# F00457

#### NOAA FORM 76-35A

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

## **DESCRIPTIVE REPORT**

Type of Survey_1	Nydrographic/Side Scan Sonar
Field No	IRT2-10-1-99
Registry No	00457
	LOCALITY
State	South Carolina
General Locality	Charleston
	Ashley River
	1999
]	CHIEF OF PARTY David B. Elliott
LIB	RARY & ARCHIVES
DATE	JAN 2 9 2001

# FIELD EXAMINATION REPORT F00457 OPR-G428-NRT2 1999-2000 NAVIGATION SERVICES DIVISION Navigation Response Team 2 Capt. John Wilder, Chief - NOAA

#### **PROJECT**

This examination was conducted according to Port Instructions OPR-G428-NRT2, Charleston, SC, dated February 9, 2000. The area includes Approaches to Charleston Harbor, Ashley, Cooper, and Wando Rivers, in South Carolina.

The purpose of Field Examination F00457 is to provide information for nautical chart updates and ENC data capture for the inclusion to vector charts.

#### AREA SURVEYED

The sheet letter for this project was defined as: "A" for the entire area surveyed.

The approximate survey area limits are:

North - 33°00'00"N South - 32°44'00"N East - 079°48'00"W West - 080°00'00"W

This survey was conducted from: November 1, 1999 to February 8, 2000. This time frame includes hydrographic and ENC data capture.

#### SURVEY VESSEL

NOAA launch 1210, a 27-foot SeaArk, was used to collect all survey data. There were no unusual vessel configurations or problems encountered with the vessel.

AUTOMATED DATA ACQUISITION AND PROCESSING SEE ALSO THE EVALVATION REPORT

HYPACK version 7.1A was used for on-line data acquisition. HPS version 9.8 program, HP Tools version 10.3.1 were used for data processing, and MapInfo Professional Ver. 5.0, with Vertical Mapper Ver. 2.5, were used to support processing and plotting. The NOS program Velocity Ver. 5.0, Micro Station 95 and MS Word 97 Ver. 7.0 were also used during this survey.

HANDWRITTEN NOTES IN THE DESCRIPTIVE REPORT WERE MADE. DURING OFFICE PROCESSING.

Awars SURF 10/12/00 mck

#### **SONAR EQUIPMENT**

An Edge Tech model 260-TH image correcting side scan sonar recorder (S/N 020417) with a model 272-TD towfish (S/N 020892), was used throughout this survey. The side scan sonar equipment was used to conduct dual beam surveying and investigate AWOIS items using NOAA launch 1210. The system frequency used was 100 & 500 kHz. The recorder was set on one of either 50/75/100-meter range scales. There were no water depths greater than 25 meters. The confidence checks were performed daily at 100kHz.

A coverage of 200% was obtained in all the required survey areas and AWOIS items where water depth and/or hazards permitted. Side scan sonar coverage was conducted to the 12-foot depth curve and single beam reduced line spacing was performed in other areas where warranted. The towfish was deployed off the starboard quarter of the vessel, which proved very stable. Distorted images caused by strong tidal currents were seen periodically. All contacts and shadows were manually scaled and entered into a HPS contact table to determine the height off the bottom. The significant contacts were then compared by position, as well as common depth and relationship to channels to determine if further investigations were needed. All areas surveyed were track line/swath line plotted to insure complete coverage.

#### **SOUNDING EQUIPMENT**

An Innerspace model 448 depth sounder, S/Ns 188 was used to collect all echo soundings on this survey. A standard lead line calibrated in meters, S/N 1210, was used during this survey for comparison with the echo sounder. No problems were encountered with any of the sounding equipment.

#### CORRECTIONS TO ECHO SOUNDINGS

Correctors for the velocity of sound through water were determined from the casts listed below:

Cast No.	Table <u>No.</u>	Deepest * Depth(m)	Applicable <u>DN(s)</u>	<u>Cast l</u>	<u>Position</u>	Day <u>Taken</u>
1	1	8.6	305-312	32°45'46''N	079°52'19"W	308
2	2	15.1	322	32°50'06"N	079°58'07"W	322
3	3	17.6	347	32°47'04"N	079°58'29"W	347

The instrument used for determining corrections for the speed of sound through the water column was a Seabird-Seacat Velocity Profiler, model 19-03, S/N 192472-284. The

manufacturer calibrated this unit on August 16, 1999. Data quality assurance tests were performed after each cast. Program VELOCITY was used for computing the correctors. Corrections were applied to the sounding plot using the HPS REAPPLY program. Copies of the velocity tables are included with this report.

The lead line for launch 1210 was calibrated using a steel tape on January 6, 1999. No corrections were necessary. A static draft of 0.5 meters was applied to the sounding plots by the HPS REAPPLY program. The draft was measured by subtracting the difference from a punch mark on the side of launch 1210, 0.6 meter above the transducer, to the water surface.

Settlement and squat measurements for launch 1210 were taken on September 23, 1997 (DN: 266). These measurements were conducted in Cooper River, Charleston, SC using the level method. Settlement and squat correctors were applied to the sounding plots using the HPS REAPPLY program.

Field tide reduction of soundings is based on unverified actual heights from the Internet from station 866-5530, Charleston, SC. The values were downloaded from: http://www.opsd.nos.noaa.gov/data\_retrieve.shtml?input\_code=101011111pwl. Values and correctors were applied at the perspective locations of hydrography.

All elevations and soundings on survey F00457 are based on MLLW unless otherwise specified.

Approved tide levels were requested from the Product and Services Branch, Datums Section, N/OES23, in a letter dated April 17, 2000. A copy is included with this report.

APPROVED TIDES AND ZONING HAVE BEEN APPLIED DURING OFFICE PROCESSING

CONTROL STATIONS SEE ALSO THE EVALUATION REPORT

The horizontal control datum for this project is the North American Datum (NAD) of 1983. The control reference station used for this survey was the USCG DGPS Charleston beacon (Station ID #808), located at 32°45.45357'N, 079°50.57225'W.

#### HYDROGRAPHIC POSITION CONTROL

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. A Starlink DGPS Beacon Receiver (S/N 795) and antenna (S/N 4132) were used as the remote station on launch 1210. DGPS performance checks were conducted in accordance with FPM 3.4.4 by comparing the DGPS position of the vessel to the position of the following calibration point:

Opening / Closing: Mt. Pleasant Rear Range Lt. 32°45.45357'N 079°50.57225'W

All of the observed differences fell well within the allowable limit.

#### **ITEM INVESTIGATION REPORTS**

There were 18\*AWOIS items assigned within this examination survey. All items were addressed and electronically transmitted to HSD, the hard copy results are included with this report.

17 ITEMS WERE ADDRESSED IN THIS REPORT

#### SUPPLEMENTAL SURVEY DATA

Micro Station page plots, ENC data worksheet, velocity tables, copy of Coast Pilot Report and a CD with all survey data are included with this report.

#### **REFERRAL TO REPORTS**

**Title** 

**Transmittal Information** 

Descriptive Reports for H-10744, H-10784, H-10801 H-10842, H-10856, H-10857, H-10858, & H-10863.

Atlantic Hydrographic Branch N/CS331, Norfolk, VA (1997-1999)

Coast Pilot Report

Coast Pilot Branch Silver Spring, MD (2000)

Submitted by

David B. Elliott

Navigation Response Team 2

Submitted VIa **RECRD** 7587 VESSLTERMS **OBSTRUCTION** CHART 11524 AREA G CARTOCODE 0284 SNDINGCODE DEPTH 32/50/06.00 LAT83 LONG83 079/58/42.00 31 **NATIVDATUM** LATDEC: 32.835 LONDEC: 79.978333333333 **GPQUALITY** Poor **GPSOURCE** Scaled **PROJECT OPR-G428 ITEMSTATUS** Assigned SEARCHTYPE Full **RADIUS** INIT MCR **ASSIGNED** 8/5/1999 **TECNIQ** DEVELOP SHOAL AREA 50M OUT FROM AN AXIS BETWEEN POSITIONS 32-50-04.94 N 079-58-31.98 W AND 32-Techniquote 50-07.59 N 079-58-52.13 W. SEE AWOIS RADIUS GRAPHIC History CL1123/85--USPS REPORT DATED SEPT, 1985; SAND BAR INVESTIGATED IN THE VICINITY OF LAT.32-50-06N, LONG.79-58-42W (NAD 83). DEPTHS PLOTTED ON ENCLOSED CHART MARKUP INDICATE SHOALING TO ONE FOOT. (ENTERED 1/90 MCR) LNM4/86--REFERENCE INVESTIGATION Fieldnote DATE(S):11/18/99 (DN:322) POSITION NUMBERS: 621 -- 723 INVESTIGATION USED: ECHO SOUNDER SURVEYED POSITION: LAT: LON, As per requested search area. POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: Reduced line spacing development was conducted over the request area. No soundings were acquired that support the charted 1 foot sounding in this area. The currently charted 6 and 12 foot contours in this area were found to be supported by current data. CHARTING RECOMMENDATION (HYDROGRAPHER) Remove the 1 foot shoaling remark, and reflect the newly acquired sounding data on the charts. EVALUATOR COMMENTS: CONCUR DELETE "SHOALING TO 1 ft rep JUN 1985" **Proprietary** NIMANUM I YEARSUNK ! Print Record 6/2

