#82034nav

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

SHIP R/V GYRE

CRUISE NO. 82-G-11

DATE SEPT 18, 1982 → SEPT 28, 1982

CHIEF SCIENTIST F. MANHEIM

101505

GMT DAY	MO	YR	+4 TIME	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ±	MINUTES	LONGITUDE ± DEGREES ±	MINUTES	TYPE	QUAL.
18	09	82	1411	—				34	43.0	77	12.8		
JD		262	1411						.		.		
			1415						.		.		
			1415						.		.		
			1620						.		.		
			1930						.		.		
			2328					33	20.1	77	16.7		
19	09	82	0002					33	19.6	77	17.6		
JD		262	0057					33	19.7	77	17.6		
							1100	33	19.9	77	17.9		
			0222	1				33	20.1	77	17.3		
							0244	33	18.9	77	17.4		
			0300					33	18.0	77	17.5		
			0334						.		.		
			0321						.		.		
							0340	33	15.1	77	18.4		
			0400		115	10.2		33	12.[illegible]	77	19.2		
							0601	32	50.[illegible]	77	26.9		
			0700		1 5	7.6		32	45.		.		
			0758						.		.		
							0805	32	38.5	77	32.1		
			0826						.		.		
							0836	32	35.7	77	34.0		
			1033					32	22.8	77	38.8		
			1115						.		.		
			1140						.		.		
			1200		201	7.0		32	[illegible]	77	[illegible]		
			1300		205	3.9		3[illegible]	15.6	77	41.[illegible]		
			1313					3[illegible]	14.8	77	41.[illegible]		
			1337					3[illegible]	16.0	77	41.[illegible]		

CORAN - 7980 - Y & Z SLAVES GRAV - DIAS: 854, 735.9

TAPE #	START	END	COMMENTS AND OBSERVATIONS PAGE 1
—			L.V. MOREHEAD CITY, DOCK (1015 local)
1	✓		FIRST DATA ON TAPE. - RESTART NAV. PROGRAM.
			FIRST CRASH - ON SAT. PRINTOUT
			NVSS - FIRST NEW DATA ON TAPE.
			SWITCH 9960 XY until Pass Z baseline
			SWITCH 7980 YZ
			ON STA #1 CORE FRYING PAN SHOALS
			ON BOTTOM
			ON BOTTOM CORE #1A
			Sat # 190 / 577 / -1751 / 1826 3.3 RMS 42° MSGCHG
			S.O.L. #1
			Sat # 200 -837 / -515 / 983 2.9 RMS 67° MSG CHG
			hourly/c
			pulling up gear
			gear back in - Cruising at top speed
			Sat # 140 -1100 / -571 / 1240 13.4 RMS 28° MSGCHG
			HOURLY CHECK. - IN TRANSIT
			SAT # 480 MISS -710 / -121 / 720 RMS = 3.9 51° NO UPDATE - SEE 0758Z
			HOURLY CHECK
			CHANGE CORA/B GRAPHICALLY FROM 0618Z SAT - CORA = 1.49 CORB = 0.84
			SAT 480 -20 / 351 / 352 5.RMS 23° MSGCHG UPDT
			COUP CORA 1.58 CORB .561
			SAT 130 -357 / 391 / 530 7.2 RMS 47° MSGCHG (HL/RL Down during part of pass)
			ARR LOC 2 - Deploying Datasonics fish
			Continuing line 1
			Adj speed thru water for last date
			hourly/c
			hourly/c
			Stop - deploying dredge LOC #2A
			dredge in

GMT DAY	MO	YR	TIME	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ±	MINUTES	LONGITUDE ± DEGREES ±	MINUTES	TYPE	QUAL.
19	09	82	1351	1				32	16.6	77	41.5		
JD	262						1348	32	16.9	77	41.4		
			1400					32	16.9	77	41.4		
			1440						.		.		
			1500					32	19.0	77	40.4		
			1509					32	19.4	77	40.2		
							1534	32	19.1	77	41.0		
			1600					32	18.2	77	42.0		
			1607					32	18.0	[illegible]	[illegible]		
			1637					32	19.3	77	41.[illegible]		
			1653						.		.		
			1700		[illegible]	[illegible]		[illegible]	20.2	77	40.1		
			1716						.		.		
			1732						.		.		
			1747						.		.		
			1753						.		.		
			1800		[illegible]	[illegible]		[illegible]	19.3	[illegible]	[illegible]		
			1803						.		.		
			1830				1748	32	20.5	77	41.[illegible]		
			1807						.		.		
			1830						.		.		
			1855						.		.		
			1900		[illegible]	[illegible]		32	13.[illegible]	77	[illegible]		
			1903						.		.		
			1943				1934	32	11.1	77	49.0		
			1951						.		.		
			1954						.		.		
			2000		1945.[illegible]			32	09.7	77	44.5		
			2030						.		.		
							2030		.		.		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 2
1			dredge on bottom	
			SAT # 140 -62/496/500 7.3 RMS 33°	
			hourly/c	
			dredge on board	
			hourly/c	
			in transit back to STA #2A	
			SAT # 140 -455/408/611 2.8 RMS 34° MSG CHG	
			hourly/c	
			ARRIVE AT SITE 2A.	
			CORER HITS BOTTOM - RANGE TO [illegible] IS 1.4 mi. BEARING 204°	
			CORER BACK ON BOARD.	
			HOURLY CHECK.	
			INC. SPEED TO 2 KB TO GET BACK TO THE LINE.	
			TURNING ONTO LINE (TURNED LOCATION 3) INC. SPEED TO 6 KB	
			INC. SPEED TO FULL SPEED.	
			SLOW TO 2 K. TO PULL IN ACOUSTICS	
			HOURLY CHECK.	
			FULL SPEED TO LOCATION 3.	
			SAT # 480 MISS -1337/647/1485 RMS = 13.9 40° NO UPDATE MANY C/S & C/C	
			CHANGE CORR TO 1.339 ; CORR T. 0.675	
			[illegible]	
			SLOW TO DEPLOY [illegible]	
			HOURLY CHECK.	
			HOLD 6 KB (THROUGH THE WATER)	
			SAT # 480 MISS -234/247/241 RMS = 1.7 40° UPDT 19587	
			[illegible]	
			FULL SPEED AGAIN	
			HOURLY CHECK.	
			SLOW 2 kts deploy data sonic fish then cont. @ 6 kts	
			SAT 130 FIX NG S/C	

