Navigation Log

AST 85-8

85016/NAV

104209

U.S.G.S.
INTEGRATED NAVIGATION SYSTEM
AND
NORTHSTAR LORAN-C NAVIGATION LOG

SHIP ASTERIAS

CRUISE NO. AST 85-8

DATE 20 may 85

CHIEF SCIENTIST Ralph Lewis

Day 1 20 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	20	0	TEST				26	XXX.X	49	XXX.X		
85	05	20	0854	Test					.		.		
									.		.		
85	05	20	0844					26	688.4	44	010.2		
85	05	20	0850					26	693.2	44	010.3		
85	05	20	0855					26	697.8	44	010.0		
85	05	20	0900	Test					.		.		
			0923						.		.		
									.		.		
85	05	20	0937	Line 5		4.3		26	710.2	44	010.0		
85	05	20	0940					7	12.8		10.1		
			0945						17.4		10.1		
			0950		5				22.4		10.		
			0955			5.2			27.2		10.1		
85	05	20	1000						31.7		10.2		
			1005						36.2		9.9		
			1010			5.2			40.5		10.1		
			1015	5					45.		10.2		
			1020	5		5.3			49.8		10.0		
			1025	5					54.4		9.9		
			1030	5		5.3			58.9		10.		
85	05	20	1034	42 1		C/C		26	763.4	44	010.2		
			1040	1					68.7		13.4		
			1041	1		C/C			70.		14.1		
			1045						70.1		16.5		
			1050	1		C/C			70.		19.8		
			1055						65.8		20.0		
			1100			4.8			61.9		20.0		
			1105	1					57.3		20.		
			1110						53.3		20.		

Line 5, 1,

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 1
NO				
NV1 Sheet1	X		Leave the dock 0754 nice day Bridgeport Hitchcock Gas Engine Co.	
Roll1 uniboom	X		Begin test line 0844 Ken trying to make good records try innerspace hydrophone –	
			still playing new streamer	
SA1 1	X		start Line 5 0937 looks good good records nice day	
			uniboom 280 Joules ORE Power Supply Innerspace phone ORE Amp.	
			will put sidescan in at start of Line 2	
			Things look good.	
			c/c EOL 5 BOL 6	
			c/c continue line 1	
			c/c continue line 1	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	20	1115	1		4.9		26	74.8	44	19.8		
			1118	1	C/C				45.3		19.9		
85	05	20	1120	1					44.1		19.4		
			1125	1		4.8		26	73.9.6	44	16.6		
			1128	1	C/C				35.6		14.4		
			1136	1					34.6		14.3		
			1135	1		5.0			30.1		14.0		
			1140						25.1		14.1		
			1145	1		5.1			20.6		13.9		
85	05	20	1150	1					15.9		13.9		
			1153	1	C/C				12.8		14.1		
			1155						12.7		14.7		
			1200						14.0		18.4		
			1205	1		5.5			15.5		22.0		
			1208	1	C/C				17.		24.9		
85	05	20	1210	1					16.3		25.2		
			1215	1				26	71 1.5	44	02 4.4		
			1220						06.9		23.7		
			1225	1					02.3		22.9		
			1226						.		.		
			1230					26	69 7.6	44	02 1.9		
			1235	1					92.7		21.6		
			1240						88.1		20.4		
			1242	1					85.4		20.2		
			1245	1					85.9		19.8		
			1246						87.3		20.0		
			1248						88.5		20.1		
			1250	1					90.3		20.1		
			1255						94.1		20.1		
			1300	1		5.0			99.		20.1		

NV-1, SA1 Roll 1

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 2
			still on line	
			c/c continue line	
			c/c continue line	
			c/c continue line 1153:52	
			c/c continue line 1208:55	
			Bgpt channel on record	
			c/c cont line 1242:50	
SA1		X	1246 35 End SA1	
SA2	X		1248 02 Start SA-2	
Tape #1 2/2				

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	NAVIGATION LATITUDE ± DEGREES	NAVIGATION LATITUDE ± MINUTES	NAVIGATION LONGITUDE ± DEGREES	NAVIGATION LONGITUDE ± MINUTES	NAVIGATION TYPE	NAVIGATION QUAL.
85	05	20	1302	1				26	700.7	44	020.0		
			1305	1		5			03.5		20.2		
			1310	1		4.9			07.6		19.9		
			1314	1					11.		20.		
			1315						11.4		19.6		
			1320						12.2		16.7		
			1321	1					12.5		15.7		
			1324						13.7		14.6		
			1325	1					14.1		14.6		
			1330	1		4.3			18.1		14.7		
85	05	20	1332	2	C/C			26	719.8	44	014.6		
			1335	2		3.9			19.8		12.9		
			1340	2					20.2		09.9		
			1345	2		4.8			19.7		06.4		
			1350	2					19.9		03.4		
85	05	20	1355	2		4.8			20.0	44	00.2		
			1356						21.1	43	99.2		
			1359	2					20.6	43	97.1		
			1400	2					20.2		95.5		
			1404	2					19.6		94.4		
85	05	20	1458	2				26	719.9	44	011.9		
			1500			3.1			20.1		11.2		
			1605		Power Supply Quit								
			1617		End Day Down no power supply								
					END DAY 1.								
			1659		AT THE DOCK								

TAPE #	START	END	COMMENTS AND OBSERVATIONS
SA2 NO1 Roll 4 with sheet 283			things going well records? ok Bypt Dredged ch on 1302 Hr record
348			
			c/c continue line 1 13 14:06 Records?
			Belt change
			New Belt in
			underway with newbelt filter changes
552			
581			c/c EOL 1 BOL 2 13 32:18 Problems with record.
715			
			Ken still working on records
805			
			New Belt
			New Belt in
840			loran problems
SA2	X		stop line circle while changing recorder other no better back to orig recorder
0895			Resume line 2 still Roll #1 uniboom Resume line 1458 north of orig problem
			ORE Power Supply down just as we resumed line
			NO spares will go in at 1617
			Will Do Line 2 again later line 5+1 complete today ABORT Line 2
			No side scan Day 1
			At the Dock 16 59:30 End Day

Day 2 21 May 85

Day 2

Line 3, 9, 6, 8

Try E646 234 Power Supply

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
85	05	21	0635	/				26705.0	44041.8		
			0732	/				26741.4	44016.8		
85	05	21	07	/		x		26 .	.		
				/				.	.		
85	05	21	0838	3		x		26739.8	44016.5		
			0840	3				26740.1	15.7		
			0845	3				740.1	012.2		
85	05	21	0850	3		5.1		739.9	008.7		
			0855	3				739.8	005.1		
			0900	3				40.	01.5		
			0905	3		5.3		26739.9	43997.9		
			0910	3		5.4		39.8	94.2		
			0915	3		5.3		40.3	90.9		
85	05	21	0920	3				40.1	87.1		
			0925	3		5.5		40.	83.5		
			0930	3				40.0	79.7		
			0935	3				40.	76.		
			0938	3				39.8	73.3		
			0940	3				39.8	72.3		
			0945	3		5.4		39.8	68.6		
85	05	21	0950	3				26740.2	43965.0		
			0955	3				40.3	61.4		
			1000	3		5.2		40.	57.7		
			1004	3				40.	54.8		
			1005	3				40.	54.5		
			1010	3				26740.4	43951.5		
			1015	3		4.9		40.1	47.9		
			1020	3				39.9	44.7		
			1025	3				40.	41.5		
85	05	21	1030	3		4.9		39.9	38.1		

TAPE #	START	END	COMMENTS AND OBSERVATIONS
sheet-2 NU-1	X		Leave the Dock 0635:38 Calm and Hazy
			Bridgeport Hitch cock Gas Engine Co.
			Gear in the water 0752 Hrs Ken spent the adjusting went to Benthos Hydrophone
			Hydrophone problems will circle near start of line 3 until
			Ken is happy Decided on Benthos streamer for today. Innerspace?!?!?
Roll 1 until 000 SA-3 000 ft	X		Begin line 3 08:38:45 nice day records?
100 ft			things look ok but records are just ok calm/hazy
250			going south records better with 200-5000 filt
310			stay with 200-5000 H_3
			Ken is improving records.
490 ft			
652 ft			
Roll 1	X		Side Scan In Ken adjusting 0938
			Pull side scan to put depressor on.
798 ft			
934			
			slowed to put Side Scan in again with Depressor
1062			side Scan on now also Begin 1015 line 3
			2 min marks 1sm 1 division
1181			

Day 2 21 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	21	1035	3				26	740.3	439	34.8		
			1035	3					40.4		34.8		
			1040	3					40.5		33.3		
85	05	21	1041	3	4/C		cont 3		40.2		32.3		
			1045	3		3.5			42.8		32.3		
			1050	3					46.9		32.2		
			1053	3/4	C/C		E of 3 B of 4		49.9		32.1		
			1055	4					50.1		32.7		
85	05	21	1100	4		3.1			49.9		36.2		
			1105	4					50.3		39.5		
			1110	4					49.9		42.6		
			1115	4		4.7		26	749.7	439	45.9		
			1120	4		4.8			50.3		49.2		
			1125	4					50.3		52.7		
85	05	22	1130	4		4.9			50.3		55.9		
			1135	4					50.2		59.3		
			1139	4					.		.		
			1140	4		4.7			49.9		62.3		
			1141	4					.		.		
			1145	4					49.9		65.5		
			1150	4					50.1		68.4		
			1155	4					49.8		71.1		
			1200	4		4.4			50.0		74.3		
			1205	4					50.		77.5		
			1210	4					50.1		80.8		
			1215	4					50.0		83.9		
			1220	4		4.7			49.8		87.0		
			1225	4					49.8		90.3		
			1230	4		4.8			49.6		93.5		
			1235	4					49.6		96.7		

sheet 2 SA3 Line 3, 4, 6, 8
NOO-1 Roll 1 SideScan Uniboom

PAGE 5

TAPE #	START	END	COMMENTS AND OBSERVATIONS
			slowed to shorten side scan
			c/c continue line 3 1041.39
1300			
			c/c EOL 3 BoL 4 1053.48
			Head North
1400			side scan is a pain records ok
1504			
1603			
SA3 1660ft		X	End SA3
SA4 000 ft	X		Begin SA4
13 ft			
73 ft			
148			
184			

