Gyre 81-6 Legs 1 & 2
April 6-28, 1981

Navigation Logbook

81007nav
81008nav

81-6-1 / 81-6-2
GYRE 101035
81007 / 81008

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

SHIP R/V GYRE

CRUISE NO. 81-GG-1 & 2

DATE 4/6 - 4/28 1981

CHIEF SCIENTIST

81007
4/6-17/1981

81008
4/18-28/1981

TAPE #	START	END	COMMENTS AND OBSERVATIONS
NONE			ARR. STATION 33-47 001
			LV " "
			ARR. STATION 34-46
			LV " "
			ARR. STATION 35-41
			LV " "
			ARR. STATION 36-36
			LV " "
			0941- SAT UPDT - ΔLAT=.007'N ΔLON=.045'E ACCUMULATED CORR CORTS. 101
			END 81-G6-1 (301 SPEED LOG 1770 NMi)
			START 81-G6-2 (LOG 2)
			Ready to deploy gear for precheck.
1	X		START TAPE #1 1657 Z
			ALL SORTS OF PROBLEMS BEING TOO CLOSE TO SHORE, LOOP A COUPLE OF TIMES TO GET THE FIRST S.P.
			SP 1 START LINE 100.

30° 02.10' 32.0 18.2
28° 18.7'

YR	MO	DAY	TIME -2 +6	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES ±	LATITUDE N MINUTES	LONGITUDE W ± DEGREES ±	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	18	1942	100	137	6.6		30	09.2	88	26.2			10
			1956						08.0		25.0			
DAY			2011						06.8		23.7			30
	108		2027						05.6		22.5			
			2044						04.4		21.2			50
			2102						03.3		19.8			
			2121	100				30	02.0	88	18.7			EOL
							2138	30	00.9	88	18.5			
			2223	101	317	7.5		29	58.2	88	18.8			1 SOL
			2235						59.3		19.8			
			2250					30	00.5		21.1			20
			2304						01.7		22.4			
			2318						02.8		23.6			40
			2326						.		.			
			2333						04.0		25.0			50
							2324	30	03.3	88	24.1			
			2348						05.1		26.3			60
							2342	30	04.6	88	25.6			
81	04	19	0002						06.3		27.5			70
81	04	19	0017						07.6		28.7			80
			0031						08.9		29.9			90
			0046						10.1		31.1			
			0055						10.9		31.8			100 EOL
81	04	19	0212						.		.			
			0225	103	137			30	10.7	88	39.5			1 SOL
			0239						09.4		38.6			10
			0254						08.2		37.4			20
81	04	19					0236	30	09.9	88	38.9			
			0309						07.0		36.1			30
							0312		06.8		35.8			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1			SHOT POINT 10 LINE 100 EOL
			SP 20
			SP 30
			SP 40
			SP 50
			SP 60
			SP 70 LAST SHOT POINT ON LINE, EOL. 100
			SAT UPDT Elev 32 miss 2154/-264/2168
			SP1 SOL 101
			SP10
			SP20
			SP30
			SP40
			Clock Jumped 2min // 2228 Corrected/ neg time on tape
			SP50
			SAT NoUPDT Elev 32 MSGCHG miss 460/236/578
			SP60
			SAT NoUPDT Elev 07 MSGCHG miss 810/645/650
			SP70
			SP 80
			SP 90
			SP100
			SP106 EOL 107
			C/C to come on line
			SOL 103 SP 1
			SP 10
			SP 20
			SAT No UpDt Elev 15 MSG CHG miss 890/10/890
			SP 30
			SAT No UpDt Elev 14 MSG CHG miss 0.2/242/242

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE N ± DEGREES	LATITUDE N MINUTES	LONGITUDE W ± DEGREES	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	19	0325	103	137	5		30	05.7	88	34.8			41
			0339						04.5		33.7			50
							0334		05.1		33.9			SAT
DAY 109			0354						03.4		32.4			60
			0409						02.2		31.1			70
			0424						01.1		29.6			80
							0420		01.5		30.0			SAT
			0448					29	59.9	88	28.4			90
			0454						58.6		27.3			100
			0509						57.4		26.1			110
			0524						56.2		24.8			120
			0539						55.0		23.5			130
			0553						53.8		22.2			
			0608						52.7		20.9			
			0622						51.5		19.7			
			0635	103	137	5.2		29	50.4	88	18.6			EOL
			0712	—					.		.			
			0728	104	317	5.6		29	46.8	88	18.6			1 SOL
			0742						47.8		19.8			
			0757						49.0		21.1			20
			0813						50.1		22.4			
			0829		317	5.7			51.3		23.6			40
			0831					—	.		.			
			0845						52.5		24.9			50
			0902						53.7		26.2			
			0918						54.9		27.4			70
			0934						56.1		28.7			
			0950						57.3		29.9			90
			0950				0934	29	56.2	88	28.7			
			1005						58.6		31.3			100
			1021						59.7		32.6			110

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 34
1			S.P. 41 No SP 40 SAT message. 401 came in	
			S.P. 50	
			SAT No UpDt Msg Chg. Elev. 36 miss 639/1206/1365	
			S.P. 60	
			S.P. 70	
			S.P. 80	
			SAT No UpDt Msg Chg. Elev. 63 miss 385/453/594	
			S.P. 90	
			S.P. 100	
			S.P. 110	
			S.P. 120 201	
			S.P. 130	
			S.P. 140	
			S.P. 150	
			S.P. 160	
			0635 - S.P. 169 END LINE. 103 c/c TO 174 TO HEAD FOR LINE 104.	
			0710 - BEGIN MAKING TURN ONTO LINE 104.	
			S.P. 1 - BEGIN LINE 104.	
			SP-10	
			SP 20	
			SP 30	
			SP 40	
			0831 - SAT ELEV - BAD MAJ. VOTE.	
			SP 50	
			SP 60	
			SP 70	
			SP 80	
			SP 90	
			SAT. UPDT - ΔLAT = .106' N ΔLON = .057' W NEW CORA = .48601 CORTS = .20875	
			SP 100 (GRAVITY METER WRONG BIAS - CORRECTED 1024Z)	
			SP 110 - 84.8 mgals to data before change	

YR	MO	DAY	TIME Z +6	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES N	LONGITUDE ± DEGREES	LONGITUDE MINUTES W	TYPE	QUAL.	
81	04	19	1036	104	317	6.4		30	00.8	88	34.0			120
			1052						02.1		35.1			
			1108						03.3		36.4			140
			1124						04.5		37.7			
			1139						05.7		38.9			160
			1154						06.9		40.2			
			1209						08.1		41.5			180
			1224						09.2		42.8			
			1238	104					10.4		44.0			200 EOL
									.		.			
			1313	105	136	6.9			07.0		44.9			1 SOL
			1326						05.9		43.9			
			1340						04.7		42.6			20
			1354						3.6		41.2			30
			1408						2.4		40.0			40
			1422						1.2		38.7			50
							1418		1.5		39.2			SAT
			1436						0.0		37.4			60
			1449					29	58.8		36.2			70
							1446		59.1		36.0			SAT
			1503						57.7		34.9			80
			1517						56.5		33.6			90
			1531						55.3		32.3			100
							1536		54.8		31.9			SAT
			1546						54.1		31.0			110
			1601						53.0		29.7			120
			1616						51.8		28.4			130
			1630						50.6		27.2			140
							1636		49.3		26.7			SAT
			1647						49.3		25.8			151

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1			SP 120
			SP 130
			SP 140
			SP 150
			SP 160
			SP170
			SP 180
			SP190
			SP200 EOL 104
			SP1 SOL 105
			SP10
			SP20
			S.P. 30
			S.P. 40
			S.P. 50
			SAT No UpDt. Elev 34 Miss -381/-446/587
			S.P. 60
			S.P. 70
			SAT No UpDt Msg Chg Elev. 79 Miss -452/2494/2535
			S.P. 80
			S.P. 90
			S.P. 100
			SAT No UpDt Elev 63 Miss -594/155/614
			S.P. 110
			SP. 120
			S.P. 130
			S.P. 140
			SAT No UpDt Elev 08 Msg Chg Miss 326/485/584
			S.P. 151 No 150 = SAT Msg.