GMT DAY	MO	YR	TIME +4	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ±	MINUTES	LONGITUDE ± DEGREES ±	MINUTES	TYPE	QUAL.
19	09	82	2100	1	195	3.0		32	05.6	77	45.8		
JD	262		2157						.		.		
			2300						.		.		
			2320					32	07.7	77	45.2		
			2344						.		.		
			2356						.		.		
20	09	82	0000					32	10.5	77	44.8		
JD	263		0130					32	15.6	77	45.2		
			0200					32	17.6	77	45.6		
			0300					32	21.8	77	45.5		
							0328	32	23.7	77	45.5		
			0400		009	4.3		32	[illegible]	77	[illegible]		
			0418						.		.		
			0428		009	4.0			.		.		
			0500		010	4.1		32	30.3	77	44.5		
			0532						.		.		
			0600		355	4.2		32	34.0	[illegible]	43.9		
			0610						.		.		
			0611				0556	32	[illegible].9	77	43.9		
			0649						.		.		
			0700		184	5.8		32	31.5	77	43.[illegible]		
			0756				0744	32	26.6	77	44.0		
			0800						.		.		
			1057						.		.		
							1128	32	06.3	77	45.1		
			1140						.		.		
			1300					32	09.9	77	47.[illegible]		
			1315						.		.		
							1314	32	[illegible]0.3	77	47.4		
			1405						.		.		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 3
1			HOURLY CHECK	
			SLOW 2KNTS bring in FISH / Determining site for Angus Drop	
			EVPR → 5 MIN HFLT 90 → 60	
			Angus in water	Roll #191 mislabeled
			HFLT 60 → 90 to money	should be
			inc speed to 2 knts (water) for better steerage	dated the 20th
			hourly/c	not the 19th.
			Stop - Angus in canyon	
			hourly/c	
			hourly/c Adj GYAC 1.5 → 3.7 for SHIP'S Omega/SAT	
			SAT #200 -274/642/698 5.5 RMS 56° MSG CHG	
			HOURLY CHECK	
			ASKED BRIDGE TO COME LEFT 5° - HE SAYS THEY'VE TRIED BUT ANGUS HOLDING US BACK.	
			THE MORE THE BRIDGE CORRECTS LEFT - THE MORE WE GO RIGHT - WILL HOLD HDG - 340°	
			HOURLY CHECK.	
			HAULING IN ANGUS	
			HOURLY CHECK	
			C/C TO 182° HEAD FOR STATION 3C AT 6 KTS (32° 05'N; 77° 45'W)	
			SAT #480 MISS 76/74/107 RMS = 2.2 35° UPDATE	
			PROGRAM DROPS CORAN FOR	
			HOURLY CHECK.	
			SAT #480 MISS -193/189/270 MSG CHG RMS = 2.6 32° UPDATE	
			NEW CORA 1.098 CORB .789	
			GYAC 3.7 → 1.9 Adj to Ship's Gyro	
			SAT 190 -102/158/189 7.7 RMS 35° NO UPDT	
			ALL STOPPED checking data for coring sites	
			hourly/c	
			Moving slowly to new coring site STA #3	
			SAT # 190 43/-121/129 8.2 RMS 26° MSG CHG	
			Arrive at STA #3 holding position	

GMT DAY	MO	YR	TIME	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ±	MINUTES	LONGITUDE ± DEGREES ±	MINUTES	TYPE	QUAL.
30	09	82	1400					32	11.1	77	45.2		
JD	263		1430					32	11.2	77	45.4		
			1450					32	12.6	77	45.8		
			1455					32	12.3	77	45.9		
			1500					32	13.1	77	45.9		
			1526					32	10.5	77	44.7		
			1548					32	11.4	77	45.2		
			1600		356	3.2		32	11.9	77	45.5		
			1606										
			1632					32	10.6	77	[illegible]		
			1639					32	10.9	77	[illegible]		
			1650						11.5	77	45.0		
			1700		333	3.2			11.9	77	45.2		
			1705										
			1718										
			1741					32	10.5	77	45.1		
			1755										
			1800		334	3.2		32	10.9	77	45.2		
			1802					32	11.0	77	45.3		
			1811										
			1815										
			1856										
			1900		317	1.2		32	09.1	77	42.[illegible]		
			1930										
			1945										
			1956					33	11.9	77	43.9		
			2030										
			2110					32	15.6	77	46.2		
			2123		START TRANSIT to STA 4								
							2128	32	13.9	77	45.9		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 4
1			hourly/c	
			Coring on bottom	
			Coring unsuccessful - bringing fish and coring aboard maintaining position	
			core on board - steaming back online - try again	
			hourly/c	
			purposely 1/2 M away from line - maintaining position - fish & coring again	
			coring unsuccessful - bringing back on board	
			HOURLY CHECK.	
			MOVING BACK TO CORING SITE	
			½ MILE BELOW SITE - [illegible]	
			ARR (AGAIN) AT STATION 3 WILL [illegible] TILL CORER GOES OVER.	
			CORER OVER THE SIDE.	
			CORER HITS BOTTOM - HAUL[illegible]	
			CORER [illegible]	
			CORER ABOARD [illegible]	
			HEAD BACK TO STATION [illegible] AGAIN	
			BACK AT STA. 3 - (½ UP STREAM)	
			CORER STARTS DOWN	
			HOURLY CHECK	
			CORER HITS BOTTOM - [illegible]	
			CORER ABOARD - [illegible]	
			HEAD BACK TO STATION - WILL LOWER ACOUSTIC APPR - NEED ½ HR TO GET READY.	
			DEC SPEED - ALLOW SHIP TO DRIFT - WILL LOWER ACOUSTIC APPARATUS.	
			LOWER ACOUSTICS OVER SIDE.	
			TIME APPROX - BRINGING IN ACOUSTIC PACKAGE TO ADD WEIGHT.	
			HAVE DECIDED TO TRY A CORE AGAIN - ACOUSTICS WILL NOT RE-DEPLOY.	
			CORER HITS BOTTOM - RNG 1.3 mi BRG 227° - FRANK SAYS "THAT'S OK"	
			testing Datasonics bottom pinger/profiler	
			deep tow on board - steaming back to STA #3	
			C-156 RNG 56 miles to Sta 4	
			SAT 130 304/70/312 5.7 RNG 16° No UPDT	