Day 2 21 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	NAVIGATION LATITUDE ± DEGREES ± MINUTES	NAVIGATION LONGITUDE ± DEGREES ± MINUTES	NAVIGATION TYPE	NAVIGATION QUAL.
85	05	21	1240	4		X		26 75 0.3	44 00 0.3		
			1245	4		4.8		50.1	03.5		
			1250	4				49.8	06.5		
			1255	4				50.1	10.0		
85	05	21	1300	4		5.0		26 75 0.1	44 01 3.4		
			1305	4				50.1	15.9		
			1310	4				50.1	19.3		
			1315	4		5.3		50.	22.8		
			1318	4	C/C			50.	23.0		
			1320	4				52.9	22.5		
			1325	4				55.9	21.4		
			1330	4		4.7		58.9	20.0		
			1331	4/6	C/C			26 75 9.7	44 01 9.7		
			1335	6				60.1	17.5		
			1340	6				60.2	14.4		
85	05	31	1345	6		4.9		60.0	11.1		
			1350	6				26 75 9.9	44 00 8.7		
			1355	6				59.8	6.7		
			1400	6		4.5		60.3	3.5		
			1405	6				60.4	44 00 0.3		
			1410	6				26 76 0.2	43 99 7.1		
			1415	6		6.1		59.9	93.6		
			1420	6				59.8	90.9		
			1425	6				60.0	87.9		
			1428	6				60.3	85.8		
			1430	6		*		60.3	84.6		
			1432	6				.	.		
			1435	6				60.2	81.9		
			1438	6				60.	78.8		
			1445	6		4.6		60.0	75.5		

Lines 3,4,6

sheet 2 SA 4
NW-1 Roll 1 uni + side scan

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 6
ft *235				
ft *285				
ft *332			c/c continue line 4	
ft *378			c/c EOL 4 BOL 6 1331:17	
ft *423				
*466				
508				
*549			End Roll #1 Side Scan line 3,4,6 Begin Roll #2 Side Scan 6 8	
589				

Day 2 21 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	21	1450	6				26	760.1	439	72.4		
			1455	6					60.		69.3		
			1500	6		4.5			59.8		66.1		
			1505	6					60.1		63.2		
			1510	6					60.2		60.1		
			1515	6		4.6			59.8		56.7		
			1520	6					60.0		53.7		
			1525	6					60.1		50.7		
			1531	6		4.6			60.0		47.4		
85	05	21	1535	6					60.1		44.3		
			1540	6					60.3		41.2		
			1545	6		2.9			60.1		39.2		
			1549	6					60.1		36.0		
			1550	6					60.1		35.9		
			1555	6					60.1		39.1		
			1600	6		4.7			47.6		42.1		
			1602	6/8	C/C				69.9		44.6		
			1605	8					70.1		46.3		
			1610	8					70.0		49.8		
85	05	21	1615	8		5.2			69.5		53.2		
			1620	8					69.6		56.8		
			1625	8					69.9		59.5		
			1630	8		5.0			70.3		63.1		
			1635	8					69.9		66.6		
			1640	8				26	771.2	439	70.1		
			1645	8		5.0			70.0		73.2		
			1650	8					70.1		76.6		
			1655	8					70.3		80.2		
			1700	8		5.4			70.1		83.9		
			1705	8					70.3		87.6		

sheet 2 SA 4 Lines 3,4,6,8
NU-1 Roll 1 uniboom
Roll 2 sidescan

PAGE 7

TAPE #	START	END	COMMENTS AND OBSERVATIONS
*128			
*666			
703			
			slowed to pull in sidescan (shorten)
*739			
751			c/c continue line 6
774			
			c/c EOL 6 BOL 8 160253
809			
			slowed to let out side scan
*840			
			pots in the area lots of manuvers
*877			
*910			

Day 2 21 may 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	21	1710	8				26	770.1	43	991.3		
			1711	8					770.6		992.2		
			1715	8					70.0		94.6		
			1720	8		5.7			70.0		98.4		
			1725	8					69.8	44	002.1		
85	05	21	1730	8		"			70.0		05.9		
			1733	Pull Gear				Heading					
			1841	AT The Dock				END DAY 2					
				Day 3 22 May 85									
85	05	22	0649	/	1			26	704.7	44	041.8		
85	05	22	0738										
85	05	22											
85	05	22	0812	13				26	717.5	43	990.0		
			0820	13					724.3		989.9		
85	05	22	0825	13		5.4			29.1		89.9		
			0830	13		4.3		26	732.8	43	990.0		
			0835	13					37.1		90.2		
			0840	13					41.3		90.1		
			0845	13		4.9			45.8				
85	05	22	0850	13					49.8				
			0851	13					751.0		90.0		
					Problem with Geopulse								
			0905	13					46.8		89.7		
			0910	13					50.1		90.1		
			0915	13		4.4			54.9		90.0		
			0920	13					58.8		89.9		

sheet 2 SA4 Lines 3,4,6,8
NU-1 Roll 1 uniboom Roll 2 side Scan

TAPE #	START	END	COMMENTS AND OBSERVATIONS
			1711 Pull side Scan for day weather bad shallow water continue uniboom to end of line 8
953 ft			
Roll 1 uniboom SA4			
*974		X	End Day 2 21 May 85 End Line 8
			End Roll #1 uniboom cont NU-1 SA4 Roll 2 side scan
NU-1 Sheet 2		X	AT The Dock Bgpt. Hitchcock Gas Eng Co. 1841 hrs End Day 2
			Line 13 18 19 20
			NU-1, sheet 3, SA-4, Roll 2 Geopulse, Roll 2 side scan
NU-1 sheet 3	X		Leave the dock Bgpt Hitchcock 0649 Beautiful day
			2 guests Jim + Caroline will try Geopulse today
			Gear in the water line 13 first with Geopulse
			Ken will adjust etc very nice day today
SA4 975 Roll 2 Geopulse	X		Start line 13 SA4 - 975 ft to start 15/16 speed start line 13 0812.50
			side Scan in later
			using Geopulse 300 Joules EG&G Power Benthos Hydrophone. Supply
1005			
Roll 2 Side Scan	X		Begin Side Scan line 13 0835
*1035			
SA4 Roll 2		X	Problem with Geopulse stop line to fix
			high voltage leak? will go back to uniboom
			Begin Line 13 again just east of problem using uniboom
*1075			

Day 3 22 may 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	22	0925	13				26	762.8	439	89.9		
			0930	13		4.5			66.6		90.0		
			0935	13					70.6		90.1		
			0940	13					74.8		90.1		
			0945	13		4.8			79.0		90.1		
			0950	13					83.2		90.0		
			0955	13					87.8		90.4		
			1000	13		4.9			91.8		90.2		
			1005	13					95.8		89.8		
			1010	13				799	.1		88.6		
			1015	13		4.4		803	.8		90.3		
			1020	13					08.0		90.0		
			1025	13					12.6		90.2		
			1030	13		5.1			16.9		90.1		
			1035	13					21.2		90.0		
			1040	13					25.5		90.3		
			1045	13		4.9			29.6		90.0		
			1050	13					34.0		90.0		
			1055	13					38.2		90.2		
			1100	13		5.0			42.3		89.9		
			1105	13					46.1		90.0		
			1109	13					50.0				
			1115	13		5.0			50.5				
			1120	13					55.3		87.2		
			1121	13					56.1		87.5		
			1125	13					59.7		88.9		
			1130	13		4.9			64.3		91.5		
			1135	13					69.1		92.8		
			1136	13					70.0		93.0		
			End Line 13						1136.05				

End Roll #2 wallboom

sheet 3 Roll 2 uniboom - geopulse Line 13 18, 19, 20
NOV-1 SA-4
Roll 2 side scan

TAPE #	START	END	COMMENTS AND OBSERVATIONS
*1103			
↑1133			
1161			
			went AROUND BOUY
1190			
1218			
1246			
1273			
1290			C.C. continue Line 13 11:09:13
1301			C.C. continue Line 13 11:15:00
1312			End of side scan ROLL #2 / short of end of line #13
			side scan continues on line 18
1327			
SA4 stop			11:36:05 end of line 13; STOP TO CHANGE recorder SA-4 stop
			STOP - before continuing to line 18

change Rolls for uniboom End Roll 2
Begin Roll 3

DAY 3 22 MAY 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	NAVIGATION LATITUDE ± DEGREES	LATITUDE ± MINUTES	NAVIGATION LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	22	1154	18				26	86 9.9	43	99 0.9		
			1155	18		2.1		26	87 0.1	43	99 0.4		
			1200	18		4.1		26	86 9.6	43	98 6.8		
			1205	18				26	87 0.1	43	98 3.6		
			1210	18					69.7		79.9		
			1215	18		5.1			70.0		76.5		
			1220	18					70.2		72.9		
			1225	18					70.1		69.3		
			1230	18		-			69.9		66.4		
			1235	18					69.9		63.0		
			1240	18					70.2		59.7		
			1245	18		5.0			70.0		56.1		
			1250	18					70.1		52.6		
			1255	18					69.9		49.1		
			1300	18		5.0			70.1		45.5		
			1305	18					68.8		44.9		
			1310	18					65.9		46.2		
			1315	18		4.5			63.1		47.6		
			1320	18		.			60.0		49.1		
			1325	18/19	C/C				60.5		52.5		-
			1330	19		4.6			61.0		55.9		
			1331	19					60.8		56.5		
			1335	19					59.8		58.3		
			1340	19					59.9		61.5		
			1345	19		4.4			60.3		64.7		
			1350	19					60.1		67.7		
			1355	19					60.3		70.9		
			1400	19		4.5			60.0		74.0		
			1405	19				26	86 0.0	43	9 77.		
			1410	19					59.9		80.1		

sheet 3 Roll 3 uniboom Line 13, 18, 19, 20
NU-1 SA-41
Roll 3 side scan

TAPE #	START	END	COMMENTS AND OBSERVATIONS
			PAGE 16
			1154:01 Begin line 18 Roll 3 uniboom with other recorder
1350			
1376			
1401			
1420			
1453			CC 13:01 Continue line 18
1478			
			end of line 18 beginning of line 19
			1325 EOL 18 BOL 19
1504			13:31:19
			13:31:19 shift to go around large boat
			try minnespace streamer - back to benthos
1528			
1553			