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	NAVIGATION LATITUDE N ± DEGREES ±	LATITUDE MINUTES	LONGITUDE W ± DEGREES ±	LONGITUDE MINUTES	TYPE	QUAL.	
8	10	19	1701	105	136	6.2		29	48.2	88	24.6			160
			1712						47.4		23.7			170
							1724		46.4		21.6			SAT
			1732						45.9		22.0			180
			1747						44.7		20.8			190
			1802						43.6		19.5			200
			1813	105					42.7		18.6			
			1905	106	317	8.0		29	38.9	88	18.8			
			1918						40.0		19.9			10
			1931						41.2		21.2			
			1944						42.4		22.4			20
			1950				1938	29	41.6	88	21.8			
			1958						43.6		23.6			40
			2012		317	6.6			44.8		24.9			
			2025						45.9		26.2			60
			2039						47.1		27.5			
			2052						48.3		28.8			80
			2105		317	6.6			49.4		30.1			
			2119						50.7		31.3			100
			2132						51.9		32.5			
			2137				2126	29	51.2	88	31.8			
			2145						53.1		33.8			120
			2159						54.2		35.2			
			2213						55.4		36.5			140
			2228						56.6		37.7			
			2242						57.8		39.0			160
			2257						59.0		40.3			
			2311					30	00.2		41.5			180
			2326						01.3		42.8			
			2342						02.4		44.3			200

DAY 109

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1			S.P. 160
			S.P. 170
			SAT No UpDt Msg Chg Elev. 16 Miss -983 /5997 /6077
			S.P. 180
			S.P. 190
			S.P. 200
			S.P. 207 - END LINE 105 TURN RIGHT TO HEAD FOR LINE 106.
			BEGIN LINE #106 SHOT POINT 1.
			SHOT POINT 10
			S.P. 20
			SP 30
			ANGLE = 63
			SAT - MISS DIST - 911/-284/959 MAN'L DOPPLER COUNTS MISSING NO UPDATE
			SP 40
			SP 50
			SP 60
			S.P. 70
			SP 80
			SP 90
			SP 100
			SP 110 - OFF LINE A BIT
			ANGLE = 16
			SAT - MISS DIST. = 320/870/928 MAN'L DOPPLER COUNTS MISSING NO UPDATE
			SP 120 - COMING BACK TO LINE.
			SP 130
			SP 140
			SP 150
			SP 160
			SP 170
			SP 180
			SP 190
			SP 200

YR	MO	DAY	TIME Z +6	LINE #	SHIPS COURSE	SPD	FIX TIME	LATITUDE N ± DEGREES	MINUTES	LONGITUDE W ± DEGREES	MINUTES	TYPE	QUAL.	
81	04	19	2351	106	317	6.9		30	03.2	88	44.9			206 EOL
							0018		00.7		45.3			
81	04	20	0034	107	136	6.0		29	59.3	88	44.9			1 SOL
			0048						58.2		43.7			
			0104						57.1		42.4			20
							0056	29	57.9	88	43.0			
			0120						55.9		41.1			30
			0136						54.7		39.9			40
			0152						53.5		38.6			50
			0207						52.3		37.3			60
							0202		.		.			SAT
			0223						51.2		36.0			70
			0239						50.0		34.7			80
							0242		48.8		34.4			SAT
			0256						48.8		33.3			90
			0312						47.6		32.2			100
			0328						46.4		30.8			110
							0328		46.4		30.8			SAT
			0343						45.2		29.6			120
			0357						44.1		28.3			130
			0412						42.9		27.1			140
			0427						41.7		25.8			150
							0430		42.0		25.5			SAT
			0441						40.5		24.5			160
			0456						39.3		23.3			170
			0510						38.2		22.0			180
			0525						37.0		20.7			190
			0532				0518		37.6		21.4			SAT
									.		.			
			0539						35.9		19.4			200

DAY 110

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1			SP 206 EOL 106
			SAT UPDT Elev 21 -998/455/1088
			SP 1 SOL 107
			SP 10
			SP 20
			SAT NoUPDT Elev 10 (6 intervals) 1472/298/1501
			SP30
			SP40
			S.P. 50
			S.P. 60
			SAT No UpDt MsgChg Elev. 51 Miss 550/174/577
			S.P. 70
			S.P. 80
			SAT No UpDt Msg Chg Elev. 85 Miss 186/517/549
			S.P. 90
			S.P. 100
			S.P. 110
			SAT NoUpDT Elev. 51 Miss -203/134/243
			S.P. 120
			S.P. 130
			S.P. 140
			S.P. 150
			SAT No UpDt Elev 08 Miss 3236/383/3258
			S.P. 160
			S.P. 170
			S.P. 180
			S.P. 190
			SAT UpDT Elev. 19 DDLAT .052 N DLON .046 W
			New CORA .754 New CORB .514
			S.P. 200

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES ±	LATITUDE N MINUTES	LONGITUDE W ± DEGREES ±	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	20	0548	107	139			29	35.1	88	18.7			EOL
			0639	108	316	7.6			31.4		18.6			SOL
			0652						32.4		19.8			10
DAY 119			0707						33.6		21.0			
			0722						34.7		22.4			30
			0738						35.9		23.7			
			0745				0730	29	35.2	88	23.0			
			0754						37.0		25.0			50
			0810		316	6.2			38.2		26.1			
			0827						39.4		27.5			70
			0845						40.6		28.8			
			0856				0844	29	40.7	88	28.8			
			0902						41.7		30.1			90
			0920						42.9		31.3			100
			0931				0920	29	43.0	88	31.3			
			0938						44.1		32.6			110
			0956						45.3		33.9			120
			1013						46.5		35.2			
			1030						47.6		36.5			140
			1047						48.8		37.7			
			1103						50.1		38.9			160
			1120						51.2		40.3			
			1136						52.4		41.5			180
			1152						53.6		42.8			
			1208						54.7		44.1			200
			1219						55.5		45.0			EOL
									.		.			
			1324	200	042	6.5		30	02.4	88	45.0			1 SOL
			1337						03.5		43.9			
			1352						04.7		42.6			20

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 39
1			S.P. 206 EOL 107	
			START LINE 108 - SHOT POINT 1. OFF TO RIGHT OF LINE (FROM TURN)	
			SP 10 LORAN SIGNALS BAD TONIGHT - VELOCITIES VARY GREATLY - WILL BE OFF LINE OFTEN.	
			SP 20	
			SP 30	
			SP 40	
			0745 - SAT. UPDT ΔLAT = .057'S ΔLON = .019'W NEW CORR A = .70172 CORR B = .49920 ELEV = 55°	
			SP 50	
			SP 60	
			SP 70	
			SP 80	
			SAT. - NO UPDT MISS DIST = 1264/-179/1351 MSG CHNG ELEV = 12.	
			SP 90	
			SP 100	
			SAT. - NO UPDT MISS DIST = 592/14/592 MSG CHNG ELEV = 18.	
			SP 110	
			SP 120	
			SP 130	
			SP 140	
			SP 150	
			SP 160 TRAFFIC / SEISMIC BOAT W/ LONG CABLE	
			SP 170	
			SP 180	
			SP 190	
			SP 200	
			SP 206 EOL 108	
			SP 1 SOL 200	
			SP 10	
			S.P. 20	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE N ± DEGREES	LATITUDE N MINUTES	LONGITUDE W ± DEGREES	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	20	1407	200	042	7		30	05.9	88	41.3			30
							1358		05.2		41.0			SAT
		11D	1423						07.1		40.1			40
		DAY	1438						08.3		38.8			50
			1454						09.5		37.6			60
							1444		08.9		38.6			SAT
			1504						10.3		36.7			EOL
									.		.			
			1559	201	223	5.7			10.8		31.6			1 SOL
			1613						09.8		32.8			10
			1628						08.6		34.1			20
							1630		08.6		34.0			SAT
			1644						07.3		35.5			31
			1657						06.3		36.6			40
			1711						05.1		38.0			50
			1725						03.9		39.2			60
			1739						02.8		40.5			70
			1752						01.6		41.9			80
			1805					30	00.4	88	43.1			
			1819					29	59.2	88	44.4			100
			1826						58.7		45.1			EOL
			1901				1848		56.3		45.7			SAT
			1917	202	044	6.6			55.0		45.0			1
			1930						56.0		43.8			
			1945						57.2		42.5			20
			2001						58.3		41.2			
			2016					29	59.5		40.0			40
			2032					30	00.7		38.6			
			2048						01.8		37.3			60
			2103						03.0		36.0			

