

U.S. GEOLOGICAL SURVEY

LORANC
NAVIGATION LOGR.V. ASTERIAS - BUZZARDS BAY
WEST TO SAKONNET PT.UNIBOOM SURVEY

1-12 OCTOBER 1973

2 - 3 DECEMBER 1974

EQUIPMENTPERSONNEL

EG&G UNIBOOM SYSTEM

J. ROBB

CATAMARAN w/ TRANSDUCER

C. O'HARA

TRIGGER ASSY.; HYDROPHONE

R. HALL

EPC MOD 4100 RECORDER

L. SETLOW

Onan gasoline generator (5 kw)

(MASS DIV MINING
RESOURCES)Epsco Loranc navigation unit
w/ repeater.CART. A.D. COLBURN
ASTERIAS

(ALSO) 19 JUN 1975 (Robb, O'Hara)

ASTR 7304
14 DEC #74017
75011 #75011
100477

X VN ROOM SURVEY LORAN "C" NAVIGATION
 USGS OCS CRUISE LEG II GRAVITY

1 Oct 73

ASTERIAS - BUZZARDS BAY

GMT			TIME ZONE <i>Mas</i>	SHIPS		FIX TIME	NAVIGATION				QUAL.
DAY	MO	YR		TIME	±		COURSE	SPD	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	
1	10	73	1547	335					CAPE RACE	DANA	
			1600	"					37 961.6	. 69 851.5	
			1616	"					962.0	. 846.0	
01	10	73	1630	"					37 962.0	. 69 833.7	
			1645	"					962.0	. 828.1	
			1700	"					962.0	. 822.3	18.8
			1709 C/C 065						962.0	. 819.1	15.6
			1715	"					37 956.0	. 69 818.2	14.7
			1721 C/C 155						950.4	. 818.0	14
			1730	"					950.0	. 821.2	17.7
			1745	"					950.2	. 826.4	
			1749						950.2	. 828.1	24.0
			1810	"					949.9	. 825.2	
			1830	"					950.2	. 832.2	28.7
			1845	"					37 950.0	. 69 837.3	30
			1900	155					37 950.1	. 69 842.3	
			1916	"					949.9	. 847.6	
			1927.5	"					950.0	. 852.2	MONUS ENV ON
02	10	73	0825	335					37 937.9	. 69 849.8	
			0845	"					937.9	. 841.7	
			0900	"					937.8	. 835.2	
			0915	"					938.0	. 829.7	
			0920	"					938.0	. 827.5	(1)
			0930	"					37 937.9	. 823.6	
			0945	335					938.0	. 817.4	
02	10	73	0949 C/C 045						937.9	. 815.9	(2)
			1001	"					927.0	. 813.0	
			1002 C/C 155						926.2	. 813.0	809
			1006	"							

ALL COURSES MAGNETIC !

OPS 12 KHZ 3.5 KHZ CSP MAG GRAV. SONO. STA.	COMMENTS AND OBSERVATIONS
	Start line #1 Cape Race Lane 37,962 WOODS HOLE BELL ABEAM 1546
	End line #1 On route to start line #2
	Start line #2 Cape Race Lane 37,950 5/6/722
	System shutdown - broken stylus on EPC ship slowed (CIRCUIT) System back on - Resume line #2
938	END line #2 off MBL beach Start line #3 - Quissett Harbor Buoy R "2" 1/4 m NE of Cape Race Lane 37,938 m sec
	~ 1/8 mile WSW of Bell Buoy "7" ABEAM STBD.
926	End line #3 ~ 100m NE of Nuv Buoy 1/2" ABEAM PORT Angelica Point Start line #4 Cape Race Lane 37,926.0 Please PT ~ 1/2 m SW of Can Buoy # "11" Abeam Port - The Bow Bells

GMT			TIME ZONE ±	SHIPS		FIX TIME	NAVIGATION			
DAY	MO	YR		TIME	COURSE		LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
02	10	73					<u>CAPE RACE, DAWA</u>			
	1015		155				37 925.9.	69 817.3.		
	1030		"				926.2.	822.9.	19.4	
	1045		"				926.1.	827.7.		
	1100		"				925.8.	832.9.	27.9	
	1115		"				926.4.	838.4.		
	1126		"				925.9.	841.8.		
	1130		"				926.0.	843.2.		
	1133 C/C 020						37 926.0.	69 844.2.		
	1145		"				917.0.	840.8.	37.4	
02	10	73	1150 C/C 335				914.4.	838.7.	35.7	
	1159		"				913.9.	835.2.	32.2	
	1215		"				914.0.	829.2.		
	1228		"				914.1.	824.1.	(45)	
	1230		"				913.9.	823.0.	44.5	
	1244		"				913.9.	817.8.	(46)	
	1252		"				913.9.	814.8.	44.3	
	1308		"				914.0.	815.0.	44.5	
02	10	73	1313				37 913.8.	69 813.2.	(47)	
	1324 C/C 060						914.0.	808.6.	80.1	
	1327		"				911.6.	808.2.	(48)	
	1330		"				909.1.	808.2.		
	1333		"				906.2.	807.9.		
	1335		"				904.3.	807.8.	3.8	
	1337 C/C 190						902.8.	807.6.		
	1340		"				904.0.	808.7.		
	1344		"				905.6.	810.1.		
	1347.5		"				907.2.	811.5.	(49)	
	1351 C/C 090						908.7.	812.8.		
02	10	73	1400 C/C 155				37 901.9.	69 813.5.	(50)	

GMT			TIME ZONE ±	SHIPS MAG	COURSE	SPD	FIX TIME	NAVIGATION			
DAY	MO	YR						LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
02	10	73	1415	1555				37 902.2.	69819.0.		
	1430	"						902.2.	828.4.	20.4	
	1453	"						902.2.	832.6.		
	1458	C/C 000						902.1.	833.0.		
	1500	"						900.6.	831.2.	28.2	
	1516	"						37 893.3.	69825.2.	21.7	
	1519	"						892.5	829.3.	20.8	
	1523	C/C 335						891.2.	822.9.	19.4	
	1526	C/C 000						891.0.	820.2.	(5)	
02	10	73	1533	C/C 335				890.3.	819.3.	15.8	
	1545	"						890.1.	815.0.		
	1600	"						889.9.	809.8.	805.8	
	1612	"						889.5	805.8.		
	1615	C/C						889.9.	807.9.	(52)	
	1626	C/C 087						881.9.	802.6.	(53)	
	1630	"									
	1635	"						37 879.2.	69803.0.	714	
	1640	"						875.5.	803.2.	719.2	
	1645	C/C 198						871.4.	803.8.		
	1650	"						867.3.	803.7.		
	1655	"						870.1.	805.2.		
	1700	"						37 873.2.	69806.6.		
	1705	"						876.5.	808.1.		
	1710	"						879.9.	809.9.	6.4	
	1711	C/C 149						882.8.	811.4.	7.9	
	1715	"						883.7.	812.3.		
	1720	"						883.0.	813.2.	109.7	

