#89022

Hutchinson Georgian Bay

NECH 89-1

August 7-17, 1989

GEOPHYSICS LOG

104827

8902292i

# U.S.G.S.
# GEOPHYSICS
# LOG

SHIP R/V NEECHO

CRUISE NO. 89 - 1

DATE 7 - 17 AUGUST 1989

CHIEF SCIENTIST D.R. Hutchinson

R/V NEECHO
Cruise 89-1
Georgian Bay, Ontario

Purpose: High resolution refraction experiment along and across the Grenville Front Tectonic Zone

| USGS | G.S.C. | Dalhousie U. |
|---|---|---|
| D. Hutchinson | I. Asudeh | M. Burke |
| B. Irwin | A. Marincak | A. S. |
| D. Nichols | R. Irving | |
| D. Mason | T. Cartwright | |
| | M. Argyle | |

SHIP/CRUISE NO. / LEG NE-89-1

CHIEF SCIENTIST

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | 890805 | | | | Launched, Little Current, Ontario |
| | | 5-6 Aug. | | | | Unpack, mobilize in Little Current, Ont. |
| | | | | | | Dave Mason |
| | | | | | | Dave Nichols |
| | | | | | | Barry Irwin |
| | | | | | | |
| EDT | 10:00 | 7 Aug 89 | | | | Transit to Killarney, Ontario |
| EDT | 12:00 | | | | | D. Mason, B. Irwin |
| | | | | | | |
| EDT | 09:15 | 8 Aug 89 | | | | Depart Dock, Killarney for Mill Lake |
| | 0957 | | | | | Ahead black can by "mile 58" (58.06) in Collins Inlet |
| | 1:38 seconds | | to red | | ~.31 statute mi = | 12.0 mi/hr speed. |
| | | | | | | |
| | | | | | | |
| | 1043 | | | | | End of Collins Inlet - into Mill Lake |
| | 45 minutes | | | | | mile 51 |
| | | | | | 7.06 mi/45 min = | 9.41 mi/hr (statute) |
| | | | | | | * .8684 = 8.2 kts |
| | | | | | | |
| | | | | | | Survey south end of line - weeds |
| | | | | | | |
| | | | | | | Anchor to south of Green Island |
| | | | | | | |

SHIP/CRUISE NO./LEG R/V NEECHO - 89 - 1

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 11:30 | 890808 | | | | Calibrate Fathometer |
| | | | | | 4.71 - WD (m) | = 185" = 15.4 ft |
| | | | | | .38 - offset (m) | = 1.25 ft |
| | | | | | Velocimeter ave | = 4894 ft/s. |
| | | | | | | = 1491 m/s. |
| | | Satellite elevations: E = 35° | | | | |
| | | | | | W = 15° | |
| | | West satellite display delay = 56 msec. | | | | |
| | 12:00 | | | | East = 41° | Margaret, Barry - setting up minisanger at sites 1-1 and 1-7 |
| | | | | | | Ilsa, Malcolm, Allen M setting up FSU |
| | | | | | | Rebecca, Tim setting seismics. |
| | | | | | | Wind picking up - starting to white cap prob 10-15 kts. and quite cool - otherwise clear, scattered clouds |
| | 12:30 | | | | | Satellite locked on |
| | | | | | <orunc= locked on: | |
| | | | | | 48413.88 | |
| | | | | | 30012.06 | |
| | 13:00 | | | | | Set test shooting to start at 15:00 HOURS |