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 39
1			S. P. 30	
			SAT NoUpDt Elev. 44 Miss 452/548/710	
			S.P. 40	
			S.P. 50	
			S.P. 60	
			SAT No UpDt Elev 24 Miss 1106/-850/1395	
			S.P. 67 EOL 200	
			C/C 79° to SOL 201	
			SOL 201 S.P. 1	
			S.P. 10	
			S.P. 20	
			SAT No UpDT Elev. 43° Miss 663/1161/1337	
			S.P. 31	
			S.P. 40	
			S.P. 50	
			S.P. 60	
			S.P. 70	
			S.P. 80	
			S.P 90	
			S.P. 100	
			END LINE 201 - SHOT POINT 105. C/C 188° TO HEAD FOR LINE 202	
			1901 SAT. UPDT ΔLAT: .042' N ΔLON: .050' E NEW CORA: .40234 CORB: .66415 ELEV: 25°	
			START LINE 202 - SHOT POINT 1	
			SP 10	
			SP 20	
			SP 30	
			SP 40	
			SP 50	
			SP 60	
			SP 70	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE ± DEGREES ±	LATITUDE MINUTES	LONGITUDE ± DEGREES ±	LONGITUDE MINUTES	TYPE	QUAL.	
81	04	20	2118	202	044	6.7		30	04.1	88	34.7			
			2132						05.5		33.4			40
			2147						06.5		32.1			
DAY 110							2146	30	06.4	88	32.2			
			2201						07.6		30.7			110
			2215						08.8		29.5			120
			2227						09.8		28.5			128
			2230						10.0		28.0			130
			2238						10.1		27.0			135 SOL
									.		.			
			2303	203					10.5		24.0			1 SOL
			2319						09.0		24.7			10
			2335						07.8		25.9			20
							2334		08.0		25.7			SAT
			2352						06.8		27.4			30
81	04	21	0008						05.6		28.7			40
			0024						04.4		30.0			
			0040						03.3		31.3			60
			0055						02.2		32.6			
			0111						01.0		33.9			80
			0127					29	59.9		35.3			
			0142						58.7		36.5			100
			0159						57.5		37.8			110
							0152		58.0		37.3			SAT
			0217						56.4		39.2			120
			0235						55.2		40.5			130
							0240		55.0		40.8			SAT
			0253						54.0		41.7			
			0311						53.0		43.2			150
			0330						51.6		44.5			160

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 40
1			SHOT POINT 80 LINE 202.	
			S.P. 90	
			S.P. 100	
			SAT No UPDT Elev 42 miss 108/-131/170	
			SP 110	
			SP 120	
			SP 128 c/c to Cross Check w/ line	
			SP 130	
			SP 135 EOL 202	
			SP 1 SOL 203 (c/c's FIRST 10 SHOTPNTS)	
			SP 10	
			S.P. 20	
			SAT No UpDt Elev. 24 Miss -59/326/332	
			S.P. 30	
			SP 40	
			SP 50	
			SP 60	
			SP 70	
			SP 80	
			SP 90	
			SP 100	
			S.P. 110	
			SAT No UpDt Elev. 39 Miss 213/-316/381	
			S.P. 120	
			S.P. 130	
			SAT Msg Chg No UpDt Elev. 19 Miss 297/-104/315	
			S.P. 140	
			S.P. 150	
			S.P 160	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES	LATITUDE N ± MINUTES	LONGITUDE W ± DEGREES	LONGITUDE W ± MINUTES	TYPE	QUAL.	
81	04	21	0335	203				29	51.3	88	44.9			EOL
							0338		51.1		45.1			SAT
			0353						.		.			
							0424		46.4		47.0			SAT
			0525	[redacted]					.		.			C/C
			0532	205					40.5		48.8			1 SOL
			0544						41.6		47.7			10
			0557						42.8		46.5			
			0610		045	7.9			43.9		45.1			30
			0624						45.1		43.8			
			0637						46.2		42.5			50
			0651						47.3		41.1			
			0704		045	7.3			48.5		39.8			70
			0718						49.6		38.5			
			0732						50.8		37.2			90
			0746						51.9		35.9			
			0800		045	6.0		29	53.0	88	34.5			110
			0814						54.1		33.1			
			0828						55.3		31.8			130
			0842						56.4		30.5			
			0856						57.6		29.2			150
			0911		045	6.7			58.7		27.9			
			0926						59.9		26.6			170
			0942					30	01.0	88	25.2			
			0957						02.2		23.9			190
							0938		00.8		25.5			
			1013						03.3		22.5			200
			1030						04.5		21.2			
			1045						05.7		19.9			220
			1059						06.7		18.7			EOL

PM 11

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 41
1			S.P. 164 EOL 203	
			SAT Msg. Chg. No UpDt Elev. 26 Miss -121/140/185	
			ON our way to SOL-205	
			SAT No UpDT Elev 52 Miss 86/91/125	
			C/C to come SOL-205	
			S.P. 1 SOL 205	
			S.P. 10	
			SP 20	
			SP 30	
			SP 40	
			SP 50	
			SP 60	
			SP 70	
			SP 80	
			SP 90	
			SP 100	
			SP 110	
			SP 120	
			SP 130	
			SP 140.	
			SP 150	
			SP 160	
			SP 170	
			SP 180	
			SP 190	
			SAT UPDT Elev 41 MISS 288/142/321	
			SP 200	
			SP 210	
			SP 220 Switched G meter to Point Eotvos → 10 mgals diff in right direction	
			SP 229 GYRO HEADING 20° off TRK = Strong Currents in Area	

EOL 205

YR	MO	DAY	TIME (Z+16)	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES (N)	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES (W)	TYPE	QUAL.	
81	04	21	1137	206	225	6.5		30	02.9	88	18.7			1 SOL
			1151						01.8		19.8			
			1205						00.7		21.2			20
DAY 1M							1204	30	00.9	88	21.0			
			1219					29	59.6		22.6			30
			1232						58.4		23.9			
			1245						57.3		25.2			50
			1259						56.2		26.6			
			1311						55.1		27.9			70
							1310	29	55.1	88	27.7			
			1324						53.9		29.2			80
			1336						52.7		30.5			
			1349						51.7		31.9			100
			1401						50.5		33.2			
							1350		51.4		32.1			SAT
			1414						49.3		34.5			120
			1426						48.2		35.8			130
			1439						47.1		37.2			140
			1452						45.9		38.5			150
			1505						44.8		39.8			160
							1456		45.5		38.9			SAT
			1518						43.6		41.1			170
			1532						42.5		42.4			180
			1546						41.4		43.9			190
							1538		41.9		43.0			SAT
			1601						40.2		45.1			200
			1615						39.0		46.4			210
			1628						.		.			CK
			1629						37.9		47.8			220
			1643						36.8		49.0			230

