ 32	Pile of rocks awash 2ft. MLW at Pos. 1340. Revise chart	✓
✓ PSI #47 Channel	41° 15.90' 72° 20.55'	✓ 33	This survey shows the channel into the Connecticut River has a controlling depth of 15 ft, which agrees with the 1964 Corps of Engineers survey.	✓

Saybrook Outer Bar Channel cht 215 (77 Ed.) tabulation has 15 ft. controlling depth from Oct. 73 C of E survey.

L. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting. No substandard work exists. No further field work is needed in the survey area at this time.

M. AIDS TO NAVIGATION

The US Coast Guard maintains (nineteen) floating and (four) fixed aids to navigation within the limits of this survey. These aids adequately serve their intended purposes.

N. STATISTICS

Vessel	No. of Positions		Naut. Mi. Sounding Line
Launch EX-1 (1968)	850	Pos. 3000-3850	130.2
Launch EX-2 (1968)	713	Pos. 5000-5713	94.3
Skiff 758 (1968)	1340	Pos. 1-1340	120.9
Launch CS1258 (1969)	436	Pos. 6000-6425	31.6
Skiff (HFP 745) (1969)	54	Pos. 9000-9054	2.4
	Total — 3393		Total 379.4

Total area surveyed .....(1968) .... 11.5 Sq. Naut. Mi.
.....(1969) .... 0.5 Sq. Naut. Mi.
Total - 12 0

Number of bottom samples .....(1968).....54
.....(1969).....17
Total - 71

One tide gage was located at the Niantic River Entrance., and a second gage was located at the Connecticut River Entrance. The tide zone is clearly marked on the boatsheet.

O. AUTOMATED DATA PROCESSING

A squat determination on Launch EX-1 and EX-2 indicated that the maximum is +0.2 ft, and only +0.1 ft at normal sounding RPM. Therefore, no squat correction applied to 1968 soundings.

Therefore a squat determination for Launch CS1258 indicated that the maximum is only +0.2 ft at sounding RPM. Therefore TRA tape was not needed and not prepared for 1968 or 1969 soundings.

P. RECOMMENDATIONS

None

Q. REFERENCES TO REPORTS

See Descripitive Report to accompany Survey H-8996,

Hydrographic Field Party 742, 1968 (OPR 414).

Submitted:

Lloyd C. Gilden
Surveying Technician
Hydrographer, Survey H-8997.

Approved & Fowarded:

LT Arthur P Sibold
Officer-in- Charge Hydrographic Field Party 745

APPROVAL SHEET

to accompany

Hydrographic Survey H-8997

(Field No. 742-10-3-68)

OPR 414

The field and office work was accomplished under my supervision. The hydrography and descriptive report was done by Lloyd C Gilden.

The report and records for this survey are complete and adequate to the best of my knowledge.

Approved & Forwarded:

John D Boon III
LT USESSA
Chief of Party

Endorsement:

The 1969 field work on this survey was accomplished under my general supervision. The 1969 field records are complete.

The survey is adequate to supersede prior surveys for charting and contains no substandard work. The Descriptive Report was completed and typed after completion of 1969 field work.

1969 Data Approved & Forwarded:

Arthur P Sibold

Arthur P Sibold
LT USESSA
Officer in Charge
Hydrographic Field Party 745

Appendix A

LIST OF SIGNALS

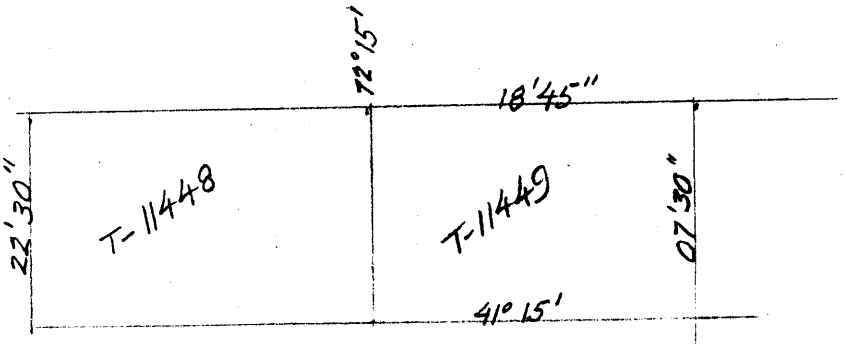
Survey H-8997

Number	Name	Source
001△	BRO	Saybrook Breakwater Lighthouse, 1886, 1934
002△	SAY	Saybrook Lighthouse, 1861, 1934
~~003△~~ 006	BEA USE	~~Saybrook Beacon, 1934~~ No. 232 (USE), 1934
007△	ILL	Old Windmill, 1934
008△	TAN	Old Lyme Shore Tank, 1934
009△	ECK	Rocky Neck, 1934
010△	NEY	Pulze Chimney, 1934
011△	PRO	~~Proct R, 1934~~ PROCTER, 1934
012△	RUS	Niantic, Rusty Tank, 1934
013	SUD	T-11449
014	WIN	↓
015	REX	↓
016	KIT	↓
017	HUB	↓
018	DAB	↓
019	MIT	↓
020	MAR	↓
021	SAG	↓
022	ADD	↓
023	ORB	↓
024	RAL	↓
025	LOT	T-11449
026	LEG	↓
027	PIG	↓
028	ABE	↓
029	JEP	↓
030	GAT	↓
031	JET	↓
032	NUM	↓
033	FUN	T-11449
034	ASH	T-11448
035	BUC	↓
036	COP	↓
037	DAN	↓
039	Fan	↓
040	FAT	↓
041	GAB	↓
042	HAT	↓
043	KID	↓
044	PAL	↓
045	LIT	↓
046	QUO	↓
047	NOB	↓
048	MAN	↓

Appendix A

Number	Name	Source
049	JAB	
050	CAP	T-11448
051	GAS	T-11448
052	TIN	
054	LOW	
062	YAW	
063	SON	
067	HEM	T-11448
069	OLD	Old Lyme Congregational Church
074	WAD	T-11448
075	PIE	
076	NAP	
077	CUP	
078	GUL	
079	POL	
080	BEG	
081	WAS	
082	LOB	
083	DEB	
084	MUG	
085	LAB	
086	DAW	
087	SAN	
088	WEB	
089	CAB	
090	BUR	
091	ATE	T-11448
092	POW	Power House Stack, 1934
094	WIT	T-11448
095	HIT	
096	SPI	
098	BUT	
099	GAP	
100	KIP	
101	HOW	
102	FUR	
103	JAR	
104	DUN	
105	JOE	T-11448 (topo)
106		T-11448
107		
108		
109		
110		
111		
112		
113		
114		
115		T-11448

Number	Name	Source
053	YET	T-11448
055	POP	
056	MUT	
057	LAX	
058	FOR	
059	CUT	
060	SAL	
061	NAB	
064	PAN	
065	SIG	
066	JAP	
068	FOE	
070	POT	
071	MAT	
072	MOB	
073	NIT	T-11448



