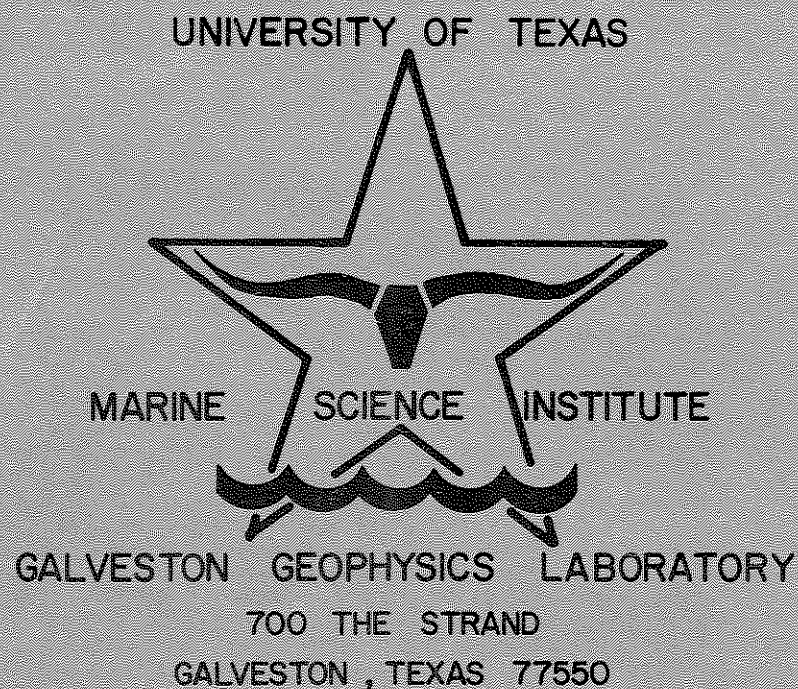


original



CRUISE LOG

R. V. FRED H. MOORE
CRUISE

Fm07-01

original

LABORATORY RESEARCH NOTE BOOK

Department of _____

Subject _____

Name E. William Behrens Chief Sci

Address Jeanne F. Shaub Co-Chief



43-649

Made in U.S.A.

FM07 01

(35m, 70m, 140m, ...)

$$\text{SHOOTING INTERVAL (sec.)} = \text{Shot Spacing (m)} / \text{Speed (Kts)} * .508$$

$$\text{Ship's Speed (Knots)} = \text{Shot Spacing (m)} / \text{SHOOTING INTERVAL (sec.)} * .508$$

for 70 m ^{48 Tr} (24 fold)		for 35 m ^{48 Tr} (24 fold)		K	for 140 m		TURNING RADIUS at degrees/minute Turning rate (miles)				
knots	Seconds	knots	Seconds		Seconds	Seconds	2	3	4	5	6
3.5	39.4	3.5	19.7	3.5	78.7		1.67	1.11	.84	.67	.56
3.6	38.3	'	19.1	'	76.6		1.72	1.15	.86	.69	.57
3.7	37.2	'	18.6	'	74.5		1.77	1.18	.88	.71	.59
3.8	36.3	'	18.1	'	72.5		1.81	1.21	.91	.73	.60
3.9	35.3	'	17.7	'	70.7		1.86	1.24	.93	.74	.62
4.0	34.4	4.0	17.2	4.0	68.9		1.91	1.27	.95	.76	.64
4.1	33.6	'	16.8	'	67.2		1.96	1.31	.98	.78	.65
4.2	32.8	'	16.4	'	65.6		2.00	1.34	1.00	.80	.67
4.3	32.0	'	16.0	'	64.1		2.05	1.37	1.03	.82	.68
4.4	31.3	'	15.7	'	62.6		2.10	1.40	1.05	.84	.70
4.5	30.6	4.5	15.3	4.5	61.2		2.16	1.43	1.07	.86	.72
4.6	30.0	'	15.0	'	59.9		2.20	1.46	1.10	.88	.73
4.7	29.3	'	14.7	'	58.6		2.24	1.50	1.12	.90	.75
4.8	28.7	'	14.4	'	57.4		2.29	1.53	1.15	.92	.76
4.9	28.1	'	14.1	'	56.2		2.34	1.56	1.17	.94	.78
5.0	27.6	5.0	13.8	5.0	55.1		2.39	1.59	1.19	.95	.80
5.1	27.0	'	13.5	'	54.0		2.44	1.62	1.22	.97	.81
5.2	26.5	'	13.2	'	53.0		2.48	1.66	1.24	.99	.83
5.3	26.0	'	13.0	'	52.0		2.53	1.69	1.27	1.01	.84
5.4	25.5	'	12.8	'	51.0		2.58	1.72	1.29	1.03	.86
5.5	25.1	5.5	12.5	5.5	50.1		2.63	1.75	1.31	1.05	.88
5.6	24.6	'	12.3	'	49.2		2.67	1.78	1.34	1.07	.89
5.7	24.2	'	12.1	'	48.3		2.72	1.81	1.36	1.09	.91
5.8	23.8	'	11.9	'	47.5		2.77	1.85	1.38	1.11	.92
5.9	23.4	'	11.7	'	46.7		2.82	1.88	1.41	1.13	.94
6.0	23.0	6.0	11.5	6.0	45.9		2.86	1.91	1.43	1.15	.95
6.1	22.6	'	11.3	'	45.2		2.91	1.94	1.46	1.17	.97
6.2	22.2	'	11.1	'	44.5		2.96	1.97	1.48	1.18	.99
6.3	21.9	'	10.9	'	43.7		3.01	2.00	1.50	1.20	1.00
6.4	21.5	'	10.8	'	43.1		3.06	2.04	1.53	1.22	1.02
6.5	21.2	6.5	10.6	6.5	42.4		3.10	2.07	1.55	1.24	1.03

