Daily Log: Quality Control. April 15 1974

Pty 437, M/V Jonsson

Bermuda Triangle, GSI SPEC work.

Parameters for this Spec. work as given to P.M by Supervisor are :-

48 Trace
3600 metre } Cable
50' Depth

8 - 127 filters, (Questined and 8 -(18) 62 setting adopted)

4 mil sample rate

1200 in^3 airgun array

Gravity and Mag have a 2 minute analog filter

One minute gravity sampling rate (This not possible at such short notice as it requires a change in the IMDCS software)

Onboard equipment includes :-

DFS IV 21 track

IMDCS integrated System based on Geonav and Loran C navigation systems,

Lacoste and Romberg marine gravity meter System

Varian V-75 magnetometer with varian magnetometer sensor with 500 feet (152.5 meters) of cable.

Simrad Type EM 2E fathometer

Ratheon and T.I servo profilers

SIE ERC - 108 Electrostatic Camera.

3600 metre cable gps 48 - 25 100 metres
24 - 1 50 metres

Condeps and transducers on 48, 42/41, 35/34, 28/27, 17/16
3/2.

The extreme length of the cable precludes this reeling in for the purpose of taking a polarity shot. The polarity will be checked by examination of camera records and polarity shots will be taken at the first available opportunity.

Gain constant tests have been requested.

:MT
3.34 Large Geonav update has screwed up the run in.
As this is a space job and it will take at least 2hours to circle we're going to let the cable straighten out and start shooting as soon a possible
A combination of gun trouble & large update have contributed to my requests for gain constant tests not to be complied with.

LINE 1

9.14 BOL 1 GSI SPEC FSP # 1 Each pop is being designated a shotpoint. Sea state 2. Speed ~ 5.5 knots
The BOL coordinates w.r.t starting shooting should be on tape, however they are only printed out as from SP# 19.
No offsets can be calculated None are being recorded ie no timebreaks are being recorded either on the IMDCS or the DFS /camera. They have been removed from the DFS to be put on the IMDCS but are not showing.
Neither servo profiler was working at BOL the Raytheon started functioning @ SP# 63.
The situation w.r.t late start of line and non ability to calculate offsets was pointed out to party manager. w.r.t stopping shooting. Varying large sometimes up to 25' cable depth variation

The party manager says beep going ~ he wants to give up time to try the system out (?)

GMT We are off the fathometer scale at BOL and are using a 4 Second delay.

1029 SP # 230 Raytheon has clapped out.

The only indication of offset is the calculation by geometry which indicates an offset of 291m. ie 18 wraps & reel.

Streamer Noise strip is recorded on paper records but without calibration strips which will have to be recorded later.

1145 AutoFIRE Records 0726, 0727

1150 Pressure 1900 psi

1202 SAT UPDATE 105 12-02-49 1941.0 meters Along
1419.0 m Across

HIGH PARITY Records 0260, 0262
0452, 0453, 0454, 0455

1228 Delay time changed from 4 sec to 3 sec SP 617

1337 Pressure down to 1700 psi

Record 1134 High Parity

1358 Seastate 3-4 165 rpm / ~6. kts

1437 Pressure 1750 p.s.i.

1441 105 14-41-45 SAT. UPDATE 878. m Along / 511. Across

PM reminded of poor updates & water breaks problem

1450 Raytheon Recorder sticking intermittantly thru-out line

1606 change to 8 sec records @ SP# 1349.

1700 Somewhere on tape # 11 Record nos became one behind the shotpoint numbers. Tape will have to be changed.

1816 GMT SP 1817 7 sec records as from that SP#
Print out from IMDCS w.r.t cable depth does not agree with indicators for sensor 4. Cable depth variation poor up to 20'-25' trying. Requested boat slowed to deepen front end. IMDCS doesn't correspond with gauges for other sensors either. IMDCS people aware. P.M aware.

1838. SP# 1885 Shotpoint nos now 2 ahead of Rec. Nos.

1910 SP# 2005, 2006, 2007, 2008, 2009 missed.
P.M aware. Shooting continuing.

20:22 SP# 2275. 2sec delay * Delay change

SP# 2300 approximately

2045 Sea state deteriorating to ~ 4.
Loran isn't working as it should. It's tracking 2 stations but 3rd station is too far off. Skywaves are contributing to malfunction.

2050 Loran tracking lost - it fell over. Noise strip taken but no calibration strips P.M and IE feel noise is satisfactory and we're continuing to shoot despite deteriorating weather conditions, Loran failure and cable depth variation 10 - 25 feet.

2318 Cable Variation still out of specs 10-20 ft
Sea smoothing out Seastate 2-3, Maintaining Constant speed, Loran is being worked on as it is not yet functional

2323 SAT UPDATE -318.0 Meters along / -1303.0 m Across
Using Manual Velocities Loran out
Pressure 1800 psi., Raytheon Recorder still sticking intermittantly

2348 SAT UPDATE -66.0 m Along / -7.0m Across
Using manual Velocities

FORMAT MOD. indicates a sync. ER. periodically

0000
LAST SP of day 3072
Pressure 1800 psi. Streamer depth 49-75 ft
OUT of specs

16 April 1974

01-20 SAT UPDATE -222.0 m Along / -48.0 m Across

The sync lite indicating a too short or too long block length that has been indicated on the Format Mod. has been investigated in the past by a rep. from Dallas. It doesn't seem to effect records. It is said that it is an anomoly of this particular DFS IV system.

