

FM 3507

Julian
Day
214

0530L

2030Z Engines lit in preparation for Departure

2159Z Departure

2244Z Begin PLOTTING COURSE

31-Aug

0500

begin recording Bathymetry.

NORTH STAR LORAN C
COORDINATES

Aug 4

0807:40
1107:40Z

OBS HIG-1 Deployed

30° 48.56' N 139° 48.89' E

1231Z OBS HIG-2 Deployed

30° 42.15' N 139° 55.66' E

1345Z OBS HIG-3 Deployed

30° 49.10' N 139° 54.10' E

1533.5 OBS HIG-4 Deployed

30° 54.58' N 139° 52.85' E

1745.2Z OBS HIG-6 Deployed - VTA

30° 49.86' N 140° 01.94' E

1850.0Z OBS HIG-5 Deployed

30 55 07' N 140 00.01' E

1900.0Z

IN TRANSIT TO
1st STREAMER PARTY@ 31° 30.5' N
140 39' E

Aug. 5

0054.0Z

BEGIN STREAMER DEPLOYMENT @ 31° 31.43' N

HDG 224.8

140° 40.67' E

1345Z FIRST STREAMER PARTY OVER

1400 begin maneuvering to test streamer riding & navigability

1. dead slow ahead on 2 engines - 4.1-4.3 kt. NWward

1420Z begin turning @ 2°/min to left. toward OBS site

streamer rides occasionally (20-30%) & moderately to lightly on port post
~ 2 mi turning radius

The streamer is light - later data indicates heavy

Towing at ~3 kt. the depths range from 5-7 m (setting = 15)

Towing at 4.0 kt the depths range from 7-11 "

01000Z

Guns not operating properly. Continuing on a 2°/min
turn till able to deploy.

Aug. 6

Aug. 6 0745 Z SHIP IN 2°/min TURN UNTIL COMPRESSORS ARE FIXED.

0845 Z LEAVING CIRCLING PATTERN - HEADING NORTH
@ ~ 090°

1330 Z CIRCLING TO PORT & CHECKING
COMPRESSORS

1730 Z LOGGER DOWN

1930 Z LOGGER UP

7 Aug Analysis of compressors - very marginal. Delivering
~1950 psi to one big gun (2000 cu. in.) they are at the top of the
temperature scale for last stage.

04:21:57 Z begin shooting line 9 at the south end with one
2000 cu. in. gun at 20 sec.

chagnels ^{86 61 12} 36, 85 dead

chagnels ^{25 67} 72, 30 going

0755 one compressor down for repair

0755 LAR LORANC HAD BOTH INTER-
FERENCE REDUCERS SET TO
MIDDLE OF LORANC BAND,
CAUSING INCORRECT CYCLE
DETERMINATIONS & WRONG TDS.

compressor back up shortly thereafter.

South winds picking up. 3.5 kts over the ground = 2.7 kts
through the water. Streamer is sinking at these
slow water speeds - Thus it is heavy - not light
as stated on page 1.

8 AUG - 0200 put 2nd 2000 cu GUN IN WATER

07 AUG 87

1825Z - KALIMOS TESTS BEFORE LINE 8
2, 10, 25, 64, 67 LEAK, 12 OPEN

1828Z begin Line 8 going southward at 4 kt
i shooting 2 2000 mtn guns at 20 sec. &
maintaining ~ 1960 psi at shots.

2030Z Navigation of line 8 off slightly to the east

2200Z a Japanese ship shooting airguns is approaching The Fred Moore
They will be shooting until 7:30 AM local time and will remain
in this area through tonight to collect water samples

08 August 87

0000Z - continue shooting line eight - $30^{\circ}56.59'N$ $139^{\circ}53.12'E$

0507Z - finish shooting Line Eight $30^{\circ}31.49'N$ $139^{\circ}58.48'E$

0510Z - TURN TO NORTH - TRANSIT TO OBS 4A DROP SITE

0548Z BRINGING ABOARD PORT AIRGUN; ALL STOP
PORT ENGINE

0631Z - ~~BRINGING ABOARD~~ ~~STARBOARD~~ GUN; ALL STOP
~~STARBOARD~~ ENGINE.