FLAT BED SWEEP RATE vs. DISTANCE ^(Depth) / SCALE DIVISION (10 per full chart)

Sweep (Sec)	meters	fathoms	ft. (x10 = full scale)
8	600	320	1920
4	300	160	960
2	150	80	480
1	75	40	240
$\frac{1}{2}$	37.5	20	120
$\frac{1}{4}$	18.75	10	60
$\frac{1}{8}$	9.4	5	30
$\frac{1}{16}$	4.7	2.5	15

GYRO CONTROL STEERING: 3° Turn for one turn of the wheel.

FREQUENCY OF TURNING WHEEL vs. desired turning rate

RATE DESIRED Seconds/turn

9.5°/min 72

3°/min 60

5°/min 36

2°/min 90

2.2 82

2.4 75

2.6 69

2.8 64 $\frac{1}{2}$

3.0 60

3.2 56 $\frac{1}{2}$

3.4 53

3.6 50

3.8 47 $\frac{1}{3}$

4.0 45

4.2 43

4.4 41

4.6 39

4.8 37.5

5.0 36

5.5 33 $\frac{1}{3}$

6.0 30

DEPARTURE: 11:05^{PM} CST 8 Nov 80

~ 0930 9 Nov. Began streamer party
~ 1930 " Ended " "

Far end deep (~60'); near end too shallow (15')
ii Started another streamer party ~ 10:30 PM - 1130 PM;
replaced inboard most 2 birds & added lots of lead to
two lead-in dead sections. Result is inclined streamer
(30, 45, 45, 50, 55') but still faulty.
Started recording multi channel ~ 0105 10 Nov. 80

MAINTAINED GOOD NAVIGATION ON LINES NWS 1, 2, 3 & 4

Magnetometer was brought up beginning NWS 2

3.5 Fish was put into water on this line (Mond aft. 10 Nov)

Configured to send from fish & receive on hull transducers -
result: good signal down to ~ 600 fms so far.

Lower part of NWS 2 passed a SEAL seismic ship. Could clearly
see their shots on our record (camera). Shortly thereafter
D/S went down - was brought back up by valiant ET
efforts by beginning NWS 3.

When streamer ship slowed to idle forward on one
engine, almost all of the streamer sank to >100', from
(near → far) ~ 15-30, 40-45, 40-45, 55, 55-60. In next turn &
subsequent port turns the streamer would almost surface
especially D/S 6 (nearest) & 3. Thereafter, on a straight tow at
5.3 K it would run better than before: 35, 45, 42.5, 45, 50.
(Design depth birds were set at = 42.5')

(checked right of
way & they turned
so being asked)

SINGLE CHANNEL MONITOR was brought up on EPC during
NWS 3 by a rather extraordinary effort of all 3 ETs

Guns can be maintained firing within 2 ms when working
reasonably well. High standard dev. of one gun is sometimes
reduced by bringing it into sync w/others.

12 Nov 80

Turning on to CS 2 ($215^{\circ} \rightarrow 90^{\circ}$) streamer nearly surfaced. On previous starboard turns this was not a problem. This turn is into the trough of pretty heavy seas (7-10').