AREA

TIME ZONE

| SWP | PROGRAM / SCALE | FILTER HI/LO | TAPE NO. START / END | DATA ROLL# START / END | MAGNETICS | COMMENTS |
|---|---|---|---|---|---|---|
| | ~~1335~~ | | | | | ~~start test shooting~~ |
| | | | | | | |
| | 1510 | | | | | Going south from 1-1 @ |
| | | | | | | north end of line |
| | | | | | | shots going at :17s |
| | | | | | | :47s |
| | | | | | | after |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 1335 | 890808 | | | | Start test shooting of GI Gun in Mill Lake near Green Island. |
| | | | | | | Test: GI. Delay = 45 msec. Gun Depth 1.5 m. |
| | | | | | | Locked on east satellite (41 msec delay) |
| | 1415 | | | | | Problem w/ satellite lock |
| | 1500 | | | | | Problem w/ Barry's program getting ~~seconds~~ (msec). |
| | 1510 | | | | | Bonie south from stn 1-1 shooting GI. gun at 30 s intervals |
| | 1526:20 | | | | | abeam 2 pts at north end of Green Island central of lake. NO range or time being recorded - Barry still programming. Fathometer marked on shots - ev. 2 min - about. |
| | 15:40:39 | | | | | abeam 2 pts at south end of ~~Hillsdale~~ Green Island. |

SHIP/CRUISE NO./LEG UE-89-1

CHIEF SCIENTIST Hutchinson

| LINE START/END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 1542 | 890808 | | | | Increase RPM |
| | 1548 | | | | | Up to 2000 PSI |
| | 1551:50 | | | | | Abeam south end of FSU island — end south end of island beyond it to the east |
| | 1554:17 | | | | Range A=7.85 B=29.25 | |
| | 1555:17 | | | | | LAST SHOT GI GUN TEST just north of island with site 1-6. |
| | 1636 | | | | | Turn to go south again near site 1-1. Gun probes — bad fitting circle. |
| | 1708 | | | | | 120" gun back in for test firing heading back to site 1-1. |
| | 1710 | | | | | Turning onto line |
| | | | | | GUN FIRING: 2/6 5/6 ev 30 sec. | |
| | | | | | | BARRY GETTING DATA |
| | 17:15:45 | | | | | Abeam buoy Muskie Is. |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD 890808 | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 17:28:29 | | | | | Abeam S ends of Grenada |
| | 17:28:56 | | | | | Last Shot 120" GUN |
| | 1400 | | | | | Headed home in Collins Inlet |
| | 1915 | | | | | at light by entrance to Killarney Channel |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST Hutchinson

| LINE START/END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | | 89-0809 | | | | |
| EDT | 11:00 | 09-Aug 89 | | | | Depart Killarney |
| | 12:30 | | | | | Entrance to Mill Lake |
| | 1310 | | | | | Start 1" gun deployment for streamer geometry testing and 1" gun testing |
| | 1320 | | | | | start firing |
| | 1325 | | | | | gun leaking, back on deck |
| | 1400 | | | | | Back in water, new solenoid |
| | 1410 | | | | | Lunch boxes off to sites |
| | 1420 | | | | | Turn to come back to site 1-1 to start line. |
| | 1425 | | | | | Drop streamer back to bitter end on boom – streamer on boom off to port 1" gun firing ev 3s |
| | | | | | | Beautiful clear weather ~12-15 kts south wind. (just starting to cap). |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 1432 | 890809 | | | | START 1" LINE REFLECTION & SHOT INST. |
| | 1442 | | | | | c/ filter on single channel 150/400 Hz |
| | 1449 | | | | | Abeam north end of Green Island |
| | 1500 | | | | | Abeam site 1-4 near South end of Green Is. |
| | 1501:15 | | | | | abeam 2 pts at south end of Green Island Lost lock on satellite |
| | 1508 | | | | | Turn clock antenna (west) |
| | 1510 | | | | | Abeam site 1-5 |
| | 1511 | | | | | Lock on west satellite |
| | 1516 | | | | | Abeam seismometers on site 1-6 |
| | 1518 | | | | | END TEST TAPE AT 1377 START TURN |
| | 1630 | | | | | Barry working on Navigation with third antenna. |

