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-GS-1 & 2

DATE 4/6 - 4/28 1981

CHIEF SCIENTIST _____

81007
4/6-17/1981

81008
4/18-28/1981

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	06	2240						.		.		
									.		.		
81	04	07	0710						.		.		
			0756				0738	28	38.7	93	32.5	SS	A
DAY 97									.		.		
			1148		124	9.6		28	16.2	92	57.4		
			1201		107	9.6		28	15.0	92	55.3		
									.		.		
			1230		107	9.7		28	13.7	92	50.3		
			1300						.		.		
			1352		109	10.0		28	09.8	92	35.8		
			1415		109	4.0		28	08.5	92	31.6		
			1427		109	9.7			.		.		
			1442		175	8.0		28	07.5	92	28.2		
			1500		175	7.4		28	05.3	92	28.2		
			1540		175	5.0			.		.		
			1547						.		.		
			1550						.		.		
			1554						.		.		
			1555		105				.		.		
			1600		104	7.8		27	59.3	92	26.3		
			1611			7.8			.		.		
			1700		107	9.2		27	57.2	92	16.7		
			1710		104	9.4		27	56.8	92	14.5		
			1730		104	8.5		27	55.8	92	11.6		
			1800					27	54.9	92	06.3		
			1810						.		.		
			1811						.		.		
			1828	3005		8.1		27	53.8	92	01.3		
			1850						.		.		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 1
			Dep Galveston 81-GS-1 Cruise	
			(1640 local)	
			GYRO VELOCITIES HIGH. - FOUND THAT ΔV WERE COMPUTED AND SENT TO NAV/GRAV INTERFACE. THEN TRANSMISSION STOPPED TO LEAVE ΔV STUCK THERE. ΔV SET TO ZERO THEN TRANSMISSION TURNED OFF.	
			SAT. UPDATE — CORA & CORB UPDATE.	
1	X		4/7/81 @ 114838 Day 097 Prim 02/GRIM 02	
			c/c to 107.2° GVEL 04 ANTH 20.0	
			GYAL 1.5	
			Changed ANTH to 10.	
			Oil Rigs c/c (minor)	
			Slow to deploy MAGNETOMETER	
			INC SPEED	
			C/C TO 175 C/S TO 8.0 START LINE #1	
			ON LINE #1	
			REDUCE SPEED TO PLAY OUT MAGGY	
			C/C TO 105 END LINE NO. 1	
			START LINE NO. 2	
			INC. SPEED FOR TRANSIT ON LINE NO 2	
			START 1ST SHOTPOINT OF " " 2	
			ON LINE NO. 2	
			INC SPEED TO 9 KNOTS	
			ON LINE NO. 2	
			SAT: ELE. (7C) MISDIST -201, 2409 (N.G.) NO UPDATE	
			SAT: ELE (1D) MISDIST -1668, -772 (N.G.) NO "	
			ON LINE 3	
			1810 - DEPTHS BAD - GLAD COCA LAD WILL GET ON IT.	
			1811 - DEPTH BACK.	
			1828 - C/C TO 005° START LINE 3 - SHIP ROLLING ON THIS COURSE.	
			WRONG WAYPOINT ENTERED FOR ENDPOINT. CORRECTED NOW. 0.5 mi OFF LINE.	

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	04	1900	0003	305	5.8		27	56.7	92	00.2		
			1902						.		.		
Day 097			1952						.		.		
			2005	0041	308	6.6		28	08.6	92	00.9		
			2059					28	01.0	91	50.0		
			2100					28	00.9	91	49.9		
			2133					28	00.3	91	49.9		
			2200	0051	70	10.0		28	02.2	91	39.8		
			2203				2150	28	01.5	91	41.5		
			2300					27	55.1	91	38.5		
			2315	0061	080	8.0			55.5		36.6		
			2330						55.8		34.1		
			2345						56.4		31.7		
81	04	08	0000					27	56.9	91	29.3		
			0015						57.4		26.9		
DAY ##			0030						57.8		24.4		
098									.		.		
			0100						58.4		19.5		
			0115						58.8		17.1		
			0130						59.2		14.7		
							0124	27	59.0	91	15.8	SAT	
			0145						59.6		12.2		
			0200					28	00.1		09.8		
							0148	28	00.0	91	11.8		
			0215						00.5		07.4		
			0230						00.8		05.0		
			0245						01.3		02.6		
			0300						01.7		00.1		
			0310	0071	009	7.0		28	02.7	90	59.6		
			0315						03.4		59.6		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 2
1			ON LINE 3	
			LOSE ALL LORAN (N'STAR TOO) SWITCH to X/Y Rate	
			LORAN BACK UP - HYPERBOLIC UPDATE.	
			2005 - C/C to [illegible] START LINE 4	
			2059 - DISCOVERED THAT HYPERBOLIC UPDATE WAS 6 mi. OFF. MAN. UPDATE TO NORTHSTAR.	
			2100 - HOURLY CHECK	
			2133 - HYPERBOLIC UPDATE (AFTER CORRECTING CORA + CORB) Prim/Grim 2	
			2200 - HOURLY CHECK	
			2202 - SAT. UPDATE - MISS RAD. 196 ACCEPT CORA .0215 CORB .195	
			2300 - HOURLY CHECK.	
			2315 - MANEUVERING FOR TRAFFIC	
			SHOT PNT DOWN	
			SHOT PNT GOING	
			SAT / NO UPDT Elev 08 MSGCHG miss -458 -781 906	
			SAT NO UPDT Elev 08 MSGChg miss 1823 -386 1863	
			C/C 005	
			1ST Shot PNT	

YR	MO	DAY	TIME Z +6	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES	LATITUDE MINUTES	LONGITUDE W ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
81	04	08	0330	7	007	7.0		28	05.3	90	59.4		
							0318	N 9	.		.		
DAY	098		0345					28	07.1	90	59.2		
							0338	N 7	.		.		
			0355						.		.		
			0403	8	088	8.6		28	08.7	90	58.1		
			0415						08.7		56.3		
			0430						08.8		54.0		
			0445						08.9		51.8		
			0500						08.9		49.4		
			0515						09.0		47.2		
			0530						09.1		44.9		
							0522	N 6	.		.		
			0545	9					.		.		
			0550						.		.		
			0600	9	173	5.6		28	07.4	90	42.5		
			0646	10	062	8.0		28	[illegible]	90	41.7		
			0700					28	03.1	90	39.9		
			0703				0652	N 6	.		.		
			0800	10	062	8.4		28	07.1	90	31.5		
			0845				0830	28	09.3	90	27.4		
			0900	10	062	8.9		28	11.3	90	23.1		
			1000		062	8.3		28	15.1	90	14.4		
			1002						.		.		
			1004				0942	28	14.0	90	17.2		
			1035				1020	28	16.3	90	11.5		
			1100		062	8.7		28	19.1	90	05.6		
			1115						20.1		03.3		
			1130						21.2	90	01.1		
			1145					28	22.3	89	58.8		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 3
1				Prim / Grin 02
			SAT / No UPDT Elev 9 MSG Change, miss 143215!!!!	
			SAT / No UPDT Elev 84 Msg Chg miss 3558 ANTH 0	
			C/C 088 to line 8	
			SAT / No UPDT Elev 9 miss 1433 -572 1543	
			C/C to 175 line 9	
			1st SHOT Pnt	
			0600 - Hourly Check.	
			0646 - C/C to 062° START LINE 10.	
			0700 - Hourly Check.	
			0[illegible]3 - SAT. PASS DURING COURSE CHANGE.	
			0800 - Hourly Check - ON LINE 10	
			0845 - SAT UPDATE - New CORA - .09357 CORB - -0.27156	
			0900 - Hourly Check - ON LINE 10	
			1000 - ON LINE 10.	
			1002 - CHANGE COURSE TO STARBOARD TO AVOID OIL RIG. LONG SLOW TURN.	
			1004 - SAT. UPDATE DLAT = 0.1'N DLON = 0.1' W NEW CORA +.31518 CORB = -.0294	
			1035 - " " DLAT = .04'S DLON = .03'S NEW CORA - +.2186 CORB = +.352	
			1100 - Hourly Check - ON LINE 10	

YR	MO	DAY	Z TIME +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	08	1200	10	070	9.1		28	23.3	89	56.6		
DAY	098		1215						24.4		54.4		
			1230						25.4		52.2		
			1245						26.4		49.9		
							1246		NAV.				
			1300						27.5		47.6		
			1430		070	9.1			33.9		33.9		
			1431										
			1435		005	6.0							
			1500		005	6.1			37.0		35.4		
			1524										
			1540		CHANGE		COURSE TO	075	INC. S. TO		85K		
			1546										
			1600										
			1650										
			1700										
			1800										
			~~1821~~					28	48.8	89	10.8		
			1900										
			1945										
			2006					28	50.6	89	03.5		
			2100					28	52.9	88	57.9		
			2151				2136	28	54.8	88	53.8		
			2351					28	58.1	88	43.1		
81	04	09	0008	218	072	5.5			58.4		42.2		
			0014						58.7		41.7		
DAY	099		0030						59.4		40.3		
							0030	28	59.4	88	40.4		