Day 3 22 may 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	NAVIGATION LATITUDE ± DEGREES	NAVIGATION LATITUDE MINUTES	NAVIGATION LONGITUDE ± DEGREES	NAVIGATION LONGITUDE MINUTES	NAVIGATION TYPE	NAVIGATION QUAL.
85	05	22	1415	19		4.4		26	859.7	43	983.2		
			1420	19					60.0		86.2		
			1425	19					59.9		89.2		
85	05	22	1426	19/20	clc			26	859.8	43	990.1		
			1429	20					.		.		
			1430	20					856.7		988.3		
			1435	20	clc				853.7		86.9		
			1440	20					50.0		87.4		
			1445	20		5.0			46.3		88.5		
			1450	20					42.9		89.8		
85	05	22	1455	20					39.3		90.5		
			1500	20		5.0			35.3		91.2		
			1505	20					832.1		92.2		
			1510	20					29.0		93.7		
			1515	20		4.8			26.1		95.2		
			1520	20					23.3		96.8		
			1525	20					20.1		98.4		
			1527	20					18.8		99.1		
			1530	20		5.1		26	817.0	44	000.2		
			1535	20					813.5		001.6		
			1540	20					810.4		003.3		
			1545					26	807.8	44	005.3		
			1545	20	clc				807.7		005.6		
			1550			5.3			05.9		08.1		
			1555	20					4.1		10.8		
			1600			5.6	OK		802.4		13.6		
			1605	20			Lorain out		.		.		
			1610	20				26	791.1	44	011.4		
			1614				OK		86.9		11.4		
			1615	20		4.1			86.1		11.1		

Sheet 3 Roll 3 uniboom Line 13, 18, 19, 20
NU-1 SA-4
Roll 3 sidescan Day 3 22 May 85

PAGE 11

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1577			nice day records ok
			clc EOL 19 BOL 20 1426:35
			1429:14 Pull sidescan in for day shallow-pots
			no sidescan line 20
			clc? rows
1625			
1649			
1672			
			clc continue line 20
1695 000 ft			End SA4- Begin SA-5
			clc cont line 20 Nav + time ok to here
54 ft			
93 ft			clc cont line 20 Nav + time ok to here
			1603 - 1610 Loran out Nav on Seismics by landmarks only Loran back 1610
152			Continue Line 20 CC1 ok see sheet #5
153			?

DAY 3 22 MAY 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	22	1617	20			OK	26	783.8	44	009.3		
			1620	20			?		80.5		08.1		
			1625	20					74.5		06.1		
			1626	20			OK		73.0		05.6		
			1630	20		5.9			70.1		05.2		
			1635	20			OK		65.3		04.7		
			1640	20			OK		63.5		07.3		
			1644	20			OK		62.9		10.3		
			1648		Pull Gear								
			At the Dock 1749 22 May 85.										
			Bgpt Hitchcock Gas Eng. Co End the Day										
			Day 4 23 May 85										
85	05	23	0643		Leave the dock			26	704.7	44	041.7		
			0753										
85	05	23	0823	9				26	779.9	44	020.0		
			0825	9					79.9		18.5		
			0826	9		CLC			79.7		17.3		
			0830	9		3.7			76.4		15.7		
			0835	9					71.4		13.7		
			0840	9					66.1		11.5		
			0842	9		CLC			64.4		10.7		
			0845	9		4.0			64.0		08.3		
85	05	23	0849	9		CLC			64.4		04.9		

finish Sheet 3 Roll 3 uniboom cont line 13 18 19 20
NU-1 finish SA-4 finish
Roll 3 SS finish Day 3 22 May 85

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 12
			CC/ 16:17:23 continue on 20 OK	starting at 1610
			?	silent 700 not
			?	same as record
195			16:26:32 C/C continue line 20 OK	marks will mark by hand and reset
202			SILENT 700 is 1:20 late ?	silent 700 will not
			C/C continue line 20 OK	reset only c/c in by hand and corrected times are good!
251			16:44:31 END LINE 20 End the Day	
NU-1 sheet 3		x	Pull Gear	
			1648 head in NOTE Green notes	
			were done at the dock	
			At the dock 1749 Bgpt Hitchcock Gas Eng Co to sort out good and	
			silent 700 down at bad fixes, sheet 3 and	
			arrival but Ken fixed Records also annotated at	
			it at the dock this time!	
Lines		9	10 11 23 Day 4 23 May 85	NU-2 sheet 4 SA-5 Roll 4 uniboom Roll 4 SS
			leave Bgpt Hitchcock Gas Eng Co	
			silent 700 seems ok nice morning	
NU-2 sheet 4	x		leave the Dock 0643 head to start line 9	
			Gear in 0753 try 3200 recorder before line 9	
257 ft SA 5K Roll 4 uniboom	x		Begin Line 9 nice day	will use 3200 EPC today go to uniboom roll 4 because of recorder change.
			c/c cont line 9 0826:45	
280				
			c/c cont line 9 0841:51	
328				
			c/c cont line 9 0849:17	

Day 4 23 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	23	0855	9				26	76 9.6	44	005.4		
			0858	9		*C/C			73.2		06.2		
			0900	9					74.5		05.7		
85	05	23	0905	9		5.6		26	77.9	44	003.7		
			0907	9					.		.		
			0909	9		C/C			79.9		02.5		
			0915	9		*4.8			80.2	43	998.9		
			0920	9					79.8		95.1		
			0925	9					79.9		91.8		
			0930	9		4.9			80.2		88.5		
			0935	9					80.3		85.8		
			0940	9					79.8		82.3		
			0945	9		4.8			80.7		79.2		
			0950	9					80.4		75.9		
			0955	9					79.7		72.5		
			1000	9		4.6			80.2		69.5		
			1005	9					80.2		66.4		
			1010	9					80.0		63.1		
			1015	9		4.6			80.2		60.0		
			1020	9					80.6		58.3		
85	05	23	1021	9					80.4		57.5		
			1026	9					81.8		56.2		
			1030	9		5.0			84.3		53.9		
			1035	9					85.2		50.5		
			1036	9					85.4		49.7		
			1040	9					85.3		46.5		
			1045	9		*5.5			84.8		42.8		
			1050	9					83.7		38.4		
			1055	9					82.5		34.3		
			1100	9		*5.4			81.9		30.4		

Lines 9, 10, 11, 23

NU-2 sheet 4
SA-5 Roll 4 uniboom
Roll 4 SS

Day 4 23 May 85

PAGE 13

TAPE #	START	END	COMMENTS AND OBSERVATIONS
360			
			c/c cont line 9 0858:26
390			
			sidescan in water (slowed) Roll 4
Roll 4 sidescan 419	X		c/c cont line 9 09 09:23
462			
			Note Sally I forgot to annotate 15 min 30 min marks on this (line 9) with magic marker
*504			
546			
585			
			c/c 10 21:55 cont line 9
624			
			c/c 10 36:17 cont line 9
*662			
*700			

Day 4 23 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	23	1103	9				26	78 0.6	43	92 7.5		
			1105	9					81.5		27.8		
			1110	9					84.7		31.2		
			1115	9		4.5	?		87.6		34.6		
			1116	06					88.2		35.4		
			1119	9/10		C/C			90.0		37.6		
			1120	10					90.3		38.8		
			1125	10					89.9		41.1		
			1126	10					89.8		42.2		
			1127	10					89.7		42.7		
			1130	10		4.5			89.7		44.3		
			1135	10					90.2		47.5		
			1140	10					90.1		50.4		
			1145	10		3.2*			90.0		52.5		
			1150	10					90.1		55.6		
			1155	10					90.4		58.9		
			1200	10		4.5			90.3		61.9		
			1201	10					90.2		62.7		
			1204	10					91.		63.8		
			1210	10					90.0		66.1		
			1215	10		4.2			89.7		69.2		
			1220	10					89.6		70.3		
			1225	10					89.8		74.8		
			1230	10		3.7			89.8		77.7		
			1235	10					90.1		80.9		
			1239	16					90.1		83.7		
			1240	16					90.1		84.2		
			1241	10					89.9		84.6		
			1245	10		4.3			89.6		86.9		
			1250	16				26	78 9.9	43	90 0.1		

Lines 9,10,11,23 NV-2 SA-5

Sheet 4 Roll 4 uni Roll 4 ss

Day 4 23 May 85

PAGE 14

TAPE #	START	END	COMMENTS AND OBSERVATIONS
			c/c 1103:23 cont. line 9
x 736			? annotator not right
			c/c EOL 9 BOL 10
			change Belt uniboom
			Back on
772			
x 807			
842			
			slowed to pull side scan in
			under way again
876			
			loran weak
x 908			
			End Roll 4 side scan
			Begin Roll 5 side Scan
x 941			