0746Z PROCESSING TO OBS 'A' @ 6.0 KTS
DUE NORTH

starboard gun broke off winch line at Frigge Fitting
had to bring it aboard with successive chain hooks
on the towing chain.

8 Aug.

10:22:15 Z Dropped UT OBS A at $30^{\circ}49.90'N$ $140^{\circ}01.92'E$

Transit to next drop @ 5 kt.

11:45 very good tail buoy reflection on radar - 2.01 n. mi
6° to the starboard of due aft.~~25~~

PM Local

11:30:00 Z ~~DROPPED~~ UT OBS B AT $30^{\circ}52.60'N$, $140^{\circ}24.32'E$

1413 Z

19:00:20 OBS C Launched at $30^{\circ}55.6'N$ $140^{\circ}48.41'E$ 22:30:20 Dropped UT OBS D at $30^{\circ}57.94'N$ $141^{\circ}05.07'E$ (13.55 m)
Transit to drop OBS E @ 5 kt 0700

9 AUG.

219:65

DROPPED UT OBS E @ $31^{\circ}51.00'N$ $141^{\circ}29.97'E$
TRANSIT TO STROB LINE 1

WRONG! should be 00.51 m

OK

0429 Z Begin Line 1 (trench X-section)

with one gun fired at 14 sec - 2000-1980 PSI maintained well
4 sec deep water delay. 4.6 kt 48 fold

0540 went to 16 sec rep w/ 6 sec delay 4.5 kt 43 fold.

0800 Z BATHYMETRY recorder having difficulty seeing
steeply dipping bottom along Line 1

0911 Z Port SIDE AIR GUN REMOVED FROM WATER

0937.53 SHOOTING STOPPED due to compressor failure

0951.28 SHOOTING RESUMED, port compressor is lost
for remainder of Leg.1255 BEGIN TURN 180° STARBOARD LINE 1 TO LINE 2
3°/MINUTE

9 AUG., 1987

1500 Z START SHOOTING LINE 2.

10 AUGUST 1987

0045 SHOT OVER WT OBS E

0420 Deployed Starboard magnetometer

1358:11 GUS HANGUP - 1406:31

25 SHOT GAP represented by missing shot # 4123

1646 Start shooting Line 3.

1800 Delay time of 0.

2130-2200 JAPANESE RESEARCH SHIP passed close (1-2 mi)
BEHIND STREAMER CABLE.

11 AUGUST 1987

0024 - GUNS TURNED OFF TO FIX AIR HOSE.
CIRCLING TO AVOID MISSED SHOTS.
Resumed

02:41:29

02:42 - Gun restarted and back on line 3.

0630 - FIRE & BOAT DRILL

0728 SHOOTING of LINE 3 completed. SHIP NOW Proceeding to
LOCATION of LINE 4

0831 - POWER OUTAGE SYSTEMS
RE-INITIALIZED

0905 - BEGIN 360° TURN @ 6°/min for one
hr. to prepare guns and ready
systems for beg. of line 4

11 AUGUST, 1987

1024 GUN array in water. SHIP STARTING 6°/min TURN TO RETURN TO Beginning of LINE 4.

1207 BEGIN LINE 4 with two arrays, one compressor, ~1900-2000 PSI

23 43 gun pressure dropped, shot in bad gun.

12 AUGUST 1987

0051 STOPPED SHOOTING LINE 4; WENT TO LINE 5

0350 ^{TEST} START SHOOTING LINE FIVE with one 6-gun array and one BOLT 2000 psi

start test firing @ 30 sec. - holds @ 2000

28 sec - 1970, 1970, 1975, 1970, 78, 75, 80

26 sec. - 1961, 50, 35, 47, 60

25 sec. 1937, 42, 17, 10, 23, 20, 25, 23, 24, 22,

started recording line 5 @ 25-4 kt ~ 31 fath

Tentative change of plans: continue with this source @ max firing rate available. slow speed - 4 Kts or less. Blow off BON 3, use any extra time to extend Line 6 - most likely the last line.