Ţ

2698

RECRD		7597	VESSLTER	MS OF	STRUC	TION	AAAAAA	CHART	11524	ARE	:A	G	
			CARTOCO	DDE 00	67		SND	INGCODE	1 12 12 13 14 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	DEPT	Ή	0	
LAT83	टेन्स्टब्स्य स्थापना स्थापना	32/45/5	7.00	LONG	**************************************	079/5	1/31.50	PM WAS PROPERTY TO SEE	NATIVDATU	м [31]	enterit der beden beder	ta de vêst de deste des de vês de de	<b>₹</b> ॱ₽₽₹₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽
LATDEC	<b>:</b>	32.765	833333333	LONDE	C:		79.8	5875	GPQUALITY	Low			
			n o oraș prae nastanana a traduciona de la companiona de la companiona de la companiona de la companiona de la	and the state of t	g gyyan yanga penanda an en	OTANIC IN CONTROL LA LINEAR DA MARIA	25-25-11.00-284-18-2 <b>4</b> -2-1- <b>-2</b>	-1514-112-115-114-115-114-115-115-115-115-115-115	GPSOURCE	Scaled			nalan ing matalah ang at ti dalah ang at ti da
PROJE	ECT	OPR-	G428		ITEMS	TATUS	Assign	ned		SEARCHTY	'PE	Full	2 2
RAĐIU	IS		100		INIT		MER			ASSIGNED	ì		
TECNI	iQ	S2,DI	.S,DI										
Techni	iqnote												
distory	CL:	1020/82 -	<b>USPS REPO</b>	RT STAT	ES THAT	<b>CHART</b>	TED "SIG	N" CHART	C. POS. LAT.3 TED IN POS. L TERED 12/89	_AT.32- <b>45-5</b> 71	NG.79 N, LON	-51-32W IG.79-51	/. -31.5 NO
Fieldnote	INVE	STIGAT	ION				A STATE OF THE STA	Altera cause of control only of the	an and a second and an analysis of the second analysis of the second analysis of the second and an analysis of the second and		and the second second second		
	DAT	E(S): 11/	/01/1999 (DN:	305)									
	POS	ITION N	UMBERS: 14	-40									
	INVE	STIGAT	ION USED: (I	E DI. 2009	6 SIDE S	CAN SC	NAR, EC	CHO SOUI	NDER) : 200%	SSS			
	- 1		POSITION: LA										
			ETERMINED I				.,						
	1						ومراسر والمراسرة	- the energy	h for this itom				
	ı								h for this item.				
	1								oval from the o				
	EVA	LUATOF	COMMENT	s: Col	VOUR	40	ARIFI	CATOI	<i>ک ن</i>	EE ALS	0 7	THE	PORT #1
Proprietary	,			, , ,	7 7				4	EVALUM	1 ( 0)	2 <b>/ 1/2</b>	
	YEA	RSUNK		Ni	MANUM	1						Pri	rii Record

DELETE Subm piles PA.

RECRD 1	7598	CARTOCOD	**********	SNDINGCOD	Caranana an anna an a	AREA DEPTH	G O	
LAT83	32/46/1	normal and an and	LONG83 LONDEC:	079/50/34.50 79.842916666667	NATIVDATUM GPQUALITY GPSOURCE	31 Poor Scaled		
PROJEC	T OPR	-G428	ITEMSTA	TUS Assigned		SEARCHTYPE	Full	
RADIUS	1	50	INIT	MCR	F	ASSIGNED		8/5/1999
TECNIQ	DLS.	VS,SD						
Technique	ote							
History	THE WATER YDS EAST O CL1106/78	. WRECK LOCA F CHANNEL. PC - USPS REPORT	TED IN SULLIVA DS. SCALED FROM T, DATED JUNE 19	75.; REPORTING THE V NS ISLAND NARROWS, M NOS CHART 11524 3 978 STATES THAT WR VLEDGE OF THIS WRE	, 100 YDS SOUTH 6ED. (ENTEREI ECK COULD NO	1 OF BEN SAW D 12/89 MCR) T BE LOCATED	YER BRIDG	E AND 25
Fieldnote	INVESTIGAT	ION						
	DATE(S): 11,	/01/1999 (DN:305	5)					
	POSITION N	UMBERS: 2-13						
	INVESTIGAT	ION USED: (IE D	II, 200% SIDE SCA	N SONAR, ECHO SOU	NDER) : 200% SS	ss		
	SURVEYED	POSITION: LAT.	LON. Requested	survey limits.				
	POSITION D	ETERMINED BY:	DIFFERENTIAL G	PS				
	1			were made, this wreck h ge was likewise accompl	•	n salvage, as th	e reported ar	rea has a
	CHARTING P	ECOMMENDAT	ION (HYDROGRA	PHER) : Recommend ren	noval from the cha	rts.		
Proprietary	EVALUATOR	COMMENTS:	CONCUR PLOT 4	Dé	LETE :	Hr) P4	nint neeninne et	
	YEARSUNK		NIMANUM				Print	Record

RECRD [	760	VESSLTERI CARTOCO	Anananan na	CTION	CHAR	Danasa sa	AREA DEPTH	G 0	
LAT83 LATDEC:	ille on the	/47/48.63 2.796841666667	LONG83 LONDEC:	A. A	8/22.32 72866666667	NATIVDAT GPQUALIT GPSOURC	Y Med		
PROJEC	т [	OPR-G428		TATUS	Assigned	00 00 00 00 00 00 00 00 00 00 00 00 00	SEARCHTYPE	Full	
RADIUS	į	30	INIT	****	MCR		ASSIGNED	1	8/5/1999
TECNIQ	*	S2,DLS,ES,DI	an demonstration						
Techniqn	ole		en an			And the same of the same of the same same same same same same same sam	in sension to the second better the second s		
History	DEPTH	RY 78-NOS INVESTIG OF 3.1 FT AT MLW JCTION APPEARS	LOCATED IN PO	OS. LAT.3	2-47-48N, LONG	79-58-23W. TI	HE		*********
Fieldnote	INVEST	IGATION				and the second s	CONTRACTOR DE LA CONTRA		
	DATE(S	): 12/13/1999 (DN:3	47)						
	POSITIO	ON NUMBERS: 836-	897						
	INVEST	IGATION USED: 20	00% SIDE SCAN	SONAR, I	ECHO SOUNDER				
	SURVE	YED POSITION: LA	.80 T. <b>32-47-48.<del>83</del>N</b>	LON. 079	21.60 9-58- <del>22.32</del> W				
	POSITIO	ON DETERMINED B	Y: DIFFERENTIA	L GPS					
	INVEST of 5ft mil	IGATION SUMMAR w (unverified real tick APPROVED	Y: Side Scan SO as applied) locate	NAR and d at the ab	Echo sounder veri ove position. This	ly the existanc position is nov	e of a subm obstr v marked by a fixe	with a least of aid dbn 6/	depth 4.
	•	NG RECOMMENDA							
	EVALUA	ATOR COMMENTS	: Concur	ω	CLARIFICA	TON	sa da sa		enemaka kanada nama
Proprietary			PLOT 3	,					
	YEARSU	JNK	NIMANUM		),	feti :	3) ObsTN	Pr	int Record
					A.	DD :5	OBSTN	AT	
					·	-	Si	DRUEY (	POSITION

RECRD [	76	VESSLTER CARTOCO	Managanan an	'N	CHART	Sandanan and an area.	AREA DEPTH	G 0
LAT83 LATDEC:		32/49/26.00 32.823888888888	LONG83 LONDEC:	(Il a para sia a a	7/49.00 33611111111	NATIVDATUM GPQUALITY GPSOURCE	[31]  Low  Scaled	
PROJEC	:Т	OPR-G428	ITEMS	STATUS	Assigned	; S	EARCHTYPE	Full
RADIUS		50	INIT		MCR	Α	SSIGNED	8/5/1999
TECNIQ		VS,DLS,DI,SD						
Techniqn	ote	SEARCH FOR TWO		•	) IN THE FOLLOV	WING POSITION	32-49-26.35 N	079-57-49.81 W
Fieldnote	POS. L CHAR' BY TH DESCI	06/78USPS REPOR LAT.32-49-34N, LONG TED DOLPHINS. PHO E COMPILER TO LA RIPTION. (ENTERED TIGATION	G.79-57-50W. WI DTOGRAPH ATT T.32-49-26N, LO	RECK LOC	CATED JUST SHO	DREWARD OF TV	VO S ADJUSTED	
riediole		(S): 12/13/1999 (DN:	347)					
	POSIT	TION NUMBERS: 782	-802					
	INVES	TIGATION USED: (2	200% SIDE SCAN	SONAR,	ECHO SOUNDER	3)		
	SURVI	EYED POSITION: LA	T. LON. Area re	quested. 3	2/49/26N 079/57/	19W		
	POSIT	TION DETERMINED B	Y: DIFFERENTIA	AL GPS				
	INVES	TIGATION SUMMAP	RY: No contacts in	this area t	o support this featu	ıre either SSS nor	Vis.	
	CHAR	TING RECOMMENDA	ATION (HYDROG	RAPHER)	Remove from the	charts.		
Proprietary	EVALI	JATOR COMMENTS	S: CONCUR PLOT 2		SEE A	USO THE	EVALUAT	70N REPORT
· · · · · · · · · · · · · · · · · · ·	YEARS	SUNK	NIMANUM					Print Record