Day 4 23 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	23	1255	10		*		26	790.1	439	93.2		
			1300	10		4.5			90.1		96.2		
			1305	10		C/C			89.9		999.2		
			1310	10					92.3		999.2		
			1315	10		4.7*			96.F		998.8		
			1319	10/01				26	799.8	439	97.5		
			1325	11				26	800.		993.9		
			1330	11		4.8*			800.4		996.6		
			1335	11					00.3		88.0		
			1340	11					00.1		84.6		
			1345	11		4.7			00.2		81.4		
			1350	11					799.8		78.0		
			1355	11					799.9		75.0		
			1400	11		4.7*			800.3		71.9		
			1405	11					800.4		68.5		
			1410	11					800.0		65.0		
			1415	11		4.9*			799.5		61.4		
			1420	11					799.9		58.3		
			1425	11					800.2		55.1		
			1430	11		4.6*			800.1		51.8		
			1435	11					799.8		48.5		
			1438	11		C/C		26	800.0	439	46.1		
			1440	11					800.9		46.4		
			1445	11		4.0*			5.6		48.3		
			1449	11/23		C/C		26	809.6	439	49.9		
			1455	23					805.4		950.0		
			1500	23		4.8			01.0		50.0		
			1505	23				26	796.5	439	50.1		
			1510	23					92.0		50.1		
			1511	23		CC			90.8		50.2		

Lines 9,10,11,23

Day 4 23 May 85

NU-2 sheet 4
SA-5 Roll 4 uni
Roll 4+5 SS

TAPE #	START	END	COMMENTS AND OBSERVATIONS
973			
			c/c continue line 10
1005			
			13 19:27 EOL 10 BOL 11
1036			
1067			
1097			
1127			
1156			
			c/c continue line 11 14 38:49
1185			
			c/c EOL 11 BOL 23 14 49:32
1213			
			c/c continue line 23 15 11:26

Day 4 23 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	NAVIGATION LATITUDE ± DEGREES	NAVIGATION LATITUDE ± MINUTES	NAVIGATION LONGITUDE ± DEGREES	NAVIGATION LONGITUDE ± MINUTES	NAVIGATION TYPE	NAVIGATION QUAL.
85	05	23	1515	23		5.1		26	788.3	43	951.3		
			1519	23					785.8		952.7		
			1520	23					85.5		52.7		
			1525	23					81.2		53.3		
			1528	23		C/C			77.2		53.5		
			1530	23		6.1			75.7		52.9		
			1535	23					70.1		50.5		
			1536	23		C/C		26	769.1	43	949.9		
			1540	23					65.3		49.9		
			1545	23		5.2			61.		50.2		
			1550	23					56.3		50.6		
			1555	23					51.8		50.1		
			1600	23		5.4			46.9		49.9		
			1605	23					42.0		50.0		
			1610	23					37.0		49.8		
			1615	23		5.8			32.2		50.0		
			1617	~~23~~		End line			29.9		50.1		
			1620			Pull Gear			.		.		
			1745			At the Dock Northport (Fuel)					.		
			1845			At the Dock (tied up)					.		
						END Day 4					.		

Lines 9,10,11,23
cont NU-2 sheet 4
cont SA-5 Roll 4 uni
Roll 4-5 SS End

Day 4 23 May 85

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1242			
Roll 5ss		x	Pull side scan for day lost tail shallow fins pots End Roll 5ss
			c/c cont line 23 1520:06
			c/c cont line 23 1528:48
1270			
			1536:10 c/c cont line 23
1297			
1324			
1351			
SA5 1356 stop			End of the Day 23 May 85 End line 23 1617:22
			Pull gear head in to Northport L.I.
			At the fuel dock northport L.I. 1745 hrs
			Tied up at the Town Dock 1845
			END Day 4

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Day 5 24 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	24	0700	/				26	50.0	43	15.0		
85	05	24	0745	/					.		.		
									.		.		
85	05	24	0756	12				26	10.1	43	49.0		
			0800	12		1.8		26	10.2		51.2		
			0805	12					10.3		54.7		
			0810	12					9.7		57.8		
			0815	12		3.8			9.8		60.4		
			0820	12					10.1		64.5		
			0825	12					10.2		67.2		
			0830	12					10.1		70.5		
			0835	12					10.0		70.8		
			0840	12					10.3		73.9		
85	05	24	0845	12		4.6			10.3		77.3		
			0847	12					10.3		78.8		
			0850	12					10.3		80.4		
			0855	12					10.2		83.4		
			0900	12		4.5			10.0		86.5		
			0905	12					10.0		89.7		
			0910	12					10.1		93.0		
			0915	12					10.0		95.9		
			0916	12		C/C			10.1		96.5		
			0920	12					12.7		97.1		
			0925	12					17.2		98.0		
			0929	12		C/C			19.9	43	98.7		
			0933	13/14		C/C			20.2	44	00.4		
			0935	14		C/C			19.8	44	00.7		
			0940	14					20.4	43	99.8		
			0945	14		4.0			20.1		95.3		
			0950	14					19.6		92.2		

Day 5 24 may 85

Lines 12 14 15 16 17
NU-2 sheet 5 roll 4 uni roll 6 ss
SA-5

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TAPE #	START	END	COMMENTS AND OBSERVATIONS
sheet 5 NU-2	x		0700 Hrs. Leave the Dock Northport L.I. Town Dock
			0745 Gear in the water Ken found a cut in the innerspace streamer he fixed it so we will try streamer today after we get going.
SA-5 roll 4 roll 6	135		075650 Begin Line 12 uniboom + side scan with no fins
1361			very nice day flat calm gear ok.
1387			
			Manuver to avoid large boat
			Back on line 12
1439			
			Try innerspace hydrophone No Good!!
			Back to Benthos Streamer
			annotator back to 5 min marks
1465			
1490			
			c/c continue line 12 091655 side scan down
			c/c continue line 12 09:29:13
			c/c EOL 12 BOL 14 09 33:18
1540			

Day 5 24 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	24	0955	14				26	20.1	43	98.2		
			1000	14		4.8			19.9		85.8		
			1005	14					20.0		82.5		
			1010	14					19.7		79.1		
			1015	14		4.5			20.2		76.2		
			1020	14					20.1		72.8		
			1025	14					20.6		69.9		
			1030	14		3.9			20.1		67.3		
			1032	14					20.0		67.0		
			1035	14					20.0		65.3		
			1040	14					20.1		62.6		
			1045	14		4.7			20.1		58.8		
			1047	14		C/C			20.2		57.0		
			1050	14					21.9		56.6		
			1055	14		C/C			26.1		55.6		
			1100	14		5.3			27.5		52.4		
			1105	14					28.6		49.1		
			1110	14					29.3		45.5		
			1115	14		5.5			29.5		41.7		
			1120	14					30.3		38.0		
			1121	14/15		C/C			30.5		37.3		
			1125	15					30.0		38.8		
			1130	15		4.5			30.2		42.2		
			1135	15					30.2		46.5		
			1140	15					30.1		49.1		
			1145	15		4.9			29.8		52.2		
			1150	15					30.2		55.7		
			1155	15					30.6		59.1		
			1200	15					30.5		62.2		
			1205	15		4.9			30.2		65.5		

Lines 12, 14, 15, 16, 17

Day 5 24 May 85

NU-2 sheet 5
SA-5 Roll 4 and Roll 6s

PAGE 18

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1564			
			very nice records today
1589			
1613			Pulled sidescan in short and turned off
			No more SS on line 14 shallow + dry paper
			End Roll 6
1637			
			1047 51 c/c continue Line 14
			c/c 1055:24 c/c continue line 14
1660			
1684			
SA-5 1694		X	EOL 14 BOL 15 1121:07
SA-6 0000 ST		X	No side scan line 15 will go in on 16
84			Loran weak S/N Low
158			

Day 5 24 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
85	05	24	1210	15				26 830.2	439 68.9		
			1215	15		×5.0		29.9	72.2		
			1220	15				30.1	75.9		
			1225	15				30.1	79.3		
			1230	15		4.9		30.0	82.6		
			1235	15				30.1	86.0		
			1240	15				30.0	89.0		
			1245	15		4.8		29.9	92.5		
			1250	15				30.3	95.8		
			1252	15		C/C		30.3	97.5		
			1255	15				32.1	97.7		
			1300	15		4.7		35.7	96.3		
			1305	15				39.0	94.5		
			1306	15/16		C/C		39.8	94.1		
			1310	16				40.1	92.2		
			1315	16		×4.6		39.8	88.8		
			1320	16				39.9	85.4		
			1328	16				40.0	82.0		
			1330	16		4.9		40.2	78.7		
			1335	16				40.1	75.3		
			1340	16				39.9	71.8		
			1345	16		×4.8		40.0	68.6		
			1350	16				39.9	65.2		
			1355	16				39.8	61.7		
			1400	16		^5.3		39.8	57.8		
			1405	16				40.1	54.2		
			1410	16		C/C		40.3	50.8		
			1415	16				41.9	49.3		
			1420	16				44.4	47.2		
			1425	16				46.6	45.1		

Lines 13, 14, 15, 16, 17
NU-2 sheet 5
SA 5+SA 6 Roll 5 and Roll 6+7 SS

Day 5 24 May 85

PAGE 19

TAPE #	START	END	COMMENTS AND OBSERVATIONS
*193			
244			
292			
			c/c cont line 15 1252.44
341			
			c/c EOL 15 BOL 16 1306.12
			side scan in for line 16 Roll 7
*385			
430			
*473			
*514			
			c/c continue line 16 1410
*554			