Depth study

	31	29	26	23	20	17	14	11	8	4	1
BIRDS set at 10 m	15.0	13.8	14.6	11.2	13.2	11.8	16.4	20.2	15.2	9.6	18.6

#4 reset to 14 resulted in change to 9.4

These were the approximate settings - reading as we were approaching this line and were passed astern by a Japanese fisherman.

#4 RESET TO 18

THE REST, still at 10:

	31	29	26	23	20	17	14	11	8	4	1
	15.6	13.6	13.8	10.6	13.4	11.2	16.0	21.1	15.8	9.6	19.8

RESET #11 to 08, #11: 21 #4: 10.4 (setting 18)

0645Z Switching from port to starboard array.

#	4	4	11	11	
setting	18	20	8	6	any reasonable setting change
obtain	10.4	10.0	21	21	makes NO significant depth change

0809 SWITCH TO STBD 2000 CUM GUN

{ SHOTS w/ ONLY ARRAY

0810+ SHOT 100 SS2 IS FIRST SHOT w/ STBD GUN.

1640 STBD 150 CI GUN SLOW LEAK,
replaced with PORT 150,
AFTER ~3 SHOTS DISABLED
IN GUN SHACK.

1738 END OF LINE 5

2025 AIR GUNS ON BOARD

13 AUGUST-87

0157 Start shooting line #6.
one array, 1 Box + 300

0334 - GUS OFFLINE - - TAPE DRIVE TRANSFER PROBLEMS

0336 - GUS BACK ON LINE

0337 - GUS OFFLINE - TAPE DRIVE TWO WOULD NOT RECORD

0338 - GUS ON LINE - CHANGE BACK TO TAPE DRIVES MT0, MT3

Total four minute DATA GAP -

050115 Sonobuoy in water #1

050200 - Passed source

31° 9.09'N 139° 30.22'E

0828 - SB #2 Launched 31 09.28N 139 96.52E

10502 SB #3 LAUNCHED 31 9.65N 139 58.91E

1000 SWITCHED ARRAYS FROM PORT TO STARBOARD
BRINGING IN PORT ARRAY.

1401:31 Guns stopped due to tape drive malfunction

1404:41 Guns started again.

13 AUG 87

1453Z - FINISH SHOOTING LINE 6 31 10.32N
140 18.73E

1500Z - Start bringing guns aboard.

1530Z - Begin streamer retrieval.

2125 - streamer retrieved
31 15.71N 140 37.38E

2130 - steam to OBS 'E' Pick-up site

0710 - OBS 'E' retrieved @ 31° 00.44N
141° 30.12E

0711 OBS 'E' ABOARD 31 00.41N 141 30.20E

0715 BEGIN TRANSIT TO OBS 'D'

0931 OBS D ABOARD 30 58.00N 148 08.10E

1203 OBS C surfaced

1222 OBS C Retrieved 30° 55.43'N 140° 48.15'E

1428 OBS B surfaced

1443 OBS B retrieved 30° 52.70'N 140° 24.17'E

Water Temperature = 80.0° F

16:59 OBS A surfaced

17:0746 OBS A retrieved 30 50.37
140 1.990

17:30 - 19:00

Waited for HIG OBS 6 to surface
Did not retrieve.

20:00-22:47 Waited for HIG OBS 5 to surface
DID NOT RETRIEVE

TRUCKING

22:47 Steaming to HIG OBS site #4

DID NOT RETRIEVE

2330-1410 LOOKED FOR OBS #4

DID NOT RETRIEVE

1410 STEAMING TO OBS #3

DID NOT RETRIEVE

0434 STEAMING TO NEXT OBS. HIG 2

-did not retrieve

0826 UNDERWAY TO HIG OBS SITE #1

DID NOT RETRIEVE

Returned to HIG OBS site #6

1730Z - AT HIG OBS site #6 AGAIN

2100Z - To the BARN...

TRANSIT TO OSAKA

16 AUG

2115Z Crossing Sionomisaki CANYON

17 AUG 0230Z CROSSING TONDA CANYON

0342Z CROSSING Hidaka CANYON

0415Z WAYPOINT 5 - Crossing Hidaka Canyon.

11:15Z

AT THE DOCK.

SAT NAV COMPASS = 242.8

MASTER GYRO = 242.0

RADAR = 243.3