79012NAV

G/S 79-2

Northstar

&

INS

Logbook

Bob Oldak
Chief Sci

7903-2
GILS
79012
1C0577

OPS

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

PAGE 1A

COMMENTS AND OBSERVATIONS

C/S 79-2 Bob Oldale - Chief Sci
USTAR Logbook

Northstar Loran C
9960 chain

S1 W 13900 Caribou, Me
S2 X 25700 Nantucket, Ma.
S3 Y 44300 Carolina Beach, N.C

using S1 & S2 to calculate position

GMT				TIME ZONE	SHIPS			NAVIGATION								
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
01	06	79	1800		348	10.9		41	50.4	70	28.0		
			1900		255	10.9		42	09.0	70	32.5		
			1924		090	3.7			.		.		
			2000		090	3.5		42	05.0	70	31.0		
			2100		090	5.5		42	05.1	70	24.4		
			2149						.		.		
			2150					42	04.9	70	17.9		
			2200		069	5.4		42	05.3	70	16.8		
			2300		060	6.7		42	07.4	70	9.3		
			2331			6.3			.		.		
			2335					42	08.7	70	4.8		
			2337						.		.		
02	06	79	0000		268	5.5		42	08.7	70	6.8		
			0100		260			42	08.8	70	12.2		
			0200		257			42	08.8	70	18.6		
			0300		273	5.2		42	08.7	70	25.4		
			0400		274	5.1		42	09.0	70	32.2		
			0448						.		.		
			0506		000	4.8		42	10.0	70	38.4		
			0533		000	5.0			.		.		
			0600		093	4.2		42	13.0	70	35.7		
			0700		089	5.0		42	13.6	70	29.5		
			0800		093	5.0		42	13.0	70	23.3		
			0900		092	5.6		42	12.9	70	16.1		
			1000		084	4.5		42	12.8	70	08.7		
			1027					42	12.9	70	05.3		
			1100					42	15.1	70	04.8		
			1123						.		.		
			1200		279	2.1		42	16.9	70	08.6		
			1300		279	4.7		42	17.0	70	14.5		

OPS

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

COMMENTS AND OBSERVATIONS

C/S 79-2 Bob Oldale - Chief Sci
USTAR Logbook

Northstar Loran C
9960 chain
S1 W 13900 Caribou, Me.
S2 X 25700 Nantucket, Ma.
S3 Y 44300 Carolina Beach, N.C.

using S1 & S2 to calculate position

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
01	06	79	1800		348	10.9		41	50.4	70	28.0		
			1900		255	10.9		42	09.0	70	32.5		
			1924		090	3.7			.		.		
			2000		090	3.5		42	05.0	70	31.0		
			2100		090	5.5		42	05.1	70	24.4		
			2149						.		.		
			2150					42	04.9	70	17.9		
			2200		069	5.4		42	05.3	70	16.8		
			2300		060	6.7		42	07.4	70	9.3		
			2331			6.3			.		.		
			2337					42	08.7	70	4.8		
			2337						.		.		
02	06	79	0000		268	5.5		42	08.7	70	6.8		
			0100		260			42	08.8	70	12.2		
			0200		257			42	08.8	70	18.6		
			0300		273	5.2		42	08.7	70	25.4		
			0400		274	5.1		42	09.0	70	32.2		
			0448						.		.		
			0506		000	4.8		42	10.0	70	38.4		
			0533		000	5.0			.		.		
			0600		093	4.2		42	13.0	70	35.7		
			0700		089	5.0		42	13.6	70	29.5		
			0800		093	5.0		42	13.5	70	23.3		
			0900		092	5.6		42	12.9	70	16.1		
			1000		084	4.5		42	12.8	70	08.7		
			1027					42	12.9	70	05.3		
			1100					42	15.1	70	04.8		
			1123						.		.		
			1200		279	2.1		42	16.9	70	08.0		
			1300		279	4.7		42	17.0	70	14.5		

OPS

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

COMMENTS AND OBSERVATIONS

HEADING FOR STARTING PT. OF LINE #1 AT 42°05'N 70°34'S

USING GRI 9960 SLAVES W & Y

C/C TO 090 SLOW TO DEPLOY SEISMIC EQUIPMENT START LINE #1

ON LINE #1

ON Line #1

C/C 060° - ~~Start line #2~~ CONTINUE LINE 1

on line ~~#2~~ 1

on line #2 1

C/C 270° end line ~~#3~~ #1 start line ~~#3~~ #2

SID 270° line ~~#3~~ 2

line ~~#3~~ 2

" ~~#3~~ 2 making good C-270

" ~~#3~~ 2 STEARING 257 TO MAKE 270

" ~~#3~~ 2 " 273 " " 270

" ~~#3~~ 2 " 274 " " 270

C/C TO 000 START LINE ~~#3~~ 4 - POINTS 4 & 5 ON CHART MOVED EAST TO MISS SHALLOW WATER - NEW LONG = 70° 38.2' FOR BOTH.

ON LINE ~~#4~~ 3

C/C TO 090 START LINE 4 (FOUND OUT THAT LINE #2 DIDN'T START UNTIL 2331 Z 6/1/79)

ON LINE #4

" " "

" " "

" " "

" " "

C/C 360° end line #4 - start line #5

on line #5

C/C to 270° end line #5 - start line #6

ON LINE #6 - SLOWED TO SERVICE UNI-BOOM. (23 METERS)

" " #6

GMT				TIME ZONE	SHIPS		NAVIGATION							
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
02	06	79	1400		275	5.4		42	17.0	70	21.4		
			1500		270	5.7		42	17.0	70	28.8		
			1600		270	5.4		42	17.0	70	36.2		
			1700		270	5.4		42	17.0	70	43.4		
			1738		270	5.2			.		.		
			1800		010	5.2		42	18.4	70	47.4		
			1900		358	5.4		42	20.8	70	48.0		
									.		.		
			1938						.		.		
			2000		030	5.0		42	28.3	70	46.6		
			2006		030				.		.		
			2023		031	5.0		42	30.2	70	45.2		
			2108					42	30.1	70	41.2		
			2155						.		.		
									.		.		
			2200		179	3.4		42	26.9	70	40.0		
			2300		179			42	23.3	70	41.0		
			2336		175	3.5		42	21.3	70	40.9		
03	JUNE		0000		098	4.5		42	21.0	70	39.0		
			0100		098	4.6		42	21.0	70	33.5		
			0200					42	21.0	70	27.3		
			0300					42	20.9	70	20.4		
			0400		081	4.9		42	20.9	70	13.4		
			0425		090	5.2		42	20.1	70	10.4		
			0500		355	4.6		42	23.4	70	10.2		
			0518		005	4.0		42	24.8	70	10.3		
			0600		270	4.7		42	25.1	70	13.9		
			0700		270	4.3		42	25.0	70	19.3		
			0800		273	4.2		42	25.0	70	24.8		
			0852						.		.		

OPS

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

COMMENTS AND OBSERVATIONS

ON LINE #6 (FLAT CALM 70°) DEPTH 0 ?

" " #6 (73 METERS)

" " #6

" " #6

C/C TO 000 END LINE #6 START LINE #7

ON LINE #7 - OFF LINE TO RIGHT - OPERATOR ERROR.

" " #7

BEGIN A TURN AROUND SAILBOAT RACE - STILL HEAD FOR POINT 9.