GMT DAY	MO	YR	TIME (+4)	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	± MINUTES	LONGITUDE ± DEGREES	± MINUTES	TYPE	QUAL.
20	09	82	2300					32	05.0	77	41.0		
ID	263						2322	32	02.7	77	39.8		
21	09	82	0000					31	58.6	77	37.4		
ID	264		0100					31	51.6	77	33.4		
							0108	31	51.0	77	33.0		
			0200					31	44.3	77	29.3		
							0156	31	44.8	77	29.8		
							0216	31	42.4	77	28.6		
			0300					31	36.3	77	26.3		
							0342	31	30.[illegible]	77	[illegible]		
			0400					31	28.1	77	[illegible]		
			41[illegible]										
			44[illegible]										
			4[illegible]										
			[illegible]		002	50		31	22.1	77	[illegible]		
			0528										
			0600		297	8.0		31	25.1	77	23.1		
			0637					31	27.0	77	28.[illegible]		
			0645										
			0650										
			0[illegible]00		082	[illegible]		[illegible]	[illegible]	77	27.0		
			0705										
			0711										
			0719					31	27.[illegible]	77	[illegible]5.7		
			0732				0722	31	27.[illegible]	[illegible]	[illegible]		
			0736										
			0805					31	28.[illegible]	77	22.[illegible]		
			0829										
			0836										
							0844	31	28.[illegible]	77	20.3		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 5
1			Transit to Sta 4	
			SAT 190 -46/70/84 4.3 RMS 38° No UPDT	
			hourly/c	
			hourly/c	
			SAT # 190 53/297/302 4.4 RMS 32° MSG CHG	
			hourly/c	
			SAT # 140 -78/-21/81 2.9 RMS 47° MSG CHG	
			SAT # 200 -185/151/239 4.5 RMS 41° MSG CHG	
			hourly/c	
			SAT # 140 71/100/123 4.6 [illegible]	
			hourly/c	
			[illegible]	
			[illegible]	
			HOURLY CHECK [illegible] NEVER WORK.	
			[illegible]	
			HOURLY CHECK.	
			ARR. AT WESTERN END OF LINE.	
			FISH IN WATER - PREPARE CAMERA FOR DEPLOYMENT	
			CAMERA ON THE WAY DOWN.	
			HOURLY CHECK.	
			HEAVY RAIN - LIGHTNING	
			RAIN TAPERS OFF	
			ANGUS ON BOTTOM. 7.5 [illegible]	
			SAT # 450 MSG -90/155/206 RMS 4.0 45° MSG CHG [illegible] TIME CONFUSED.	
			LIGHTNING AFFECTING LORAN - ALL [illegible] PRIM TO 4.	
			LORAN BACK ON	
			LORAN DOWN	
			LORAN ON	
			SAT 130 -250/281/376 5.8 RMS 34° No UPDT	

GMT DAY	MO	YR	TIME	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ±	MINUTES	LONGITUDE ± DEGREES ±	MINUTES	TYPE	QUAL.
21	09	82	0900					31	28.2	77	19.5		
SD	264		0905						.		.		
			0907						.		.		
			0945						.		.		
			1000					31	29.7	77	16.6		
			1009						.		.		
			1011						.		.		
			1100					31	33.3	77	20.6		
			1200					31	36.6	77	24.1		
			1300					31	[illegible].3	77	26.9		
			1400					31	42.8	77	29.1		
							1352	31	42.1	77	29.0		
							1414	31	42.8	77	29.5		
			1423					31	42.3	77	30.1		
			1448					31	42.2	77	30.2		
			1501					31	42.6	77	29.3		
			1530					31	43.4	77	28.0		
							1536	31	42.9	77	27.2		
			[illegible]		[illegible]			31	39.6	[illegible]	.		
			[illegible]					31	38.5	[illegible]	.		
			1637					31	38.9	77	25.0		
			1643					31	39.0		25.		
			1652					31	39.3		25.2		
			1700					31	[illegible]9.5	[illegible]	24.9		
			1710						.		.		
			1713						.		.		
			1714				1703	31	[illegible]9.5	77	[illegible]		
			[illegible]					31	40.7		[illegible]		
			1730					31	40.5	[illegible]	23.7		
									.		22.7		