1968 Season -

Appendix B

VELOCITY TABLES

VELOCITY CORRECTIONS TO ECHO SOUNDINGS

	To Depth in Feet	Corrections in feet. All Positive
Table 0001	[illegible]	[illegible]
Skiff CS-758	3.0	~~1.0~~ 0.0
Fathometer # 535	8.5	1.2 0.2
All days	14.1	1.4 0.4
	19.8	1.6 0.6
	25.6	1.8 0.8
	31.7	2.0 1.0
	36.0	2.2 1.2
	44.0	2.4 1.4
	50.6	2.6
	56.8	2.8
	63.2	3.0
	69.5	3.2
	75.7	3.4
	82.0	3.6
	88.2	3.8
	94.5	4.0

Note: 1.0 feet has been added to all corrections to meet the Plotter Centers requirement ~~that~~ such corrections be positive. The 1.0 foot must be subtracted from all soundings. Vel. tape relogged during verification - The 1.0 ft. Corr. was removed -

Appendix B

1968 Season -

	To Depth in Feet	Corrections in feet. All Positive
Table 0002		
Launch EX-1	3.0	0.8
Fathometer # 1889	10.6	1.0
"A" Scale	18.2	1.2
232,233,234,235,	25.9	1.4
239,240,247 days	33.5	1.6
	41.1	1.8
	48.7	2.0
	50.0	2.2
Table 0003		
Launch EX-1	46.6	2.4
Fathometer # 1889	59.0	2.6
"B" Scale	71.5	2.8
232,233,234,	83.9	3.0
235,239,240, 247	91.5	3.2
days		
Table 0004		
Launch EX-2	8.6	0.8
Fathometer #1885	17.4	1.0
& 1888	26.4	1.2
256,263,264,267,	35.2	1.4
268,271, days	44.2	1.6
282.284	53.0	1.8
	58.8	2.0
	65.0	2.2
	71.3	2.4
	77.5	2.6
	83.8	2.8
	90.2	3.0
	96.5	3.2

Note: 1.0 feet has been added to all corrections to meet the Plotter Centers requirement that such corrections be positive. The 1.0 foot must be subtracted from all soundings. see note previous page -

1968 Season - Appendix B

	To Depth in Feet	Corrections in Feet. All Positive
Table 0005		
Sounding Pole or Lead Line	100.0	1.0

Note: 1.0 feet has been added to all corrections to meet the Plotter Centers requirement that such corrections be positive. The 1.0 foot must be subtracted from all soundings. see note previous page.

1969 Season -

Appendix B

ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS

Survey H-8997

	"To" Depth in Feet	Correction in Feet
Table 0006		
Sounding Pole or Leadline (1969 only)	100.0	0.0

The corrections listed below apply only to 1969 soundings from Launch CS-1258 (Hydrographic Party 745).

Table 0007	"To" Depth (Feet)	Correction (Feet)	
Launch CS-1258			
Fathometer # 1998	3.5	-0.4	1004
All days	5.1	-0.2	1002
	14.9	0.0	0000
	22.1	+0.2	0002
	29.1	+0.4	0004
	35.9	0.6	0006
	42.0	0.8	0008
	50.0	1.0	0010

Settlement & Squat

Launch CS-1258

Stop to 1150 rpm	0.0 ft	0000
1151 to 2070 rpm	+0.2 ft.	0002

TIDE NOTE

Survey H-8997

Tide Station: Not on sheet

Niantic River Entrance, Connecticut — falls off limits of smooth sheet
41° 19.52'
72° 10.65'
Pressure Recording Gage & Staff.

Time Meridian: 75° West

Plane of Reference: Mean Low Water equals 3.7 ft on 1968 staff

Corrections: No time or height corrections applied when calculating tide reducers.

Tide Zone: Zone for Niantic tide reducers clearly marked on boatsheet and marked as appropriate in the sounding volumes for 1968. The tide zone divide line passes through 41° 15.15' by 72° 16.50' and 41° 16.86' by 72° 17.15'.

Tide Station: ✓

Old Saybrook Point, Connecticut
41° 17.0'
72° 21.0'
1968---Portable Automatic Gage and 1968 staff.
1969---Portable Automatic Gage and 1969 staff.

Time Meridian: 75° West

Plane of Reference: Mean Low Water equals 1.0 ft on 1969 staff.

Corrections: No time or height corrections applied when calculating tide reducers for 1968 or 1969 soundings.

Tide Zone: Zone for Old Saybrook tide reducers clearly marked on boatsheet and marked as appropriate in the sounding volumes for 1968. The tide reducers for 1969 are all from Saybrook gage.

Appendix D

PROCESSING NOTES

Survey H-8997

It is recommended that the below listed positions be plotted on H-8997 smooth sheet by conventional methods, as they define sounding lines run in creeks and canals. See Ver. Note for positions hand plotted -

Position Numbers	1969 Julian Day
6177 to 6200	183
6201 to 6263	195
6340 to 6401	197
6426 to 6435	211

It is recommended that the below listed positions be logged for automated plotting on H-8997 smooth sheet.

Position Number	1969 Julian Day
6001 to 6083	169
6084 to 6109	171
6110 to 6176	183
6264 to 6277	195
6278 to 6339	197
6402 to 6414	203

Appendix E

GEOGRAPHIC NAMES LIST

Hydrographic Survey H-8997

Photo Party 61 submitted a special report on geographic names during the 1968 season. There were no changes or additions to this report by Hydrographic Field Party 742 or Party 745.

Oceo Log Sheet M (Substitute)

All samples from Connecticut River Mouth (Long Island Sound) (Chart C_GS 215)
Sample Numbers correspond to Position Numbers used on Boatsheet Field No. 742-10-3-68 (H-8997).
Sample material from surface of river bed (maximum sampler penetration 4").
Samples #6278 thru 6284 obtained by C&GS Hydrographic Party 745 on 16 July 1969, using small grab sampler.
Samples #6416 thru 6425 obtained by " on 23 July 1969, " .

Sample Number	Latitude	Longitude	Field Description
Pos. No. 6278 ✓ Vol. 16	41° 16.18'	72° 20.48'	fne br S & M ✓
6279 ✓	16.33'	19.78'	crs br S & M ✓
6280 ✓	16.67'	20.24'	sml Bk & SH ✓
6281 ✓	16.72'	20.55'	crs br S, P ✓
6282 ✓	17.16'	20.95'	crs ~~br~~ S & M ✓ See sounding volume
6283 ✓	17.68'	21.09'	fne br S ✓
6284 ✓	41° 18.24'	72° 20.98'	fne br S ✓
6416 ✓	41° 17.37'	72° 21.80'	sft br & blk M ✓
6417 ✓	15.73'	20.16'	bk M & S ✓
6418 ✓	15.67'	19.67'	crs br S ✓
6419 ✓	15.13'	19.74'	fne br S ✓
6420 ✓	15.16'	20.21'	fne br S ✓
6421 ✓	15.19'	20.73'	fne br S ✓
6422 ✓	15.04'	21.20'	fne br S ✓
6423 ✓	15.37'	21.17'	fne bk M ✓
6424 ✓	15.63'	21.23'	sft bk M ✓
6425 ✓	41° 15.78'	72° 20.81'	sft bk M ✓

FORM C&GS-712
(10-67)

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

January 28, 1969

~~Navigational Chart Revision~~ HFP 742

Plane of reference approved ~~to volumes of sounding records~~ for

HYDROGRAPHIC SHEET 8997

Locality: Connecticut coast

Chief of Party: J. D. Boone III - 1968

Plane of reference is mean low water

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

Niantic River Entrance lat. 41°19.52', long. 72°10.65 (off limits of survey)
Old Saybrook Point lat. 41°17.0 , long. 72°21.0

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

Niantic River Entrance 2.5 ft.
Old Saybrook Point 3.1 " (3.2 ft. for 1969 work)

Remarks

Tide reducers for October 8 on page 7 referred to the Niantic River Entrance gage have been revised in red and verified.