0215 Pressure 1850 psi., All spares being used

0342 SAT UPDATE -1127.0 m Along / 326.0 m Across
Record 6764 N.R.

0503 Sync errors seem to affect gps 24 and 48 in that it introduces noise to data especially at first arrival times and just before.

0607 Bottom tracker not tracking - off from SP where first switched on.

GMT

0627 SP# 4410 Delay now 1 sec

0656 Some noise at or before data arrival of high frequency. Seems to be caused by relay. May have previously been eradicated by longer delay time.

0711. Waterbreak started to come in as water shallows somehow. 535 msec.

0737 SP# 4698 No Delay

Waterbreaks now visible – Delay box is eradicating them.

0748 Total gun volume now 1170 in³

* NB all sync errors are on transport "B"

1120 SAT UPDATE 118.0 m Along / –90 Across

1125 Fathometer not working properly

1155 Fathometer okay

1227 Tanker crossing cable close to stern, High NOISE indicated on records

Profiler temporar. down, being worked on

Record 3311 High Parity
3314 Short Rec.
3316 N.R. TAPE change

We fell 1 shot point behind Geonav somewhere just after changing Tapes #36 ⇒ #37 perhaps due to DFS not receiving a closure from the Slaster as Geonav advances

At Rec 3366 Rec counter was advanced to 3367

Rec 3367 NR

1420 T1 Profiler back into operation

Raytheon Recorder working poorly

GMT

1420 Total Volume down to 1070 cu. IN., which is ~18% below 1310 cu. IN.

1554 Discontinue Line, Circle to work on guns LSP 6720

1615 Daily tests run and All 1s run. Daily tests are satisfactory.

1837 Line # 1 Restarted when not enough time available. Thus although intended to cover SP# 6680 we were several S.P.s late. First SPs 6681 – 6686 were autofires. First good SP # 6687.
No noise strip given yet again despite request in presence of P.M. There is however no reason to believe that excessive noise levels are present. Sea state 2 ship speed 6.6 knots

1855 Ratheon servo-profiler working very poorly indeed. Fortunately we were updated 18 SP back just before line started 18 SP late. As far as navigation can ascertain SP# 6680 covers # 6679 of previous run.

1907 V. high parities on F.T # 42 changed early. Cable depth variation 25 feet.
SP# 6919 Counter error Rec# now lags SP# by 2.

2146 Sync errors still coming spasmodically on B Transport: gps or channels 24 and 25 affected.

2224 SAT UPDATE -25.0 m Along / -107 m Across

Q.C. Dialy Log m/r J.E. Jonn[illegible]

PARTY 437

18 April 1974

GSI Spec work - Bermuda Triangle

Parameters: 48 Trace, 3600m cable 1-24 50m gps. 25-48 100m groups, 8-(18)-62 filters, 4mil Sample rate, Gravity and Mag have 2 min. analog filter

System - IMDCS based on Geonav & Loran C

A polarity shot was taken on 17 April and showed normal polarity

Dialy Tests have been run and look satisfactory
Chan. #3 x 3μV

The Cable was reballasted due to the sharp variation in depth during previous work on the 16 & 17 April

0330 SP 1 Start of Line 4 Seastate 1 7 sec Records

Records ~~SP~~ 1-157 Autofires, It seems to be caused by a slow seeding gun #32 (100') PM informed

Used 302m offset SKH

Rec. 160 - 0165 Autofires Do NOT Process Rec 0001-0165

Groups 23 and 45 were out of spec w.r.t noise at BOL #23 and #45 ~ 25 μV each.

No waterbreaks on camera records IMDCS is recording them

Ratheon servo-profiler is not functioning at all.

Bottom tracker not functioning. (ie Digital Tracker)

GMT

Ship speed for this line has been 6-7 knots so far @ SP 1093

1038 SAT. UPDATE 160m Along / -178m Across
Pressure 1800 psi.

1201 Pressure 1850 psi, Seastate 1, Speed ~ 6.8 kts
Streamer depth variation 18 feet @ #2 & #5 XDUCER reading 68 ft.

1235 SAT UPDATE -65.0m Along / -64.0m Across
Pressure 1850 psi.

1340 Offset as calculated from IMPCS thermal Printout
WB/48 = 3.11m
Record 5644 NR

1420 Instruments locked up and caused a miss of 2 SP
SP 2980 - 2981 missed
* * SP 2982 NR Amplifiers not setted
Records 5670 - 5671 - 5672 - 5701 ~~do~~ not recorded
@ Record 5657 counter was advanced to 5661 by mistake

