TWICHELL / SCHWAB

F3-90-GM

-- MUD POKERS ----

SEAMARC LOG

~~F4-90-GM~~

USGS (AMG) (PMG)
IDSS
USN
IOS
UNC
WHOI (DSL)

7530-00-222-3521
FEDERAL SUPPLY SERVICE
(GPO)

#90001 104744
900015mk

CRUISE F3-90-GM
SEAMARC

3/27/90 JD 086

FISH IN WATER AT APPROX
3:00PM - 20:00 GMT

WORKING ON GETTING GAINS
SQUARED AWAY AND STABILIZATION
OF THE FISH.

SEAMARC SETTINGS
@
23:34 GMT DAY 086

STBD	PORT	
5	8	GAINS
LO	LO	POWER

- SWATH WIDTH = 6000M
- FISH FLYING VERY HIGH -
~ 750M ALTITUDE
TRYING TO DECREASE SPEED
IN ORDER TO DROP FISH.

CURRENTLY WRITING TO
FILE LINE1F2.DAT.

23:36 GMT DAY 086

I DELETED ~~TO~~ FILE LINE1F1.DAT
BY ACCIDENT - CONTAINED
TEST DATA. WILL BE RERUNNING
LINE 1 AGAIN.

RECORDING EIGHT BIT DATA W/
QMIPS - SIGNAL VALUE FOR
BOTH CHANNELS IS 1.0.

TRACKING ON CHANNEL 1
FOR ALTITUDE (PORT)

W.C THRESH @ 75
HOLDOFF = 200M

TRYING TO ADJUST DYNAMIC
RANGE W/ SEAMARK - THEREFORE
USING A SIGNAL VALUE
OF 1.

SAMPLE IS SET TO RMS.

23:44 GMT - SEAMARK POWERED
OFF & ON - RECORD
WILL HAVE GAPS HERE FOR

A COUPLE OF MINUTES.

SETTINGS: 4:45 GMT DAY 087
(11:45 EST)

SIGNAL: (DIGITIZER)
CHANNEL 1: 6
CHANNEL 2: 9

SeaMARC GAINS:
LO TRANSMIT POWER.
HI RECEIVER GAIN.

PORT GAIN 6 STBD GAIN 5

SAMPLE (DIGITIZER)
PORT = STBD = RMS

ALT SOURCE = CHAN 1 } DIGITIZER

W.C. THRESHOLD = 250.

ON STARTUP:

SAMPLE RATE = 35 KHZ

SETTINGS (ENHANCE)
UPDATE = 5 PINGS
RETURNS = 15%
STRETCH = 5

THEN TURN HIST ON.

3/28/90 1209 Z JD 087
START RECORDING → LINE1F2.DAT
GETTING NET NAV DATA
- 1230 Z SeaMARC LOCKS UP
BEGINS TO SEND OUT BIZARRRR
SIGNAL FOR ~ 2 MIN.
[TELEMETRY LOCK-UP]
- 1344 Z → ACOUSTIC NAV STARTING
TO LEAVE US!

1437 Z Ending line 1 - starting slow
turn to line 2. Speeding up to
3 kts + turning 10°/5 min

16:00Z DAY 87

QMIPS LOCKED UP
— NO ERRORS —
RESTART

"7" IN UPPER CORNER
OF TELEMETRY DISPLAY

WRITING TO A NEW
TAPE. STARTING FILE
LINE2FL.DAT: 1601Z
DAY 087

ON DRIVE Z:

POSSIBLE PROBLEMS
WITH DRIVE Y:?
- EACH TIME I TRIED
TO GO TO Y:, QMIPS
WOULD LOCK UP.

IDSS LOWERED ~~GAINS~~
STBD GAIN TO 2
@ ~ 15:45Z

1633Z Around the camera change + on line 2 c/s to 2.5 kt to lower fish

17:08Z DAY 087

GAIN BACK UP TO 4
ON THE STARBOARD CHANNEL —

RECORD LOOKS GOOD —
TRYING TO RUN AT
1.5 KNOTS TO BRING
THE FISH DOWN.