TAPE #	START	END	COMMENTS AND OBSERVATIONS
1			
			SAT NO UPDT Elev 9 mins - 1316 440 1388
			ON LINE 10
			END LINE 10 LAST SHOTPOINT AT 1430
			STARTING LINE 11 REDUCE SPEED TO 6K % TO 005
			START SHOTPOINTS
			LOST PROGRAM / RELOAD
1	X		TAPE No. 1 END TIME 15242 NO EOF Prog Stopped
2	X		START 4/8/81 1547
			START SP ROUTINE 1ST SHOT POIN AT 1605 LINE # 12
			SAT. 23° PAPER JAMMED
			ON LINE 12 TRANSIT TO LINE #218
			1800 - END LINE 12 - [illegible]
			1821 - [illegible] POINT
			[illegible]
			[illegible] INDIAN GRAVE.
			2000 - STILL STREAMING GEAR
			2100 - HEADING FOR SURVEY AREA AGAIN.
			2151 - SAT UPDATE - ΔLAT: .04'N ΔLON: .07'W NEW CORA = 0.44224 CORB = 0.15753
			Testing Air guns etc
			Lining up to Line 218
			Start Line 218 SP1
			SP 4 ANTH -5
			SP 12
			SAT NO UPDT Elev 10 mins -277/-86/290

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	09	0045	218	042	6.5		29	00.5	88	39.2			
DAY	099		0057						01.4		38.0			
			0112						02.5		36.7			
			0126						03.7		35.4			
			0141						04.9		34.1			
			0156		044	6.6			06.0		32.7			
			0257				0244	29	09.5	88	28.6			
		BACKLOG	0211						07.1		31.4			
		BACKLOG	0226						08.2		30.1			
			0241						09.4		28.8			
			0257						10.5		27.4			
			0312						11.6		26.1			
			0327						12.8		24.8			
			0342						13.9		23.5			
			0356	218	046	6.3		29	15.0	88	22.1			150
			0411						16.0		20.9			
			0425						17.3		19.5			
			0433					29	17.8	88	18.8			Esc
			0447				0434	29	17.8	88	18.7			
			0528	110	317	8.0								
			0606	110	316	7.7		29	23.6	88	18.6			Soc
			0618						24.6		19.8			10
			0631						25.5		21.2			
			0645						27.0		22.4			
			0659						28.1		23.7			
			0712						29.3		25.0			50
			0726					29	30.5	88	26.2			
			0740						31.6		27.6			
			0752						32.7		28.7			
			0758				0742	29	31.9	88	27.7			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
2			SP 27
			SP 30
			SP 40
			SP 50
			SP 60
			SP 70
			0257 - SAT. UPDATE - ΔLAT = .016'S ΔLON = .016'W [illegible]
			SP 80
			SP 90
			SP 100
			SP 110
			SP 120
			0327 - SP 130
			SP 140
			150
			SP 159 - MISSED 160 DUE TO CABLE LINE (NO GOOD)
			SP 170
			0430 END LINE 218 SP 175
			0447 SAT UPDATE ΔLAT = 0.10'S ΔLON 0.25'E NEW CORR: .2931 CORR = .19132
			0528 LINE START - CIRCLE TO LIFT TO START AGAIN.
			0600 SHIFT LINE 110.
			SP
			SHOT POINT 30
			S.P. 40
			S.P. 50
			0726 - SHOT POINT 60
			SP. 70
			S.P. 79 - MISSED BUOY [illegible]
			SAT. UPDATE - ΔLAT = .065'N ΔLON = .013'E NEW CORR: .08654 CORR = -.01896

YR	MO	DAY	TIME (Z)	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	NAVIGATION LATITUDE N ± DEGREES	LATITUDE N MINUTES	NAVIGATION LONGITUDE W ± DEGREES	LONGITUDE W MINUTES	TYPE	QUAL.	
81	04	09	0800	110	316	8.2		29	34.1	88	30.6			90
DAY 099			0821						35.3		31.3			100
			0825						36.5		32.6			110
			0849	110	317	6.3			37.6		33.9			120
			0903		317	6.1			38.8		35.2			130
			0916		315	4.9			40.0		36.4			140
			0930		318	7.3			41.2		37.7			150
			0944		317	7.0			42.4		39.0			160
			0958						43.6		40.3			170
			1012		317	6.4			44.7		41.5			180
			1026						45.9		42.8			190
			1039		314	7.0			47.1		44.1			200
			1048					29	47.9	88	45.0			EOL
			1100						.		.			
			1038		SAT				47.1		43.0			
									.		.			
									.		.			
			1130						.		.			
			1149	204	048	6.7		29	47.4	88	45.0			50 L
			1202						48.4		43.8			
			1217						49.5		42.5			
			1232						50.7		41.2			30
							1228	29	50.5	88	41.5			
			1247						51.8		39.9			
			1302						53.0		38.6			
			1317						54.2		37.3			
			1332						55.3		35.9			
							1322	29	54.5	88	36.8			
			1347						56.5		34.6			80
			1403						57.7		33.2			
							1402	29	57.6	88	33.4			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
2			SHOT POINT 90 – ON LINE 110
			S. P. 100
			S. P. 110
			S P 120 SPEED ON CRT NOISEY 6 to 8 K SLOWLY UP & DOWN
			S P 130
			S P 140 " " " " 4 to 6 K
			SP 150
			SP 160
			SP 170
			SP 180
			SP 190
			SP 200
			END LINE 110 LAST SP IS 207
			C/C TO CIRCLE ON TO LINE 204 TO 3.8 REDUCE SPEED
			SAT 30° MISDIST – +682 / 17 | R-R & NYP OUT BY .1 mi | TAKE UPDATE | RR & NYP NOW OUT BY .2 mi | SHOULD NOT HAVE UPDT | NO COUP
			ON NEXT SAT LOOKING FOR MISDIST OF APPROX. –1200, 0
			STILL CIRCLING PULL SPARKER LINE TO CLIP.
			SP1
			SP10
			SP20
			SP30
			SAT NO UPDT Elev 22 MISS 692/386/793
			SP 40
			SP50
			SP 60
			SP 70
			SAT NO UPDT Elev 28 miss 45/393/395 MSG Chg
			SP 80
			SP 90
			SAT NO UPDT Elev 30 miss 551/264/611

YR	MO	DAY	TIME (Z +6)	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES (N)	LONGITUDE ± DEGREES	LONGITUDE MINUTES (W)	TYPE	QUAL.	
81	04	09	1418	209	044	6.1		29	58.8	88	32.0			
			1434						59.9		30.7			
			1456					30	01.1		29.4			
		18	1506		044	6.4		30	02.2		28.1			
			1522						03.4		26.8			
			1539		046	6.1			04.5		25.4			
			1528		045 SAT	5.7			03.8		26.2*			
			1555		052	6.1			05.7		24.1			
			1612		043	6.7			06.8		22.8			
		SAT	1602		045	5.8			05.2		24.7			
			1629		042	5.8			08.0		21.5			
			1645						09.1		20.2			
			1701						10.3		18.9			
			1702					30	10.4	88	18.7			EOL
			1706		256	7.6								
			1712				1712	30	10.5	88	21.5			
			1914	102										
			1922		137	5.7		30	10.4	88	35.7			SOL
			1936						01.4		34.6			
			1952						08.1		33.3			
			2003											
			2008					30		88	32.1			
			2025						05.8	88	30.8			40
			2034											
			2043					30	04.5	88	29.6			50
			2059						02.3		28.3			
			2116		137	5.4		30	02.2	88	27.0			70
			2132						01.0		25.8			
			2149					29	59.8	88	24.7			90
			2200											