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1			Bringing Angus up END of CAMERA RUN STA 5
1.		✓	EOF Tape 1 0905
2	✓		Stat tape 2 0907
			Angus ON BOARD
			SOL SEISMIC LINE to STA 6
			LORAN DOWN } soft wave fail
			LORAN UP
			hourly/c
			hourly/c
			hourly/c
			SAT# 140 0/205/205 6.9 RMS 40° MSG CHG
			SAT # 190 1816/674/1937 6.5 RMS 05°
			creeping 1 mile off point - moving equipment 30-40 MIN preparing to dredge
			decided to dredge here - believe it or not
			dredge on bottom
			dredge on board - steaming to STA # 7 going pass 1/2 SW
			SAT# 140 535/791/955 19.0 RMS 27°
			HOURLY CHECK.
			ARR. 1/2 SW OF STA 7 DREDGE [illegible] 1627
			DREDGE ON THE BOTTOM.
			[illegible]
			DREDGE OFF THE BOTTOM.
			HOURLY CHECK.
			DREDGE UP - NOTHING - DROP IT AGAIN.
			SOFTWARE DROPS LORAN [illegible]
			SAT# 480 MISS -207/362/416 RMS=5.0 14° NO UPDATE.
			DREDGE ON THE BOTTOM AGAIN.
			START HAULING IN. [illegible]
			[illegible] DREDGE

GMT DAY	MO	YR	TIME	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	± MINUTES	LONGITUDE ± DEGREES	± MINUTES	TYPE	QUAL.
21	09	82							.		.		
JD	264								.		.		
			1800						.		.		
			1801						.		.		
			1815						.		.		
			1924					31	42.6	77	21.7		
			1900		192	6.8		31	38.6	77	21.7		
			1944					31	33.1	77	22.1		
			1950						.		.		
			2008					31	33.5	77	22.2		
			2032					31	33.9	77	21.6		
			2045					31	34.1	77	21.4		
							2036		.		.		
			2100		05	1.9		31	34.3	77	20.9		
			2107						.		.		
			2200					31	32.3	77	27.1		
							2236	31	30.2	77	31.6		
			2300					31	[illegible]	77	34.9		
			2324						.		.		
			2345						.		.		
220	98	2	0000					31	26.5	77	40.5		
JD	26	5	0030					31	26.0	77	43.3		
			0100					31	26.9	77	42.9		
			0200					31	28.0	77	42.9		
			0300					31	28.9	77	43.1		
			0320					31	29.1	77	43.1		
			0320					31	29.1	77	43.1		
			0400					31	28.6	77	42.4		
			0405						.		.		
			0415						.		.		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 7
2			WIND PICKING UP - HARD [illegible]	
			DREDGE OFF THE [illegible]	
			HOURLY CHECK.	
			DREDGE OUT	
			STORM ABATING - SEA STILL A BIT HIGH.	
			HEAD TO PT. 1/2 MI SW OF NEXT STATION.	
			HOURLY CHECK.	
			ARR. AT SITE SW OF DREDGING STATION.	
			DREDGE OVER THE STERN	
			ON BOTTOM STA 8	
			Dredge start hauling in	
			Off BOTTOM	
			SAT 130 NG Dropouts throughout pass	
			HOURLY CHECK. transit to STA 9	
			HEAD FOR NEXT STATION. "	
			"	
			SAT 190 365/-45/368 4.8 RMS 16° (Tint) NO UPDT	
			transit STA	
			LORAN Problems up & down weather / SNR	
			Still having Loran Problem w/ weath	
			hourly/c	
			Angus and acoustics in	
			hourly/c	
			hourly/c	
			hourly/c	
			Angus coming up - still doing acoustics	
			going off course - to decrease rolling	
			hourly/c	
			ASK DREDGE TO INC SPEED TO 6 KT (THRU WATER) AND HEAD TO THE LINE.	
			ALL LORAN OUT - SWITCH PRIOR TO SPEED LOG 4	

GMT DAY	GMT MO	GMT YR	GMT TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
22	09	82	0418						.		.		
JD	265		0422						.		.		
			0427						.		.		
			0500		356	6.0		31	32.3	77	43.8		
			[illegible]		[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]		
			[illegible]		[illegible]	[illegible]			[illegible]	[illegible]	[illegible]		
			0800					31	45.3	77	45.8		
			0825					31	46.7	77	46.0		
			1050					31	36.8	77	44.3		
			1100					31	36.9	77	44.1		
							1136	31	37.5	77	43.5		
			1200					31	37.7	77	43.1		
			1300					31	40.[illegible]	77	40.7		
			1400					31		77			
			1430					31	44.4	77	38.1		
			1500					31	45.7	77	37.5		
			1515					31	46.2	77	37.4		
			1600					31	46.5	77	41.6		
			1650						.		.		
			1700					31	41.4	[illegible]	.		
			1705						.		.		
			1718						.		.		
			1749					31	46.2	[illegible]	[illegible]		
			1500					31	46.3		.		
			1800						.		.		
BACK			1756						.		.		
			1813						.		.		
			1815						.		.		
			1820						.		.		
			1850						.		.		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 8
2.			TRY PRIM = 5 (PRIM = 5)	
			LORAN BACK PRIM = 3	
			GRIM BACK TO	
			HOURLY CHECK.	
			[illegible]	
			HOURLY CHECK [illegible]	
			EOL STA 9 to STA 10	
			Angus in water	
			SAT 190 77/144/163 1.8 RMS 47° (7 int) NO UPDT	
			hourly/c - going off line to fight current HDG 330°	
			established new hourly/c	
			[illegible]	
			Angus coming up	
			hourly/c	
			Angus and fish on board - steaming to next LOC	
			hourly/c	
			ARR. AT POINT UPSTREAM OF DREDGING START, - DRIFT WHILE LOWERING.	
			HOURLY CHECK. - DRIFTING.	
			ALREADY PASSED STARTING POINT - PULL UP DREDGE PREPARE	
			HEAD BACK TO DROP POINT.	
			ARR AT DREDGE DROP POINT (1 mi. AWAY THIS TIME	
			HOURLY CHECK.	
			C/C TO 203° - START MOVING ALONG [illegible]	
			FST TIME WHEN DREDGE HIT BOTTOM	
			LORAN OUT - SNR's DROP - SWITCH PRIM TO Y AT 1814	
			LORAN BACK - PRIM = 3 - C/C TO 070° - GO WITH CURRENT.	
			DREDGE BACK. ON BOTTOM.	
			NOTHING - DREDGE UP.	