ON LINE #7

30° HDNG to Avoid rock & sailboat race

C/C to 90° end line #7 - start line #8

C/C to 180° end line #8 - start line #9

Reset Northstar clock - may have goofed

21:55:10 record output wrong (JDAY 152 S/B 153)

on line #9

on line #9

C/C 90° end line #9 - start line #10

On line #10 start cassette #2

" " #10

ON " #10

ON " #10 (32 METERS DEPTH)

" " #10 (51 " ")

C/C TO 000 END LINE #10 START LINE #11

ON LINE #11

C/C TO 270 END LINE #11 START LINE #12

ON LINE #12

" " #12

" " #12

clock reset

GMT				TIME ZONE	SHIPS		NAVIGATION							
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
03	06	79	0900		279	4.4		42	25.0	70	30.1		
			1000		267	3.5		42	25.0	70	35.4		
			1100		266	3.5		42	25.0	70	41.0		
			1141					42	25.0	70	44.7		
			1200		352	5.3		42	26.3	70	45.0		
			1232					42	29.0	70	45.0		
			1300		090	6.1		42	28.9	70	41.9		
			1400		090	6.0		42	28.9	70	34.6		
			1411						.		.		
									.		.		
			1500		004	4.9		42	32.6	70	31.3		
			1608		018	4.2		42	37.9	70	29.0		
			1700		321	5.2		42	41.1	70	33.1		
			1745		316	5.0		42	44.0	70	36.8		
			1800		270	5.6		42	44.1	70	38.6		
			1811		270	5.4		42	44.1	70	39.8		
			1906		344	5.5		42	48.2	70	41.4		
			2000		352	5.4		42	53.4	70	43.1		
			2009			5.6		42	54.1	70	43.2		
			2100		140	4.7		42	51.9	70	40.2		
			2200		138	4.0		42	48.4	70	36.1		
			2300		144	4.7		42	44.6	70	31.9		
04	06	79	0000		138	5.0		42	40.9	70	27.6		
			0100		145	5.4		42	36.9	70	23.0		
			0200		143	5.4		42	32.9	70	18.5		
			0300		137	5.2		42	28.7	70	12.5		
			0345		137	5.2			.		.		
			0351		139	2.5			.		.		
			0356						.		.		
			0400		143	5.1		42	24.8	70	09.1		

OPS							COMMENTS AND OBSERVATIONS	PAGE 3
3.5 KHz	CSP	MAG	GRAV.	SONO.	STA.			
							on line #12	Reduce speed at approx 1105 to release + pick up buoys. Pick up speed again at 1130 approx (RMB Note of 2-13-80)
							on line #12	
							on line #12	
							c/c 360° end line #12 - start line #13	
							ON LINE #13	
							c/c 090 END LINE #13 START LINE #14	
							ON LINE #14	
							" " #14	
							c/c TO 018 END LINE #14 BEGIN LINE #15	
							1410 POS. 42° 28.9 70° 33.3	
							ON LINE #15	
							c/c TO 316° END LINE #15 START LINE #16	
							ON LINE #16	
							c/c TO 270° END LINE #16 START LINE #17	
							ON LINE #17	
							c/c TO 347° END LINE #17 START LINE #18	
							ON LINE #18	
							ON LINE #18	
							c/c to ~~171°~~ 140° end line #18 start line #19	
							on line #19	
							" " #19	
							on line #19 (forgot to turn silent 700 back on line - missed 1st rec) cassette #2	
							" " "	
							" " #19	
							" " "	
							" " "	
							SLOW TO 40 RPM FOR TRAFFIC (TO APPROX. 2 KNOTS)	
							BUILDING SPEED BACK TO 3 KNOTS	
							BACK TO STEADY SPEED	
							ON LINE #19	

GMT				TIME ZONE	SHIPS		NAVIGATION							
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
04	06	79	0424		140	4.7		42	23.0	70	07.2		
			0500		089	5.2		42	22.9	70	03.0		
			0537		090	5.0		42	22.9	69	58.2		
			0600		320	4.0		42	24.0	69	59.4		
			0700		316	5.4		42	27.6	70	03.4		
			0725						.		.		
			0730						.		.		
			0754						.		.		
			0800		348	4.9		42	31.5	70	07.4		
			0824						.		.		
			0900		319	4.8		42	35.0	70	11.8		
			1000		325	5.1		42	39.1	70	16.4		
			1100		319	4.3		42	42.8	70	20.9		
			1200		321	4.6		42	46.4	70	24.8		
			1300		317	5.7		42	50.4	70	29.4		
			1400		316	5.5		42	54.6	70	34.3		
			1444						.		.		
			1500		312	5.5		42	58.3	70	39.0		
			1534						.		.		
			1600		049	5.2		43	01.9	70	39.4		
			1630		050	5.2		43	03.5	70	36.2		
			1700		146	4.6		43	01.9	70	34.2		
			1800		140	4.8		42	58.2	70	29.8		
			1815						.		.		
			1900		146	5.0		42	54.1	70	25.2		
			2000		137	4.7		42	50.0	70	20.4		
			2100		137	5.8		42	45.8	70	15.6		
			2200		138	4.7		42	41.9	70	11.2		
			2300		135	5.1		42	38.3	70	7.1		
05	06	79	0000		131	5.2		42	34.3	70	2.5		

OPS

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

COMMENTS AND OBSERVATIONS

C/C TO 090° END LINE #19 START LINE #20

ON LINE #20

C/C TO 320° END LINE #20 START LINE #21

ON LINE #21

" " #21

SLOWING TO ALLOW ANOTHER SHIP TO PASS AHEAD (DOWN TO 3.5 KTS)

BACK UP TO SPEED AGAIN

CHANGING CRS TO 325° TO AVOID THE UNKNOWN.

ON LINE 21

Turning back on line

on line #21 - very foggy

on line #21

" " "

" " "

" " "

" " "

MANUEVERING TO AVOID FISH BOUYS

ON LINE #21 PASSING ISLES OF SHOALS

C/C TO 054 END LINE #21 BEGIN LINE #22 (20 METERS)

ON LINE #22

C/C TO 140 END LINE #22 START LINE #23

ON LINE #23

" " #23

0400-0800 & 1600-2000 WATCH

UP TO THIS POINT, J. DODD WAS PLOTTING INS DATA - BEGIN PLOTTING NORTHSTAR DATA 18:15

ON LINE #23

" " #23

" " "

on line #23

on line #23

on line #23 - start cassette #4

GMT			TIME ZONE	SHIPS		NAVIGATION							
DAY	MO	YR TIME	±	COURSE	SPD	FIX TIME	LATITUDE N ± DEGREES	± MINUTES	LONGITUDE W ± DEGREES	± MINUTES	TYPE	QUAL.
05	06	79 0100		135	5.2		42	30.0	69	57.6		
		0150						.		.		
		0200		041	5.2		42	26.8	69	52.9		
		0256						.		.		
		0300		320	4.9		42	30.2	69	48.2		
		0400		320	4.7		42	34.1	69	52.8		
		0500		320	5.0		42	37.9	69	57.2		
		0600		325	4.4		42	41.7	70	01.6		
		0700		315	5.7		42	45.4	70	06.0		
		0800		311	5.6		42	49.6	70	10.7		
		0900		321	4.6		42	53.4	70	15.2		
		0903						.		.		
		1000		325	4.9		42	57.3	70	19.8		
		1100		312	5.6		43	01.1	70	24.1		
		1200		320	5.2		43	05.3	70	29.2		
		1240						.		.		
		1300		050	4.9		43	09.0	70	31.1		
		1348						.		.		
		1400		140	5.3		43	10.9	70	26.4		
		1500		136	5.1		43	06.9	70	21.6		
		1600		140	5.2		43	02.9	70	16.7		
		1700		133	5.3		42	58.9	70	12.1		
		1800		140	4.5		42	55.1	70	07.8		
		1900		140	4.8		42	51.5	70	03.8		
		2000		134	5.1		42	48.0	69	59.4		
		2100		134	4.8		42	44.2	69	55.1		
		2200		137	5.6		42	40.5	69	50.8		
		2300		139	5.0		42	36.8	69	46.5		
06	06	79 0000		136	5.4		42	33.1	69	42.2		
		0100		133	6.5		42	29.1	69	37.7		

