

EWOOD-01

CANTERBURY BASIN, HIGH-RESOLUTION MCS.  
LYTTELTON - LYTTELTON, 9-29 JANUARY 2000

## PARTICIPANTS:

	WATCH
Craig Fults, UTIG	
Jamie Austin, UTIG	12 - 4
Steffen Saustrop, UTIG	Midnight - noon
Jim Dolan, UTIG	Noon - midnight
Grog Browne, IGNS, NZ	4 - 8
Donna Cathra, UTIG	8 - 12
Hongbo Lu, UTIG	12 - 4
Bob Burger, UTIG	4 - 8
Susan Herr, no affiliation (Jamie's sister)	8 - 12

2253 Z J.D. 8 (11.53 AM, 9 JANUARY, LOCAL)

Departed dock, Lyttelton  
 En route to streamer deployment, seaward  
 of seaward (SE) end of (dip) profile 2.  
 Estimated distance 85 nmi.

2340 Z Austin/Lyon watch. Cleared Lyttelton harbor.  
 Moving toward deployment point, speed 11.4 kts  
 Sunny, wind ~020°, 5-10 kts.

(J.D. 9) 10 January

0048 Z The bridge informs us that ETA at the  
 deployment point will be 0600 Z.

0220 Z Fire and boat drill.

0243 Z " " " " concluded.

0250 Z Burger on watch. En route to

J.D.  
09

EW 00-01  
CANTERBURY BASIN

002

Streamer deployment point, Speed 11.0 Kts, Cloudy,  
Wind ~133°, 3-5 Kts

~~0515Z~~ ~0515Z → Lost Trimble Nav. Source for ~5 min

0605Z Greg Browne leaves for Fortail to assist  
in deployment. Ship slows to ~3 Kts  
to prepare for deployment

0606Z Tail Float in water, begin streamer  
deployment  
Weather Partly Cloudy, Wind ~169°, ~10 Kts

0620Z Begin checks on birds

0644Z Lost Trimble Nav. Source

~0650Z Regained Trimble Nav. Source

651Z Herr / Cathro on watch.

CONTINUING TO DEPLOY STREAMER

0702Z TRUE WIND DIR - 149°

WIND SPEED 11.9 KNOTS

STREAMER DEPLOYMENT SEEMS TO BE PROCEEDING  
WELL. A FINE CLEAR EVENING. DOLPHIN ARE  
ALL AROUND THE BOAT.

0805Z TRUE WIND DIR 170°  
WIND SPEED 7.1.

- CABLE ALMOST DEPLOYED, TROUBLE FROM BIRD #11.

> 1 SPECIES OF DOLPHIN AROUND SHIP.

BIRD#1 PERMANENTLY SET TO 2.5M.

SEAS CALM. TEMP 13.6°C.

0820Z USING 1x50M ISOLATION CABLE

0846Z INITIAL/TOWLEADER 24 M FROM ROLLER. COMING  
UP TO SPEED TO SEE HOW CABLE TOWS.

J.D

# EW 00-01 / CANTERBURY BASIN

003

0900Z STILL MAKING FINAL ADJUSTMENTS TO STREAMER  
0908Z BRIDGE HAS JUST BEEN ASKED TO BRING SPEED UP  
TO 4.8 KNOTS.

0934Z THE GUNNERS HAVE BEGUN - THE STREAMER IS  
FULLY DEPLOYED AND OKAY. WIND SPEED - 8.5  
WIND DIR: 216°

LENGTH OF LEADER IS 25 METERS MEASURED  
FROM THE STERN

1028Z SOME TROUBLE WITH THE STARBOARD GUN  
(INJECTOR NOT WORKING).

1039Z BOTH GUNS TURNED OFF TO SORT OUT PROBLEMS.  
GENTLE ROLLING SWELLS ROCK THE SCIENCE LAB.

1050Z AUSTIN/LU ON WATCH. STILL WORKING  
ON GUNS. WILL UPDATE AS INFORMATION COMES  
IN. WINDS ~ 215°; SPEED ~ 10 KTS.

STREAMER TOWING BETWEEN 2 AND 3  
METERS TEN BIRDS REPORTING (ELEVEN IN THE  
WATER — INBOARD BIRD, #11, FIXED AT 25M.

1110Z CALL FROM THE BRIDGE. SPEED THROUGH  
THE WATER 4.7 KTS. GROUND SPEED ONLY 4.1 KTS.  
WILL INCREASE SPEED TO 5 KTS THROUGH THE  
WATER TO INCREASE GROUND SPEED. STILL WORKING  
ON THE STARBOARD GUN — PROBABLY A SOLENOID  
PROBLEM. PORT GUN APPARENTLY OK. SOUTH OF  
THE LEAD-IN TO LINE 2.

1207Z STARBOARD GUN GOING IN THE WATER WITH  
SWAPPED SOLENOID.

1213Z STARBOARD GUN BACK IN THE WATER  
TURNING TO PORT (7.5°/MINUTE). HEADING TO  
START OF LINE 2.

1248Z C/C COMPLETE. HEADING ~ N TO INTERSEC  
LEAD-IN TO LINE 2. SPEED ~ 4.2 KTS. RECORDING A  
TAPE FOR STEFFEN/JIM TO WORK ON.

JD.9

EWING 00-01

CANTERBURY BASIN

1303Z CENTER BEAM DATA NOT BEING RECEIVED.  
FORUNO COURSE\* AND HEADING CORRECTED, \* TO STARBOARD.

1325Z TEST TAPE COMPLETE.

1353Z SHUTTING DOWN THE BIRDS, TO RE-ORDER THEM.

1408Z STARTING A TURN TO PORT, TO LINE UP ON THE LEAD-IN TO LINE 2.

1420Z END RECONFIGURE BIRDS.

1428Z BEGIN LINE 2. ETA AT THE END OF THE LINE IS 1813Z.

1438Z SHIP IS AT THE END OF THE LEAD-IN TO LINE 2.

1450Z Burger/Browne on Watch. Speed 4.6 Kts, wind ~ 193°, 17.1 Kts

1509 2 Channels 19 and 2 appear noisy

1518Z EOT 001. Shot 610, File 606 SOT 002. Shot 611, File 607

1609Z EOT 002. Shot 1215, File 1214. SOT 003. Shot 1216, File 1215

1651Z Gunner informs us that Gun #1 is not firing consistently

~1700Z Gun 1 checked, seems OK

17:00Z EOT 003 Shot 1823 File 1822  
SOT 004 Shot 1824 File 1823

1750 EOT 004 Shot 2420 File 2420  
SOT 005 Shot 2421 File 2421



15.042 : end of survey point (from bridge)

1817 Z Budge informs ch. p. has started Yuen to part. stopped recording line 2.

1818Z : EOT 005.  
Shot # 2755. File # 2755.

18422 : I heard gunners tell them to stop firing on the turn

18492 : Bridge phased. Approx. 13 minutes to start of line.

18582. Bridge phoned - start record in ~ 30 seconds.

18592 : start of recording, line 4

19002 Burger / Browne off watch  
Cathro / HEPB ON WATCH

CMG 138.3° SMO 48  
Watertemp. 13.6

Cable near surface due to rougher weather according to birds 5 → 1. Science officer notified.

0 m. — x x x x x x x  
- position of birds changing with swell.  
3m. — x x x x x x x  
x ← BIRDS.

Cable probably too shallow for weather

9-1-00

-1-00  
1930 Z WIND DIR. 194° <sup>WIND</sup> SPD-17 KNOTS 4-6 FT SWELLS  
RECORDING LINE 4, TAPE #6. CMG - 137.9  
SPEED M. GOOD - 4.8 KNOTS.

AIR TEMP THIS AM - 12.2 C

9-1-00

19.49Z EOT 6  
~~SHOT #385~~ FILE # 607  
 SHOT # 3853

20.00Z WD 119M LAT 44° 30.530  
 CMG 143.7 LONG 172° 29.809  
 SMG 5.4 SWT 12.8°C

TRUE WIND SPEED 15.3  
 TRUE WIND DIR° 178°

CABLE SETTLED DOWN

2009Z Bridge notified lab that speeds given by GPS are accurate (some doubts had been expressed previously)

20.30Z CMG 138.8 } 5 min WD 130.5m  
 SMG 4.9 } Average. SWT 13°C  
 LAT 44 32.330  
 LONG 172 32.110

20.40Z EOT 7  
 SHOT # 4460. LAT 44 32.857  
 FILE # 1214 LONG 172 32.794

2100Z WIND DIR. 173° SPD - 14.7 KNOTS  
 CMG - 138° SMG 4.9 KNOTS - CONTINUING LINE 4  
 SEA WATER TEMP. 12.1°C

2130Z WIND DIR 191°, SPEED 13.2 KNOTS SHIPS CMG 138.8  
 SMG 4.9 KNOTS

JUST STARTED TAPE 9, LINE 4  
 JAMIE & CRAIG ARE CONSIDERING A RESHOOT OF  
 LINE 2 NEXT WITH A GUN RECONFIGURATION

9-01-00

001

2152 Z DONNA PHONED THE BRIDGE - REQUESTED AN ASSESSMENT COMMUNICATION ABOUT SEA STATE ONCE AN HOUR - WILL START AT 2200 Z BY PHONE FROM BRIDGE.

CRAIG WANTS US TO ADD  
ADD RELATIVE WIND SPEED ~~2~~ TO THIS LOG PLUS  
SMG, CMG AT THE 15 MIN. ADJ. AVG. (THAT'S FAR  
IT'S BEEN THE 5 MIN. AVG.)

2158 Z Have noted that stacked version of line 2 is much noisier than that of line 4. We suspect that this is due to sea state <sup>relative to ship motion</sup>. Seas were coming from astern during shooting of line 2, but are on the bow for line 4.

2200 Z SEA STATE - 4-5 FEET, FROM SOUTH  
WIND DIR -  $180^{\circ}$  WIND SPEED 15.6 KNOTS  
REL. WIND DIR.  $32^{\circ}$  RELATIVE SPEED 18.5  
CMG - 136.9 SMG 4.7 KNOTS -

2217 Z HERR NOTED TO FULTHORPE THAT SPEED SEEMS TO HAVE SLOWED CONSIDERABLY, WATCHING FOR A CORRECTION (SMG SHOULD AVG. 4.9 KNOTS - IT'S BEEN 4.3 FOR AT LEAST 2-3 MINUTES) TAPE #9

THE LABEL MACHINE SEEMS TO HAVE BOTH PROGRAM + PRINTER PROBLEMS. THERE IS A 2-3 COUNT DISCREPANCY BETW. FILE # SHOT #S FROM THE DIFFERENT COMPUTERS. WE ARE NOW LABELING (BY HAND) TAPES USING SHOT #S FROM THE SEISMIC CONTROLLER.

2230 Z WIND DIR -  $170^{\circ}$  RELATIVE WIND DIR.  $30^{\circ}$   
WIND SPEED 20.4 KN. RELATIVE WIND SP. 24 KN.  
CMG 139.10 SMG 4.7 KNOTS

2242 Z ENDED LINE 4  
DONNA'S WORKING ON THE LABEL PROGRAM.

J.D.9

2250Z Austin / Lu on watch. Turning from line 4 to line 6.

2300Z { Still turning. Sea state 1-2m.  
Winds { True direction: 147° True Speed: ~15 kts.  
Relative direction: 299° H<sub>2</sub>O Temp: 12.1°C

2311Z Have ended the turn. Lining up to begin line 6.

2319Z S.O.L. 6.

2330Z ON LINE 6. CMG(5 MIN.): 318°, 4.9 kts.  
WINDS: RELATIVE: 227°  
TRUE: 176°  
TRUE SPEED: 19 kts.

JD 0000Z  
10 WINDS: RELATIVE: 210° CMG: UNAVAILABLE  
TRUE: 166° SEAS: 3-5' (from the  
TRUE SPEED: 21 kts. bridge)

0029Z BRIDGE INFORMS THAT LINE 6 WILL BE COMPLETED AT 1700L / 0414Z.

0030Z WINDS: RELATIVE: 218° CMG(15 MIN) 318.6°  
TRUE: 168° 4.7 kts.  
TRUE SPEED: 12 kts. TEMP, H<sub>2</sub>O = 12.1°C

0100Z STILL ON LINE 6.  
WINDS: RELATIVE: 231° CMG: UNAVAILABLE  
TRUE: 187°  
T. SPEED: 13 TEMP, H<sub>2</sub>O = 12.1°C

0130Z STILL LINE 6. CMG(15 MIN.): 317.6°  
WINDS: RELATIVE: 212° 4.6 kts.  
TRUE: 147° T SPEED: 12.8 kts. TEMP, H<sub>2</sub>O: 12.2°C

EW 00-01  
CANTERBURY BASIN

009

JD 10

0200Z WINDS: REL - 223° TEMP, °C = 13.7°  
STILL TRUE - 160° WAVES: 1-2 m, w  
LINE 6 T. SPEED - 11 kts. DIMINISHING SWELL  
SMG/CMG (15 MIN): 316.8°, 4.8 kts.

0230Z STILL LINE 6.

WINDS: REL - 2520 TEMP, °C - 13.6°C  
TRUE - 1810 WAVES - 1 m,  
T. SPD. 8.9 kts. diminishing

0247Z Austria / Lu OFF.  
Burger/Brown ON

0300Z WINDS: REL - 260° Air Temp, °C - 11.9°C  
TRUE - 158° Waves - ~1 m  
T. Speed - 9.3 kts.

0330Z WINDS: REL - 249° H2O Temp, °C = 13.9°C  
TRUE - 166° Waves: ~1 m swell  
T. Speed - 9.2 kts.  
SMG/CMG (15 min): 317.4, 5.0

0400Z WINDS: REL - 256° H2O Temp, °C - 13.9°C  
TRUE - 171° Waves: ~1 m swell }  
T. Speed - 6.9 kts. ~1 ft waves }  
SMG/CMG (15 min): 318.2, 4.9 }  
Still Line 6 From Bridge

0404Z Bridge informs us that turn is approaching  
in next ~5 min or so.

0408Z Bridge informs that way point has been  
Passed will continue 1 nautical mile  
then begin turn

0422Z Turn has begun, end Line 6

turn wind speed 5.9 kts rel. direction 318°

0431Z Rel wind speed 8.8 kts, true direction 162°. H<sub>2</sub>O temp 14.0°C  
Waves 1 m swell; 0.3 m wind waves

0454Z Bridge informs us that turn completed,  
0.8 mile to start point

0501Z Winds Rel: 355°

H<sub>2</sub>O Temp. 14.1°C

True: 128.0°

Waves: ~ 5' swell } from  
~ 1' ft waves } Bridge

T-Speed: 6.1 kts

$$SNG/CMG (15 min) = 5.0 / 138.3$$

0505Z Bridge informs that we have passed  
Way point; begin recording line 8

0530Z Winds Rel 2.0°

H<sub>2</sub>O Temp 14.0°C

True: 151.0°

Waves: ~ 5' swells

T-Speed: 6.8 kts

~ 1' waves

$$SNG/CMG (15 min) = 4.9, 138.6$$

0600Z Winds Rel 1.0°

H<sub>2</sub>O Temp 14.0°C

True 145.0°

Waves: ~ 2' swells

T-Speed 8.2 kts

~ 2' waves

$$SNG/CMG (15 min) = 5.0, 138.9$$

~ 0617Z Time break in error, Ops. TIME  
ON TIME-BREAK, TIME WAS 10 MIN SEC LATE  
CORRECTED ABOUT SNAPSHOT #, 435

0630Z Winds Rel: 0.0°

H<sub>2</sub>O Temp. 13.8

True: 127.0°

Waves: ~ 5' swells } from

T-Speed 8.2 kts

~ 1' waves } Bridge

$$SNG/CMG (15 min) = 5.1, 135.5$$

10-1-00

0650 Z Burger/Browne OFF

0653 Z CATHRO/HERR ON WATCH WIND SPEED 5.0  
 REL WIND SPEED 10.3  
 SEAWATER TEMP 13.9C  
 WIND DIR -103°  
 REL WIND DIR 346°  
 SEAS FROM THE SOUTH 4 FT

0700 Z WIND SPEED 6.1 REL WIND SPEED 10.0  
 WIND DIR. 118° REL WIND DIR 346°  
 CMG -137° SMG 4.9

0739 Z PLEASE NOTE AGAIN, AND THIS WAS JUST BROUGHT TO THE CHIEF SCIENTIST'S ATTENTION, THAT THE ANNOYANCE & UNRELIABILITY OF THE TAPE LABELING MACHINE JUST DOESN'T GO AWAY. THE SHOT #S AND FILE #S FREQUENTLY SHOW A SMALL DISCREPANCY WHEN COMPARED TO THE SEISMIC WINDOW, AND THE TIME Z IS 13 1/2 MINUTES SLOWER THAN THE MAIN LAB CLOCK. SOME TAPE LABELS HAVE PRINTED WELL, SOME HAVEN'T - SO THAT SOME TAPE LABELS HAVE BEEN HANDWRITTEN WITH #S TAKEN OFF THE SEISMIC WINDOW. JOE HAS BEEN BUGGED ABOUT THIS, AND HAS AT LEAST RESOLVED TO RESET THE CLOCK AFTER THE END OF THIS LINE (#8). CATHRO IS GOING THRU RECORDED TAPES NOW, AND DOING TIME CORRECTION ON THE ONES WITH PRINTED LABELS. I NOTE THIS - IN CASE LATER SMALL DISCREPANCIES ARE OBSERVED IN THESE #S. I'M REALLY HopING NO ONE EVER HAS TO READ THIS AT ALL BECAUSE HOPEFULLY IT WON'T BE IMPORTANT. (JUST DOING MY JOB.

0810 Z WIND SPD 7.2 REL WIND SPD 10.3  
 WIND DIR -108° REL WIND DIR 344°  
 CMG 137.8° SMG 4.9

10 JAN 2000

EW 91-01

CANTERBURY BASIN

012

0830 Z WIND DIR 107° REL WIND DIR. 344°  
WIND SPD. 8.0 REL WIND SPEED 13.1  
CMG 137° SMG 4.7  
SEAS 3-4 FT FROM THE SSE  
CONTINUING LINE # 8

0839 Z STEPPED OUT ON THE FANTAIL AND NOTICED  
A (SHIP) PASSING BY OFF THE PORT STERN WITHIN  
1/3 MILE (WELL CK - A FISHING BOAT)

0900 Z WIND DIR 113° REL WIND DIR 344°  
WIND SPD. 8.0 REL WIND SPD 11.8  
CMG 137° SMG 4.9

SEAS 3-4 FT FROM SSE

0908 Z NOTED BY WATCHSTANDER HERR THAT MULTISCAN  
HAS FROZEN SCREEN - WHY IS UNCLEAR. TIM  
HAS GONE TO FIND JOE. JOHN DIEBOLD

0913 Z JOE HAS BEEN CONTACTED AND HAS ARRIVED  
AT THE SCIENCE LAB TO INVESTIGATE. NOTHING WRONG  
CURSOR IN FIELD ON RIGHT SCREEN FREEZES THE FRAME.  
FALSE ALARM.

1000 Z END OF LINE 8.

WIND SPD 6.2 WIND DIR. ~~107~~ 89°  
REL WIND SPD 10.9 REL WIND DIR. 341  
CMG 135 SMG 4.9

1023 Z BRIDGE HAS NOTIFIED US THE ETA ON START OF LINE  
#23 IS 0107Z.

1154Z AUSTIN/LU ON WATCH. STILL IN TRANSIT TO  
THE NE END OF LINE 23.

1200Z: WINDS — REL. 92°  
TRUE. 82°  
T SPD: 8-9 KTS.

TEMP °C = 12.2°C  
CMG (5 MIN): 10.8, 4.9 KTS  
2-3' / ~ 1 m swells.