UPPER REEL INVENTORY: from innermost to surface --

5 lives, dead, live, dead, live, dead, live, stretch (2 8 lives, 3 leads, one stretch); one swapped out dead section on deck.

CS2 \rightarrow CS3 PORT TURN: cable remained deep.

CS3 \rightarrow CS4 STA TURN: cable remained deep (28, 48, 60, 75, 71)

13 NOV 80 Awakened ~ 1:10 AM w/ report that data was bad because streamer was on the surface. Slowed to allow cable to sink - it did so, but as soon as we resumed speed it surfaced again. So we started taking in streamer - 1st two birds had broken wings and evidence was that heavy seas were deteriorating the streamer generally so that repairs would have been destroyed almost as soon as they were made. So - the guns were brought aboard, and the ship was backed down on the streamer to take it in. ~ 2:30 - 7:30 AM observed several loosened leads and 4 big leaks inboard and one in the outboard stretch section.

(per channel)
1 lead: 13 lbs lead per 70m section. There was ~ 17 lbs per channel.

323 Day

2003 ~~7~~ Checked Streamer + Quick DFS Check+ ~~225~~ 32 μ V @ 36 H

Chan 34 crosstalk from every chan

" 15 90° out of phase (lagging)

" 10 weak amplitudes

Streamer

Chan 14, 32 + 40 show good cont + leakage (> 1 mag)
 but bad on data with no age very weak
 signals compare with others

BFB

22517 - Changed out ~~see~~ Live ~~set~~ trace 14

- 17 Nov 80 Depart Galveston ~ 8 PM CST
 18 Nov 80 arrive at site of streamer deployment ~ 10 AM
 19 Nov 80 streamer out at ~ 1200 (26 hr streamer party)
 activities & streamer inventory catalogued later

inboard					outboard		
31	19	10	7	7	30	~ 4.7 knots	~ 1240
23	11	5	7	7	34	~ 5.1 k.	~ 1255
20	9	7	7	6	33	~ 5.9 k	~ 1310
40	9	5	7	8	29	~ 4.4 k	1320
40	8	5	6	8	29	"	1337
25	10	5	7	7	30	~ 6 k	1354

very noisy outboard
 half of streamer.
 These data demonstrate
 the necessity of
 pulling in the streamer
 and reweighting it.

SLEEP LOG

- 18th 1-6 AM 2:30-5:30 PM (Σ 8 hr)
 19th 4:30-6:10 AM; 2:30-3:30 PM, BAD DAY AT BLACK ROCK
 8-9 PM (Σ 3½ hr)
 20th 0230-0730; 6:45-7:15 PM (Σ 5½)
 21st { 0230-0800; ~ 2 PM-4 PM (Σ 7½)
 ½ out of 43½

12:30 AM 20 Nov.

Drifting NW (~ 340°)
 heading SE (~ 150°)
 streamer acting as a slight
 sea anchor drifting
 aft & up current. - almost
 calm seas.

need a tank pressure gage for O₂ tanks

1230^{AM} - 0030 21 Nov '80

Shallow running streamer & very noisy data shown on the camera record demonstrated the need for a second streamer party. This decision was made and the party organized between lunch and 2 PM 19 Nov. Byron Butterfield was to lead a group to simply take the streamer in (in almost completely calm weather). The chief scientist retired having slept only $4\frac{1}{2}$ hours in the last 32 and left word to be called when the streamer was in. One hour later he was awakened to the news that the streamer was hung up in the rudder and/or wheel.

Steve Payne investigated and found the streamer around the port rudders. Later he freed it from there and he and the engineer discovered it around the starboard wheel and tried unsuccessfully to free it.

A break was taken for supper after which the chief sci. decided to steam slow ahead on the port engine 'till midnight giving personnel 5 hours to catch up on sleep and begin a new streamer party. (Ch. sci. at that point, had had $5\frac{1}{2}$ hrs sleep in the past 37)

The streamer outboard of that wrapped around the wheel had been grappled, pulled aboard, and disconnected at the next boot outboard of the section on the wheel. This was then secured for towing. The chief scientist then left word with the captain to either tow in a straight line or (preferably) in a large circle.

The chief sci. retired at 8 pm and was awakened at 9 pm with the news that the streamer was fouled many times under the boat. The boat was left dead in the water for fear of cutting up the streamer, and Capt. Ewing was called and asked for assistance of divers or diving gear. A diver & tender arrived the following morning.