OPS	COMMENTS AND OBSERVATIONS
12 KHZ	
3.5 KHZ	
CSP	
MAG	
GRAV.	
SONO.	
STA.	
N/G	<p>Line 6 cuts off beach north of Little Island. End line #6 @ ~ 1/2 m NE of Can Buoy "1" off W Falmouth Hbr. On route to Yards Neck Buoy "1" FL 4 SEC to start line #7 Unibonk hangs up on lobster pot Cleared & system GO</p> <p>Course correction to as avoid Southwest Sedge - heading toward ~100' SW of Wm Buoy "8" abeam to STBD - leading North to ^{Wm Buoy "8"} start line #7 Start line #7 near Southwest Sedge - Cape Race time 37, 890 sec.</p> <p>Course adjustment for traffic avoidance End line #7 ~ 1/4 mile SE of Great Hill Point on route to Wm Buoy "4" Turn 50° E of Wm Buoy "4" Start line #8</p> <p>On route to QK Fl. Buoy "1" off Sandy^{Stormy} Point Dike</p> <p>1711 Buoy #1" abeam port course change - heading toward Straggy Neck to ~ 50' SW of buoy 1"</p>

GMT				TIME ZONE	SHIPS MAGNETIC		NAVIGATION						
DAY	MO	YR	TIME		±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.	
03	10	73											
			10045			335			379 74.2.	698 52.6.			
			10105			"			979.1.	898.2.			(3)
			—			"							
			1026			"			973.9.	893.7.			(4)
			1045			"			973.8.	836.5.			(3)
			1053						973.7.	833.3.			
			1103			335			973.8.	833.7.			
			1117			335			979.0.	828.2.			
			1130			"			979.0.	823.8.			
			1145			"			979.0.	817.8.			
			1153 C/C 247						974.0.	814.7.			(0.7)
			—										
03	10	73	1156			"			379 76.9.	698 19.8.			
			1159			"			979.8.	815.0.			
			1201			"			981.8.	815.5.			
			1203:30			C/C 070°			983.8.	815.9.			
			1206			070			982.5.	815.2.			
			1209+200			C/C 145° map			978.5.	815.2.			
			1213			"			978.2.	816.1.			
			1217			"			977.5.	817.8.			
			1220			"			976.8.	818.9.			
			1225			"			976.1.	820.8.			
			1231 C/C 205						975.4.	822.3.			(1.8)
			—			"							
			1243			"			983.3.	826.2.			(2.7)
			1247 C/C 155						985.9.	827.9.			(6)
03	10	73	1250			"			379 80.8.	698 28.6.			
			1302			"			986.0.	833.1.			
			1313			155			985.8.	837.6.			(7)

195

OPS
12 KHz
3.5 KHz
CSP
MAG
GRAV.
SONO.
STA.

COMMENTS AND OBSERVATIONS

1004 off channel between Naushon & Uncatena Islands

Restart line #10 ~ $\frac{1}{2}$ mile ~~West~~ of Uncatena Island
 On route toward Weepacket Rock

1013 ~ $\frac{1}{6}$ mile SW of Weepacket RK Buoy N "8" Abeam to STBD1026 ~ $\frac{4}{10}$ mile NE of Buoy BW "W" Gong - Abeam to Port

1028 ~ .95 mile NE of Buoy R "8" Gong - Abeam to Port

1045 Start of circling to avoid traffic ahead - will come back onto line
 Back on line #10

n1110 changed clock setting - speeds of ship may show apparent change

End line #10 $\frac{1}{2}$ mile off land in Nasketucket Bay - Start line 10a
 heading toward Aconit Neck to SW crossing Nasketucket Bay behind West Island.

Still surveying in Nasketucket Bay

~~c/e~~ 180° Turn - run 10a back - heading toward Brant Is.

C/e headed out around West Island

(~1230 clock reset again)

heading toward Buoy R "2" Bell SSE of Rocky Point to start line #11 Cape Race Jane 37,986 usecs

Start line #11 ~ $\frac{1}{2}$ mile NNW of R "2" Bell Buoy
 $\frac{1}{2}$ mile NE of R "2" abeam to STBD

~100 yards SW of Gong, Buoy R "8" Abeam to Port

GMT			TIME ZONE		SHIPS		NAVIGATION				
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
03	10	73	1315	155				37986.6.	69838.6.		
			1332	155				985.8.	844.5.		
			1345	"				986.3.	849.9.		
			1346:30	220				986.2.	850.3.		
			1400	"				997.1.	853.7.		
			1401 c/c	155				997.9.	859.0.		
			1402 9c	335				997.9.	859.3.		
03	10	73	1416	"				37997.8.	69849.9.		
			1430	"				37998.0.	69844.4.		
			1445	"				37997.7.	69839.2.		
			1500	"				37998.1.	69834.0.		
			1515	"				37997.9.	69828.9.		
			1519 c/c	264				998.2.	827.2. 238		
			1522	"				38001.3.	827.2.		
			1525	"				003.5.	827.1. X3.6		
			1527	"				38005.7.	69827.0.		
03	10	73	1530	"				008.5.	827.0.		
			1535					012.7.	826.6.	(8)	
			1540					017.3.	826.4.		
			1541					018.2.	826.3.		
			1545					021.5.	826.1.		
			1551					026.7.	825.7.		
			1553	-				029.0.	825.7.	(9)	
			1555					38030.7.	69825.6.		
			1600					38035.0.	69825.7.		
			1606					38041.2.	69825.5.		
			1615					38048.5.	69825.1.		
			1617					38049.9.	69825.0.		
			1623	043				047.7.	829.6.		