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 42
1			SP1 SOL 20:GL	
			SP10	
			SP20 TOL	
			SAT NOUPDT Elev 13 MSG CHG 1 min 263/121/290 (7 intervals)	
			SP30	
			SP40	
			SP50	
			SP60	
			SP70	
			SAT NO UPDT Elev 18 miss -70/-3/707 RECOMP FITTED -740/84/744	
			SP80 1330Z — SWITCH GYRO EOTVOS HDG/TRK < 5°	
			SP90	
			SP100	
			S.P. 110	
			SAT No UpDt Elev 56 Miss -881/-535/1031	
			S.P. 120	
			S.P. 130	
			S.P. 140	
			S.P. 150	
			S.P. 160	
			SAT No UpDt Elev. 58 Miss -884/69/887	
			S.P. 170	
			S.P. 180	
			S.P. 190	
			SAT No UpDt Elev. 76 Miss -1044/-537/1175	
			S.P. 200	
			S.P. 210	
			C/C To avoid running over a cable	
			S.P. 220	
			S.P. 230	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE N ± DEGREES ±	LATITUDE N MINUTES	LONGITUDE W ± DEGREES ±	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	21	1650	206				29	36.2	88	49.7			235
			1725						.		.			C/C
		DAY III	1735	207	045	6			32.7		49.4			1
							1726		32.3		50.0			SAT
			1749						33.8		48.2			10
			1804		045	6.1			34.9		46.8			
			1819						36.1		45.6			30
			1834						37.2		44.2			
			1850						38.3		42.9			50
			1905		045	6.3		29	39.5	88	41.6			
			1909						.		.			
			1921						40.7		40.3			70
			1937						41.7		38.1			
			1954						42.9		37.7			
			2000				1946		.		.			
			2010		045	6.1			44.0		36.3			
			2026						45.2		35.0			110
			2042						46.3		33.7			
			2057						47.5		32.3			130
			2113						48.6		31.0			
			2128						49.8		29.7			150
			2143						50.9		28.4			
			2158						52.0		27.0			170
			2212						53.2		25.7			
			2226						54.3		24.3			190
			2240						55.4		23.0			
			2253						56.6		21.7			210
							2244	29	55.7	88	22.6			
			2306						57.7		20.4			220
			2319						58.8		19.0			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1			S.P. 235 EOL - 206
			C/C to come on line
			S.P. 1 SOL - 207
			SAT No UpDt Elev. 13 Miss 577/95/585
			S.P. 10
			S.P. 20
			S.P. 30
			S.P. 40
			S.P. 50
			S.P. 60
			HIT TEST ON SAT. RCVR. TO SEE IF ALL DOPPLERS ARE RECEIVED. — TESTS PASSED BUT IT DOESN'T TEST LONG ENOUGH.
			SP. 70
			S.P. 80
			S.P. 90
			SP 100
			SAT. — NO UPDATE MISS -985/-412/1068 ELEV = 84 LAST PART OF PASS - ALL DOPPLER PRIMED OUT.
			SP 110
			SP 120
			SP 130
			SP 140
			SP 150
			SP 160
			SP 170
			SP 180
			SP 190
			SP 200
			SP 210
			SAT NO UPDT Elev 58 miss -662/240/704
			SP 220
			SP 230

YR	MO	DAY	TIME (Z16)	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE N ± DEGREES	LATITUDE N MINUTES	LONGITUDE W ± DEGREES	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	21	2322	207	050	7.2		29	59.1	88	18.8			EOL
									.		.			
									.		.			
81	04	22	0000						.		.			
									.		.			
									.		.			
			0058	209	226	6.0		29	51.0	88	18.2			1 SOL
			0114						50.5		20.0			
			0132						49.4		21.4			20
							0104	29	50.8	88	18.6			
							0130	29	49.5	88	21.0			
			0149						48.2		22.7			30
			0207						47.1		24.1			40
			0224						46.0		25.3			50
			0240						44.8		26.7			60
			0257						43.7		28.0			70
							0248		44.3		27.1			SAT
			0313						42.5		29.3			80
			0328						41.4		30.6			90
							0320		42.0		29.8			SAT
			0344						40.2		31.9			100
							0336		40.8		31.4			SAT
			0359						39.2		33.3			110
			0415						37.9		24.6			120
			0431						36.9		36.0			130
			0447						35.7		37.3			140
			0502						34.5		38.5			150
			0517						33.5		40.0			160
							0520		33.3		40.0			
			0532						32.3		41.2			170
			0547						31.2		42.6			180

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1			232 EOL 207
1		X	EOF TAPE #1 2329Z
			Reloading MAIN PROGRAM —
			Restart o/c
2	X		0003Z START TAPE #2
			SP1 SOC 209 c/c wrong pit entered for lineup
			SP10
			SP20
			SAT NO UPDT Elev 16 (7 intervals) c/c MISS -45/1092/1093
			SAT NO UPDT Elev 77 MSGCHG MISS -458/1090/1183
			SP30
			S.P. 40
			S.P. 50
			S.P. 60
			S.P. 70
			SAT No UpDt. Msg Chg Elev. 62 Miss -449/814/930
			S.P. 80
			S.P. 90
			SAT No UpDt Elev 07 Miss -260/1056/1087
			S.P. 100
			SAT No UpDt Elev. 63 Miss -215/-741/772
			S.P. 110
			S.P. 120
			S.P. 130
			S.P. 140
			S.P. 150
			S.P. 160
			SAT Msg Chg. No UpDt Elev. 15 Miss -257/793/834
			S.P. 170
			S.P. 180

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE N ± DEGREES	LATITUDE N MINUTES	LONGITUDE W ± DEGREES	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	22	0600	209	225	7.0		29	30.0	88	43.9			190
			0608				0556	29	30.8	88	43.4			
			0614						28.8		45.2			200
			0628						27.6		46.4			
			0640						.		.			
			CONTINUED						.		.			
			0751						.		.			
			0752				0738	29	27.6	88	46.6			
			0840		225	6.3		29	26.6	88	47.8			210
			0847						.		.			
			0857						25.2		48.9			220
			0903				0850	29	25.9	88	48.5			
			0913						23.6		49.7			230
			0928						22.3		50.7			
			0937				0928	29	22.4	88	50.7			
			0945						21.2		52.2			260
			1003						20.8		54.3			
			1019						19.7		55.7			280
			1031						18.8		56.8			288 EOL
							1036		— .		— .			
			1106	210	045	6.1			16.9		54.6			SPI SOL
			1120						18.0		53.4			
			1135						19.1		52.1			20
			1151						20.2		50.8			
			1206						21.4		49.5			40
			1222						22.5		48.1			
							1226		— .		— .			
			1238						23.7		46.8			60
			1254						24.8		45.5			
			1308						26.0		44.2			80

Day 112

TAPE #	START	END	COMMENTS AND OBSERVATIONS
2			SHOT POINT 190 ON LINE 209.
			SAT - NO UPDATE MISS 2203/295/2223 ELEV = 06° MSG CHANGE.
			S.P. 200.
			S.P. 210
			0640 - LOST LORAN - NAV BY SONAR & GYRO FOR A WHILE. START TO LOOP BACK TO PICK UP LAST GOOD SHOT POINT (219). START TURN AROUND 0700.
			↳ NEXT SHOT POINT SHOULD BE 220.
			0751 - START TO C/C TO 225 TO GET BACK ONTO LINE.
			SAT. - NO UPDATE ELEV = 73° MISS = -535/-901/1048 MSG CHG.
			0840 - SP 220 BACK ON LINE AGAIN.
			0847 - AFTER ALL THAT → HEADING LEFT TO AVOID AN OIL RIG.
			SP 230
			SAT UPDT - ΔLAT = .017'N ΔLON = .006'E NEW CORA = .71657 CORB = .54637 ELEV = 17
			SP 240
			SP 250
			SAT - NO UPDATE MISS = 985/-298/1029 ELEV = 13 ONLY 6 TWO MIN INTERVALS.
			SP 260
			SP 270
			SP 280
			SP 288 EOL 209
			SAT NG C/C Elev 70
			SP 1 SOL 210
			SP 10
			SP 20
			SP 30
			SP 40
			SP 50
			SAT NG Elev 7
			SP 60
			SP 70
			SP 80