SHIP/CRUISE NO./LEG NE-89-01

CHIEF SCIENTIST Hutchinson

| LINE START/END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | ~1600 | 890809 | | | | Anchor for Barry to work on x/y positioning for minirangers |
| | 1710 | | | | | Pull in anchor. Steam north on line for nav test. |
| | 1713 | | | | | Shut down seismics, into Collins Inlet for return to Killarney. Barry working on Nav stuff. |
| | 1915 | | | | | At Killarney Dock |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 10:00 | 890810 | = JD 222 | 2 | | Depart Killarney dock for Mill Lake |
| | 11:20 | | | | | Mouth of Mill Lake |
| | 11:25 | | | | | Velocity measurement of water ~77' vel = 4828 ft/sec = 1472 m/s ✓✓ |
| | 11:30 | | | | | Standing by at mouth of Mill Lake - rigging G1 Gunets |
| | | | | | | Cloudy, ~10 kts wind, cool. |
| | | | | | MASTER MINI RANGER ANT. | Distance MINIRANGER ANTENNA TO STERN OF NEECHO - 5.2m |
| | 1330 | | | | | Gun in water & firing |
| | 1 | | | | | DISTANCE GUN - STERN 10.2 m |
| | | | | | GUN TO ANTENNA = 15.4 | |
| | | | | | GUN DELAY = 44 msec | |
| RT 1 ≈ 9.3 m above water | | | | | | |
| RT 2 ≈ 5.1 m " " | | | | | FOR NAV: CODE 1 = | (-128, 2444) |
| | | | | | 2 = | (0, 0) |
| RT 1 = master used. | | | | | 3 = | (0, 3709) |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST HUTCHINSON

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 1357 | 890810 | | | SOL #1 | Abeam south pt near site 1-1 |
| | 1400:26 | | | | | |
| | | | | | | West satellite lost lock |
| | | | | | | Gun pressure ~1600 psi |
| | | | | | | Gun depth ~2 m. |
| | 1404 | | | | | Up to 2000 psi - Gun 44 msec delay |
| | 1406:00 | | | | | Abeam buoy on Muskie Island |
| | | | | | | Gun firing ~:26 s :56 s |
| | 14:11:35 | | | | | Abeam Code 1 Miniranger antenna (opposite site 1-3) |
| | 14:14 | | | | | Adj Gun delay to 43 msec |
| | 14:19:56 | | | | | Small Bubble on gun |
| | 14:20:12 | | | | | Abeam site 1-4 |
| | 14:30:04 | | | | | Abeam site 1-5 Satellite (west) locked on. |
| | 14:35:44 | | | | | Abeam site 1-6 |
| | 14:38:26 | | | | | END SHOOT SOUTH |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST HUTCHINSON

| LINE START/END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 1437 | 890810 | | | | START TURN |
| | 1439:53 | | | | | 1ST GOOD SHOT pressure 1500psi |
| | 14:41:27 | | | | | Abeam site 1-6 |
| | 14:44 | | | | | BACK UP TO 2000 PSI |
| | 14:48:30 | | | | | VERY CLOSE TO ROCK WALL FOR SITE 1-5 |
| | 14:50:10 | | | | | LOST LOCK ON WEST SATELLITE, but Abeam site 1-5 |
| | 1452:23 | | | | | leaning rock wall adjacent to site 1-5 |
| | 14:54:32 | | | | | MISFIRE |
| | 14:54:53 | | | | | FIRE OK |
| | ~~1458~~ | | | | | |
| | 15:05:30 | | | | | Abeam site 1-4 |
| | 15:17:53 | | | | | Abeam CODE 1 |
| | 15:27:30 | | | | | Abeam Site 1-2 Satellite losing lock repositioned to azimuth 240° |
| | 15:38:23 | | | | | CAST SHOT - near 1-1 |

END LINE 1

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | | 890810 | | | NOTE: ANTENNA TO. FATHOMETER | |
| | | | | | = 4.0 m. | (Fathometer = AFT) |
| | | | | | | |
| | 16:45 | | | | | Depart Mill Lake |
| | | | | | | after recovering |
| | | | | | | minicangers, lunch |
| | | | | | | boxes etc. |
| | | | | | | |
| | 1805 | | | | | INTO KILLARNEY |
| | | | | | | CHANNEL |
| | | | | | | |
| | 1815 | | | | | AT DOCK |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | 890811 | JD | | | | Nancho at dock |
| | | | | | | 3 small boats out |
| | | | | | | to pick survey |
| | | | | | | lines for south of |
| | | | | | | PEI and to set |
| | | | | | | seismometers. |