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 7
2			SP100	
			SP 110	
			SP 120	
			SP 130	
			SP 140	
			SP 150	
			SAT 22° MSG. CNG. 22° N.G. MIS DIST = -95, 717	
			SP 160	
			SP 170	
			SAT: 52° MIS DIST 362, 297 NOT 2 MIN INT.	
			SP 180	
			SP 190	
			SP 200	
			STOP SHOT POINTS. END LINE 204 SP 201	
			C/C TRANSIT TO LINE 102 (NO SHOTPOINTS)	
			SAT UPDT Elev 47 miss 516/76/522 Conf	
			1917 - FIRST LINE-UP SHOT POINT (LINE 102)	
			1922 - SHOT POINT #1 ON LINE 102.	
			SP. 10	
			SP. 20	
			2003 - SOME 'A JUMP' AND 'B JUMP' GARBAGE PRINTED ON TTY - DIDN'T PRINT NUMBERS. DON'T THINK ANYTHING CHANGED	
			2008 - SHOT POINT 30 ON LINE 102	
			2025 - SP 40	
			2034 - NOTICED THAT THE JUMP PRINTED AT 2003 REALLY APPLIED TO MID. LOPAIL.	CHANGED IT.
			SP 50	
			SP 60	
			SP 70	
			SP 80	
			SP 90	
			MOVING OFF LINE A BIT TO AVOID FISHING VESSEL.	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	NAVIGATION LATITUDE ± DEGREES	NAVIGATION LATITUDE MINUTES	NAVIGATION LONGITUDE ± DEGREES	NAVIGATION LONGITUDE MINUTES	TYPE	QUAL.
81	04	09	2205	102	137	6.2		29	56.7	88	23.0		
DAY 099							2158		59.1		23.5		
			2221						57.5		21.9		
			2236						56.2		20.7		
							2234		NG.		.		
			2251						55.0		19.5		
			2300	102	137	7.0		29	54.3	88	18.7		EOL
			2305						.		.		
			2330						.		.		
			2346	208	230	6.3		29	55.4	88	18.7		SOL
							2342		55.7		18.1		
81	04	10	0000						54.4		19.9		
DAY 100			0015						53.2		21.2		
			0030						52.1		22.5		
			0044						51.0		23.8		
			0059						49.9		25.2		
			0114						48.7		26.5		
							0104	29	49.5	88	25.6		
			0128						47.6		27.8		
			0143						46.4		29.2		
			0157						45.3		30.5		
		SAT	0156		226	7.0	0156		45.5		30.5		
			0211						44.2		31.8		
			0225						43.0		33.1		
			0240						41.9		34.5		
			0300		226	7.4			.		.		
		SAT	0248		225	6.8	0248		41.2		35.2		
			0254						40.7		35.8		
			0308						39.6		37.1		
		SAT	0320		224	7.1	0320		38.6		38.3		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 8
2			SP100	205
			SAT NO UPDT Elev 23 miss -1146/843/1423	
			SP 110	
			SP 120 SAT Elev 08 MSG CHG -2304/-2304/3258	
			SP130	
			END OF LINE 102 SHOT POINT 136 C/C TO 55 SEISMICS WANTS 45 MIN TO SET UP.	
		X	PROG STOPPED NO EOF	
3	X		2330Z 4/9/81	
			SP1	
			SAT UPDT Elev 47 miss 217/109/243	
			SP10	
			SP 20	
			SP 30	
			SP40	
			SP50	
			SP60	
			SAT NO UPDT Elev 26 miss 125/-351/372	
			SP70	
			SP80	
			SP90	
			SAT 17° ELE. MIS DIST 568, -593 RMS RADIO. 10.3 NO UPDT.	
			SP 100	
			SP 110	
			SP 120	
			HOURLY OK. / ON LINE *208	
			SAT. MSG. CHANGE, 44° ELE, MISS DIST. 115, 296	
			SP 130	
			SP 140	
			SAT, 17° MIS DIST 212, -380 NO UPDT.	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
81	04	10	0322	208	218	6.9		29	38.5	88	38.4		
DAY	100		0335						37.3		39.8		
			0353										
			0349						36.1		41.0		
		SAT	0342		223	6.9	0342		36.8		40.3		
			0403		236	6.7			35.2		42.6		
			0417		214	7.7			34.2		44.1		
			0432		215	7.0			32.8		45.1		
		SAT	0442		227	7.1	0442		34.5		45.9		
			0447						31.5		46.5		
			0500						30.4		47.7		
			0512		206	6.8			29.3		49.0		
		SAT	0504		223	7.0	0504		30.2		48.1		
			0520										
			0528						27.8		49.9		
			0542						26.5		51.1		
			0555						25.4		52.4		
			0609						24.6		54.2		
			0622						23.6		55.6		
			0636						22.4		56.9		
			0652						21.3		58.2		
			0659	208	217	(6.)		29	20.6	88	58.7		EOL
			0800	—	000	8.0		29	25.2	88	56.2		
			0900	—	000	5.8		29	31.1	88	56.0		
			0949	116	137	7.5		29	35.3	88	55.8		150
			0956										
			1001						34.2		54.7		10
							0950	29	35.3	88	55.6		
			1015						33.0		53.4		20
			1028										

TAPE #	START	END	COMMENTS AND OBSERVATIONS
3			SP 150
			SP 160
			C/C's / BEGIN MANUEVERING THRU OIL PLATFORMS
			SP 170
			SAT 57° MISS DIST -154, -175, MSG CHANGE, NO UPDT.
			SP 180
			SP 190
			SP 200
			SAT, (10), MISS DIST: 15661, 515 NO UPDT.
			SP 211 (MISS SP 210 DUE TO SAT) (BACK ON LINE THRU OIL RIGS)
			SP 220
			SP 230
			SAT, 57° MISS DIST. 127, -258, MSG CHG, NO UPDT.
			C/C's TO AVOID OIL RIGS
			SP 240
			SP 250
			SP 260
			SP 270
			0622 - Sim Point 280
			SP 290
			SP 300 - OFF LINE TO LEFT TO MISS OIL RIGS.
			END OF LINE 208 SIM POINT #305.
			0800 - ENROUTE TO START OF NEXT LINE #116.
			0900 - " " " " " " VELOCITIES VARY WIDELY THIS MORNING
			0949 - SHOT POINT #1 OF LINE 116 - BRIDGE WARNS OF MANY OBSTACLES ON THIS COURSE.
			0956 - FIRST DETOUR - TO THE RIGHT.
			SP 10
			SAT NO UPDT Elev 21 miss 128/536/651
			SP 20
			C/C RIG

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	10	1029	116	137	6.7		29	31.9	88	52.1		
DAY	100		1043						30.8		50.7		
			1058						29.7		49.4		
			1101						.		.		
			1112						28.4		48.2		
			1126						27.1		47.0		
			1140						25.8		45.9		
							1028		NG.		.		
							1134	29	26.5	88	46.5		
			1154						24.7		44.6		
			1208						23.5		43.3		
			1221						22.4		42.0		
			1235						21.2		40.7		
			1248						20.0		39.4		
			1301						18.8		38.2		
			1315						17.6		36.9		
			1329						16.4		35.7		
		SAT					1314		17.6	NB	36.9		
			1329						16.4		35.7		
			1343						15.3		34.4		
			1358		138	7.8			14.0		33.1		
			1411						12.9		31.9		
			1426						11.7		30.6		
			1440						10.5		29.4		
			SAT		1396.9		1436		10.5		29.5		
			1454		1405.5				09.3		28.1		
			SAT		1377.5		1513		09.0		27.8		
			1506						08.1		26.8		
			1519						06.9		25.7		
			1533		1327.4				05.8		24.4		

29 7.70 7.463
88 26.42 26.15

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 10
3			SP 30	
			SP 40	
			SP 50	
			C/C R.C4	
			SP 60	
			SP 70	
			SP 80	
			SAT Elev 9 MSG CHG 465 / -105 / 477	
			SAT NO UPDT Elev 54 MSG CHG -53 / -187 / 195	
			SP 90	
			SP 100	
			SP 110	
			SP 120	
			SP 130	
			SP 140	
			SP 150	
			SAT. NO UPDT Elev 5 -928 / 1085 / 1427	
			SP 160	
			SP 170	
			SP 180	
			SP 190	
			SP 200	
			SP 210	
			SP 220	
			SAT, 6° MISS DIST 1814, 1127 NO UPDT.	
			—	
			SAT, 68°, MISS DIST 6, -586 UPDT/COUP NEW COR A .84435 NEW COR B .12102	
			SP 230	
			SP 240	
			SP 250	

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	10	1547	166	130	7.0		29	04.6	88	23.1		
		20	SAT		136	6.8	1546		04.8		23.5		
DAY			1601		135	6.0			03.4		21.8		
			1616		132	5.2			02.2		20.6		
			1630						01.0		19.3		
			1637					29	00.4	88	18.7		
			1646		355	7.1			01.7		18.8		
			1700		007	7.5			02.7		18.6		
			1735										
			1745	221					06.7		18.8		
			1756		226	7.0			05.6		20.0		
			1810						04.5		21.3		
			1823						03.3		22.6		
			1836						02.2		24.0		
			1849						01.1		25.3		
			1902					29	00.0	88	26.7		
			1915					28	58.1	88	28.0		
			1923		226	7.0		28	58.2	88	28.8		
			2000						57.5		33.7		
			20										
			2044	219	045	6.0		28	56.1	88	37.6		
			2058						54.1		36.3		
			2113					29	00.3	88	35.0		
			2128						01.4		33.7		
			2143						02.6		32.4		
							2144	29	02.6	88	32.8		
			2157						03.7		31.1		
			2212						04.8		29.7		
			2227						06.0		28.5		
			2241						07.2		27.2		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 11
3			SP 260	
			SAT, 10°, MIS DIST. 498, -1763 NO UPDT.	
			SP 270	
			SP 280	
			SP 290	
			LAST SHOTPOINT 295	
			STOP SHOT POINT ROUTINE/END LINE 116 BEGIN TRANSIT	
			SAT 14° MIS DIST 666, -1776 (NO UPDT) 6 mi TO LINE 221	
			TRANSIT	
			C/C TO 227 BEGIN LINEUP FOR LINE 221	
			SP #1 BEGIN LINE 221	
			SP #10	
			SP 20	
			1823 - SP 20	
			SP40	
			SP 50	
			SP60	
			SP-70	
			1920 - LAST SHOT POINT ON LINE 221 = 1776 C/C TO 267 FOR NEXT LINE.	
			2000 - [illegible] COMPUTER SPINS OUT A JUMP [illegible] LINE 219. - [illegible]	
			2020 - [illegible]	
			2044 - Shot Point #1 on LINE 219.	
			SP10	
			SP20	
			SP 30	
			SP 40	
			SAT No UPDT. Clr 23 Msg Chg -390/-2551/2581	
			SP50	
			SP 60	
			SP 70	
			SP 80	