The diver cleared two wraps of the streamer from the sonar transducer amidship, made one cut and freed some simple wraps on the ~~starboard~~^{port} side, and spent the rest of the day trying to free debris from the starboard. He freed the wheel enough for it to turn freely in both directions but could not completely remove wire strands and plastic packed between the strut and the wheel. The captain was informed of the situation and decided that the best and necessary course for the safety of the ship was to return to port on one engine.

While the diver was at work, three of the 5 ends of streamer extending from the boat were pulled aboard manually. A part of the mess that had occurred the previous night was that the tail buoy showed up at the stern.

When the diver was done, the chief sci. directed a streamer party to simultaneously take in the streamer on the reel as per usual, and from the tail end manually. This was completed successfully at 9:15 PM (began ~ 7:45 PM - i.e. ~ 1 1/2 hrs). A quick inventory showed that sections 1-27 & cut #28 were attached to the tail buoy, 96-68 & a cut 67 were on the reel, 54-62 were recovered as a separate loop with parts of 53, & 63 out at each end. Thus lost were 53, 63, 28, 67, and two lost in the stowboard wheel (both ends of this 2 sect. segment had been brought aboard, disconnected, and the streamer re-connected by passing them. However, unknown until this inventory, two additional segments (64-66 and 29-52) were lost - most likely severed during circling. Total loss: ²⁴33 sections. (~~38~~ 96 ~~28~~ 34 ~~26~~)

Could rebuild to 36-40 channels

$$\begin{array}{rcl} & 15 & + 1 \\ & 29 & + \text{now dead} \\ & & + \frac{62-54}{9} + 27-1 = 65 \text{ sections} \end{array}$$

$$\begin{array}{rcl} & 4 & D \\ & 15 & - 78 \\ & 16 & + 17 \end{array}$$

12 January 1981 1700 - scheduled to depart on FMØ7-2 in 25 hours.

pre cruise meeting was held today 1600-1630 purpose, methods, & schedule was outlined to scientific crew, support crew, captain & 1 mate. Cabin assignments and watches were given.

12-4

Lockard O'Brien
RADER + Sahagian

4-8

Rosencrantz Rader
+ Smith

8-12

MacIssac & one Electr. Tech.

Streamer Party watches: (6 hours)

4-10

Rosencrantz (Co-Chief Sa)
Batterfield
Rader
ET①
Griffiths
Pearcy

10-4

Behrens (chief)
MacIssac
O'Brien Sahagian
Lockard Smith
Salazar

with Pearcy and Behrens ~~most likely~~ extending their watches considerably

Robert's guidelines for streamer operations were distributed.

Dry ship rule was emphasized.

7 Jan 81 At a meeting requested by Behrens, 7 multichannel scientists were asked if the above crew were sufficient since the scientific component is smaller and less experienced than for any previous attempt at this survey. There seemed to be a unanimous consent that it was. Present were: Austin, Lu, McEwan, Norton, Phillips, Rosencrantz, Shaulb. The sufficiency seemed to be attributed to the presence of Ken Griffiths and 3 new ETs

Procedure for adjusting amount of 12 & 24 fold shooting to make up time (for added lines, down time or whatever) i.e., how much planned for 24 fold must be speeded up to 12 fold.

A = new number of hours at 12 fold

B = old " " " " 24 fold

C = miles (naut.)

D = hours need to save or make up (given)

K_{12} = speed at 12 fold (given)

K_{24} = speed at 24 fold (given)

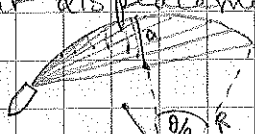
$$\underbrace{A \cdot K_{12}}_{\text{eg. 1}} = \underbrace{C}_{\text{eg. 2}} = \underbrace{B \cdot K_{24}}_{\text{eg. 3}} \quad D = B - A$$

3 equations; solve for 3 unknowns: A, B & C.

e.g., for $K_{12} = 4.3$ & $K_{24} = 5.8$ to save 31 hours requires shooting $5\frac{1}{6}$ miles for 89 hours at 12 instead of 24 fold.