SHIP/CRUISE NO./LEG NE 89 01

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 0945 | 891812 | | | | Depart Killarney |
| | 10:10 | | | | | Standing by off Red Rock |
| | 10:30 | | | | | Start pre survey of line 3. |
| | 11:20 | | | | | stand by off W. Fox Is |
| | 12:00 | | | | | Get miniranger locations into system from Margaret |
| | | | | | CODE 1 = 3556, 1457 | |
| | | | | | CODE 2 = 4446, 0 | |
| | | | | | CODE 3 = 0, 0 | |
| | | | | | CODE 4 = 1734, 887 | |
| | 12:10 | | | | S | Start new survey of line 4 - dead slow going north. |
| | | | | NEW WATER | | |
| | 12:20 | | | VELOCITY = 4817 ft/s | | END line 4 - lost run. TURN AROUND |
| | 12:29 | | | | | TURN ONTO LINE 3 |
| | | | | | | 3824, -18 → Rock to north |
| | 12:48 | | | | | END LINE 3 TEST Head ~~north~~ south for reflection line |

SHIP/CRUISE NO./LEG NE 89 1

CHIEF SCIENTIST Hutchinson

| LINE START/END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 1305 | 890812 | | | 200 element streamer: | slow to deploy |
| | | | | | active section = 15.7m | streamer |
| | | | | | | |
| | 1326 | | | | | Gun in + firing |
| | | | | | | 102, 132 s. |
| | | | | | | Tuning system |
| | | | | | | |
| SOL | 1407 | | | | 45 55.924 | SOL A |
| A | | | | | -81 31.161 | tape count 1169 |
| | | | | | | |
| | 1430 | | | | 45 55.375 | Clear, winds 8-10 kts |
| | | | ~4.4 kts | | 81 29.229 | |
| | | | | | | |
| | 1500 | | | | 45 54.592 | streamer back - signal |
| | | | | | 81 26.465 | a little letter → |
| | | | | | | satellite lost track. |
| | | | | | | (GSC clock = fine) |
| | | | | | | |
| | 1515 | | | | 45 54.231 | |
| | | | | | -81 25.019 | |
| | | | | | | |
| | 1519 | | | | | USGS satellite clock |
| | | | | | | locked back on, |
| | 1520 | | | | | Tape = 2320 |
| | | | | | | |
| | 1530 | | | | 45 53.791 | EPC looking better |
| | | | | 3.6 | 81 23.168 | GI-Gun 42 msec delay |
| | | | | | | |
| | 1545 | | | | 45 53.451 | |
| | | | | | 81 22.237 | |
| | 1600 | | | 3.9 | 45 53.05 | Tape 2835 |
| | | | | | 81 20.86 | |
| | | | | | | |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST Hutchinson

| LINE START/END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | | | | | | |
| | 1615 | 890812 | | 4.1 | 45 52.656 | |
| | | | | | 81 19.48 | |
| | 16:30 | | | | 45 52.23 | Tape 3185 - change |
| | | | | | 81 18.08 | on the hour. |
| | | | | | | |
| | 16:30:54 | | | | | Tape on - 0000 |
| | | | | | | |
| | 1645 | | | 5.0 | 45 51.862 | |
| | | | | | 81 16.63 | |
| | | | | | | |
| | | | | | | |
| | 1655 | | | | | USGS satellite off |
| | | | | | | Plug in GSC antennas |
| | | | | | | - fine - gets lock |
| | | | | | | |
| | 1700 | | | 4.4 | 45 51.44 | |
| | | | | | 81 15.18 | |
| | | | | | | |
| | 1715 | | | | 45 51.03 | |
| | | | | | 81 13.69 | |
| | | | | | | |
| | 1730 | | | | 45 50.58 | EOL A |
| | | | | | 81 12.09 | |
| | | | | | | Tape ?? |
| | | | | | | |
| | | | | | | GSC satellite still |
| | | | | | | tracking as though |
| | | | | | | locked. |
| | | | | | | |
| | 1745 | | | | | all gear aboard |
| | | | | | | Headed for the |
| | | | | | | barn |