OPS

12 KHz
3.5 KHz
CSP
MAG
SONO.
STA.

COMMENTS AND OBSERVATIONS

End line 11 200 yards off Big Weyucket - on route to start line #12

Turn toward Nauset Island to start line closer
start line #12 200 yards off Nauset Is. Cope Race fm 37,998 m

End line #12 off start line #12a ~ $\frac{4}{5}$ mile S of Rocky Pt. West Is.
1519: 0.9 mi S of West Island; 0.4 mi SE of West Island Ledge.

A beam to starboard buoy 2A 450'
~200 yards S of Mosher ledge Buoy "4A" ABEAM STBD (R"4A")
~75 yards N of Flushing Buoy "5" ABEAM TO PORT black gong.

~100 yards N of Phinney Rock Can Buoy "9" ABEAM TO PORT

Buoy Black gong "9" a beam Starboard 1606
end line #12A, circle white adjust catamaran off Round Hill Pt.

Start line 12 B ~ 100 yards SE of White Rock

DAY	MO	YR	TIME	TIME ZONE	SHIPS <u>MAG</u>	COURSE	SPD	FIX TIME	NAVIGATION				QUAL.
									LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE		
031073			1625	043					38096.0.	69829.0.			
			1630	"					042.0.	823.1.			
			1633	"					039.9.	822.8.	(1)		
			1638	"					037.7.	821.1.	(1)		
			1650	"					026.3.	818.8.			
			1700	"					38017.6.	69816.6.			
			1710	"					009.3.	817.1.			
			1720	"					000.9.	812.0.			
			1725	c/c 196					37997.2.	69811.7.			
			1730	"					38000.2.	813.3.			
			1740						38006.3.	69817.1.			
			1741						38007.1.	69817.1.			
			1750						38012.9.	69820.4.			
			1752						38013.6.	69820.5.			
			1756						015.2.	821.7.	(1)		
031073			1800						015.3.	823.4.			
			1809						38015.1.	69826.7.			
			1810						38015.2.	69827.0.			
			1820						38015.0.	69826.4.	22.9		
			1825						38015.1.	69827.6.			
			1830						38015.0.	69829.0.			
			1850						38015.4.	69835.6.			
			1900						015.9.	839.4.			
			1910						015.2.	843.4.			
			1920						014.8.	846.7.			
			1930						38014.9.	69851.0.			
			1940						38014.8.	69854.2.			
			1942						015.0.	855.5.			

OPS 12 KHZ 3.5 KHZ CSP MAG. GRAY. SONO. STA.	COMMENTS AND OBSERVATIONS
	1625 large rock outcrop off port.
	~ $\frac{1}{8}$ mile NW of Middle Ledge Num Buoy "2" abeam to STBD
	~100 yards NW of Inez Rock Can Buoy "11" abeam to STBD
12 B 12 C	End line 12 B c/c 196° mag start line 12 C off Western shore of Scouting neck.
	2 channel buoys abeam line bisecting 2 channel buoys abeam
	1750 Black rock day marker abeam port $\frac{3}{4}$ mi. $\frac{1}{2}$ mile stbd.
	1752 Pallet Rock N "8" abeam $\frac{1}{2}$ mile $\frac{1}{2}$ mile stbd
12 C	End line 12 C start Line 13 ~500 yards W of Num "8" Cape Race June 38, 015.
13	1757 Henrietta Rock N "6" abeam ~300 yds Port. Change belts on recorder, circling Resume line
	1826 R Bell "4" 500' abeam stbd.
13	End line # 13 ~ $\frac{1}{2}$ mile NW off Kettle Cone, Namahon Held down for the day Island

634

OPS	COMMENTS AND OBSERVATIONS
12 KHZ 3.5 KHZ CSP MAG GRAV SONO STA	
14	Start line #14 ~ 1/2 NW off Ram's Head - Nauset Ls. off Nauset L. S. of kettle cone.
	~ 50 feet NE of Bell Buoy (1) "BD" abeam to port ~ 200 feet SW of Church Rock Buoy F1 G 4 JEC 0946 F1 G "1" 0.2 mi Port
	~ 2/10 mile NE of Chimney Rock Buoy C "9" abeam to port (1011.7) Chimney Rock buoy abeam 0.2 mi. port
	~ 1/10 mile NE of Church Rock Wm Buoy "6A" abeam to port ~ 200 feet SW of Decatur Rock Wm Buoy "8" " " STBD Decatur
14	End line #14 ~ 1/8 mile off Moshassuk PT Start line 14a
14A	~ 50 feet E of Keel Rock Buoy C "3" End line 14a Ship stationing in water - Experimenting with EPC (Filter atten.) Will proceed into Buzzonage and T. Bay - South Dartmouth to repair vessel.
	Gleam of Breakwater Tower entrance Refueling Dock
14 b	Commerce Line 14b on rd route to starting point of Line #15

GMT			TIME ZONE	SHIPS		FIX TIME	NAVIGATION				
DAY	MO	YR		TIME	±		COURSE	SPD	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE
09	07	3									
1238				155					38°03'9.0.	69°8'16.0.	
1246				"					039.4.	818.7.	
1300	c/c	170							039.5.	823.9.	(19)
1307				"					041.5.	826.5.	
1312	c/c	120							042.9.	827.9.	(20)
1318	c/c	155							039.1.	830.1.	26.6
1330				"					039.0.	834.5.	146
1345				"					039.3.	839.8.	>
1400				"					039.1.	846.1.	42.6
1415				"					039.0.	851.9.	> 11.5
1430				"					039.2.	857.6.	
09	07	3	1433	c/c	270				38°03'9.1.	69°8'58.7.	
									.	.	
1439									043.5.	858.3.	
1440	c/c	300							044.1.	858.3.	
1445				"					047.1.	856.6.	
1448.5	c/c	260							048.3.	856.0.	
1452.5	%	335°							38°05'15.5.	69°8'55.6.	
1502									050.8.	852.6.	
1515									050.6.	848.3.	
1530									051.2.	843.1.	39.6
1545									051.0.	837.7.	
1600									051.0.	833.3.	28.8
1610	1800								051.2.	828.6.	(21)
1613	%	278°							051.0.	828.1.	
1615									052.9.	821.1.	(22)