OPS							COMMENTS AND OBSERVATIONS	PAGE 5
12 KHz	3.5 KHz	CSP	MAG	GRAV.	SONO.	STA.		
							ON LINE #23	
							c/c TO 051 END LINE #23 BEGIN LINE #24	
							ON LINE #24	
							c/c TO 320 END LINE #24 BEGIN LINE #25	
							ON LINE #25	
							" " #25	
							" " #25	
							" " #25	
							" " #25	
							" " "	
							clock reset	
							on line #25	
							on line #25	
							" " "	
							" " "	
							c/c TO 048 END LINE #25 BEGIN LINE #26	
							ON LINE #26	
							c/c TO 140 END LINE #26 BEGIN LINE #27	
							ON LINE #27	
							" " "	
							" " "	
							" " "	
							" " "	
							" " "	
							" " "	
							" " "	
							" " "	
							on line #27	
							on line #27 - start cassette #5	
							" " "	

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	NAVIGATION LATITUDE ± DEGREES	NAVIGATION LATITUDE MINUTES	NAVIGATION LONGITUDE ± DEGREES	NAVIGATION LONGITUDE MINUTES	NAVIGATION TYPE	NAVIGATION QUAL.
06	06	79	0144										
			0200		031	3.3		42	26.6	69	33.1		
			0300		052	4.7		42	29.6	69	28.8		
			0305										
			0400		322	5.0		42	33.4	69	32.0		
			0500		319	4.6		42	37.1	69	36.3		
			0600		318	6.1		42	41.8	69	40.7		
			0700		316	5.0		42	45.1	69	45.4		
			0800		317	5.4		42	49.0	69	50.0		
			0900		320	4.5		42	52.5	69	54.1		
			1000		322	5.1		42	55.9	69	58.0		
			1100		319	4.7		42	59.7	70	2.5		
			1200		319	4.3		43	3.3	70	6.7		
			1300		322	5.0		43	7.0	70	10.9		
			1400		324	5.0		43	10.9	70	15.5		
			1500		332	5.0		43	15.2	70	20.5		
			1555										
			1600		T0 R4 K2	5.0		43	19.2	70	24.7		
			1656										
			1700		T1 R4 K0	5.0		43	22.4	70	19.8		
			1900		T1 R3 K6	4.9		43	15.4	70	11.6		
			2000		T1 R3 K6	5.3		43	11.8	70	7.1		
			2100		T1 R8 K5	5.2		43	8.2	70	2.9		
			2200		T1 R4 K6	4.5		43	4.5	69	58.6		
			2300		T1 R3 K7	4.9		43	1.6	69	54.4		
07	06	79	0000		T1 R3 K6	5.9		42	57.4	69	50.2		
			0100		T1 R4 K3	5.0		42	53.8	69	46.0		
			0140										
			0200		T2 R2 K0	*4.0		42	50.1	69	44.4		
			0300		T2 R2 K8	*4.9		42	47.0	69	49.6		

*3.8-5.2 VARYING OUTPUT

OPS							COMMENTS AND OBSERVATIONS	PAGE 6
12 KHz	3.5 KHz	CSP	MAG	GRAV.	SONO.	STA.		
							C/C TO 049 END LINE #27 BEGIN LINE #28	
							ON LINE #28	
							" " "	
							C/C TO 320 END LINE #28 BEGIN LINE #29	
							ON LINE #29	
							" " #29	
							" " #29	
							" " #29	
							" " #29	
							" " "	
							" " "	
							" " "	
							on line #29	
							" " "	
							" " "	
							" " "	
							C/C TO 048 END LINE #29 BEGIN LINE #30	
							ON LINE #30	
							C/C TO 140 END LINE #30 BEGIN LINE #31	
							ON LINE #31	
							" " "	
							" " "	
							" " "	
							" " "	
							" " " clock reset 23:33	
							on line #31	
							" " "	
							C/C TO 229 END LINE 31 BEGIN LINE 32	
							ON LINE #32	
							" " "	

GMT				TIME ZONE	SHIPS		NAVIGATION									
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
07	06	79	0400		218	*4.6		42	43.8	69	54.4		
			0500		233	5.0		42	40.7	69	59.4		
			0600		226	4.7		42	37.6	70	04.3		
			0700		236	5.0		42	34.5	70	09.0		
			0800		233	6.4		42	31.1	70	14.4		
			0816					42	30.1	70	16.0		
			0900		TRK 175	5.5		42	26.1	70	16.2		
			1000		TRK 184	6.1		42	20.5	70	16.2		
			1100		TRK 175	4.9		42	14.9	70	16.3		
			1200		182	5.3			09.9		16.2		
			1300		TRK 180	5.0			04.5		16.1		
			1335						01.4		16.1		

*NOISEY

OPS

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

COMMENTS AND OBSERVATIONS

ON LINE #32

" " "32

" " #32

" " #32

" " #32

c/c to 180° end line #32 start line #33

on line #33

" " "

" " "

" " "

" " " APPROACHING THE HOOK, MA.

C/S TO 3.0 END OLDALE SURVEY

GMT				TIME ZONE	SHIPS		NAVIGATION							
								LATITUDE		LONGITUDE				
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	± DEGREES ±	MINUTES	± DEGREES ±	MINUTES	TYPE	QUAL.

LEG #2

OLDALE

OPS

3.5 KHz | CSP | MAG | GRAV. | SONO. | STA.

COMMENTS AND OBSERVATIONS

G/S 79-2. Bob Oldale - Chief Sci
THS Logbook

GMT				TIME ZONE	SHIPS		NAVIGATION							
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
01	06	79	1800		348	10.9		41	50.7	70	27.9		
			1900		255	10.9		42	00.4	70	32.0		
			1924		090	3.7			.		.		
			1948						.		.		
			2003		090	3.5		42	05.2	70	30.8		
			2102		090	5.5		42	05.4	70	24.2		
			2101						.		.		
			2116						.		.		
			2149						.		.		
			2200		069	5.4		42	5.4	70	16.9		
			2300		060	6.7		42	7.4	70	9.5		
			2331						.		.		
			2337						.		.		
02	06	79	0002		268	5.5		42	9.0	70	6.9		
02	06	79	0101		260	5.4		42	9.1	70	12.3		
			0124						.		.		
									.		.		
									.		.		
									.		.		
			0118					42	9.1	70	13.9		
			0206		257	5.1		42	9.0	70	18.5		
			0246					42	8.8	70	23.7		
			0303		273	5.4		42	8.8	70	25.7		
			0306					42	8.8	70	26.0		
			0336					42	9.0	70	29.3		
			0400		271	4.3		42	9.0	70	32.1		
			0448		271	5.3		42	9.0	70	37.9		
			0454						.		.		
			0503		000	4.8		42	10.3	70	38.2		
			0510						.		.		
			0533		000	5.0		42	12.7	70	38.2		

OPS

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

COMMENTS AND OBSERVATIONS

HEADING FOR STARTING PT. OF LINE #1 AT 42° 05' N 70° 34' S

USING SS 4 (9960) SLAVE 14 (W) AND 44 (Y) ON LORAN.