J. M. Symons
Chief, Tides and Currents Branch

FORM C&GS-712
(3-9-64)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

September 4, 1969

H.F.P. 745

Plane of reference approved for 2 sheets Form 8502

HYDROGRAPHIC SHEET 8997

Locality: Connecticut Coast-Niantic to Old Saybrook

Year: 1969

Plane of reference is mean low water

Tide Station Used (Form C&GS-681):
Old Saybrook Point, Connecticut lat. 41°17.0', long. 72°21.0'

Height of Mean High Water above Plane of Reference is as follows:
3.2 feet (3.1 ft. for 1968 work)

Remarks

Tide reduces for July 22, 1969 have been revised in red and verfied.

J. M. Symons
Chief, Tides and Currents Branch

USCOMM-DC 6680-P64

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8997

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Blackboys										1
~~Blackhall Riv~~										2
Black Hall River										3
Black Point										4
Back River										5
Connecticut River										6
Dickersons Pier										7
Duck River										8
Fenwick										9
Giants Neck										10
Gibralter Rocks										11
Great Island										12
Griswold Island										13
Griswold Point										14
Griswolds Piers										15
Hatchett Point										16
Hatchett Reef										17
Hawks Nest Beach (Ppl)										18
Huntley Island										19
Johns Rock										20
Lieutenant River										21
Lands End										22
Long Island Sound										23
Long Ledge										24
Long Rock										25
Lynde Point										26
North Brother										27

PREPARED BY

Frank W. Hackett

CARTOGRAPHIC TECHNICIAN

APPROVED BY

A. Joseph Wright

CHIEF GEOGRAPHER

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8997

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
North Cove										1
Patagansett River										2
Point O'Woods										3
Poverty Point										4
Ragged Rock creek										5
Saybrook Outer Bar										6
Saybrook Outer Bar Channel										7
Saybrook Point										8
Saybrook Shoal										9
Saybrook Shoal Channel										10
Seal Rock										11
Sound View										12
Sodom Rocks										13
South Brother										14
South Cove										15
Watts Island										16
White Sands Beach (Pl)										17
Niantic Bay										18
Smiths ~~Island~~ Neck										19
GUARDHOUSE POINT										20
OLD LYME SHORES										21
[redacted]										22
[redacted]										23
SALTWORKS POINT										24
SAYBROOK POINT (Pl)										25
										26
										27

PREPARED BY

Frank W. Richert

CARTOGRAPHIC TECHNICIAN

APPROVED BY

Chas. E. Harrington 3/20/81

CHIEF GEOGRAPHER

FORM C&GS-946A
(REV. 11-65)
(PRES. BY HYDROGRAPHIC MANUAL, 6-94)

U.S. DEPARTMENT OF COMMERCE
ESSA
COAST AND GEODETIC SURVEY

VERIFIER'S REPORT

HYDROGRAPHIC SURVEY, H H-8997 (742-10-3-68)

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R
Note: The verifier should first read the Descriptive Report for general information and problems.		
1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None	✓	
2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None	✓	
3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None	✓	
Part II - SHORELINE AND SIGNALS		
4. Source of shoreline signals Remarks Required: -- List all surveys T-11448 (RS-719), T-11449 (RS-720) a. Give earliest and latest dates of photographs 1954 - Sept., Oct; 1968 b. Field inspection date Oct. 1954, c. Field Edit date April, 1967, June 1970 d. ~~Reviewed~~ Unreviewed	✓	
5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.	✓	
6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None	✓	
7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.	✓	
Part III - JUNCTIONS Note: Make a cursory comparison preliminary to inking soundings in area of overlap.		
8. All junctions of contemporary or overlapping sheets were transferred in colored ink and verified, curves were made identical. Remarks Required: -- None	✓	
9. The notation in slanted lettering "JOINS H---- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None	✓	

Part III - JUNCTIONS (Continued)	CL	R
10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.	✓	
Part IV - VOLUMES		
11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None	✓	
12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:		
(a) rocks	✓	
(b) line turns	✓	
(c) position values of beginning and ending of lines	✓	
(d) bar check or velocity correctors	✓	
(e) time recording	✓	
(f) notes or markings on fathograms	✓	
(g) was reduction of soundings accurately done?	✓	
(h) was scanning accurate?	✓	
(i) were peaks at uneven intervals missed?	✓	
(j) were stamps completed?	✓	
(k) references to adjacent features	✓	
Part V - PROTRACTING		
13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None	✓	
14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None	✓	
15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None	✓	

Fig. 20 (cont'd.)
Form 946 A (back of form)

Part V - PROTRACTING (Continued)	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.	✓	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	✓	
Part VI - SOUNDINGS		
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	✓	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	✓	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	✓	
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	✓	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: — Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	✓	
Part VII - CURVES		
23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected. WWF	✓	
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	✓ ✓ ✓	
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	✓	

Part VIII - AIDS TO NAVIGATION	CL	R
26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	✓	
27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None	✓	
Part IX - BOATSHEET		
28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	✓	
29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	✓	
Part X - GENERAL		
30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	✓	
31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	✓	
32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: — None	✓	
33. The bottom characteristics are adequately shown. Remarks Required: -- None	✓	
Part XI - NOTES TO THE REVIEWER		
34. Unresolved discrepancies and questionable soundings.	✓	
35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.		
36. Supplemental information.		

Verified by W.L. JONES

Date 26 Aug. 1970

FORM C&GS-946A (11-68)

USCOMM-DC 36372-P68

FORM C&GS-946
(REV: 11-65)
(PRESC. BY 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-8997 (742-10-3-68)

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & PNO	1	BOAT SHEETS	1
DESCRIPTIVE REPORT	1	OVERLAYS	2

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	X					X
CAHIERS	2		X			
VOLUMES	17					
BOXES			2			

T-SHEET PRINTS (Lin) ~~RS 119~~ ~~RS 780~~

SPECIAL REPORTS (Lin)

1

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				3393
POSITIONS CHECKED		670		
POSITIONS REVISED		235		
DEPTH SOUNDINGS REVISED		157		
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		130		
JUNCTIONS		2		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		27		
SPECIAL ADJUSTMENTS Vel & Tc/TT Tapes Rev & logged	23			
ALL OTHER WORK		154		
TOTALS	23	313	~~287~~ ~~135~~	

PRE-VERIFICATION BY F. Bean; D.R. Munford	BEGINNING DATE 20 Oct. 1969	ENDING DATE 2 Dec. 1969
VERIFICATION BY G.F. Trefethen; W.L. Jonns	BEGINNING DATE 27 Feb. 1970	ENDING DATE 26 Aug. 1970
REVIEW BY G.K. Myers 28 hr Inspection – J.T. Callahan 155 hr	BEGINNING DATE	ENDING DATE June 25, 1971

H-8997 (742-10-3-68)

FIG. 18.