SHIP/CRUISE NO./LEG NE '89-1

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 0950 | 890813 | | | | Depart Killarney dock |
| | 10:30 | | | | | Slow to deploy Echo sounder, Gun |
| | 10:42 | | | | | Clock locked - GSC antenna |
| | 10:43 | | | | | Turning to come on site - start gun |
| | | | | | | Gun firing 1:16 sec 1:46 sec. |
| | 10:48:46 | | LINE 3 | | | 1ST SHOT SOL |
| | 10:56 | | | | | Echo sounder on auto 30s mark |
| | | | | | | Gun firing 2850 psi 44 msec delay OK ~~19.5~~ |
| | | | | | GUN - ANTENNA = ~~[illegible]~~ m | GUN - STERN ~~[illegible]~~ m 19.5 |
| | 1104 | | | OK | ~~14.7~~ 19.7 m | Satellite still locked on |
| | 11:10:30 | | | | | change delay 43 msec |
| | 11:10:50 | | | | | c/ delay 42 msec |
| | 11:11:20 | | | | | back to 44 |
| | 11:12 | | | | | Kayakers abeam |
| | 11:18:46 | | | | | abeam site 3-2 |
| | 11:26:46 | | | | | LOSE SATELLITE |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 11:28:42 | | | | | clock back - NOT getting msec |
| | 11:30 | | | | | start circle |
| | 11:42 | | | | | Turn back to get on line - clock back synched |
| | 1150 | | | | | BACK ON LINE Beautiful calm day Very light breeze starting. c/ delay from 43 to 44 |
| | | | | | 11:47:46 TO 11:53:16 = OVERLAPPING SHOTS | |
| | 12:00 | | | | | All looks well |
| | 12:02:40 | | | | | c/ delay 45 msec |
| | 12:27 | | | | | Gun firing 2100 psi |
| | 12:30 | | | | | Rock visible on bottom Shoaling to the north some boulder debris on surface |
| | 12:36:20 | | | | | Boulder debris on rocks |
| | 12:37:46 | | | | | last shot - clock down |
| | 12:41:16 | | | | | clock on - still not good time |

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CHIEF SCIENTIST Hutchinson

| LINE START/END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 890813 | 12:41:16 | | | | Start turn |
| | | 12:41:50 | | | | on line |
| | | | | | | still no nav |
| | | | | | LINE 4 | |
| | | 12:43:46 | | | | Nav back on |
| | | | | | | |
| | | 12:53:16 | | | | last point out |
| | | | | | | |
| | | 12:55:16 | | | | point out back on |
| | | | | | | Gun firing looks |
| | | | | | | fine 45 msec delay |
| | | | | | | 2100 psi |
| | | | | | | |
| | | 13:05:29 | | | | START TURN |
| | | | | | | GUN OFF FOR TURN |
| | | | | | | |
| | | 13:07:00 | | | | All systems back |
| | | 13:07:21 | FIRST SHOT | | | on |
| | | | GOING SOUTH | | | |
| | | | REPEAT LINE 4 | | | |
| | | 13:25 – | | | | all systems good. |
| | | | | | | |
| | | 13:41:20 | | | END LINE 4 | START TURN |
| | | | | | | |
| | | 13:42:16 | | | REPEAT LINE 3 | ON LINE |
| | | | | | | |
| | | 13:47:30 | | | | END REPEAT SHOTS |
| | | | | | | all gear off |
| | | | | | | |
| | | 15:15 | | | | Depart site, all mini |
| | | | | | | rangers aboard |
| | | | | | | |
| | | 16:20 | | | | At dock, Killarney |