Day 5 24may 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	24	1430	16		4.8		26	48.9	43	42.9		
			1432	16/17		4C			49.9		41.9		
			1435	17					50.2		43.2		
			1440	17					50.1		46.4		
			1445	17		4.7			50.1		50.0		
			1450	17					50.1		52.9		
			1455	17					50.2		56.1		
			1500	17		4.5			50.1		59.2		
			1505	17					50.0		62.2		
			1510	17					50.0		65.3		
			1515	17		4.5			50.0		68.7		
			1520	17					49.9		71.6		
			1525	17					50.1		75.1		
			1530	17		4.7			50.1		78.3		
			1535	17					50.0		81.5		
			1540	17					50.0		84.5		
			1545	17		4.8			49.9		87.8		
			1548	17	End line		17	26	49.8	43	90.0		
			1552		Gear Pulled Head in								
			1629		At the Dock								

Day 5 24 May 85

lines 12, 14, 15, 16, 17
cont NU-2 Roll 4 uni
SA 5 + 6 cont Roll 6 + 7 cont SS
Sheet 5

TAPE #	START	END	COMMENTS AND OBSERVATIONS
594			
			C/C EOL16 BOL17 14 32:19
634			
671			
707			
743			
779			
SAL 787		x	End line 17 End of the Day 24 May 85 154826
Roll 7 SS		x	End Sheet 5 End side scan Roll 7 End Roll 4 uni
			Gear Pulled Head to Stamford Ct
sheet 5		x	At the Dock Stamford Ct. 1629:51
			Yacht Haven west
			End Day 5

Day 6 25 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	25	0702	21				26	86.7	44	04.6		
85	05	25	0727	21					.		.		
									.		.		
85	05	25	0739	21				26	87.5	43	87.9		
			0740	21					76.8		87.8		
			0745	21		4.3			79.8		86.7		
			0750	21					82.6		84.9		
			0755	21					85.6		83.7		
			0800	21		4.4			88.4		82.4		
			0805	21					91.2		81.1		
			0810	21					893.8		79.6		
			0815	21		4.3			96.4		78.1		
			0820	21					899.0		76.7		
			0825	21				26	901.9	43	75.4		
			0830	21		4.5			904.9		74.2		
			0835	21					07.8		72.9		
			0840	21					911.4		70.6		
			0845	21		4.3			12.8		69.9		
			0850	21					15.3		68.4		
			0855	21					17.8		66.9		
			0900	21		4.4			20.2		65.3		
			0905	21					23.0		63.7		
			0910	21					25.5		62.1		
			0913	21		3.7			26.9		60.8		
			0915	21		C/C			27.5		60.3		
			0920	21					30.7		58.6		
			0925	21					33.7		56.9		
			0930	21		5.1			36.4		55.1		
			0935	21					39.0		53.0		
			0940	21					42.0		25.3		

Day 6 25 May 85

Lines 21-22, 24, 23
ok NU-2 Roll 5 uni ok
ok Sheet 6 Roll 8 SS ok
ok SA-6

TAPE #	START	END	COMMENTS AND OBSERVATIONS PAGE 21
Sheet 6 NU-2			0702:14 leave the Dock stamford ct yacht Haven west
			0727:44 gear in
SA-6 (787) Roll 5 uni Roll 8 SS			0739:35 Begin line 21 nice morning equipment ok side scan in + uniboom Roll 8 Roll 5 new
x 800			will pull sidescan before narrow part of sound owing to traffic & shallows
x 834			
867			
x 900			
933			
966			
			Pulled in sidescan for trip in narrow part of sound
997			c/c continue line 21 (0915) will go in again this afternoon for lines 24+23 will continue Roll 8 side scan then
x 1028			

Day 6 25 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	25	0941	21				26	94 2.6	43	95 0.9		
			0945	21		5.1			43.2		48.5		
			0950	21					43.5		45.6		
			0955	21					43.8		41.7		
85	05	25	1000	4		4.8			44.2		38.4		
			1005	21					44.1		34.9		
			1010	21					45.1		31.9		
			1015	21		4.8			46.0		28.8		
			1017	21/22		C/C		26	94 6.3	43	92 7.5		
			1020	22					44.9		25.2		
			1025	22					42.5		21.6		
			1029	22		C			940.6		918.7		
			1030	22		4.5			40.		18.6		
			1035	22					39.0		22.3		
			1040	22					38.3		26.0		
			1045	22		5.6			37.3		29.6		
			1048	22		C/C			936.7		931.8		
			1050	22					35.6		32.6		
			1055	22					32.3		34.5		
			1059	22		C			929.1		936.1		
			1105	22					24.3		35.8		
			1110	22					19.8		35.5		
			1115	22		4.9			15.4		34.9		
			1120	22					11.0		34.0		
			1125	22					06.6		33.0		
			1130	22		4.8			2.1		32.0		
			1132	22		C		26	899.9	43	931.5		
			1135	22					899.4		932.5		
			1140	22					898.6		34.9		
			1145	22		4.3			97.8		37.8		

Day 6 25 May 85

Line 21 22 24 23
UU-2 Roll Sun
sheet 6 Roll 8 SS
SA-6

PAGE 22

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1050			c/c continue line 21 0941:04
1088			
1117			
			EOL 21 BOL 22 1017:18
1145			c/c continue line 22 1029:13
1147			
1175			
			c/c continue line 22 1048:17
			c/c continue line 22 1059:51
1232			
1259			
			Put side scan back in for run through lines 24+23
1287			

Day 6 25 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	25	1149	23/24				26	897.3	43	939.9		
			1156	24		4.8			902.6		940.3		
			1200	24		4.8		26	906.2	43	940.3		
			1205	24					910.6		940.2		
			1210	24					15.1		40.1		
			1215	24		5.4			19.5		40.0		
			1220	24					24.1		40.0		
			1225	24					28.6		40.0		
			1230	24		4.9			32.7		39.9		
			1235	24					37.0		41.0		
			1240	24					40.6		40.7		
			1245	24		4.5			44.2		40.0		
			1247	24		C/C			45.6		39.9		
			1250	24					44.9		37.9		
			1255	24					43.4		34.3		
			1300	24		4.4			41.6		30.8		
			1305	24					40.4		28.3		
			1310	24					39.2		24.7		
			1316	24		C/C		93	7.4	92	0.9		
			1319	24					40.1		21.7		
			1320	24					40.1		22.2		
			1325	24					40.0		25.2		
			1330	24		4.1			40.3		28.5		
			1335	24					40.		31.2		
			1340	24					40.4		34.4		
			1345	24		4.3			40.4		37.5		
			1350	24					40.2		40.2		
			1355	24					40.0		43.2		
			1400	24		4.3			40.1		46.5		
			1405	24					39.5		49.1		

Line 21, 22, 24, 23

Day 6 25 May 85

NV-2 sheet 6 SA-6

Roll Sand Roll 855

PAGE 23

TAPE #	START	END	COMMENTS AND OBSERVATIONS
			c/c EOL 22 BOL 24 1149:03
			Doug Bett Change
1310			
1337			
1			
1364			lots of boats so many small turns
1389			
			c/c continue line 24
1415			
1441			c/c circle to join 26940 line 1315
			Join 26940 line 1319:14
1467			
1492			
1517			

26940

Day 6 25 may 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	25	1406	24/23		K/C		26	39.5	43	49.8		
			1410	23					37.2		50.1		
			1415	23		3.9			33.8		50.1		
			1420	23					30.1		49.8		
			1425	23					26.6		49.6		
			1430	23		3.9			23.7		50.3		
			1435	23					20.4		50.4		
			1440	23					16.7		50.2		
			1445	23		3.9			13.0		49.8		
			1450	23					10.0		49.8		
			1455	23					06.5		49.9		
			1500	23		3.9			03.5		50.1		
			1505	23				90	00.0		50.2		
			1510	23				89	56.8		50.3		
			1515	23		4.0			93.3		50.2		
			1520	23					89.6		49.9		
			1525	23					86.0		49.9		
			1530	23		4.2			82.6		50.4		
			1532	23					80.7		50.3		
			1535	23					79.1		50.2		
			1538	23					76.9		50.1		
			1540	23					75.1		49.8		
			1545	23		4.4			71.4		50.0		
			1550	23					67.7		50.2		
			1555	23					63.9		50.1		
			1600	23		4.4			60.1		50.1		
			1605	23					56.2		50.1		
			1610	23					52.4		49.7		
			1615	23		4.2			48.9		50.1		
			1620	23					45.0		50.1		

Day 6 25 May 85

Line 21, 22, 24, 23
NV-2 sheet 6 SA-6
Roll Scan Roll 8 SS

PAGE 24

TAPE #	START	END	COMMENTS AND OBSERVATIONS
			C/C EOL 24 BOL 23 1406:15
1541			its wall to wall boats out here
1566			
1590			
1614			
1637			
1661			
Roll 8		X	End Roll 8 Side Scan
SA-6 1664	X		
SA-6 1664a		X	END SA-6 Begin Roll 9 Side Scan
SA-7 000	X		Begin SA-7
28			
87			
1410			