DESCRIPTIVE REPORT DATA RECORD			
PART I SMOOTH SHEET PREPARATION		PREPARED BY/OPERATOR	DATE
A. PLOTTER OPERATOR		EDAT	
B. DISTORTION MARKS PLOTTED		EDAT	
C. PROJECTION INTERSECTIONS PLOTTED		EDAT	
D. POINTS OF ELECTRONIC CONTROL ARCS PLOTTED		EDAT	
E. OVERLAYS PREPARED BY			
1. POSITION NUMBER		EDAT	
2. EXCESS SOUNDINGS		EDAT	
3. PRELIMINARY SMOOTH PLOT		EDAT	
4. LIST OTHERS			
A.			
B.			
F. SOUNDING SELECTION BY		EDAT	
G. PLOTTER INPUT	PREPARED	EDAT	
H.	CHECKED	EDAT	
I. DESCRIPTIVE REPORT ADDENDUMS			
PART II SMOOTH SHEET COMPLETION			
		CARTOGRAPHER	DATE
A. DISTORTION SCALE TICKS IDENTIFIED BY NOTE		W.L.Jonns	7 May 1970
B. PROJECTION INTERSECTIONS VERIFIED BY		W.L.Jonns	7 May 1970
C. PROJECTION LINES RULED BY		W.L.Jonns	8 May 1970
D. ELECTRONIC CONTROL ARCS RULED AND LOCATION VERIFIED			
E. OVERLAYS COMPLETED BY			
1. POSITION NUMBER LEADERS ADDED		W.L.JONNS	29 July 1970
2. EXCESS SOUNDING OVERLAY COMPARED		W.L.Jonns	26 May 1970
3. PRELIMINARY SMOOTH PLOTS COMPARED		W.L.Jonns	1 June 1970
4. OTHERS UTILIZED			
A.			
B.			
F. DESCRIPTIVE REPORT ADDENDUM		W.L.Jonns	24 Aug. 1970
G. CONTROL STATIONS VERIFIED		F. BEAN	
H. POSITIONS MANUALLY PLOTTED		W.L.Jonns	6 July 1970
I. MANUAL PLOT VERIFIED		W.L.Jonns	13 July 1970
J. SHORELINE APPLIED		W.L.Jonns	14 May-29 July 1970
K. BOTTOM CHARACTERISTICS ADDED		W.L.Jonns	20 July 1970
L. NOTES AND DEPTH CURVES ADDED		W.L.Jonns	7 Aug 1970

H-H-8997 (742-10-3-68)

A. Additions and corrections have been furnished the plotter center by the verification unit. **Except those marked for submission by Review.**

Date Nov. 12, 1970

Signed Lloyd D. Ruffner
Title **Chief, Verification Br.**

B. Additions and corrections have been added to the survey records and the final smooth sheet forwarded to the ~~verification~~ **Review** unit.

Date Nov. 12, 1970

Signed Lloyd D. Ruffner
Title **Chief, Verification Br.**

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

Date Nov. 12, 1970

Signed Lloyd D. Ruffner
Title **Chief, Verification Br.**

D. Smooth sheet and records forwarded to Rockville, Maryland Office.

Date Nov. 13, 1970

VERIFIER: Dan R. Munford

Norfolk, Va.
Oct. 21, 1969

AMC PLOTTER NOTE TO EDAT
SURVEY H8997

This office is forwarding the tapes and other applicable data for survey H-8997. This survey was started by Party 742 in 1968, and completed by Party 745 in 1969.

Raw data for all work done in 1968 was logged by Party 742 under the old system where velocity table numbers and TRA corrections were logged on the raw data sounding tape. Also, note that a + 1.0 foot was added to the 1968 velocity tables to avoid having minus corrections. The extra foot should be removed.

Raw data, tide, velocity and TC/TI tapes were logged in this office for all work done in the 1969 Season

The control overlay for this survey has been verified and found to be correct except for signal number 073. Its position should be changed as follows:

073 41-17' 0674 M 072-19' 1068 M NIT

During the 1969 season 14 additional signals were used which do not appear on the original list. Tis office has logged a tape for these new stations and they should be added to your present list.

When the above corrections have been made, please furnish this office a position overlay which includes a corrected position for signal 073 and positions for the 14 new stations.

Hugh L. Proffitt
Chief, Hydro Branch, AMC

VERIFIER: Fred Bean

Norfolk, Va.
Dec. 18, 1969

AMC PLOTTER NOTE TO EDAT
SURVEY H-8997

This office has completed the verification of the position overlay for this survey and we are returning the position card printout. About 204 positional changes will be needed due to a great many "busted fixes", the addition of pseudo fixes, etc., and there are also some fixes which have been marked "destroy". These are ones up winding creeks which will be plotted manually.

We are also forwarding a tape and printout for these positional changes.

When these corrections have been made, please furnish a sounding overlay. It will not be necessary to plot a new position overlay as we can check the validity of the position changes on the sounding overlay provided all position points are plotted.

As mentioned in our prior note, a ∔ 1.0 foot correction was added to the velocity corrections on the 1968 work to avoid having minus corrections. This extra foot should be removed during the plotting process. Velocity corrections for the 1969 work were logged in this office and will not be affected.

See Note dated Jan. 14, 1970

Hugh L. Proffitt
Chief, Hydro Branch, AMC

Norfolk, Va.
Jan. 14, 1970

AMC PLOTTER NOTE TO EDAT
SURVEY H-8997

As you requested in our telcon of Jan. 13, we are forwarding a velocity correction tape for all work done during the 1968 field season. The added foot, which was applied to avoid minus corrections, has been removed.

Also, we are forwarding 3 TC/TI tapes, one for each launch used during the 1968 season. The large number of velocity table number changes are caused by the numerous shifts from "A" to "B" scale, and from pole to fathometer soundings.

Hugh L. Proffitt
Chief, Hydro Branch, AMC

VERIFIER: Guy F. Trefethen

Norfolk, Va.
March 25, 1970

AMC PLOTTER NOTE TO EDAT
SURVEY H-8997

This office has completed the verification of the sounding overlay for this survey and we are returning the position and soundcards printouts.

Applicable corrections on the position printout are marked in brown pencil. Those marked in red have already been made.

On the sounding printout all changes marked in brown pencil should be made.

When the above corrections have been made, please furnish this office a smooth plot of this survey.

Hugh L. Proffitt
Chief, Hydro Branch, AMC

VERIFICATION NOTES
SURVEY H-8997

GENERAL

This appears to be an excellent basic survey. Soundings are in good agreement at crossings and the depth curves adequately delineate the numerous features in this area of irregular bottom.