DELETE ZI PA RETAIN 00 DOLS

RECRD 1	7611	VESSLTERA	AS UNKNOWN		CHART 11524	AREA	İG
		CARTOCO	DE 0100	SNDING	CODE	DEPTH	0
LAT83	[32/4	19/42.00	LONG83	079/58/01.00	NATIVDATU	М [31	हे के अबदा से ही जिल्हें के स्वीत के स्वीत के स्वीत के स्वीत से स्वीत से स्वीत से स
LATDEC:	32	.828333333333	LONDEC:	79.9669444444	5 GPQUALITY	Med	\$ 
ne. St. St. St. St. St. St. St. St. St. St. St. St. St.		orania orani	n kanata, ka sa	elak kandi da Bara Akabatan da oberi da berak akabatan da ol o	GPSOURCE	Scaled	
PROJECT	т [о	PR-G428	ITEMST	ATUS Assigned		SEARCHTYPE	Full
RADIUS	Γ		INIT	MER		ASSIGNED	8/5/1999
TECNIQ	S	2,ES,SD			X 4 - 7 - 8 - 10 - 10 - 11 - 11 - 12 - 13 - 13 - 13 - 13 - 13	·	
Technique	3 -	ONDUCT SEARCH 079-58-02.4 W. SI			N POSITIONS 32-49	-39.2 N 079-57-59	9.4 W AND 32-49-44.6
History	CHANNE	78A 75 X 200 FT B L. THE BARGE IS I	MARKED BY UNL	IGHTED FLOATS A		HIGH TIDE. POS	20FT OUTSIDE THE ITION WAS ADJUSTED
Fieldnote	INVESTIG	ATION					
	DATE(S):	12/13/1999 (DN:3	47)				
	POSITIO	N NUMBERS: 752-7	<i>'</i> 81				
	INVESTIC	ATION USED: (20	0% SIDE SCAN	SONAR, ECHO SOU	INDER)		
	SURVEYE	ED POSITION: LAT	. LON. As Requ	ested 32/49/42N 07	9/58/01W		
	POSITIO	N DETERMINED BY	: DIFFERENTIAL	GPS			
	INVESTIC	ATION SUMMARY	: No contacts in th	nis area to support thi	s feature either SSS n	or Vis.	
	CHARTIN	G RECOMMENDA	TION (HYDROGR	APHER) Remove from	m the charts.		
	EVALUAT	OR COMMENTS:			DELETE	PA :-	->
Proprietary			PLOT 2				
	YEARSUN	IK	NIMANUM				Print Record

RECRD 1	7€	Colored M	SLTERMS	OBSTRUC	TION	SNDINGCODE	111524	DEPTH	[G]	
LAT83 LATDEC:		32/50/03.00 32.834166666		NG83 NDEC:	[079/59/   79.994	40.00	NATIVDATUI GPQUALITY GPSOURCE	High		alaştışınış tişan
PROJEC*	т	OPR-G428		ITEMST	ATUS	Assigned	ortenes V	SEARCHTYPE	Full	
RADIUS				INIT		MCR		ASSIGNED	8/5/199	9
TECNIQ		ES								
Technique	ote	3				FROM AN AXIS I RADIUS GRAPHIC		M POS. 32-50-00	3.7 N 079-59-19.5 W	,,,)
History	40W (I	V85USPS RE	THS PLOTT			BAR INVESTIGA JP INDICATE SHO			32-50-03N, LONG.79 1/90 MCR)	-59
Fieldnote	INVES	TIGATION						·····		<del></del>
	DATE	S): 11/19/99 (I	DN:322)							
	POSIT	ION NUMBER	S: 304 620	0						
	INVES	TIGATION US	ED: ECHO	SOUNDER						
	SURVI	EYED POSITIO	ON: LAT. L	.ON. Area as I	requested.					
	POSIT	ION DETERM	NED BY: DI	FFERENTIAL	.GPS					
						as acquired over the time of time of the time of time	) at 32-49-59N		shoal has diminished i	in
		TING RECOMI ts of the shoal.		N (HYDROGR	APHER):	Update the charts	to reflect the s		s in this area redefinin	ıg
	EVALI	JATOR COMM	MENTS:	Concur	-::-:-:-:-:-::-::-::-::-:::::::::::::	Delete	" Shoul!	ng rep Ju	r 1985"	: 12111111
Proprietary		-		Plot 1				,		
	YEARS	UNK		NIMANUM					Print Record	

RECRD 1	761	3 VESSLTE	RMS OBSTRUC	CTION	CHAI	RT 11524	AREA	G
		CARTOC	ODE 0094		SNDINGCO	DE	DEPTH	0
LAT83	32	/49/47.43	LONG83	080/0	0/16.12	NATIVDATUM	6	कार्या अन्य प्राप्त कार्या अन्य प्राप्त कार्या अन्य कार्या कार्या अन्य अन्य अन्य कार्या कार्या कार्या कार्या क सम्बद्ध
LATDEC:	3	2.829841666667	LONDEC:	80.0	04477777778	GPQUALITY	High	
SC C C C C C C C C C C C C C C C C C C	23-72-24-71-24-24-2 新元司-25-38-27-2	ech gestis exemple eines au genes there et elected is destination	BANANGOTAN IS TANDONINA DA MANDA	28.20.2 <b>3.</b> 40.47.4 <b>1.</b> 20.20 <b>.</b> 44.43.2	NO. (MAJOR), JOS. BOOK (III), VIII, MAJOR (III), VIII, V	GPSOURCE	Direct	
PROJEC	т [	OPR-G428	ITEMS	TATUS	Assigned	S	EARCHTYPE	Full
RADIUS	Ĭ	50	INIT		MCR	Α	SSIGNED	8/5/999
TECNIQ	Ī	VS,DLS,DI						
Techniqn	ote	DEVELOPE SHOA	AL SURROUNDING	CHART	ED ROCK			
History	HISTOF H8410/		OAL LOCATED W	ITH A LE	AST DEPTH OF	1 FOOT MLW IN P	OS. LAT.32-49	.78N, LONG.80-00.28W.
	(ENTER	ED 1/90 MCR)		-2121212121212121111				
Fieldnote	INVEST	IGATION						
	DATE(S	): 11/18/99 (DN:32	22)					
	POSITIO	ON NUMBERS: 169	9303					
	INVEST	IGATION USED: 6	ECHO SOUNDER					
	SURVE	(ED POSITION: L	AT. LON. As per	request				
	POSITIO	ON DETERMINED	BY: DIFFERENTIA	L GPS				
			s of 2 feet milw (un				equest area. Th	ne charted shoal does
		NG RECOMMEND ed rock symbol .			: Update the cha	arts to reflect the sur	eyed sounding	gs in this area. Remove
	EVALUA	ATOR COMMENT	s: Concu	<u>-</u>		Delete = 1 Retain no.	<u>.</u>	~~~
Proprietary			Plot 1		/	Retain no.	tation "1	-ky''
	YEARSU	INK	NIMANUM			-		Print Record

RECRD [	7827	VESSLTERM CARTOCOL	Annone conservation	ON CHAR' SNDINGCODI	*saraacaaaaaa	AREA DEPTH	G 0
LAT83 LATDEC:	Shara a sar	43.64	LONG83	079 58 13.54 79.970427777778	NATIVDATUM GPQUALITY GPSOURCE	O6 High Scaled	
PROJEC RADIUS		R-G428	ITEMSTAT	FUS Assigned		EARCHTYPE SSIGNED	Full 8/5/1999
TECNIQ Techniqr	<b>*</b> :::::::	S,VS,ES,DI					
History	CL878/73- LOCATED.	-CHART INVEST	470,4/73, SP-AMC-	8N, LONG.79-58-14.22V 9-FE-73, ITEM 19; ALL NOT VISIBLE. (ENTRA	CHARTED PILES	MARKING CH	ANNEL ENTRANCE
Fieldnote	POSITION INVESTIGA SURVEYED POSITION INVESTIGA was position radius from the	2/13/ 1999 (DN:3 NUMBERS: 898 ATION USED: (Vis ) POSITION: LAT. DETERMINED BY ATION SUMMARY ned. These ruins be the above position.	ual identification)  32/47/42.55N LON  DIFFERENTIAL GI  Visual identification  are =9.1m milw with e  -1.4m A  (5fr)  TION (HYDROGRAP	of a cluster of 8 piles for proverified real water level of PPROVED.  PHER) Retain as charted	s applied. The ruin	s cover an app	roximate area of 20m
Proprietary	YEARSUNK	OR COMMENTS:	Plot 3	UJ CLARIFICA TIO.	N. 19.19 (1919)   1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	vanovano, i na mina n	Pras Record