# EW 00-01

## CANTERBURY BASIN

J.D. 10

1130Z WINDS: REL — 42°  
 STILL TRANSITING TRUE — 99°  
 TO LINE 23 T SPD. — 9 Kts.  
 TEMP, H<sub>2</sub>O — 12.4°C  
 CMG/SMG (15 MIN) — 15.9°  
 5.1 Kts.

1141Z STARTED TURN TO LINE 23.

1200Z ALMOST ON LINE, 23.

WINDS: 2540, REL.  
 92°, TRUE  
 7 Kts, T SPD.  
 12.5°C, TEMP, H<sub>2</sub>O  
 CMG/SMG — TURNING

1203Z STARTING LINE 23.

1230Z WINDS: REL — 340°  
 T SPD. — 7 Kts.  
 TRUE — 108°  
 12.4°C, H<sub>2</sub>O temp.  
 CMG/SMG: 223° 4.6 Kts.  
 (15 MIN)

1300Z LINE 23.

REL — 341°  
 T SPD. — 3 Kts  
 TRUE — 97°  
 12.4°C, H<sub>2</sub>O temp.  
 CMG/SMG: 227° 4.9 Kts.  
 (15 MIN)

1330Z REL — 324°  
 TRUE — 65°  
 T SPD — 4 Kts.  
 12.4°C, H<sub>2</sub>O temp.  
 CMG/SMG: 224.8°, 4.6 Kts.  
 (15 MIN)  
 SEAS ~ 1 M.

STILL LINE 23.

1340Z PORT SIDE GUN OCCASIONALLY MISFIRING, ON  
 THE SCREEN. \* COULD BE BLAST PHONE  
 GUN APPEARS TO BE FIRING — FROM THE  
 DECK. \* SIGNATURE INTERMITTENT

1400Z PORT GUN SIGNATURE INTERMITTENT. CARLOS  
 NOTIFIED.

WINDS REL — 269° TRUE — 53° T SPD. — 4.7 Kts.

# EW00-01 CANTERBURY BASIN

JD 10

1400Z H<sub>2</sub>O Temp - 12.6°C  
CMG/SMG - 224.6°, 4.5 kts.

1420Z CARLOS/JOE IN THE LAB. GOING TO  
PULL THE PORT SIDE GUN.

1422Z PORT SIDE GUN OFF-LINE. SPARE GUN  
NOT READY TO GO IN THE WATER. CONTINUING  
PROFILE 23 WITH ONE GUN. GUNNERS WORKING ON DECK.

1430Z PROFILE 23, STRD GUN OPERATIONAL.

WINDS —	REL — 265°	TEMP °C — 12.5°C
	TRUE — 75°	CMG/SMG — 226°, 4.1 kts.
	T. SPD — 7 kts	(15 MIN)

1450Z Burger/Browne on Austin/LC OFF

1500Z	WINDS —	REL: 263.0°	H <sub>2</sub> O Temp — 12.41°C
		True: 98.0°	CMG/SMG — 225.8/4.0
		T. Speed: 6.8 kts	(15 MIN)

Port Gun Still OFF-Line

1510Z Bridge called. Wave height 3-4 ft. Tension is over 1000, and as a consequence, speed has been reduced to 4.5 kts.

1516Z PORT SIDE GUN BACK IN WATER. PREPARING TO FIRE.  
PORT SIDE GUN OPERATIONAL

1517Z SPOKE TO JOE ABOUT SPEED. SEEMS OK.

1525Z EOT 26. SOT 27. LAT 44° 45.402' LONG 172° 26.572'

# EW 00-01 CANTERBURY BASIN

1530 Z : JOE CALLED BRIDGE. SPEED INCREASED BY 3 RPM.

1537 Z : JOE INFORMS BRIDGE TO UP THE TENSION LIMIT TO 1200.

1600 Z      Winds - Rel: 245.0°      H<sub>2</sub>O Temp - 12.1°  
    True: 82.0°      CMG/SMG (15min) - 224.7/4.5  
    T Speed: 7.8°  
    Still Line 23

1630 Z      Winds      Rel: 224.0°      H<sub>2</sub>O Temp - 12.1°C  
    True: 79.0°      CMG/SMG (15min): 226.0/4.4  
    T Speed: 8.5 Kts

1700 Z      Winds.      Rel: 215°      H<sub>2</sub>O Temp - 12.1  
    True: 63.0°      CMG/SMG - 225.0/4.3  
    T Speed: 8.8 Kts      Waves - 3-4 ft (From bridge)

1730 Z      Winds      Rel: 210°      H<sub>2</sub>O Temp - 12.1°C  
    True: 58°      CMG/SMG - 226.3/4.3  
    T Speed: 9.0 Kts      Waves - ~ 2m Swell

1731 Z      Noticed a couple of misses on starboard gun, but has since appeared to be OK - will keep close watch on it.

1740 Z      Noticed double peaks on port gun signature on couple of times

1753 Z      Chris informs gunners concerning occasional misses (starboard gun) and double peaks (port gun)

1800 Z      Winds: Rel: 223.0°      H<sub>2</sub>O Temp - 12.1°C  
    True 50.0°      CMG/SMG (15min) - 226.5/4.4  
    T Speed 9.2 Kts      Waves - ~ 3-4m swells

# EW00-01 CANTERBURY BASIN

1825Z Call from bridge, Current Sea state is 3-4' waves

1830Z Winds — Rel: 207.0° H<sub>2</sub>O TEMP - 12.1°C  
True: 54.0° CMG/SMG (15min) - 224.6/4.4  
T. Speed: 9.2kts

1852Z Burger/Browne OFF  
CATHRO/HEER ON  
STILL NOTICING MISFIRES BY STARBOARD GUN

1900Z WIND SPD - 10.3 WIND DIR - 52° SMG 4.5  
REL WIND SPD - 5.5 REL WIND DIR - 207° CMG 225°  
CONTINUING LINE 23

1918Z SEA WATER TEMP PROBE SUCCESSFULLY DEPLOYED  
WITH A READING DOWN TO 400 METERS

1930Z WINDS - SPD - 12.6 DIR - 58° CMG - 224°  
REL SPD - 7.8 REL DIR - 199° SMG 4.8  
SEA WATER TEMP - 11.9°

2000Z WINDS SPD - 11.6 DIR - 65° CMG - 224°  
REL SPD - 215° REL DIR - 218° SMG - 4.4

SEA STATE 3-4 FT SWELLS FROM SOUTH

2033Z WIND SPD 13.5 DIR 65° CMG 225.9°  
REL SPD 8.4 REL DIR 204° SMG 4.5

2040Z WE'RE TRYING TO KEEP A CLOSE EYE ON THE  
GUN MONITOR TO NOTE MISFIRE SHOT POINTS - THERE  
WILL BE A LIST ON THE LINE #23 LINE LOG  
PAPER (AND ON THE BACK).

2105Z WIND SPD - 11.8 DIR - 60° CMG - 224°  
REL SPD 6.9 REL DIR - 197 SMG - 4.4

2117Z SEA STATE 3-4 FT FROM SOUTH. A COMPLAINT  
HAS BEEN RELAYED TO THE BRIDGE ABOUT THESE DULL REPORTS

10 JAN 00

EW 00-01

CANTERBURY BASIN

10 2130Z WINDS SPD 12.9 DIR - 67° CMG 226.4  
REL SPD 7.8 REL DIR 207° SMG 4.2  
SEA WATER TEMP - 12.0°C

2200Z WIND SPD - 11.0 DIR - 65° CMG 225.9  
REL SPD - 7.0 REL DIR 221° SMG 4.6

2217Z - SEA STATE 3-4 FT FROM SSE.

2230Z WIND SPD - 11.9 DIR - 53° CMG - 226°  
REL SPD - 7.6 REL DIR 199° SMG 4.2

N/10 MINS TO END OF LINE 23 - THIS WATCH IS  
GETTING QUITE WEARY OF STARING THE GUN MONITOR -  
HOPE THEY CAN FIX THINGS BEFORE START OF NEXT LINE

2245Z - END OF LINE #23.

2250Z AUSTIN/LV ON WATCH. TURNING TO  
PROFILE 82. DID LINE IN AREA OF FULTHORPE'S  
PRIME INTEREST.

2300Z WINDS: REL - 310° TEMP °C - 12.0  
TRUE - 71° CMG/SMG -  
T. SPD - 12.2 KTS. TURNING TO  
PROFILE 82

2330Z STILL TURNING TO LINE 82.

WINDS: REL - 342° TEMP H<sub>2</sub>O - 12.1°C  
TRUE - 71° CMG/SMG -  
T. SPD - 12.5 KTS. TURNING TO PROFILE  
82.

2350Z S.O.L 82.

J.D. II

0000Z Crossing the official "start of (82)"  
Already recording.  
Temp, H<sub>2</sub>O - 12.1°C CMG/SMG (10 MIN): 309.6, 4.5K.  
Winds: Rel - 096° True - 64° T. Spd. - 14 Kts.

# EW 00-01 CANTERBURY BASIN

## J.D. 11

0030Z PROFILE 82. ALL OPS NORMAL.

WINDS: REL — 83°  
TRUE — 57°  
T SPD — 12 KTS.

TEMP H<sub>2</sub>O — 12.2°C  
CMG/SMG — 315°, 4.9 KTS.  
WAVES ~ 1M, STARBOARD.

0039Z JOE HAS THE MEMORY OSCILLOSCOPE UP, TO MONITOR GUN FIRE. SO FAR, APPARENT MISFIRES ON THE SYNTRON DISPLAY ARE NOT SHOWING AS MISFIRES ON THE SCOPE.

0048Z THE BRIDGE INFORMS THAT PROFILE 82 WILL BE COMPLETE AT 0510Z.

0100Z PROFILE 82. MONITORING STARBOARD GUN FIRE.

WINDS: REL — 77°  
TRUE — 51°  
T SPD — 14 KTS

TEMP H<sub>2</sub>O — 12.2°C  
CMG/SMG — 315.3, 4.8 KTS  
(15 MIN)

0116Z THE BRIDGE REPORTS THAT THE SWELL, COMING OVER THE STARBOARD QUARTER, IS INCREASING NOW 4-5!

0130Z U/W, PROFILE 82

WINDS: REL — 87°  
T SPD — 11 KTS.  
TRUE — 65°

TEMP H<sub>2</sub>O — 12.1°C  
CMG/SMG — 315.5°, 4.8 KTS  
(15 MIN)

0200Z U/W, PROFILE 82

WINDS: REL — 79°  
T SPD — 13 KTS  
TRUE — 53°

TEMP H<sub>2</sub>O — 12.4°C  
CMG/SMG — 315.5°, 4.9 KTS

FN 00-01

## CANTERBURY BASIN

0230Z V/W, PROFILE 82

WINDS: RELATIVE — 90°  
 TRUE — 60°  
 T. SPD. — 16 KTS.

TEMP, H<sub>2</sub>O — 12.6°C  
 CMG/SMG — 314.8°/5 KTS

0250Z Burger/Brown On

0300Z WINDS — Relative: 80.0° H<sub>2</sub>O Temp — 13.0°C  
 TRUE: 50.0° CMG/SMG — 314.9/4°  
 T speed: 15.2 KTS

0305Z Notification From bridge that Wave State is 24 FT.

0330Z WINDS: Relative — 82.0° H<sub>2</sub>O Temp — 13.5°C  
 TRUE — 65.0° CMG/SMG — 314.8/1°  
 T. Speed — 11.0 KTS

0400Z WINDS: Relative — 95.0° H<sub>2</sub>O Temp — 13.9°C  
 TRUE — 69.0° CMG/SMG — 314.0/4.9  
 T. Speed — 14.9 KTS

0430Z WINDS — Rel — 90° H<sub>2</sub>O Temp — 13.9°C  
 TRUE — 68° CMG/SMG — 315.2/5.1  
 T. Speed — 11.9 KTS

0500Z WINDS — Rel — 91.0° H<sub>2</sub>O Temp — 13.7°C  
 TRUE — 69.0° CMG/SMG — 315.0/4.9  
 T. speed — 13.8 KTS Wave State — 3-4' From Bridge

Bridge informs that Way point has been Passed, ~12 minutes to start of turn

0513Z EOL 82, START TURN, LAT 46° 49.233' LONG 171° 31.624' FILE 3266. SP 27298.

0535z Bridge informs us that they have completed turn, approx 9 min until passing the way point for the start of Line 80

0600Z    WindS -    Rel - 306.0°    H<sub>2</sub>O Temp - 14.4  
                          True - 59.0°    Cmg/Smg - 135.2/48  
                          T. Speed - 14.3 Kts    Waves ~ 3-5'

20615 Still notice occasional apparent missfires of Starboard gun. Missiles on Syntron display still not showing as missfires on oscilloscope.

0630Z WINDS Rel. 316° "20 TEMP 13.8  
TRK 65° "HG/SLAG 133.6/46



11 JANUARY, 2000

EW00-01  
CANTERBURY BASIN0650Z Burger / Browne OFF THE GOOD HANDWRITING ~~AS~~ BACK  
HERR - CATHRO0700 - WIND SPD 12.6 DIR - 50° CMG 136°  
REL SPD 16.2 REL DIR - 304° SMG 5.0  
SEA WATER TEMP 13.8°

BRIDGE CALLED TO NOTE ETA TO END OF LINE 80 - 1035Z

0728 BRIDGE CALLED TO NOTIFY LAB THAT A FISHING VESSEL  
IS APPROACHING, CURRENTLY 2 MILES OFF OUR  
PORT QUARTER, EXPECTED TO CROSS ASTERN  
WITHIN A MILE0733Z WIND SPD - 12.8 DIR 73° CMG 135.8°  
REL SPD 15.4 REL DIR 316° SMG 5.0  
SEA STATE 3-4 FT SEAS FROM SSE0754Z "CAPTAIN JAMIE" HAS ASCERTAINED AND  
REPORTED TO THE SCIENCE LAB THAT THE AFORE-  
MENTIONED FISHING VESSEL IS NO THREAT. WE  
STILL DON'T KNOW FOR SURE IF JAMIE IS NOW  
CONSIDERED A THREAT TO THE FISHING VESSEL.0800Z WIND SPD 11.1 DIR 57° CMG 134.3  
REL SPD 14.3 REL DIR 302° SMG 5.0DR. FULTHORPE HAS MENTIONED SOME CONCERN ABOUT  
FINISHING HIS PROPOSED LINES IN OUR ALLOTTED TIME -  
IN THE LAST 24 HRS IT'S BEEN NOTED THAT OUR  
AVERAGE SMG (OPTIMAL IS 4.89 KNOTS) HAS BEEN  
~~WAS~~ IN RANGE OF 4.4 - 4.6. THERE SEEMS TO BE AN  
EFFORT TO MAINTAIN A HIGHER SMG.0830Z WIND SPD - 12.7° DIR - 55° CMG 133.8°  
REL SPD ~~11.8°~~ REL DIR - 299° SMG 4.6  
11.8°

SEA STATE - 4-5 FT LONG ROLLING SWELLS FROM THE SSE

EW00-01 CANTERBURY BASIN 11 JANUARY, 2000

022

0859Z WIND SPD 11.1 DIR-53° CMG 133.6  
REL SPD 12.6 REL DIR-298° SMG 4.6

0924Z LONGASWELL ~ 4' from SE. - Report from Bridge.

0930Z REL WIND SPD 13.3 knots REL DIR. 297°  
TRUE WIND SPD 11.6 knots TRUE DIR 52°

CMG 134.6 SMG 5.1 (15 MIN AV.)

WATER TEMP 12.2°C

1000Z REL WIND SPD 14.1 knots  
REL WIND DIR 291.0°

TRUE WIND SPD 11.0 knots  
TRUE WIND DIR 48°

CMG 135.5 SMG 4.9 (15 MIN AV.)

WATER TEMP 12.1°C

1030Z REL WIND SPD 13.1 knots  
REL WIND DIR 291°

TRUE WIND SPD 12.0 knot  
TRUE WIND DIR 44°

CMG 134.6 SMG 4.8 knots (15 MIN AV.)

WATER TEMP 12.5°C

1035Z Bridge just advised 14 minutes until  
cross waypoint. Expect to start turn at  
midnight (local) / 1142Z

1059Z END OF LINE 80

FW00-01

## CANTERBURY BASIN

J.D. 11

1100Z AUSTIN / LV ON WATCH. TURNING TO  
BEGIN LINE 78.

WINDS: REL. — 332°  
TRUE — 78°  
T. SPD. — 14 kts

TEMP, H<sub>2</sub>O — 12.4°  
CMG/SMG — TURNING

1130Z START LINE 78.

WINDS: 68° — RELATIVE  
47° — TRUE  
14 kts — T. SPD

TEMP, H<sub>2</sub>O — 12.6°  
CSE / SPD — 317.2, 5.9 kts  
(1 MIN)

1151Z BRIDGE INFORMS THAT THE END OF  
LINE (78) WILL BE AT ~ 0415Z, 12 JAN.

1200Z CONTINUING LINE 78. OPS NORMAL.

WINDS: RELATIVE — 88°  
TRUE — 61°  
T. SPD — 12 kts

TEMP, H<sub>2</sub>O — 12.3°C  
CMG/SMG — 313.4, 4.9 kts  
(15 MIN.)

1230Z CONTINUING LINE 78. OPS NORMAL

WINDS: RELATIVE — 79°  
TRUE — 55°  
T. SPD — 12 kts

TEMP, H<sub>2</sub>O — 12°C  
CMG/SMG — 315.1, 5 kts  
(15 MIN.)

1300Z LINE 78. OPS NORMAL.

WINDS: RELATIVE — 74°  
TRUE — 59°  
T. SPD — 10 kts

TEMP, H<sub>2</sub>O — 12.1°C  
CMG/SMG — 313.5, 5 kts  
(15 MIN.)

1318Z THE BRIDGE INFORMS THAT WAVES ARE  
RUNNING 3-4'

1330Z STILL PROFILE 78. OPS NORMAL

EW00-01

## CANTERBURY BASIN

J.D.11

WINDS: RELATIVE:  $63^{\circ}$   
 TRUE:  $45^{\circ}$   
 T SPD: 11 Kts

TEMP  $H_2O$  —  $12.3^{\circ}C$   
 CMG/SMG —  $313.9^{\circ}$ , 5 Kts  
 (15 MIN)

1400Z RELATIVE:  $60^{\circ}$   
 TRUE:  $40^{\circ}$   
 T SPD: 11 Kts

TEMP  $H_2O$  —  $12.7^{\circ}C$   
 CMG/SMG —  $314.5^{\circ}$ , 5.0 Kts  
 (15 MIN)

STILL LINE #78, OPS NORMAL

1430Z LINE #78, OPS NORMAL

WINDS — RELATIVE:  $58^{\circ}$   
 TRUE:  $24^{\circ}$   
 T SPD: 8 Kts

TEMP  $H_2O$  —  $13.30^{\circ}C$   
 CMG/SMG —  $313.5^{\circ}$ , 4.8 Kts.  
 (15 MIN)

1445Z Bridge/Buoy on watch

1447Z Bridge called to inform us that  
 See State is unchanged, 2-3 ft swells

1500Z WINDS - RELATIVE:  $320^{\circ}$   
 TRUE:  $10^{\circ}$   
 T SPD: 10.7 Kts

TEMP  $H_2O$  —  $13.5^{\circ}C$   
 CMG/SMG —  $3140/4.9$   
 (15 min)

1530Z WINDS — REL:  $330^{\circ}$   
 TRUE:  $10^{\circ}$   
 T Speed: 9.5 Kts

TEMP  $H_2O$  —  $13.4^{\circ}C$   
 CMG/SMG —  $315.0/5.0$   
 (15 min)

1600Z WINDS - REL:  $370^{\circ}$   
 TRUE:  $4.0^{\circ}$   
 T Speed: 12.4 Kts.