OPS 12 KHz 3.5 KHz CSP MAG GRAY. SONO. STA.	COMMENTS AND OBSERVATIONS
	14b End line 19b
	15 Start line 15 ~ $\frac{1}{4}$ mile SE of Ricketson PT South Dartmouth ~25' W of Gong Buoy "9" abeam to port - heading toward Nun Buoy "6" - course correction to avoid Great ledge
	~100 feet W of Nun Buoy "6" abeam to port - on route to recognition of line 15 track → Back on correct track of line #15
	15 End line #15 ~ $\frac{1}{4}$ mile off ^{near} Naylor Island Robinson Hole - Start line 15 a - will take us across Robinson Hole on route to start of line #16
	A flight Course correction to avoid shallow water - stbd of Passage I on route to start of line #16
	A flight course correction to obtain records nearer Passage I
	16 " Start line #16
	16 " " R 4" BELT ABEM OFF PORT $\approx \frac{1}{4}$ MILE
	16 " C/C 278° MAG BEGIN LINE 16A TO SOUTHWEST. END LINE 16
	16 " " CAN 7" BUOY ABEM OFF STARBOARD $\approx \frac{1}{8}$ MILE?

GMT			TIME ZONE	SHIPS		FIX TIME	NAVIGATION				
DAY	MO	YR		TIME	±		COURSE	SPD	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE
04 OCT 73									CAPE RACE.	DANA	.
	1627	46	155						38 062.6.	69 825.9.	
	1630		"						062.6.	826.8.	
	1634		"						062.4.	828.1.	(3)
	1645		"						063.3.	832.7.	
	1700		"						063.1.	837.8.	14.3
	1715		"						063.1.	843.9.	
	1716		"						063.1.	844.7.	(38)
	1730		"						063.9.	849.1.	15.6
	1747		"						062.8.	855.3.	
	1749.52	0090							062.9.	856.6.	
	1753								060.1.	856.9.	
	1756								057.8.	857.1.	

FINISHED FOR THE DAY

05/10/73	1224	335					38 074.5.	69 857.3.		
	1230	"					074.7.	855.2.		
	+245						074.8.	850.5. NC		
	1300						074.9.	843.9.		
	1346						075.2.	838.0.		
	1333						075.0.	832.0.		
	1335						075.0.	830.9.		
	—									
	—									
	1435	079					38 087.0.	69 848.2.	94.1	

OPS 12 KHZ 3.5 KHZ CSP MAG GRAV. SONO STA.	COMMENTS AND OBSERVATIONS
16A	1620 Radome on Round Hill Pt abeam stbd.
17	C/C 155° BEGIN LINE 17 ; END LINE 16A NW SALTERS PT OFF SHORE ~ 1/4 MILE (1627 1/4 mi NE of salters Pt.) ABEAM CAN BUOY "5SP"; 1/2 MILE OFF STARBOARD ?
	STRONG CURRENT IN THE AREA - HARD TO MAINTAIN ~ 1/8 mile NE of Long Bay "6" abeam to STB (LINE)
17	1744 Lone Rock Buoy abeam stbd. ~ 1/2 mile
17A	End line 17 - start line 17A (short jump across the North entrance of Quicks Hole - then homeward bearing (1749.5 ~ 2 miles off North Pt, Nashawena Island abeam)
17A	End line 17A north Pt, Nashawena Island, abeam. off Parque Island in Quicks Hole
18	start line #18 ~ 1/8 mile off Nashawena Is. in. bight between North Point & Knox Point - Cage Race Line #38, 8° N sec
	Sila slate 3.275
18	End line tentatively due to sea conditions ~ 1/4 mile off North Pt; heading back toward to lee of City Pt & Penikese Islands
19	Start line #19 ~ 1/2 mile NNE of Penikese Island Diana Jane #69, 8° S. Q bearing NNE Line runs ~ 2 miles off the Elizabeth Islands - NW wind

GMT			TIME ZONE	SHIPS		NAVIGATION					
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
05	10	73	1440					38081.2. 69848.0.	072.0. 898.2.		
			1448	079				059.1. 848.1.	042.8. 848.0.		44.6
			1500	"				026.0. 847.6.	010.9. 847.9.		
			1515	33				37996.0. 69848.1.	981.1. 898.0.		
			1530	"				972.0. 898.0.	966.4. 898.0.		
			1545	20				950.7. 898.0.	937.2. 898.0.		
0			1600	"				933.7. 898.0.	910.9. 898.1.		
05	10	73	1615	(10.5)				37996.0. 69848.1.	972.0. 898.0.		
			1624	079				966.4. 898.0.	950.7. 898.0.		
			1630	"				937.2. 898.0.	910.9. 898.1.		
			1646	"				37960.0. 69859.7.	981.1. 861.5.		
			1700	"				953.3. 861.5.	972.0. 861.4.		
			1703	079				996.3. 861.4.	940.1. 861.5.		
								938.5. 861.5.	951.7. 861.0.		
								964.0. 861.0.	978.6. 861.2.		
								993.9. 861.1.	993.9. 861.3.		
								38009.5. 69866.3.	025.0. 866.2.		
								041.3. 866.0.			
<u>FINISHED FOR THE DAY</u>											
06	10	73	0900	105							
				—							
at the helm			0910								
			0920								
			0930								
			0932.50	1025.0							
			0947				24.1				
			1000								
			1013				29.9				
			1030								
			1045				34.0				
			1101								
			1118								

1441	061.2	2.4
<u>1442</u>	78.0	9.2
0448	072.0	

DAY	MONTH	YEAR	TIME	TIME ZONE ±	SHIPS MAG COURSE SPD	FIX TIME	NAVIGATION			
							LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
06	10	73	1130				38052.4	69866.0		
			1141				063.5	866.3		
			—							
			1148.5				061.9	866.5		
			1200				071.2	866.4		
			1215				083.3	866.3		
			1230				095.2	866.0		
			1245				107.3	866.0		
			1300				118.9	865.9		
			1306				123.4	865.8		
			—							
			—							
			—							
07	10	73	1032.5	335			CAPE RACE DANA			
			—				38075.3	69857.2		
			1040.5				38075.2	69854.7		
			1042.5				075.2	69854.3		
			1049				074.8	69851.6		
			1100				074.7	69847.6	44.1	
			1115				075.5	69841.7		
			1130				075.3	69836.1	32.6	
			1144 C/C	265			074.9	69830.0		
			—							
			—							
			—							
			—							
			1150				380.5	69830.6		
			1154				083.9	69830.6	21	