Mevise Jubm pile o To liles

AT SURVEY POSITION

RECRD [	7828	VESSLTERMS CARTOCODE	<b>1</b>	ON C SNDING	HART 11524 CODE	AREA DEPTH	G 0
LAT83 LATDEC:	32/47/4 32.79		ONG83 ONDEC:	079/58/11.77 79.969936111111	NATIVDATU GPQUALITY	danas	***************************************
oallelineraliselineri erabayan arahlu	COLADARI INICOLOSIA DI LA REGIO DI ANCANA DI STRUSSI	Market i Market (1964) Market II. opposition als also passassis in Market II. opposition and in Market II. op	an mengangan dianggan dianggan dianggan di	መስስር በሚኒስት መቅልተነ የብሎማሪያ በአምላቸው ማስያው ብት መቅስት የሚኒስት የሚኒስት የሚኒስት የሚኒስት	GPSOURCE	Scaled	
PROJEC	T OPR	-G428	ITEMSTA	TUS Assigned		SEARCHTYPE	Ful
RADIUS		30	INIT	MCR		ASSIGNED	8/5/1999
TECNIQ	DLS.	VS,ES,DI					
Techniqn	note ALSC	SEARCH 30M A	BOUT POSITIO	N 32-47-47.01 N 079	2-58-08.9 W FOR TH	E SHOREWARD	OF TWO PILES
History	46.92N, LONG CL878/73C ENTRANCE I	G.79-58-09.8W. CHART INVEST.4 LOCATED.	70 (11524),4/73,	32-47-45.9N, LONG SP-AMC-9-FE-73, I' LE ON 6/3/79. (ENT	TEM 19; ALL CHAR		FTWO) AND LAT.32-47- KING CHANNEL
Fieldnote	INVESTIGAT	ION					
	DATE(S):12/	713/ 1999 (DN:347	<b>7</b> )				
	POSITION N	UMBERS: 899-900	)				
	INVESTIGAT	TON USED: ( DLS	)				
	SURVEYED	POSITION: LAT. 3	2/47/46.59N LC	N. 079/58/11.4W			
	POSITION DI	ETERMINED BY: I	DIFFERENTIAL O	SPS .			
		es the offshore pile		or this search due to d , baring <del>= 1.0</del> m @ m - 6.9m ( - 3 ff )			ng shoal. The above plied. The search for the
	CHARTING R	ECOMMENDATION	ON (HYDROGRA	PHER) Retain as ch	arted the offshore pile	e. Remove the cha	arted inshore pile.
	EVALUATOR	COMMENTS:	Concur	W/ CLARIFI	CATION		
Proprietary			Plot 3				
	YEARSUNK		NIMANUM				Print Record
				Delete	Subm	piles o	
				Add	Pile		

RECRD	7829	VESSLTER	MS UNKNOV	<b>VN</b>	CHART	11524	AREA	G	
		CARTOCO	DE 0098		SNDINGCODE	The contract of the	DEPTH	0	
LAT83	32/48	/54.00	LONG83	079/5	7/47.00	NATIVDATUM	31	<del>要可可要"机"更"现"更"更"更"更"更</del> "更"更"。	ক্ষান্ত কৰে কৰি
LATDEC:	I	32.815	LONDEC:	79.9	6305555556	GPQUALITY	Med		
	olani, military v. helovi, on pri vivi di divini ve de	. 21.50 cits circulate for contract of the con	rikerkan order och stad och stad stad och stad o	MLSKADAR, SD.SS. (M.S.), WASKAT O	ne graveten a de la company	GPSOURCE	Scaled		18.07.18.25.10.18.18.18.40.40.40.40.47.47.47.40.40.40.48.48.4
PROJEC <sup>-</sup>	r OP	R-G428	ITEM	STATUS	Assigned	SI	EARCHTYPE	Full	
RADIUS	Ī	100	 INIT		MCR	A:	SSIGNED		8/5/1999
TECNIQ	SD.	VS,DLS,DI							
Technique	ote								
History	BARGED L	8C&GS CHART OCATED ON TH 83). (ENTERED)	E HWL. POS. S	170 (11524 CALED FF	),1966, OPR-436; ROM NOS CHART	THE WRECK OF A 11524 36ED, 1987	A 30FT X 60FT 7 IN POS.LAT.	r Strand 32-48-54N	ED WOODEN , LONG.79-57-
Fieldnote	INVESTIGA	TION							
	DATE(S): 1	2/13/1999 (DN:	347)						
	POSITION	NUMBERS: 824-	835						
	INVESTIGA	ATION USED: (2	00% SIDE SCA	N SONAR,	ECHO SOUNDER	, Visual)			
	SURVEYE	POSITION: LA	T. LON. As req	uested 32/	48/54N 079/57/47	w			
	POSITION	DETERMINED B	Y: DIFFERENTIA	AL GPS					
	INVESTIGA	ATION SUMMAR	Y: No contacts v	isual, or S	SS were identified.				
	CHARTING	RECOMMENDA	ATION (HYDRO	GRAPHER)	Remove from the	charts.			
Dunamintan	EVALUATO	OR COMMENTS	: Conci			Delete	,		
Proprietary	YEARSUNK	· 🗀	NIMANUN					Pri	nt Record

RECRD		KON	VESSLTE	RMS	ОВЅТОС	CTION		CHART	11524	aadi Taabi	ARE	Α	G		
			CARTOC	ODE	0067		SNDING	CODE	*		DEPT	Ή		0	
LAT83	[32	/49/23.	37	LON	NG83	079/5	7/49.83	कृतकृत मृताद्यः कृतकृतकृतकृतकृतकृत र	NATIVDATI	JM	6	i, finilio luiliotinile	achain ath ath ath ainmh	al de de de de de de	माञ्चलकुर बहुत बहुत रहते हुन रहते हिन्दा हो। यह स्वाहत हुन स्वाहत है। स
LATDEC:	3	2.8231	58333333	LON	NDEC:	79.9	638416666	7	GPQUALITY	1	High			:	
ni. 1981 - 1814 - 1819 - 1819 - 1819 - 1819 - 1819 - 1819 - 1819 - 1819 - 1819 - 1819 - 1819 - 1819 - 1819 - 1	STANSON OF MAN BOUNDS OF OUR OF THE	n. to ni. Ren. 19. de ma	nan-kanasasasas		-151-155-153-161-151-161-151-151-151-151-151-151-151	o, eta allia erra este alta alta alta alta alta alta alta al	and the security of the second se	LTE.EU,ID.AN.ISI.YOJAAG.	GPSOURCE		Scaled		na et a constant de		arthraraktar birnraktar carbitar
PROJEC	ст [	OPR-G	428		ITEM	STATUS	Assigned		\$	SE	ARCHTY	PE	Full		
RADIUS	i				INIT		MCR	× × × × ×		AS	SIGNED		<b>1</b>		8/5/1999
TECNIQ		vs,DLs	,Di												
Techniqr	note	CONDL	JCT A 25M	SEAR	CH ABOU	T THE PO	SITIONS GI	/EN IN	HISTORY BE	LOW	(AFTER	CL87	8/73)		
	57-50.7V	Y (NAU													
ieidnote	NOT FO NAD 83 32-49-21 32-49-22 32-49-22 INVESTI DATE(S POSITIO INVESTI SURVEY POSITIO INVESTI	UND B POSITI 1.09 N ( 1.71 N ( 3.5 N () 1.47 N	ART INVE: Y VISUAL I IONS: 079-57-49: 079-57-49: 079-57-50. IN W 1999 (DI MBERS: 800 IN USED: ( DISTION: LI TERMINED IN SUMMA	NSPEC 77 W 98 W 8 W 4 W 1:347) 3-823 200% S AT. LC BY: DIF	SIDE SCA  DN. As req  FERENTI  arch confin	N SONAR, juested . 32 AL GPS med the ex	, ECHO SOL	JNDER) 079/57/	3,ITEM 15; P NG WITH TV 49.83W d subm piles	<b>VO A</b>	DDITION				
ieidnote	NOT FO NAD 83 32-49-21 32-49-23 32-49-22 INVESTI DATE(S POSITIO INVESTI SURVEY POSITIO INVESTI CHARTI	UND B'POSITI 1.09 N (1.71 N (3.5 N 0) 1.47 N (1.47 N (1.47 N ) 1.47 N (1.4	ART INVE: Y VISUAL I IONS: 079-57-49: 079-57-49: 079-57-50. IN W 1999 (DI MBERS: 800 IN USED: ( DISTION: LI TERMINED IN SUMMA	NSPEC 77 W 98 W 8 W 4 W 1:347) 3-823 200% S AT. LC BY: DIF RY: Sei	SIDE SCA  DN. As req  FERENTI  arch confin	N SONAR, juested . 32 AL GPS med the ex	ECHO SOL	JNDER) 079/57/	NG WITH TV	<b>VO A</b>	DDITION				