C/C TO 090 - SLOW TO DEPLOY SEISMIC EQUIPMENT START LINE #1

SAT. UPDATE TAKEN - TIME OFF 2 SECS. Δ LAT 0° 0.374' N Δ LONG 0° 0.425' W

ON LINE #1

ON Line #1

UPDATE BIAS ON BELL GRAVITY SYSTEM -2.9 MGALS

UPDATE S-D CLOCK - IT WAS 2 SEC AHEAD. (PROBLEM - NOW 2 MIN AHEAD - FIX AT 2300)

C/C 066° ~~start line #2~~ CONTINUE LINE #1

on line #1

ON line #1 CLOCK O.K.

C/C 270° end line #1 start line #2

S/O 270°

line #2

LINE #2 making good course 270

END TAPE #1 (BEGINNING TIME 1300 Z 6-1-79) NAS NEG TIME

THE DAY INDICATES 6-1-79 FROM 0800-0124 ON 6-2-79 SO THAT THE DAY REPEATS. IT SHOULD BE 6-2. ERROR MADE AT SAT TIME UPDATE AT 2300 ON 6-1.

BEGIN TAPE #2

SAT., UPDATE USED

LINE #2 STEARING 257 TO MAKE 270

SAT, UPDATE USED

LINE #2

SAT, UPDATE USED

SAT, NO UPDATE

LINE #2 #3

START LINE #2 #3

C/C TO 000 - GRADUAL CHANGE → CHANGED POINTS 445 ON CHART TO HAVE LONG = 78° 38.2 N TO MISS SHALLOW WATER CLOSE TO SHORE.

SAT, NO UPDATE

ON LINE #4 #3

BELL GRAVITY COUNTER PROG. HAVING MANY LATE TRANSMISSION ERRORS (#13 ON PEARL'S BOX) HIT 'TRANSMIT ON/OFF' KEY (F7) ON 9845 TWICE - SEEMED TO STOP PROBLEMS

C/C TO 090 - JUST FOUND OUT THAT LINE #2 DIDN'T START TILL 2331 Z 6/1.

↖ BAD SATELLITE DURING COURSE CHANGE - NO UPDT.

GMT				TIME ZONE	SHIPS			NAVIGATION								
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	MINUTES	LONGITUDE ± DEGREES	MINUTES	TYPE	QUAL.
02	06	79	0603		090	4.4		42	13.0	70	35.2		
			0620						.		.		
			0630						.		.		
			0703		089	5.0		42	13.0	70	29.1		
			0720						.		.		
			0800		093	5.0		42	13.0	70	23.2		
			0820						.		.		
			0900		092	5.6		42	12.9	70	15.9		
			1000		084	4.5		42	12.9	70	8.5		
			1015					42	.	70	.		
			1027					42	12.9	70	5.2		
			1100		002	4.6		42	15.3	70	4.7		
			1123					42	12.1	70	4.4		
			1203		279	2.1		42	17.0	70	08.8		
			1150					42	17.6	70	07.6		
			1303		279	4.7		42	17.0	70	14.7		
			1304					42	17.3	70	15.0		
			1403		275	5.4		42	17.0	70	21.7		
			1410					42	17.0	70	22.5		
									.		.		
			1444					42	17.0	70	26.7		
			1503		270	5.7		42	17.0	70	29.1		
			1600		270	5.4		42	17.0	70	36.2		
			1610						.		.		
			1644						.		.		
			1703					42	17.0	70	43.8		
			1738		270	5.2		42	17.0	70	47.7		
			1740						.		.		
			1750						.		.		
			1758						.		.		

OPS

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

COMMENTS AND OBSERVATIONS

ON LINE #4

SATELLITE - UPDATE TAKEN AT 0637 Δ LAT: 0° 0.0141 N Δ LONG = 0° 0.0109 W TIME OK

FATHOMETER DATA BAD - READS 0001 . / O.K. AT 0648 → FATH. NEEDED ENCOURAGEMENT

ON LINE #4

SATELLITE PRINTOUT - NO UPDATE

ON LINE #4

Satellite - no update

on line #4 (0957 TO 1156 SUSPECT BELL GRAVITY DATA

on line #4 MISSING FROM INS TAPE #2)

Satellite - update at 1017 Δ lat: 0° 0.0193S Δ Lon = 0° 0.193E

c/c 360° end line #4 - start line #5

on line #5

c/c to 270° end line #5 - start line #6

ON LINE #6 - SLOWED TO SEAVIEW UHI-DOWN

SAT. NOT USED 2° ANGLE, 4 IT'S.

ON LINE #6

SAT NOT USED, 5° " , 5 IT'S

SAT UPDT USED 30°, 8 ITS.

DEPTHS ON CRT INDICATE ZERO DEPTH. RESET X-MITTER

SAT UPDT USED 42° 8 ITS

ON LINE #6

" " #6

SECOND OF TWO BAD SATELLITE PASSES (FIRST AT 1556)

TOOK SAT. UPDATE Δ TIME = 0 Δ LAT = 0° 0.1139 N Δ LONG = 0° 0.0798 W

ON LINE #6

c/c TO 000 END LINE #6 START LINE #7

SAT. PRINTOUT (1729 LOCATION) - UPDATE. ↓

SAT. UPDATE TAKEN - Δ LAT & Δ LONG = 0

CHANGED POINT 10 (WAYPOINT 01) TO MISS SHALLOW WATER AT 10 : 42°30'N 70°41'W

GMT				TIME ZONE	SHIPS		NAVIGATION						
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
02	06	79	1800		010	5.2		42	18.4	70	47.4		
			1830		349	5.6		42	21.1	70	47.5		
			1900		358	5.4		42	23.9	70	48.0		
			1930		358	5.4		42	26.6	70	48.0		
			1934						.		.		
			2000		030	5.0		42	28.3	70	46.8		
			2006		030				.		.		
			2013						.		.		
			2023		031	5.0		42	30.0	70	45.2		
			2104		[illegible]			42	30.0	70	41.2		
			2200		179	3.4		42	26.8	70	40.9		
			2206		179	3.6		42	26.5	70	40.9		
			2300		179			42	23.3	70	41.0		
			2336		175	3.5		42	21.2	70	40.9		
03	JUNE	79	0003		098	4.5		42	21.0	70	38.7		
			0103		098	4.6		42	21.0	70	33.2		
			0152		[illegible]			42	21.0	70	28.1		
			0203		092	5.2		42	21.0	70	27.0		
			0210		[illegible]			42	21.0	70	26.1		
			0303		[illegible]			42	21.0	70	20.0		
			0338		[illegible]			42	20.9	70	15.8		
			0401		081	4.9		42	21.0	70	13.1		
			0413		090	5.3		42	21.0	70	13.6		
			0425		090	5.2		42	21.0	70	10.4		
			0445		008	4.1		42	22.3	70	9.9		
			0500		355	4.6		42	23.4	70	10.0		
			0518		005	4.0		42	24.8	70	10.0		
			0540		273	4.6		42	24.9	70	12.8		
			0600		270	4.7		42	25.0	70	13.9		
			0634		266	3.7		42	25.0	70	16.9		

OPS

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

COMMENTS AND OBSERVATIONS

ON LINE 7 BUT I ENTERED WRONG WAYPOINTS - OFF LINE BY 0.6 mi AT 1815 - PROBLEM CORRECTED 1820.