YR	MO	DAY	Z TIME +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	10	2256	219	052	6.5		29	08.2	88	25.8		
DAY	100		2310					29	09.3		24.4		
			2324						10.4		23.0		
			2339						11.6		21.7		
			2354						12.7		20.4		
81	04	11	0010						14.0		18.9		EOL
DAY	101						0040	29	17.5	88	18.8		
			0123	217	225	7.1			21.8		18.9		SOL
			0135						20.7		19.9		
			0149						19.5		21.3		
							0140	29	20.3	88	20.5		
			0202		221	6.2			18.4		22.6		
			0216						17.2		23.9		
			0228		218	7.5			16.1		25.2		SC
			0243						15.0		26.6		
			0256						13.8		27.9		
			SAT		225	7.2	0252		14.3		27.5		
			0310		223	7.3			12.7		29.2		
			0323						11.6		30.5		
			0337						10.4		31.8		
			0350						9.3		33.2		
			0404						8.1		34.5		
			0417						7.0		35.8		
			SAT		229	7.1	0412		7.5		35.3		
			0431						5.9		37.1		
			0446						4.8		38.5		
			SAT		228	6.5	0442		5.2		38.1		
			0458						.		.		
			0459						.		.		
			0500						.		.		

TAPE #	START	END	COMMENTS AND OBSERVATIONS
3			SP 90 215
			SP 100
			SP 110
			SP 120
			SP 130
			SP 141 END LINE 219
			SAT UPDT Elev 14 miss 431/1353/1420
			SP 1 S/L 217
			SP 10
			SP 20 BRIDGE - DIFFICULT TO STAY ON ~ LOCAN Jumpy!
			SAT NOUPDT Elev 57 miss 217/870/896 215
			SP 30
			SP 40
			SP 50
			SP 60
			SP 70
			SAT 60° MISS DIST 340, -410 (NOT A MINIMUM) NO UPDT.
			SP 80
			SP 90
			SP 100
			SP 110
			SP 120
			SP 130
			SAT 56°, MISS DIST 219, -629 (HI RMS 11.1) NO UPDT.
			SP 140
			SP 150
			SAT 16°, MISS DIST. 880, 14 (HI RMS 14.2) NO UPDT.
			SP 158
			LOSE SHOTPOINT
			CIRCLE TO PICK UP SP 159

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.	
81	04	11	0535	217										
			0545		225	7.1		29	03.6	88	40.0			
			0600						02.4		41.3			10
			0615						01.3		42.7			
			0630						00.2		43.9			140
			0645					28	57.0	88	45.2			
			0653					28	58.3	88	46.0			EOL
			0700						57.7		46.6			
			0750											
			0800					29	04.7	88	47.2			
			0806											
			0811	215	045	7.5		29	05.6	88	46.2			1 SOL
			0823						06.6		44.9			10
			0835						07.7		43.5			
			0848						08.8		42.2			
			0901		045	7.1			10.0		40.9			
			0915						11.2		39.6			
			0930						12.4		38.4			
			0946						13.5		37.1			
			0949											
			0951				0936	29	12.8	88	37.9			
			1002						14.6		35.6			
			1018						15.4		33.9			
			1034						16.4		32.5			
			1050						17.8		31.5			
			1105						19.1		30.3			
			1119						20.4		29.1			
			1135						21.5		27.8			
			1149						22.6		26.4			
			1205						23.7		25.1			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
3			C/C TO RETURN TO LINE 215
			SP 160
			SP 170
			SP 180
			SP 190
			SP 200
			END LINE # 217 SP 206 PRETTY FAR OFF → DODGING TRAFFIC
			HOURLY CHECK.
			0750 — HARD TURNS - LARGE SPEED CHANGES TO MISS 'SOMETHING' AHEAD
			0800 - HOURLY CHECK.
			DUE TO OIL RIGS ON LINE - WE'LL BE OFF TO THE LEFT FOR A MILE OR SO.
			0811 - START LINE # 215 SHOT POINT # 1
			S.P. 10
			S.P. 20
			S.P. 30
			S.P. 40
			0915 - SHOT POINT 50
			S.P. 60 - HANGING LEFT TO PASS OIL RIGS,
			S.P. 70 " " " " " "
			0949 - START MOVING TO RIGHT OF LINE TO PASS MORE RIGS.
			0951 - SAT. UPDT - ΔLAT = .047N ΔLON = .026E NEW CORR = .50839 CORR = .07836
			SP 80
			SP 90 RIGS
			SP 100 C/C's OFF LINE 400 FAK
			SP 110
			SP 120
			SP 130
			SP 140
			SP 150
			SP 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	11	12220	215	042	7.0		29	24.8	88	23.7		
DAY 101			1235						26.0		22.4		
							1234	29	26.0	88	22.6		
			1250						27.1		21.1		
							1252	29	27.1	88	21.0		
			1306						28.2		19.7		
			1317						29.1		18.8		
			1400	TRANSIT					33.6		18.2		
			SAT	"	006	6.4	1410		34.6		18.0		
			1434										
			1444	213	227	6.9			36.6		18.7		
			SAT		246	4.2		DURING COURSE CHANGE					
			1458		228	6.7			35.7		19.9		
			1512						34.5		21.3		
			1528						33.4		22.7		
			SAT		226	6.5	1528		33.4		22.7		
			1542						32.3		24.0		
			1558						31.3		25.4		
			SAT		227	6.1	1558		31.2		25.6		
			1613						30.2		26.8		
			1629		227	6.6			29.1		28.1		
			1644						28.0		29.5		
			1659		223	6.0			26.9		30.9		
			1715						25.8		32.2		
			SAT		226	6.3	1716		25.7		32.4		
			1730						24.7		33.6		
			1746						23.6		35.0		
			1801						22.5		36.3		
			1816						21.4		37.7		
			1831						20.3		39.1		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 14
3			SP170	213
			SP180	
			SAT No UPDT Elev 15 miss 523/-241/576	
			SP190	
			SAT No UPDT Elev 17 Msg Chg miss -629/227/669	
			SP200	
			SP207 End Line 215	
			TRANSIT TO LINE 213	
			SAT, 28° MIS DIST. -107, 88 RMS 3.8 UPDT, Δ LAT .018 Δ LONG .016 COOP NEW CORA .17546 " CORB .20302	
			C/C TO 227 LINE UP FOR LINE 213	
			1ST SP ON LINE 213	
			SAT. N.G.	
			SP 10	
			SP 20	213
			SP 30	
			SAT 28° MIS DIST. -249, 144, 3.1 RMS NO UPDT. HYP + RK TOGETHER	
			SP 40	
			SP 50	
			SAT 37°/MSG CHG.	
			SP 60	
			SP 70	
			SP 80	
			SP 90	
			SP 100	
			SAT, 38°, MISS DIST -115, -480, RMS 3.9, MSG CHG.	
			SP 110	
			SP 120	
			SP 130	
			SP. 140	
			SP 150	

YR	MO	DAY	Z 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	11	1847	213	227	6.2		29	19.2	88	40.4		
DAY 101			1902						17.0		43.1		
			1922										
			1932					29	15.8	88	44.5		
			1941										
			1943										
			1947		227	6.3		29	14.6	88	45.7		
			2002						13.6		47.2		
			2017						12.6		48.6		
			2032						11.5		50.0		
			2039					29	10.9	88	50.7		
			2100		120	5.2		29	09.5	88	49.5		
			2140	214	060	5.9		29	09.0	88	46.4		
			2154						10.1		45.3		
			2211						11.1		43.7		
							2204	29	10.7	88	44.4		
			2226						12.3		42.5		
			2242						13.5		41.2		
			2259						14.6		39.9		
			2315						15.7		38.6		
			2333						16.9		37.3		
			2335										
			2347						18.0		35.9		
81	04	12	0002						19.2		34.6		
DAY 102							2350	29	18.2	88	35.8		
			0017						20.3		33.3		
			0032						21.5		32.0		
							0038	29	22.0	88	31.6		
			0046						22.6		30.7		

TAPE #	START	END	COMMENTS AND OBSERVATIONS
3			SHOT POINT = 160 ON LINE 212 ???
			SP [illegible]
			SP 180
			1920 - MOVING LEFT FOR RIG.
			SP 190
	X		1941 - MAG TAPE WRITE FAILURE. TRIED TO WRITE EOF - NOTHING HAPPENED.
4	X		[illegible] NEW TAPE (HEADS & ROLLERS CLEANED ON FAILED UNIT)
			SP 200
			SP 210
			SP 220
			SP 230
			2039 - EOL 213 SHOT POINT 235 START TRANSIT TO LINE 214
			2100 - ON THE HOUR CHECK IN TRANSIT TO LINE 214.
			2140 - BOL 214 SHOT POINT ONE. SP1
			SP10 J15
			SP20
			SAT NoUPDT Elev 31 miss 81/-315/326
			SP30
			SP40
			SP50
			SP60
			SP70 [illegible]
			A/C Speed to 6.5
			SP80
			SP90
			SAT NoUPDT Elev 35 miss -41/-311/314
			SP100
			SP110
			SAT NoUPDT Elev 16 miss 807/-773/1118
			SP120