No unusual problems were experienced during the verification process but reference should be made to the enclosed "Plotter Notes" for explanations of the changes made by this office.

POSITIONS

The positions listed below were processed and plotted in the conventional manner. They controlled soundings in marrow and winding creeks which were not suitable for automation.

6203 thru 6213	6352 thru 6361	6399 thru 6401
6248 " 6263	6376 " 6379	
6340 " 6345	6384 " 6393	

Hugh L. Proffitt
Chief, Verification Br., AMC

Norfolk, Va.
Nov. 12, 1970

OFFICE OF MARINE SURVEYS AND MAPS

HYDROGRAPHIC SURVEYS DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8997 FIELD NO. 742-10-3-68

Connecticut, Northeastern Long Island Sound, Connecticut River to Black Point

SURVEYED: August 12 - October 22, 1968; June 18 - July 23, 1969

SCALE: 1:10,000 PROJECT NO.: OPR-414

SOUNDINGS: DE-723 Echo Sounder, Sounding Pole, and Lead Line CONTROL: Sextant Fixes on Shore Signals

Chief of Party	J. D. Boon III (1968)
	A. P. Sibold III (1969)
Surveyed by	M. L. Adams
	B. H. Traughber
Protracted by	Gerber Digital Plotter (PMC)
Soundings Plotted by	Gerber Digital Plotter (PMC)
Verified and Inked by	G. F. Thefethen, W. L. Jonns
Reviewed by	G. K. Myers
	Date: June 25, 1971
Inspected by	J. T. Gallahan

1. Description of the Area

The survey covers the inshore portion of Long Island Sound extending offshore for approximately 1 mile from Black Point to Lynde Point. This survey also includes that part of Connecticut River south of the Railroad Bascule Bridge, North and South Coves, and adjacent tributaries. In Long Island Sound there are several prominent offshore shoal and foul area features. The area adjacent to the shoreline is frequently foul and characterized by numerous rocks and ledges. Dredged and natural channels allow passage of vessels from Long Island Sound up the Connecticut River. Depths are generally less than 30 feet but reach 92 feet in Long Island Sound.

Predominant bottom characteristics in the area are sand, shell, and silt. Mud and rock are found in the Connecticut River.

2. Control and Shoreline

The source of control is adequately covered in part F and appendix A of the Descriptive Report.

The major portion of the shoreline and other topographic information originates with revision surveys RS-719 (Bp-78667, Bp-70418) and RS-720 (Bp-71080 and Bp-70195). These surveys provide revisions to T-11448 and T-11449 of 1954 using 1965, 1970 photography and 1966, 1967, and 1970 field editing.

The bulkhead shown in red at latitude 41°17.45', longitude 72°22.01' was located by the hydrographer.

The mean high water line is shown for guidance only; the true position is shown on the above-mentioned revision surveys.

3. Hydrography

a. Depths at crossings are in good agreement.

b. The usual depth curves are adequately delineated. Some depth curves were not completely defined due to the foul nature of the inshore and offshore shoal areas. The supplemental 3-foot depth curve was added to more accurately depict the configuration of the bottom.

c. The development of bottom configuration and investigation of least depths are considered adequate; however, a closer development of several offshore shoal features would have been desirable.

d. The hydrographic investigation of the 2 Rk (Presurvey Review adjusted item 46) charted at latitude 41°17.26', longitude 72°13.37' was conducted in the wrong area. The 3 Rk on the present survey (d.p. 121) identified as the Presurvey Review item 46 lies 500 meters southwest of the charted 2 Rk. Both features are adequately delineated.

4. Condition of Survey

The plotting, sounding records, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual except for the instrumental malfunction apparent in the numerous strays, spikes, and pseudosoundings which appear on the fathograms of the present survey. This necessitated the rescanning of the fathograms and changing the depths of numerous soundings.

5. Junctions

Adequate junctions were effected with H-8996 (1968) on the east, H-9212 (1971) on the southeast, and H-9181 (1970-71) on the southwest. In the vicinity of latitude 41°15', longitude 72°19', several depths were revised, deleted, and transferred between the present survey and H-9181

(1970-71) due to irregularity of the bottom as determined by fathogram interpretation. There is no contemporary junctional survey on the west; however, the present survey depths in the area are in general agreement with the charted depths from early survey H-1603b (1883).
Adequate junction made with H-9059(1969) on the north.

6. Comparison with Prior Surveys

a.	H-39	(1838)	1:20,000	H-233	(1849)	1:10,000
	H-41	(1838)	1:10,000	H-275	(1851)	1:10,000
	H-42	(1838)	1:10,000	H-276	(1851)	1:20,000
	H-92	(1839)	1:10,000			

These early prior surveys taken together cover the present survey within the common area. A comparison between these early surveys and the present survey reveals that extensive hydrographic and topographic changes have occurred. In the area of Connecticut River and its entrance, changes in bottom configuration may be attributed to the dredging of Federal Channel Projects and the existence of manmade features.

The western slope of the submerged bar in the sound has eroded some 10 to 15 feet. Other significant changes have occurred on the southeastern edge of the survey where depths along deeper slopes have eroded as much as 20 feet.

The 21 sounding (Presurvey Review item B) charted at latitude 41°16.71', longitude 72°12.68' from H-92 (1839) is discussed under paragraph 7 of this review.

The present survey is considered adequate to supersede these early prior surveys within the common area.

b.	H-1603a	(1883)	1:10,000
	H-1603b	(1883)	1:10,000
	H-2032	(1890)	1:10,000

These prior surveys taken together cover the present survey. The majority of the common area is on prior surveys H-1603a and H-1603b of 1883; a small portion of the common area in Connecticut River falls on H-2032 (1890). A comparison between prior and present depths reveals generally good agreement, except for random changes along the outer bar at the Connecticut River entrance. Here, variable differences of depths exist due to local shifting of bottom sediments. Along the eastern side of the river present depths are 1/2 to 1 1/2 feet deeper than prior depths. These differences are considered to be partially affected by various survey methods.

Examination of the depression west of Hatchetts Reef reveals a gradual migration of deeper depths westward. Several soundings were transferred from the prior to the present survey. These were shoal soundings that were not discredited or used to fill voids in hydrography on the present survey.

A comparison of the high water line between the prior and present surveys reveals that extensive changes have occurred affecting the shape of the main shoreline and several islands. A prime example is Griswold Point which extends 350 meters west of its former position.

With the additions noted above, the present survey is adequate to supersede these prior surveys within the common area.

7. Comparison with Chart 13211 (214), print date September 6, 1975
12375 (215), print date May 21, 1977

a. Hydrography

The charted hydrography is primarily from previously discussed prior surveys, which require no further consideration and is supplemented by hydrography from the boat sheet (Bp-81736) and the verified smooth sheet of the present survey.

Attention is directed to the following:

Chart 13211 (214)

(1) The 21 sounding (Presurvey Review item "B") charted at latitude 41°16.71', longitude 72°12.68' is from H-92 (1839). An investigation of the area by the hydrographer revealed a least depth of 22 feet which lies 65 meters northwest of the charted 21 sounding. The present survey information is considered adequate for charting and the 21 may be deleted from the chart and replaced with 22-foot depth from the present survey.