Retain Subm piles

Ruins

ECRD 1	<b>783</b> 1	-35	ERMS	1000 inc	JCTION	CHAR	T 11524	AREA	G	
		CARTO	CODE	0067		SNDINGCOD	E	DEPTH	0	•
LAT83	32/	50/09.63	LC	ONG83	079/5	9/06.07	NATIVDATUN	A [6]	erinararat (r. 1974) erinarara	你. 为. 战· 前· 前· 前· 前· 书. 书. 书. 书. 书. 相. 何. 少少. 道. 点.
LATDEC:	32	.83600833333	S LC	ONDEC:	79.9	8501944444	GPQUALITY	High		
15-25-27-28-38-38-38-28-38-18-38-48-38-	10. 15 .pc. 15 - 8c. 31 14 15 16 16 17 18	o de la colonia	R. OH. HA. AH. (1845) - 184, 000 - 285.	an planetalnen mar ingen ma	on of the original of the orig		GPSOURCE	Scaled		
PROJEC	т [С	PR-G428		ITEM	ISTATUS	Assigned		SEARCHTYPE	Full	
RADIUS	Γ	20		INIT		MCR		ASSIGNED		8/5/1999
TECNIQ	V	S,DLS	<del> </del>							
Technign	note			.,		:::::::::::::::::::::::::::::::::::::::				
•	HISTOR H8410/5	7PILING UNC	OVERS	32FT MLW	'IN POS. L	AT.32-50-09N, LO	NG.79-59-06.75\	W (NAD 27).		
ieldnote	H8410/5 CL1694	7PILING UNO 774USPS REF	ORT D	ATED 10/74	IN POS. L	AT.32-50-09N, LO ED PILE NOT VISII	NG.79-59-06.75\ BLE (ENTERED	W (NAD 27). 7/90 MCR)		
ieldnote	H8410/5 CL1694, INVESTIG DATE(S) POSITIO	77PILING UNC 174USPS REI GATION :12/13/1999 ( N NUMBERS:	DN:347	ATED 10/74	4. CHARTE	ED PILE NOT VISI	BLE (ENTERED	W (NAD 27). 7/90 MCR)		
ieldnote	H8410/5 CL1694, INVESTIG DATE(S) POSITIO INVESTIG	77PILING UNC 174USPS REI GATION :12/13/1999 ( N NUMBERS: GATION USED	DN:347 24-751	ATED 10/74 ) 200% SIDE	SCAN SO	AT.32-50-09N, LO ED PILE NOT VISII DNAR, ECHO SOU 2/50/09.63N 079/5	BLE (ENTERED	W (NAD 27). 7/90 MCR)		
Fieldnote	H8410/5 CL1694 INVESTIG DATE(S) POSITIO INVESTIG SURVEY	77PILING UNC 174USPS REI GATION :12/13/1999 ( N NUMBERS: GATION USED	DN:347 724-751 : (IE DI,	ATED 10/74 ) 200% SIDE	s CHARTE	ED PILE NOT VISI DNAR, ECHO SOU	BLE (ENTERED	W (NAD 27). 7/90 MCR)		
ieldnote	H8410/5 CL1694, INVESTIG DATE(S) POSITIO INVESTIG SURVEY POSITIO	GATION GATION GATION GATION GATION NUMBERS: GATION USED ED POSITION: N DETERMINE	DN:347 24-751 : (IE DI.) LAT.   D BY: D	ATED 10/74 ) 200% SIDE LON. As rec	SCAN SO Quested, 32 IAL GPS	ED PILE NOT VISI DNAR, ECHO SOU	INDER) 9/06.07W	7/90 MCR)	ly abutts a	major bridge
Fieldnote	H8410/5 CL1694, INVESTIG DATE(S) POSITIO INVESTIG SURVEY POSITIO INVESTIG and association	GATION USED ED POSITION:  N DETERMINE GATION SUMB CIATED BY STATE  GATION USED  ED POSITION:  N DETERMINE GATION SUMB CIATED BY SUMB CIATED B	DN:347  24-751  (IE DI.  LAT.  D BY: D  IARY: N  pports k	ATED 10/74 ) 200% SIDE LON. As reconstruction of the significant ocated within	SCAN SO Quested, 32 IAL GPS It contacts with 5m off the	D PILE NOT VISIONAR, ECHO SOU 2/50/09.63N 079/5	SLE (ENTERED SINDER)  9/06.07W  spport this feature	7/90 MCR)		
Fieldnote	H8410/5 CL1694, INVESTIO INVESTIO SURVEY POSITIO INVESTIO INVESTIO And associ	GATION USED ED POSITION:  N DETERMINE GATION SUMB CIATED BY STATE  GATION USED  ED POSITION:  N DETERMINE GATION SUMB CIATED BY SUMB CIATED B	DN:347  24-751  (IE DI.)  LAT.  D BY: D  MARY: N  Pports k  NDATIO	ATED 10/74 ) 200% SIDE LON. As reconstruction of the significant occupant of the significant occurrence	SCAN SO Quested, 32 IAL GPS t contacts w n 5m off the GRAPHER)	ONAR, ECHO SOU 2/50/09.63N 079/5 were identified to su e reported position.	SLE (ENTERED SINDER)  9/06.07W  spport this feature	7/90 MCR)		
Fieldnote Proprietary	H8410/5 CL1694, INVESTIO INVESTIO SURVEY POSITIO INVESTIO INVESTIO And associ	GATION USED ED POSITION:  N DETERMINE GATION USED ED POSITION:  N DETERMINE GATION SUMA ciated bridge SU	DN:347  24-751  (IE DI.)  LAT.  D BY: D  MARY: N  Pports k  NDATIO	ATED 10/74 ) 200% SIDE LON. As reconstruction in the significant within the control of the contr	SCAN SO Quested, 32 IAL GPS It contacts wan 5m off the GRAPHER)	ONAR, ECHO SOU 2/50/09.63N 079/5 were identified to su e reported position.	SLE (ENTERED SINDER)  9/06.07W  spport this feature	7/90 MCR)		

7835		Boscononon Transportantes	CTION	eecces.	Enanciario de la compania del compania del compania de la compania del compania de la compania de la compania del compania de la compania de la compania de la compania de la compania del	AREA DEPTH	G 0	
#anahandaan memberahan	aaaaaaaaa waxaan		Sanara Sanara		NATIVDATUM GPQUALITY GPSOURCE	6 Low Scaled		
T OPR-0	G428	ITEMS	TATUS	Assigned		SEARCHTYPE	Full	
1	75	INIT		MCR	4	ASSIGNED		8/5/1999
VS,DL	S,DI							
ote								
						.5N, LONG.79-5	50-34W (N/	AD 27)
DATE(S): 11/0 POSITION NU INVESTIGATION SURVEYED POSITION DE	O1/1999 (DN:30 MBERS: 1 ON USED: (IE D OSITION: LAT.: TERMINED BY: ON SUMMARY:	I, 200% SIDE S 32°46'20.744"N DIFFERENTIA New bridge fei	i LON. 0' L GPS nder consi	79°50'33.493"W truction now exist in	this position. (Ph	noto)		o taken)
CHARTING RE	COMMENDATI					•		
*************		Plot	4				<b>1-12</b>	
	T OPR-I  JOPR-I  VS,DL  OTE  HISTORY H5810/35-F CL1106/78-I  INVESTIGATI  DATE(S): 11/0 POSITION NU INVESTIGATI SURVEYED P POSITION DE INVESTIGATI CHARTING RE EVALUATOR	CARTOCODE  32/46/21.13  1 32.7725361111111  T OPR-G428  75.  VS,DLS,DI  ote  HISTORY H5810/35 POS. OF APPAR CL1106/78USPS REPORT;  INVESTIGATION  DATE(S): 11/01/1999 (DN:30 POSITION NUMBERS: 1 INVESTIGATION USED: (IE DI SURVEYED POSITION: LAT. 3 POSITION DETERMINED BY: INVESTIGATION SUMMARY:	CARTOCODE 0067  32/46/21.13 LONG83  32.7725361111111 LONDEC:  T OPR-G428 ITEMS  75 INIT  VS,DLS,DI  ote  HISTORY H5810/35 POS. OF APPARENT PILE SYNCL1106/78USPS REPORT; PILE NOT VIS  INVESTIGATION  DATE(S): 11/01/1999 (DN:305)  POSITION NUMBERS: 1 INVESTIGATION USED: (IE DI, 200% SIDE SIDE SIDE SIDE SIDE SIDE SIDE SIDE	CARTOCODE 0067  32/46/21.13 LONG83 079/5  32.772536111111 LONDEC: 79.8  TOPR-G428 ITEMSTATUS  INIT  VS.DLS.DI  OLE  HISTORY  H5810/35 POS. OF APPARENT PILE SYMBOL ON CL1106/78USPS REPORT; PILE NOT VISIBLE IN 6  INVESTIGATION  DATE(S): 11/01/1999 (DN:305)  POSITION NUMBERS: 1  INVESTIGATION USED: (IE DI, 200% SIDE SCAN SO SURVEYED POSITION: LAT. 32°46'20.744"N LON. 0  POSITION DETERMINED BY: DIFFERENTIAL GPS  INVESTIGATION SUMMARY: New bridge fender cons  CHARTING RECOMMENDATION (HYDROGRAPHER)  EVALUATOR COMMENTS: Cancut C  PLOT 4	CARTOCODE 0067 SNDINGCODE  32/46/21.13 LONG83 079/50/33.30  32.7725361111111 LONDEC: 79.842583333333  T OPR-G428 ITEMSTATUS Assigned  INIT MGR  VS.DLS.DI  OTE  HISTORY H5810/35 POS. OF APPARENT PILE SYMBOL ON FILM NEGATIVE ICL1106/78-USPS REPORT; PILE NOT VISIBLE IN 6/78. (ENTERED 7/9)  INVESTIGATION  DATE(S): 11/01/1999 (DN:305) POSITION NUMBERS: 1 INVESTIGATION USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUN SURVEYED POSITION: LAT. 32°46′20.744″N LON. 079°50′33.493″W POSITION DETERMINED BY: DIFFERENTIAL GPS INVESTIGATION SUMMARY: New bridge fender construction now exist in CHARTING RECOMMENDATION (HYDROGRAPHER) Recommend remo EVALUATOR COMMENTS: CONCULT USE CLARMENCE  PLOT 4  YEARSUNK NIMANUM	CARTOCODE 0067 SNDINGCODE  32/46/21.13 LONG83 079/50/33.30 NATIVDATUM 32.772536111111 LONDEC: 79.842583333333 GPQUALITY GPSOURCE  T OPR-G428 ITEMSTATUS Assigned STATE OF STAT	CARTOCODE 0067 SNDINGCODE DEPTH  32/46/21.13 LONG83 079/50/33.30 NATIVDATUM 6  32.772536111111 LONDEC: 79.842583333333 GPQUALITY LOW GPSOURCE Scaled  T OPR-G428 ITEMSTATUS Assigned SEARCHTYPE ASSIGNED  VS.DLS.DI  OTE  HISTORY HS810/35- POS. OF APPARENT PILE SYMBOL ON FILM NEGATIVE IS LAT.32-46-20.5N, LONG.79-3-11/106/79-USPS REPORT: PILE NOT VISIBLE IN 6/78. (ENTERED 7/90 MCR)  INVESTIGATION DATE(S): 11/01/1999 (DN:305)  POSITION NUMBERS: 1  INVESTIGATION USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) visually identified and position determined by: DIFFERENTIAL GPS  INVESTIGATION SUMMARY: New bridge fender construction now exist in this position. (Photo)  CHARTING RECOMMENDATION (HYDROGRAPHER) Recommend removal of charted subm pile from the EVALUATOR COMMENTS: QONGLE WAS CARRECARDED.  PLOT 44  YEARSUNK NIMANUM	CARTOCODE 0067 SNDINGCODE DEPTH 0  32/46/21.13 LONG83 079/50/33.30 NATIVDATUM 6  32/7725361111111 LONDEC: 79.842583333333 GPQUALITY LOW GPSOURCE Scaled  T OPR-G428 ITEMSTATUS Assigned SEARCHTYPE Full ASSIGNED  VS.DLS.DI  ONE  HISTORY HS810/35- POS. OF APPARENT PILE SYMBOL ON FILM NEGATIVE IS LAT.32-46-20.5N, LONG.79-50-34W (N/CL1106/78-USPS REPORT; PILE NOT VISIBLE IN 6/78. (ENTERED 7/90 MCR)  INVESTIGATION  DATE(S): 11/01/1999 (DN:305)  POSITION NUMBERS: 1  INVESTIGATION USED: (IE DI, 200% SIDE SCAN SONAR, ECHO SOUNDER) visually identified and positioned(photosurveyed POSITION: LAT. 32°46′20.744°N LON. 079°50′33.493°W  POSITION DETERMINED BY: DIFFERENTIAL GPS  INVESTIGATION SUMMARY: New bridge fender construction now exist in this position. (Photo)  CHARTING RECOMMENDATION (HYDROGRAPHER) Recommend removal of charted subm pile from the charts.  EVALUATOR COMMENTS: CONCULT WE CAMBER CARDON.  PLOT 4