YR	MO	DAY	TIME (Z +6)	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES (N)	LONGITUDE ± DEGREES	LONGITUDE MINUTES (W)	TYPE	QUAL.
81	04	12	0101	214	046	6.1		29	23.7	88	29.3		
DAY	102		0116						24.9		28.0		
			0132						26.0		26.7		
			0148						27.1		25.4		
			0154						.		.		
			0206						28.5		24.0		
			0219						29.4		22.8		150
			0234		051	6.2			30.6		21.4		
			SAT				0224		29.8		22.3		
			0249		051	6.7			31.7		20.1		1000
			0304	TRANSIT					32.8		18.8		210 EOL
			0400		170	5.2			27.8		18.3		
			0418						.		.		
			SAT		190	5.7	0408		27.1		18.2		
			0423	216	216	7.3			25.5		18.8		SOL
			0437		215	7.1			24.4		19.9		
			0452		222	7.4			23.2		21.2		
			0507		219	6.1			22.1		22.5		
			0522						21.0		23.9		40
			0537						19.8		25.2		
			0552		224	6.7			18.7		26.5		
			0606						17.6		27.9		
			0612						.		.		
			0621					29	16.5	88	29.1		
			0638						14.8		30.0		
			06[illegible]						13.2		30.8		
			07[illegible]04						[illegible].7		[illegible].1		
			0713						.		.		
			0724						10.4		32.8		
			0738						09.5		[illegible]		

TAPE #	START	END	COMMENTS AND OBSERVATIONS
4			SP130 J!S
			SP140
			SP150
			SP160
			C/C's RIGS/BOATS etc
			SP170
			SP180
			SP190
			SAT 67° MIS DIST. -107, 85, MSG CHG.
			SP200
			SP210 LAST SHOTPOINT ON LINE 214
			TRANSIT TO LINE 216
			C/C to line 216 055
			SAT, MIS DIST. 521, -296, 6°, MSG CNG.
			SP 1 1ST SP ON LINE 216
			SP 10
			SP 20
			SP 30
			SP 40
			SP 50
			SP 60
			SP. 70
			BEGIN A GRADUAL TURN LEFT TO AVOID OIL RIGS.
			1621 - S.P. 80
			SP 90
			SP 100
			SP 110 YES - STILL DODGING OIL RIGS!
			START MOVING BACK ON LINE.
			SP 120
			SP 130

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
81	04	12	0753	216	255	6.5		29	08.8	88	36.2		
DAY 102			0800						.		.		
			0810						08.3		38.0		
			0826						07.8		40.3		
			0843						07.3		42.3		
			0859						06.5		44.2		
			0913						05.8		45.8		
			0914						.		.		
			0929		271	6.7		29	05.0	88	46.4		
			0946						02.2		47.0		
			0949						01.8		47.1		EOL
							0956	29	01.1	88	47.0		
			1153	220	045	7.2		28	58.1		33.2		
							1142	28	57.5	88	34.4		
			1206						59.1		32.0		
			1220					29	00.2		30.7		
			1234						01.4		29.3		
			1248						02.5		28.0		
			1302						03.6		26.7		
			1317						04.8		25.3		
			1332						05.9		24.0		
			1346						07.0		22.7		
			1401						08.1		21.4		
			1416		046	6.3			09.3		20.0		
			1431	220					10.4		18.7		EOL
			1435	—					.		.		
			SAT	—			1438		.		.		
			1500	—					07.8		18.5		
			SAT	—			1508		.		.		
			1539	—					.		.		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 17
4			SHOT POINT 140 ON LINE 216 STILL DODGING SSS RIGS.	
			0802 - WE WILL CONTINUE RIGHT - CROSS LINE - STAY RIGHT OF LINE (OIL RIGS AGAIN)	
			SP 150	
			SP 160	
			SP 170	
			SP 181 (180 DIDN'T PRINTOUT DUE TO SATELLITE PRINTOUT)	
			SP 190	
			0914 - START COMING BACK TO THE LEFT.	
			SP 200	
			SP 210	
			0949 - EOL 216 SHOT POINT 212	
			SAT NOUPDT Elev 28 MSG CHG - 884 / -23[illegible]	
			SP1.	S/L 220
			SAT NOUPDT Elev 39 miss - 218 / -490 / 537	
			SP10	
			SP20	
			SP30	
			SP40	
			SP50	
			SP60	
			SP70	
			SP80	
			SP90	
			SP 100	
			SP110 LAST SP ON LINE 220	
			C/C TO 176 TRANSIT TO LINE 222	
			SAT, 09°, NDG.	
			TRANSIT	
			SAT, 89°, NDG.	
			C/C TO 227 LINEUP FOR LINE 222	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.	
81	04	12	1546	222	207	6.1		29	02.8	88	18.7			SOL
~~DAY 103~~			1559						01.9		19.9			
			1614						00.8		21.2			
			1628					28	59.7		22.6			
			SAT				1622		.		.			
			1643						58.6		23.9			
			1650						58.1		24.5			EOL
			1651	TRANSIT					.		.			
			1652	"					.		.			
			1700	"	100	3.8			57.8		24.0			
			1800		900	4.0			.		.			
			1812	117	315	6.2			58.0		20.1			BOL
			1825						59.2		21.1			10
			1839					29	00.4	88	22.4			1
			1853						01.6		23.6			20
			1907						02.7		25.0			
			1921						03.9		26.3			30
			1935						05.0		27.5			
			1949						06.2		28.8			40
			2003						07.4		30.0			
			2018						08.7		31.4			11
			2031						09.8		32.6			
			2045						10.9		33.9			1100
			2100						12.3		35.0			
			2114						13.4		36.4			12
			2128						14.5		37.6			
			2142						15.7		38.9			1300
			2155						17.0		40.1			
			2209						18.1		41.5			
			2222						19.3		42.7			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
4			SP 1 1ST SP ON LINE 2521
			SP 10
			SP 20
			SP 30
			SAT 86° NOG
			SP 40
			SP 44 LAST SP ON LINE 222
			C/C TO 097. TRANSIT TO LINE 117
			REDUCE SPEED TO 4.0 K.
			TRANSIT TO LINE 117
			HOURLY CHECK - STILL IN TRANSIT.
			START LINE 117. SHOT POINT #1
			S.P. 10
			S.P. 20 P11
			S.P. 30
			S.P. 40
			S.P. 50
			S.P. 60
			S.P. 70
			S.P. 80
			S.P 91 - SP 90 DIDN'T PRINT OUT BECAUSE OF A SATELLITE [illegible]
			2031 - SHOT POINT 100. DODGING [illegible] OIL RIGS.
			SP 110
			SP 120
			SP 130
			SP 140
			SP 150
			SP 160
			SP170
			SP180

YR	MO	DAY	TIME Z-16	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE N ± DEGREES	LATITUDE N MINUTES	LONGITUDE W ± DEGREES	LONGITUDE W MINUTES	TYPE	QUAL.
81	04	12	2235	117	318	7.0		29	20.5	88	44.0		
DAY	102		2248						21.6		45.3		
			2301						22.8		46.5		
			2315						24.0		47.8		
			2328						25.2		49.1		
			2341						26.4		50.4		
			2355						27.5		51.6		
81	04	13	0008						28.7		52.9		
DAY	103		0022						30.0		54.1		
			0036						31.2		55.3		
			0050						32.4		56.6		
			0053						32.6		56.9		FOC
			SAT				0110	29	31.5	88	57.3		
			0215	119	135	5.3			25.0		57.0		
			0229						23.9		55.8		
			0244						22.7		54.6		
			0259						21.6		53.3		
			0314		132	7.7			20.4		52.0		
			0230						19.2		50.7		
			0345						18.0		49.6		
			0401						16.8		48.2		
			0416						15.6		47.0		
			SAT				0420						
			0432		142	6.0			14.5		45.7		
			0447						13.3		44.4		
			0503		137	7.1			12.1		43.1		
			0519		140	4.2			10.9		41.9		
			0536						09.8		40.6		
			0552		140	7.6			08.6		39.3		
			0608						07.4		38.1		