SAT UPDATE TAKEN - Δ LAT & Δ LONG DIDN'T PRINT OUT. | DIDN'T UPDATE BECAUSE OF ANOTHER SAT. FIX.

ON LINE #7

SAT. UPDATE - Δ LAT = 0° 0.0914S Δ LONG = 0° 0.0334E Δ TIME = 0.

BEGIN TURN AROUND SAILBOAT RACE - STILL HEAD FOR POINT 9

ON LINE #7

30° HDNG to Avoid rock & sailboat race

Satellite - recompute done - better but no update

c/c to 90° end line #7 start line #8

c/c to 180° end line #8 - start line #9

on line #9

Satellite - updt taken Δ lat 0° 0.0180 8S Δ lon 0° 0.0154W

on line #9

c/c to 90° end line #9 - start line #10

on line #10

ON " #10

SAT UPDT. 17° ANGLE 7 ITS

ON LINE #10

SAT UPDT 29° 8 ITS

ON LINE #10

" " #10 SAT, 78°, 8 ITS (MESSAGE REC'D NOT 2 MIN INTERVAL) NOT UPDT'D

" " #10

SAT. UPDATE Δ LAT 0° 0.0025 N Δ LONG 0° 0.0366 W Δ TIME = 0

c/c TO 000 END LINE #10 START LINE #11

SAT. UPDATE Δ LAT - 0° 0.0566 S Δ LONG 0° 0.0862 E Δ TIME = 0

ON LINE #11

c/c TO 270° END LINE #11 START LINE #12

SAT. UPDATE Δ LAT → 0° 0.0360 S Δ LONG → 0° 0.2117 W Δ TIME = 0

ON LINE #12

SAT. UPDATE Δ LAT → 0° 0.0720 N Δ LONG → 0° 0.1178 E Δ TIME = 0 EXCELLENT SAT.!

GMT				TIME ZONE	SHIPS		NAVIGATION							
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
03	04	79	0700		270	4.3		42	25.0	70	19.3		
			0710						.		.		
			0800		273	4.2		42	25.0	70	24.8		
			0818						.		.		
			0900		275	4.4		42	25.0	70	30.1		
			0903						.		.		
			1000		267	3.5		42	25.0	70	35.3		
			1052						.		.		
			1056						.		.		
			1100		266	3.5		42	24.9	70	41.0		
			1141					42	24.9	70	44.6		
			1201		352	5.3		42	26.4	70	45.6		
			1232					42	29.0	70	45.0		
			1235						.		.		
			1240						.		.		
			1302		090	6.1		42	29.0	70	41.8		
			1332						.		.		
			1342						.		.		
			1400		090	6.0		42	29.0	70	34.7		
			1350					42	29.0	70	35.9		
			1411						.		.		
			1500		004	4.9		42	32.7	70	31.3		
			1504					42	32.9	70	31.1		
			1608		018	4.2		42	37.8	70	29.0		
			1654		314	5.4		42	40.6	70	32.5		
			1700		321	5.2		42	41.0	70	33.0		
			1739		312	5.3		42	43.5	70	36.2		
			1745		316	5.0		42	43.8	70	36.7		
			1800		270	5.6		42	44.0	70	38.8		
			1811		270	5.4		42	44.0	70	39.8		

OPS

3.5 KHz	CSP	MAG	GRAV.	SONO.	STA.

COMMENTS AND OBSERVATIONS

ON LINE #12

SAT. PRINTOUT — NO UPDATE.

ON LINE #12

Satellite - no update

on line #12

Satellite - update taken Δlat 0° 0.015N Δlon 0° 0.113 E

on line #12

Satellite

SAT UPDT taken Δlat 0° 0.0283S Δlon 0° 0.110 W

on line #12

c/c 360° end line #12 start line #13

ON LINE #13

END LINE #13 / START LINE #14

PLOTTER RUNNING WILD/STOP PLOTTER/RESTART COMPUTER

END TAPE #2 / BEGIN TAPE #3

ON LINE #14

SHIP'S AIR CONDITIONER OFF (TURNED OFF LAB UNIT ALSO)

A/C BACK ON

ON LINE #14

SAT 18° 8 ITS UPDT

C/C TO 018 END LINE #14 BEGIN LINE #15

ON LINE #15

SAT 81° 8 ITS NO UPDT (NOT 2 2 MIN INTV)

C/C TO 316° END LINE #15 BEGIN LINE #16

SAT UPDT Δ LAT → 0° 0.0308 S Δ LONG → 0° 0.1184 E Δ TIME = 0.

ON LINE #16

SAT UPDT Δ LAT → 0° 0.0231 N Δ LONG → 0° 0.1028 E Δ TIME = 0

C/C TO 270° END LINE #16 START LINE #17

ON LINE #17

C/C TO 347° END LINE #17 START LINE #18

GMT				TIME ZONE	SHIPS		NAVIGATION								
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE N ± DEGREES	± MINUTES	LONGITUDE W ± DEGREES	± MINUTES	TYPE	QUAL.
03	06	79	1841		350	7.8		42	46.5	70	40.8		
			1900		344	5.5		42	48.1	70	41.2		
			1912						.		.		
			2000		352	5.4		42	53.2	70	42.9		
			2009			5.6		42	54.0	70	43.1		
			2024						.		.		
			2024						.		.		
			2058						.		.		
			2100		140	4.7		42	51.7	70	40.1		
			2200		138	4.0		42	48.3	70	36.1		
			2245						.		.		
			2300		144	4.7		42	44.7	70	31.9		
04	06	79	0000		138	5.0		42	41.0	70	27.6		
			0102		145	5.4		42	36.9	70	22.8		
			0120					42	35.7	70	21.5		
			0202		143	5.4		42	32.9	70	18.3		
			0242		141	5.9		42	30.0	70	15.1		
			0302		140	4.8		42	28.5		13.5		
			0304		140	4.8		42	28.4		13.3		
			0345		140	5.2			.		.		
			0342			* C/S		42	25.9	70	10.2		
			0400		143	5.1		42	24.8	70	09.0		
			0424		140	4.7		42	23.1	70	07.1		
			0441		099	5.3		42	22.9	70	05.0		
			0448						.		.		
			0500		089	5.2		42	23.0	70	02.9		
			0506						.		.		
			0511						.		.		
			0532						.		.		
			0537		090	5.0		42	23.0	69	58.1		

OPS

3.5KHz | CSP | MAG | GRAV. | SONO. | STA.