(2) The charted 30 sounding (Presurvey Review item "B") at latitude 41°16.78', longitude 72°13.15' is from H-1603a (1883). Present survey depths reveal random shoals in this vicinity. The charted 30 sounding should be deleted and replaced with present survey hydrography.

(3) The four submerged rocks charted at latitude 41°17.5', longitude 72°14.7' in the vicinity of North Brother Island are from an unidentified early source. The present survey showing information from a field edit sheet has only two submerged rocks and a 5-foot depth in

the place of the charted rocks. The chart in this area should be revised to agree with the present survey.

(4) The charted rk awash at Seal Rock latitude 41°17.69', longitude 72°13.92' originates from an unknown source and is shown on the original 1925 Edition of this chart as a submerged rock. Although the presence of this rock is doubtful, the present survey has not disproved its existence and the charted rock awash should be retained.

(5) The charted rk awash at latitude 41°17.18', longitude 72°13.54' is from H-1603a (1883) and the charted rock awash 70 meters to the northeast is from the boat sheet of the present survey. The hydrographer in his investigation of the area located two rocks 20 meters apart that bare 1 foot at MLW. The charted rock information should be revised in this area to agree with the reviewed smooth sheet.

(6) The cluster of three submerged rocks lying in a north-south direction charted at latitude 41°17.14', longitude 72°15.28' are from H-1603a (1883). The hydrographer has located two rocks uncovering 2 feet at MLW at this location and another rock 60 meters northwest of these. The three submerged rocks from the early source should be deleted and the charted rock information updated as shown on the present survey.

(7) The rock awash with a danger curve around it charted at latitude 41°17.82', longitude 72°13.72' originates with Local Notice to Mariners 26 of 1971 which is subsequent to the present survey. Therefore this rock should be retained as charted.

Chart 13211 (214)
12375 (215)

(8) The 5-foot sounding charted at latitude 41°16.13', longitude 72°15.97' is the least depth at Hatchett Reef and is one of several similar depths in the area from H-42 (1838). Adequate development revealed several least depths of 6 feet. Taking into consideration the changing nature of the bottom and the less accurate survey methods used on the early survey, the 5 sounding should be deleted and present survey depths charted in the area.

Chart 12375 (215)

(9) Presurvey Review items 48A in the Connecticut River consist of several rocks, small islets, and low water areas from early unknown sources. The present condition of these items was adequately determined

on the present survey. The chart should be updated to agree with the present survey.

Presurvey Review items 48A are located at approximately:

(a) Griswolds Piers, latitude 41°16.6', longitude 72°20.3'

(b) Latitude 41°16.7', longitude 72°20.5'

(c) Sodom Rocks, latitude 41°16.9', longitude 72°20.6'

(d) Dickerson Pier, latitude 41°17.2', longitude 72°20.7'

(e) Gibralter Rocks, latitude 41°17.5', longitude 72°20.7'

(10) The pile (Presurvey Review item 48D) charted at latitude 41°17.56', longitude 72°20.75' originates from an unidentified source prior to 1944. This pile falls near the north end of a rock groin located on the present survey and was not seen at low tide. In accordance with hydrographer's recommendation in the Descriptive Report, this pile should be deleted from the chart.

(11) The charted danger area identified as a shifting shoal (Presurvey Review item N) at latitude 41°16.90', longitude 72°20.78' originates with Notice to Mariners 18 of 1962. This shoal lies in depths of 13 feet on the present survey. The present soundings are adequate to reveal the bottom configuration in this area and should be used for charting.

(12) The sunken wreck charted at latitude 41°17.44', longitude 72°21.42' is from T-9094 (1948). The hydrographer verified the existence of this wreck which bares 1 foot at MLW. Therefore the wreck symbol on the chart should be changed from a nondangerous sunken wreck to that of a visible wreck.

(13) The charted rock awash at latitude 41°17.01', longitude 72°16.52' is from the boat sheet of the present survey (Bp-75864). Information recorded by the hydrographer on this detached position identifies the rock as baring 3 feet at MHW; the topographic sheets also identify this as a small islet. Therefore the charted rock symbol should be revised to agree with the reviewed smooth sheet.

(14) The charted rock awash at latitude 41°16.69', longitude 72°18.62' is from the verified smooth sheet of the present survey. No recorded information was found to support the existence of the rock. It is considered to be in error and should be deleted from the chart.

(15) The pile charted at latitude 41°17.42', longitude 71°21.42' on the north side edge of North Cove Channel is from an unknown source and marks the former outward tip of the land spit which has receded. This pile, which lies in depths of 2 feet or less, was not investigated by the hydrographer. Therefore the chart should identify this item as a submerged pile.

(16) A lone pile which bares 7 feet at MHW was located by the hydrographer at latitude 41°16.84', longitude 72°17.20' and should be added to the chart.

(17) The single pile charted at latitude 41°16.76', longitude 72°18.39' is from the boat sheet of the present survey (Bp-75864). The pile is charted slightly out of position and should be revised to agree with the smooth sheet.

(18) The pile at latitude 41°17.39', longitude 72°21.38' on the south edge of North Cove Channel was charted subsequent to the present survey from a 1974 Corps of Engineers survey (Bp-89399) and should be retained.

(19) The danger curve and legend "Obstrs" located at latitude 41°18.64', longitude 72°20.91' at the opening of the Railroad Bascule Bridge was charted subsequent to the present survey from Chart Letter 206 of 1976 and should be retained.

b. Controlling Depths

The charted controlling depths as shown for the following dredged channels, Saybrook Outer Bank, Saybrook Shoal, North Cove Entrance, and North Cove Turn Basin, originate from Corps of Engineers surveys subsequent to the present survey. As a matter of comparison, the Saybrook channels are in harmony with present survey depths; however, in the North Cove Entrance Channel and Turn Basin, present survey depths are considerably deeper than those noted on the chart. The charted controlling depths supersede the present survey and should be retained.

c. Aids to Navigation

The fixed and floating aids to navigation on the present survey are in substantial agreement with the charted aids of the same period and mark the features intended. Later editions of these charts which were used for chart comparisons reflect the following changes based on subsequent information:

(1) Saybrook Shoal Channel limits in latitude 41°19.5', longitude 72°21.0' were revised from a 1969 Corps of Engineers survey (Bp-78411). Several buoys marking this channel have been shifted, added, or renumbered.

(2) Red nun buoy "4" marking the Saybrook Outer Bar Channel edge charted at latitude 41°16.18', longitude 72°20.47' was moved to its presently charted position from Notice to Mariners 10 of 1970.

(3) Black can buoy "7" charted at latitude 41°17.8', longitude 72°13.7' originates with Local Notice to Mariners 28 of 1971. This buoy marks the location of a nearby dangerous rock awash.

8. Compliance with Instructions

This survey adequately complies with the project instructions.