18:25Z — DATA LOOKING GOOD

FISH @ 640 m —

SETTINGS ON SeaMARC +
QMIPS SAME AS pg 3
EXCEPT:
GAIN = 4 - STBD
ON SeaMARC

NOT INTO ACOUSTIC NET
YET.

1945 - QMIPS locked up.
20 QMIPS back on line.

2220 Z QMIPS LOCKED UP. WAS WRITING TO LINE2F2.DAT. LOADED NEW TAPE + TRANSFERRED LINE2F2.DAT TO MASSCOMP STORAGE.

STARTED UP + AM NOW WRITING TO:

LINE2F2.DAT

DIGITIZER —
SIGNAL —
PORT = 5
STBD = 3

2256Z 087JD QMIPS ERROR 7 LOCKUP END OF FILE LINE2F3.DAT
LOCKED UP IMMEDIATELY ON RESET
BACK ON LINE 2314 Z

2343Z LOCK UP ERROR 7
BACK ON 2352Z

2358Z Lockup error 7
0005 Z Back up (29 March 90)
Start file D:Line2F6.DAT

0016Z Lockup Green 7

start file D:Line2F7.DAT
"GPIB error # 6
in file Clx.c at Line 505
I/O operation aborted"

408-722-7873
SeaMARC Telemetry: left hand corner
yellow - realigned data that came in unaligned
red - corrupted - non-salvagable
green - AOK

7 - qmips locks

(9)

Right hand corner:

"7" Displayed:

QMIPS locks — REASON:

* GPIB is locking up

Previous GPIB.COM modification?
Might cause problems.

Timing starts drifting
As SeaMARC heats
up.

* If a GPIB read fails
300 ms goes by &
it should correct.
Otherwise GPIB might
be corrupt

~~Try~~

RESULT: Info out of GPIB
interface is out of sync.
Causes a red block to be
displayed in upper left corner of QMIPS

(12)

TO CORRECT: (MAYBE)

GO INTO C:\ (ROOT DIREC)
RUN:
IBCONF - GPIB CONFIG PROGRAM
GO INTO:
1. GPIB1 MENU

2. SET TIME OUT 1 STEP
HIGHER - TO 1 SEC

3. GPIB0 ALSO

4. SET TIME OUT FOR
1 SEC

BEFORE:
MAKE A BACKUP OF
GPIB.COM

REBOOT

QMIPS ON LINE @
01:39 Z DAY 088

GPIB PROBLEMS -
TRYING TO ROUTE SOME
MORE AC INTO THE
AREA TO COOL DOWN
SeaMARC.

WRITING TO DRIVE Z:
LINE3F1.DAT.

0221 Z DAY 088

ON LINE 3

0231 Z ON LINE 3 - DEALING
WITH A STIFF SURFACE CURRENT
@ THE TAIL → STEERAGE IS A
PROBLEM & FISH IS DROPPING
UNFORTUNATELY THE FISH MAY
NOT DROP DEEP ENOUGH

0248 QMIPS locked up again

0342 QMIPS crashed

0450 Z DAY 88

SHUT DOWN SYSTEMS -
BRINGING IN SeaMARC
TO CHECK SYSTEM +
CABLE. WILL BE TRYING
TO FIX DROP OUTS - THINKING
IS THAT ATTENUATION OF
THE SIGNAL IS OCCURING
ON THIS LENGTH OF CABLE
+ IS AFFECTING TELEMETRY.

WILL BE CHECKING ALL
THIS - HOPEFULLY IT WILL
HELP SQUARE AWAY
PROBLEMS WITH QMIPS.

MANUEL
QMIPS. COULD USE AN
EXPLANATION OF THE VARIOUS
ERROR CODES THAT SPORADICALLY
APPEAR ON THE SCREEN.