Rec. 5661	corresponds	to	SP 2995	1st time
5662	"	"	SP 2996	
Rec. 5661	"	"	3003	2nd time
5662	"	"	3004	

1420 SAT UP DATE 11.0m Along / 18.0m Across
1544 SAT UP DATE -207.m Along / -91.0m Across
1958 SP 4387, 4388 NR ~~Records~~
2012 SP 4449 & 4450 NR ~~Records~~
SP numbers now 2 ahead of Rec. numbers
2359 End of Line 4 LSP 5393 Streamer Noise at End of line #23 ≈ 32μv, #45 ≈ 25μv PM informed and replied there was nothing we could do due to the lack of spare sections

EOL 4

GMT

2253 SAT UPDATE 12. m Along / -10.0 m Across
Pressure 1800 psi, Seastate 2-3

2331 SAT UPDATE 14. m Along / -1. m Across

2347 Ship in Area

21 April 1974

0039 Offset as calculated from WB/48 Lines
[Hex 0A80] Offset = 284.92 m

0050 SAT UPDATE 50. m Along / 9 cm Across
Pressure 1850 psi.

0359 LSP# 4125 Rec# 0040
Rec# 0041 Noise ship Rec# 0042 cal.
Streamer Noise: gp# 23 #45 Noisey @ 42 μV and
30 μV respectively.

GMT

04·38 Cable depth variation up to 35 feet. P.M informed of situation.
Loran C not operational.

05·39 Relay card changed in magnetometer. Noise fairly heavy on magnetometer from BOL to SP 0528. Transmit/Receive relay switch seems to have been switching too late possibly and noise recorded with signal. Now seems steady but spikes not making main picture are still numerous. Cause unknown at present time.

06·19. Noise on magnetometer (spikes at each event mark) may be from blater or cross coupling with event marker circuit. It is serious from processing point of view.

06 27 Sync light is on again on 'B' Transport records with rec. Nos ending in 1 and 5.

0650 Lost sonar doppler @ ~ 200 fathoms sea state 1.
Loran C now switched in. Dana & Jupiter stations

* Offsets are printed out on thermal printer of IMDCS but need conversion

eg Prints out OADC Hexadecimal
= 2780 in Decimal

311
293
18½

302

Multiply by 64 (constant) = 177920

Subtract 2048 (constant) = 175.872 m.sec

is the offset in μ secs to transducer

Subtract 13.5 m.sec for gun delay

Using conversion velocity of 1.5 metres/m.sec. & gives offset to transducer of 243 metres.

Adding 50 m to get to centre of JP 48 = 293 metres

In daily tests channel # 3 had conver noise 4
of 0.3 μV. Otherwise O.K.

GMT

BOL 8

0727 FSP# 1 SP# 1 - 5 Not good (shorting plug in).

Satfix 1286 m along
1075 m across

Sea state # 1 Ship speed 5.5 knots

Streamer Noise gp# 11 ~ 40 μV.
gp# 45 ~ 32 μV

P.M previously aware.

301 296 8

1 sec delay put in @ SP# 10.

Offset from IMDCS print out is 308 metres

7 sec Records

0830 SP# 214 Change to 2 sec delay Depth 1040 Fathoms.

Sync errors occuring again.

0916 Satfix - 4 m along ~~good~~ angle = 14°
- 4 m across

0922 Ship 5 miles on Starbord bow

1050 Record 1274 System locked up again

1100 Record 1346 START 3 sec delay

1238 Pressure 1800 psi, Seastate 1, Speed = ~6. knots

1257 Speed up 5 RPM

1332 SAT UPDATE -59.0 m Along / -67 m Across

1400 Record 2564 NR System locked up on data

We will have to playback Tape 87 on Rec. No. sequence
when system locks on on data we fail 1 or 2 SP
behind Geonav

GMT System seems to lock up on data just after a Tape change "A" Transport. This problem will have to be investigated

1450 -60.0 m Along / -23.0 m Across SAT. UPDATE

1515 Offset as calculated from WD/48 (IMDCS read-out)

[Hex 0A72] = (2560 + 2 + 112) = 2674 Decimal

(2674)(64) = 171136 μ sec = 171.136 msec
constant

(171.136 msec − 2.048 msec) = 169.088 msec
CONSTANT

(169.088 msec − 13.5 msec) = 155.588 msec
Gun delay

(155.588 msec)(1.5 m/msec) = (283.382 meters)

We seem to be getting parity spikes every now and then on auxilary channels (waterbreaks)

Trace #24 goes initially wild occasionally, I.E. says it doesn't show up on tape, but only affects reproduce mode

1720 IMDCS water velocities all screwed up. Investigating.

Water depth on observers logs is from 2 way time taken from camera records. Fathometer is off scale. Camera paper sticks so some prod. records look wrong. Only a camera problem.

Sync errors on many records. Affects #26 MAKES it slightly noisy around first breaks.

GMT

2339

End of Line Discontinued due to shallow water
LSP 2153

RECEIVED
MAY 10 1974
COST CENTER
SCIENCE SERVICES DIVISION