YR	MO	DAY	TIME Z +6	LINE #	SHIPS COURSE	SPD	FIX TIME	LATITUDE N ± DEGREES	± MINUTES	LONGITUDE W ± DEGREES	± MINUTES	TYPE	QUAL.	
81	04	22	1322	210	045	6.9		29	27.1	88	42.8			90
			1337						28.2		41.5			
DAY 112			1351						29.4		40.3			110
			1406						30.5		38.9			120
							1406		30.6		39.0			SAT
			1421						31.6		37.6			130
			1436						32.8		36.3			140
			1451						33.9		34.9			150
							1446		33.7		35.6			SAT
			1508						35.1		33.7			160
			1525						36.2		32.3			170
			1543						37.4		31.0			180
			1600						38.5		29.6			190
							1554		38.3		30.5			SAT
			1618						39.6		28.3			200
			1635						40.8		27.0			210
							1634		40.9		27.5			SAT
			1653						41.9		25.6			220
			1709						43.1		24.4			230
			1723						44.2		23.0			240
			1737						45.3		21.7			250
			1752						46.5		20.4			260
			1806						47.6		19.0			270
			1810	210	045	7.0		29	48.0	88	18.6			1 SOL
			1849	211	225	7.0			44.2		18.7			1 SOL
			1900						43.1		19.9			10
			1910				1856	29	44.0	88	19.7			SAT
			1913						42.0		21.2			20
			1925						40.8		22.6			30
			1937						39.7		23.9			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
2			SP 90 118
			SP 100
			SP 110
			S.P. 120
			SAT Msg Chg No UpDt Elev. 61° Miss 671/-609/906
			S.P. 130
			S.P. 140
			S.P. 150
			SAT Msg Chg No UpDt Elev. 30° Miss 1088/-723/1307
			S.P. 160
			S.P. 170
			S.P. 180
			S.P. 190
			SAT No UpDt. Elev. 17° Miss 1237/-1690/2094
			S.P. 200
			S.P. 210
			SAT No UpDt. Elev. 35° Miss 1341/-1943/2361
			S.P. 220
			S.P. 230
			S.P. 240
			S.P. 250
			S.P. 260
			SP 270
			END LINE 210 SP 273 C/C TO 165° TO HEAD FOR LINE 211
			1849 - START LINE 211 SHOT POINT 1.
			SP 10
			SAT - NO UPDATE ELEV = 35° MISS 2406/-1721/2958 - PROBLEM OF NO DOPPLER COUNTS AFTER MID PASS IS BACK AGAIN.
			SP 20
			SP 30
			SP 40 - CUT SPEED BACK TO 6.5 KTS.

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ±	LATITUDE MINUTES	LONGITUDE ± DEGREES ±	LONGITUDE MINUTES	TYPE	QUAL.	
81	04	22	1950	211	225	8.0		29	38.6	88	25.2			50
			2004						37.5		26.6			
		DAY 112	2017				2010		37.7		27.5			SAT.
			2018						36.3		27.9			70
			2033						35.2		29.2			
			2047						34.0		30.5			90
			2057				2042	29	34.9	88	30.2			SAT.
			2101		225	6.9			32.9		31.9			100
			2115						31.8		33.2			
			2130						30.6		34.5			120
			2144						29.5		35.8			
			2158						28.4		37.2			140
			2208						.		.			
							2154	29	29.2	88	37.2			
			2214						.		.			
			2215						27.4		38.6			150
			2220						.		.			
			2230						26.2		39.8			160
			2245						25.0		41.0			
			2301						23.8		42.4			180
			2317						22.7		43.7			
			2332						21.5		45.0			200
			2348						20.4		46.4			
81	04	23	0004						19.3		47.7			220
			0020						18.2		49.0			
		DAY 113	0036						17.0		50.3			240
			0054						15.9		51.6			
			0109						14.9		52.6			EOL
									.		.			
									.		.			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
2			SP 50 — LINE 211
			SP 60
			SAT NO UPDATE ELEV: 03° MISS 4132/2203/4683 ONLY 5 TWO MIN INTERVALS.
			SP 70
			SP 80
			SP 90
			SAT - NO UPDT MISS = 2929/1254/3187 ELEV: 30 | UNFORTUNATELY - THIS IS PROBABLY CORRECT NO SAT. UPDATES FOR 12 HRS.
			SP 100
			SP 110
			SP 120
			SP 130
			SP 140
			c/c Traffic
			SAT UPDT Elev 57 miss 2559/-2290/3742
			c/c
			SP 150
			c/c
			SP 160
			SP 170
			SP 180
			SP 190
			S.P. 200
			SP 210
			SP 220
			SP 230
			SP 240
			SP 250
			SP 258 EOL 211

YR	MO	DAY	TIME Z +6	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ±	LATITUDE MINUTES	LONGITUDE ± DEGREES ±	LONGITUDE MINUTES	TYPE	QUAL.	
81	04	23	0150	212				29	12.9	88	50.7			1 SOL
			0202						13.8		49.4			10
							0200		13.8		49.6			SAT
			0215						15.0		48.1			20
			0229						16.2		46.8			30
			0244						17.1		45.3			40
							0238		17.0		46.0			SAT
			0258						18.4		44.2			50
			0313						19.5		42.8			60
			0328						20.6		41.5			70
			0342						21.9		40.2			80
			0356						23.0		38.9			90
			0411						23.9		37.3			100
			0425						25.3		36.2			
			0439						26.4		35.0			120
			0453						27.6		33.6			130
			0507						28.6		32.3			140
			0522						29.8		31.0			150
			0535						31.0		29.7			160
			0549						32.1		28.3			170
			0555						.		.			
			0604		045	5.6		29	33.2	88	27.0			180
			0619						34.4		25.6			
			0634						35.5		24.3			200
			0648						36.7		23.0			
			0702						37.7		21.8			220
			0718		045	6.0			38.9		20.4			
			0733						40.1		19.1			240
			0737					29	40.4	88	18.7			EOL
			0737				0650	29	37.2	88	23.1			

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 48
2			SP 1 SOL 212	
			S.P. 10	
			SAT No UpDt. Elev. 53° Miss 926/129/935	
			S.P. 20	
			S.P. 30	
			S.P. 40	
			SAT No UpDt. Elev. 24° Miss 1333/-286/1363	
			S.P. 50	
			S.P. 60	
			S.P. 70	
			S.P. 80	
			S.P. 90	
			S.P. 100	
			S.P. 110	
			S.P. 120	
			S.P. 130	
			S.P. 140	
			S.P. 150	
			S.P. 160	
			S.P. 170	
			UPDATED CORA & CORB TO VALUES FROM LAST GOOD SAT (4/22 21542) CORA = 1.23685 CORB = -0.81684	
			SP 180	
			SP 190	
			SP 200	
			SP 210	
			SP 220	
			SP 230	
			SP 240	
			EOL 212 SP 243	
			SAT UPDATE (FROM 1/2 HR. AGO) DLAT = .342'N DLON = .205'W NEW CORA = .97264 CORB = -1.14749	

YR	MO	DAY	TIME (Z +6)	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES	LATITUDE N ± MINUTES	LONGITUDE W ± DEGREES	LONGITUDE W ± MINUTES	TYPE	QUAL.	
81	04	23	0814	—	180	6.3	0804	29	39.1	88	18.0			
			0849				0836		35.3		17.9			
									.		.			
			1011	216	225	6.0		29	25.3	88	18.6			1 SOL
	DAY 113						0946	29	27.7	88	18.0			
			1026						24.3		19.8			10
			1042						23.2		21.2			
			1059						22.1		22.6			30
			1115						21.0		23.8			40
			1121						.		.			
			1134						19.8		25.1			50
			1141						.		.			
							1134	29	19.9	88	25.2			
			1153						18.7		26.6			60
			1209						17.6		27.8			
			1226						16.4		29.2			80
			1243						15.3		30.5			90
			1259						14.2		31.8			100
			1315						13.0		33.1			110
			1331						11.8		34.4			120
			1347						10.7		35.8			130
			1403						09.6		37.1			140
			1418						08.5		38.4			150
			1432						07.3		39.7			160
			1448						06.2		41.1			170
			1503						05.0		42.4			180
							1504		05.5		42.7			SAT
			1519						03.9		43.7			
			1535						02.8		45.0			200
			1550						01.7		46.3			209 EOL