70

29 30.22
59 02.71

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 19
4			SP190	P11
			SP200	
			SP210	
			SP220	
			SP230	
			SP240	
			SP250	
			SP260 (ontape) (267) New Endpnt entered shotpnt jumped (use -7)	
			SP270 (277)	
			SP280 (287)	
			SP290 (297)	151
			SP292 (299) EOL 117	
			SAT NO UPDT Elev 35 MSG CHG 155/-594/614	
			1ST. SP BEGIN LINE 119	
			SP 10	
			SP 20	
			SP 30	
			SP 40	
			SP 50	
			SP 60	
			SP 70	155
			SP 80	
			SAT 69° N.G.	
			SP 90	
			SP 100	
			SP 110	
			SP 120	
			SP 130	
			SP 140	
			SP 150	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
81	04	13	0624	119	137	7.2		29	06.2	88	36.8		
		03	0640						05.0		35.6		
DAY	103		0655						03.8		34.3		
			0710						02.7		33.0		
			0725						01.5		31.7		
			0741						00.3		30.4		
			0756						59.1	88	29.2		
			0808	121	137	6.8		29	58.1	88	28.2		EOL
			0815				0758	29	59.0	88	29.1		
			0900	—	300	6.5		28	59.4		30.3		
			0946	121	316	6.0		29	58.5	88	37.4		SOL
			1001					29	00.1		38.4		11
			1014										
			1014						01.2		39.5		20
			1029						02.0		41.2		
			1047						02.5		43.3		40
			1104						03.1		45.3		
			1121						04.8		45.8		60
			1140						07.0		45.9		70
			1144						07.4		46.3		EOL
			1223	122	137	7.0			03.7		46.2		1 SOL
							1222	29	03.7	88	46.3		
			1236						02.6		45.1		10
			1250						01.4		43.8		20
							1242	29	02.2	88	44.6		
			1304						00.2		42.6		30
			1317					28	59.0		41.3		
			1327						58.2		40.5		EOL
		SAT					1406		56.0		34.6		
			1400		088	8.5			57.4		36.4		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 20
4			SHOT POINT 160	
			SP 170	021
			SP 180	
			SP 190	
			SP 200	
			0741 - SP 210	
			SP 220	
			0808 - EOL 119 [illegible] 228, HEAD FOR LINE 121 AT 165°	
			0815 - SAT. UPDT - ΔLAT .07'N ΔLONG .03'W NEW CORA = .63658 CORB = .14030	
			0900 - [illegible] CHECK	
			BEGINNING OF LINE 121 - SHOT POINT 1	
			1001 - SHOT POINT 11 (MISSED TO BECAUSE OF SAT. PRINTOUT)	
			c/c to Left of line c/o Avoid Rigs (2 miles)	
			SP20	
			SP30	
			SP40	
			SP50 c/c c/o Right - back on line	
			SP60	
			SP70	
			SP72 EOL 121	
			SP1 SOL 122	
			SAT NO UPDT Elev 09 c/c's (6 intervals) miss -637/-117/648	
			SP10	
			SP20	
			SAT NO UPDT Elev 11 MSGCHG miss 491/-388/596	
			SP30	
			SP40	
			SP47 EOL 122	
			SAT 76° MIS DIST -353, 1642 RMS 6.08 NO UPDT.	
			TRANSIT TO LINE 120	

.039
.115
.076

56
.946
.502
.444

.666
.703
.047

5.12 .84
5.13 .85

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.	
81	04	13	1450											
			1458	120	313	6.9		28	58.1	88	32.2			SOL
			1511		312	6.6			59.2		33.4			
			1525					29	00.3		34.7			
			1539						01.5		35.9			
			SAT		317	6.8	1530		00.6		36.3			
			1558											
			1554						02.7		37.2			
			1608						03.9		38.5			
			SAT		317	6.6	1606		03.6		38.3			
			1624						05.1		39.8			
			1637						06.2		40.9			
			1651		317	7.3			07.4		42.2			
			1705						08.6		43.5			
			1719		320	7.1			09.9		44.6			
			SAT		315	7.1	1716		09.6		44.2			
			1732		317	6.5			10.9		46.0			
			1747		323	6.6			12.1		47.3			
			1801		317	6.6			13.4		48.5			130
			1815						14.6		49.7			
			1828						15.7		51.1			150
			1842						17.3		52.5			
			1856						18.0		53.7			
			1910						19.2		55.0			
			1921						20.4		56.2			190
			1938						21.5		57.5			
			1941		317	5.4		29	21.8	88	57.7			EOL
			2000		322	8.2		29	24.3	88	57.1			
			2100						29.6		57.6			
			2105											

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 21
4			C/C TO 317 TURNING ONTO LINE 21 #120 (255 SP'S)	
			1 SP START LINE #120	
			SP 10	
			SP 20	
			SP 30	
			SAT, 33°, MISS DIST -614, -173, RMS 0.7 PROB. GOOD WAIT FOR NEXT SAT	
			SEVERAL B+A JMP'S INDICATED / HOWEVER TD TO LC STILL SAME TD'S AS NS LC	
			SP 40	
			SP 50	
			SAT, 27°, ΔLAT .055 ΔLONG .02 MISS DIST. -334, 111 (MSG CHG) HOWEVER: NEWA +.63881 UPDT&COMP NEWB +.32336	
			SP 60	
			SP 70	
			SP 80	
			SP 90 BEGIN MANUEVER TO AVOID RIGS	
			SP 100	
			SAT, 32°, MIS DIST -108, 703 N.G. DODGING RIGS	
			SP 110	
			SP 120	
			SP 130	
			SP 140	
			1828 - SHOT POINT 150	
			SP 160	
			SP 170	
			SP 180	
			SP 190	
			SP 200	
			END LINE 120 SHOT POINT 202 HEAD NORTH FOR LINE 118	
			2000 - HOURLY CHECK - ENRONTE TO LINE 118 - RADIO ROOM CAUSING COMMUNICATION JUMP.	
			2100 - START TURN ONTO LINE 118	
			2105 - BRIDGE WARNS OF MUCH TRAFFIC IN THE AREA.	

Spacecraft Columbia → 4 Am Southeast across Alabama

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.	
81	04	13	21 08	118	137	6.2		29	29.1	88	57.4			150
			21 21						28.0		56.2			10
DAY 103			21 36						26.8		55.1			
			21 51						25.6		53.8			
			22 05						24.5		52.4			
			22 21						23.4		51.1			50
							2212	29	24.0	88	51.9			
			22 35						.		.			
			22 37						.		.			
			22 36						22.0		49.9			60
			22 51						20.9		48.7			
			23 07						19.7		47.4			80
			23 22		134	6.1			18.6		46.0			
			23 37						17.4		44.8			100
			23 53						16.2		43.5			
81	04	14	00 09						15.1		42.2			120
DAY 104							2358	29	15.8	88	43.2			
									.		.			
			00 24						13.9		41.0			130
			00 40						12.7		39.7			
			00 56						11.5		38.4			150
			01 12						10.3		37.2			
			01 28						09.1		35.9			170
			01 44						07.9		34.7			
			01 59						06.8		33.4			190
							0148	29	07.6	88	34.4			
									.		.			
			02 15						05.6		32.1			
			SAT		137	6.1	0212		05.8		32.4			
			02 31						04.4		30.8			

TAPE #	START / END	COMMENTS AND OBSERVATIONS
5		SP 220 211
		SP 230
		SP 240
		SP 249 (SAT OVERRIDES SP 250 PRINTOUT)
		SAT 27° MISS DIST. -226, +734 NO UPDT
		SP 260
		SP 264 LAST SP ON LINE *118
		C/C TO 042 TRANSIT TO LINE *115
		SAT 28° MISDIST 521, -105 NO UPDT. (NEAR COURSE CHANGE)
		C/C TO 115
		1ST SP OF LINE 115
		SAT 36° MISDIST 270, 1202 NO UPDT. (DURING COURSE CHANGE)
		SP 10
		SP 20
		SP 30 211
		SP 40
		SP 50
		SP 60
		SP 70
		SP 80
		SP 90
		0723 - SAT. UPDT - Δ LAT: .062'N Δ LON: .012'W ACCUM CORR — CORA = .23692 CORB = .09252
		SP 100
		SP 110
		SP 120
		SP 130
		0810 - COMING LEFT FOR OIL RIG.
		SP 140
		SP 150
		SP 160

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.	
81	04	14	0900	115	317	7.0		29	24.4	88	40.1			
			0911				0854	29	23.7	88	39.7			
DAY			0914								41.4			
104			0928						26.8					90
			0942						27.0					
			0957						29.2		45.1			210
			1011						30.4		46.3			
			1025						31.5		47.6			270
							1004	29	29.9	88	45.7			
			1040						32.7		48.9			240
			1054						33.8		50.3			
			1108						35.1		51.5			260
			1118						35.9		52.3			EOL
			TRANSFER											
			1254	113	136	7.0		29	40.9	88	49.3			1
			1307						39.8		48.2			10
							1300	29	40.4	88	48.7			
			1321						38.7		46.9			20
			1336						37.5		45.6			30
							1332	29	37.6	88	45.8			
			1350						36.2		44.4			40
			1405						35.1		43.1			
			1420						33.9		41.8			
			1434						32.7		40.6			
			1448		135	7.4			31.5		39.3			
			1501		136	7.1			30.3		38.1			
			1515		135	7.3			29.1		36.8			
			1516											
			1529						27.9		35.6			
			1543						26.7		34.3			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
5			SHOT POINT 170 ON LINE 115 211
			SAT: UDATE - ΔLAT: .044'S ΔLON = .024'W NEW CORR = .20176 CORR = .22570
			SP 180
			SP 190
			SP 200
			SP 210
			SP 220
			SP 230
			SAT NO UPDT Elev 38 mins 634/37/635
			SP 240
			SP 250
			SP 260
			SP 267 EOL 115
			SP 1 SOL 113
			SP 10 311
			SAT NO UPDT Elev 25 MSG CHG (7 intervals) mins -950/430/623
			SP 20
			SP 30
			SAT NO UPDT Elev 15 MSG CHG -1288/838/1537
			SP 40 RCMP Fitted -1223/901/1519 (NOT MUCH BETTER!)
			SP 50
			SP 60
			SP 70
			SP 80
			SP 90
			SP 100
			2ND PRINTOUT OF SP 100 - DISREGARD
			SP 110
			SP 120