TEMP  $H_2O$  —  $14.1^{\circ}C$   
 CMG/SMG —  $313.6/5.0$   
 (15 min)

1630Z WINDS - REL -  $360^{\circ}$   
 TRUE -  $1.0^{\circ}$   
 T Speed - 10.2 Kts

$H_2O$  TEMP — 14.3  
 CMG/SMG —  $314.5/4.8$   
 (15 min)

1632 Z

Bridge informs us that we have  
passed the way point, ext. turn  
beginning @ 1643 Z

1646 Z

Bridge has informed us that  
they have begun the turn

End of Line 78

1700 Z

Winds - Rel: 320.0°

H<sub>2</sub>O Temp: 14.6°C

True: 350.0°

CMG/SMG: 07/4.0  
(15 min)

T. Speed: 13.1 kts

Sea State - ~3' Waves, Unchanged  
(From Bridge)

1712 Z

Ship has completed turn, will pass  
way pt @ ~ 1724 Z Bridge will  
notify

1725 Z

Start Line 74

1730 Z

Winds - Rel: 246.0°

H<sub>2</sub>O Temp: 14.6

True: 1.0°

CMG/SMG: 1326/4.8  
(15 min)

T. Speed: 10.4 kts

1800 Z

Winds - Rel: 243.0°

H<sub>2</sub>O Temp: 14.2

True: 356.0°

CMG/SMG: 135.5/4.8  
(15 min)

T. Speed: 10.7 kts

1830 Z

Winds - Rel - 265.0°

H<sub>2</sub>O Temp: 13.8

True - 10.0°

CMG/SMG: 135.4/4.8  
(15 min)

T. Speed - 9.2 kts

Sea state appears Unchanged

1850 Z

Bridge Blower Off

1854Z HERR/CATHRO ON

WINDS - SPD 9.0 DIR ~~259~~ 10° CMG 134.5°

REL SPD 6.9 REL DIR 259° SMG 5.0

LOVELY CLEAR MORNING - LONG SLOPPY 3-4 SWELLS  
FROM SOUTH1910Z BRIDGE NOTIFIED LAB THAT ETA TO END OF  
LINE 22.18Z, START OF TURN 22.31Z.1930Z WINDS SPD: 9.2 DIR 349° CMG 135°  
REL SPD 5.5 REL DIR 246° SMG 5.32000Z WINDS SPD 10.3 DIR: 55° CMG 133.3°  
REL SPD 12.0 REL DIR 300° SMG 4.7  
CONTINUING LINE 74. ALL'S WELL ON THE 8-12  
SEA STATE UNCHANGED2030Z WINDS SPD 11.1 DIR 59° CMG 135.2°  
REL SPD 12.0 REL DIR 300° SMG 4.62100Z WINDS SPD 12.2 DIR 48° CMG 133.9°  
REL SPD 12.8 REL DIR 300° SMG 4.9  
SEA STATE UNCHANGED. DUNN'S EXPRESSION  
ALSO UNCHANGED.2130Z WINDS SPD - 12.1 DIR - 48° CMG 132.1  
REL SPD - 12.2 REL DIR - 293° SMG 5.02200Z WINDS SPD 10.8 DIR - 42° CMG 134.7  
REL SPD 10.9 REL DIR 285° SMG 4.7SEA STATE UNCHANGED. JOE HAS INFORMED US THAT  
THEY ARE INTENDING TO ADD 150 METERS OF CABLE,  
PROBABLY AFTER THE END OF LINE 74. CRAIG IS HOPING  
THIS WILL DIMINISH THE MULTIPLES COMING THROUGH ON  
THE DATA. [MISUNDERSTANDING: 300m ADDED - SEE BELOW]2230Z END OF LINE 74. GUNS ARE OFF FOR STREAMER  
WORK CMG 134  
WIND - SP 12.0 REL SPD 11.6 DIR 51 REL DIR 290° SMG 4.7

J.D. 11

2250Z AUSTIN/UN ON WATCH. LU ON THE  
BACKDECK TO ASSIST WITH PLANNED CABLE WORK.  
SEE PREVIOUS PAGE. GUNS NOT FIRING. U/W @ ~3 KTS.

2300Z WINDS:  
SUNNY RELATIVE — 278° TEMP, H<sub>2</sub>O — 12.2°C  
+ T SPD — 49° CMG/SMG — 134.5°, 2.9 KTS.  
CALM (VIM TRUE — 10 KTS.  
SWELL)

2308Z JOE STEPHENSON INFORMS THAT WE HAVE  
ADDED 12 TRACES / ~~1000M~~ 300M TO THE INBOARD END OF  
THE STREAMER. 1 MORE DEPTH CONTROLLER  
HAS ALSO BEEN ADDED.

2330Z WINDS:  
REL. — 281° TEMP, H<sub>2</sub>O — 12.3°C  
TRUE — 54° CMG/SMG — 135.3°C, 3 KTS  
T SPD — 10 KTS (15 MIN)

J.D. 12

0030Z WINDS:  
- SUNNY RELATIVE — 0018° TEMP — 13.1°C  
TRUE — 49° CMG/SMG — 40.8/5.1  
T SPD — 10.8 KTS (15 MIN)

0100Z WINDS:  
SUNNY REL. — 45.0° TEMP. — 13.1°C  
— TRUE — 58.0° CMG/SMG — 27.2/3.1  
T SPD — 13.4 KTS (15 MIN)

STREAMER WORK IS CONTINUOUS

12 JANUARY 2000 CANTERBURY BASIN EWOD-01

J.D. 12

0114Z Add CABLE WORK seems WAS FINISHED  
THE NEW CHANNEL IS 120 IN TOTAL.  
AUSTIN ON THE BACKDECK TO ASSIST  
CABLE WORK. 120 Channels / 12.5m  
groups.

0127Z CHECKING DEPTH CONTROLLER CONFIGURATION.  
EN ROUTE TO START OF PROFILE 68. ETA TO  
LEAD-IN POINT CA. 1 1/4 HOURS.

0130Z EN ROUTE TO 68. WILL BE AT 1 NM  
LEAD-IN POINT AT 0318Z

WINDS: REL. — 106°  
TRUE — 54°  
T SPD — 12 KTS

TEMP, H<sub>2</sub>O — 12.4°C  
CMG/SMG — 291.3°/4.3k  
(15 MIN)

0138Z Leader and stretch section lengths  
unchanged. New, stiffer stretch  
section replaces old one length still  
50 m.

25 m leader (from stern) as before.  
Total offset (fantail - tail float) — 1,645 m.

0227Z SHOOTING GUNS SYSTEM READY TO RECORD  
DATA.

0230Z START SHOOTING PROFILE 68.

WINDS — REL. 88°  
TRUE. 60°  
T SPD. 12 Kts.

TEMP, H<sub>2</sub>O — 12.6°C  
CMG/SMG — 315.1°, 4.8 kts.  
(15 MIN)

0236Z THE BRIDGE INFORMS THAT THE  
END OF PROFILE 68 WILL BE AT 0737Z.



12 January 2000

Canterbury Basin EWO0-01

029

0250Z Burger/Brown on Watch

0300Z Winds Rel: 82.0°  
 True: 49.0°  
 True Speed: 12.4 KTS  
 H<sub>2</sub>O Temp: 12.6°C  
 CMG/SMG: 314.8/4.7  
 (15 min.)

0330Z Winds Rel: 88.0°  
 True: 67.0°  
 T Speed: 10.2 KTS  
 H<sub>2</sub>O Temp: 12.6°C  
 CMG/SMG: 314.9/5.0  
 (15 min.)

0400Z Winds Rel: 78.0°  
 True: 54.0°  
 T Speed: 12.8 KTS  
 H<sub>2</sub>O Temp: 12.8°C  
 CMG/SMG: 315.3/5.2  
 (15 min.)

0430Z Winds Rel: 86.0°  
 True: 71.0°  
 T Speed: 10.1 KTS  
 H<sub>2</sub>O Temp: 13.7°C  
 CMG/SMG: 314.5/4.8  
 (15 min.)

0500Z Winds Rel: 85.0°  
 True: 68.0°  
 T Speed: 12.0 KTS  
 H<sub>2</sub>O Temp: 13.8°C  
 CMG/SMG: 315.6/4.9  
 (15 min.)  
 Seas appear to be unchanged (~3' swells)

0530Z Winds Rel: 73.0°  
 True: 52.0°  
 T Speed: 9.8 KTS  
 H<sub>2</sub>O Temp: 14.3°C  
 CMG/SMG: 313.2/4.9

0541Z Bridge called to give Sea State -  
 3' waves, which will continue  
 through the end of this watch.

0600Z Winds Rel: 76.0°  
 True: 58.0°  
 T Speed: 13.0 KTS  
 H<sub>2</sub>O Temp: 14.5°C  
 CMG/SMG: 314.3/4.7

12 January 2000

Canterbury Basin Ewpo-01

030

0630Z

Wind: Relative 370  
True: 70.0  
True speed: 11.8H<sub>2</sub>O Temp: 14.2CMG/SMG: 314.8/4.9  
(15 min.)

0650Z

Burger / Browne off watch  
CATHRO / HERR ON

0700Z

WIND SPD - 10.2 DIR. 61°  
REL SPD - 9.5 REL DIR 78°  
SEA WATER TEMP. - 15.1°

SMG - 4.7

CMG 313.4°

0740Z END OF LINE 68.

WIND SP 10.8 DIR. 77°

REL SP → REL DIR. (TURNING)

CMG (TURNING)

SMG 4.8

0749Z JOHN DIEBOLD HAS NOTED FROM THE FANTAIL  
THAT OUR TURNING HAS PULLED THE STARBOARD  
GUN FLOAT UNDER, AND IT IS NOW SHOWING A  
MISFIRE ON THE SCREEN. THEY MAY NEED TO PULL IT.

0752Z ORDER GIVEN TO THE BRIDGE TO STRAIGHTEN OUT  
AND SLOW DOWN - CARLOS IS GOING TO PULL THE  
STARBOARD GUN.

NOTE HERE ALSO THAT WE ARE NOT ABSOLUTELY CERTAIN  
WHEN THE STARBOARD GUN BEGAN TO MISFIRE - IT'S POSSIBLE  
(BUT NOT PROBABLE) THAT SOME OF THE DATA ON THE  
LINE JUST ENDED (#68) WAS AFFECTED, HOWEVER, THE  
GUN PROBLEM SEEMS TO HAVE RESULTED FROM ITS  
COMPLETELY DEFLATED FLOAT, AND BASED ON RECENT  
OBSERVATIONS BY VARIOUS PEOPLE THE FLOAT WAS  
INTACT AT LEAST UP UNTIL CLOSE TO THE END OF LINE #68.

0813Z CRAIG HAS INFORMED US THAT WE WILL (WHEN  
THE GUN PROBLEM IS RESOLVED) BEGIN LINE 70 COMING  
IN AT AN ANGLE ACROSS THE WAY PT.

12 JANUARY, 2000

CANTERBURY BASIN

EW00-01

U31

0815Z THE GUN IS FIXED. ETA TO START OF LINE 70-845.  
THE STREAMER SHOULD END UP BEING NEARLY STRAIGHT  
ON.

0900Z LINE 70 WILL START IN ABOUT 6 MINUTES. THERE  
WAS ONLY A .8 NAUTICAL MILE LEAD IN, SO THE  
BEGINNING OF THE LINE MAY SHOW THAT THE STREAMER  
WAS NOT YET COMPLETELY STRAIGHTENED OUT.

0905Z BEGIN LINE 70  
WINDS - SPD - 7.3 DIR 38° CMG 123.4°  
REL SPD 8.6 REL DIR 297° SMG 4.6  
SEA STATE - 3-4 FT LONG ROLLING SWELLS FROM SOUTH

0930Z REL WIND SP 8.6 knts TRUE WIND SP 7.3 knts  
REL DIR 298° TRUE DIR 44°

CMG 135.2 } 15 min average  
SMG 5.2 knts }

SWT = 15°C

0950Z THERE'S SOME KIND OF ANOMALY THAT JUST SHOWED  
UP ON THE LINE 68 PRINT THAT JUST EMERGED  
(PROBLEM AREA SHOWS FROM DATA COLLECTED AT ABOUT  
0600Z - THE MOST AFFECTED AREA SEEMS TO BE IN  
THE UPPER TWO SECTIONS). CHIEF SCIENTIST HAS BEEN  
NOTIFIED AND IS COMING DOWN TO LOOK IT OVER.

1000Z REL WIND SP 8.0 knts TRUE SP 7.9 knts  
REL DIR 293° TRUE DIR 29°

CMG 135 } 15 MIN AV.  
SMG 4.8 knts }

SWT 14.7°C

12 JANUARY 2000 CANTERBURY BASIN EW00-01

10:02Z CRAIG HAS LOOKED OVER LINE 68 STACK. OVERALL QUALITY MUCH LESS THAN PREVIOUS LINES. NOTED GEOMETRY WAS NOT CORRECTLY DEFINED BEFORE STACK. JIM IS GOING TO RESTACK WITH CORRECT GEOMETRY. INVESTIGATION CONTINUING.

10:30Z REL WIND SP 6.9 kts TRUE SP 5.5 kts  
REL DIR 303 TRUE DIR 29°

CMG 135.4 } 15 MIN AV.  
SMG 4.8 }

SWT 14.4°C.

10:35Z STACK WITH CORRECT GEOMETRY HAS MUCH BETTER RESOLUTION BUT SHARP CHANGE IN CHARACTER JUST BEFORE NOBOD STILL EXISTS. FURTHER PROCESSING U/W.

10:50Z ~~10:50Z~~ AUSTIN/LU ON WATCH. SHOOTING PROFILE TO.

11:00Z WINDS — REL: 302°  
TRUE: 37°  
T.SPD: 4.2 kts.  
TEMP, H<sub>2</sub>O — 14.2°C  
CMG/SMG — 134.9°, 5.1 kts.  
(15 MIN)

11:15Z THE BRIDGE INFORMS THAT THE END OF LINE 70 WILL BE AT 14:10Z.

11:30Z WINDS — REL: 315°  
TRUE: 44°  
T.SPD: 5 kts.  
TEMP, H<sub>2</sub>O — 14.0°C  
CMG/SMG — 134.6°, 4.7 kts.

12:00Z PROFILE TO OPS NORMAL.

WINDS — REL: 329°  
TRUE: 81°  
T.SPD: 5 kts.  
TEMP, H<sub>2</sub>O — 13°C  
CMG/SMG — 135.8°, 4.5 kts.  
(15 MIN)

12:20Z CPA to "Clipper" drillsite, as notified by the bridge. Approximately 05 mi. away.

# EW00-01 CANTERBURY BASIN

JD.12

1300Z PROFILE 70, OPS NORMAL.

WINDS: REL — 335°  
TRUE — 103°  
T SPD — 7 kts

TEMP, H<sub>2</sub>O — 13.1°C  
CMG/SMG — 133.6°, 4.3 kts  
(15 MIN)

1330Z PROFILE 70 OPS NORMAL.

WINDS: REL — 329°  
TRUE — 92°  
T SPD — 7 kts

TEMP, H<sub>2</sub>O — 12.7°C  
CMG/SMG — 133.8°, 4.9 kts  
(15 MIN)

1335Z CHECKED TOWS — O.K.

1400Z PROFILE 70, OPS NORMAL

WINDS — REL 330°  
TRUE 91°  
T SPD: 6 kts

TEMP, H<sub>2</sub>O — 12.4°C  
CMG/SMG — 133.2°, 5 kts  
(15 MIN)

1410Z END OF PROFILE 70. TURNING TO BEGIN  
PROFILE 76. BRIDGE ESTIMATES LINE-UP ON THE  
NEW LINE @ 1440Z.

1430Z TURNING TO LINE 76.

WINDS: REL — 237°  
TRUE — 54°  
T SPD — 6 kts

TEMP, H<sub>2</sub>O — 12.4°C  
CMG/SMG — TURNING.  
(15 MIN)

1450Z S.O.L. 76

1455 Burges/Bourne on Watch  
Bridge called to inform that we have passed Whig Pt.

EW00-01

Canterbury B-sin

1500Z

Winds Rel 66.0°  
True: 50.0°  
T. Speed: 6.2 KTS

H<sub>2</sub>O Temp: 12.5  
CNG/SMG: 314.6/4.7  
(15 min)

1501Z

SONAR TRANSDUCER NOT RECORDING SYSTEM CHECKED.  
JCE CALLED BUT NOT IN HIS ROOM

1525Z

Bridge called → Wave State 2-3', do not  
expect it to change soon

1530Z

Winds Rel 47.0°  
True 51.0°  
T. Speed 4.3 KTS

H<sub>2</sub>O Temp 12.8°C  
CNG/SMG 314.9/4.9  
(15 min)

1600Z

Winds Rel 42.0°  
True 46.0°  
T. Speed 4.1 KTS

H<sub>2</sub>O Temp 12.5°C  
CNG/SMG 312.6/4.8  
(15 min)

1630Z

Winds Rel 48.0°  
True 107.0°  
T. Speed 3.1 KTS

H<sub>2</sub>O Temp - 13.0  
CNG/SMG - 314.1/5.1  
(15 min)

~1650Z

Lg. Ship passing From Starboard to Port  
ahead of US. According to bridge, distance  
@ closest point was 4.4 miles.

1700Z

Winds Rel 72.0°  
True 114.0°  
T. Speed 4.7 KTS

H<sub>2</sub>O Temp - 13.2  
CNG/SMG - 315.7/4.9  
(15 min)

1730Z

Winds Rel 49.0°  
True 103.0°  
T. Speed 3.9 KTS

H<sub>2</sub>O Temp 13.3  
CNG/SMG 314.1/5.1  
(15 min)

JANUARY 12, 2000

EW00-01

Canterbury Basin

1800Z

WINDS - Rel: 352.0°  
 True: 138.0°  
 True Speed: 3.2 Kts

H<sub>2</sub>O Temp: 13.7°  
 CMG/SMG: 316.0/5.0  
 (15 min)

1830Z

WINDS: Relative - 335.0°  
 True - 142.0°  
 True Speed - 3.8 Kts

H<sub>2</sub>O Temp (°C) - 14.1  
 CMG/SMG - 315.7/4.8  
 (15 min)

1850Z

BURGER/BLOOM OFF  
 CATHER/HERR ON

1900Z

WINDS SPD 3.2 DIR 138°  
 REL SPD 2.1 REL DIR 344°

CMG 315.3°  
 SMG 4.9

LOVELY CLEAR, NEARLY WINDLESS MORNING & SUNNY, PROBABLY  
 AS CALM AS IT GETS ON THE SOUTH PACIFIC.

1930Z

WINDS SPD - 4.0 DIR 157°  
 REL SPD 2.9 REL DIR 330°  
 SEA WATER TEMP 14.6

CMG 314.8  
 SMG 4.9

1943Z

NOTE THAT THE STREAMER IS BEHAVING VERY  
 QUIETLY (A NOTICEABLE DIFFERENCE) NO DOUBT DUE  
 TO THESE OPTIMAL WEATHER CONDITIONS

1949Z

BRIDGE INFORMED SEISMIC DESK THAT  
 WE WILL PASS OVER WAYPOINT IN 30 SECS  
 ~ 13 MINUTES UNTIL TURN

2000Z

REL WIND SP = 3.2 Kts  
 REL WIND DIR = 311.0

TRUE SP 3.0 Kts  
 TRUE DIR 179°

CMG = 313.7°  
 SMG = 4.7 Kts

} 15 MIN AV.

SWT 14.9°C.