Add Pile

ECRD [	10421	VESSLTER	\$		CHART	•	AREA DEPTH	G	•
भन्दिर स्ट्रेंड स्ट्राइंड स्ट्राइंड स्ट्राइंड स्ट्राइंड स्ट्राइंड स्ट्राइंड स्ट्राइंड स्ट्राइंड स्ट्राइंड स्ट्	ामृर श्रीतामृत्यामा क्षात्रकृत श्रीतामृत श्रीत स्थार श्रीतामृत स्थार स्थार स्थार	CARTOCC	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA		SHUINGCOU	- 1	######################################	**********	· · · · · · · · · · · · · · · · · · ·
LAT83	32 45	22.2	LONG83	079 53	3 09	NATIVDATUM	1 31		
LATDEC:	32.7	6166666667	LONDEC:	79.8	85833333333	GPQUALITY	Low		
88. 151. 158. 151. 168. 169. 168. 169. 169. 169. 169. 169. 169. 169. 169	ni. 196. 316. des 216. des	-28.70°-28.70°-29.70°-28.70°-1	B. AC JB. 48-48-48-48-48-48-48-48-48-48-48-48-48-4	C. John Str. and and conjust April 200 Annual	No. AMO, AMO, CO. S. AMO,	GPSOURCE	Direct		ON THE WASHINGTON THE WEAR, ME AND AN AND AN AND AN AND AN
PROJEC	т ОРГ	R-G428	ITEMS	TATUS	Assigned		SEARCHTYPE	Full	
RADIUS		150	INIT		MCR		ASSIGNED		8/10/1999
TECNIQ	S2,0	LS,ES,SD							
Techniqn	ote								
	H-10744/97	OPR-G400-A	HP; ITEM WAS	NOT ASS	KIN POS.324522 SIGNED. SOUTHI ALUATOR RECON	ERN LIMIT OF 20	00% SIDE SCAN	SONAF	
eldnote	INVESTIGA	TION This ite	m was resolved du	ring surv	ey work for H-1074	4, 1997,1998 (se	e DR for H-1074	4). <del>×</del>	
	DATE(S): /	/ (DN: )							
	POSITION	IUMBERS:							
	INVESTIGA	TION USED: (IE	Di, 200% SIDE S	CAN SO	NAR, ECHO SOU	NDER) ES; S2; \	VS.		
	SURVEYED	POSITION: LA	T. LON.						
	POSITION E	ETERMINED B	Y: DIFFERENTIAI	. GPS					
	INVESTIGA	TION SUMMAR	Y: No side scan s	onar conta	acts were made in t	the requested sea	arch area for this	item.	
	CHARTING	RECOMMENDA	TION (HYDROGE	RAPHER)	Recommend rem	oval of this item f	rom the charts.		
	EVALUATO	R COMMENTS	* Do No	т Co	Neur				
oprietary	YEARSUNK			PloT					ne Record
			* 5.	EE P	ALSO THE	EVALVATI	ON REPOR	21	

ADD TO CHART "HT: LAT 32° 45' 22.2" N LON 79° 53' 09.0" W

RECRD	1042	2 VESSLTERM	S OBSTRUCT	ION	CHART	11524	AREA	G	
		CARTOCOD	DE 0067	S	NDINGCODE		DEPTH		
LAT83	32	45 58.54	LONG83	079 51 45.7	1	NATIVDATUM	06	प्रकार के त्राप्त के का	i i i i i i i i i i i i i i i i i i i
LATDEC:	3	2.766261111111	LONDEC:	79.862697	222222	GPQUALITY	High		
			. D. B. M. C. C. M. AND		e	GPSOURCE	Scaled		
PROJEC'	т [	OPR-G428	ITEMST	ATUS As	signed	SI	EARCHTYPE	Full	
RADIUS	Ī	30	INIT	MC	CR	A	SSIGNED	8/10/1	999
TECNIQ		S2,DLS,ES,SD							
Technique	ote								
History	HISTOR	RY 163SUNKEN BOILE	R SHOWN ON S	IRVEY IN PO	08 32 45 57 9	N 07951464W	NAD 27, ENT	ERED 8/99 MCR	
Fieldnote		IGATION							
	DATE(S	): 11/14/99 (DN:308)	<b>;</b>						
		ON NUMBERS: 69							
		IGATION USED: EC							
	SURVE	(ED POSITION: LAT	. LON.						
	POSITIO	ON DETERMINED BY	: DIFFERENTIAL	GPS					
	INVEST	IGATION SUMMARY pier ends to shorewa	': Reduced sound ard of sounding da	ing line were r la. No contact	an along the research	equested search and by the search.	irea. This posit	ion lies along a cha	annel
	CHARTI Federal maintain	NG RECOMMENDA' Maintained channel w ance.	TION (HYDROGR there the current s	APHER) : Rei ymbol is appli	ed to the char	s , and was most	ikely removed	during channel	a
	EVALUA	ATOR COMMENTS:	Concer	-	De	lete.	Boiler		
Proprietary			Plot 4	/					
	YEARSU	JNK T	MUMAMIN					Print Reco	nt.

RECRD 1	10425	VESSLTERM	S OBSTRUCT	LION	CHART	11524	AREA	G	
		CARTOCOD	E 0067	SN	IDINGCODE		DEPTH		
LAT83	32 54	09.6	LONG83	079 57 31.1		NATIVDATU	А [31]	kanterin den den den den den den den den den de	रिक्ष क्षित्रकृतिकृतिकृतिकृतिकृतिकृतिकृतिकृतिकृतिकृति
LATDEC:	32.90	02666666667	LONDEC:	79.9586388	88889	GPQUALITY	Med		
E 5 5 6 6 7 8 7	f.ol.mj.tc.:(0.10.11.11.01.91.11.20.11.10.11.11.01	n distribution of the state of	ni. ana filikano . din anika tikana kun Juga Juga Juga Juga Juga Juga Juga Juga	-Marzadada dia erakan kiranak dia kanpangan kanpangan	NS. 24-DC-253. KL-Nz. (GLNb-aCL-28-a) Canada.	GPSOURCE	Direct		
PROJEC	т ОРІ	R- <b>G42</b> 8	ITEMST	ATUS Assi	gned		SEARCHTYPE	Full	
RADIUS	Γ	75	INIT	МС	}		ASSIGNED		8/12/1999
TECNIQ	S2,[	DLS,ES,SD							
Techniqn	ole UNK	NOWN AT THIS	TIME IF ITEM W	AS ADDRESS	ED BY OPR-	G310-AHP-99			
History	HISTORY	7TH CCD 11/5/0	1. CURNEDCED	OPETRICTI	N DERTU	UNIVNOVAN DE	DODTED IN ADD	DOV DOS	20 E7 00 EN
	079 57 31.1	-7TH CGD, 11/5/9 W, NAD 83. NO D	ESCRIPTION GI	VEN. ENTERE	0 8/99 MCR	UNKNOWN KE	PORTED IN APP	HUX. PUS	.32-37-09.0N,
Fi <del>el</del> dnote	INVESTIGA	TION This item wa	as resolved by su	rvey H-10857,	1999 ( see D	R for H-10857,	1999)		
	DATE(S): /	/ (DN: )							
	POSITION	NUMBERS:							
	INVESTIGA	TION USED: (IE D	I, 200% SIDE SC	CAN SONAR, E	CHO SOUN	IDER) S2; ES.			
	SURVEYED	POSITION: LAT.	LON.						
	POSITION	DETERMINED BY:	DIFFERENTIAL	GPS					
	INVESTIGA	TION SUMMARY:	Not significant co	ontacts made in	the requeste	ed search area.			
	CHARTING	RECOMMENDAT	ION (HYDROGRA	APHER) Recor	nmend remo	val of this item f	rom the charts.		
	EVALUATO	R COMMENTS:	concur	-	7	Poto-	Obstru'		
Proprietary	# :::::::::::::::::::::::::::::::::::::		NO PLO		e manement og modere fler sær	Co <del>llege</del> (I no <del>Col</del> lege I no College (no no no n	PA ()		***********
	YEARSUNK		NIMANUM [					383333 288822	Record
			~						



#### UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration

NATIONAL OCEAN SERVICE Silver Spring, Maryland 20910

#### TIDE NOTE FOR HYDROGRAPHIC SURVEY

**DATE:** June 20, 2000

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR-G428-NRT2-99

HYDROGRAPHIC SHEET: F00457

LOCALITY:

Charleston, SC

TIME PERIOD: November 1 - December 13, 1999

TIDE STATION USED: 866-5099 I-526 Bridge

Lat.  $32^{\circ} 50.4'N$  Lon.  $80^{\circ} 01.5'W$ 

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

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.815 meters

TIDE STATION USED: 866-5530 Charleston

Lat. 32° 46.9'N Lon. 79° 55.5'W

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

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.664 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: CH1, CH2, CH70, CH71, CH73 & CH74.