Day 6 25 may 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	25	1625	23				26	84 1.1	43	95 0.1		
			1630	23		4.6			37.6		50.		
			1635						32.9		50.1		
			1640	23					28.8		50.2		
			1641	23					827.3		950.2		
					END Line 23								
			1645		Gear Pulled Head in.								
			1730		At the Dock Stamford								
					DAY 7		26 May 85						
85	05	26	0635	25									
85	05	26	0730	25									
85	05	26	0739	25				26	869.7	43	945.4		
			0745	25		3.0			73.7		45.1		
			0750	25					77.3		44.7		
			0753	25		4.0			879.8		944.3		
			0755	25					80.1		45.0		
			0800	25		4.0			79.8		48.8		
			0805	25					80.		52.4		
			0810	25					80./		56.2		
			0815	25		5.3			79.8		59.8		
			0820	25					80.0		63.5		
			0825	25					80.0		67.2		
			0830	25		5.3			79.9		70.9		
			0835	25					79.9		74.7		

Lines 21 22 24 23
NU-2 end Roll 5 mini cart
sheet 6 end Roll 8 ss end
SA-6 end Roll 9 ss end
SA-7 cont

Day 6 25 may 85

PAGE 25

TAPE #	START	END	COMMENTS AND OBSERVATIONS
193			
SA-7 (2nd) Roll 5 Roll 9			END Line 23 END Day 16 41 44
			Gear Pulled Head in to Stamford yacht Haven again.
			1730 At the Dock Stamford
			[illegible]
			NU-3 sheet 7 Day 7 26 May 85 Lines 25, 26, 27, 28, 29, 30, 31
			SA-7 Roll 5 mini Roll 10 ss
NU-3 sheet 7	XX		0635 Leave the Dock Stamford yacht Haven
			0730 gear in Nice day
SA-7 Roll 5 mini Roll 10 ss	XX		Begin line 25 0739 28
253			side scan and unibom in beautiful day good records
			0753:42 C/C continue line 25
300			
346			
391			

Day 7 26 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	26	0840	25				26	79.9	439	78.2		
			0845	25		5.0			79.9		81.7		
			0850	25					79.9		84.9		
			0853	25/26		C/C		8	80.1	9	87.3		
			0855	26					81.2		87.1		
			0900	26					84.5		86.7		
85	05	26	0905	26					88.0		85.8		
			0907	26		C/C			89.9		85.4		
			0910	26					90.1		84.6		
			0915	26		5.0			90.0		80.7		
			0920	26					90.0		77.5		
			0925	26					90.0		74.4		
			0930	26		4.6			90.1		71.1		
			0935	26					90.1		68.6		
			0940	26					90.1		65.4		
			0945	26		4.5			90.3		62.3		
			0950	26					90.0		59.9		
			0955	26					90.0		55.7		
			1000	26		4.5			89.9		52.5		
			1005	26					90.0		49.3		
			1009	26/27		C/C		8	90.3	9	46.5		
			1015	27		4.3			93.9		46.1		
			1020	27					96.8		44.8		
			1025	27				8	99.9		43.9		
			1030	27		4.6		26	96 03.1		42.7		
			1035	27					06.3		41.6		
			1640	27					8.4		40.9		
			1045	27		4.7			11.8		39.9		
			1050	27					14.9		38.5		
			1055	27					18.2		37.6		

Day 7 26 May 85

NV-3 sheet 7 SA-7 Roll Sumi

Roll loss Lines 25, 26, 27, 28, 29, 30, 31

PAGE 26

TAPE #	START	END	COMMENTS AND OBSERVATIONS
434			
460			c/c EOL 25 BOL 26 0853:40
477			
			c/c continue line 26 09 07:38
518			
558			
597			
636			
			c/c EOL 26 BOL 27 1009:40
673			
709			
745			

Day 7 26 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	26	1100	27		4.5		26	21.3	43	36.6		
			1105	27					24.9		36.6		
			1110	27					28.3		56.3		
			1112	27/28		C/C		29	29.8	36	36.0		
			1115	28		3.9			30.1		37.6		
			1120	28					29.8		41.4		
			1125	28					29.9		45.2		
			1130	28		5.2			30.1		49.0		
			1135	28					29.9		52.5		
			1140	28					30.0		56.2		
			1145	28		4.0			30.0		59.1		
			1146	28		C/C			30.1		60.2		
			1150	28					28.1		61.3		
			1155	28					24.7		62.7		
			1200	28		5.1			21.8		64.6		
			1202	28/29		C/C			20.3		65.6		
			1205	29					19.8		64.5		
			1210	29					19.9		61.9		
			1215	29		4.2			19.9		58.6		
			1220	29					20.0		55.2		
			1225	29					19.9		52.1		
			1230	29		4.6			19.8		48.8		
			1235	29					19.8		45.3		
			1240	29					20.0		42.0		
			1245	29		4.7			20.1		38.6		
			1250	29					20.0		35.1		
			1255	29					20.1		31.7		
			1256	29		C/C			20.1		30.9		
			1300	29					17.4		29.4		
			1305	29					12.8		27.2		

Day 7 26 May 85

NU-3 sheet 7 SA-7 Roll scans

Roll 10ss

Lines 25, 26, 27, 28, 29, 30, 31

PAGE 27

TAPE #	START	END	COMMENTS AND OBSERVATIONS
780			
			c/c EOL 27 BOL 28 1112:33
815			
848			
882			
			c/c continue line 28 1146 31
914			
			c/c EOL 28 BOL 29 1202:53
946			
977			
1008			
1256			c/c continue line 29 END Roll 10 side Scan
ROLL 10 SS		X	Begin ROLL 11 side Scan

Day 7 26 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	26	1307	29/30				26	910.3	43	925.9		
			1310	30					10.0		27.3		
			1315	30		4.3			9.8		30.7		
			1320	30					.		.		
			1325	30					.		.		
			1330	30		4.8			9.9		41.0		
			1335	30					9.9		43.8		
			1340	30					9.9		47.1		
			1345	30		4.5			8.8		50.6		
			1350	30					10.1		53.6		
			1355	30					10.2		56.9		
			1400	30		4.6			9.9		60.2		
			1405	30					10.1		63.6		
			1410	30					9.9		66.7		
			1415	30		4.6			9.8		69.9		
			1420	30					10.0		73.2		
			1425	30					10.3		76.5		
			1427	30					10.1		78.1		
			1430	30		4.3			08.6		78.8		
			1435	30				905	.6		80.0		
			1440	30					02.5		81.3		
			1444	30/31				900	.3		82.4		
			1445	31		4.2		900	.2		81.9		
			1450	31				900	.6		78.4		
			1455	31				899	.9		75.1		
			1500	31		4.8		900	.0		71.5		
			1505	31				900	.2		68.2		
			1510	31				899	.9		64.3		
			1515	31		5.0		899	.8		60.8		
			1520					899	.9		57.6		

Day 7 26 May 85

NU-3 sheet 7 SN-7 Rollsum

Roll 10+11 ss

Lines 25, 26, 27, 28, 29, 30, 31

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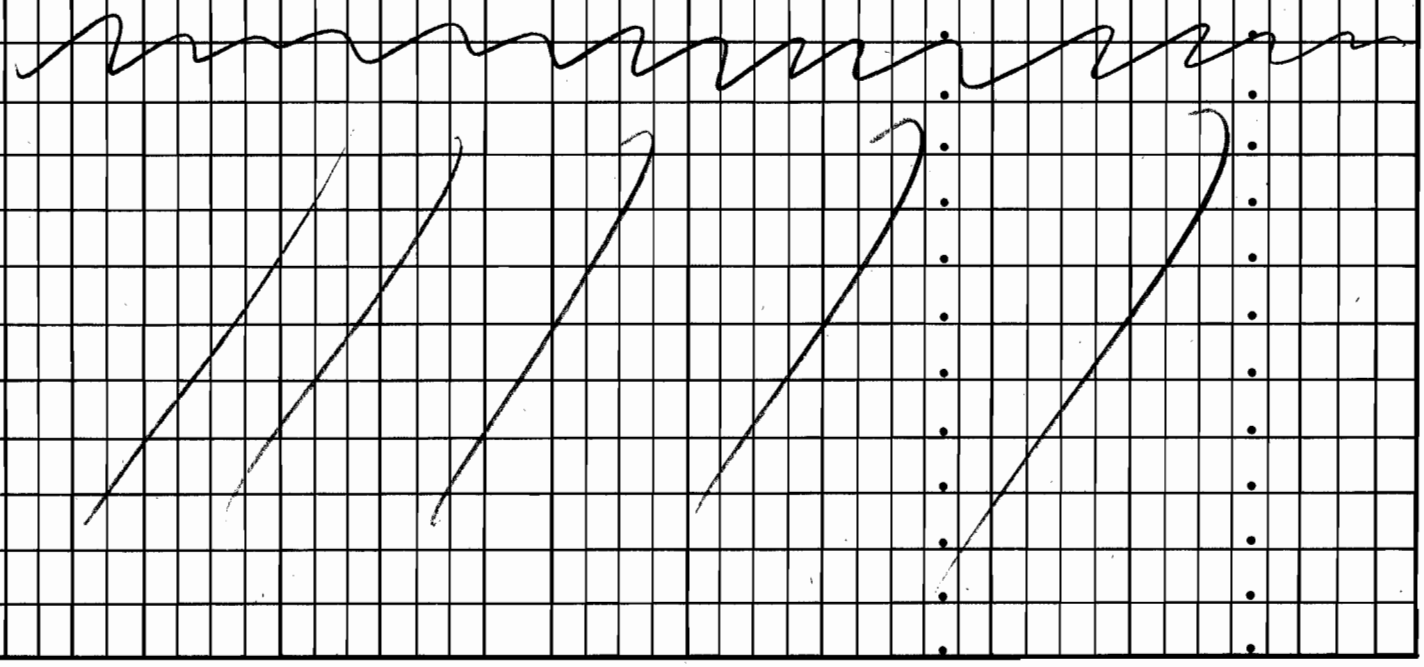
TAPE #	START	END	COMMENTS AND OBSERVATIONS
			c/c EOL 29 BOL 30 13 07:45
1070			
1100			
1129			
1158			
1187			
			change Bett Data Gap
			c/c continue line 30 14 27:41
1213			recorder problem try channel B EPC3200 records better
			c/c EOL 30 BOL 31 14 44 02
1241			
1268			
1295			