COMMENTS AND OBSERVATIONS

SAT. UPDATE. Δ LAT. - 0° 0.0334S Δ LONG - 0° 0.0180W Δ TIME = 0

ON LINE # 18

A NOT SO GOOD SATELLITE PASS - NO UPDATE. | GYRO POSITION WITHIN: LAT - 0.04' LONG - 0.06' AFTER 35 MIN.

ON LINE #18

C/C to 111° end line # 18 start line # 19

Satellite - no update

goofed on course chge s/b 140°

Satellite - update taken Δ Lat 0° 0.0489 N Δ Lon 0° 0.1068W

on line # 19

" " #19

Satellite - update taken Δ lat 0° 0.0379N Δ Lon 0° 0.0933E

on line # 19

on line # 19

" " # 19

SAT 12° 7 ITS UPDT.

ON LINE #19

" " #19

" " "

SAT 79° 8 ITS NO UPDT RIGHT ON W/L-C

*SLOW TO 40 RPM FOR TRAFFIC @ 0345 / BACK TO SURVEY SPEED AT 0356

SAT 14° 8 ITS NO UPDT DUE TO S/C

ON LINE #19

C/C TO 090 END LINE #19 START LINE #20

SAT. UPDT - Δ LAT: 0° 0.0083S Δ LONG: 0° 0.0096E Δ TIME: 0

POOR SATELLITE MESSAGE. - NOT USED.

ON LINE #20

SATELLITE NOT USED.

TRIED USING WESTMAN SPEED LOG TO MK-29 - NO GOOD - MK-29 SWITCHES ITSELF INTO 'ALIGN'

MK-29 BACK IN 'NAVIGATE' MODE

C/C TO 320° END LINE #20 START LINE #21 - STARTED TO ROLL A BIT (5-8°)

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
04	06	79	0540										
			0600		320	4.0		42	24.1	69	59.3		
			0641		320	4.5		42	26.5	70	02.0		
			0700		316	5.4		42	27.6	70	03.3		
			0725										
			0730										
			0754										
			0759		326	5.2		42	31.5	70	07.3		
			0824										
			0900		319	4.8		42	34.9	70	11.7		
			0945										
			1000		325	5.1		42	39.1	70	16.4		
			1100		319	4.3		42	42.7	70	20.8		
			1128										
			1200		321	4.6		42	46.3	70	24.9		
			1302		317	5.9		42	50.4	70	30.9		
			1402		316	5.5		42	54.6	70	34.5		
			1412					42	55.2	70	35.1		
			1441										
			1440		323	4.9		42	57.0	70	37.3		
			1500		312	5.5		42	58.7	70	39.0		
			1534										
			1600		049	5.2		43	01.9	70	38.8		
			1608		053	5.4		43	02.3	70	38.4		
			1630		050	5.2		43	03.3	70	36.0		
			1700		146	4.6		43	01.7	70	33.9		
			1800		140	4.8		43	58.0	70	29.4		
			1815										
			1835										
			1900		146	5.0		42	54.0	70	25.0		

1917

OPS							COMMENTS AND OBSERVATIONS	PAGE 6
12 KHz	3.5 KHz	CSP	MAG	GRAV.	SONO.	STA.		
							SAT. PRINTOUT (LOCKED ON AT 0528) 84° ELEV. - DID NOT USE.	
							ON LINE #21	
							SAT. UPDATE - Δ LAT = 0°0.0057 N Δ LONG = 0° 0.0012 E Δ TIME = 0	
							ON LINE #21	
							SLOWING TO ALLOW ANOTHER SHIP TO PASS AHEAD. (DOWN TO 3.5 KN)	
							BACK UP TO SPEED AGAIN.	
							CHANGING COURSE TO 335° TO AVOID SOMETHING IN FRONT OF US	
							SAT. UPDT - Δ LAT = 0°0.00835 Δ LONG = 0° 0.0263 E Δ TIME = 0	
							Turning back on-line	
							on line # 21	
							Satellite - update ΔLat 0° 0.0017N ΔLon 0° 0.000E	
							on line #21 very foggy	
							on line #21	
							Satellite - update ΔLat 0° 0.0431 S ΔLon 0° 0.2040 W	
							on line #21	
							" " "	
							" " " BELL X-MISSION OFF 1322-1355 - PREPARING BELL CARTRIDGES FOR RECORDING	
							SAT 36° BITS UPDT OK.	
							MANUEVERING TO AVOID FISH BOUYS	
							SAT 45° BITS NO UPDT DUE TO MANUEVERING	
							ON LINE #21 PASSING ISLES OF SHOALS	
							C/C TO 054 END LINE 21 BEGIN LINE #22 (DEPTH 20 METERS)	
							ON LINE #22	
							SAT. UPDT Δ LAT: 0°0.0244 N Δ LONG = 0° 0.0077 W Δ TIME=0 ELEV: 14°	
							C/C TO 140 END LINE #22 BEGIN LINE #23.	
							ON LINE #23	
							" " #23 (COAST GUARD BOARDS [EARLIER] THEN LEAVES APPROX. 1800) 0400 - 0800 & 1600 - 2000 WATCH	
							UP TO THIS POINT J. DODD WAS PLOTTING INS DATA - BEGIN PLOTTING NORTHSTAR DATA AT 18:15.	
							SATELLITE PRINTOUT - DOESN'T SEEM TO MATCH TRANS OF LAST TWO - NO UPDATE.	
							ON LINE #23	

TAPE GAVE WRITE ERROR, REWOUND AND SWITCHED TO NEXT TAPE. DON'T KNOW IF THERE IS EOF ON IT. (TAPE #3) ⇒ NOW ON TAPE #4 - TAPE UNIT 1

GMT				TIME ZONE	SHIPS		NAVIGATION								
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
04	06	79	1939		138	5.4		42	51.3	70	21.8		
			1952						.		.		
			2000		137	4.7		42	49.8	70	20.2		
			2034						.		.		
			2100		137	5.8		42	45.8	70	15.5		
			2124					42	44.3	70	13.7		
			2200		138	4.7		42	41.8	70	11.0		
			2300		135	5.1		42	38.3	70	7.0		
			2322						.		.		
05	06	79	0000		131	5.2		42	34.4	70	2.4		
			0100		135	5.2		42	30.0	69	57.5		
			0150						.		.		
			0148					42	26.8	69	53.8		
			0202		041	5.2		42	27.0	69	52.5		
			0212					42	27.5	69	50.5		
			0256						.		.		
			0302		320	4.9		42	30.3	69	48.3		
			0258					42	30.3	69	48.0		
			0400		320	4.7		42	34.1	69	52.8		
			0412		311	4.9		42	34.9	69	53.6		
			0438						.		.		
			0453		324	4.8		42	37.5	69	56.6		
			0502		320	5.0		42	38.1	69	57.3		
			0528						.		.		
			0550						.		.		
			0600		325	4.4		42	41.7	70	01.5		
			0639		325	5.2		42	44.1	70	04.3		
			0700		315	5.7		42	45.4	70	05.9		
			0740						.		.		
			0748						.		.		