SHIP/CRUISE NO./LEG NE-89-01

CHIEF SCIENTIST HUTCHINSON

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 10:50 | 890814 | | | | Depart dock for Mill Lake GPS calibration Raining, calm |
| | 12:15 | | | | | Enter Mill Lake |
| | 12:45 | | | | | Tie up to site 1-5 for GPS measurement |
| | 1430 | | | | | END GPS measurement (Tripod directly above plaster of seismometers) |
| | 16:25 | | | | | BACK AT KILLARNEY DOCK |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| EDT | 0845 | 890815 | | | | Depart Killarney Dock for Beaverstone Bay |
| | 1045 | | | | | in Beaverstone Bay |
| | 11:00 | | | | | Standing by |
| | 12:00 | | | | | Gun in water + firing |
| | 12:04:56 | | | | | FIRST SHOT LINE 5 (WEST) |
| | 12:05 | | | | miniranger net. code 1 → e → (638, -785) code 2 → 5-2 → (758, 0) code 3 → g → (294, 788) | Gun Pressure way down Gun firing 1900 psi delay = 44 msec |
| | 12:14 | | | | | Pressure down to 13:00 |
| | 12:16:56 | | | | Gun - antenna 15.2 m (10.0m - Gun to stern) | LAST SHOT TURN |
| | 12:12:56 | | | | | Start gun |
| | 12:50:26 | | | | code 1: 5-4: (1665, 107) code 2: d : (1323, 334) code 3: 5-5: (2431, 285) code 4: b : (2152, 466) | FIRST SHOT LINE 5 EAST |
| | 12:54:56 | | | | | GUN LEAKING |
| | 12:55:30 | | | | | Sealed |
| | | | | | | Wind ~15-18 kts SW overcast, |
| | 13:00:26 | | | | | misfire |

SHIP/CRUISE NO./LEG NE 89 - 1

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 13:04:56 | 890815 | | | | misfire |
| | 13:05:26 | | | | | misfire |
| | | | | | | |
| | 13:10:26 | | | | | LAST SHOT LINE 5 |
| | | | ONE CHAMBER DOWN | | | |
| | | | GUN OUT | | | |
| | | | | | | |
| | 1413: | | | | | solenoid rebuilt back in water. |
| | | | | | | |
| | | | | | | delay = 56 msec. |
| | | | | | | |
| | 14:22:28 | | | | | Prepare to turn onto line |
| | 14:23:52 | | | | | on line |
| | | | | | | Gun not tuned - bubble showing |
| | | | | | | Gun delay adj 61 msec |
| | 14:28:47 | misfire - gun leaking. | | | | |
| | 14:32 | back to normal delay (44 msec) | | | | |
| | 14:32:47 - misfire | | | | | |
| | 14:34:30 | | END | SHOOTING | - GUN | PROBS = NOT GOOD |
| | | | | | | |
| | 15:20 | | | | | Head home with sites 5-4 and 5-5 lunch boxes aboard Necho Clearing, wind down |

SHIP/CRUISE NO./LEG NE 89 1

CHIEF SCIENTIST Hutchinson

| LINE START/END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| EDT | 0920 | 890816 | | JD 228 | | Depart Killarney Dock |
| | 1115 | | | | | INTO BEAVERSTONE BAY |
| | 1130 | | | | | Deploy gun at north end for tests |
| | 1145 | | | | | start firing - test shots for gun performance. |
| | 1203 | | | | | finish turn near square rock - head north up channel |
| | 12:20 | | | | | Pull in gun to change rings |
| | 13:40 | | | | | Gun back in water |
| | 14:22:34 | | | | | SOL #6 |
| | | | | | | Gundelay 57 ± 3 msec |
| | 14:26:30 | | Gun resynched to shoot even minutes | | | |
| | 14:30:45 - | | clean | stn J | | NOT using stn H. |
| | 14:32 - | | | | | switch to code 3 (J) code 4 (a) |
| | | | | GUN - STERN = 10.3 m | | for navig ation |
| | | | | | | Gun firing 2000 psi No misfires. |
| | | | | GUN-ANTENNA | 15.5m | |