Concerning acceptable rates of turn:

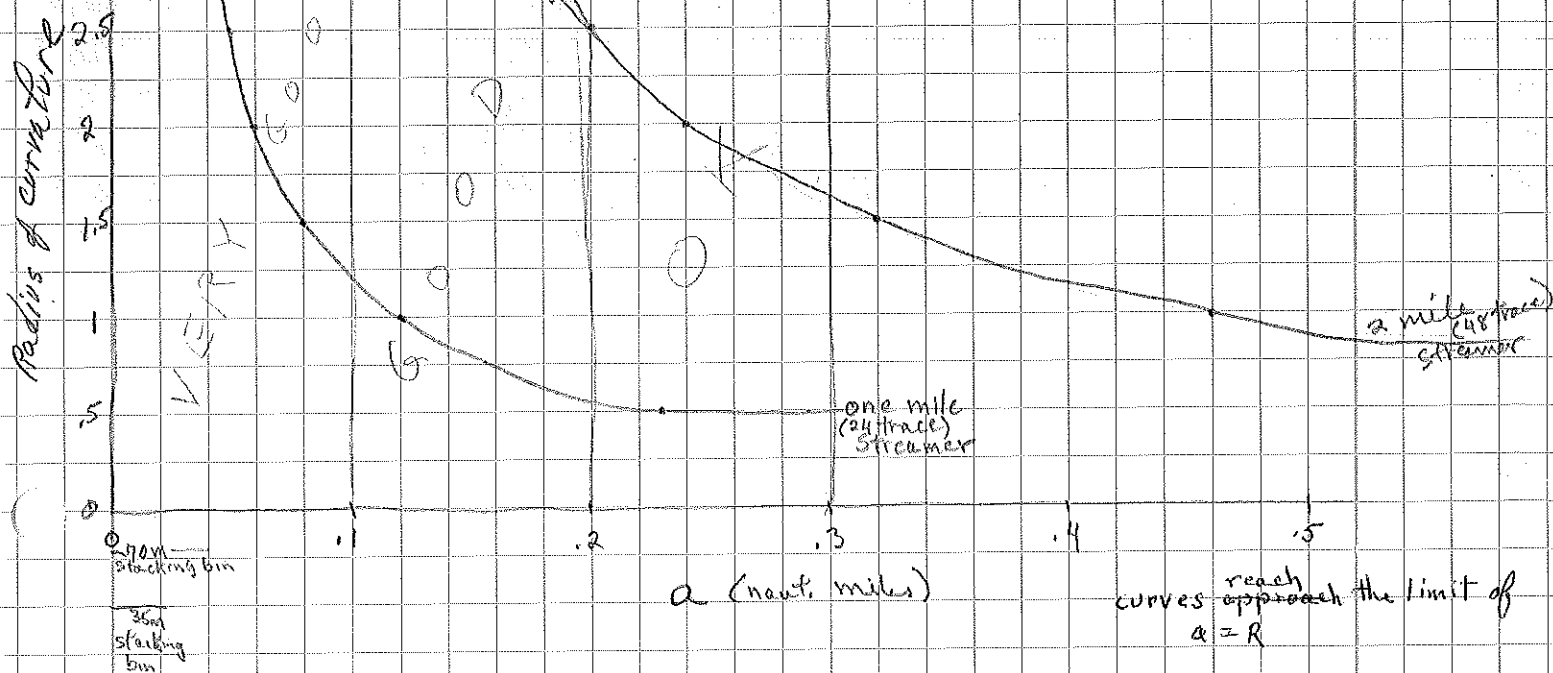
A criterion for an acceptable rate of turn might be the maximum linear displacement of a CDP from the line of the Streamer -



$$a = R \left(1 - \sqrt{\frac{1 + \cos \theta}{2}} \right)$$

$$\theta = \text{streamer length} / R$$

radians



For tape inventory:

length of record
(seconds)shots/
tape

24 Trace

12 fold

24 fold

12

105

70 m/shot

35 m/shot

10

120

8

10

12

8

10

12

8

~ 135 km/
tape

9.45

8.4

7.35

4.7

4.2

3.7

n.mil/tape 5.2

4.6

4.0

2.6

2.3

2.0

994 Tapes ~ 2500 n.mi of 24 fold, 8 sec recording.
994 2584

false, we could get 160 records/tape

10 Feb 81

CREW STATUS: O'Brien & 1 ET withdrawn by OBS group.
 Sahagian substituted for Locker
 Smith, Peter assigned by Moore
 Norton refused to go.

net loss of 2 experience units

WATCHES:

12-4

Rader &
SahagianMajor
logging on
telex

4-8

Rosenkrantz & Smith

navigation logging
on telex

8-12

MacIssac & ET

bathym. logging on
telex

13 Feb '81 F.H. MOORE returned to Galveston w/ 'new' Port engine
 16 Feb '81 " " depart Galveston for fueling & sea trials.