JANUARY 12, 2000 FWOOD-01 CANTERBURY BASIN

2004 ENDED LINE 76, TURNING TO BEGIN LINE 72

2027 2042 Z/0940 LOCAL WILL CROSS WAYPOINT LINE 72

2037. ~~END~~ SOL 72, BRIDGE WILL CALL WITH WAYPOINT IN ~5 MINS

2040 SHIP CROSSED WAYPOINT AT START OF LINE 72. LINE DIR NW-SE

REL WIND SP: 8.0 TRUE SP 4.6  
REL DIR : 29.0 TRUE DIR 168°

CMG ~~134.4~~ 134.4 } 15 MIN AVE  
SMG 4.4 }

~~SWT 14.5 °C~~

2100 REL WIND SP: 9.1 knts TRUE WIND SP 5.4  
REL WIND DIR 31° TRUE DIR 175°

CMG 135.4 } 15 MIN AV.  
SMG 4.5 }

SWT 14.5 °C

2130 REL WIND SP 8.9 knts TRUE SP 5.6 knts  
REL WIND DIR 32° TRUE DIR 205°

CMG 135.7°  
SMG 4.8°

SWT 14.3

4151 ~~END~~ POWER CORD ON GUN CONTROLLER SCREEN  
CAME LOOSE, FIXED BY JOE



JANUARY 12 2000

FW00-01 CANTERBURY BASIN

2158 REL WIND SP. 11.0 knts TRUE WIND SP  
REL DIR = 37.0 TRUE DIR = 190

CMG 134.4 } 15 MIN AV.  
SMG 4.6 }

SWT 14.4°C

HAVE ASKED FOR AN INCREASE IN SPEED TO 4.8-4.9  
[JOE CALLED BRIDGE FOR INC IN RPM]

2202# Sandtrap has been investigating origins  
of discontinuities in line 68 stack,  
focusing on that at n sp 5145.

The discontinuity is absent on a single  
velocity stack. It is believed to result  
from the way in SIOSEIS handles  
changes in velocity ~~function~~ (which are  
water-depth dependent for current stacks).  
- velocity functions are defined at  
particular water depths. SIOSEIS may  
not interpolate between them, but may  
introduce abrupt changes, affecting the stacks

2230# REL WIND SPEED = 12.2 kts TRUE WIND SPEED 8.0  
REL WIND DIR = 36° TRUE WIND DIR 196.0

CMG 133.2° } 15 MINUTE AV.  
SMG 4.9 kts }

SWT 13.9°C

~~SEE~~ WAVES 2-3' FROM SOUTH, VERY CALM

2300# AUSTIN/LV ON WATCH.

WINDS: REL. — 33°  
TRUE — 183°  
T SPD — 7 kts.

TEMP, H<sub>2</sub>O — 13.6°C  
CMG/SMG — 133.9, 4.8 kts

EW00-01

## CANTERBURY BASIN

J.D. 012

2312Z THE BRIDGE INFORMS THAT THE E.O.L. OF LINE 72 WILL BE AT 0151Z, 13 JAN. THE SHIP WILL PASS THE WAYPOINT OF THE NEXT LINE AT 0227Z, AND THE S.O.L. 66 WILL BE AT 0240Z.

2330Z WINDS —

REL: 25°

TRUE: 184°

T SPD: 7 Kts

TEMP, H<sub>2</sub>O — 13.5°CCMG/SMG — 132.2°, 4.8 Kts  
(15 MIN)

0000Z 13 JANUARY

WINDS: REL — 28°

TRUE — 184°

T SPD — 9 Kts

TEMP, H<sub>2</sub>O — 13.7°CCMG/SMG —  
(15 MIN.)

TRUE TIME OK. No  
ESTABLISHED CULPRIT

N/A TRUE TIME MALFUNCTION.  
BOB LOOKING AT THE PROBLEM.

0030Z

WINDS: REL — 30°

TRUE — 179°

T SPD — 9 Kts

TEMP, H<sub>2</sub>O — 13.0°CCMG/SMG — 132.2°, 4.9 Kts  
(15 MIN.)

0100Z STILL PROFILE 72. Ops. NORMAL. WEATHER GORGEOUS.

WINDS: REL — 32°

TRUE — 184°

T SPD — 8 Kts

TEMP, H<sub>2</sub>O — 12.4°CCMG/SMG — 132.7, 5 Kts  
(15 MIN.)

0130Z STILL PROFILE 72. Ops. NORMAL

WINDS: REL — 30°

TRUE — 188°

T SPD — 13 Kts

TEMP, H<sub>2</sub>O — 12.7°CSMG/CMG — 133.7, 4.8 Kts  
(15 MIN.)

## CANTERBURY BASIN

JD 013

0152Z E.O.L. 72 TURNING TO LINE 66

0230Z WINDS: REL. — 277°  
 TRUE — 202°  
 T. SPD — 9 Kts  
 TEMP. H<sub>2</sub>O — 12.8°C  
 CMG/SMG — TURNING  
 AT LEAD-IN POINT

0240Z S.O.L. 66

0250Z Burger/Browne on Watch

0300Z WINDS: REL. — 273.0°  
 TRUE — 183.0°  
 T. SPD — 9.7 Kts  
 TEMP. H<sub>2</sub>O — 12.9  
 CMG/SMG — 313.6/5.1  
 (15 min)

0310Z Bridge estimates wave height @ ~ 2'  
 and expects it to stay about that  
 size throughout the shift, unless  
 they notify otherwise

0330Z WINDS: REL. — 270°  
 TRUE — 179°  
 T. SPD. — 8.0 Kts  
 T(°C) H<sub>2</sub>O — 13.2  
 CMG/SMG 314.6/5.0  
 (15 min)

0400Z WINDS: REL. — 268°  
 TRUE — 175°  
 T. SPD. — 8.6  
 T(°C) H<sub>2</sub>O — 13.4  
 CMG/SMG — 315.2/5.1  
 (15 min)

0410Z WINDS: REL. — 279°  
 TRUE — 187°  
 T. SPD. — 7.0  
 T(°C) H<sub>2</sub>O — 13.9  
 CMG/SMG — 314.2/5.1  
 (15 min)

# EW00-01

## Canterbury Basin

0430Z Winds Rel. - 262° T H<sub>2</sub>O - 14.0  
 True - 181° CMG/SMG  
 T Speed - 9.1 (15 Min) - 316.1/5.4

0500Z Winds Rel. - 262° T(°C) H<sub>2</sub>O - 13.9  
 True - 177° CMG/SMG - 315.6/4.9  
 T. Spd - 8.4 kts (15 min)

0530Z Winds Rel. - 250° T(°C) H<sub>2</sub>O - 14.5  
 True - 170° CMG/SMG - 315.3/4.7  
 T. Spd - 8.6 kts (15 min)

0600Z Winds Rel. - 250° T(°C) H<sub>2</sub>O - ~~14.5~~ 15.1  
 True - 172° CMG/SMG - 315.1/4.9  
 T. Spd - 8.9 kts (15 min)

0630Z Winds Rel. - 239° T(°C) H<sub>2</sub>O - 15.2  
 True - 165° CMG/SMG - 314.0/4.7  
 T Spd. - 9.1 kts (15 min)

NOTE - CMG and SMG on display based on Tasman  
 Nav Source rather than Trimble Nav Source -  
 therefore based on civilian GPS and  
not DGPS. True SMG may be slightly  
 higher than logged, unless otherwise  
 noted.

0650Z Burger Browne off watch  
 Cathro / Herr on watch.

EW 00-01

## CANTERBURY BASIN

0700 REL WIND SPEED 6.5 knts TRUE SPEED 8.4 knts  
REL DIRECTION 267° ~~WIND~~ TRUE DIR 171°

TO

CMG 313.6 } 15 MIN AV.  
SMG 5.1 }

SWT 15.0

0730 REL WIND SPEED 7.8 knts TRUE SPEED 10 knts  
REL WIND DIR 269 TRUE DIR 172°

CMG 313.4 } 15 MIN AV  
SMG 4.9 }

SWT 15.5

7.34 GOING OVER EOL 66 WAYPOINT.  
14 MINUTES UNTIL START TURN

7.34. NOTICED REEL IDENTIFICATION NUMBERS  
ONLY 2 DIGITS, ~~REEL IDENTIFICATION~~ NEED 3 DIGITS  
WHEN REEL > 99. JOE FIXED PROBLEM  
BUT NOT UNTIL AFTER REELS 100, 101,  
102, 103 WERE GIVEN RID NUMBERS  
00, 01, 02, 03 RESPECTIVELY.  
~~REEL~~ TAPES LABELED CORRECTLY ~~AND~~ STARTING  
AT # 104.

0748. EOL 66.  
~~THE~~ COMMENCE TURN ONTO LINE 62.

0824. BRIDGE INFORMED SEISMIC DESK THAT THEY  
HAVE JUST FINISHED THE TURN ONTO LINE 62  
LEAD IN IS 1.05 AM ~~FOR~~  
14 MINUTES TO WAYPOINT AT SOL 62

EW00-01

JP 13

CANTERBURY BASIN

0835 STARTED RECORDING LINE 62

0838 PASSING WAYPOINT FOR SOL 62.

REL WIND SPEED 14.5 kts TRUE SPEED 11.3 kts  
 REL WIND DIR<sup>N</sup> 31° TRUE DIRECTION 175°

CMG 134° } 15 MIN AVERAGE  
 SMG 4.3 kts

SWT 15.2°C WEATHER VERY CALM

0900 REL WIND SPEED 8.9 kts TRUE SPEED ~~17.8~~ 4.6  
 REL WIND DIR 21° TRUE DIR 178

CMG 134.8° } 15 MIN AVERAGE  
 SMG 4.9 kts }  
 SWT 15.2°

0930 REL WIND SPEED 10.3 TRUE WIND DIR 230  
 REL WIND DIR ~~21~~ TRUE SPEED 6.3  
 45

CMG 134.9° } 15 MIN AV.  
 SMG 4.6 }  
 SWT 14.3

1000Z REL WIND SPEED 12.2 kts TRUE WIND SP. 5.6 kts  
 REL WIND DIR 32° TRUE WIND DIR 194°

CMG 133.8° } 15 MINUTE AVERAGE  
 SMG 4.8 kts }  
 SWT 14.7°C

1030Z REL WIND SPEED 7.4 kts TRUE WIND SP. 6.3 kts  
 REL WIND DIR 68° TRUE WIND DIR 240.  
 CMG = 132.4°, SMG = 5.0 kts → 15 MIN AVERAGE  
 SWT = 14.8°C

EW00-01

JD 13

## CANTERBURY BASIN

1045Z AUSTIN/LU ON WATCH. PROFILE 62.

1100Z WINDS: REL — 51°  
 TRUE — 241°  
 T SPD — 6 Kts

TEMP, H<sub>2</sub>O — 13.9°C  
 CMG/SMG — 134.5° 5 Kts  
 (15 MIN.)

1130Z WINDS: REL — 36°  
 TRUE — 208°  
 T SPD — 6 Kts

TEMP, H<sub>2</sub>O — 14.1°C  
 CMG/SMG — 134° 4.8 Kts  
 (15 MIN.)

1145Z THE BRIDGE INFORMS THAT THE LINE 62 WILL  
 BE OVER AT 1344Z. LINE 64 WILL START AT  
 ~1144Z.

1200Z WINDS: REL — 40°  
 TRUE — 197°  
 T SPD — 9 Kts

TEMP, H<sub>2</sub>O — 14.1°C  
 CMG/SMG — 134.3° 5.1 Kts  
 (15 MIN.)

1230Z WINDS: REL — 28°  
 TRUE — 188°  
 T SPD — 8 Kts

TEMP, H<sub>2</sub>O — 13.4°C  
 CMG/SMG — 134.6° 4.8 Kts

MINIMAL SEA  
 STATE

1300Z WINDS: REL — 25°  
 TRUE — 186°  
 T SPD — 7 Kts

TEMP, H<sub>2</sub>O — 13.4 D° 4.8 Kts  
 CMG/SMG — 13.2°C  
 (15 MIN.)

1330Z WINDS: REL — 36°  
 TRUE — 190°  
 T SPD — 6 Kts

TEMP, H<sub>2</sub>O — 13.4°C  
 CMG/SMG — 134.4° 5 Kts  
 (15 MIN.)

1332Z Informed from Bridge, Line 62 will be ended  
 13 minutes later.

1345Z END 62 TURNING TO 64.

1400Z WINDS: REL — 244°  
 TRUE — 190° SPD — 4 Kts

TEMP, H<sub>2</sub>O — 12.9°C  
 CMG/SMG — TURNING

EW00-01  
CANTERBURY BASIN

J.D. 013

1415Z S.O.L 64. ETA FOR THE END OF THE LINE IS 1927Z

1430Z WINDS — REL: 318°  
TRUE: 214°  
T SPD: 3 Kts.  
2 ft. swells

TEMP H<sub>2</sub>O — 12.8°  
CMG/SMG — 312.5°/4.7 Kts.  
(15 MIN)

1450Z Briggs/Browne on Watch

1500Z WINDS — Rel: 317°  
True: 204°  
T SPD: 3.7 Kts

T(°C) H<sub>2</sub>O — 13.5  
CMG/SMG — 315.9°/4.6 Kts  
(15 min)

1530Z WINDS — Rel — 321°  
True — 210°  
T SPD — 3.7 Kts

T(°C) H<sub>2</sub>O — 13.6  
CMG/SMG — 315.4°/5.1 Kts  
(15 min)

1600Z WINDS — Rel: 341°  
True: 211°  
T SPD: 1.5 Kts

T(°C) H<sub>2</sub>O — 13.8  
CMG/SMG — 315.5°/5.0 Kts  
(15 min)

1605Z From Bridge — Wave height 2.2', Should continue through this watch.

1630Z WINDS — Rel: 349°  
True: 146°  
T SPD: 1.9 Kts

T(°C) H<sub>2</sub>O — 14.1  
CMG/SMG — 315.5°/5.0 Kts  
(15 min)

1700Z WINDS Rel 15°  
True 99°  
T SPD 1.5 Kts

T(°C) H<sub>2</sub>O — 14.2  
CMG/SMG — 314.1°/5.0 Kts  
(15 min)



EW00-01

JD 13

Canterbury Basin

1730 Z

Winds - Rel:  $15^{\circ}$   
true:  $100^{\circ}$   
T. spd: 1.5 KTST( $^{\circ}$ C)  $H_2O$  - 14.5  
CMG/SMG - 316.0 $^{\circ}$ /4.9 KTS  
(15 min)

1800 Z

Winds - Rel:  $355^{\circ}$   
True:  $300^{\circ}$   
T. spd: 4 KTST( $^{\circ}$ C)  $H_2O$  - ~~14.5~~ 15.0  
CMG/SMG - 314.8 $^{\circ}$ /4.8 KTS  
(15 min)

1830 Z

Winds - Rel:  $2^{\circ}$   
True:  $312^{\circ}$   
T. spd: 7.0 KTST( $^{\circ}$ C)  $H_2O$  - 14.9  
CMG/SMG - 315.4 $^{\circ}$ /4.9 KTS  
(15 min)

1850 Z

Burger / Blowne OFF WATCH  
CATHRO / HERR ~~ON~~ WATCH

1900 Z

RELATIVE WIND SPEED 8.0 KTS  
RELATIVE WIND DIRECTION  $353^{\circ}$ TRUE WIND SP 3.3 KTS  
TRUE WIND DIR  $297^{\circ}$ CMG 313.2 $^{\circ}$   
SMG 4.9 KTS.  
SWT 15.2  $^{\circ}$ C

} 15 MINUTE AVERAGE.

SEAS VERY CALM.

1914

BRIDGE HAS GIVEN FOLLOWING LINE ESTIMATES

LOCAL	/	GMT
8:14		19:16
8:27		19:29
9:05		20:07
9:18		20:20

PROGRESS
CROSS SOL 64 WAYPT
START TURN
END TURN
CROSS SOL 58 WAYPT

EW00-01

JD 13

CANTERBURY BASIN

1927 EOL 64, EOT 119  
START TURN1930 WINDSPEED: REL 10.3 kts TRUE 5.5 kts  
WIND DIR: REL 349° TRUE 307°CMG 317.9°  
SMG 4.9 kts  
SWT 15.1°C

20:17 FINISHED TURN. ETA START 058(EXTENDED) 20:30

20:28 SOL 58, 2 minutes until cross waypoint.

20:30 WIND: REL SPEED 0.6 kts TRUE SPEED 4.7 kts  
REL DIR 60° TRUE DIR 316CMG 135.3°  
SMG 4.6 kts  
SWT 15.1°C } 15 MIN AV.

CROSS WAYPOINT SOL 058(EXTENDED)

2100 WIND: REL SPEED 2.1 kts TRUE SPEED 3.1  
REL DIR 13° TRUE DIR 324CMG 134.8°  
SMG 5.0 kts  
SWT 14.9°C2130 WIND: REL SPEED 2.5 kts TRUE SPEED 2.8 kts  
REL DIR 39° TRUE DIR 316°CMG 132.3°  
SMG 4.9 kts  
SWT 14.3°C

FW00-01

ID 13.

CANTERBURY BASIN.

21:45 JOHN DIEBOLD THINKS THE GUNS MAY BE ~~65M~~ 60M AWAY FROM THE STERN, NOT THE 55 M RECORDED. ~~THE~~ THE LENGTH WILL BE REMEASURED WHEN THE GUNS ARE NEXT PULLED IN.

22:00 WIND: REL SPEED 2.7 Kts TRUE SPEED 3.3 Kts  
REL DIR 62° TRUE DIR 280°  
CMG 132.6° } 15 min AV.  
SMG 4.9 Kts  
SWT 14.5°C

22:30 WIND: REL SPEED 9.3 Kts TRUE SPEED 4.9 Kts  
REL DIR 4.0° TRUE DIR 148°  
CMG 134.2°  
SMG 5.0 Kts  
SWT 14.1°C

2300Z AUSTIN/LU ON WATCH.

CALM  
SEAS  
W/SLIGHT  
SWELL

WINDS: REL — 13°  
TRUE — 159°  
T SPD — 6 Kts

TEMP H<sub>2</sub>O — 14.1°C  
CMG/SMG — 135.3° 4.9  
(15 MIN) Kts

2330Z WINDS: REL — 21°  
TRUE — 173°  
T SPD — 7 Kts

TEMP H<sub>2</sub>O — 13.9°C  
CMG/SMG — 134.9° 5.1 Kts

0000Z

14 JANUARY

STILL PROFILE SB. NORMAL

WINDS:

REL — 18°  
TRUE — 172°  
T SPD — 9 Kts

TEMP H<sub>2</sub>O — 13.8°C  
CMG/SMG — 134.8° 4.6 Kts  
(15 MIN)

0010Z

Schedule not be changed, Line 58 will be finished on time (from bridge)

EW00-01

## CANTERBURY BASIN

J.D. 14 / 14 JANUARY, 2000

0035Z WINDS: REL — 23° TEMP, H<sub>2</sub>O — 13.4°C  
 TRUE — 172° CMG/SMG — 133° 4.6Kts  
 T.SPD — 10Kts (15 MIN)

0100Z WINDS: REL — 27° TEMP, H<sub>2</sub>O — 13.4°C  
 TRUE — 181° CMG/SMG — 136.5° 4.8Kts  
 T.SPD — 8Kts (15 MIN)

0135Z E.O.L. 58. TURNING TO PROFILE 60.

WINDS: REL — 28° TEMP, H<sub>2</sub>O — 13.1°C  
 TRUE — 178° CMG/SMG — 134° 5.2Kts  
 T.SPD — 9Kts (15 MIN)

0200Z TURNING TO PROFILE 60.

WINDS: REL — 265° TEMP, H<sub>2</sub>O — 13.4°C  
 TRUE — 190° CMG/SMG — 263.2°  
 T.SPD — ~~7~~ 7Kts. (15 MIN) 3.4Kts.  
 TURNING.

0210Z S.O.L. 60.