(13)

WHEN SETTING THE SIGNAL VALUES, LOOK FOR THE HARDEST RETURN + COMPARE TO THE BACKGROUND. TAKE INTO ACCOUNT THE TYPE OF BOTTOM BEING INSONIFIED AND WHAT IS TO BE EXPECTED FOR BACKSCATTER STRENGTHS. THE IDEA IS TO NOT OVER-SATURATE THE RECORD, SOMETHING EASILY DONE IF YOU ARE OVER A NON REFLECTIVE AREA SUCH AS UNIFORM SAND OR MUD. BACKSCATTER MAY BE LOW WHEN INITIALLY SETTING THE GAINS + SIGNAL LEVEL, HOWEVER IN A MUDDY AREA, THIS MAY BE CORRECT. THEREFORE, LOOK FOR ANY HARD RETURNS, SUCH AS THE WATER RETURN, AND COMPARE IT TO THE OVERALL ACOUSTIC PICTURE, ~~[illegible]~~ MAKING SURE THAT THE HARD RETURN IS NOT OFF THE UPPER PORTION OF THE SPECTRUM.

DAY 089

R6003 DIVIDE BY Ø

0227Z R6003 DIVIDE BY Ø

IN A-P

0248Z RUN TIME ERROR R6003
INTEGER DIVIDE BY Ø

0252Z RUN TIME ERROR R6003
INTEGER DIVIDE BY Ø

SWITCH TO 2 km SWATH & SEE IF QMIPS WILL WORK 0254Z

DISCONNECTED SEAMARC TELEM. & QMIPS SEEMS TO BE WORKING

LINES

	PRAT	STB
SEAMARC GAINS	7	5
(DIGITIZER) QMIPS SIGNAL	6	6

DIGITIZING @ 50 kHz
W.C THRESH @ 220

[3/30/90]

0828Z SHIP-POSITION BEING FED INTO QMIPS

0925Z - SMIPS WORKING & LOGGING TELEMETRY

1006Z - LINE 5 PAY OUT WIRE (SEAS BEGINNING TO COME UP AND SONAR GETTING NOISY).
- STOPPED PAYING OUT @ 5000m OF WIRE OUT

1305 - Speed up a bit - fish 470m off bottom.
1328 - Slow a bit to get the fish closer to bottom - 157m off bottom

1453Z Pick up speed slightly as fish is ~470 m off bottom

1958 - End line # 5

2055 - End file Line 5 F1.dat & Start file Line 6 F1.dat - in the turn between the 2 lines

2224Z - PAID WIRE OUT ⇒ NOTICED A POSSIBLE SLIP RING PROB.

2304 - PLAYING WITH GAINS ON SEAMARC

	PORT	STBD
	8	6

2345 BACKED GATE DOWN
TO 7 ON THE PORT
CHANNEL. WE MIGHT
HAVE BEEN CLIPPING.

DAY 090

0039 - PICKING UP SPEED
ALT = ~400m

0301/090 Changed to surface nav.
We are in a squall &
had to pick up ship speed
as a result X ponder nav
is gone.

0317/090 PMG nav back on -
Computer hung up - lost
~5 min.

0542/090 - EQL. 6 → TRANSIT TO
LINE 7 @ 3 KNOTS
SEAS ROUGH.

3/31 090 0904Z
[redacted] COMING ON LINE 7
THE TURN BETWEEN LINES 6 & 7
WAS BETTER THAN EXPECTED.
WE SHOULD HAVE REDUCED
SPEED AND DROPPED PISH. SCALLOP SCREWED UP.

0933Z HAVING PROBS @ PMG
NAV COMPUTER....
TIME WAS OFF BY 20 MIN.
BACK ON @ 1003 Z

1007 - PAYING OUT WIRE

1318 End line 7
1335 Ship is on line 8 - fish coming
around & settling down - now ~200m
off bottom

1547 - Switched to Xponder Nav
on Mass COMP & started
new file on QMIPS, but I
screwed up. (Put a jumper thru:
Pulled the tape out & started
logging again on the 4 drive at
1616.