TAPE #	START	END	COMMENTS AND OBSERVATIONS
2			SAT. NO UPDT MISS 2122/124/2126 ELEV = 05°
			SAT UPDATE - Δ LAT = .004'S ΔLON = .004'W NEW CORR = .78055 ELEV = 33 TOOK THIS ONE MAINLY. " CORR = -.47691 TO GET HYPERBOLIC BACK IN.
			SP1 SOL 216 RERUN
			SAT NO UPDT Elev 56 MSG CHG miss 77/-462/468
			SP10
			SP20
			SP30
			SP40
			C/S boat Ahead / Slowing down
			SP50
			C/S → 6.0 kts
			SAT NO UPDT Elev 21 miss 498/-488/697
			SP60
			SP70
			SP80
			SP90
			SP100 Weaving through Rigs / suppy boats etc
			SP110
			SP120
			SP130
			S.P. 140
			S.P. 150
			S.P. 160
			S.P. 170
			S.P. 180
			SAT No UpDt. Elev. 07° MISS 2584/-1945/3235
			S.P. 190
			S.P. 200
			S.P. 209 EOL — 216 R

YR	MO	DAY	TIME Z +6	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES ±	LATITUDE N MINUTES	LONGITUDE W ± DEGREES ±	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	23					1540	29	02.6	88	45.9			SAT
			1600		STOP		PROG	→	LOAD	N'STAR	VERSION			
									.		.			
81	04	24	0000						.		.			
			↓						.		.			
									.		.			
									.		.			
									.		.			
									.		.			
			1411					29	32.4	88	38.5			
			2022		231	2.4		28	43.6	89	17.2			
			2025						.		.			
			2029						.		.			
			2032				2018	28	44.1	89	16.6			
							2204	28	37.0	89	26.1			
			2218	11	244	6.0			36.1		27.6			1
			2232						35.6		29.2			
			2247						34.9		30.9			20
			2302						34.1		32.5			
			2316						33.5		34.2			40
			2330						32.7		35.8			
			2345						32.0		37.5			60
			2359						31.3		39.1			70
							2350	28	32.0	89	37.9			
81	04	25	0013						30.6		40.8			80
			0028						29.9		42.4			
							0026	28	30.3	89	42.3			
			0042						29.2		44.1			100
			0056						28.5		45.7			110
			0111						27.8		47.4			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
			SAT No UpDt. Elev. 87 Miss 1015/+2511/2708
2		X	1600Z EOF TAPE #2
			NEW N'STAR VERSION RUN UNSUCCESSFULLY
			MAINTENANCE: RAN EDIT & POST PLOT ON BLM DATA FOR
			LEG 2
			HOOKED UP PLOTTER /BRIDGE NAVIGATING
			FOR STA WORK
			51
3	X		1411Z START TAPE #3 TRANSIT TO MISS FAN STUDY
			2022 - 12 miles from start of line 11 - Slow to 3 kts to stream gear
			2026 - Start transmitting data from Grav computer to 1 MS
			2029 - Incr. speed to 5 kts.
			SAT - NO UPDATE ANGLE ONLY 60° but it had us close miss only 230'
			SAT NO UPDT Elev 73 miss 526/-671/853
			SP1
			SP10
			SP20
			SP30
			SP40
			SP50
			SP60
			SP70
			SAT NO UPDT Elev 12 miss 1365/741/1553
			SP80
			SP90
			SAT NO UPDT Elev 06 miss 1795/-644/1907
			SP100
			SP110
			SP120

YR	MO	DAY	TIME Z +6	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES ±	LATITUDE N MINUTES	LONGITUDE W ± DEGREES ±	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	25	0125	11	244	6.8		28	27.0	89	49.0			130
			0140						26.3		50.7			140
							0138	28	26.6	89	50.6			SAT
DAY 115			0156						25.6		52.4			150
			0211						24.9		54.0			160
							0208		25.2		53.8			SAT
			0225						24.3		55.5			169
			0328	12	064	5.4			19.8		53.5			1
			0346						20.4		51.9			10
			0406						21.1		50.3			20
							0358		21.0		51.1			SAT
			0423						21.8		48.6			30
							0426		22.1		48.5			SAT
			0439						22.5		47.0			40
			0455						23.3		45.3			50
			0511						24.0		43.7			60
			0527						24.7		42.1			70
			0542						25.4		40.4			80
			0558						26.1		38.7			90
			0613		064	6.4		28	26.8	89	37.1			
			0628						27.5		35.4			110
			0643						28.2		33.8			
			0659						28.9		32.1			130
			0710				0656		28.0		34.9			SAT
			0714						29.6		30.5			140
			0730						30.4		28.8			
			0745	12	064	6.5			31.0		27.2			160
			0822	—			0812		30.1		24.8			
			0855				0846		28.5		21.4			
			0912	13	244	6.0			26.9		23.5			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
3			SP 130 d/s ½ knot E:
			SP 140
			SAT Elev 60 656/-974/1174
			S.P. 150
			S.P. 160
			SAT Msg Chg No UpDt Elev 68 Miss 807/-1067/1338
			S.P. 169 EOL #11
			S.P. 1 SOL #12
			S.P. 10
			S.P. 20
			SAT No UpDt Elev. 13 Miss 931/-527/1070
			S.P. 30
			SAT No UpDt Elev. 37 Miss 637/-432/770
			S.P. 40
			S.P. 50
			S.P. 60
			S.P. 70
			S.P. 80
			S.P. 90
			SP 100
			SP 110
			SP 120
			0710 - SAT - NO UPDATE MISS -4741/-13149/13978 ELEV = 37° HIGH MISS RESIDUALS NOW WHAT'S WRONG?
			SP 130
			SP 140
			SP 150
			EOL 12 SHOT POINT 160
			SAT - NO UPDATE MISS 1585/-262/1607 ELEV = 7° ONLY 6 TWO MINUTE PERIODS
			SAT - NO UPDATE MISS 1697/-200/1609 ELEV = 26° MAYBE IT'S TRUE! c/c DURING PASS ONLY 7 2-MIN. UPD.
			0912 - BEGIN LINE 13 SHOT POINT 1

Speed Changes

YR	MO	DAY	TIME (7 +16)	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE N ± DEGREES	LATITUDE N ± MINUTES	LONGITUDE W ± DEGREES	LONGITUDE W ± MINUTES	TYPE	QUAL.	
81	04	25	0927	13	244			28	26.3	89	25.0			10
			0943						25.5		26.6			
DAY 115			0959						24.8		28.3			30
							0954	28	25.2	89	27.9			
			1016						24.1		29.9			40
			1032						23.4		31.6			
			1049						22.6		33.2			60
			1105						21.9		34.8			
			1122						21.2		36.5			80
			1138						20.5		38.1			
			1156						19.7		39.9			100
							1142	28	20.5	89	38.7			
			1210						19.1		41.5			110
			1227						18.3		43.1			
			1244						17.6		44.8			130
			1300						16.8		46.5			
							1248	28	17.4	89	45.2			
			1316						16.1		48.0			150
			1322						15.8		48.7			
			1327	14	160	6.5			15.6		48.8			1
			1343						14.2		48.4			
							1330	28	15.2	89	48.7			
			1401						12.6		47.7			20
							1358	28	12.8	89	47.8			SAT
			1420						11.1		47.1			30
			1439						09.6		46.5			40
							1434	28	09.9	89	46.7			SAT
			1457						08.0		45.9			50
			1516						06.5		45.3			60
			1536						05.0		44.7			70

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 52
3			SHOT POINT 10 LINE 13	?!
			SP 20	
			SP30	
			SAT NoUPDT Elev 60° MSGCHG miss 489/-1022/1133	
			SP40	
			SP50	
			SP60	
			SP70	?
			SP80	
			SP90	
			SP101	
			SAT UPDT Elev 17 miss 1009/-778/1274	
			SP110	
			SP120	
			SP130	
			SP140	
			SAT NoUPDT Elev 47 MSGCHG miss -315/61/320	
			SP150	
			SP154 EOL 13	
			SP 1 SOL 14	
			SP10	
			SAT NoUPDT Elev 32 (Interrob) miss -558/96/567	
			S.P. 20	
			SAT No UpDt. Elev. 11° Miss -1094/627/1261	
			S.P. 30	
			S.P. 40	
			SAT Msg Chg NoUpDt Elev. 15° Miss -605/-247/654	
			S.P. 50	
			S.P. 60	
			S.P. 70	