0230Z WINDS: REL — 279° TEMP, H<sub>2</sub>O — 13.1°C  
 TRUE — 189° CMG/SMG — 313.5/4.8  
 T.SPD — 5.7 Kts (15 MIN)

4-5' SWELLS

Informed From Bridge that The LINE 60 will be  
 ended at 20.18 Local Time. (About)  
 (0719Z)

0300Z WINDS: REL — 281° T(°C) H<sub>2</sub>O — 13.8  
 TRUE — 175° CMG/SMG — 315.2/1.8  
 T.SPD — 6.0 Kts (15 MIN)

# EW00-01 Canterbury Basin

049

0315Z Craig Fullmerpe advises that one or both guns may fail on this line. Monitor to be checked frequently.

0330Z Winds - Rel - 276°  
True - 181°  
T. speed - 8.1 KTS  
T(°C) H<sub>2</sub>O - 14.2  
CMG/SMG - 315.2/50  
(15 min)

0400Z Winds Rel - 283°  
True - 179°  
T speed - 7.5 KTS  
T(°C) H<sub>2</sub>O - 13.8  
CMG/SMG - 314.2/53 KTS  
(15 min)

0430Z Winds Rel - 308°  
True - 128°  
T spd - 4.3 KTS  
T(°C) H<sub>2</sub>O - 14.4°  
CMG/SMG - 316.4/50 KTS  
(15 min)

0500Z Winds Rel - 297°  
True - 199°  
T spd - 3.1 KTS  
T(°C) H<sub>2</sub>O - 14.2°  
CMG/SMG - 313.9/49 KTS  
(15 min)

0515Z Lost Wind Speed display - not fixed Joe

0530Z Winds Rel - } Display  
True - } OFFLINE  
T. SPD - }  
T(°C) H<sub>2</sub>O - 14.9  
CMG/SMG - 315.3/4.8 KTS  
(15 min)

0600Z Winds Rel - } Display  
True - } OFFLINE  
T. SPD - }  
T(°C) H<sub>2</sub>O - 15.3  
CMG/SMG - 313.6/4.7 KTS  
(15 min)

0605Z - Display back online

~~0605Z~~ Winds - Rel - 318°  
True - 153°  
T. SPD - 2.9 KTS  
T(°C) H<sub>2</sub>O - 15.2  
CMG/SMG - 314.1/4.5 KTS  
(15 min)

14 JANUARY - 2000

EW00-01

Canterbury Basin

0630Z

WINDS - Rel - 314°

True - 158°

T. SPD - 3.5 KTS

T(°C) H<sub>2</sub>O - 15.4°CMG/SMG - 314.1/4.8 KAS  
(15 min)

0645Z Burger/Brown off watch

0700Z WINDS SPD 4.8 DIR 155° CMG 314.7  
 REL SPD 2.1 REL DIR 277° SMG 4.9  
 SEA STATE - LONG ROLLING 4-5<sup>FT</sup> SWELLS FROM  
 THE SE.

0730 - IN TRANSIT TO LINE 54

0800Z WIND SPD 8.1 DIR 161° CMG 59°  
 REL SPD 10.5 REL DIR 44° SMG 4.7  
 (TURNING TO START LINE 54)

0818Z - STARTED RECORDING, 3 MINUTES TO SOL 54

0822Z - PASSING WAYPOINT 54ST.

0830 - WIND SPD 7.1 DIR 172° CMG 133.6  
 REL SPD 11.6 REL DIR 22° SMG 4.3

0900Z WIND SPD 9.0 DIR 189° CMG 133.7  
 REL SPD 12.6 REL DIR 34° SMG 4.7

0940Z WIND SPD 11.0 DIR 172° CMG 135.2  
 REL SPD 14.8 REL DIR 26° SMG 5.0

1000Z WIND SPD 7.9 DIR 186° CMG 133.5  
 REL SPD 11.4 REL DIR 33° SMG 4.8

1030Z WIND SPD 7.4 DIR 180° CMG 133.5  
 REL SPD 11.6 REL DIR 21° SMG 5.0

SEA STATE UNCHANGED SEA WATER TEMP - 14.6°C

1050Z Austin/LU ON WATCH.

EW00-01

## CANTERBURY BASIN

J.D. 014 / 14 JANUARY, 2000

1130Z WINDS: REL — <sup>54</sup>~~218~~<sup>0</sup>  
 TRUE — 218°  
 T SPD — 6 Kts.

TEMP H<sub>2</sub>O — 14.3°C  
 CMG/SMG — 135.0°, 4.8 Kts.  
 (15 MIN)

1200Z WINDS: REL — 60°  
 TRUE — 217°  
 T SPD — 5 Kts.

TEMP H<sub>2</sub>O — 13.9°C  
 CMG/SMG — 134.8°, 4.7 Kts.  
 (15 MIN.)

1222Z BRIDGE INFORMS THAT LINE 54 WILL END AT  
 ~ 1330Z PROFILE 50 WILL BEGIN AT ~ 1416Z

1230Z PROFILE 54 OPS NORMAL

WINDS: REL — 36°  
 TRUE — 226°  
 T SPD — 5 Kts.

TEMP H<sub>2</sub>O — 12.5°C  
 CMG/SMG — 132.7°, 4.8 Kts.  
 (15 MIN.)

1238Z STREAMER UNDULATING IN LONG-PERIOD  
 SWELLS. CREATING NOISY DATA

1300Z WINDS: REL — 47°  
 TRUE — 255°  
 T SPD — 5 Kts.

TEMP H<sub>2</sub>O — 12.8°C  
 CMG/SMG — 133.3°, 4.8 Kts.  
 (15 MIN.)

1330Z EOL 54 TURNING TO PROFILE 50.

1400Z TURNING TO PROFILE 50

WINDS: REL — 275°  
 TRUE — 260°  
 T SPD — 6 Kts.

TEMP H<sub>2</sub>O — 12.6°C  
 CMG/SMG — TURNING

1420Z S.O.L. 50

1430Z WINDS: REL — 35°  
 TRUE — 280°  
 T SPD — 3 Kts.

TEMP H<sub>2</sub>O — 12.8°C  
 CMG/SMG — 316°, 5 Kts.

# EW00-01 (ANTERBUR) BASIN

## ID 014

1435Z BRIDGE INFORMS THAT THE END OF  
PROFILE SO WILL BE AT ~1930Z.

1440Z SURVEIL / CROWNE ON WATCH.

1500Z WINDS: REL: 249°  
TRUE: 260°  
T SPD: 5.4 KTS  
TEMP H<sub>2</sub>O: 12.9°  
CMG/SMG: 313/4.5

1530Z WINDS: REL: 340°  
TRUE: 256°  
T SPD: 2.2 KTS  
TEMP H<sub>2</sub>O: 13.6°  
CMG/SMG: 315/4.8

1600Z WINDS: REL: 303°  
TRUE: 197°  
T SPD: 2.5 KTS  
TEMP H<sub>2</sub>O: 14.2°  
CMG/SMG: 316°/4.9

1630Z WINDS: REL: 328°  
TRUE: 178°  
T SPD: 3.8 KTS  
TEMP H<sub>2</sub>O: 14.4°  
CMG/SMG: 315/5.1

1700Z WINDS: REL: 343°  
TRUE: 163°  
T SPD: 3.9 KTS  
TEMP H<sub>2</sub>O: 14.6°  
CMG/SMG: 313.6/4.8

1730Z WINDS: REL: 331°  
TRUE: 155°  
T SPD: 3.4 KTS  
TEMP H<sub>2</sub>O: 14.5°  
CMG/SMG: 314/4.7

1800Z WINDS: REL: 306°  
TRUE: 146°  
T SPD: 3.0 KTS  
TEMP H<sub>2</sub>O: 14.5°  
CMG/SMG: 314/4.6



1805Z Sawstrap noted that data discontinuity, which we're attributing to the way Success handles velocity functions, occurs on lines shot from seaward to landward and not on lines shot from landward to seaward.

1830Z WINDS REL 352° TEMP H.C. 15.1  
TRUE 142° CMG/SMG 315/4.8  
T SPD: 4.2 KTS

1900Z WIND SPD-2.0 DIR 161° CMG 314.4  
REL SPD-3.0 REL DIR 334° SMG 5.1  
CALM WINDS THIS AM BUT THERE ARE LONG  
5 FT SWELLS FROM THE SW.  
START OF TURN TO END LINE 50 AT 19.33Z

1930Z WIND SPD-2.8 DIR 132° CMG 314.8  
REL SPD-2.1 REL DIR 346° SMG 5.0

1932Z - END OF LINE 50

2000Z IN TRANSIT TO LINE 46

AT 20:28 BEGIN LINE 46

2030Z - WIND SPD 3.1 DIR 122° CMG 133.6°  
REL SPD 6.9 REL DIR 352° SMG 4.5

2031 - PASSED WAY POINT AT BEGINNING OF LINE 46

2100Z WIND SPD-4.0 DIR-148° CMG 133.1  
REL SPD 8.8 REL DIR-4° SMG 4.9

BOSUN ESTIMATES SWELLS TO BE 6-8 FT. FOLLOWS  
ABOUT RIGHT - THE BRIDGE CALLED IT 1-2 FT AND  
THAT'S DEFINITELY WRONG. SEA WATER TEMP-15.1°

2130Z WIND SPD 4.7 DIR 146° CMG 135.8°  
REL SPD 9.3 REL DIR 08° SMG 5.0

14 JANUARY, 2000

2200Z WIND SPD - 3.5 DIR - 190° CMG 135.2  
REL SPD - 8.2 REL DIR - 14° SMG 5.1

2230Z WIND SPD - 3.3 DIR - 155° CMG 134.6  
REL SPD - 8.2 REL DIR - 6° SMG 5.1  
SEA WATER TEMP. 5.0

IT'S BEEN NOTED THAT BIRD # 12 (CLOSEST TO SHIP)  
HAS BEEN RIDING HIGH IN WATER, PROBABLY BECAUSE  
SOMETIMES OUR SPEED HAS GONE UP IT TIMES TO  
5.1 OR 5.2 KNOTS. KEEP A WATCH ON IT.

2245Z AUSTIN/LU ON WATCH.

2300Z PROFILE 46. OPS. NORMAL SWELLS OCCASIONALLY  
BRINGING THE INBOARD END OF THE STREAMER UP.

WINDS: REL — 17°  
TRUE — 145°  
T. SPD. — 3 Kts

TEMP. H<sub>2</sub>O - 14.1°C  
CMG/SMG - 134.8, 5.1 Kts.  
(15 MIN.)

2330Z WINDS: REL — 38°  
TRUE — 191°  
T. SPD. — 4 Kts.

TEMP. H<sub>2</sub>O - 14.3°C  
CMG/SMG - 133.7, 5.0 Kts.  
(15 MIN.)

0000Z 15 JANUARY 2000

WINDS: REL — 40°  
TRUE — 192°  
T. SPD. — 7 Kts

TEMP. H<sub>2</sub>O - 13.8°C  
CMG/SMG — 132.2°, 5 Kts.  
(1 MIN.)

0030Z WINDS: REL — 29°  
TRUE — 175°  
T. SPD. — 5 Kts.

TEMP. H<sub>2</sub>O - 12.9°C  
CMG/SMG — 132.7°, 4.7 Kts.  
(15 MIN.)

0100Z WINDS: REL — 011°  
TRUE — 155°  
T. SPD. — 6 Kts.

TEMP. H<sub>2</sub>O - 12.9°C  
CMG/SMG - 135.6°, 4.8 Kts.  
(15 MIN.)

EW00-01

## CANTERBURY BASIN

015/15 JANUARY 2000

0130Z WINDS: REL — 006°  
 TRUE — 135°  
 TSPD — 4Kts

TEMP. H<sub>2</sub>O — 12.7°C  
 CMG/SMG — 134.5°, 4.9Kts.  
 (15 MIN.)

0140Z END PROFILE 46. TURNING TO PROFILE 42.

0200Z WINDS: REL — ~~006~~ 46°  
 TRUE — 144°  
 TSPD — 5Kts.

TEMP. H<sub>2</sub>O — 12.5°C  
 CMG/SMG — TURNING

0230Z LIVING UP ON PROFILE 42

WINDS: REL — 300°  
 TRUE — 120°  
 TSPD — 5Kts.

TEMP. H<sub>2</sub>O — 13.2°C  
 CMG/SMG — 312°, 5.4Kts.  
 (1 MIN.)

023<sup>6</sup>11Z S.O.L. 42. PROJECTED END OF LINE AT  
 0720Z. TAPE #160 DOES NOT EXIST!!  
 (A MINOR GLITCH WHILE STARTING THE LINE CAUSED  
 THE TAPE COUNTER TO INCREMENT. NO OTHER  
 PROBLEMS.)

0250Z BROWNE / BURGER ON WATCH.

0300Z WINDS: REL — 47°  
 TRUE — 106°  
 TSPD — 3.7Kts

T(°C) H<sub>2</sub>O — 13.5  
 CMG/SMG — 314.1°/4.7Kts.  
 (15 MIN.)

0330Z WINDS: REL — 85°  
 TRUE — 125°  
 TSPD — 5.2 Kts

T(°C) H<sub>2</sub>O — 13.4  
 CMG/SMG — 313.7°/4.5Kts.  
 (15 MIN.)

# EW00-01 Canterbury Basin

## 15 January, 2000

0400Z Winds - Rel:  $31^{\circ}$   
True:  $117^{\circ}$   
T. Spd: 3.8 kts  
T( $^{\circ}$ C) H<sub>2</sub>O - 14.3  
CMG/SMG - 311.8°/4.7 kts  
(15 min)

~ 0355Z - Sonar recorder not working  
0400Z - Sonar Recorder back online

0430Z Winds - Rel -  $33^{\circ}$   
True -  $88^{\circ}$   
T. Spd - 3.7 kts  
T( $^{\circ}$ C) H<sub>2</sub>O - 14.2  
CMG/SMG - 313.0°/5.1 kts  
(15 min)

0500Z Winds - Rel -  $65^{\circ}$   
True -  $21^{\circ}$   
T. Spd - 1.1 kts  
T( $^{\circ}$ C) H<sub>2</sub>O - 14.6  
CMG/SMG - 314.5°/5.0 kts  
(15 min)

0530Z Winds - Rel -  $78^{\circ}$   
True -  $79^{\circ}$   
T. Spd - 6.2 kts  
T( $^{\circ}$ C) H<sub>2</sub>O - 14.4  
CMG/SMG - 313.3°/5.1 kts  
(15 min)

0600Z Winds - Rel -  $75^{\circ}$   
True -  $66^{\circ}$   
T. Spd - 8.5 kts  
T( $^{\circ}$ C) H<sub>2</sub>O - ~~14.8~~ 14.8  
CMG/SMG - 313.9°/5.1 kts  
(15 min)

0630Z Winds - Rel -  $82^{\circ}$   
True -  $76^{\circ}$   
T. Spd - 7.4 kts  
T( $^{\circ}$ C) H<sub>2</sub>O - 15.4  
CMG/SMG - 314.5°/4.9 kts  
(15 min)

0647Z BROWNE / BURGER OFF WATCH.  
CATHRO / HERR ON WATCH

15 JANUARY, 2000 EWOOD-01 CANTERBURY BASIN

0700Z WIND SPD 7.3 DIR - 170° CMG 313.4  
REL SPD 8.0 REL DIR 68° SMG - 4.9

0701Z - CROSSING END WAY POINT OF LINE 42

0730Z IN TRANSIT TO THE NEXT LINE → #38

0800Z IN TRANSIT TO LINE 38

0817Z PASSING WAY POINT FOR START OF LINE 38

0830Z WIND SPD - 8.4 kts DIR - 38.0° CMG - 136.0 } 10 min  
REL SPD - 7.4 kts REL DIR - 295° SMG - 4.9 kts AV.

0900Z WIND SPD - 6.3 DIR - 42° CMG 138.4°  
REL SPD - 7.8 REL DIR - 306° SMG 5.0

SEA STATE HAS CALMED SOMEWHAT. ~4 FT LONG  
SWELLS FROM THE SOUTH.

0930Z WIND SPD 8.0 DIR 34° CMG 137.1  
REL SPD 8.4 REL DIR 286° SMG 4.8

0951Z LARGE VESSEL PASSING ABOUT 2 1/2 MILES  
ACROSS OUR BOW (NOTIFIED BY BRIDGE) -

1000Z WIND SPD 8.0 DIR - 12° CMG 137.4  
REL SPD 6.9 REL DIR - 279° SMG 4.9

FEELING THE SWELLS A LITTLE MORE NOW.  
SEA WATER TEMP - 14.5°

10:30Z. WIND SPD 7.7 kts DIR 29° CMG 137.5°  
REL SPD 7.4 kts REL DIR 281 SMG 4.8 kts

SURF 14.8°C.

10:50Z AUSTIN/LV ON WATCH.

## CANTERBURY BASIN

J.D.015

1100Z

WINDS: REL — 279°  
 TRUE — 18°  
 T.SPD — 9 Kts

TEMP, H<sub>2</sub>O — 14.5°C  
 CMG/SMG — 137.6°, 5 Kts  
 (15 MIN.)

1130Z

WINDS: REL — 285°  
 TRUE — 24.4°  
 T.SPD — 8.3 Kts

TEMP, H<sub>2</sub>O — 14.3°C  
 CMG/SMG — 136.8/4.9  
 (15 MIN) Kts.

1133Z Discussed THE LINE 38 / LINE 21 TIE  
 WITH THE BRIDGE THEY WILL "LINE UP"  
 TO CROSS 38 EN ROUTE TO 21 (SW END) WITH A  
 1-MI LEAD-IN TO TIE 38 TO 21 AT FULL-  
 FOLD.

1200Z

WINDS: REL — 282°  
 TRUE — 29°  
 T.SPD — 7 Kts

TEMP, H<sub>2</sub>O — 13.8°C  
 CMG/SMG — 137.5°, 5.1 Kts.  
 (15 MIN.)

1230Z

WINDS: REL — 314°  
 TRUE — 59°  
 T.SPD — 7 Kts

TEMP, H<sub>2</sub>O — 13.1°C  
 CMG/SMG — 137.2°, 5 Kts.  
 (15 MIN.)

1255Z E.O.L. 38. TURNING TO STBD. WILL TIE  
 38 TO 21 (THE NEXT LINE) AT FULL-FOLD.

1300Z

WINDS: REL — 284°  
 TRUE — 33°  
 T.SPD — 8 Kts

TEMP, H<sub>2</sub>O — 13°C  
 CMG/SMG — TURNING

1330Z

WINDS: REL — 68°  
 TRUE — 57°  
 T.SPD — 8 Kts

TEMP, H<sub>2</sub>O — 12.8°C  
 CMG/SMG — TURNING

1400Z

WINDS: REL — 65°  
 TRUE — 59°  
 T.SPD — 10 Kts

TEMP, H<sub>2</sub>O — 13°C  
 CMG/SMG — TURNING

1410Z

S.O.L 21.

EW00-01

## CANTERBURY BASIN

J.D. 015 15 JANUARY 2000

1421Z We will be passing over the ODP site @ 1509Z. -1119

1430Z WINDS: REL — 001°  
 TRUE — 66°  
 T. SPD. — 9 Kts.  
 TEMP. H<sub>2</sub>O — 14°C  
 CMG/SMG — 45.7°/4.8 Kts  
 (15 MIN)

1500Z WINDS REL — 13°  
 TRUE — 57°  
 T. SPD — 10.7 Kts  
 Temp H<sub>2</sub>O (C) — 13.5  
 CMG/SMG — 45.6°/5.1 Kts  
 (15 MIN)

1530Z WINDS REL — 6°  
 TRUE — 51°  
 T. SPD — 11.7 Kts  
 T(°C) H<sub>2</sub>O — 13.9  
 CMG/SMG — 44.9°/4.9 Kts  
 (15 MIN)

1548Z STOPPED RECORDING. GUNNS STILL FIRING BUT NO  
 DATA BEING RECORDED. SONAR STILL RECORDING.  
 APPROX LAT/LONG AT 15:55:30Z IS:  
 44° 42.628' S.  
 172° 27.439' E  
 BASED ON TASMAR NAV. SOURCE.  
 4.9 / 5.0 SPEED

1600 WINDS REL — 9°  
 TRUE — 51°  
 T. SPD — 10.5 Kts  
 T(°C) H<sub>2</sub>O — 14.4  
 CMG/SMG — 45.0°/5.0 Kts  
 (15 MIN)  
 Still not recording - Joe working on problem

1612Z CRAIG CALLED. OPTIONS OF TURNING OR CONTINUING. CRAIG  
 SUGGESTS TURNING.