LFLT = 3.0 = 3 min

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SPD	FIX TIME	NAVIGATION LATITUDE ± DEGREES	MINUTES	LONGITUDE ± DEGREES	MINUTES	TYPE	QUAL.
81	04	14	1558	113	133	6.4		29	25.6	88	33.0		
			1612						24.4		31.7		
			1627						23.2		30.5		
DAY 104			SAT		137	6.8	1624		23.3		30.5		
			1641		138	6.8			22.0		29.2		
			1655		137	6.8			20.8		28.0		
			1709						19.6		26.7		
			1723						18.4		25.5		
			1737		134	7.4			17.2		24.2		
			1752						16.0		22.9		
			1806						14.8		21.7		
			1821						13.6		20.4		
			1836						12.4		19.2		
			1842	115	137	6.0		29	11.9	88	18.7		
			1901	—	165	7.0			10.6		18.5		
			1938	114	317	7.4		29	08.1	88	18.8		
			1951						09.2		19.9		
			2004		317	7.5			10.4		21.1		
			2015										
			2018						11.6		22.3		
			2032						13.0		23.4		
			2047						14.4		24.3		
			2100		316	7.7		29	15.6	88	25.6		
			2114						16.6		27.1		
			2128						17.7		28.5		
			2142						18.9		29.8		
			2156						20.0		31.1		
			2211						21.2		32.4		
							2200	29	20.1	88	31.5		
			2225						22.3		33.7		

TAPE #	START	END	COMMENTS AND OBSERVATIONS
5			SP 130 S11
			SP 140
			SP 150
			SAT 79° MIS DIST -562, 1139 NO UPDT
			SP 160
			SP 170
			SP 180
			SP 190
			SP 200
			SP 210
			SP 220
			SP 230
			SP 240 - THE COLUMBIA HAS LANDED!
			1842 - EOL 113 SHOT POINT 244 HEAD SOUTH FOR LINE 114.
			1901 - HOURLY CHECK - IN TRANSIT TO LINE 114.
			1938 - BEGIN LINE 114 SHOT POINT 1.
			SP 10
			SP 20 S11
			START COMING RIGHT TO LODGE RIG.
			SP 30
			SP 40
			SP 50
			SP 60
			SP 70
			SP 80
			SP 90
			SP 100
			SP 110
			SAT NO UPDT Elev 11 (7 intervals) miss -1098/-1097/1553
			SP 120

YR	MO	DAY	Z +6 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	14	2239	114	317	7.0		29	23.5	88	35.0			130
DAY	104		2252						24.7		36.2			
			2306						25.9		37.5			150
			2319						27.1		38.8			
							2308	29	26.0	88	37.6			
			2333						28.3		40.0			170
			2346						29.5		41.3			
81	04	15	0000						30.6		42.6			190
DAY	105		0013						31.8		43.8			
			0027						33.0		45.1			
			0041						34.2		46.4			
							0040	29	34.2	88	46.1			
			0055						35.4		47.7			230
							0058	29	35.6	88	47.9			
			0109						36.6		48.9			248
			0121						37.5		49.9			248
			0216	TRANSIT					.		.			
			0230	112					42.9		47.2			1ST SP SOL
			SAT		142	5.9	0226		43.3		47.4			
			0245		144	5.6			41.8		46.1			
			0302						40.6		44.9			
			0318						39.4		43.7			
			SAT				0312		39.9		44.1			
			0334						38.1		42.4			
			0351						37.0		41.1			
			0406		136	7.0			35.8		39.9			
			0420						34.7		38.6			
			SAT						.		.			
			0435						33.5		37.3			
			0448						32.3		36.1			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
5			SP 130 511
			SP 140
			SP 150
			SP 160
			SAT No UPDT 62° MSG CHG MISS -23/345/346
			SP 170
			SP 180
			SP 190
			SP 200
			SP 210
			SP 220
			SAT No UPDT Elev 23 miss 623/423/753
			SP 230
			SAT No UPDT Elev 5 MSG CHG (6 intervals) miss 365/-28/366
			SP 240
			SP 248 EOL 114 111
			C/C TO 137 SP LINEUP FOR LINE 112
			1ST SP OF LINE 112
			SAT, 48°, MIS DIST 816, 594 RMS 4.7 NO UPDT.
			SP 10
			SP 20
			SP 30
			SAT 72°, MIS DIST 335, 168 RMS 3.5 No UPDT.
			SP 40
			SP 50
			SP 60
			SP 70
			SAT 11° MIS DIST 4,363,663, -2,059,369 / N.V.G.
			SP 80
			SP 90

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.	
81	04	15	0502	112	137	6.9		29	31.1	88	34.8			
			0517						29.9		33.5			
DAY 105			0532						28.7		32.3			
			0546						27.5		31.0			100
			0600		137	6.5		29	26.3	88	29.7			
			0615						25.1		28.5			150
			0629						23.1		27.2			
			0644						22.7		25.9			170
			0659						21.5		24.7			
			0714		137	7.3			20.3		23.5			190
			0729						19.1		22.2			
			0744						18.0		20.9			
			0759						16.8		19.6			
			0811		137	5.7		29	15.8	88	18.6			Ea
			0817				0804	29	16.4	88	19.2			
			0858	111	317	8.0		29	19.7	88	18.7			
			0911						20.8		19.8			10
			0925						22.0		21.0			
			0932				0916		.		.			
			[illegible]						23.1		22.4			30
			[illegible]						[illegible]		[illegible]			40
			1008						25.6		25.0			51
							0954	29	24.6	88	23.7			
			1021						26.7		26.1			60
			1035						27.9		27.5			
			1050						29.0		28.8			80
			1104						30.2		30.0			
							1100		NG.		.			
			1118						31.4		31.3			100
			1132						32.6		32.5			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
5			SP 100 !!!
			SP 110
			SP 120
			SP 130
			SP 140
			SP 150
			SP 160
			SP 170
			SP 180
			SP 190
			SP 200
			SP 210
			SP 220
			0811 - EOL 112 SPOT POINT 228 HEAD 010° FOR LINE 111.
			0817 - SAT. UPDT - ΔLAT = .015'S ΔLON = .0025'W NEW CORA = .01982 CORB = .20142
			0858 - START LINE 111 SPOT POINT 1
			SP 10
			0932 - NO UPDATE TAKEN - BUT MAYBE ? SHOULD HAVE - 600 FT OFF ELEV = 16°
			SP 30
			SP 40
			SP 51
			SAT NO UPDT Elev 13 (7 intervals) 1398/38/1399
			SP 60
			SP 70
			SP 80
			SP 90
			SAT NO UPDT Elev 68 MS6 CHG -5727/77104/77316
			SP 100
			SP 110

YR	MO	DAY	Z TIME +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	15	1147	111	317	7.0		29	33.8	88	33.8			120
DAY	105		1201						35.0		35.1			
			1215						36.2		36.3			140
			1230						37.4		37.6			
			1244						38.6		38.9			160
			1259						39.8		40.1			
							1252	29	39.4	88	39.4			
			1313						41.0		41.4			180
			1328						42.1		42.6			
			1342						43.3		43.9			200
							1334	29	42.6	88	42.9			
			1356						44.5		45.2			EOL
			1438	TRANSIT					.		.			
			1507	"					.		.			
			1514	109	136	6.1			51.7		45.0			SOL
			1527						50.6		43.8			
			SAT				1524		50.7		43.9			
			1542						49.5		42.5			
			1557		140	6.6			48.3		41.3			30
			1610		136	7.2			47.1		40.0			40
			SAT		137	7.0	1616		46.6		39.6			
			1624						45.9		38.7			
			1638						44.7		37.4			
			1652						43.6		36.2			
			1707						42.4		34.9			
			SAT		136	6.4	1718		.		.			
			1722						41.2		33.6			
			1737						40.0		32.3			
			1752		131	5.5			38.8		31.0			
			1808						37.7		29.7			