OPS 12 KHz	3.5 KHz	CSP	MAG	GRAV.	SONO.	STA.	COMMENTS AND OBSERVATIONS — PAGE 7
							SATELLITE UPDATE- Δ LAT = 0° 0.025 1S Δ LONG = 0° 0.015 4E Δ TIME = 0
							SAT. PRINTOUT - ONLY 6 VALUES, DOPPLER COUNTS OFF CENTER, LARGE MISS DIST. → NO UPDATE.
							ON LINE #23
							Satellite - no good "Not 23 10Sec INTV with lock"
							on line #23
							SAT 54° 8 ITS UPDT/ OK.
							on line #23
							on line #23
							Satellite - no update
							on line #23
							ON " "
							C/C TO 051 END LINE #23 BEGIN LINE #24
							SAT 18° 7 ITS NO UPDT DUE TO C/C
							ON LINE #24
							SAT 36° 8 ITS UPDT/OK
							C/C TO 320 END LINE #24 BEGIN LINE #25
							ON LINE #25
							NO UPDT DUE TO C/C (4° - 5 ITS)
							ON LINE #25
							SAT. UPDATE- Δ LAT = 0° 0.012 2 N Δ LONG = 0° 0.010 2 W Δ TIME = 0
							RESET SYSTEM - DUMMY CLOCK - IN SPITE OF WHAT IS SAID HERE ⇧, WE WERE 1 SEC. OFF.
							SAT. UPDATE USING RECOMPUTED DATA- Δ LAT = 0° 0.004 5S Δ LONG = 0° 0.017 6E Δ TIME = 0
							ON LINE #25
							SAT. PRINTOUT - NO UPDATE - ONLY 6 OF 8 2 MINUTE INTERVALS.
							" " " " - HIGH ANGLE
							ON LINE #25
							SAT. UPDT - Δ LAT = 0°0.0N Δ LONG = 0° 0.012 2W Δ TIME = 0 | TRYING TO MANUALLY CORRECT GYRO TO SYSTEM VELOCITY.
							ON LINE #25
							BAD SATELLITE PASS
							STOPPED MANUAL GYRO CORRECTIONS - AFTER 1HR. 9 MIN. Δ LAT = -155 METERS Δ LONG = +14 METERS

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	NAVIGATION LATITUDE ± DEGREES	NAVIGATION LATITUDE MINUTES	NAVIGATION LONGITUDE ± DEGREES	NAVIGATION LONGITUDE MINUTES	NAVIGATION TYPE	NAVIGATION QUAL.
05	06	79	0800		311	5.4		42	49.6	70	10.4		
			0841										
			0900		321	4.6		42	53.4	70	15.3		
			1000		325	4.9		42	57.2	70	19.6		
			1022										
			1100		312	5.6		43	1.0	70	24.0		
			1201		320	5.2		43	05.3	70	29.1		
			1240										
			1302		050	4.9		43	09.0	70	30.7		
			1348										
			1346					43	11.3	70	27.3		
			1401		140	5.3		43	10.7	70	26.7		
			1501		136	5.1		43	06.7	70	21.3		
			1508					43	06.3	70	20.9		
			1532					43	04.7	70	18.7		
			1602		140	5.2		43	02.6	70	16.5		
			1700		132	5.3		42	58.8	70	12.0		
			1705		140	5.4		42	58.4	70	11.4		
			1720										
			1752										
			1800		140	4.5		42	55.1	70	07.8		
			1853		142	4.7		42	51.9	70	04.0		
			1906		140	4.8		42	51.4	70	03.1		
			1942		138	4.8		42	49.0	70	00.6		
			2000		134	5.1		42	47.9	69	59.3		
			2052										
			2100		134	4.8		42	44.2	69	55.0		
			2200		137	5.6		42	40.5	69	50.7		
			2217										
			2300		139	5.0		42	36.8	69	46.5		

OPS

3.5 KHz | CSP | MAG | GRAV. | SONO. | STA.

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COMMENTS AND OBSERVATIONS

ON LINE #25

Satellite update ΔLat 0° 0.0102S ΔLon 0° 0.0463E

on line #25

on line #25

Satellite UPDATE ΔLat 0° 0.0115N ΔLon 0° 0.0617W

on line #25

" " "

C/C TO 048 END LINE 25 BEGIN LINE 26

ON LINE #26

C/C TO 140 END LINE #26 BEGIN LINE #27

SAT 19° 8 ITS NO UPDT DUE TO C/C

ON LINE #27

" " "

SAT 81° 7 ITS UPDT - O.K.

" 74° 7 " " "

ON LINE #27 - ALSO, SATELLITE PAINTOUT, BUT DATA RUINED BY RECEIVER LOCKING UP.

" " #27

SATELLITE UPDATE - ΔLAT: 0° 0.0096S ΔLONG: 0° 0.1969E ΔTIME: 01 SEC. !!

SYSTRON - DONNER CLOCK RESET 1 SECOND.

SATELLITE - NOT USED BECAUSE OF HIGH ANGLE. (73°)

ON LINE #27

SAT. UPDATE - Δ LAT: 0° 0.0090S Δ LONG: 0° 0.0199W ΔTIME = 0

ON LINE #27

SAT. UPDT WHEN RECOMPUTED DATA - ΔLAT: 0° 0.0096N ΔLONG: 0° 0.0231W ΔTIME = 0.

ON LINE #27

Satellite - update ΔLat 0° 0.0251S ΔLon 0° 0.0347E

on line #27

on line #27

Satellite - update ΔLat 0° 0.0038N ΔLon 0° 0.0225W

on line #27

GMT				TIME ZONE	SHIPS		NAVIGATION								
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
06	06	09	0000		139	5.4		42	33.1	69	42.2		
			0102		133	6.5		42	28.9	69	37.4		
			0052					42	29.9	69	38.4		
			0124						.		.		
			0144					42	27.5	69	35.6		
			0200		031	3.3		42	26.7	69	32.9		
			0210			4.8			.		.		
			0238		044	5.0		42	28.5	69	30.3		
			0302		052	4.7		42	29.8	69	28.5		
			0305						.		.		
			0308					42	30.1	69	28.3		
			0352					42	32.9	69	31.3		
			0402		322	5.0		42	33.6	69	32.1		
			0417					42	34.6	69	33.1		
			0502		320	5.0		42	37.3	69	36.3		
			0554		313	5.9		43	40.8	69	40.4		
			0600		318	6.1		42	41.0	69	40.7		
			0651		317	4.9		42	44.6	69	44.6		
			0702		316	5.0		42	45.3	69	45.5		
			0740		321	4.2		42	47.7	69	48.3		
			0800		317	5.4		42	49.0	69	49.8		
			0900		320	4.5		42	52.5	69	53.9		
			1000		322	5.1		42	55.8	69	57.8		
			1100		319	4.7		42	59.6	70	2.3		
			1101						.		.		
			1200		319	4.3		43	3.3	70	6.5		
			1230					43	4.9	70	8.4		
			1300		322	5.0		43	6.9	70	10.8		
			1354					43	6.5	70	10.4		
			1402		324	5.0		43	11.0	70	15.5		

OPS

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

COMMENTS AND OBSERVATIONS

ON LINE #27

" " "

SAT 5° 6 ITS NO UPDT.