1817 - Switched back to ship nav
on line 8

0002 - NAV DOING HAYWIRE

[redacted]

0829 APRIL 1
NOTICED THAT THE GAINS
HAD BEEN FUCKED WITH
6 → 6
RESET TO 7 PORT 6 STB

NOT A LOT OF NOTES: ↕

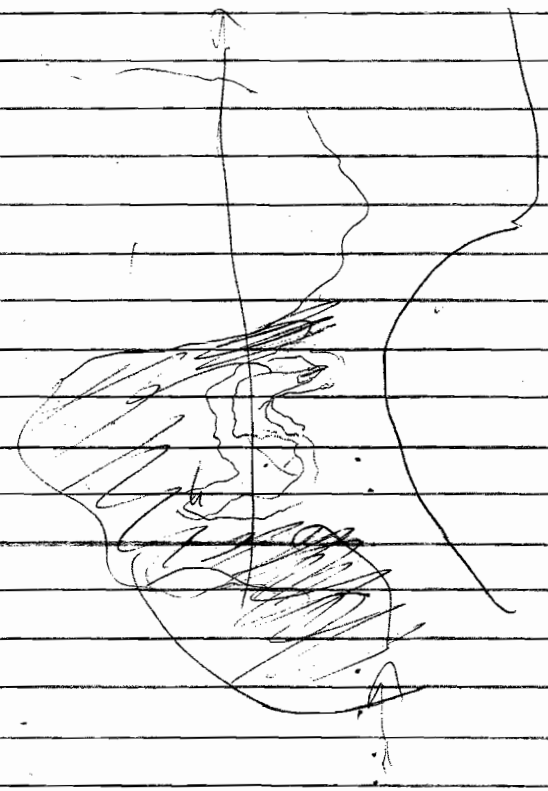
4/2/90 0000
SEAMARC WORKING WELL
TELEMETRY LINK SCREWING UP
SMIPS
4.5 kHz BEING LOGGED ON
UHS [SOME PROBS WITH
TRIGGER PRIOR TO LAST NIGHT]
ON LINE 12 // TO W. FLA ESCARP.

0452 Z NAV GLITCH

0613Z 4/2/90 ⇒ STARTING TO SEE
DISTAL EDGE OF FAN LOBE

0648 Z - PAY OUT WIRE (AT ~ 780m)

0832 ⇒ FAN LOBE BEGINNING TO
SHOW THE "CHARACTERISTIC"
MOTTLED APPEARANCE.



4/2/90

0928 Z HAVING PROBLEMS WITH CURRENTS & NAV JUMPS --- GPS & LORAN ARE ACTING A BIT FLAKEY.

- EXITING OTHER SIDE OF FANALS LOBE GRADUAL ALSO

~1503 Z → 2ND LOBE

1618 → End line 12 - Start course change to line 13

1528 Z SeaMARC just crossed onto the lobe with the finger-like splays on it - SeaMARC heading still 338°, so still going NW

1715 Z Start line #13

1804 Just starting to come into high backscatter lobe. Ship can't do any less than 3.0-3.2 KT & fish is 1200 m off bottom. We are starting to pay wire out as we cross the lobe

4/2/90 JD 092

~1820 Z crossed from low to high backscatter. This transponder lens shows at the surface on 4.5 kHz.

1930 Came out S side of his backscatter lobe. Backscatter is very high - almost clipping.

1952 - Starting to haul in SeaMARC so we can deploy transponders.

2003 - Shut QMIPS down, & pulled out the tape.

0100 Z 092 Fish aboard. Recovery took 5 hrs.

3 April, 1990 JD 093

Deployed & navigated in the transponder through the night & morning.

SeaMARC deployed at 1650 Z (1250 L) and starting down.