streamer Party assignments

BEHRENS

4-10

Rosenkrantz
 Smith
 Percy
 Salazar
 Davis

10-4

Griffiths
 MacIssac
 Sahagian
 Rader
 Butterfield

17 February 1981.

~~3rd~~ ~~0002~~ - DEPART PIER 6, GUNVESTON FOR LA-TX SLOPES
CRUISE - FM 08-2. SCIENCE CREW CONSISTS OF FOLLOWING:

E. W. BATHENS - CHIEF SCIENTIST

E. J. ROSENBERG - CO CHIEF SCIENTIST

K. GRIFFITHS - SENIOR TECHNICIAN.

P. SMITH

B. RADER

B. MACISSACKS

D. SHUMGIAN

W. DAVIES - ET

J. SMITH - ET.

M. BUTTERFIELD - GUN TECH.

G. PERRY - "STEERING PLUNKY."

PROCEED TO BEGINNING OF FIRST SHOOTING LINE. ONCE
CLEAR OF HARBOUR ENTRANCE AND OF SHIPPING RUN
FIRE AND MAN OVERBOARD DRILLS w/ ALL CHANDS. BOTH
LORAN C AND SMALL SAT. NAVIGATION SYSTEM WORKING, ALTHOUGH
INTERFACE SYSTEM FOR LORAN C WILL NOT ACCEPT TIME
UPDATE. 3.5 KHz TURNED ON AND OPERATING.

2200Z SET UP FIRST WATCH - ON 3.5 KHz AND LORAN C
LOGGING.

18 FEBRUARY 1981.

0000 Z - RESET TIME ON LORAN C PRINTER / INTERFACE BY SHUTTING OFF AND RESTARTING.

0100 Z - REDUCE SPEED TO 8 KNOTS TO MODE ETA AND BEGINNING OF STREAMER DEPLOYMENT TO 6 A/M LOCAL (SHIP'S) TIME.

1230 Z - SHIP'S POSITION @ 15 M E OF START OF FIRST LINE. TURN TO SOUTH AND INCREASE SPEED TO PICK UP MCS LINE SOUTH OF BEGINNING WITH THE INTENT OF TURNING NW MAKING LINE TO DEPLOY STREAMER.

1300 Z STOPPED SHIP TO DRIFT, TO DETERMINE SET AND DRIFT.

1345 Z THE BUI / SUE RIGGED.

1430 - BEGIN DEPLOYMENT OF STREAMER -

2210² End streamer deployment
begin test of streamer depths at various towing speeds

Speed	overboard		3	4th board	
3.2	50	57	56	33	57
4.0	48	54	57	35	55
5.0	45	53	56	34	43
6.1	45	53	60	30	40
5.7	45	53	57	37	43
4.4	47	55	59	35	46
0	48	70	63	35	100
	50	65	64	67	~70 (vmax)
6.4	48	50	55	27	42
4.3	49	53	56	36	59

a little heavy

18th Sept 'till 6:20 A (from 9 PM)

streamer party ~ 7:30 A - 1610 (4:10) ~ 8 1/2 hrs

added one depth sensor (between sections 28 & 29), 60 leads (60 lbs),
and made 4 patches (3 leaky old patches & 1 boat).

There are now 15 lb/70 m section for traces 1-9 (1 out board), 16 lbs/70 m section
for traces 10-15 and 15 lbs/trace for traces 16-24.

Section numbers: dead-odd; live-even

Birds are on sections 1, 9, 17, 23, 35, 43, & 49 (2).

Bird pressures were set at 21-22 lbs (for 48' depth)

OTHER DTs are between sections 48 & 49 (inboardmost), 38 & 39, 18 & 19, & 1 & 2 (outboardmost)

inboard dead section is ~ 106 m

" stretch " " ~ ~~79 m~~ 62 m

the portion of the leader out is 79 m (1650)

247 m + 24 x 70 - 39 = 1890 m from guns to far trace

4:15-5:00 PM ran different speeds to determine streamer depths.

5:00 gun order for guns to be deployed

5:00 PM - 12 PM brought systems up & maneuvered to start first line.

~ 12:30 AM (19th) started first line; Tape drive A inoperative & w/ multitude of
parity errors. Took one tape of data on drive B but aborted line while

Ken Griffiths attacked tape drive (~ 0200). Slept 2:30 A - 3:30 AM

3:30 - 5 AM maneuvered on to CS 38 again. Gun repair work went on
almost continuously through the night. Started on line 5:20 A w/ 3 guns.