TAPE #	START	END	COMMENTS AND OBSERVATIONS
5			SP 120 POI
			SP 130
			SP 140
			SP 150
			SP 160
			SP 170
			SAT No UPDT Elev 07 (6 intervals) 1333/525/1432
			SP 180
			SP 190
			SP 200
—			SAT No UPDT Elev 63 miss 165/1390/1400
			SP 210 EOL 111
			INC SPEED .5 KNOTS (ON TRANSIT TO LINE 109)
			C/C TO 137 SP LINE UP FOR LINE 109
			SP 1 START LINE 109
			SP 10
			SAT 12° MIS DIST -999, 886 RMS 7.2 No UPDT.
			SP 20
			SP 30
			SP 40
			SAT, 19° MIS DIST: -312, -480 RMS 9.1 No UPDT.
			SP 50
			SP 60
			SP 70
			SP 80
			SAT 26°, MIS DIST -19, 387 2.9 RMS, UPDT {ΔLAT .0038 / ΔLON .0028} / NO COUP
			SP 90
			SP 100
			SP 110
			SP 120

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
81	04	15	1822	109	137	6.8		29	36.5	88	22.4		
			1825						35.3		23.2		
DAY 105			1851						34.1		25.9		
			1907		137	6.4			32.9		24.6		
			1921						31.8		23.3		
			1936						30.6		22.0		
			1938				1922	29	37.1	88	23.4		
			1950						29.4		20.8		
			2004		137	7.5			28.6		19.6		
			2014						27.3		18.6		EOL
			2040										
			2100		003	8.5		29	32.3	88	18.1		
			2110										
			2128	—	—	—	2110	29	33.8	88	19.8		
			2140	STATION	1-37			29	36.3	88	20.3		
							2220	29	34.4	88	22.2		
			2247	STATION	2-42			29	32.5	88	23.8		
81	04	16	0020	STATION	3-48			29	28.4	88	19.8		
DAY 106													
			0110	STATION	4-53			29	24.7	88	23.8		
			0148	STATION	5-58			29	20.9	88	19.8		
			0231	"	6-32				17.1		23.9		
			0241										
			SAT		226	7.1			18.2		22.9		
			0317						13.5		19.8		
			SAT		134	8.7	0304		15.0		21.4		
			0330						13.7		19.8		

TAPE #	START	END	COMMENTS AND OBSERVATIONS
5			SHOT POINT 130 OF LINE 109
			SP 140
			SP 150
			SP 160
			SP 170
			SP 180
			1938 - SAT. UPDT DLAT: .022 S DLON: .02 W NEW CORR: 0.14326 CORR: .14917
			SP 190
			SP 200
			2014 - EOL 109 SHOT POINT 217 HEAD FOR FIRST SAMPLE STATION 352°
			2040 - TURNING 12 KHz XDUCER OFF. DEPTH READINGS N.G. AREA THIS.
			2100 - HOURLY CHECK.
			2110 - ARRIVE AT STATION 1-37 START UP SLOW READINGS.
			2128 - SAT. UPDT DLAT: .039 N DLON: .05 W NEW CORR .03108 CORR: .09622
→			SAT UPDT ECN 57 miss -88/-149/173
5	X		2242 EOF (TAPE DRIVES OFF LINE)
			ARR STATION * 6-62
			LV STATION 6-62
			SAT MIS DIST. 549, -525 NO UPDT. C/S DURING PASS
			ARR STATION * 7-66
			SAT 20° MIS DIST: 240, -61 / 5.5 RMS NO UPDT
			LV STA * 7-66

1.251 / 1.292 / +.04 | .432 / .277 / − | .840 / .745 / +.1 | .344 / .409 / +.7

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	NAVIGATION LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
81	04	16	0406					29	09.9	88	23.8		
			0433						.		.		
			SAT		026	0.5	0410		10.0		23.7		
			0510						06.0		19.7		
			0539						.		.		
			SAT		128	2.1	0510		06.1		19.7		
			0622					29	02.4	88	24.0		
			0700						2.5		24.0		
			0733		138	9.1	0716	29	01.0	88	22.3		
			0741					28	58.4	88	19.8		
			0845		270	9.8			58.5		19.9		
			0944					28	58.5	88	28.7		
			1113	STATION 13-75				29	02.4	88	32.7		
									.		.		
			1245	STATION 14-78				28	58.3	88	36.6		
									.		.		
			1352	STATION 15-74				29	02.5	88	41.1		
			SAT		228	6.3	1414		02.5		41.3		
			SAT		230	8.1	1455	28	58.8		44.2		
			1500	STATION 16-77					58.3		46.5		
			1521						.		.		
			1612	STATION 17-70				29	05.9		46.3		
			1526		000	8.3	1526		00.2		46.2		
			1624						.		.		
			SAT		044	7.3	1626		07.5		44.4		
			1707						09.8		41.1		
				STATION 18-67					.		.		
			1716						.		.		
			1759					29	05.9	88	36.6		
			1816		040	9.2			05.9		36.4		

+ + NBED

+0.3 .22

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE 30
NONE.			ARR STA NO. 8-69	BELL DATA X-MIT OFF 0428 - 0457
			LV. " " 8-69	
			SAT, 20° MIS DIST 736, 334 RMS 4.8 NO UPDT.	
			ARR STA. 9-73	
			LV. " 9-73	
			SAT 29° MISS DIST: 443, 409 NO UPDT	C/S DURING PASS
			0622 - ARRIVE STATION 10-76	
			0700 - LV " "	
			0733 - SAT. UPDT Δ LAT = .058'N Δ LON = .002'E NEW CORR = -.23056 CORR = -.02694	
			0741 - AR. STATION 11-80	
			0845 - LV " "	
			0944 - AR STATION 12-79	
			SAT, 50° MIS DIST: 841, -2280, RMS 16.3, (C/S C/C) NO UPDT.	
			SAT, 15° MIS DIST: -5, 162, RMS 7.2, SHOULD BE OK NO UPDT.	
			ARR STA. NO 16-77	
			DEP. " " 16-77	
			ARR STA " 17-70	
			SAT 50° MIS DIST 835, 496 RMS 17.9 UPDT Δ LAT .138 Δ LON .092 NO COUP	
			LV. STA NO. 17-70	
			SAT 66°, MIS DIST: -194, 319, RMS 12.2 NO UPDT.	
			ARR STA NO. 18-67	
			LV STA NO. 18-67	
			AR. STA NO. 19-71	
			LV STA NO. 19-71	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
81	04	16	1856		—	—		29	09.8	88	32.7		
			1914		140	8.3		29	09.9	88	32.4		
DAY			1959					29	05.9	88	28.5		
	104		2024		355	9.6			06.1		28.2		
			2116						10.8		28.7		
			2127		312	8.1			10.9		28.6		
			2206		STATION 23-61			29	17.5	88	32.8		
			2304		STATION 24-64			29	13.4	88	36.8		
			2350		STATION 25-60			29	17.2	88	41.1		
81	04	17	0043		STATION 26-63			29	13.4	88	46.3		
DAY	105		0124		STATION 27-59			29	17.3	88	49.1		
			0206		STATION 28-55			29	20.9	88	46.3		
		SAT			049	8.9	0238		23.2		43.3		
			0252						24.5		41.4		
					STATION 29-51				24.5		41.4		
			0302										
		SAT			133	8.9	0320		22.8		39.3		
			0337										
					STATION 30-56								
			0347										
			0425										
					STATION 31-52				24.6		32.6		
			0435										
			0512		STATION 32-57				20.7		28.7		
			0521										

TAPE #	START / END	COMMENTS AND OBSERVATIONS	PAGE 31
NOAK		ARRIVE STATION 20-68.	
		LV " "	
		AR STATION 21-72	
		LV " "	
		AR STATION 22-65	
		LV " "	
		SAT 11° MLS DIST 489, -179, RMS 3.2 NO UPDT.	
		ARR STA. NO. 29-51	
		ON STATION	
		DEP STA NO. 29-51	
		SAT, 51°, MLS DIST 600, -128, RMS 3.72 / UPDT. Δ LAT .0284N Δ LON .0244W / COUP	
		NEW CORR +.45351	
		" CORR -.12275	
		ARR STA NO. 30-56,	
		ON STATION / RANGE .238 FROM X'ING POINT	
		DEP STA. NO. 30-56	
		ARR STA NO. 31-52	
		ON STA	
		DEP STA NO. 31-52	
		ARR. " " 32-57	
		DEP " " 32-57	001

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
81	04	17	0612					29	28.4	88	28.7		
			0629		270	8.0			28.3		28.4		
			0724						28.0		36.8		
			0735		038	10.0			27.9		36.6		
			0819						32.2		32.5		
			0837		036	7.6			32.1		31.9		
			0915						35.9		28.5		
			0924		044	8.7			36.0		28.4		
			0941				0924	29	36.0	88	28.3		
			1005	STATION 37-32				29	40.0	88	23.9		
			1057	STATION 38-28				29	43.8	88	19.6		
			1205	STATION 39-27				29	43.3	88	28.6		
			1305	STATION 40-24				29	47.3	88	24.0		
			1350	STATION 41-21				29	51.8	88	19.6		
				LAST STATION OF 81-G6-1.									
81	04	17	1400	BEGIN TRANSIT TO GULFPORT									
	4/17	—	4/18	INPORT GULFPORT									
81	04	18	1408	Depart Gulfport									(8 am Local)
81	04	18	1648		89				1				
81	04	18											
			1657										
			1909										
			1928	100	1376			30	10.5	88	27.4		SOL

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 ACOUSTIC CORA-CORB. 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.