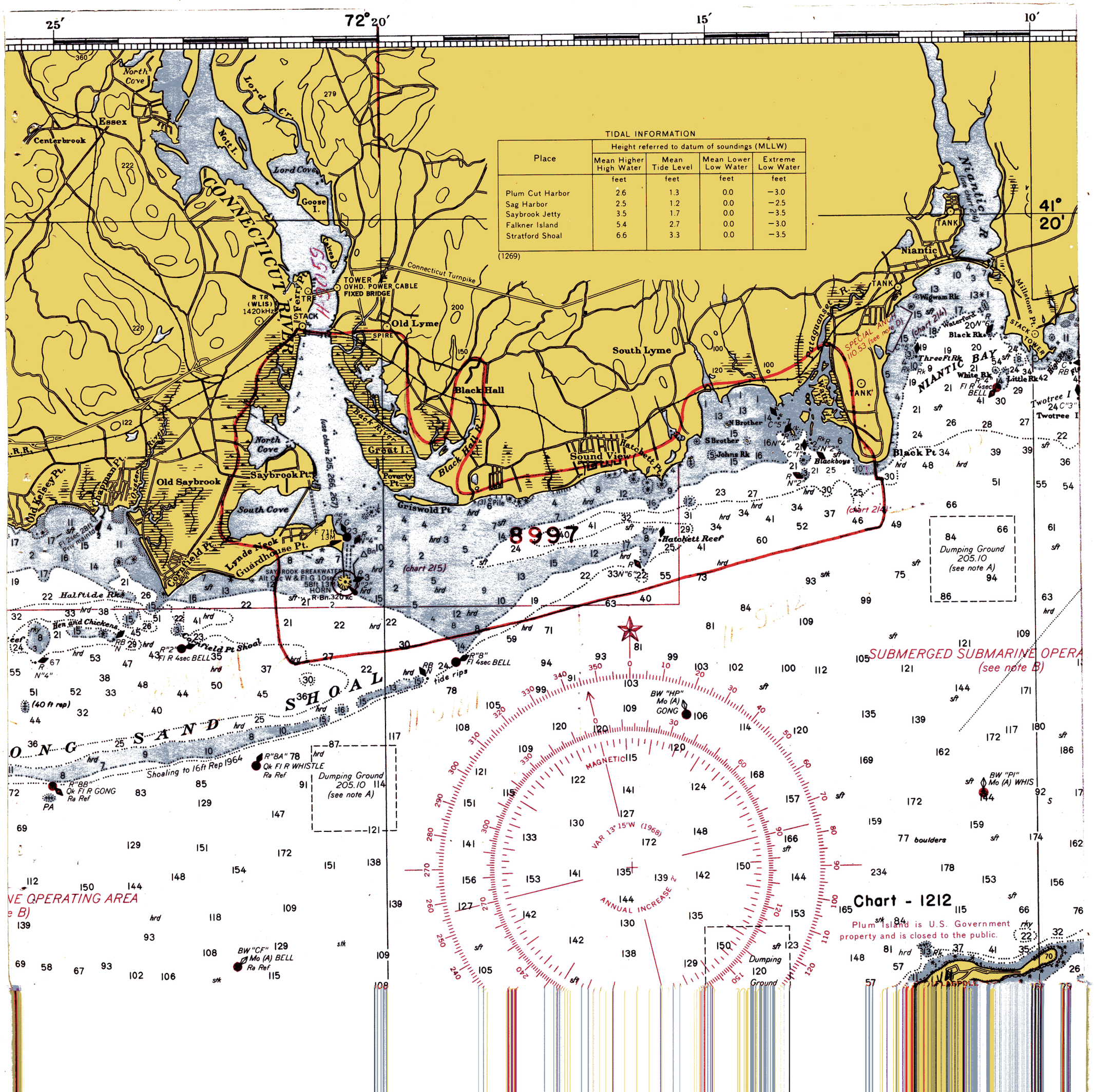
9. Additional Field Work

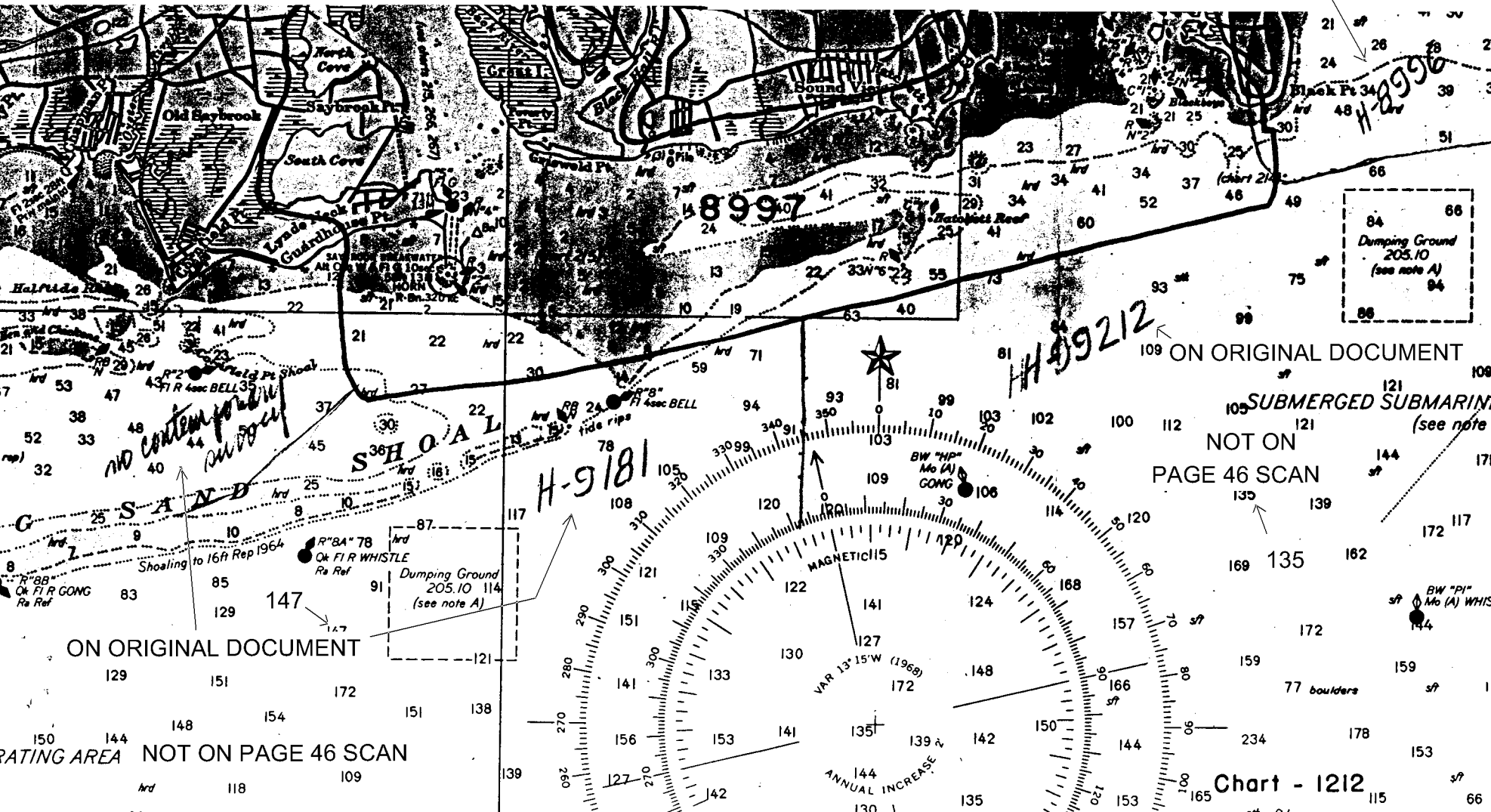
This survey is considered an adequate basic survey and no additional field work is recommended.