OPS LKHZ 3.5KHZ CSP MAG. GRAV. SONO. STA.	COMMENTS AND OBSERVATIONS
	Shut down system - broken stylus EPC - Robb stuck his finger right into it, Stylus changed - back on line
20	End line 20 off Guttry hunk ~1½ miles S of the island on Vineland Island ground
18/2	Line #18/2 ~ 1/8 ^{1/10} mile off Nashawena w/ light between north point & knox point Cape Race Lane # 38,075 slowed down for traffic coming off port bow. Resumed normal speed
18/2	End 18/2 starting 18A approx 1/4 m. SE. of Nashawena pt. (Smith's Neck) Commence line 18A. Crossing Slocum's River Estuary on Rte. to Barney Joy point. On Rte. to start line #21.
	APPROX. .55 n mi SSE of NUN'BUOY "2" A Beam Stbd..

~~WASH~~
WASH +

GMT			TIME ZONE ±	SHIPS MAP	COURSE	SPD	FIX TIME	NAVIGATION			
DAY	MO	YR						± DEGREES ± MINUTES	LONGITUDE	TYPE	QUAL.
07	10	73						CAPE RACE.	DANIA	.	.
								38 086.1.	69830.1.		
								38 087.2.	69837.0.	(26)	
								38 087.0.	69848.8.	(27)	
								38 086.7.	69848.6.		
								086.6.	69853.0.		
								086.9.	69853.4.	(28)	
								087.1.	69854.4.		
								087.3.	69857.3.		
								088.6.	69856.6.		
								38 091.6.	69855.1.		
								094.3.	69854.3.		
								096.2.	69853.6.		
								38 097.2.	69853.6.		
								38 099.1.	69853.8.		
								38 099.0.	69852.7.		
								38 099.4.	69847.4.		
								38 098.8.	69844.3.	(29)	
								38 098.6.	69841.6.		
								38 099.2.	69834.9.		
								38 098.9.	69830.8.		
								38 098.9.	69827.9.		
								38 100.9.	69829.4.		
								38 101.4.	69829.5.		
								38 079.8.	69830.0.		
								38 098.2.	69830.0.		
								38 093.0.	69830.3.		
								38 086.0.	69830.2.		

OPS 12 KHZ 3.5 KHZ CSP MAG. SONO. STA.	COMMENTS AND OBSERVATIONS
18A	
21	End line 18A start line 21 ^{65 mi. E} off Barney Toy Point. Now following Cape race lane 38,087 to NE of "GONG" Buoy "3A" A BEAM stbd. near Misham Ledge NE of Bell R "4" A BEAM stbd.
21A	21 Bell # "7" SW of Due East of Penitree
21A	End line 21 beginning line 21A
22A	Middle Ledge obstruction Buoy
22	End line 21A begin line 22
	Bell Buoy R "4" (4/10 mi. SW of it) stbd. beam.
22A	End line 22 begin line 22A
22A	End line 22A begin line 23

GMT				TIME ZONE	SHIPS		NAVIGATION						
DAY	MO	YR	TIME	±	MAG.	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.	
07	07	3											
			1500						CAPE RACE .	DANIA .			
			1515						38 08 3.1 .	69 83 0.4 .			
			1529						38 06 7.7 .	69 83 0.5 .			
			1545						38 05 3.3 .	69 82 9.9 .			
			1600						38 03 9.1 .	69 83 0.1 .			
			1602						38 02 4.8 .	69 83 0.2 .			
			1615						022.8 .	830.0 .	(30)		
			1620						010.7 .	830.4 .		26.5	
			1630						010.7 .	69 83 0.2 .			
			1638						38 00 0.8 .	69 83 0.6 .			
			1645						38 99 3.0 .	69 82 9.9 .	(71)		
			1700						37 97 1.0 .	69 82 9.5 .			
			1715						37 95 6.5 .	69 83 0.6 .			
			1730						37 94 1.8 .	69 82 9.8 .			
			1733.5						37 93 9.1 .	69 83 0.1 .			
			1745						37 92 9.0 .	69 82 9.9 .			
			1754.5						37 92 0.3 .	69 83 0.1 .			
			1800						37 91 5.5 .	69 83 0.3 .			
			1815						37 90 1.8 .	69 82 9.8 .			
			1824						37 89 4.1 .	69 82 9.6 .			
									Cape Race ↑				
									+ 12000 ft				
									2000 ft				
									1000 ft				

GMT			TIME ZONE ±	SHIPS		FIX TIME	NAVIGATION			
DAY	MO	YR		COURSE <i>mag.</i>	SPD		LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
08	07	3					<u>CAPE RACE.</u>	<u>DANIA</u>	.	.
							38 11 2.0.	.	.	.
				335			LINE	.	.	.
10073					38 11 8	38 11 2.0.	69 85 4.7.			
1015						38 11 2.4.	85 2.1.			
1030						11 2.1.	84 6.7.			
1045						11 2.1.	84 1.3.			
1100						11 2.0.	83 5.5.			
1115						11 2.0.	82 9.7.			
1119						11 2.0.	82 6.4.			
1127 c/c 205						11 3.0.	82 7.0. 26.0			
1130	07	3				.	.	.		
1130						38 11 5.9.	69 82 8.1.			
1139 c/c 155						38 12 2.4.	69 83 1.1.	(3)		
1145						38 12 2.0.	69 83 3.7.			
1200						38 12 2.1.	69 83 8.6.			
1212.5						38 12 2.3.	69 84 3.6.	(3)		
1215						38 12 2.5.	69 84 4.0.			
1230						38 12 1.8.	69 84 9.6.			
1245						38 12 1.7.	69 85 5.5.			
1246 c/c 240						38 12 1.5.	69 85 5.8.			
1250						38 12 5.4.	69 85 6.4.			
1300						38 13 5.4.	69 85 7.4.			
1305.5						38 14 1.0.	69 85 8.3.			
1307 c/c 335						38 14 1.7.	69 85 8.0.	(3)		
1315						38 14 1.3.	69 85 4.4.			
1330						38 14 2.2.	69 84 7.7.			
1345						142.2.	84 0.9.			