GMT DAY	MO	YR	TIME +4	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ±	MINUTES	LONGITUDE ± DEGREES ±	MINUTES	TYPE	QUAL.
22	09	82	1900		180	4.3		31	47.3	77	40.9		
JD		265	1949						.		.		
			1953						.		.		
			2000					31	43.2	77	42.7		
			2005						.		.		
			2022					31	43.4	77	41.7		
			2032					31	43.5	77	41.1		
							2016	31	43.3	77	42.2		
			2052						.		.		
			2100					31	43.7	77	39.4		
			2136						.		.		
			2145					31	42.8	77	41.5		
			2220						.		.		
							2336	31	49.5	77	45.6		
23	09	82	0000					31	51.3	77	47.4		
JD	26	6	0036					31	53.1	77	49.6		
			0044						.		.		
			0100					31	54.1	77	46.5		
							0116	31	54.8	77	45.9		
							0142	31	54.6	77	43.8		
			0200					31	54.7	77	42.5		
			0216						.		.		
			[illegible]						.		.		
			0300					31	55.2	77	38.2		
							0328	31	55.5	77	36.0		
			[illegible]				0346	31	[illegible]	77	35.[illegible]		
			[illegible]		070	[illegible]		31	[illegible]	77	[illegible]		
			[illegible]		069	[illegible]		31	[illegible]	[illegible]	[illegible]		
			0524						.		.		
			0600		052	[illegible]		31	59.3	77	26.		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 9
2			HOURLY CHECK.	
			LORAN OUT - SWITCH PRIM TO Y (REAL DROP-OUT)	
			LORAN BACK - PRIM #3	
			ON STA 12 DREDGE	
			DREDGE IN WATER current 3.2 knots @ 65°	
			ON BOTTOM current 3.5 kn @ 70°	
			hauling in current 3. knots @ 14°	
			SAT 480 -147/-374/402 7.9 Rms 15° NO UPDT	
			WEAK LINK ON BOARD / DREDGE LOST	
			hourly/c	
			CORE OVER / going DOWN STA 12	
			ON BOTTOM CORE #7	
			transit Angus tow #5	
			SAT 190 71/-39/81 3.8 Rms 49° (6 INT) MSG CHG NO UPDT	
			hourly/c	
			Angus in water	
			CAMERA [illegible] - DRIDER [illegible] and acoustics	
			hourly/c	
			SAT # 190 305/107/323 5.4 RMS 25° NO UPDT	
			SAT 200 -41/219/223 4.0 RMS 25° NO UPDT	
			hourly/c	
			CPU DOWN SAT FIX	
			CPU UP	
			hourly/c	
			SAT # 200 65/242/251 2.5 RMS 39° MSG CHG	
			SAT # 140 -161/52/170 Rms=3 [illegible]° MSG CHG	
			HOURLY CHECK.	
			HOURLY CHECK.	
			ANGUS SEEMS TO BE [illegible] UP.	
			HOURLY CHECK.	

GMT					SHIPS		NAVIGATION						
DAY	MO	YR	TIME	LINE #	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
23	09	82	060[illegible]						.		.		
JD	2	66	06[illegible]						.		.		
			070[illegible]		[illegible]	[illegible]		31	57.[illegible]	77	30.7		
			0845					31	55.3	77	37.8		
			0902					31	55.5	77	36.4		
							0850	31	55.3	77	37.4		
			0903						.		.		
			0910						.		.		
			0933						.		.		
			1030					31	55.3	77	37.5		
			1042					31	55.5	77	36.7		
							1046	31	55.6	77	36.5		
			1109						.		.		
			1200					31	53.1	77	39.8		
			1303					31	50.8	77	45.9		
			1400					31	48.4	77	5[illegible]		
							1350	31	48.9	77	50.		
			1500					31	44.4	77	58.		
							1512	31	43.7	78	00.0		
							1536	31	42.2	78	02.6		
			1600		236	7.3		31	[illegible].1	78	05.[illegible]		
			[illegible]		[illegible]	[illegible]			.	78	1[illegible].		
			1800			[illegible]			.	[illegible]	[illegible].0		
			1817				1804		31.[illegible]	[illegible]	[illegible]		
			1838						.		.		
			1900		28				.	78	.		
			1912				858	31	.	78	.		
			1914						.		.		
			1926						.		.		
									.		.		

SAT's
NG
Kong
Anth
HT

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 10
2			HEAD FOR 1 MILE UPSTREAM OF NEXT CORE STATION 77° 38.2 W	
			PROGRAM DROPS LORAN TILL 0630.	
			HOURLY CHECK.	
			CORE OVER/going down STA 14	
			ON BOTTOM CORE #8	
			SAT 130 -106/24/109 6.1 RMS 26 MSGCHG NO UPDT	
			Computer Stopped ??	
			Restarted @ PC 2 no reload.	
			Returning to STA 14	
			STA #14 CORE 9 IN WATER / going Down	
			ON BOTTOM	
			SAT 190 -90/325/337 4.4 RMS 18° MSGCHG NO UPDT	
			Transit to STA 15 55 miles @ 286°	
			hourly/c	
			hourly/c system down 1241 - up at 1303	
			hourly/c	
			SAT #140 104/708/716 2.2 RMS 47° MSG CHG	
			hourly/c	
			SAT #200 169/-529/555 5.7 RMS 49° MSG	
			SAT #140 140/-330/359 2.6 RMS 22°	
			hourly/c	
			HOURLY CHECK	
			HOURLY CHECK.	
			SAT #480 MISS 42/714/715 RMS 2.2 52° DOESN'T AGREE WITH OTHER SATS. NO UPDATE	
			HIUP.	
			HOURLY CHECK.	
			SAT #130 MISS 365/327/490 RMS 5.1 34° [illegible] FOR [illegible] SATS.	
			ARR. AT STA 15 - C/C 250° SLOW TO 4 [illegible] TILL DREDGE READY.	
			DREDGE ABOUT READY - ASK BRIDGE TO STOP LET IT DRIFT.	
			DREDGE HITS BOTTOM. STA 15	