Day 7 26 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	26	1525	31				26	899.7	43	53.9		
			1530	31		5.0			900.0		50.4		
			1535	31					900.3		47.0		
			1540	31					899.7		43.2		
			1545	31					900.1		39.7		
			1550	31		4.9			900.2		36.3		
			1555	31					900.1		32.7		
			1600	31		4.8			900.1		29.2		
			1605	31					900.0		25.8		
			1610	31					900.4		22.5		
			1615	31		4.0			900.6		19.9		
			1616	31		C/C			900.3		18.7		
			1620	31					899.1		20.1		
			1625			Pull boat head in							
			1748			At the dock Stamford							



Day 7 26 May 85

NU-3 Sheet 7 SA-7 Roll 5 uni

Roll 16+11 SS Lines 25, 26, 27, 28, 29 30, 31,

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1322			
1358			
1376			
			Pull side scan for the Day End Roll #11 Side Scan
1400			
			c/c continue line 31 to end
			1620 EPC Roll ended so End Line 31
			End Day 26 May 85
			Pull Gear head to Stamford yacht Haven
			1748 At the dock good day
			stamford

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Day 8 27 may 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	NAVIGATION LATITUDE ± DEGREES	NAVIGATION LATITUDE ± MINUTES	NAVIGATION LONGITUDE ± DEGREES	NAVIGATION LONGITUDE ± MINUTES	NAVIGATION TYPE	NAVIGATION QUAL.
85	05	27	0635	/				26	866.8	44	004.8		
			0737	/					915.3	43	971.4		
									.		.		
85	05	27	0750	7				26	919.5	43	970.7		
			0755	7					16.0		70.6		
			0800	7		4.8			11.8		70.0		
			0805	7					06.8		69.9		
			0810	7					02.3		70.3		
			0815	7		5.4		26	897.6		70.2		
			0820	7					92.8		69.8		
			0825	7					88.2		69.9		
			0830	7		5.5			83.5		69.9		
			0835	7					78.7		69.8		
			0840	7					73.8		69.8		
			0845	7		5.5			69.3		70.1		
			0850	7					64.5		70.1		
			0855	7					59.7		70.0		
			0900	7		5.6			55.0		70.1		
			0905	7					52.1		70.1		
			0910	7					47.1		69.9		
			0915	7		5.5			42.4		69.9		
			0920	7					37.7		69.9		
			0925	7					32.9		69.9		
			0930	7		5.7			28.1		69.9		
			0935	7					23.4		70.1		
			0940	7					18.6		70.1		
			0945	7		5.7			13.6		70.1		
			0950	7					08.9		70.1		
			0955	7					04.0		70.1		
			1000	7		5.5		26	799.2	43	970.1		

Lines 7, 2, 32, 2

NU-3 sheet 8 SA-7 Roll 8 and Roll 12 SS

Day 8 27 May 85

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TAPE #	START	END	COMMENTS AND OBSERVATIONS
NU-3 sheet 8	x y		0635 Leave the Dock stamford yacht Haven
			0737 Gear in the water very nice day
Roll 8 uni Roll 12 SS SA-7	y x y		0750:51 Begin Line 7
1418			side scan and uniboom in
1431			all looks good
1456			
1480			
1506			
1530			
1554			
1578			
1603			
1626			

Day 8 27 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	27	1005	7				26	79 4.5	43	97 6.2		
			1010	7					89.5		70.0		
			1015	7		4.8			85.4		70.1		
			1020	7					81.1		70.2		
			1025	7					76.6		70.3		
			1030	7		5.2			72.1		70.3		
			1033	7					69.5		69.7		
			1035	7					67.7		69.9		
			1040	7					63.7		70.1		
			1045	7		5.0			59.2		70.1		
			1050	7					54.6		70.0		
			1055	7					50.1		69.9		
			1100	7		5.2			45.4		69.8		
			1105	7					40.7		69.7		
			1110	7					37.2		70.7		
			1115	7		4.9			32.3		69.7		
			1120	7					28.3		70.0		
			1125	7					23.9		70.2		
			1129	7/2		C/C			20.2		70.3		
			1135	2		2.4			20.2		67.0		
			1140	2					20.0		63.8		
			1145	2		4.8			19.8		66.4		
			1150	2					20.0		57.2		
			1155	2					20.2		54.0		
			1200	2		4.8			20.2		50.8		
			1205	2					20.1		47.5		
			1210	2					20.0		44.0		
			1215	2		4.7			20.4		41.1		
			1220	2					20.3		37.6		
			1225	2					20.2		34.1		

Lines 7, 2, 32, 2

NV-3 Roll 6 mi
sheet 8 Roll 12 ss
SA-7+8

Day 8 27 May 85

PAGE 31

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1649			
SA-7 1673		X	END SA-7 (10 30:42)
000 ft	X		Begin SA-8 (10 32:57)
48			
105			
159			
212			EOL 7 BOL 2 11 29:39
261			
309			
356			

Day 8 27 may 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	27	1230	2		4.1*		26	720.2	439	31.4		
			1232	2		C/C			20.1		30.2		
			1235	2					22.5		30.1		
			1238	2					25.5		30.3		
			1241	2					28.2		30.4		
			1243	2/32		C/C			29.9		30.2		
			1245	32		3.3			30.3		31.0		
			1250	32					30.1		34.3		
			1255	32					30.6		37.4		
			1300	32		4.7			29.4		40.5		
			1305	32					29.8		43.9		
			1310	32					29.8		47.2		
			1315	32		4.8			29.8		50.5		
			1320	32					30.1		53.9		
			1325	32					30.2		56.4		
			1330	32		4.5			30.2		59.6		
			1333	32					30.2		61.9		
			1335	32					30.2		62.4		
			1340	32					30.2		64.8		
			1345	32		4.8			29.9		68.1		
			1350	32					30.1		71.3		
			1355	32					30.2		74.8		
			1400	32		4.8			29.8		77.5		
			1405	32					30.1		80.4		
			1410	32					30.1		83.4		
			1415	32		4.4			30.0		86.5		
			1420	32					29.9		89.5		
			1425	32					29.7		92.4		
			1430	32		4.6*			29.5		95.4		
			1435	32					29.9		98.6		

Lines 7, 2, 32, 2

NV-3 sheet 8 SA7+8

Roll 6 mm Roll 12 55

Day 8 27 may 85

PAGE 32

TAPE #	START	END	COMMENTS AND OBSERVATIONS
*401			
			c/c continue line 2 12 32,00
			New belt
			ok backup again with new belt
			c/c EOL 2 BOL 32 12 43;45
427			
469			
512			
552			
			side scan noisy pull to check full of sand?
591			
628			side scan Back in
667			
*703			

Day 8 27 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	NAVIGATION LATITUDE ± DEGREES	LATITUDE MINUTES	NAVIGATION LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	27	1439	32				26	730.3	44	001.5		
			1440	32				26	730.3	44	001.9		
			1445	32		*4.7			30.2		005.1		
			1450	32					29.8		008.0		
			1455	32					29.9		11.2		
			1500	32		*4.8			29.9		14.5		
			1503	32		C/C			30.0		16.7		
			1505	32					28.6		16.4		
			1510	32					24.3		15.8		
			1515	~~32~~ 2		*C/C 4.2			20.4		14.9		
			1520	2					20.6		12.4		
			1525	2				26	720.0	44	009.1		
			1530	2		4.7*			20.0		05.9		
			1535	2					19.9		02.9		
			1536	2					19.8		01.9		
			1538	2					19.9		01.3		
			1540	2				26	720.0	44	000.5		
			1545	2		4.3		26	720.1	43	997.4		
			1550	2					19.8		94.4		
			1555	2					20.1		91.5		
			1600	2		*4.3			20.		88.6		
			1605	2					19.8		85.7		
			1610	2					20.2		83.0		
			1615	2		*4.5			20.1		79.8		
			1620	2					19.9		76.7		
			1625	2					20.0		73.7		
			1630	2		4.6*			20.0		70.5		
			1631	2	ENDLINE 2				20.0		70.0		
			1635		Pull Gear heading								
			1746		AT the Dock				Port Jeff.				