093/1910 Z Started writing LINE14F1.DAT on drive Y:. Fish at ~1500 m altitude and continuing down.

SeaMARC gains at 7 STBD
6 PORT

~~Signal~~ SIGNAL (DIGITIZER) set to: 6 (chan 1)
6 (chan 2)

W.C. THRESHOLD set to: 200, tracking channel 1.

2025 WC Threshold set to 180

3 April

2030Z - Coming up to edge of southern lobe - Stopped paying wire out.

2200 Z Still in southern lobe - Struggling to keep fish level

Checked vehicle heading & it matches the line bearing on PMG nav.

2325Z Crossed a small channel? in southern lobe at same time we had a very strong return on 4.5 kHZ Channel is high backscatter with a low backscatter surrounding.

4 April, 1990 JD 094

0005Z Date on QMIPS was off by a day - Says it is 5 April rather than 4 April. Yesterday it was fine, so we don't know when it changed.
Bill Denforth ended Line 14F1 dot & is resetting the date.

~0040Z Passed another small channel on port side.

0049Z 3.5 off for transit through Xponder net.

0233Z Start pulling wire in as we approach Eastern Xponder net

0308Z Switched to transponder Nav

0322Z Coming into northern lobe, but problems with Xponder Nav. Zeroes displayed on QMIPS, so we are not sure if Nav is being logged by QMIPS

4 April, 1990 ID 094

0331 ⇒ TRIED TO SWITCH TO ACOUSTIC NET BUT QMIPS WOULD NOT LOG IT ⇒ GO BACK TO SHIP NAV FOR NOW LINE 14 FS·DAT (TWICHELL LOOKS WORRIED).
(Twichell always looks worried)

0644Z ⇒ INTO TURN BETWEEN LINES 14 & 15 ⇒ THE CURRENT IS WINNING THE BATTLE: UNABLE TO CONTROL THE SHIPS SPEED

0734 ⇒ FINISH PAYING OUT WIRE TRYING TO KEEP FISH BELOW 1000m - PAY OUT >6000m WIRE

1043Z ⇒ BEGIN TURN TO LINE 16 --- FISH WAS FLOWN HIGH ON LINE 15 DUE TO CURRENT & PREPARING FOR 90° TURN TO WEST --- AGAINST CURRENT @ 5500 m WIRE OUT

1635Z Just passed fingernail field on line 16

1629Z In a large field of fingernails on stbd side.

4 April, 1990 JD 094

2023Z about 1 hr from end of line 16. Have had 6000 m wire out along this line from just after the course change. But this fish has not been in the water to give us surveys.

2034Z Channel we have been following is right under the track now. Where it crosses an area of low backscatter it is dark & barely visible

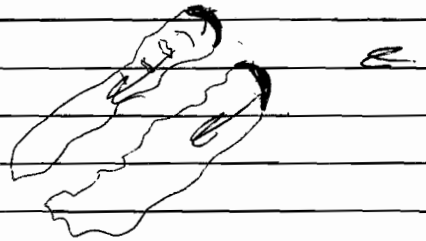
2058Z Nav Stream stopped to Q-MIPS. Reset
Restart 2103Z file 16B

2138Z Winching in wire for turn at end of line 16

2210 Ended Line 16 Fl. Dat + ejected tape from Y drive + started logging on Z drive

2230Z ~5000 m wire out.

2331Z Around the course change - slow to 3 kts - ~5000m wire out.



5 April, 1990 JD 095

0105Z Paying wire out as fish is 700m off bottom Started with 4977m wire out

0144 Stop paying wire out 5512m wire out

0316Z Back into the finger nails

~0630 FINGER NAILS LOOK LIKE HEAD WALLS OF BOTTLENECK SLIDES ON PORT SIDE * PRETTY CLEAR

0845 → BRINGING IN WIRE TO MAKE TURN ONTO LINE 18

~0915 NAV STREAM LOCK-UP DURING TURN ONTO L 18 FIXED BY ~0919

1814 5996m wire out on line 18 - starting to bring it in.