GMT DAY	MO	YR	TIME +4	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	± MINUTES	LONGITUDE ± DEGREES	± MINUTES	TYPE	QUAL.
23			950						.		.		
51			2000		119	19		31	24.[illegible]	78	30.4		
			2002						.		.		
			2013					31	24.3	78	30.[illegible]		
SAT'S							~~1954~~	31	24.5	78	30.6		
			2035						.		.		
							~~2044~~	31	23.0	78	29.7		
			2100		163	9.2		31	[illegible]	78	28.8		
									.		.		
			2220						.		.		
									.		.		
							224	31	06.[illegible]	78	25.2		
			2315						.		.		
			2329					31	01.39	78	23.19		
			2337						.		.		
			2340						.		.		
24			[illegible]					31	01.[illegible]	[illegible]	.		
[illegible]		267	0039						.		.		
			0052						.		.		
			0102						.		.		
			0119						.		.		
			0153						.		.		
			0222	06					.		.		
			0237						.		.		
			0317						.		.		
			0329					31	01.0	78	23.6		
			0351					31	00.8	78	23.4		
			0355					31	00.8	78	23.3		
			0400					31	00.8	78	23.3		
			0415					31	00.6	[illegible]	.1		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 11

ASK BRIDGE TO COME AROUND TO 090° AND INC. SPEED TO 1-2 KTS.

HOURLY CHECK.

A SLAVE ON BLOCK — RHO-RHO MON.

Dredge off bottom STA 15

SAT 480 -56/-266/272 4.8 RMS 23° MSG CHG NO UPDT

transit site block party

SAT 130 54/-355/340 2.6 RMS 3° MSG CHG NO UPDT

HOURLY CHECK.

ANTH HT 155 → -12.0 SAT's Nly 9/23 → 1325 to 2218 Z

SAT 103/127/164 2.9 RMS 20° MSG CHG NO UPDT

ONSITE — DRIFTING to est currents in AREA Patio Block

10 Patio Blocks OVER # 1 thru 10

Current .5 @ 338

.7 @ 312

block run #1 Time of run 003856 to - 004856 @ 20 sec — blocks 12 → 42

steaming to block run #2 - fish coming up

SLOW - COME RIGHT TO 145° GET SET FOR LINE #2

block run #2 Time of run 011930 - 012930 — Block 43 - 73

block run #3 Time of run 015330 - 020330 — Block 74 - 119

start of dry run

SHUT DOWN BRAINES & DE-CLUTCH.

In transit to Angus a

Angus in water

Angus taking picture

increasing speed by 1/2 knot

hourly 1c

stop and declutch

GMT DAY	MO	YR	TIME	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
24	09	82	0500		312	0.0		31 00.9	78 [illegible].1		
JD		267	[illegible]								
			[illegible]								
			[illegible]								
			[illegible]								
			[illegible]								
			[illegible]								
			[illegible]								
			[illegible]								
			0944								
			1012								
			1102								
			1117								
			1216								
			1248								
			1315								
			1400								
			1433								
			1503								
			1540								
			1607								
			[illegible]								
			1801								
			1829								
			1849								
			[illegible]								
			1917								
			1955								
			2016								
			[illegible]								
			2105								

TAPE #	START	END	COMMENTS AND OBSERVATIONS
2			HOURLY CHECK.
			END OF LINE - DE-CLUTCH & FLOAT.
2	✓		0555 EOF WRITTEN
3	✓		0555
			START ENGINES C/C TO 090° - S TURN
			STOP ENGINES.
			START ENGINES - FOLLOW 102° BRG.
			STOP ENGINES - DECLUTCH.
			START ENGINES - START 100°
			STOP ENGINES.
			START ENGINES - START 095°
			STOP ENGINES.
			start engines steer 095
			STOP ENGINES
			start engines steer 095
			Stop engines
			Start engines steer 080
			Stop engines
			START ENGINES
			STOP ENGINES
			START UP ENGINES.
			STOP ENGINES
			START UP AGAIN.
			STOP ENGINES.
			START EN UP.
			STOP ENGINES.
			START ENGINES.
			STOP ENGINES
			START ENGINES
			STOP ENGINES

GMT DAY	MO	YR	TIME +4	LINE #	SHIPS COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	± MINUTES	LONGITUDE ± DEGREES	± MINUTES	TYPE	QUAL.
24	09	82	2102					31	00.7	78	22.9		
JD	267		2230					31	01.1	78	22.7		
			2245					31	01.3	78	23.2		
			2300					31	01.3	78	23.4		
			2341					31	01.0	78	22.6		
			2352					31	00.99	78	22.80		
25	09	82	0000					31	01.0	78	22.9		
JD	268		0017						.		.		
			0029					31	01.02	78	23.41		
			0042					31	01.03	78	23.63		
			0100					31	01.11	78	23.78		
			0136					30	59.50	78	20.28		
			0200					30	59.58	78	20.66		
			0218					30	59.82	78	21.27		
			0301					30	59.78	78	22.13		
			0317					30	59.75	78	22.47		
			0328					31	00.91	78	22.97		
			0330					31	00.90	78	23.03		
			0335					31	01.06	78	23.00		
			0348					31	01.04	78	23.01		
			0400		267	0.8		31	01.03	78	23.23		
			0407					31	00.03	78	23.34		
			0407						.		.		
			0434						.		.		
			0454					31	01.1	78	23.2		
			0500		295	0.9		31	01.1	78	23.3		
			0519					31	01.1	78	23.6		
			0600						.		.		
			0605				0552	31	01.0	78	24.0		
			0606						.		.		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE ____
3			Out of [illegible] - [illegible] - [illegible]	
			Dredge in water Patio Block Area center [illegible]	
			on bottom	
			off bottom	
			Dredge #2 Patio Block [illegible] water	
			on bottom	
			[illegible]	
			[illegible] cover up	
			off bottom	
			on [illegible]	
			[illegible]	
			terrain coming up	
			stopped - [illegible]	
			dredge on bottom	
			dredge off bottom 30 59.80, 78 21.73	
			dredge on board	
			steaming to coring position	
			Loran down	
			Loran up	
			at core station - drifting - welding is being done	
			arrive at coring position - drifting to core	
			Hourly check	
			Corer hits [illegible]	
			EVPR tries as time mark [illegible] - TTY [illegible] up - Restart [illegible]	
			again - [illegible] CTD.	
			PUT CTD OVER THE SIDE. - ALL ENGINES STOPPED.	
			Hourly check - [illegible] with current.	
			CTD stops [illegible] bottom.	
			SAI #480 Miss 34/24/42 RMS = 5.3 [illegible] UPDATE.	
			START [illegible] in CTD	