SHIP/CRUISE NO./LEG NE-89-1

CHIEF SCIENTIST Hutchinson

| LINE START/END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | | 890816 | | | | Clear, ≈ 15 kts |
| | | | | | | wind SSW |
| | | | | | | Neecho hard to steer |
| | | | | | | going so slow |
| | 14:41:00 | | | | | last good shot while |
| | | | | | | Barry programs in |
| | | | | | | navigation |
| | 14:42:00 | | | | | K, P, a, b |
| | | | | | | not set up |
| | 14:43 | | | | | abeam site 6-2 |
| | 14:48 | | | | | STN P IN |
| | | | | | | solutions look good |
| | | | | | | now. |
| | | | | | | GUN DELAY ~57 msec |
| | 15:00 | | | | | ~~STN [illegible]~~ |
| | | | | | | ~~[illegible]~~ |
| | 15:02 | | | | | Stn T off |
| | 15:09:30 | | | | | STOP SHOOTING TO GO |
| | | | | | | AROUND ROCKS |
| | | | | | | reposition minirangers |

SHIP/CRUISE NO./LEG NE 89 1

CHIEF SCIENTIST Hutchinson

| LINE START/END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | | | | | | |
| | 15:55:30 | | | | | Nav set up and working — start circle to come on line |
| | 16:00:30 | | | | | SOL SOUTH OF DOCK PILE |
| | | | | | | GUN DELAY 55 |
| | 16:06 | | | | | Gun delay 56 GUN TO STERN 10.2 m FIRING 2000 psi |
| | 16:28:30 | | | | | LAST SHOT |
| | 16:45 | | | | | Prepare for gun hydrophone recording — |
| | 16:50 | | | | | Not working on PRS |
| | 17:00:30 | | Gun delay = 60 | | | tape on |
| | 17:01:30 | | Teledyne hydrophone | | | |
| | 17:02:00 | | delay = 60 | | | |
| | :03:00 | | | | | |
| | 17:03:30 | | Generator only → 0021 | | | |
| | 04:00 | | | 11 | | |
| | :30 | | G+I | | | 50 |

SHIP/CRUISE NO./LEG NE 89 1

CHIEF SCIENTIST Hutchinson

| LINE START / END | TIME | YYMMDD | CRS/HDG | SPD | NAVIGATION | SEISMIC SYSTEM |
|---|---|---|---|---|---|---|
| | 17:05 | 30 | Injector only | | Tape count | 91 |
| | 06:00 | | | " | | 95 |
| | :30 | | | | Stop, tape to tune gun | |
| | 07:30 | | | | tuned 50 | |
| | | | tuned | | | 103 |
| | 08:00 | | — 118/119 tape head 50 | | | |
| | 8:30 | | — delay 52 | | | |
| | 09:00 | | | | | |
| | 09:30 | | delay 54 | | 157 tape head | |
| | 10:00 | | 56 | | 169 | |
| | :30 | | 58 | | 184 | |
| | 11:00 | | 60 | | 198 (a bit before) | |
| | :30 | | 62 | | 209 | |
| | 12:00 | | 64 | | TUNED | |
| | :30 | | 65 | | 234 - slightly out | |
| | 13:00 | | 64 | | TUNED ~249 | |
| | :30 | | 68 | | ~~249~~ 260 | |
| | 14:00 | | 72 | | 274 | |
| | :30 | | 76 | | | (hit reset) |
| | 15:00 | | 80 | | | |
| | :30 | | 70 | | 310 | |
| | 16:00 | | 60 | | 323 | |
| | :30 | | 64 | | 335 | |
| | 17:00 | | 90 | | 345 | |
| | :30 | | 85 | | 359 | |
| | 18:00 | | 64 | | 369 | |
| | | | | | FINISH | |

Onto Teledyne hydrophone: 1m above gun

1520: haul in gun - load for the barge

1745 drive Killarney dock & unload everything