GMT				TIME ZONE ±	SHIPS	FIX TIME	NAVIGATION				QUAL.
DAY	MO	YR	TIME				COURSE	SPD	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	
08	10	73	2200	mag.					CAPE RACE.	DANA	.
			1348	015°					38 141.5.	69839.6.	
			1355	1455					38 139.5.	69838.2.	
			1458						38 140.7.	69838.7.	
			1458	1358	SKY	079			38 140.8.	69839.0.	
			1400						38 138.9.	69839.0.	
			1415						38 125.1.	69838.9.	
			1430						38 110.9.	69838.9.	
			1445						38 097.0.	69838.7.	
			1448						38 093.9.	69839.1.	(37)
			1457						38 097.6.	69838.8.	
			1500						38	69	
			1457						38 097.6.	69838.8.	
			1500						38 095.0.	69839.0.	
			1502						38 092.9.	69838.7.	(37)
			1515						38 080.4.	69839.1.	
			1530.5						38 064.3.	69839.0.	
			1545						38 050.6.	69838.9.	
			1600						38 036.4.	69838.9.	
			1615						38 021.8.	69838.9.	
			1630						38 007.1.	69839.0.	
			1645						37 992.1.	69838.9.	
			1650						37 986.5.	69838.9.	(39)
			1700						37 977.5.	69838.8.	
			1715						37 963.4.	69838.7.	
			1725						37 953.9.	69839.5.	
			1730						37 949.2.	69838.8.	

OPS 12 KHz 3.5 KHz CSP MAG GRAV. SONO. STA.	COMMENTS AND OBSERVATIONS	
26	going slow near position of wreck. End line 26 Turning topick up line 27	
27	Start line 27 69839.0	
	144X 69839.1 38093.9	
	"3A" Bell Buoy Gong - misham ledge 1/2 mi. SW. Curly turned off. we are now circling. Needle broke; new ribbon being replaced.	
	Back on course. 1457 69838.8 38093.9 at 1501	
	Buoy "3A" Abeam Misham ledge $\frac{1}{4}$ mile port	
	noticed that Remote system wasn't giving same reading as master set. seems as though remote unit is doing unusual amount of searching.	
	Red Buoy 1/4 mi. "8" "Gong" abeam port.	
	RB "Nun" off Woods Hole	

GMT				TIME ZONE ±	SHIPS <i>mag.</i>	NAVIGATION					
DAY	MO	YR	TIME	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.	
08	10	73		079			CAPE RACE	DANA	.	.	
			1747			37 34 93	33.3.	69 83 8.6.		.	
			1800			37 37 92	21.3.	69 83 8.5.		.	
			1808.5			37 91 3.2.		69 83 8.6.		.	
<hr/>											
10	10	73		284			CAPE RACE	DANA	.	.	
			1104				69 83 9.4.	38 13 1.5.		.	
			1107.5	284			69 83 6.9.	38 13 3.9.		.	
			1110				69 83 6.3.	38 13 6.0.		.	
			1115.5				69 83 5.0.	38 14 0.0.		.	
			1120				69 83 4.4.	38 14 3.3.		.	
1			—							.	
			1125.5				38 14 7.3.	69 83 3.4.		.	
			1130				38 15 0.5.	69 83 2.5.		.	
			1135				38 15 4.0.	69 83 1.3.		.	
			1140				38 15 7.5.	69 83 0.6.		.	
			1145				38 16 1.0.	69 82 9.4.		.	
			1200 1150				38 16 4.5.	69 82 8.3.		.	
			1205 1155				38 16 8.0.	69 82 7.7.		.	
			1200				38 17 1.6.	69 82 6.7.		.	
			1205				38 17 5.2.	69 82 6.3.		.	
			1210				38 17 9.2.	69 82 5.4.		.	
			1215				38 18 2.7.	69 82 4.7.		.	
			1220				38 18 6.5.	69 82 4.0.		.	
			1225				38 19 0.4.	69 82 3.1.		.	
			0800							.	
			c/c 063							.	

OPS	COMMENTS AND OBSERVATIONS
12 KHZ 3.5 KHZ CSP MAG GRAV. SONO. STA.	
27	Line End line #27. Systems shutting down.
28	Fix. Beginning line #28. Taking readings every 5 min. Because we are not using L "C" lines for navigation. Begin line #28
	I have made and error and put S ₁ and S ₂ in the opposite positions in book, will correct at next reading.
	hydrophone shortened, records appear cleaner.
28 28A	End line 28 Beginning line 28A

OPS	12 KHz 3.5 KHz CSP MAG GRAV. SONO. STA.	COMMENTS AND OBSERVATIONS
		<u>Line 28A</u>
		Although course change we are still on line 28A
28A 29		<u>End line 28A, beginning line 29, on course 130</u>
		(Fix) we are not actually on a lane line.
		Course change to 155, following Cape Race 38158.0
29		<u>END LINE 29</u> , generator knocking higher seas than really called for. Pull gear.

X NOTE ↴ ↴

GMT				TIME ZONE ±	SHIPS mag.	COURSE	SPD	FIX TIME	NAVIGATION				QUAL.
DAY	MO	YR	TIME						± DEGREES	± MINUTES	± DEGREES	± MINUTES	
11	10	73							CAPE	PACE	DANA	8	
									3796	0	6986	1	51.9
0915			335						3796	1.9	6986	1.9	42.9
0930									3796	1.8	6985	7.7	41.7
0945									3796	2.1	6985	3.1	40.5
1000									3796	2.0	6984	8.4	39.3
1015									3796	2.1	6984	3.6	38.1
1030									3796	2.2	6983	8.3	34.8
1045			c/c						3796	2.5	6983	3.7	
1051.5			1050 (280)						3796	2.2	6983	1.6	38.1
			1100						3796	9.6	6983	0.7	20.7
			1110						3797	8.1	6982	9.5	19.5
			1112	070 079					3797	6.6	6982	9.4	19.9
			1115						3797	4.2	6982	9.7	19.1
			1125						3796	6.3	6983	0.6	20.5
			1135						3795	8.6	6982	9.8	19.8
			1143.1	+45 c/c 340					3795	2.1	6982	9.9	19.9
			1150						3795	1.7	6982	7.4	17.9
			1151.5										
			1200						3795	0.5	6982	3.6	13.6
			1201.25						3795	0.2	6982	3.2	13.2
			1205.25						3794	9.7	6982	1.7	11.7
			1210	c/c 160					3794	9.3	6981	9.7	09.7
			1220						3795	0.5	6982	4.4	14.4
			1226	c/c 070					3795	1.4	6982	7.3	17.3
			1230						3794	7.8	6982	7.0	17.0
			1240 minus						3793	8.3	6982	6.4	16.4

15 sec.