1642 BRIDGE CALLED. HE WILL GO BACK TO THE POSITION AT  
 15420Z WITH ONE HOLE LWD TIME.

1517Z BRIDGE CALLED. THEY WILL START TURNING IN 2 MINUTES.

1630Z Winds - Rel:  $302^{\circ}$   
True:  $50^{\circ}$   
T. Spd: 12.3 KTS  
T( $^{\circ}$ )H<sub>2</sub>O - 14.3  
CMG/SMG - 78.9°/4.2 KTS  
(15 min) TUNING

1647Z Bridge was Finished Turn, now beginning transit back to point where recording interrupted. ETA to new way pt 1740Z.

1700Z Winds - Rel:  $200^{\circ}$   
True:  $59^{\circ}$   
T. Spd: 14.7 KTS  
T( $^{\circ}$ )H<sub>2</sub>O - 14.0  
CMG/SMG - 224.1°/4.7 KTS  
(15 min) (repositioning)  
Still repositioning to point where data stopped recording.

1730Z Winds - Rel:  $195^{\circ}$   
True:  $54^{\circ}$   
T. Spd: 14.8 KTS  
T( $^{\circ}$ )H<sub>2</sub>O - 13.4  
CMG/SMG - 223.6°/4.9 KTS  
(15 min, still returning to point in line where recording stopped)

1733Z Bridge gave ETA for beginning second turn at 1747Z to bring ship back to position at 1530Z.

1750Z Started second turn to bring ship back ~~and direct~~ to intercept for Line 2.

1800Z Winds - Rel:  $79^{\circ}$   
True:  $45^{\circ}$   
T. Spd: 14.6 KTS  
T( $^{\circ}$ )H<sub>2</sub>O - 13.8  
CMG/SMG - 269.5°/4.1 KTS  
(still repositioning)  
(15 min)

1816Z - Bridge called. will resume (E 44° 44.7705 73° 24.467 E) BRIDGE WILL CALL AFTER 1 MIN. TO RE-START RECORDING.



EW00-01

Canterbury Basin

1830 Z WINDS - Rel. 9°  
 True 54°  
 T. SPD 14.3 KTS  
 (°C) H<sub>2</sub>O - 13.7  
 CMG/SMG - 451°/42°  
 (15 MIN)

1828 Z Recording Re-started; 1 mile lead-in reached  
 44°44.081'S  
 172°25.413'E LOS 813.63 KM  
 Shotpoint at Re-start 63374  
 File Re-started at 2; Tape 178

1853 Z Burger/Brown OFF WATCH

1858 Z CATHRO/HARR ON WATCH

1900 Z WINDS REL SP. 21.5 REL DIR 17.3 SWT = 14.3° C  
 TRUE SP. 3 KTS TRUE DIR 42°  
 CMG 45.8°  
 SMG 4.8 kts

1911 Z RECORDING STOPPED. FOR NO APPARENT REASON.  
 FILE 502, SP 63869  
SEISMIC CONTROLLER WENT DOWN.

44 41.550'S) APPROX POSITION.  
 172 29.015'E)

1921 Z SEISMIC CONTROLLER BACK ~~ON~~ ON LINE.

44 41.064'S  
 172 29.706'E

FILE 503, SHOT #1. → SHOTS RESET

CRAIG HAS DECIDED NOT TO TURN AROUND AGAIN  
 THERE WILL BE A GAP IN DATA

J015

## CANTERBURY BASIN

THE TWO SYSTEM FAILURES THAT HAVE OCCURRED IN THE LAST 3 HOURS ARE APPARENTLY UNRELATED. THE FIRST WAS ~~IN~~ THE RECORDING SYSTEM, THE SECOND WAS THE SEISMIC CONTROLLER. ~~THE~~ LAT BOB IS LOOKING BACK THROUGH LOGS. SYMPTOMS OF FAILURE.

1. BEEPING FROM SEISMIC CONTROLLER  
(MAY NOT ACCOMPANY SEISMIC RECORDER FAILURE)
2. ALL MONITORS FREEZE
3. WATCH STANDERS FREAK OUT.

THE 2ND FAILURE OCCURRED AT APPROXIMATELY THE SAME LOCATION AS ORIGINAL FAILURE. TAPE 179.

FILE 488 SHOT 63855 SOT 179  
FILE 502 SHOT 63869 - SEIS CONTROLLER  
FILE 502 SHOT 1 - SEIS CONT  
FILE 972 SHOT 471 - EOT 179.

20:00 WINDS REL SPD 20.9 kts TRUE SP. 18.0 kts  
REL DIR 8.0° TRUE DIR 45°  
SWT 14.6°C CMG 44.2°  
SMG 4.9 kts.

20:04 BRIDGE HAS INFORMED SEISMIC DESK THERE IS A LARGE, FAST SHIP PASSING ~3 MILES ON PORT SIDE.

THERE IS ALSO A POD OF ABOUT A DOZEN DOLPHINS PLAYING IN THE BOW WAVE. — AND NEAR GUNS.

20:30 WIND SPD 15.3 DIR 50° CMG 45.1  
REL SPD 20.0 REL DIR 3.0° SMG 4.9

NOW THE LARGE POD OF DOLPHIN ARE PLAYING AROUND THE GUNS

SEASTATE - CHOPPY SEAS 3-4 FT FROM THE SE  
SEA WATER TEMP 14.7°

21:00 WINDS REL SP. 20 kts TRUE SP 14.1 SWT 14.3°C  
REL DIR 1.0° TRUE DIR 50.0  
CMG 45.7°  
SMG 5.0 kts.

FD 15

# EW00-01 CANTERBURY BASIN

2113 BRIDGE INFORMED 4 MINS TO WAYPOINT 21ED  
WILL START TURN AT 21:30 (10:30 LOCAL)  
DOLPHINS STILL PLAYING IN BOW WAVE

2125 WIND REL SP 20.2 KTS TRUE SP 15.5 KTS CMG 44.1 #  
REL DIR 1° TRUE DIR 39° SMG 5.0  
SWT 13.9°C

2130 END OF LINE 21 - WOO-HOO

2140 SYNTON GUN CONTROL SEIZED WHEN TRIED TO  
CHANGE LINE NUMBER.  
JOE & JOHN WORKING ON PROBLEM.

ERROR MESSAGE - floating point error, divide by zero.

2200 : 20 MINUTES UNTIL TURN  
30 MINUTES UNTIL SOL 17  
JOE STILL WORKING ON SYNTON

2215 BRIDGE INFORMED WE MAY ~~HA~~ NEED TO LOOP IF  
SYNTON ~~NOT~~ GUN CONTROLLER NOT READY  
IN TIME TO START LINE.

2224 WE INFORMED BRIDGE TO CONTINUE TURNING,  
TO PUT OFF START OF LINE 17. JOE AND CARL  
ARE STILL WORKING ON THE SYNTON (GUN MONITOR)  
REPLACING CPU HAS NOT THUS FAR HELPED.

2250Z AUSTIN/LU ON WATCH. EN ROUTE TO  
START OF LINE 17. ALL SYSTEMS NOW APPARENTLY  
OPERATIONAL.

2308Z WINDS: REL. — 050° TEMP H<sub>2</sub>O — 15°C  
TRUE — 070° CMG/SMG — TURNING  
T.SPD — 19 Kts.

EW00-01

## CANTERBURY BASIN

J.D.015

2330Z WINDS: REL: 183° TEMP H<sub>2</sub>O — 14.9°C  
 TRUE: 71° CMG/SMG — TURNING  
 T.SPD: 19Kts. TO LINE 17.

2335Z S.O.L. 17.  
 FOLLOWING SEA. STREAMER UNDULATING, BUT DATA NOT  
 TOO NOISY.

0000Z 16 JANUARY 2000

WINDS: REL: 197° TEMP H<sub>2</sub>O — 14.7°C  
 TRUE: 58° CMG/SMG — 222°, 5.2Kts.  
 T.SPD: 20Kts. (NOT DGPS)

0030Z WINDS: REL. — 184° TEMP H<sub>2</sub>O — 14.7°C  
 TRUE — 51° CMG/SMG — 229°, 5.1Kts.  
 T.SPD. — 20Kts.

0100Z WINDS: REL — 182° TEMP H<sub>2</sub>O — 14.8 Kts  
 TRUE — 52° CMG/SMG — 227.2°, 4.9Kts  
 ~5' SWELLS, T.SPD — 20Kts. (15 MIN.)  
 OVER THE STERN.

0120Z BRIDGE INFORMS THAT THE ETA @  
 THE CLIPPER - 1 WELL IS 0645Z. E.O.L. 17 is  
 ~0805Z.

0130Z WINDS: REL: 180° TEMP H<sub>2</sub>O — 14.9°C  
 TRUE: 46° CMG/SMG — 227.8°, 4.8Kts  
 T.SPD: 23Kts. (15 MIN.)

0138Z WEATHER FORECAST FROM THE BRIDGE —  
 NE WINDS SHIFTING TO SW BY TOMORROW. SPEED  
 INCREASING TO 25 KTS.

JD 016

EW 00-01

065

16 JANUARY, 2000 CANTERBURY BASIN

0200Z WINDS: REL -  $163^{\circ}$   
 ~5' SWELLS  
 OVER THE STERN TRUE -  $42^{\circ}$   
 T. SPD - 22 Kts.

TEMP,  $H_2O$  -  $14.4^{\circ}C$   
 CMG/SMG - 228.2, 4.8 Kts.  
 (15 MIN.)

0230Z WINDS: REL -  $180^{\circ}$   
 TRUE -  $51^{\circ}$   
 T. SPD - 23 Kts.

TEMP,  $H_2O$  -  $14.3^{\circ}C$   
 CMG/SMG - 227.6, 4.8 Kts.  
 (15 MIN.)

0245Z BURG/BLOUSE ON WATCH

0300Z WINDS: REL -  $187^{\circ}$   
 TRUE -  $57^{\circ}$   
 T. SPD - 19.5 Kts

T ( $^{\circ}C$ )  $H_2O$  - 14.4  
 CMG/SMG - 228.2 / 4.9 Kts  
 (15 MIN.)

0330Z WINDS REL -  $191^{\circ}$   
 TRUE -  $61^{\circ}$   
 T. SPD - 21.2 Kts

T ( $^{\circ}C$ )  $H_2O$  - 14.9  
 CMG/SMG - 227.2 / 4.8 Kts  
 (15 MIN.)

0400Z WINDS - REL:  $190^{\circ}$   
 TRUE:  $61^{\circ}$   
 T. SPD: 19.4 Kts

T ( $^{\circ}C$ )  $H_2O$  - 14.8  
 CMG/SMG - 227.7 / 4.7 Kts  
 (15 MIN.)

0430Z WINDS: REL:  $191^{\circ}$   
 TRUE:  $62^{\circ}$   
 T. SPD: 20.0 Kts

T ( $^{\circ}C$ )  $H_2O$  - 14.7  
 CMG/SMG - 227.4 / 4.8 Kts  
 (15 MIN.)

0500Z WINDS REL:  $178^{\circ}$   
 TRUE:  $50^{\circ}$   
 T. SPD - 22.2 Kts.

T ( $^{\circ}C$ )  $H_2O$  - 14.8  
 CMG/SMG - 227.0 / 4.8 Kts  
 (15 MIN.)

0530Z WINDS REL -  $172^{\circ}$   
 TRUE -  $45^{\circ}$   
 T. SPD - 18.1 Kts

T ( $^{\circ}C$ )  $H_2O$  - 14.9  
 CMG/SMG - 227.7 / 4.8 Kts  
 (15 MIN.)

16 January, 2000

EW00-01

Canterbury Basin

0600Z

Winds -

Rel: 189°

True: 55°

T. Spd: 18.6 KTS

T(°C) H<sub>2</sub>O - 14.5CMG/SMG - 227.5°/4.8 KI  
(15 min)

0630Z

Winds:

Rel - 188°

True - 55°

T. Spd - 18.3 KTS

T(°C) H<sub>2</sub>O - 14.3CMG/SMG - 227.5°/4.7 KI  
(15 min)

0650Z

CATHRY/HERRON SHIFT

0700Z

WIND SPD 18.0 DIR 57°

CMG 227.3

REL SPD 12.2 REL DIR 196°

SMG 5.0

SEA STATE - 5' FT SEAS FROM NE (RIGHT BEHIND US)

0730Z

WIND SPD 12.4 DIR 57°

CMG 228.0

REL SPD 7.4 REL DIR 181°

SMG 4.8

0732Z

JOE HAS INFORMED ~~THE~~ THE SEISMIC DESK THAT  
THE TASMAN NAV SOURCE IS NOW DIFFERENTIAL. THIS  
MEANS THE CMG & SMG READINGS ARE NOW— MORE ACCURATE THAN WHEN THE ~~TASMAN NAV~~  
~~NAV~~ SOURCE WAS JUST GPS.AND THE  
SAME AS WHAT  
THE BRIDGE  
SEES.THE CHANGE OCCURRED SOME TIME BETWEEN  
JD 15 2300Z TO JD 16 0300Z0800Z WIND SPD - 16.1 DIR 55° CMG 227.7  
REL SPD 10.1 REL DIR 197° SMG 4.80803Z - NOW PASSING OVER "CLIPPER ONE" WAY  
POINT.

0830Z

WIND SPD 16.3

DIR 52°

CMG 228.8

REL SPD 10.5

REL DIR 180°

SMG 4.9

0900Z

WIND SPD 16.6

DIR 40°

CMG 227.5

REL SPD 11.2°

REL DIR 167°

SMG 4.8

0925Z

END OF LINE 17. TOW CABLE OF STREAMER WILL  
NOW BE PULLED AND WEIGHTED WITH CHAIN IN AN ATTEMPT TO  
KEEP THE NEAR END OF STREAMER DOWN.

016, 16 JANUARY, 2000

1040Z STREAMER WORK ON TOWLEADER VERY QUICK  
ALL DONE. TESTOSTERONE RULES. ~40 lbs of  
lead added to outboard end of leader.  
Geometry unchanged.

1025Z SOL 15,

1026:30Z PASS WAY POINT ST15.

10:30Z WIND. REL SP 16.6 KLS TRUE SP ~~12.2~~ 12.2 CMG 48.4  
REL DIR 0 TRUE DIR 48 KTS SNG 4.8  
SWT 14.9.

FIRST IMPRESSION IS STREAMER BEHAVING BETTER

1050Z Austin/LV on watch. Profile 15. Ops. normal

1100Z WINDS: REL — 358° TEMP H<sub>2</sub>O — 14.8°C  
TRUE — 44° CMG / SNG — 48.2, 4.8 Kts  
T. SPD — 11 Kts (15 MIN.)

WINDS DECREASING. SHIP'S MOTION DECREASING.  
STREAMER TOWING FLATTER THAN DURING PROFILE  
17.

1130Z WINDS: REL — 001° TEMP H<sub>2</sub>O — 14.9°C  
TRUE — 45 Kts. CMG / SNG — 47.3, 4.9 Kts  
T. SPD — 9 Kts (15 MIN.)

1200Z WINDS: REL — 358° TEMP H<sub>2</sub>O — 14.7°C  
TRUE — 38° CMG / SNG — 47.7, 5.0 Kts  
T. SPD — 11 Kts (15 MIN.)

1205Z LARGE PASSENGER SHIP PASSING ~ 2.5 MI.  
TO PORT.

1230Z WINDS: REL — 355° TEMP H<sub>2</sub>O — 14.6°C  
TRUE — 36° CMG / SNG — 47.6, 4.8 Kts  
T. SPD — 10 Kts (15 MIN.)

EN00-01

JD

CANTERBURY BASIN

016/16 January 2000

1300Z WINDS = REL. = 355°  
 TRUE = 36°  
 T.SPD = 10 Kts.

TEMP. H<sub>2</sub>O = 14.6°C  
 CMG/SMG = 47.79, 5 Kts.  
 (15 MIN.)

1330Z WINDS = REL. = 002°  
 TRUE = 47°  
 T.SPD = 11 Kts.

TEMP. H<sub>2</sub>O = 14.7°C  
 CMG/SMG = 47.8°, 5 Kts.  
 (15 MIN.)

1400Z WINDS = REL. = 002°  
 TRUE = 54°  
 T.SPD = 5 Kts.

TEMP. H<sub>2</sub>O = 14.7°C  
 CMG/SMG = 47.2°, 5 Kts.

1417Z BRIDGE INFORMS THAT END OF THIS  
 PROFILE WILL BE AT ~1945Z.

1430Z WINDS = REL. = 003°  
 TRUE = 50°  
 T.SPD = 5 Kts.

TEMP. H<sub>2</sub>O = 14.6°C  
 CMG/SMG = 47.5, 5 Kts.  
 (15 MIN.)

1500Z WINDS = REL. = 10°  
 TRUE = 41°  
 T.SPD = 6.2 Kts.

TEMP. H<sub>2</sub>O = 14.6°C  
 CMG/SMG = 48.1°/5 Kts.  
 (15 MIN.)

1530Z WINDS = REL. = 312°  
 TRUE = 360°  
 T.SPD = 30 Kts.

TEMP. H<sub>2</sub>O = 14.4°C  
 CMG/SMG = 47.5°/4.8 Kts.  
 (15 MIN.)

1600Z WINDS = REL. = 355°  
 TRUE = 25°  
 T.SPD = 2.5 Kts.

TEMP. H<sub>2</sub>O = 14.7°C  
 CMG/SMG = 47.3°/4.2 Kts.  
 (15 MIN.)

1630Z WINDS = REL. = 19°  
 TRUE = 88°  
 T.SPD = 4.8 Kts.

TEMP. H<sub>2</sub>O = 15.0°C  
 CMG/SMG = 47.6°/4.8 Kts.  
 (15 MIN.)



16 January, 2000

EW00-01

Canterbury Basin

1700Z Winds: Rel -  $21^{\circ}$   
 True -  $89^{\circ}$   
 T. Spd - 5.5 KTS

T( $^{\circ}$ C)H<sub>2</sub>O - 14.9  
 CMG/SMG - 47.3°/49 KTS  
 (15 min)

1730Z Winds: Rel -  $15^{\circ}$   
 True -  $80^{\circ}$   
 T. Spd - 5.0 KTS

T( $^{\circ}$ C)H<sub>2</sub>O - 14.4  
 CMG/SMG - 47.4°/5.0 KTS  
 (15 min)

1800Z Winds: Rel -  $16.0^{\circ}$   
 True -  $82.0^{\circ}$   
 T. Spd - 5.6 KTS

T( $^{\circ}$ C)H<sub>2</sub>O - 14.3  
 CMG/SMG - 47.6°/5.0 KTS  
 (15 min)

Sea State (est.) - ~1' waves with ~2-3 Swells

1830Z Winds: Rel -  $22^{\circ}$   
 True -  $92^{\circ}$   
 T. Spd - 4.5 KTS

T( $^{\circ}$ C)H<sub>2</sub>O - 14.6  
 CMG/SMG - 48.1°/5.0 KTS  
 (15 min)

1850Z BURGER/BROWNE OFF CATHO/HERR ON

1900Z WINDS REL SP 7.2 TRUE SP. 2.3 CMG 46.6 } 15 MIN  
 REL DIR 0 TRUE DIR 48 SMG 4.8 }  
 SWT 14.8

STREAMER IS MUCH QUIETER THAN YESTERDAY AND IS  
 STAYING AT APPROXIMATELY THE CORRECT DEPTH

1930Z WINDS REL SP 8.9 TRUE SP 4.8 CMG 47.8 } 15 MIN  
 REL DIR 22 TRUE DIR 83 SMG 4.7 }  
 SWT 14.7  $^{\circ}$ C

1941Z PASS WAY POINT 15 ED IN 1 MIN, 13 MIN TO START  
 OF TURN ONTO LINE 13

2000Z - IN TRANSIT TO LINE 13.