GMT					SHIPS		NAVIGATION						
DAY	MO	YR	TIME	LINE #	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
	[illegible]	[illegible]	0622						.		.		
		[illegible]	[illegible]						.		.		
			0645					31	01.0	78	23.		
			0700		284	0.9		31	00.9	78	23.		
			[illegible]						.		.		
			0726				[illegible]	31	00.9	78	23.7		
									.		.		
			9						01.		.		
			0758				0740	31	01.0	78	23.3		
			0759						.		.		
			0800		264	0.9		3	.	78	23.1		
							0858	31	00.9	78	23.2		
			0900					31	01.0	78	23.3		
							1054	31	01.0	78	23.6		
			1216					31	01.1	78	22.9		
			1228					31	01.0	78	23.1		
			1300					31	00.1	78	23.8		
			1400					31	02.6	78	33.8		
							1350	31	02.3	78	32.0		
			1500					31	04.8	78	44.3		
							1538	31	06.2	78	50.8		
			1600		289	9.2		31	07.		54.6		
			1620						.		.		
			1622					31	07.8	78	56.5		
			1700		261	0.6		31	07.		57.		
			1705					31	07.7	78	57.		
			1728						.		.		
			1735					31	07.8	78	56.5		
			1756					31	07.	78	56.5		
			1757				1720	31	07.		57.		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 14
			CTD ABOARD - CIRCLE AROUND TO SAME UPSTEAM POINT - START AGAIN.	
			ARR. AT DROP POINT - NOT QUITE READY WITH CTD	
			CTD GOING OVER THE SIDE.	
			HOURLY CHECK - EQUIPMENT PROBLEMS - BACK ON BOARD.	
			READY TO GO - HEAD BACK TO TEST STAT[illegible]	
			SAT #130 MISS 119/158/223 RMS-3.4 S[illegible] [illegible] 7-INT.	
			SAT #480 MISS 129/252/311 RMS-1.3 26° MSG CHG 7-INT. NO UPDATE.	
			LORAN SNR'S DROPPING OFF. - IT'S TRYING TO RAIN.	
			HOURLY CHECK. - LORAN COMING BACK, BUT NOT STRONG.	
			SAT 130 -157/58/167 1.7RMS 20° (7int) NO UPDT	
			TESTING DATA SONICS BOTTOM ACOUSTIC GEAR	
			SAT 190 -171/185/252 4.8RMS 23° MSGCHG NO UPDT	
			CORE over side / Center Patio Block Area	
			core on bottom and coming up	
			core on board - steaming to next core location	
			hourly lc	
			SAT #140 -86/-56/103 19RMS 54° MSG CHG	
			hourly lc	
			SAT #140 54/-141/151 3 8 RMS 20°	
			HOURLY CHECK. - OVERCAST, RAINING, BUT LORAN HOLDING IN.	
			ARR. CAMERA SITE - ALLOW SHIP TO DRIFT (TO GAUGE CURRENT)	
			GEOPHYSICS PACKAGE OVER THE SIDE.	
			HOURLY CHECK.	
			START BRINGING GEOPHYSICS PACKAGE UP	
			HEAD BACK TO 1620Z SITE TO DROP GEOPHYSICS PACKAGE AGAIN	
			ON SITE - GEOPHYSICS STUCK OVER.	
			PINGER IN THE WATER	
			SAT #480 MISS 279/-461/540 (RMS-30.8) 24° COURSE & SPEED CHANGES, NO UPDATE.	