ATL
3.5 KHZ
CSP
MAG
TRAYL
NO

COMMENTS AND OBSERVATIONS

1/2 Rerunning line 1. Now being called ~~line~~ 1/2.
The line on L "C" will be 37962.0 Cape Race.
Begin line 1/2

1/2 End line 1/2 begin line 1/2A

1/2 A End line 1/2A begin line 30 on 079°
fix on new line

~~We have decided to run down 57829.~~
we are running between buoys.

30A Course change to 340 heading ~~set~~ on line 30A.
Buoy abeam port (#1)
Buoy C "3" close abeam port

Buoy "4" abeam port

Buoy "6" abeam stbd.

30A Course End line 30A new heading 160 Turn 1300 RPM

30 Change course to 070 (beam stbd. H C "1") Resume
line 30 Running at 1100 RPM.

(Run) Red Buoy #2 beam port.

DANA

OFF BY +10 usec

GMT			TIME ZONE ±	SHIPS mag'	SPD	FIX TIME	NAVIGATION			
DAY	MO	YR					LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
11	10	73					CAPE RACE	DANA	.	.
	12	42	067				37 936.2	69 826.0	16.0	
	12	50					37 928.4	69 825.0	15.0	
	13	00	345				37 922.7	69 824.3	14.3	
	12	56.5					.	.	.	
	13	01					37 922.1	69 822.6	12.6	
	13	05					37 920.8	69 820.6	10.6	
	13	14					37 919.0	69 817.2	8.2	
	13	26					37 921.3	69 821.5	11.5	
	13	31	075				37 922.5	69 824.1	14.1	
	13	40					37 914.3	69 824.1	14.1	
	13	42					37 912.2	69 824.0	14.0	
	13	53	1352.6	066			37 901.9	69 823.9	13.9	
	14	05					37 890.2	69 822.8	12.8	9.3
	14	13		37 883.6	88 56.		69 822.2	12.2	8.7	
	14	15					37 881.7	69 821.9	11.9	
	14	16					37 880.9	69 821.9	11.9	8.7
	14	21.5					37 876.5	69 821.7	11.7	8.2
	14	30					37 868.7	69 821.1	11.1	7.6
	14	41					37 857.7	69 820.2	10.2	6.7
	14	47					37 852.1	69 819.8	9.8	6.3
	14	51.26	—	14 51.25			37 848.5	69 819.5	9.5	6.0
	12	10	73	0910	153		CAPE RACE	DANA	On high ground	
	09	12					38 153.4	69 879.1	16.1	
	09	15					38 153.8	69 878.8	.	
	09	20					38 153.0	69 876.0	.	

OPS I2 KHZ 3.5 KHZ CSP MAG GRAV. SONO. STA.	COMMENTS AND OBSERVATIONS		
30	Fix on new course 067 - stbd on line 30. Turn on buoy #1 Bow bells - several yards off boat ^{abeam} port.		
30B	Turn to line 30B Aucoot cove.		
30B	End line 30B - heading back toward line 30. Bow bells abeam stbd. course change to Bow bells ^{Buoy} abeam stbd. course change to 075 Resume line 30. Still running 1100 RPM.		
	light buoy centerport shoals - 2/10 m. abeam port. Bird Island bell #1/3. 5 yd. abeam port. still on line 30.		
	Buoy #1 abeam stbd.		
	Buoy #2 abeam stbd. abean port abeam Hog I, ch. Beacon #4		
30	slowed down ^{25°} RPM - going over shallow area, slowly increasing speed End line 30. Systems being shut down.		
31	Begin line 31 Fix Begin line 31		

GMT				TIME ZONE	SHIPS	NAVIGATION				
DAY	MO	YR	TIME	+	mag. COURSE SET SPD	FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
12	10	73			CAPE RACE		DANA			
			0930				38 15 3.3.	69 87 3.5.		63.5
			0940 0932				38	69		
			0934.5				38 15 3.3.	69 87 2.0.	(40)	
			0945				38 15 3.2.	69 86 8.8.		
			1000				38 15 3.3.	69 86 4.6.	57.6	
			1006				38 15 3.3.	69 86 2.8.	(41)	
			1015				38 15 3.7.	69 86 0.4.		
			1030				38 15 3.9.	69 85 8.0.	X1	
			1034				38 15 3.3.	69 85 4.5.	(42)	
			1045				38 15 3.1.	69 85 1.3.		
			1048				38 15 3.3.	69 84 8.2.		
			1059				38 15 3.3.	69 84 8.2.		
			1100				38 15 3.3.	69 84 7.0.	57.0	
			1115				38 15 2.4.	69 84 1.8.		
			1130				38 15 2.8.	69 83 6.2.	826.2	
			1145				38 15 2.7.	69 83 0.9.		
			1145.5 C/0 110				38 15 2.9.	69 83 0.7.	ao 7	
			1150				.	.		
			1153				38 14 8.3.	69 83 2.5.	22.5	
			1200				38 14 4.2.	69 83 3.7.	23.7	
			1205 C/0 155				38 14 1.1.	69 83 9.9.	(43) 21.9	
			12				.	.		
			1213				38 14 1.9.	69 83 8.9.	21.9	
			1219				38 14 2.2.	69 84 0.2.	30.2	
			1230				38 14 2.5.	69 84 4.6.	34.6	
			1244 C/C 283				38 14 2.0.	69 84 9.9.	(44)	

OPS 12 KHZ 3.5 KHZ CSP MAG SONO STA	COMMENTS AND OBSERVATIONS
ON 31	L "C" jumped 2 msec. but then came back to course. <small>no signal came on than went out.</small> Red block vs off Reef South of Cuttyhunk
	• 9 mi. Buzzards Tower • 9 mi. abeam port.
	Buzz Bay Whistle H1 1/4 mi. abeam std.
	Problem w/generator. Probably wet but o.k. now
31 31A	End line 31, now on 31A
31A 31B	End line 31A start 31B. 1/4 mi. wsw of C "1"
	Line 31B is AN EXTENSION OF LINE 26. "Line 26 was 142, we are now running ~142."
	Increased speed to 1100 RPM's.
31B	End line 31B start line 32 steady on. W.R.I Buoy abeam port ~1/2 mi.