SAT 16° 7 ITS UPDT TAKEN

C/C TO 049 END LINE #27 BEGIN LINE #28

ON LINE #28

TOOK 15 MIN TO GET UP TO SPEED

SAT 49° 8 ITS UPDT/OK

SEA STATE INC'D SINCE 2200Z 5 JUNE FM ABOUT 2.5 TO 3.5 GETTING MOSTLY ROLL

ON LINE #28

C/C TO 320 END LINE #28 BEGIN LINE #29

SAT 81° 7 ITS NO UPDT DUE TO C/C

SAT 20° 8 ITS UPDT/OK

ON LINE #29

SAT UPDATE - Δ LAT = 0°0.0128S Δ LONG = 0°0.0733 E

ON LINE #29

SAT. UPDATE = Δ LAT = 0°0.0135N Δ LONG 0°0.0158W Δ TIME = 0

ON LINE #29

SAT. UPDATE = Δ LAT = 0°0.0032S Δ LONG = 0°0.0592E Δ TIME = 0

ON LINE #29

SAT. UPDATE = Δ LAT = 0°0.0180S Δ LONG = 0°0.0521E Δ TIME = 0

ON LINE #29

" " "

" " "

" " "

Satellite - update Δ Lat 0°0.0418N Δ Lon 0°0.0296W

on line #29

SAT 5° 5 ITS No UPDT.

ON LINE #29

SAT 7° 6 ITS No UPDT.

ON LINE #29

GMT				TIME ZONE	SHIPS			NAVIGATION								
DAY	MO	YR	TIME	±	COURSE		SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE MINUTES	LONGITUDE ± DEGREES	LONGITUDE MINUTES	TYPE	QUAL.
06	06	79	1416						43	11.9	70	16.6		
			1436		392		5.7		43	13.4	70	18.5		
			1500		332		5.0		43	15.1	70	20.4		
			1500						43	14.9	70	20.3		
			1506							.		.		
			1555							.		.		
			1602		T 042 R K		5.0		43	19.2	70	24.4		
			1656							.		.		
			1702		T 140 R K		5.0		43	22.2	70	19.6		
			1646						43	21.8	70	20.9		
			1834						43	16.9	70	13.3		
			1748						43	19.6	70	16.5		
			1902						43	15.2	70	11.4		
			1934		T 135 R K		4.9		43	13.2	70	09.1		
			2000		T 136 R K		5.3		43	11.6	70	07.1		
			2100		T 135 R K		5.2		43	08.1	70	03.0		
			2107							.		.		
			2200		T 146 R K		4.5		43	04.4	69	58.7		
			2254							.		.		
			2300		T 135 R K		4.9		43	.9	69	54.6		
07	06	79	0000		T 134 R K		5.9		42	57.3	69	50.3		
			0100		T 143 R K		5.0		42	53.8	69	45.9		
			0140							.		.		
			0142						42	50.8	69	44.3		
			0202		T 120 R K		4.0		42	49.9	69	44.7		
			0214						42	49.3	69	45.5		
			0302		T 278 R K		4.9 *			46.8		49.7		
			0306							47.1		50.3		
			0330							45.4		51.9		
			0400		T 281 R K		4.6			43.8		54.4		

* SPEED OUTPUT VARYING 4.0 - 5.3

OPS

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

COMMENTS AND OBSERVATIONS

SAT 45° 8 ITS LOCKED ON TO SECOND SAT BEFORE UPDT TYPED.
SAT 48° 8 ITS UPDT - OK
ON LINE # 29
SAT 7° 7 ITS NO UPDT
MK-29 SYSTEM MALF. * * * *
C/C TO 048 at 1555 END LINE #29 BEGIN LINE #30
ON LINE #30
C/C. TO 140 END LINE #30 BEGIN LINE #31
ON LINE #31
SAT 53° 8 ITS NO UPDT DUE TO 2ND SAT TOO CLOSE
SAT 27° 8 ITS NO UPD.
SAT 71° 7 ITS UPDT - O.K.
ON LINE #31
SAT 11° 7 ITS UPDT - OK
On line #31
" " "
Satellite - no update
On line #31
Satellite - no update
On line #31
" " "
" " "
C/C TO 229 END LINE 31 BEGIN LINE 32
SAT 20° 8 ITS NO UPDT DUE C/C
ON LINE #32
SAT 44° 8 ITS UPDT - OK
ON LINE #32
SAT 8° 6 ITS NO UPDT.
SAT 69° 7 ITS UPDT - OK
ON LINE #32

* MK-29 DOWN NO BELL GRAVITY → TO END OF OIDALE CRUISE

GMT				TIME ZONE	SHIPS			NAVIGATION									
DAY	MO	YR	TIME	±	COURSE		SPD	FIX TIME	LATITUDE ± DEGREES	MINUTES		LONGITUDE ± DEGREES	MINUTES		TYPE	QUAL.
07	06	79	0416													
			0448													
			0500		233		5.0		42	40.2		069	59.3			
			0506		240		6.4		42	40.3		069	59.8			
			0525													
			0600		226		7.7		42	37.6		070	04.2			
			0607		230		4.7		42	37.5		070	04.6			
			0647													
			0700		236		5.0		42	34.5		070	09.6			
			0742													
			0800		233		6.4		42	31.0		070	14.4			
			0809													
			0816						42	30.1		070	15.9			
			0900		TR 17	KR 6	5.5		42	26.0		070	16.1			
			0942													
			1000		TR 18	KR 4	6.1		42	20.5		070	16.0			
			1100		175		4.9		42	15.0		070	16.1			
			1200		TR 18	KR 2	5.3			09.9			16.0			
			1300		TR 18	KR 0	5.0			04.6			16.0			
			1374							12.5			16.1			
			1335							01.4			16.1			

OPS

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

COMMENTS AND OBSERVATIONS

SATELLITE PRINTOUT (0402 LOCK-ON) - MISS DISTANCE ≈ 12,000 FT. [RCMP ≈ 11,000 FT] MAY IT'S WRONG. -NO UPDATE.

RESET SYSTEM CLOCK TO SATELLITE - 1 SEC OFF.

ON LINE # 32

SAT. UPDATE (LOCK-ON 0448) - ΔLAT=0° 0.0341 S ΔLONG=0° 0.079 E ΔTIME=0 THANK-YOU GOD.

SATELLITE PRINT-OUT (LOCK-ON 0516) - NO UPDATE

ON LINE # 32

SAT. UPDATE (LOCK-ON 0548) → ΔLAT=0° 0.014 N ΔLONG=0° 0.079 W ΔTIME=0

SAT. PRINTOUT - 16 FT. MISS DISTANCE - COME ON, I DON'T BELIEVE IT. NO UPDATE.

ON LINE # 32

SAT. PRINTOUT - 7° ELEVATION - WAIT FOR NEXT SATELLITE. NO UPDATE.

ON LINE # 32

Satellite - update ΔLat 0° 0.012 S N ΔLon 0° 0.069 E

C/C to 180° end line # 32 start line # 33

on line # 33

Satellite - no update

on line # 33

" " "

" " "

" " " APPROACHING THE HOOK, MA.

END TAPE NO. 4 AT 1345 HRS EOF

C/S TO 3.0 END OLDMLE SURVEY

GMT				TIME ZONE	SHIPS		NAVIGATION						
								LATITUDE		LONGITUDE			
DAY	MO	YR	TIME	±	COURSE	SPD	FIX TIME	± DEGREES ±	MINUTES	± DEGREES ±	MINUTES	TYPE	QUAL.

LEG #2

OLDALE