Slept 6:20 - 11:20 A

Arose to guns firing erratically (3 to 1; all 3 firing 1/3 of the time)

Mike B. fixed shortly after lunch. Fourth gun brought up mid
afternoon

19th continue CS 38 FANTASTICALLY CALM SEAS

1103 PM END CS 38; shut down back compressor for pump repair, (happened 10105-10150 PM)

LINE CS 37 will be attempted at 6 knots (23 sec. rep. rate)

" " begun ~ 0730Z 1:30 AM 20 Feb '81 (retired ~ 2 AM)

arose 9:20 AM to make turn onto line CS 36 - continuing at 6k

21st continuing smoothly on line 35 (slight 1:30A - 10A)

25th leave block area - guns misbehaving such that hardly ever had more than 3 firing throughout lines 29, 28, & 27. Compressor & guns down for ~ 17 min on line 27. Thus redoing 27 & 28 (~ 7 additional hours) 28A - small jog between 29 & 28 to get on 28.

28 - first run - mostly w/ 3 guns

28B second run

27 - first run - break in the middle

27 - B second run

FM07-1

NAVIGATION/OP

DATE = 20 NOV 1980 JD = 325.1980

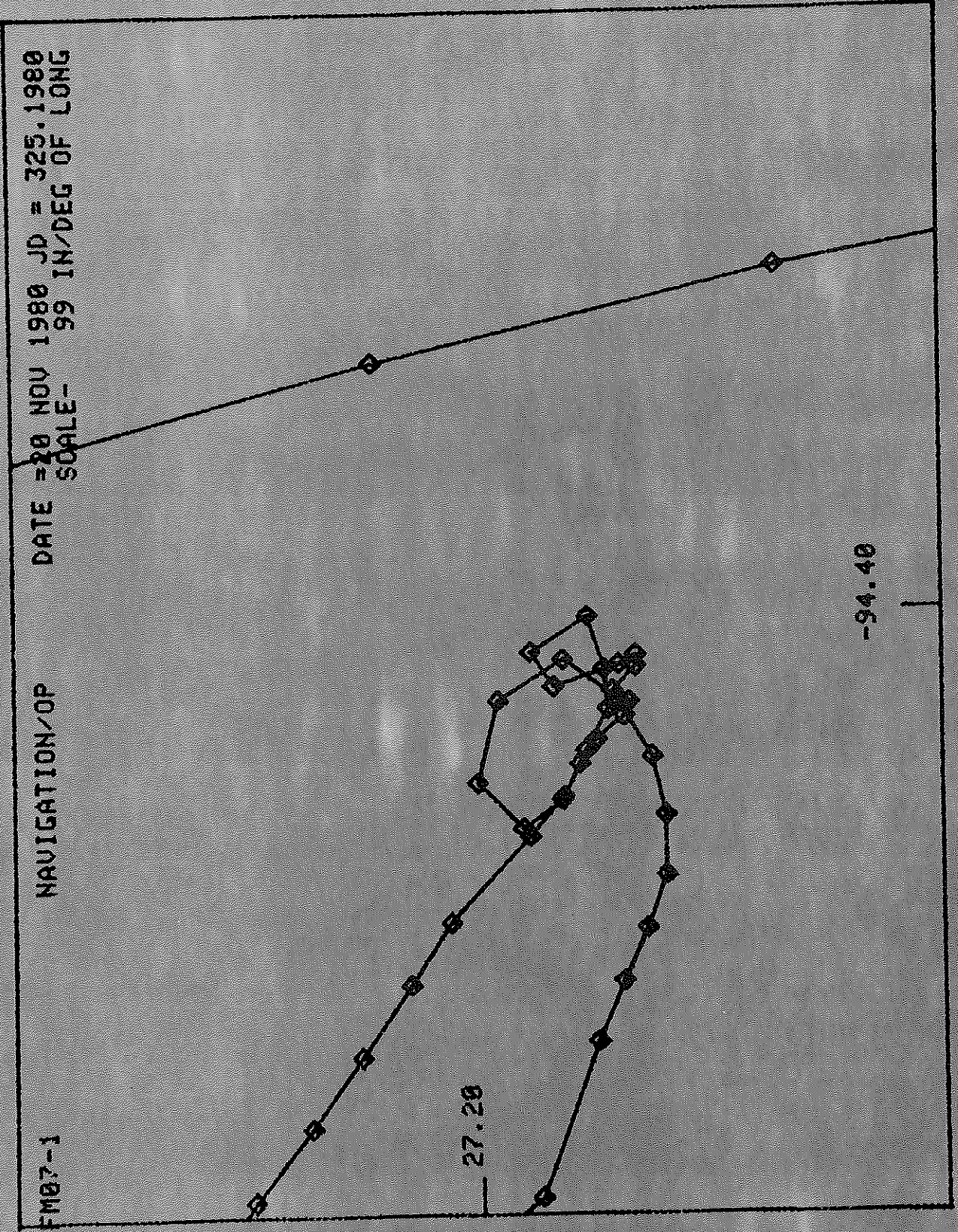
SCALE = 36 IN/DEG OF LONG



DATE = 20 NOV 1980 JD = 325.1980
SCALE = 99 IN/DEG OF LONG

NAVIGATION/OP

FM07-1



C031	0720	+2710.700	-09421.880	01.0	220	I
C032	0740	+2710.710	-09423.150	01.0	275	I
C033	0800	+2710.690	-09424.200	01.0	265	I
C034	0820	+2710.500	-09425.240	01.0	250	I
C035	0840	+2709.960	-09426.010	01.0	240	I
C036	0900	+2709.050	-09426.170	01.0	190	I
C037	0910	+2708.630	-09426.540	01.0	210	I
C038	0920	+2708.600	-09426.770	01.0	250	I
C039	0940	+2707.770	-09427.320	01.0	225	I
C040	1000	+2706.930	-09427.680	01.0	220	I
C041	1020	+2705.840	-09427.890	01.0	220	I
C042	1040	+2705.270	-09428.600	01.0	220	I
C043	1100	+2704.360	-09428.410	01.0	220	I
C044	1120	+2704.180	-09428.350	01.0	160	I
C045	1140	+2704.050	-09428.280	01.0	160	I
C046	1200	+2703.810	-09428.130	01.0	150	I
C047	1230	+2703.410	-09427.980	01.0	140	I