OPS 12 KHz 3.5 KHz CSP MAG GRAV. SONO. STA.	COMMENTS AND OBSERVATIONS							
	Down to 1000 RPM.							
32	End line 32, Begin line 33 Following Cape Race 38193.0							
33	End lines 33. Turning off uni boom; Heading toward Nun "2" off Gooseberry neck.							
34	Begin line 34 off Gooseberry neck. Running Dana lines 69830. 1000 RPM.							
	(following sea) to stream gear smoother now increased RPM's to 1050 from 1000 to attempt							
34	End 34 heading into harbor where we'll start line 35.							
	Begin line 35 69819							
35	Begin line 35 69819, Systems shut down. Could not run this last line due to problem with EPC Curley Recorder. The +28v light would not come on and measured made the Curley inoperable.							

2 DEC 1974 ASTERIAS - BUZZARDS BAY
Rubb, Edwards, Bruggs, Ambler, Jennings

CAPE RACE

DANA, INDIANA

GMT			TIME ZONE	SHIPS		FIX TIME	NAVIGATION		QUAL.	
DAY	MO	YR		TIME	±		COURSE	SPD		
02	12	74	1433 LOCAL				37	921.2.	69 844.0.	.
			1450				37	935.8.	69 843.7.	.
			1500				37	946.9.	69 843.7.	.
			1501							.
			1510				37	954.9.	69 843.7.	.
			1520				37	963.5.	69 844.0.	.
			1530				37	972.6.	69 844.1.	.
			1540				37	982.0.	69 844.0.	.
			1551				37	991.6.	69 843.6.	.
			1601				38	001.0.	69 844.2.	.
			1610				38	009.5.	69 843.7.	.
			1620				38	017.5.	69 843.9.	.
			1630				38	026.3.	69 843.7.	.
			1633				38	0291.	69 844.1.	.
			1641				38	033.9.	69 843.7.	.
			1651				38	041.2.	69 843.9.	.
			1701				38	048.9.	69 843.7.	.
			1710				38	056.3.	69 843.9.	.
			1720				38	063.6.	69 843.6.	.
			1720.45						43.8.	.
			1730				38	071.0.	69 843.8.	.
			1740				38	078.4.	69 843.8.	.
			1750				38	085.9.	69 844.0.	.
			1800				38	092.5.	69 843.9.	.
								93.7.	044.0.	.
			1802:20				38	094.1.	69 844.0.	.
			1811				38	099.8.	69 843.5.	.
			1820				38	106.3.	69 844.0.	.
			1830				38	113.6.	69 844.6.	.

12 KHz 3.5 kHz CSP MAG GRAV. SONO. STA.	OPS	COMMENTS AND OBSERVATIONS
		36 STARTING LINE 36 - near Wood Neck BEACH. following LINE 69-844.0 (DANA, INDIANA) 1000 R.P.M.
		TIME - NAV. MARK
		TIME + NAV. MARK
		" " "
		" " " STILL ON LINE #36
		" " "
		" " ") "
		" " "
		" " "
		" " "
		" " "
		" " "
		" " "
		" " "
		" " "
		" " "
		" " "
		" " "
		change RPM to 700 (from 1000)
		change RPM to 900 still on #36
		maintaining 900RPM, still on 36
		"
		"
		Buoy abeam port
		gony R6
		"
		maintaining 900 RPM, line 36
		"
		"
		Buoy abeam starboard (#4)
		"
		"

CAPE
RACE

DANA,
INDIANA

OPS

12 KHZ
CSP
MAG
SONO.
STA.

COMMENTS AND OBSERVATIONS

36 bearing 282 magnetic, $\frac{1}{2}$ mile from Coxen's ledge buoy Razz end of line # 36

38 ~~3DEC74~~ LINE 38 - off West Island (69825) ~~6 miles due east of West I. tower.~~
on line 38
RECORDER SHUT DOWN TO FIX STYLII - ~ 2 MIN LOST
~~RECORD~~ recorder back on and running on line 38
cormorant rock day marker off port beam at $\frac{1}{2}$ mile distance.
NAV. MARK
NAV. MARK
SHUT DOWN RECORDER TO CZECH STYLII - THERE ARE
SOME KEY TIMING PROBLEMS ~ 1 MIN. LOST
NAV. MARK
FL 4 SEC. BELL #7. $\frac{1}{4}$ mi. OFF STBD. BEAM.
NAV. MARK
RED BUOY (FLASHER) "2 B" . 50 YDS. OFF STBO BEAM
RED BUOY (FLASHER) "2A" - 50 YDS. OFF ~~STB~~ PORT BEAM
CLEVELAND LEDGE LIGHT IS $\frac{1}{4}$ MI. OFF PORT BEAM
NAV. MARK
NAV. MARK 4/s FROM 900 R.P.M. TO ~ 550 R.P.M.
1200 INCREASE SPEED TO 800 R.P.M.

JUNE 19th, 1975 RV ASTERIAS

BUZZARDS BAY UNIBOOM SURVEY

OPS	12 KHZ 3.5 KHZ CSP MAG GRAV. SONO. STA.	COMMENTS AND OBSERVATIONS
		ROBB, O'HARA DEPART WTH ~1220 ON ROUTE TO START BB LINE 39 - EASTERN SIDE WILL RUN TO SW
39		Increas speed to 900 RPM COMMENCE LINE # 39 0.25 SEC SWEEP 0.5 SEC FIRE FILTER 100-6000 Hz (nominal track 67852.5 line)
		c/c to 220° ^{220° MAG} - to avoid gull island shoal
		c/c to 270° MAG @ C "5"
		c/c to 215° MAG - on route pick up LOP 69, 852.5 to resume line
		c/c resume line on LOP 69, 852.5 @ 260° MAG
39		End line # 39 Unboom road ~ we will change fet + and remove weight from Unboom hydrophone