60 7.0

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES ±	LATITUDE N MINUTES	LONGITUDE W ± DEGREES ±	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	25		14			1542	28	04.5	89	44.7			SAT
			1557		159	5			03.3		44.0			81
		15	1615						02.0		43.4			90
DAY 1			1634						00.4		42.7			100
			1654					27	58.9		42.2			110
			1714						57.4		41.6			120
			1728						56.3		41.1			127
			1733	15	056	5			56.1		40.9			1
							1732		56.1		41.0			SAT
			1748						57.0		39.5			10
			1805						57.8		38.0			
			1823						58.7		36.4			30
			1835				1816	27	58.4	89	37.0			
			1840						59.6		34.9			40
			1858		056	5.5		28	00.6	89	33.4			
			1916						01.5		31.9			60
			1934						02.4		30.3			
			1945						.		.			
			1952						03.3		28.8			80
			2009		056	5.7			04.2		27.3			
			2018				2002	28	03.8	89	28.0			
			2026						05.1		25.8			100
			2042						06.1		24.3			
			2059						06.9		22.8			120
			2117						07.8		21.2			
			2135						08.8		19.7			140
			2136				2114	28	97.6	89	21.6			SAT
			2150						09.7		18.3			
			2206						10.6		16.7			160
			2212						10.9		16.1			164

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 53
3			SAT Msg Chg: No UpDt Elev. 78 Miss -237/-1233/1255	
			S.P. 81	
			S.P. 90	
			S.P. 100	
			S.P. 110	
			SP. 120	
			S.P. 127 EOL -14	
			S.P. 1 SOL -15	
			SAT No UpDt Elev. 7° Miss 391 / 132 / 413	
			S.P. 16	
			SP 20	
			SP 30	
			SAT UPDATE - ΔLAT: .004'S ΔLON: .035'E EL: 17° NEW CORA: .26771 CORB: -.06344	
			SP 40	
			SP 50	
			SP 60	
			SP 70	
			1945 - INCREASE SPEED ½ KT. (HAVE BEEN AVERAGING 5.1 - DON'T WANT TO BE LATE GETTING TO PORT)	
			SP - 80	
			SP - 90	
			SAT UPDATE - ΔLAT = .025'S ΔLON = .006'W EL: 56° NEW CORA: .42388 CORB = -.09533	
			SP 100	
			SP 110	
			SP 120	
			SP 130	
			SP 140	
			SAT UPDATE - ΔLAT: .046'S ΔLON = .014'E ELEV: 28° NEW CORA = +.25201 CORB = +.04945	
			SP 150	
			SP 160	
			SP 164 EOL 15 Circling to PM on Seismic Recorders	

YR	MO	DAY	TIME Z +6	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE N ± DEGREES ±	LATITUDE N MINUTES	LONGITUDE W ± DEGREES ±	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	25	2240	16	088	5.0		28	11.1	89	16.0			1
			2255						11.1		14.4			
DAY 115							2360		11.1		13.9			SAT
			2314						11.1		12.3			21
			2329						11.1		10.7			30
			2346						11.1		08.7			40
81	04	26	0003						11.2		07.0			50
			0022						11.2		05.2			60
			0042						11.3		03.4			70
DAY 116							0030	28	11.3	89	04.5			
			0058						11.3		01.5			80
			0113						11.3	88	59.7			90
			0127						11.3		57.9			100
			0142						11.4		56.0			110
			0157						11.4		54.2			120
							0150		11.7		55.5			SAT
			0213						11.5		52.4			130
							0216		11.6		52.0			SAT
			0229						11.5		50.3			141
			0243						11.5		48.7			150
			0258						11.5		47.0			160
			0312						11.6		45.0			170
							0306		11.6		45.9			SAT
			0326						11.6		43.2			180
			0340						11.7		41.4			190
			0355						11.7		39.5			200
			0409						11.7		37.7			210
			0424						11.7		35.8			
			0439						11.7		34.0			230
			0453						11.7		32.2			240

TAPE #	START	END	COMMENTS AND OBSERVATIONS
3			SP 9 Sol 16 C/S ↑
			SP 10
			SAT No UpDt. Elev. 32 Miss 61/-39/73
			S.P. 21
			S.P. 30
			SP 40
			SP 50
			SP 60
			SP 70
			SAT No UPDT Elev 40 MSGCHG miss 231/-155/278
			SP 80 C/S ↑ 1 East
			SP 90
			SP 100
			SP 110
			S.P. 120
			SAT No UpDt. Elev. 09° Miss 2110/-1784/2764
			S.P. 130
			SAT No UpDt Elev. 24° Miss 574/-123/587
			S.P. 141
			S.P. 150
			S.P. 160
			S.P. 170
			SAT No UpDt. Elev. 32° Miss 265/-137/298
			S.P. 180
			S.P. 190
			S.P. 200
			S.P. 210
			S.P. 220
			S.P. 230
			S.P. 240

YR	MO	DAY	Z TIME +5	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES ±	LATITUDE N MINUTES	LONGITUDE W ± DEGREES ±	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	26	0508	16	089	6		28	11.8	88	30.4			250
			0523						11.8		28.5			260
DAY 1							0524		12.2		28.2			SAT
			0538						11.9		26.7			270
			0553						11.9		24.9			280
			0607		089	6.7			11.9		23.0			
			0622						12.0		21.2			300
			0624				0608		12.0		23.0			
			0636						12.0		19.4			310
			0650						11.9		17.5			
			0703	16				28	12.1	88	15.9			329
			0714	17	242	6.5		28	11.9	88	15.9			1
			0728						11.3		17.5			
			0743						10.5		19.0			20
			0758						09.8		20.7			
			0800						.		.			
			0807				0752	28	10.1	88	20.0			AM
			0812						09.1		22.4			40
			0827						08.2		23.9			
			0842						07.5		25.5			60
			0856						06.8		27.2			
			0911		242	6.6			05.9		28.7			80
			0922				0904	28	06.4	88	28.0			AM
			0926						05.1		30.4			
			0940						04.4		32.0			
			0955						03.6		33.6			
			1009						02.8		35.2			
			1024						02.1		36.8			
			1038						01.4		38.5			
			1052						00.6		40.1			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
3			S.P. 250 (DAY LIGHT SAVINGS EFFECTIVE TODAY +6 → +5)
			S.P. 260
			SAT Msg Chg. NoUpDt Elev. 08 Miss 2409/1329/2752
			S.P. 270
			S.P. 280
			SP 290
			SP 300
			SAT MSG CHG NO UPDATE ELEV=16 MISS = 622/48/624
			SP 310
			SP 320
			END LINE 16 SHOT POINT 329 LOOP TO THE LEFT
			BEGIN LINE 17 SHOT POINT 1
			SP 10
			SP 20
			SP 30 (+6 → +5)
			0800 - SWITCH TO DAYLIGHT SAVINGS TIME FOR LOCAL TIME - 0300 C.D.T. NO EFFECT ON G.M.T.
			SAT. UPDATE ELEV=60° ΔLAT=.062'N ΔLOM=.015'W NEW CORA=.27275 CORB=-.03796
			SP 40
			SP 50
			SP 60
			SP 70
			SP 80
			SAT UPDATE ΔLAT=.038'S ΔLOM=.028'W ELEV=31 NEW CORA=.32886 CORB=.08383
			SP 90
			SP 100
			SP 110
			SP 120
			SP 130
			SP 140
			SP 150

YR	MO	DAY	Z TIME +5	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES	LATITUDE N ± MINUTES	LONGITUDE W ± DEGREES	LONGITUDE W ± MINUTES	TYPE	QUAL.	
81	04	26	1106	17	241	6.8		27	59.9	88	41.7			
			1121						59.0		43.3			
DAY 116			1135						58.2		44.9			
			1149						57.5		46.5			
							1140	27	58.0	88	45.4			
			1203						56.7		48.1			
			1217						55.9		49.7			
			1231						55.2		51.4			
			1245						54.4		53.0			
							1240	27	54.7	88	52.3			
			1259						53.6		54.6			240
			1314						52.8		56.2			250
			1328						52.0		57.8			260
							1324		52.3		57.4			SNOT
			1343						51.3		59.4			
			1358						50.5	89	01.0			280
			1413						49.7		02.6			290
			1428						49.0		04.2			300
							1426		49.2		03.9			SAT
			1444						48.2		05.8			310
			1500						47.5		07.4			320
							1450		48.0		06.4			SAT
			1515						46.6		09.0			330
			1531						45.9		10.6			340
			1546						45.1		12.2			350
			1601						44.3		13.9			360
			1617						43.5		15.4			370
							1614		43.6		15.3			SAT
			1633						42.8		17.0			380
			1649						42.0		18.6			390