2030Z TRUE WIND SPEED ONLY JUST OVER 1 KNOT. QUIET SEA.  
 WE ARE STILL IN TRANSIT TO LINE 13

JD 016

CANTEBURY BASIN

010

16 JANUARY, 2000

20:43 ETA TO SOL 13 20:56.

2100Z WIND SPD 1.1 DIR. 94° CMG 227°  
REL SPD 4.0 REL DIR 346 SMG 4.5

SEA WATER TEMP. 14.9°

2121Z FIRE AND EMERGENCY DRILL. A VERITABLE MUSTER  
PARTY IN THE LAB. WATCHSTANDERS ARE EXEMPT.

2130Z WIND SPD 1.8 DIR 71° CMG 227.7°  
REL SPD 3.8 REL DIR 355° SMG 4.7

2200Z WIND SPD - 1.4 DIR - 158° CMG 227.4  
REL SPD - 6.3 REL DIR - 352° SMG 4.9

2230Z WIND: REL SPD 5.9 TRUE SPD 1.1 SMG 4.9  
REL DIR 349 TRUE DIR 151 CMG 223.1  
SWT 14.5°C

2240Z AUSTIN/LU ON WATCH. PROFILE 13 OPS NORMAL.

2300Z WINDS: REL - 345° TEMP H<sub>2</sub>O - 14.4°C  
CALM TRUE - 186° CMG/SMG - 227.8, 5 Kts.  
SEAS T.SPD - 4 Kts. (15 MIN.)

2314Z THE BRIDGE INFORMS THAT THE E.O.L. IS  
IS 1948L/0648Z, 17 JANUARY.

2330Z WINDS: REL - 341° TEMP H<sub>2</sub>O - 14.7°C  
CALM TRUE - 68° CMG/SMG - 227.7, 5 Kts.  
SEAS T.SPD - 3 Kts. (15 MIN.)

17 JANUARY 2000 / J.D. 017

0000Z WINDS: REL - 321° TEMP H<sub>2</sub>O - 15°C  
CALM SEAS. TRUE - 106° CMG/SMG - 227.6°  
T.SPD - 3 Kts. (15 MIN.) 5 Kts.

0030Z REL - 338° TEMP H<sub>2</sub>O - 14.9°C  
CALM SEAS. TRUE - 136° CMG/SMG - 227.3°  
T.SPD - 2 Kts. (15 MIN.) 4.8 Kts.

# EN00-01 CANTERBURY BASIN

ID.017/17 JANUARY 2000

⇒ PROFILE 13, OPS. NORMAL

0100Z WINDS: REL — 352°  
CALM TRUE — 100°  
SEAS T.SPD — 2 Kts.

TEMP. H<sub>2</sub>O — 14.6°C  
CMG/SMG — 227.7°, 4.8 Kts.  
(15 MIN.)

0130Z WINDS: REL — 324°  
CALM TRUE — 112°  
SEAS T.SPD — 4 Kts.

TEMP. H<sub>2</sub>O — 14.5°C  
CMG/SMG — 227.5°, 4.9 Kts.  
(15 MIN.)

0200Z WINDS: REL — 333°  
CALM TRUE — 162°  
SEAS T.SPD — 3 Kts.

TEMP. H<sub>2</sub>O — 14.4°C  
CMG/SMG — 228.1°, 4.9 Kts.  
(15 MIN.)

0230Z WINDS: REL — 330°  
CALM TRUE — 101°  
SEAS T.SPD — 3 Kts.

TEMP. H<sub>2</sub>O — 15.1°C  
CMG/SMG — 226.8°, 4.8 Kts.  
(15 MIN.)

0240Z BROWNIE / SURGER ON WATCH.

0300Z WINDS: REL — 296°  
CALM TRUE — 100°  
SEAS T.SPD — 4.6 Kts.

TEMP (°C) H<sub>2</sub>O — 15.4  
CMG/SMG — 227.4°/4.9 Kts.  
(15 MIN.)

0330Z WINDS: REL — 295°  
CALM TRUE — 109°  
SEAS T.SPD — 5.2 Kts.

T (°C) H<sub>2</sub>O — 15.6  
CMG/SMG — 228.1°/4.8 Kts.  
(15 MIN.)

0400Z WINDS: REL — 258°  
CALM TRUE — 94°  
SEAS T.SPD — 8.0 Kts.

T (°C) H<sub>2</sub>O — 15.2  
CMG/SMG — 227.9°/4.9 Kts.  
(15 MIN.)

17 January, 2000

EW00-01

Canterbury Basin

Profile 13 (cont.)

0430Z Winds - Rel — 262°  
 Calm seas True — 29°  
 T. Spd — 7.1 kts Temp(°C) H<sub>2</sub>O — 16.1  
 CMG/SMG —  
 (15 min) 227.4/4.5

0500Z Winds - Rel — 279°  
 True — 102°  
 T. Spd — 6.1 kts Temp(°C) H<sub>2</sub>O — 15.7  
 CMG/SMG — 228.6°/4.6 kts  
 (15 min.)

0530Z Winds - Rel — 281°  
 True — 110°  
 T. Spd — 7.9 kts H<sub>2</sub>O Temp(°C) — 15.9  
 CMG/SMG — ~~228.6°/4.6 kts~~  
 (15 min.) 227.9°/4.9 kts

Minimal waves, 2-3' swells

0600Z Winds: Rel — 283°  
 True — 117°  
 T. Spd. — 7.1 kts Temp(°C) H<sub>2</sub>O — 15.4  
 CMG/SMG — 227.9°/4.9 kts  
 (15 min.)

Bubbles from starboard gun reaching surface consistently before those from port gun. Joe Stennett and Carlos Gutierrez are convinced guns are synchronised. Could they be at different depths?

0630Z Winds: Rel — 287°  
 True — 101°  
 T. Spd — 5.9 kts Temp(°C) H<sub>2</sub>O — 15.5  
 CMG/SMG — 227.4°/4.8 kts  
 (15 min.)

We'll pull starboard gun (at least) during turn to check for towing problems.

17 JANUARY, 2000 EW00-01 CANTERBURY BASIN.

0643Z. PROLOG CALLS 12 MINUTES TO START OF TURN.

0654Z Turn starting, end Line 13

0656Z Burger / Brown OFF

0656Z EOL 13

0659 Transit to Line 11. <sup>During Line 13</sup> Fulthorpe noticed that bubble from starboard gun was reaching surface before port gun and suspects that ~~port~~ this gun may be towing shallower than the port gun. During this transit the starboard gun will be pulled to assess the problem.

0709 Fulthorpe has asked bridge to slow down for gun maintenance. 2 Chains on port gun have broken so port gun was towing lower than starboard gun. Expect maintenance to be at least 1/2 hour. Again testosterone rampaging on fantail.  
(172 ft. from fantail to starboard gun.) (measured)

0730Z BOTH GUNS ARE IN AND WILL HAVE ~~SHACKLES~~ <sup>SHACKLES</sup> REPLACED WITH HEAVIER ONES. TWO ~~SHACKLES~~ <sup>SHACKLES</sup> DISCOVERED BROKEN ON THE PORT GUN, THEY WILL REPLACE THEM ALL. MAY TAKE ANOTHER 20-30 MINS (Port gun, therefore, was towing deeper.)

0750Z PORT GUN RE-DEPLOYED BUT WAS NOT FIRING PROPERLY, SO THE SPARE GUN IS BEING FITTED WITH SPACERS TO REPLACE IT. WE PROBABLY WON'T BE READY TO GO BACK ON LINE FOR AT LEAST ANOTHER 30 MIN.

0823Z. SPARE GUN ~~AT~~ REDEPLOYED ON PORT SIDE

0827Z. BOAT ~ 4 1/2 NM from SOL. CRAIG HAS ASKED BRIDGE TO HEAD FOR SOL.

0919Z STARTING TURN INTO LINE 11. APPROX 30 MINUTES FROM WAYPOINT.

JD 17 EWOOD-01 CANTERBURY BASIN

JANUARY 17, 2000

0930Z STILL TURNING ONTO LINE 11

0943Z ETA TO SOL 11 0943.

0940Z START RECORDING LINE 11.

0942Z PASSED WAYPOINT ST 11

1000Z WIND SP. 6.9 DIR 94° CMG 45.8  
REL SP. 10.5 REL DIR 30° SMG 5.0

1030Z WIND REL SP 6.5 KTS TRUE SP 3.6 KTS CMG 47.7  
REL DIR 36° TRUE DIR 131° SMG 5.0  
SWT 15.1°C.

FOR MAINTENANCE  
IF THE STARBOARD GUN DOES NOT FAIL WHILE  
ON THIS LINE JOHN DIEBOLD SUGGESTS PULLING  
IT AT THE END OF LINE AS IT WAS SHOWING  
SIGNS OF WEAR, ~~WEAR~~

1050Z AUSTIN/LO ON WATCH. LINE 11. OPS. NORMAL.

1100Z WINDS: REL — 31° TEMP, H<sub>2</sub>O — 15.0°C  
TRUE — 131° CMG/SMG — 47.7, 4.9 Kts.  
T.SPD — 2 Kts (15 MIN.)

1130Z WINDS: REL — 41° TEMP, H<sub>2</sub>O — 15.5°C  
TRUE — 142° CMG/SMG — 47.4, 5.0 Kts.  
T.SPD — 5 Kts (15 MIN.)

1200Z WINDS: REL — 46° TEMP, H<sub>2</sub>O — 15.4°C  
TRUE — 140° CMG/SMG — 47.4, 4.8 Kts.  
T.SPD — 5 Kts (15 MIN.)

1230Z WINDS: REL — 80° TEMP, H<sub>2</sub>O — 15.6°C  
TRUE — 168° CMG/SMG — 47.9, 5 Kts.  
T.SPD — 7 Kts (15 MIN.)

EW 00-01

015

## CANTERBURY BASIN

JD 017 / 17 JANUARY 2000

1300Z WINDS: REL — 90°

TEMP H<sub>2</sub>O — 15.6°C

TRUE — 184°

CMG/SMG — 48.7° SKTS.

LINE 11,

T. SPD. — 6 KTS

(15 MIN.)

OPS.

NORMAL.

1330Z WINDS: REL — 95°

TEMP H<sub>2</sub>O — 15.8°C

TRUE — 177°

CMG/SMG — 47.8° SKTS.

T. SPD — 8 KTS.

(15 MIN.)

KTS.

1400Z WINDS: REL — 89°

TEMP H<sub>2</sub>O — 15.7°C

TRUE — 178°

CMG/SMG — 47.5° SKTS.

T. SPD — 6 KTS. (15 MIN.)

1410Z CHECKED GUNS.  
SURFACE SIMULTANEOUSLY.BUBBLES ARRIVING AT THE  
ALL SEEMS NORMAL.

1425Z E.T.A., END OF THIS PROFILE 11, IS 2000Z.

1430Z WINDS: REL — 107°

TEMP H<sub>2</sub>O — 15.6°C

TRUE — 183°

CMG/SMG — 46.8° SKTS.

T. SPD — 8 KTS.

(15 MIN.)

1440Z ISHAWNE / BURGER ON WATCH.

1500Z WINDS: REL — 73°

TEMP (°) H<sub>2</sub>O — 14.7

TRUE — 162°

CMG/SMG — 47.5° SKTS.

T. SPD — 8.2 KTS

(15 MIN.)

1530Z WINDS: REL — 71°

T (°) H<sub>2</sub>O — 15.1

TRUE — 180°

CMG/SMG — 47.3° SKTS.

T. SPD — 7.5 KTS

(15 MIN.)

EW 00-01

016

## Canterbury Basin

17 January, 2000

1600Z Winds- Rel —  $75^{\circ}$   
 True —  $167^{\circ}$   
 T. spd — 6.8 KTS

$T(^{\circ}\text{C})\text{H}_2\text{O} - 15.6$   
 $\text{CMG/SMG} - 477/4.9\text{KTS}$   
 (15 min)

1630Z Winds Rel —  $74^{\circ}$   
 True —  $164^{\circ}$   
 T. spd. — 6.4 KTS

$T(^{\circ}\text{C})\text{H}_2\text{O} - 15.5$   
 $\text{CMG/SMG} - 473/4.9\text{KTS}$   
 (15 min)

1647Z CANNING sometimes missing. PORT GUN HAS DOUBLE PEAK  
 ~ ONCE EVERY 10 MINUTES — STARBOARD GUN HAS  
 FLT DISPLAY ON MONITOR ~ ONCE EVERY 20 MINUTES.

1700Z Winds Rel —  $85^{\circ}$   
 True —  $172^{\circ}$   
 T. spd — 6.9 KTS

$T(^{\circ}\text{C})\text{H}_2\text{O} - 15.4$   
 $\text{CMG/SMG} - 480/4.7\text{KTS}$   
 (15 min)

Waves ~ 1-2', minor swells

1730Z Winds Rel —  $82^{\circ}$   
 True —  $174^{\circ}$   
 T. spd — 5.9 KTS

$T(^{\circ}\text{C})\text{H}_2\text{O} - 14.7^{\circ}$   
 $\text{CMG/SMG} - 474/4.9\text{KTS}$   
 (15 min)

1800Z Winds - Rel:  $67^{\circ}$   
 True:  $183^{\circ}$   
 T. spd: 4.8 KTS

$T(^{\circ}\text{C})\text{H}_2\text{O} - 15.5^{\circ}$   
 $\text{CMG/SMG} - 476/5.1\text{KTS}$   
 (15 min)

1830Z Winds - Rel:  $97^{\circ}$   
 True:  $187^{\circ}$   
 T. spd: 6.3 KTS

$T(^{\circ}\text{C})\text{H}_2\text{O} - 15.4$   
 $\text{CMG/SMG} - 476/4.9\text{KTS}$   
 (15 min)

~ 1' waves with ~ 2-3' swells



EW00-01  
Canterbury Basin

011

17 January, 2000

1850Z Burger/Browne OFF watch  
CATHRO/HERR ON WATCH.

1900Z WINDS RELSP 4.8 kts TRUESP 7.1 kts CMG 47.2°  
RELDIR 109° TRUEDIR 191° SMG 5.0 kts  
SWT 15.7°C.

1930Z WINDS: RELSP 6.9 kts TRUESP 7.5 kts CMG 47.6°  
RELDIR 91.0° TRUEDIR 172° SMG 4.9 kts  
SWT 15.6°C.

1943Z CROSSING WAYPOINT AT END LINE 11, 13 MINUTES  
UNTIL 1 nm runout.

1956Z END OF RECORDING LINE 11

2000Z WINDS RELSP 8.8 kts TRUESP 8.1 kts CMG 47.6°  
RELDIR 80° TRUEDIR 146 SMG 4.8 kts  
SWT = 15.5°C.

2015Z BRIDGE REQUESTED TO REMAIN ON CURRENT COURSE  
WHILE ~~SEA~~ STARBOARD GUN PULLED FOR MAINTENANCE.

2052Z WORD GIVEN TO BRIDGE TO START TURN TOWARD  
LINE 9. ~~SEA~~ STARBOARD GUN IS BACK IN WATER,  
AND APPEARS TO BE FIRING NORMALLY.

2116Z HAVE JUST FINISHED TURN, WILL REACH  
1 MILE LEAD IN AT 21:42Z AND WAYPOINT FOR

2124Z WILL START LINE A EARLY TO TAKE ADVANTAGE  
OF EXTRA LEAD IN TIME ON THIS LINE

21:29. STARTED RECORDING LINE 09.

EW00-01 CANTERBURY BASIN.

078

JULIAN DAY 17, 17 JANUARY 2000

21:30Z WINDS: REL SP 7 Kts TRUE SP 5.2 Kts CMG 227.7° 15M.  
REL DIR 311° TRUE DIR 139° SMG 4.1 Kts AV.  
SWT. 15.7°C.

2200Z WINDS: REL SP 8.9 Kts TRUE SP 6.1 Kts CMG 226°  
REL DIR 324° TRUE DIR 153° SMG 4.8 Kts  
SWT(°C)

2212Z PASSED ORIGINAL WAYPOINT FOR SOL 9.

2230Z WINDS: REL SP 8.2 Kts TRUE SP 4.7 Kts CMG 228°  
REL DIR 323.0° TRUE DIR 146° SMG 4.8 Kts

2237Z STARBOARD GUN SHOWING INTERMITTENT  
FLAT LINES. DON'T KNOW WHETHER THIS IS  
THE SAME PROBLEM WITH THE SYNTRON PROGRAM  
BUT WILL WATCH IF FREQUENCY INCREASES.

2250Z AUSTIN/LV ON WATCH. LINE 9. OPS.  
NORMAL.

2300Z WINDS: REL — 329° TEMP. H<sub>2</sub>O — 15.4°  
TRUE — 144° CMG/SMG — 227.2°, 5 Kts.  
T.SPD. — 4 Kts (15 MIN.)

2330Z WINDS: REL — 328° TEMP. H<sub>2</sub>O — 15.6°C  
TRUE — 144° CMG/SMG — 228.1°, 4.8 Kts.  
T.SPD. — 4 Kts (15 MIN.)

0000Z 18 JANUARY, 2000

WINDS: REL — 342° TEMP. H<sub>2</sub>O — 15.6°C  
CALM TRUE — 152° CMG/SMG — 227°, 5.2 Kts  
SEAS T.SPD. — 2.2 Kts (15 MIN.)

0010Z CHECKED GUN TOWS. OK.

EW00-01

079

# CANTERBURY BASIN

J.D.018 / 18 JANUARY 2000

0030Z WINDS: REL. — 337° TEMP, H<sub>2</sub>O — 15.3°C  
CALM TRUE — 160° CMG/SMG — 227.5°, 5kts.  
SEAS T.SPD — 5kts. (15 MIN.)

0032Z THE BRIDGE INFORMS THAT THE END OF  
PROFILE 9 — 0850Z —

0100Z WINDS: REL. — 320° TEMP, H<sub>2</sub>O — 15.5°C  
TRUE — 158° CMG/SMG — 227.5°, 4.9kts.  
T.SPD. — 7kts. (15 MIN.)

0058Z COMPRESSOR MALFUNCTION. GUNS SHUT  
OFF.

0059Z AIR BACK UP, GUNS OPERATIONAL AGAIN.  
PROBABLY DID NOT MISS MORE THAN 12-15  
SHOTS STILL ON LINE 9.

0130Z WINDS: REL. — 315° TEMP, H<sub>2</sub>O — 15.7°C  
TRUE — 163° CMG/SMG — 227.9°, 4.9kts.  
T.SPD. — 11kts. (15 MIN.)

0200Z WINDS: REL. — 292° TEMP, H<sub>2</sub>O — 15.3°C  
TRUE — 119° CMG/SMG — 227.6°, 4.8kts.  
CALM SEAS T.SPD. — 8kts. (15 MIN.)

0210Z TOWS CHECKED. STARBOARD GUN TOWING TOO  
FAR INBOARD, AND THREW OFF A BIG PIECE OF WEED  
AS WE WATCHED. NOW, TOWS NORMAL.