C048	1300	+2702.320	-09427.920	01.0	170	I
C049	1315	+2702.450	-09427.140	01.0	070	I
C050	1330	+2703.060	-09427.080	01.0	060	I
C051	1400	+2703.380	-09428.100	01.0	330	I
C052	1415	+2702.810	-09428.230	01.0	190	I
C053	1430	+2702.310	-09427.790	01.0	150	I
C054	1445	+2702.440	-09427.350	01.0	300	I
C055	1500	+2702.570	-09426.580	01.0	070	I
C056	1515	+2702.500	-09425.820	01.0	095	I
C057	1530	+2702.260	-09425.120	01.0	095	I
C058	1545	+2702.030	-09424.520	01.0	150	I
C059	1600	+2701.510	-09424.080	01.0	150	I
C060	1620	+2700.680	-09423.990	01.0	150	I
C061	1640	+2659.970	-09423.460	01.0	150	I
C062	1700	+2659.350	-09422.780	01.0	150	I
C063	1720	+2658.820	-09422.170	01.0	150	I
C064	1740	+2657.970	-09420.930	01.0	150	I
C065	1750	+2657.940	-09420.930	01.0	100	I

C066	1800	+2658.080	-09420.120	01.0	000	1
C067	1815	+2658.950	-09419.700	01.0	060	1
C068	1830	+2659.710	-09420.020	01.0	340	1
C069	1845	+2701.230	-09420.570	01.0	300	1
C070	1900	+2702.550	-09420.940	01.0	300	1
C071	1915	+2704.060	-09421.190	01.0	320	1
C072	1930	+2705.140	-09421.400	01.0	300	1
C073	1945	+2706.400	-09421.650	01.0	300	1
C074	2000	+2707.880	-09421.940	01.0	300	1
C075	2015	+2709.360	-09422.240	01.0	330	1
C076	2030	+2710.890	-09422.540	01.0	330	1
C077	2045	+2712.380	-09422.930	01.0	340	1
C078	2100	+2713.760	-09423.340	01.0	340	1
C079	2115	+2715.190	-09423.670	01.0	330	1
C080	2130	+2715.960	-09423.760	01.0	350	1
C081	2140	+2716.000	-09423.900	01.0	290	1
C082	2200	+2715.970	-09424.090	01.0	250	1
C083	2220	+2715.940	-09424.360	01.0	255	1
C084	2240	+2715.920	-09424.600	01.0	260	1
C085	2300	+2715.920	-09424.980	01.0	270	1
C086	2320	+2715.870	-09425.270	01.0	250	1
C087	2340	+2715.890	-09425.600	01.0	275	1
C088	2355	+2715.790	-09425.880	01.0	240	1
C089	0010	+2715.390	-09426.700	01.0	240	2

DO YOU WISH TO EDIT DATA? (Y/N) N