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.

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION





NOAA FORM 76-155 (11-72) NA	TIONAL	OCEANIC			ENT OF C		SU	RVEY N	UMBER	
GEO	GRAPI	HIC NAM						F00457	•	
Name on Survey	/ <u>k</u>	or Chart	Parions	JUS ALPS	A ANGLE  ROWLOGAN  ROWLOGAN  E	ON AND	G at	OR MAP	3. Light Li	,s <sup>2</sup>
ACCABEE FLATS	_X_		X		<u> </u>					1
ASHLEY RIVER	χ		X		-				ļ	2
BRICKYARD CREEK	χ		Х	<u> </u>						3
CHARLESTON	χ		X							4
COVE, THE	Х		Х							5
DUCK ISLAND	χ		X	ļ						6
EAST MARSH ISLAND	Х	·	Х		-			/		7
OLDTOWN CREEK	Х	ļ	Х							8
SISTERS ROCKS	Х		Х			ļ.				9
SOUTH CAROLINA (title)	Χ		X						<u> </u>	10
SULLIVANS ISLAND	Х		X				•			11
SULLIVANS ISLAND NARROWS	Х		X							12
		<u> </u>			i in a sa			<u> </u>		13
			.				1			14
					Cen o		*		June	15
						10	MA	22	2000	16
										17
						1				18
										19
										20
										21
										22
	İ									23
										24
										25

NOAA FORM 76-185 SUPERSEDES CAGS 197

NOAA FORM 61-29 U.S. DEPARTMENT OF COMMERCE	REFERÊNCE NO.
(12-71) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	
	N/CS 33-63-00
LETTER TRANSMITTING DATA	DATA AS LISTED BELOW WERE FORWARDED TO YOU BY (Check):
	ORDINARY MAIL AIR MAIL
TO:	REGISTERED MAIL EXPRESS
Г	
NOAA / National Ocean Service	GBL (Give number)
Chief, Data Control Group, N/CS3x1	
SSMC3, Station 6815	DATE FORWARDED
1315 East-West Hwy. Silver Spring, MD 20910-3282	
Sliver Spring, MiD 20910-3202	8-29-0
	NUMBER OF PACKAGES
	ONE TUBE
<b>NOTE:</b> A separate transmittal letter is to be used for each type of data, as t number of packages and include an executed copy of the transmittal letter copy of the letter should be sent under separate cover. The copy will be retu correspondence or transmitting accounting documents.	in each package. In addition the original and one
•	
F00457 OPR-G428-NRT2	
Charleston, SC	
Descriptive & Evaluation Reports 1 Drawing History form 76-71 for NOS Chart 11524 4 Smooth Sheets (page size) 1 H-Drawing NOS Chart 11524 5 Composite plots for NOS Chart 11524	
FROM: (Signature)	RECEIVED THE ABOVE (Name, Division, Date)
Maxime Fetterly Millily	(Name, Division, Daie)
Return receipted copy to:	
	· · · · · · · · · · · · · · · · · · ·
Maxine Fetterly	
Atlantic Hydrographic Branch	
439 W. York St. Norfolk, VA 23510	
F 7	

# HYDROGRAPHIC SURVEY STATISTICS REGISTRY NUMBER: F00457

NUMBER OF CONTROL STATIONS		2
NUMBER OF POSITIONS		1027
NUMBER OF SOUNDINGS		1027
	TIME-HOURS	DATE COMPLETED
PREPROCESSING EXAMINATION	8.0	05/15/2000
VERIFICATION OF FIELD DATA	64.0	08/18/2000
QUALITY CONTROL CHECKS	26.5	
EVALUATION AND ANALYSIS	15.0	
FINAL INSPECTION	14.5	07/28/2000
COMPILATION	75.5	08/23/2000
TOTAL TIME	203.5	
ATLANTIC HYDROGRAPHIC BRANCH AF	PROVAL	08/07/2000

# ATLANTIC HYDROGRAPHIC BRANCH EVALUATION REPORT FOR F00457 (1999)

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.

#### AUTOMATED DATA ACQUISITION AND PROCESSING

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

Hydrographic Processing System NADCON, version 2.10 MicroStation 95, version 5.05 I/RAS B, version 5.01

The smooth sheets were plotted using a Hewlett Packard DesignJet 2500CP plotter.

#### CONTROL STATIONS

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values. Four page size sheets have been annotated with ticks showing the computed mean shift between NAD 83 and the North American Datum of 1927 (NAD 27).

- (1) To place sheet 1 of 4 on NAD 27, move the projection lines 0.633 seconds (19.489 meters or 9.74 mm at the scale of the survey) north in latitude, and 0.676 seconds (17.588 meters or 8.79 mm at the scale of the survey) east in longitude.
- (2) To place sheet 2 of 4 on NAD 27, move the projection lines 0.633 seconds (19.496 meters or 9.75 mm at the scale of the survey) north in latitude, and 0.681 seconds (17.708 meters or 8.85 mm at the scale of the survey) east in longitude.
- (3) To place sheet 3 of 4 on NAD 27, move the projection lines 0.635 seconds (19.568 meters or 9.78 mm at the scale of the survey) north in latitude, and 0.678 seconds (17.640 meters or 8.82 mm at the scale of the survey) east in longitude.

(4) To place sheet 4 of 4 on NAD 27, move the projection lines 0.636 seconds (19.595 meters or 9.80 mm at the scale of the survey) north in latitude, and 0.694 seconds (18.054 meters or 9.03 mm at the scale of the survey) east in longitude.

#### ITEM INVESTIGATION

#### COMPARISON WITH CHART 11524 (44th Edition, Sept. 11/99)

The charted hydrography originates with the prior surveys and requires no further consideration. The hydrographer makes adequate chart comparisons in the item investigation reports. Attention is directed to the following:

- 1. Automated Wreck and Obstruction Information System (AWOIS) Item #7597, a charted obstruction with the notation Subm Piles PA, in the vicinity of Latitude 32.45'57"N, Longitude 79.51'31.5"W, on chart 11524 (44th edition). This feature originates with Chart Letter 697 of 1978 (CL 697/78) as a sign on chart 11524 (36th edition). The feature is considered disproved by the present survey and should be removed from the chart.
- 2. AWOIS Item #7610, a charted visible wreck, in the vicinity of Latitude 32'49'26"N, Longitude 79'57'49"W, originates with Chart Letter 1106 of 1978 (CL 1106/78). The feature is considered disproved by the present survey and should be removed from the chart. During this investigation, two charted dolphins in Latitude 32'49'26.35"N, Longitude 79'57'49.81"W, were visually located by the hydrographer. The two dolphins should be retained as charted.
- 3. AWOIS Item #10421, a charted <u>dangerous sunken wreck PA</u>, in the vicinity of Latitude 32'45'22"N, Longitude 79'53'09"W, originates with Local Notice to Mariners 43 of 1996 (LNM 43/96). The evaluation report for H10744 (1997) recommended that the <u>wreck</u> be retained as charted. The <u>wreck</u> is not shown on the 44<sup>th</sup> edition of chart 11524. This feature was neither verified nor disproved by the field unit. It is recommended that the <u>dangerous sunken wreck</u>, <u>PA</u> be charted in its original position. Additional field work is recommended.
- 4. The charted notation Rep bare Dec 1983, in the vicinity of Latitude 32'47'50"N, Longitude 79'58'00"W, was

' confirmed by the present survey. It is recommended that the notation be revised to "Bare Feb 1999".