GMT DAY	MO	YR	TIME	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	± MINUTES	LONGITUDE ± DEGREES	± MINUTES	TYPE	QUAL.
25	09	82	1800		264	0.6		31	07.8	78	56.5		
JD		268	1826						.		.		
			18[illegible]1						.		.		
			1[illegible]						.		.		
			1900		26[illegible]	[illegible]		31	[illegible]		57.[illegible]		
			1926				1904		.		.		
			[illegible]						.		.		
									.	78	.		
					[illegible]				.	78	.		
			[illegible]7						.		.		
			2128					31	06.1	78	50.1		
			2200					31	06.3	78	51.1		
			2230					31	06.6	78	52.0		
			2300					31	07.0	78	53.2		
							2248	31	06.8	78	52.7		
26	09	82	0000					31	07.5	78	55.7		
JD		269	0035						.		.		
			0038						.		.		
							0032	31	07.4	78	56.6		
			0048					31	07.7	78	57.7		
			0100					31	07.6	78	57.6		
			[illegible]				0106	31	07.5	78	57.5		
			0155					31	07.4	7[illegible]	.		
			0200					31	07.7	78	55.8		
							0148	3[illegible]	07.7	78	55.8		
									.		.		
			0215					31	07.2	78	56.5		
			0226					31	07.3	78	56.6		
							52	31	08.1	78	56.4		
			0317					31	08.4	78	55.2		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 15
3			HOURLY CHECK.	
			TIME APPROX - COMPUTER CRASH - NOTE - NOT DURING PRINTOUT.	
			NVSI - FIRST DATA IN TAPE BUFFER (WROTE AT 1830)	
			LORAN INITIALIZED - PRIM = 3	
			HOURLY CHECK.	
			BAD DAT	
			LEAVE GEOPHYSICS TEST AREA - HEAD FOR CAMERA AREA.	
			ON BOTTOM w/ CAMERA (2.0 knots thru water)	
			2Knt -> 2½ knots (water speed)	
			SAT #190 -45/-140/147 2.4Rms 25° (7int) NO UPDT	
			hourly/c	
			Loran down	
			Loran up	
			SAT #190 -1203/2261/2561 **RMS 47° MSG CHG	
			end of angus - coming aboard - down to 1 knot	
			hourly/c	
			SAT #140 -267/183/324 5.6RMS 24°	
			Angus onboard - decluth and drifting	
			established current - drift steaming to ½ mile from station	
			SAT #200 -190/-42/194 6.5RMS 32°	
			arrived ½ from station - drifting to core	
			Dredge in water @ Acoustic Pavement test site	
			dredge on bottom	
			SAT #140 -46/22/51 1.8 RMS 43° MSG CHG	
			dredge on board - steaming to next station	

GMT DAY	MO	YR	TIME	LINE #	SHIPS COURSE	SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	± MINUTES	LONGITUDE ± DEGREES	± MINUTES	TYPE	QUAL.
26	09	82					0332	31	27.6	78	55.1		
10	2	69											
			0							78	50		
			0441							78	50		
			0443										
			0500		305	1.0		31	00.9	7	5		
			0525										
			0600		029	32		31	05.2	78	51.5		
			0614										
			0631										
			0700		146	22		31	06.5	78	50.5		
			0702					31	06.4	78	50.5		
			0716										
			0722										
					232	8.6		31	03.5	78	55.3		
			0844					31	00.1	78	59.9		
			0859					31	00.5	78	59.6		
			0917					31	00.7	78	59.4		
			0945										
			1058										
			1112					30	52.2	78	49.5		
			1124					30	52.3	78	49.2		
			1137					30	52.4	78	48.9		
			1155										
			1200					30	51.6	78	47.5		
			1300					30	44.4	78	39.2		
			1311										
			1300					30	44.3	78	39.3		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 16
3			SAT #200 26/-82/86 5.4 RMS 31° MSG CHG	
			ARR. AT DREDGE	
			DREDGE OVER T	
			DREDGE OFF THE BOTTOM.	
			CABLE ALL IN - NO DREDGE ONE LEG.	
			HOURLY CHECK	
			LOOP AROUND - TRY DREDGING HEADING NE.	
			HOURLY CHECK.	
			DROPPING THE DREDGE.	
			DREDGE ON THE BOTTOM	
			HOURLY CHECK.	
			DREDGE OFF BOTTOM	
			DREDGE ABOARD - SMALL SAMPLE.	
			C/C 230° HEAD FOR NEXT STATION 10 MILES	
			HOURLY CHECK.	
			Sta 45 ON STATION Dredge over	
			ON BOTTOM	
			Dredge hung / backed down / dredge coming up	
			Transit to STA 46	
			ON STA 46	
			ON Bottom	
			hauling in	
			off bottom	
			Transit STA 47	
			hourly/c	
			hourly/c	
			arrive at dredging station # 47	
			SAT #140 -769/-108/777 17.8 RMS 21°	

GMT DAY	GMT MO	GMT YR	GMT TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
26	09	82	1325					30	42.8	78	37.0		
JD	269						1334	30	42.7	78	37.6		
			1358					30	42.5	78	37.1		
			1449					30	34.9	78	39.3		
							1444	30	35.4	78	39.2		
			1501					30	34.9	78	39.1		
			1[illegible]					30	34.8	78	38.5		
			[illegible]					[illegible]	[illegible]		[illegible]		
			[illegible]		35	25		[illegible]	[illegible]	[illegible]	[illegible]		
			[illegible]										
			[illegible]										
			1700		[illegible]	[illegible]		[illegible]	[illegible]		41		
			1800		215	[illegible]		30	[illegible]	1	44		
			1856				1844	30	[illegible]	1[illegible]	[illegible]		
			1900		222	[illegible]		[illegible]	[illegible]	78	4[illegible]		
			[illegible]										
			[illegible]										
			[illegible]										
			2[illegible]1										
27	09	82	0831										
JD	270		0835										

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE ____
3			dredge on bottom	
			SAT #200 -245/132/278 2.4 RMS 22°	
			dredge on board - steam to station	
			arrive at dredge station #48	
			SAT #140 -238/354/427 12.7 RMS 52° MSG CHG	
			dredge on bottom	
			SAT #200 -372/40/374 1.3 RMS 35° MSG CHG	
			DREDGE OFF THE BOTTOM.	
			HOURLY CHECK.	
			DREDGE ABOARD - NOT MUCH ONE ROCK, A FITTING END.	
			END OF SURVEY. - HEAD FOR MIAMI.	
			HOURLY CHECK.	
			HOURLY CHECK	
			SAT. #480 MISS -63/308/314 RMS=4.5 65° MANY MISSING COUNTS AT THE END.	
			HOURLY CHECK.	
			TEST - TRY REMOVING THE LORAN ERROR JUMPS IN NAV PROGRAM.	
			" - PUT IN COMMAND TO DISABLE SAT. INTERRUPTS DURING PRINTOUT.	
	✓		EOF tape 3 0831Z prog stopped ~0825	
			transit Miami cont.	