TAPE #	START	END	COMMENTS AND OBSERVATIONS
3			SP160
			SP170
			SP180
			SP190
			SAT No UPDT Elev 11° (7 intervals) MSG CHG miss -105/325/342
			SP200
			SP210
			SP220
			SP230
			SAT No UPDT Elev 13° (7 intervals) miss +91/238/255
			S.P. 240 c/s ↓
			S.P. 250
			S.P. 260
			SAT Msg Chg. No Up Dt. Elev. 63° Miss 223/-543/587
			S.P. 270
			S.P. 280
			S.P. 290
			S.P. 300
			SAT No Up Dt. Elev. 72° Miss 144/-165/219
			S.P. 310
			S.P. 320
			SAT Msg Chg No Up Dt. Elev 43° Miss 210/-282/352
			S.P. 330
			S.P. 340
			S.P. 350
			S.P. 360
			S.P. 370
			SAT No Up Dt. Elev. 6° Miss -341/-1210/1257
			S.P. 380
			S.P. 390

YR	MO	DAY	TIME (Z+5)	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES (N)	LONGITUDE ± DEGREES	LONGITUDE MINUTES (W)	TYPE	QUAL.	
81	04	26	1652	17	241	6.2	1638	27	42.5	89	17.7			SAT
		14	1704						41.2		20.2			400
	DAY		1720						40.4		21.8			
			1736						39.6		23.4			420
			1751						38.9		25.1			
			1807		241	6.1			38.1		26.6			440
			1823						37.3		28.2			
			1839						36.5		29.8			460
			1855						35.8		31.4			
			1911	17	241	3.0			35.0		33.0			480
			1914	—	283	~10.0			.		.			
			1935				1912	27	35.0	89	33.0			SAT
			1928						.		.			
			EDIT / POST PLOT OF MISS FAN						.		.			
81	04	26	2324		RESTART NAV				.		.			
									.		.			
81	04	27	0000	—					.		.			
			0718	—	272	3.8			.		.			
	DAY	17	0719	—			0704	27	56.5	91	31.2			SAT.
			0747	—					.		.			
			0753						.		.			
			0800	18	270	6.0		27	58.9	91	35.3			1
			0815						58.9		36.9			10
			0831				0818	27	59.3	91	37.1			
			0834						58.9		38.8			20
			0854						58.9		40.6			
							0850	27	59.1	91	40.3			
			0911						59.1		42.5			
			0915						59.1		42.9			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
3			SAT No UpDt Elev. 24° Miss -98/-858/864
			S.P. 400
			SP 410
			SP 420
			SP 430
			SP 440
			SP 450
			SP 460
			SP 470
			SP 480 END OF LINE 17. SLOW TO 3 KTS TO PULL IN GEAR. BATHYMETRY OFF.
			PICK UP SPEED TO HEAD FOR NEXT AREA - 110 MILES AWAY.
			SAT - NO UPDATE. MISS 371/357/515 ELEV = 60° CAME IN DURING SPEED CHANGE.
3		X	1938 - EOF ON TAPE 3 SYSTEM OFF FOR POST PLOTTING.
4	X		2324Z START TAPE #4
			Transit to Jackula Sea Mount (110 mi)
			3 MILES FROM START OF LINE 18. SLOW TO 3 KTS TO STREAM GEAR. TURN TO ~ 270°
			SAT - NO UPDATE - CAME IN DURING COURSE + SPD CHG. MISS = 573/7/573 ELEV: 43
			COMING UP TO SURVEY SPEED - 6.0 KTS. STILL 1 MILE FROM LINE.
			SET MAGNETOMETER SCALING FACTOR TO 1.
			SHOT POINT 1 - START LINE 18. (JACKULA)
			SP 10
			SAT - NO UPDATE ELEV = 8° MISS 1851/262/1870
			SP 20
			SP 30
			SAT UPDT Elev 22 (7 intervals) MSG CHG miss RECOMP 1053/-660/1242
			SP 40
			SP 42 EOL 18
			transit to Aldedyne

YR	MO	DAY	TIME Z +5	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE N ± DEGREES	LATITUDE N ± MINUTES	LONGITUDE W ± DEGREES	LONGITUDE W ± MINUTES	TYPE	QUAL.	
81	04	27	1200	19	270	6.0		28	04.6	91	55.6			
							1150		04.6		54.5			
Dif			1215						04.6		57.3			
							1218		04.6		57.6			
			1231						04.6		59.1			
			1247						04.6	92	00.9			
			1259						04.6		02.4			
			1357						.		.			C/C
			1416	20					07.5	91	59.3			1
							1402		09.1	91	59.0			SAT
			1430						06.0		59.4			10
			1444						04.4		59.6			20
			1458						02.8		59.8			30
			1512						01.3	92	00.0			40
			1526					27	59.6		00.3			50
							1524		59.8		00.3			SAT
			1539						57.9		00.5			60
			1553						56.3		00.6			70
							1550		56.8		00.6			SAT
			1608						54.7		00.8			80
			1618						53.6		01.0			87
			1619		53	6.8			.		.			C/C
			1717	21	270	6.9		27	56.8	91	56.7			1
			1729						56.8		58.3			
			1742						56.8	92	00.1			20
			1755						56.8		02.0			
			1808		270	7.8			56.8		03.8			40
			1811						56.8		04.2			42
			1812						.		.			
			1835				1822	27	57.0	92	05.8			51

TAPE #	START	END	COMMENTS AND OBSERVATIONS
4			SP1 SOL 19
			SAT NO UPDT Elev 14 miss 227/-133/263
			SP10
			SAT NO UPDT Elev 23 (6 intervals) miss 224/167/279
			SP20
			SP30
			SP38 EOL 19
			C/C for line up
			S.P. 1 SOL -20
			SAT No UpDt Elev. 32° Miss 349/-541/644
			S.P. 10
			S.P. 20
			S.P. 30
			S.P. 40
			S.P. 50
			SAT NoUpDt. Elev. 27° Miss -244/-169/298
			S.P. 60
			S.P. 70
			SAT No UpDt. Elev. 76° Miss -213/64/223
			S.P. 80
			S.P. 87 EOL -20
			C/C steam for Line 21
			START LINE 21 SHOT POINT 1
			SP 10
			SP 20
			SP 30
			SP 40
			EOL 21 SHOT POINT 42
			TURN TO 276° TO HEAD FOR LINE 22. SPEED INC. TO 10 KTS.
			SAT UPDATE ΔLAT= .015'S ΔLON= .000 : NEW CORA= -.49787 CORB= .15270

YR	MO	DAY	TIME (Z+5)	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES (N)	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES (W)	TYPE	QUAL.
81	04	27	2056	22	000	6.8		28	00.0	92	27.5		
			2111						01.5		27.6		
			2126						03.1		27.6		
DAY 17							2122	28	02.6	92	27.5		
			2142						04.7		27.6		
			2158						06.3		27.6		
			2210						07.6		27.6		
			2320	23	270	8.0			03.6		23.9		
			2332						03.6		25.5		
			2342						03.6		27.3		
			2354						03.6		29.2		
81	04	28	0003						03.6		30.6		
			0005										
			1600		ARRIVE		GALVESTON				(11 AM LOCAL).		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 59
4			SP1	
			SP10	
			SP20	
			SAT NO WPDT Elev 30 mins 149/579/598	
			SP30	
			SP40	
			END OF LINE 22 SHOT POINT 48 C/C TO 120° TO HEAD FOR LINE 23.	
			SP1 SOL 23	
			SP10	
			SP20	
			SP30	
			SP38 EOL 23	
			Hauling Maggie IN / Switch TD's XY → WX (7980) for better SNR	
			Transit to Galveston	
4	X		13582 4/28/81 EOF	
			END GYRE 81-6-2	