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

#### ADEQUACY OF SURVEY

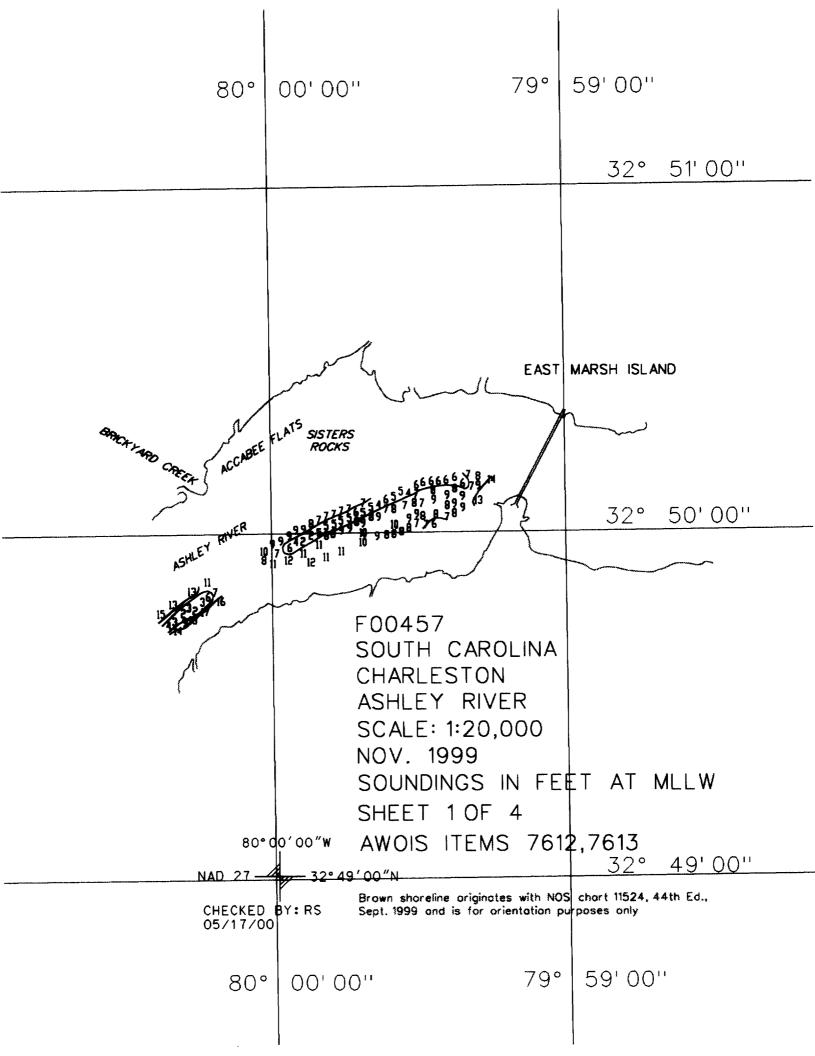
This is an adequate hydrographic/side scan sonar survey. Additional work is recommended on AWOIS #10421 at an opportune time.

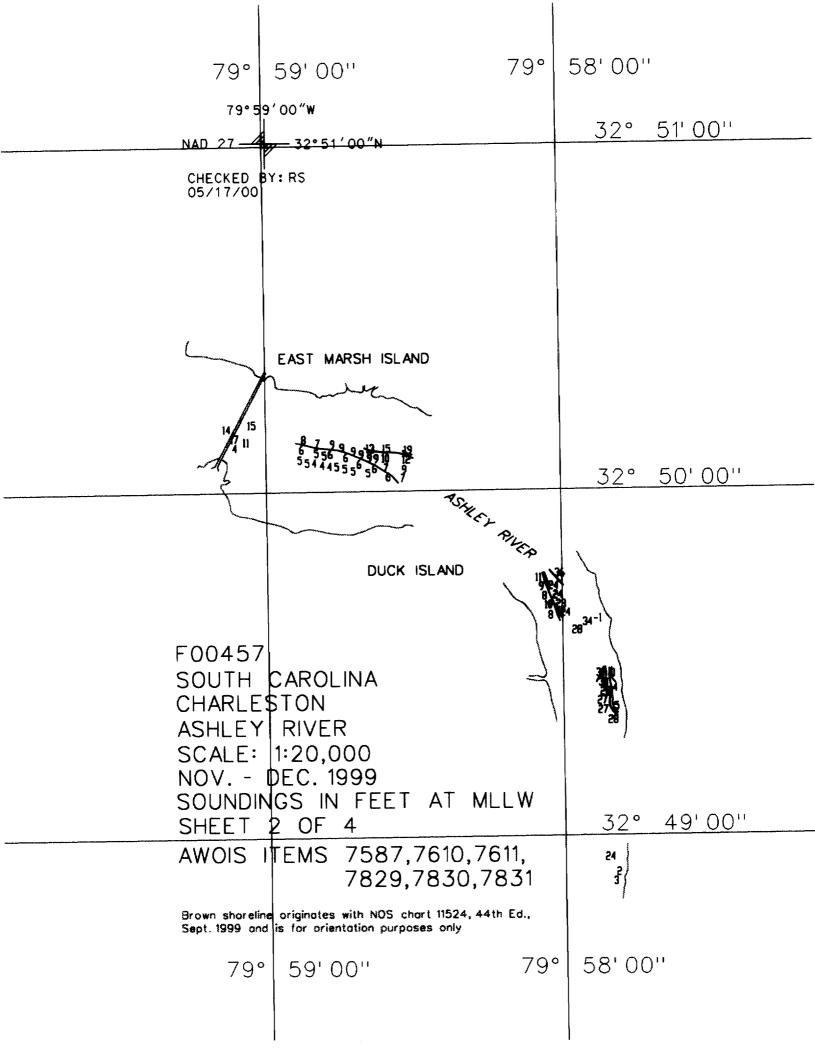
#### **MISCELLANEOUS**

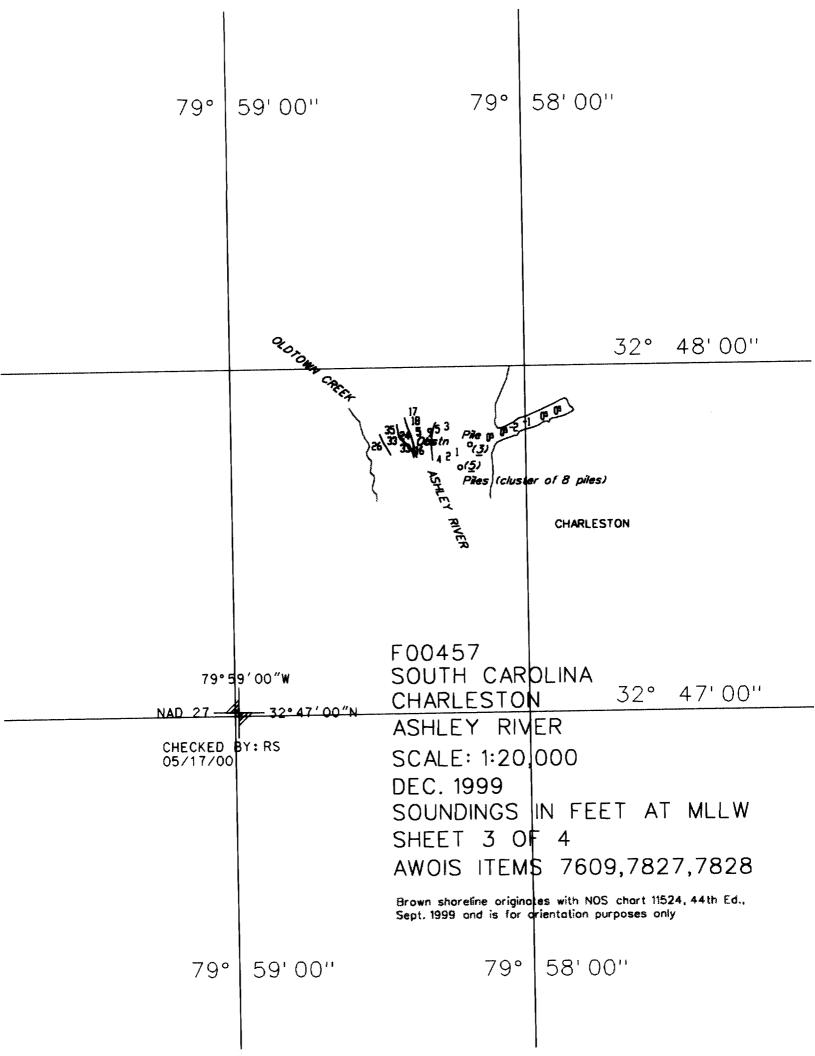
Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. The following NOS Chart was used for compilation of the present survey:

11524 (44th Edition, September 11/99)

Robert Snow Cartographic Technician Verification of Field Data Evaluation and Analysis







79°	52' 00''	79°	51' 00''
			32° 47'00"
			) 15,06 T
		SULLIVANS ISLA	NO NARROWS
	N 55 158	SULLIVANS 132	32° 46' 00''
	SULLIVANS ISLAND	THE COVE	32 40 00
		F00457 SOUTH CA	ROLINA
		CHARLEST	
79°5	32′00″ <b>w</b>	SCALE: 1:2 NOV. 1999	
NAD 27-	32°45′00″N		S IN FEET AT MLLW  OF 4
CHECKED 05/17/00			OF 4 MS 7597,7598, 7835,10422
		Brown shoreline orig Sept., 1999 and is f	ginptes with NOS chart 11524, 44th Ed., or orientation purposes only
7.00	5010011	79°	51' 00''
79°	52' 00''	79	
	1		•

# APPROVAL SHEET F00457

#### Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disapproval of charted data. The digital data have been completed and all revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

\_\_ Date: <u>8/7/00</u>

Maxine Fetterly

Cartographer

Atlantic Hydrographic Branch

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

Andrew L. Beaver

Lieutenant Commander, NOAA

Chief, Atlantic Hydrographic Branch

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Final Approval:

Approved:

Date:

Samuel P. DeBow, Jr.

Captain, NOAA

Chief, Hydrographic Surveys Division

#### MARINE CHART BRANCH

### RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO.

F00457

#### 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

CHART	DATE	GARTOGRAPHER	REMARKS
1524	8-14-00	Marini Fetteler	Full Purt Before After Marine Center Approval Signed Via
,,,,,,			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
<del></del> †			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
		- All Control of the	Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Diaming 100.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			C. U. D D. C After Marie Consum Appropriat Visa
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
	· .		Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
!			