END DAY 8

Lines 7, 2, 32, 2

NU-3 Roll 6 end
Sheet 8 Roll 12 ss
SA 748

Day 8 27 May 85

TAPE #	START	END	COMMENTS AND OBSERVATIONS
			End Roll #12 Side Scan
			Begin Roll #13 side scan.
739			
775			
			c/c continue line 32 1503:39
809			1515 36: c/c END Line 32 Begin Line 2 last
844			
			unlboom problem slow down
			ok now ken fixed
869			
902			
934			
967			
SA 8 969		x	1631:11 END Line 2 END Day 8
			Pull gear head in 1635
NU-3 sheet 8		x x	AT The Dock · Port Jefferson town dock

1746 hrs

END Day 8

Day 9 28 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	28	0643	/					.		.		
				/					.		.		
									.		.		
									.		.		
		28	0729	33				26	618.9	43	955.5		
			0730	33					18.8		56.0		
			0739	33					615.1		960.6		
			0745	33		5.0			9.4		960.2		
			0750	"					604.8		960.2		
			0755						600.4		959.9		
			0800						596.0		959.8		
			0805			5.3		26	591.2	43	960.0		
			0810	33					586.5		960.0		
			0815			5.4			581.7		960.1		
			0819.5						577.3		960.0		
			0820						576.9		960.0		
			0825			5.5			572.1		960.1		
			0830						567.1		960.0		
			0835	33					62.0		60.0		
			0840						557.2		960.0		
			0845			5.6			552.0		959.8		
			0849						547.8		959.8		
			0850						547.8		959.7		
			0852	33					545.2		959.8		
				.					.		.		
			0859	34					545.0		964.9		
			0900	34		5.2			545.8		965.3		
			0905	34				26	550.0	43	965.4		
			0907	34		4.4			552.		965.2		
			0910	34		4.5			554.		965.1		
			0915	34				26	558.1	43	965.1		

Lines 33, 34, 35

NV-3 sheet #9 SA-8

Roll 6 mic

Day 9 28 May 85

PAGE 34

TAPE #	START	END	COMMENTS AND OBSERVATIONS
NV-3 sheet 9	x		0643 Leave the Dock Port Jeff
	x		0729 Put Gear in the water
Roll 6mm SA-8	x		
	x		
			0739 Begin Line 33
983			
			0750
1000			
1024			
1034			
			819.5 channel edge
1064			
1074			
1094			
1113			0849 channel edge
			0852 change course end of line 33
			Beginning of line 34
1132			0859 C/C continue Line 34
1142			
			0907 channel edge
1152			

DAY 9 — 28 MAY 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	NAVIGATION LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	28	0920	34				26	562.3	43	965.3		
			0925	34					566.1		965.0		
			0930	34					570.2		965.1		
			0931	34					571.4		965.0		
			0935	34		4.5			573.3		965.0		
			0940	34					578.2		965.1		
			0945			4.5			582.2		965.2		
			0950	34					586.3		965.3		
			953						588.7		965.2		
			0955	34		4.5		26	590.1	43	965.1		
			1000	34					594.0		965.0		
			1005						598.0		965.1		
			1010						601.7		965.0		
			1015	34		4.2			605.4		964.9		
			1020			4.0			609.0		965.0		
			1025						612.9		965.3		
			1030			4.2			616.4		965.1		
			1034			4.3			619.5		964.9		
			1035						620.1		964.9		
			1040	34		4.8		26	624.4	43	965.0		
			1045	34					628.8		965.1		
			1050	34					633.2		965.1		
			1051	34		5.0			634.5		965.		
									.		.		
			1055	35		5.0			638.1		967.2		
			1100	35		5.1		26	643.8	43	969.6		
			1105	35					647.9		971.2		
			1110	36		5.3			653.2		972.9		
			1115	36					653.0		969.5		
			1120	36					653.1		965.9		

NU-3
Sheet #9
54:8

Roll 6

DAY 9 28 MAY 85

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TAPE #	START	END	COMMENTS AND OBSERVATIONS
			0920 continue line 34
1181			
1191			
			0931 channel edge
1198			
1209			0940
1228			953 channel edge
1237			
1279			
1309			1034 Inc. speed
1319			
1328			
~~1340~~			
1340			1051 end line 34 c/c Begin Line 35
1346			
1372			1110 c/c end line 35 Begin Line 36

DAY 9 — 28 MAY 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	28	1125	36				26	652.9	43	962.3		
			1130	36					652.7		958.7		
			1131	36		4.5			652.7		957.9		
			1136	37		5.1			647.1		958.8		
			1140	37					647.1		959.0		
			1142	37		4.7			47.0		61.2		
			1145	37				26	646.8	43	963.0		
			1146	37					646.8		963.5		
			1150	37		5.7			648.5		967.3		
			1155	37		6.0			650.5		971.8		
			1200	37		5.9		26	651.5	43	975.9		
			1205			5.9			53.3		80.3		
			1210	38					655.0		984.8		
			1215	38		5.6			649.9		985.1		
			1220	38					644.3		985.1		
			1225	38		6.3			638.8		985.0		
			1227						635.6		985.0		
			1230	38		6.2			633.2		984.9		
			1231	38					631.8		984.9		
			1235	38					627.9		985.0		
			1240	38		6.0			622.7		985.3		
			1245	38				26	617.2	43	985.1		
			1250			6.1			611.8		984.9		
			1255	38					606.3		984.9		
			1259						601.9		984.9		
			1300	38					600.9		984.9		
			1305	38		6.3			595.5		985.0		
			1310						590.1		985.1		
			1315	38					584.6		984.8		
			1320	38					579.4		985.2		

NV-3 Roll 6
sheet 9
SAS

PAGE 36

TAPE #	START	END	COMMENTS AND OBSERVATIONS
			1125 scarp in "layered unit"
1410			1131 ¢/c continue Line 36
1417			1136 ¢/c END Line 36 Begin Line 37
			1140 scarp
			1142 Top of scarp
1435			1146 ¢/c continue Line 37
1441			
1449			
1457			
1475			1210 ¢/c END Line 37 Begin Line 38
1491			
1499			
			1227 channel edge?
			1231 scarp
1524			
1532			
1541			
1558			
1565			
1589			

DAY 9 — 28 May 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
85	05	28	1321	38		6.1		26	57.7.6	43	985.1		
			1325	38		6.1			573.7		985.0		
			1328	38		5.8			570.1		984.8		
			1330	38					568.6		983.9		
			1335	39		5.9		26	563.6	43	980.2		
			1338						566.2		980.2		
			1340	39		3.2			568.1		980.3		
			1341	39					69.7		980.3		
			1345	39		5.4			73.0		80.1		
			1350	39		5.6			77.8		79.9		
			1355	39		5.6		26	582.8	43	980.0		
			1357						84.5		980.1		
			1400	39		5.7			88.0		980.1		
			1401						589.0		980.1		
			1404						592.1		980.1		
			1405						593.0		980.2		
			1410						598.0		979.9		
			1415			5.8			603.2		979.8		
			1420	39					608.4		980.1		
			1425	39		5.9			613.6		980.4		
			1430	39					618.8		980.1		
			1435	39		6.1			624.2		980.3		
			1440			6.1			626.9		980.1		
			1444	39					633.7		980.0		
			1445						633.8		979.2		
			1449	40					631.6		975.3		
			1450	40					631.2		974.8		
			1453	40		3.5			628.8		975.0		
			1455	40		3.9			626.8		974.8		
			1500	40		5.1		26	622.1	43	974.8		

NV-3 Roll 6
Sheet 9
SA-8 → SA-9

DAY 9 28 MAY 85

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1593			
1598			
1603			C/C continue 38
1613			C/C END Line 38 Begin Line 39
1619			Small scarp?
			Channel edge
1629			
1637			
1645			
			End SA-8
			start SA-9
0048			
0064			
0083			
0102			
0120			
0155			1444 C/C continue 39
			1449 C/C End Line 39 Begin Line 40
0176			
0193			

DAY 9 28 MAY 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
85	05	28	1505	40		5.2		26 6 17.6	073 9 74.9		
			1510	40		5.3		612.9	974.8		
			1512					611.5	974.8		
			1515			5.2		608.3	974.8		
			1520			5.2		603.7	974.8		
			1525			5.1		599.3	974.9		
			1530			5.0		595.0	975.0		
			1533					592.5	974.9		
			1535			4.9		590.6	974.9		
			1540					586.3	975.0		
			1545			5.0		581.9	975.0		
			1549					578.3	975.		
			1550					577.6	975.2		
			1550	40				577.3	975.1		
			1555			5.1		573.1	975.1		
			1600			5.2		26 568.2	974.7		
			1605					563.9	975.0		
			1610					559.7	975.1		
			1615	40				555.2	974.9		
			1620	40				550.9	974.8		
			1625	40				546.5	974.9		
			1626				Gear in head in				
			1803				At the Dock Bridgeport				

END DAY 9

Day 10 29 may 85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
85	05	29	0722	1				26	704.6	440	41.7		
			1019	1				26	449.2	439	71.9		
									.		.		
85	05	29	1021	76				26	450.1	239	70.1		
			1025	76					449.6		71.2		
			1030	76		4.6			447.9		73.9		
			1035	76					46.4		76.5		
			1040	76					45.1		79.1		
			1043	76					44.5		80.3		
			1050	76		5.0			43.3		82.7		
			1055	76					42.3		85.6		
			1100	76		5.3			40.7		88.2		
			1103	76		C/C			39.9		89.8		
			1108	76					38.1		89.9		
			1110	76					33.4		90.2		
			1115	76		5.3			28.3		89.8		
			1120	76					23.8		90.0		
			1125	76					18.7		89.9		
			1130	76		5.5			13.8		90.0		
			1135	76		C/C		26	410.1	439	89.9		
			1135	76					08.9		89.7		
			1140	76					403.3		87.5		
			1145	76					397.7		85.2		
			1150	76					392.1		82.8		
			1155	76					386.5		80.6		
			1200	76					80.7		78.2		
			1205	76					74.7		75.6		
			1210	76					68.7		73.4		
			1215	76					62.5		71.2		
			1217	76					60.0		70.3		

1300 End Cruise Log (successful trip!)

line 7b

NV-4 sheet 10 SA 9 Roll 7

Day 10 29 may 85 Last Day

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TAPE #	START	END	COMMENTS AND OBSERVATIONS
NV-4 sheet 10	x		0722 Leave the Dock Bridgeport Hitchcock Gas Eng Co.
			1019 Gear in windy Gray and ugly
Roll 7 SA-9 475			Begin line 7b
491			
			Snagged pot data gap
550			
578			
			c/c continue line 7b
616			
655			
			c/c continue line 7b
692			
729			
764			
SA-9 Roll 7 770		x	121704 End Line 7b End Data Collection for Craise

At 1300 29 may End Navigation and pack up so Dick can drop me in New London at 1454 hrs and go to Block Island

End log pg 39.