5 April, 1990 JD 095

1816 - Start bringing wire in.

1834 5759m wire out - stop bringing it in.

2112 Z Start hauling wire for course change at the end of line 18

2225 Start c/c at end of line 18

2251 Z Stop wire at 5075m

2340 Z Around & on course for line 19
Change speed to 3 kts

2348 Z Pay wire out - 950m off bottom

6 April, 1990 JD 096

0021 Z 5667 m wire out

0032 Z PMG now hang up starting at 0026 Z

0040 - 0043 PMG now off

0145 - Crossed a zone of high backscatter on SeaMARC that corresponds with a 5 m thick lens of transparent material on 4.5 kHz

0150 - 0156 Z PMG now off

0215 Z Paying wire out - started at 5667 m

0225 Z Stop wire at 5785 m

0658 Z AFTER 3 HRS OF SCREWING WITH SHIP SPEED WE ARE PAYING OUT WIRE TO 6000 m - CURRENT WIND PROBLEMS ARE HINDERING THE BRIDGE

APRIL 6, 1990

0921Z - STARTING TO TURN TO LINE 20 --- LINE 20 IS A LOW ALTITUDE PASS THROUGH THE TRANSPONDER NET.

1032Z - FILE = LINE 20 F1.DAT --- DO NOT PROCESS THIS FILE THIS IS A SET-UP FOR THE 1-KM-SWATH RUN [LINE 20]

1617Z change speed to 4 kts + start hauling wire for c/c at end of line 20. ~4790 m wire out at end of line 20

1624 switch to 5 km swath

1654 GAINS ON SEGMARC:
PORT: 7
STBD: 6

1 KHZ

1.6ms pulse length PULSE WIDTH ON BOTH CHANNELS SET TO 8

ON QMIPS: SIGNAL SET TO 7 ON BOTH CHANNELS.

6 April

1720Z On line 21 - paying wire out - slow to 2.7kt.

1809Z Created new pmglogger file for line 21 on MassComp

1812 Stop paying wire out - 5656m wire out ~700m off bottom.

1840 CHANGED SIGNAL VALUES BACK TO:
CHAN 1:6
CHAN 2:6

THESE ARE THE ORIGINAL VALUES WE HAD BEFORE AT THESE SeaMARC GAINS.

1950 Weird hickup on OMIPS Two stripes across the record, but data logging since then seems OK. SMIPS not affected

7 April, 1990 JD 097

~2030 to 2036 MSO MASSCOMP FREEZES UP, NO NAVIGATION GETTING TO QMIPS, REBOOT MSO & RESTART PMB LOGGER

2056 - 2106 NAV NOT GETTING TO QMIPS

2120 LOST DISPLAY

~2130 REBOOT QMIPS

2138 Reboot QMIPS again port channel not coming in.

2220 QMIPS logging again - Loose band in SeaMARC rack

~~2230~~ 2240 - Started hauling wire in for the course change

2234 - NAV OFF ~~FOR UNKNOWN PERIOD OF TIME~~ SINCE 2331, FIXED

0025Z on line 22 & paying wire out

0049Z Stop paying wire out at 5700m

0200Z In a rain squall with gusts up to 40kt. Ship is being blown along & fish up ~800m off bottom, but will have to wait until the squall passes.

1426Z On line 23 - 5926m wire out

1558Z 5238m wire out - Hauled in for course change at E0623

1656Z Trying to run the line on just the bow thruster - Main engine off line. Speed ~2.5 kt

1708 Paying out wire - start at 5238m

1725 - 5978m wire out - Stopped for a while because bow thruster blew up, but now it's on again & heading back to line

7 April, 1990 JD097

Bow thruster smoked - flying on main engine at 3.5-4 kt. 5785m wire out + still paying out.

1800 Z Stop wire out at 5982m

2100 z End of survey - Pick up speed to work gear QMIPS shut down.