Examined and Approved:

Acting Chief
Hydrographic Surveys Division

Associate Director
Office of Marine Surveys
and Maps


25′
72° 20′
15′
10′
41° 20′
TIDAL INFORMATION
Place
Height referred to datum of soundings (MLLW)
Mean Higher High Water
Mean Tide Level
Mean Lower Low Water
Extreme Low Water
feet
Plum Cut Harbor 2.6 1.3 0.0 −3.0
Sag Harbor 2.5 1.2 0.0 −2.5
Saybrook Jetty 3.5 1.7 0.0 −3.5
Falkner Island 5.4 2.7 0.0 −3.0
Stratford Shoal 6.6 3.3 0.0 −3.5
(1269)
Essex
Centerbrook
North Cove
Lord Cove
Lord Cr.
Nott I.
Goose I.
CONNECTICUT RIVER
Connecticut Turnpike
Saybrook Ferry Pt.
R TR (WLIS) 1420kHz
TOWER OVHD. POWER CABLE FIXED BRIDGE
TRR STACK
SPIRE
Old Lyme
Black Hall
South Lyme
Black Hall R.
Back River
Great I.
Poverty Pt.
Griswold Pt
Sound View
Hatchett Pt.
Hatchett Reef
Niantic
Niantic R.
TANK
Millstone Pt.
STACK TOWER
Patagansett R.
Waterford
Wigwam Rk
Black Rk
ThreeFt Rk
NIANTIC BAY
White Rk
Little Rk
FI R 4sec BELL
Twotree I
N Brother
S Brother
Johns Rk
Blackboys
Black Pt
Dumping Ground 205.10 (see note A)
(chart 214)
(chart 215)
(lose charts 215, 266, 267)
North Cove
Old Saybrook
Old Kelsey Pt.
Chapman Pt.
Saybrook Pt.
South Cove
Lynde Neck
Guardhouse Pt.
Cornfield Pt.
SAYBROOK BREAKWATER Alt Oc W & Fl G 10sec 58ft 13M HORN R Bn 320 kc
Halftide Rk
Hen and Chickens
Cornfield Pt Shoal
R"2" Fl R 4sec BELL
R"8" Fl 4sec BELL
tide rips
LONG SAND SHOAL
Shoaling to 16ft Rep 1964
(40 ft rep)
R"8A" Qk Fl R WHISTLE Ra Ref
R"8B" Qk Fl R GONG Ra Ref
PA
BW "CF" Mo (A) BELL Ra Ref
BW "HP" Mo (A) GONG
BW "PI" Mo (A) WHIS
SUBMERGED SUBMARINE OPERA (see note B)
NE OPERATING AREA e B)
MAGNETIC
VAR 13° 15′W (1968)
ANNUAL INCREASE
Dumping Ground
Chart - 1212
Plum Island is U.S. Government property and is closed to the public.
8997


ON ORIGINAL DOCUMENT
NOT ON PAGE 46 SCAN
H-8996
8997
H-9212
ON ORIGINAL DOCUMENT
NOT ON
PAGE 46 SCAN
H-9181
ON ORIGINAL DOCUMENT
NOT ON PAGE 46 SCAN
Chart - 1212
Old Saybrook
Saybrook Pt.
South Cove
North Cove
Lynde Point
Gulfridhouse Pt.
Griswold Pt.
Grass I.
Sound View
Black Pt.
Hatchett Reef
Dumping Ground
205.10
(see note A)
Griswold Pt. Shoal
Fl R 4sec BELL
"R"8"
Fl 4sec BELL
tide rips
SAND
SHOAL
Shoaling to 16ft Rep 1964
"R"8A" 78
Qk Fl R WHISTLE
Ra Ref
"R"8B"
Qk Fl R GONG
Ra Ref
BW "HP"
Mo (A)
GONG
BW "PI"
Mo (A) WHIS
MAGNETIC
VAR 13° 15'W (1968)
ANNUAL INCREASE
SUBMERGED SUBMARINE
(see note
77 boulders
RATING AREA

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8997

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
214	5-10-71	L.J. Pawuska	~~Full~~ Part Before ~~After Verification~~ Review Inspection Signed Via Drawing No. 17 APP'D CRITICAL CORR ONLY
215	5-18-71	Oscar Chapman	~~Full~~ Part Before ~~After Verification~~ Review Inspection Signed Via Drawing No. 24 App.d. Cricital Corr. Only
1211	6-8-71	Jos Ekvrich	[redacted] Part Before [redacted] Review Inspection Signed Via Drawing No. 40 Applied Critical Corr. Only
214	9-8-71	Jos Ekvrich	[redacted] Part Before [redacted] Inspection Signed Via Drawing No. 17 No additional critical corrections
1212	10-4-71	Roger J. Pawuska	~~Full~~ Part Before ~~After Verification Review~~ Inspection Signed Via Drawing No. 43 EXAM FOR CRITICAL CORR ONLY APP'D THRU CHT 116-SC
1211	8-20-73	C Heeley	~~Full~~ Part Before ~~After Verification Review~~ Inspection Signed Via Drawing No. 42 APP'D CRIT. CORR ONLY THRU CHT 214
116-SC PAGE A PAGE C	6-7-74	Robt C Heeley	~~Full~~ Part ~~Before~~ After Verification Review, Before Inspection Signed Via Drawing No. 15 APPLIED CRITICAL CORRECTIONS THRU CHTS. 214 DRWG #18 AND 215 DRWG #26.
215	5-29-75	Stephen M. Hill	~~Full~~ Part ~~Before~~ After Verification Review Before Inspection Signed Via Drawing No. 27 Part APP'd No Corr. Review report separate (not typed)
1211	5-29-75	Stephen M. Hill	~~Full~~ Part ~~Before~~ After Verification Review Before Inspection Signed Via Drawing No. 43 Part App'd No Corr thru 214
13205 (1211)	10-2-79	JOSEPHINE R. HARRIS	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via Drawing No. #48 EXAM FOR CRITICAL CORRS. ONLY-PART APP'D THRU CHART 12372 (116-SC)
13211 (214)	3-9-90	Ed Martin	Consider Fully applyd dwg 21, revise and add sdgs, curves and dangers
12372	12-12-90	K.R. Forster	Consider Fully applied dwg 28, revise & add sdgs, curves and dangers thru cht 13211.
12375	5/15/95	D. Stannard	Consider fully appl Dwg #33
13205 (1211)	8/14/95	D. Stannard	Consider fully Appl Dwg #55