0230Z WINDS: REL. — 292° TEMP, H<sub>2</sub>O — 15.6°C  
TRUE — 116° CMG/SMG — 227°, 5kts.  
T.SPD. — 6kts. (15 MIN.)

0251Z BROWNE / SUGIER ON WATCH.

E WOO - 01

JD 18

## CANTERBURY BASIN.

0300 Z WINDS REL: 274°  
 TRUE: 88°  
 T SPD: 7.7 KTS  
 TEMP H<sub>2</sub>O: 16.1  
 CMG/SMG  
 (15 MIN): 225.1/5.0

0330 Z WINDS REL: 265°  
 TRUE: 89°  
 T SPD: 9.0 KTS  
 TEMP H<sub>2</sub>O: 16.6°  
 CMG/SMG  
 (15 MIN): 228.0/4.9

0400 Z WINDS REL: 286°  
 TRUE: 119°  
 T SPD: 7.0 KTS  
 TEMP H<sub>2</sub>O: 15.1°  
 CMG/SMG  
 (15 MIN): 227.9/4.9

0430 Z WINDS - Rel: 274°  
 True: 105°  
 T SPD: 9.3 KTS  
 Temp H<sub>2</sub>O - 16.4°C  
 CMG/SMG  
 (15 MIN) - 227.6/5.1 KTS

0500 Z WINDS REL: 281°  
 TRUE: 116°  
 T SPD: 9.0 KTS  
 TEMP H<sub>2</sub>O: 16.1°  
 CMG/SMG  
 (15 MIN): 226.6/4.7

0530 Z WINDS REL: 263°  
 TRUE: 107°  
 T SPD: 9.5 KTS  
 TEMP H<sub>2</sub>O: 16.5°  
 CMG/SMG  
 (15 MIN): 227.4/4.9

0600 Z WINDS REL: 301°  
 TRUE: 144°  
 T SPD: 8.2 KTS  
 TEMP H<sub>2</sub>O: 16.4°  
 CMG/SMG  
 (15 MIN): 228.1/4.7

0613 Z - HAVE OBSERVED SEAS BECOMING ROUGHER.

0630 Z WINDS REL: 303°  
 TRUE: 133°  
 T SPD: 7.8 KTS  
 TEMP H<sub>2</sub>O: 16.0°  
 CMG/SMG  
 (15 MIN): 227.4/4.8

0643 Z: BROWNE / BURGER OFF WATCH  
 CATHRO / HERR ON WATCH.

TD 18

CANTERBURY BASIN.

0700Z WIND: REL SP. 11.6 kts TRUE SP. 10.0 kts CMG 226.8°  
 REL DIR. 299° TRUE DIR. 136° SMG 4.8 kts  
 SWT. 16.4°C

0730Z WIND: REL SP. 8.6 TRUE SP. 9.6 CMG 227.6°  
 REL DIR. 288 TRUE DIR. 126 SMG 4.7  
 SWT 15.8°C.

0739Z ESTIMATED TIME TO WAYPOINT 0836Z  
 ESTIMATED TIME TO START OF TURN 0849Z

0800Z WIND: REL SP. 11.2 kts TRUE SP. 8.4 kts CMG 226.6°  
 REL DIR. 309° TRUE DIR. 138° SMG 4.8 kts  
 SWT 15.9°C

0830Z WIND: REL SP. 10.9 kts TRUE SP. 9.7 kts CMG 227.9°  
 REL DIR. 300° TRUE DIR. 133° SMG 5.0 kts  
 SWT. 15.8°C.

0839Z SHIP PASSING WAYPOINT FOR EOL 11, 13 MINUTES TO 1 NM RUNOUT

0851Z END RECORDING EOL 11.

0900Z TRANSIT TO LINE 7.

0928Z START OF LINE 7

0930Z WIND REL SP. 12.6 kts TRUE SP. 11.8 kts CMG ~~5.2~~ 249.3°  
 REL DIR. 55° TRUE DIR. 132° SMG 5.2 kts  
 SWT. 15.8°C

0938Z BIRD CLOSEST TO SHIP IS AT ~5M. JOHN DIEBOLD  
 LOOKING INTO PROBLEM.

0946Z JOE HAS ASKED BRIDGE TO SPEED UP TO SEE IF  
 FRONT OF CABLE WILL COME UP.

EW00-01

JD 10

CANTERBURY BASIN

18 JANUARY 2000

→ ~5M

0957 THE STREAMER IS STILL TOWING DEEP IN THE FIRST ZOOM.  
REASON UNKNOWN AT THIS POINT

- BIRD HALF OFF OR SPUN AROUND WORKING AGAINST THE CABLE

- HOLE IN CABLE. (JAMIE SAW GUN MIGRATE OVER STREAM EARLIER IN THE DAY.)  
WILL PULL STREAMER IN TO INVESTIGATE

~~10:53~~

10:05. EOL 7 TO LOOK AT STREAMER.  
SHIP ASKED TO TURN AROUND ONTO A  
RECIPROCAL COURSE WHILE STREAMER  
~~LOOKED AT~~ PULLED IN.

10:07 GUNS TURNED OFF FOR STREAMER WORK.

10:19 CRAIG HAS ASKED BRIDGE TO SLOW DOWN AS  
MUCH AS POSSIBLE BUT TO REMAIN AT 3 KNOTS  
WHILE THE STREAMER WORK IS HAPPENING.

1030-1050Z STREAMER PULLED IN TO INBOARD END OF  
TRACE 120 FOR INSPECTION. STRETCH OK. BIRD #12 "STIFF" IN  
ITS COLLARS, ALTHOUGH RECOVERED IN UPRIGHT POSITION. BIRD  
#12 REPLACED. STREAMER RE-DEPLOYED. TOWING OK.  
TRANSITING AS FAST AS STREAMER TENSION ALLOWS TO RE-START 7.

1050Z AUSTIN/LU ON WATCH. GETTING READY TO RE-  
START PROFILE 7, AS PROFILE 7A.

1102Z WINDS: REL - 315°      TEMP H<sub>2</sub>O - 15.6°C  
TRUE - 141°      CMG/SMG - 218.5' 4.7kt  
TSPD - 7kt      (15 MIN.)

115Z GUNS TURNED BACK ON. OPERATING NORMALLY.

FW 00+01

## CANTERBURY BASIN

J.D 018 — 18 JANUARY, 2000

1130Z WINDS: REL — 289°  
 TRUE — 112°  
 T.SPD — 8 Kts.  
 TEMP, H<sub>2</sub>O — 15.4°C  
 CMG/SMG — 222.8°, 4.9 Kts.  
 (15 MIN.)  
 TURNING TO 7A.

1200Z S.O.L. 7A — Reshoot of 7.  
 STREAMER TOWING WELL.

1230Z WINDS: REL — 52°  
 TRUE — 124°  
 T.SPD — 8 Kts.  
 TEMP, H<sub>2</sub>O — 15.6°C  
 CMG/SMG — 47.9°, 4.9 Kts.  
 (15 MIN.)

THE BRIDGE INFORMS THAT THE E.O.L. 7A WILL BE 2100Z.

1300Z WINDS: REL — 29°  
 TRUE — 95°  
 T.SPD — 6 Kts.  
 TEMP, H<sub>2</sub>O — 15.7°C  
 CMG/SMG — 47.3°, 4.9 Kts.  
 (15 MIN.)

1330Z WINDS: REL — 16°  
 TRUE — 75°  
 T.SPD — 6 Kts.  
 TEMP, H<sub>2</sub>O — 15.4°C  
 CMG/SMG — 48.1°, 5.1 Kts.  
 (15 MIN.)

1400Z WINDS: REL — 22°  
 TRUE — 86°  
 T.SPD — 7 Kts.  
 TEMP, H<sub>2</sub>O — 15.6°C  
 CMG/SMG — 46.5°, 4.8 Kts.  
 (15 MIN.)

1430Z WINDS: REL — 16°  
 TRUE — 75°  
 T.SPD — 6 Kts.  
 TEMP, H<sub>2</sub>O — 16.1°C  
 CMG/SMG — 47.8°, 5 Kts.  
 (15 MIN.)

1435Z GUN TOWS CHECKED. THEY LOOK OK.

1450Z Burger/Browne on Watch

EW00-01

## Canterbury Basin

18 January, 2000

Line 7

1500Z Winds - Rel:  $4^{\circ}$   
 True:  $54^{\circ}$   
 T. Spd: 8.8 KTS

T( $^{\circ}$ C) H<sub>2</sub>O - 16.3  
 CMG/SMG  
 (15 min) - 47.8/4.9K

1530Z Winds - Rel:  $344^{\circ}$   
 True:  $22^{\circ}$   
 T. Spd: 11.1 KTS

T( $^{\circ}$ C) H<sub>2</sub>O - 16.0  
 CMG/SMG  
 (15 min) - 47.2/4.9K

1600Z Winds - Rel:  $343^{\circ}$   
 True:  $20^{\circ}$   
 T. Spd: 12.3 KTS

T( $^{\circ}$ C) H<sub>2</sub>O - 16.0  
 CMG/SMG  
 (15 min) - 46.1/4.8KTS

1630Z Winds - Rel:  $342^{\circ}$   
 True:  $22^{\circ}$   
 T. Spd: 12.6 KTS

T( $^{\circ}$ C) H<sub>2</sub>O - 16.0  
 CMG/SMG  
 (15 min) - 46.1/4.7KTS

1700Z Winds Rel:  $345^{\circ}$   
 True:  $21^{\circ}$   
 T. Spd: 10.8 KTS

T( $^{\circ}$ C) H<sub>2</sub>O - 16.6  
 CMG/SMG  
 (15 min) - 47.6/5.1KTS

1730Z Winds REL:  $355^{\circ}$   
 TRUE:  $34^{\circ}$   
 T SPD: 9.2 KTS

T H<sub>2</sub>O: 16.4  
 CMG/SMG  
 (15 min) - 47.7/5.0

1800Z Winds REL:  $0.00^{\circ}$   
 TRUE:  $47.0$   
 T SPD: 9.2 KTS

T H<sub>2</sub>O: 16.4  
 CMG/SMG  
 (15 min) - 47.1/4.9

1830Z Winds REL:  $1.0^{\circ}$   
 TRUE:  $44.0^{\circ}$   
 T SPD: 10.5

T H<sub>2</sub>O: 16.0  
 CMG/SMG: 47.4/4.9



EW00-01

IDIB.

## CANTERBURY BASIN

850 CATHRO/HEAR ON WATCH.

1900 WINDS: RELSP 13.6 kts TRUEAR 0° CMG 48.1°  
 RELDIR 328° TRUESP 10 kts SMG 5.1 kts  
 SWT: 15.8°C.

1930 WINDS: RELSP 9.9 kts TRUEAR 1.0° CMG 47.3°  
 RELDIR 336° TRUESP 8.2 kts SMG 5.0 kts  
 SWT(°C) 16.0°C

2000Z WINDS SPD- 6.9 DIR- 15.0 CMG 47.2  
 REL SPD- 11.0 RELDIR 341° SMG 4.9

2030Z WINDS SPD- 6.4 DIR- 23° CMG 47.4  
 REL SPD- 10.5 RELDIR- 348° SMG 4.9

- BRIDGE INFORMS US THE E.O.L. 7 WAYPOINT WILL BE  
 CROSSED AT 2045Z, START OF TURN AT 2058Z.

2043Z PASS WAYPOINT FOR EOL 7A, CONTINUE FOR  
 1NM PAST WAYPOINT

2056Z 3 1/2 kHz RAN OUT OF PAPER.

2057Z EOL 7A

2100Z TURNING TO LINE 5

2122Z 3 1/2 kHz BACK ON-LINE

2136Z FINISHED TURN, 13 MINUTES TO CROSS LINE 5 WAYPOINT

2149Z SOL 5,

2200Z WIND RELSP 5.1 kts TRUESP 9.6 kts CMG 227.3°  
 RELDIR 213° TRUEDIR 62° SMG 4.8 kts  
 SWT 16°C.

2230Z WIND: RELSP 6.9 kts TRUESP 12.4 kts CMG 228.1°  
 RELDIR 214° TRUEDIR 66° SMG 4.9  
 SWT 16.1°C.

JD 18

CANTERBURY BASIN

18 JANUARY 2000

MINOR.

22:37z LOW FREQUENCY SWELL NOISE STARTING TO APPEAR  
ON SHOT RECORDS

22:45z AUSTIN ON WATCH. LINE 5. OPS. NORMAL.  
WEATHER BEAUTIFUL!!!

2300z WINDS: REL. — 202°  
TRUE — 59°  
T.SPD. — 13Kts. TEMP, H<sub>2</sub>O — 16.4°C  
CMG/SMG — 226.7, 4.9Kts.  
(15 MIN.)

2330z WINDS: REL. — 206°  
TRUE — 61°  
T.SPD. — 13Kts. TEMP, H<sub>2</sub>O — 16.1°C  
CMG/SMG — 227.7, 4.9Kts.  
(15 MIN.)

0000z 19 JANUARY 2000

WINDS: REL. — 208°  
TRUE — 62°  
T.SPD. — 13Kts. TEMP, H<sub>2</sub>O — 16.0°C  
CMG/SMG — 227.2, 4.9Kts.  
(15 MIN.)

0001z SHOT TIMES NOT INCREMENTING.  
NO DATA BEING ACQUIRED. LAST ACQUISITION  
FILE — TAPE #279, FILE #1567 (≈ SHOT #55183).

0010z DATA BEING ACQUIRED AGAIN. RESET SHOT  
# TO 55200. 55200 = 1568, TAPE #279.  
TIME LOST ~ 10 MINUTES. PROBABLY A SMALL  
DATA GAP. CONTINUING TO SHOOT LINE. THE PROBLEM  
MAY HAVE OCCURRED BECAUSE JOE/KARL WERE  
INTERROGATING THE BIRD WE TOOK OFF THE STREAMER  
LAST NIGHT FROM THE CABLE DISPLAY WINDOW.  
JOE IMPLIES THAT THAT SHOULD NOT IMPACT ACQ —  
BUT THE COINCIDENCE IS HARD TO IGNORE.

0030z WINDS: REL. — 213°  
TRUE — 65°  
T.SPD. — 13Kts. TEMP, H<sub>2</sub>O — 16.4°C  
CMG/SMG — 227.1, 5.0Kts.  
(15 MIN.)  
(CHECKED GUN  
TOWS — OK.

EW00-01

## CANTERBURY BASIN

J.D. 019 - 19 JANUARY, 2000

0100Z WINDS: REL. - 212°  
 TRUE - 72°  
 T SPD - 13 kts  
 TEMP, H<sub>2</sub>O - 16.8°C  
 CMG/SMG - 227.7°/4.8 kts  
 (15 MIN)

0130Z WINDS: REL. - 213°  
 TRUE - 69°  
 T SPD - 14 kts  
 TEMP, H<sub>2</sub>O - 16.9°C  
 CMG/SMG - 227.9°/4.8 kts  
 (15 MIN)

0200Z WINDS: REL. - 210°  
 TRUE - 66°  
 T SPD - 13 kts  
 TEMP, H<sub>2</sub>O - 16.8°C  
 CMG/SMG - 227.8°/5 kts  
 (15 MIN)

0210Z CHECKED GUN Tows - OK. N 3' SWELLS.  
 0215Z Informed BY Bridge that the wind will  
 be come up a little bit.

0230Z WINDS: REL. - 205°  
 TRUE - 69°  
 T SPD - 17 kts  
 TEMP, H<sub>2</sub>O - 16.9°C  
 CMG/SMG - 227.1°/4.9 kts  
 (15 MIN)

0250Z Burger/Burner on water

0300Z WINDS: REL - 220°  
 TRUE - 73°  
 T SPD - 15.7 kts  
 TEMP, H<sub>2</sub>O - 17.0°C  
 CMG/SMG  
 (15 MIN) - 227.3°/4.9 kts

0330Z WINDS: REL - 219°  
 TRUE - 73°  
 T SPD - 15.4 kts  
 TEMP, H<sub>2</sub>O - 16.5°C  
 CMG/SMG  
 (15 MIN) - 227.7°/5.1 kts

0600Z WINDS: REL: 222°  
 TRUE: 77°  
 T SPD: 14.6 kts  
 TEMP, H<sub>2</sub>O - 16.1°C  
 CMG/SMG - 227.0°/11.3 kts  
 (15 MIN)

# EW00-01

## Canterbury Basin

0430Z WINDS REL: 213°  
 TRUE: 71°  
 T SPD: 14.3 KTS  
 Sea State N 1M Swells, ~3-4' waves

TEMP H<sub>2</sub>O: 16.3°C  
 CMG/SMG 228.1/4.8Kt  
 (15 MIN)

0500Z WINDS REL - 208°  
 TRUE - 67°  
 T SPD - 15.2 KTS

TEMP H<sub>2</sub>O - 16.1  
 CMG/SMG  
 (15 MIN) - 227.6/4.9Kt

0530Z WINDS REL - 223°  
 TRUE - 69°  
 T SPD - 11.3 KTS

T(°C) H<sub>2</sub>O - 16.3°  
 CMG/SMG  
 (15 MIN) - 227.1/4.8Kt

0600Z WINDS REL - 225°  
 TRUE - 70°  
 T SPD - 9.3 KTS

T(°C) H<sub>2</sub>O - 16.3  
 CMG/SMG  
 (15 MIN) - 227.5/4.8Kt

0630Z WINDS REL - 245°  
 TRUE - 71°  
 T SPD - 7.2 KTS

T(°C) H<sub>2</sub>O - 16.1  
 CMG/SMG  
 (15 MIN) - 228.0/4.9Kt

0632Z Bridge Informed us that we have  
 Passed the Way Point ETA 0644Z  
 To begin the turn

0644Z End Line 5

0650Z Burger/Browne off Watch

0700Z TURNING IN TRANSIT TO LINE #1,

0730Z STILL IN TRANSIT TO LINE 1, SEAS QUITE  
 SLOPPY - LONG SWELLS (5-7 FT) CONFUSED  
 WITH SMALLER WIND GENERATED 3' CHOP.

019 19 JANUARY, 2000

EW00-01 CANTERBURY BASIN-

089

0800Z WIND SPD-4.2 REL SPD-7.8 CMG 47.8  
DIR-89° REL DIR-20° SMG-5.1  
ABOUT TO START LINE 1

0830Z WIND-RELS P 8 Kts TRUE SP 3.2 Kts CMG 48.3°  
REL DIR 18° TRUE DIR 91° SMG 4.8 Kts  
SWT(°C) 16.6

0900Z WIND-RELS P 6.5 Kts TRUE SP 3.2 Kts CMG 47.8°  
REL DIR 15° TRUE DIR 95° SMG 4.8 Kts  
SWT(°C) 16.2

0930Z WIND SPD-3.0 DIR 71° CMG 47.0  
REL SPD 7.6 REL DIR 10° SMG 4.9  
SEA STATE SOMEWHAT QUIETER DUE TO SLACKENING WIND

10:00Z WIND SPD 3.1 DIR 51.0 CMG 47.8  
REL SPD 7.8 REL DIR 1.0 SMG 5.0

10:30Z WIND REL DIR 355° TRUE DIR 51° CMG 47.7  
REL SP 7 Kts TRUE SP 2.8 Kts SMG 4.9 Kts  
SWT: 16.7°C

10:50Z AUSTIN/LU ON WATCH. PROFILE 1. DPs NORMAL.

1100Z WINDS: REL — 0040 TEMP, H2O — 16.7°C  
TRUE — 54° CMG/SMG — 48.1°, 5 Kts  
T.SPD. — 3 Kts (15 MIN.)

1130Z WINDS: REL — 14° TEMP, H2O — 16.9°C  
TRUE — 104° CMG/SMG — 47.6°, 5 Kts.  
T.SPD. — 2 Kts. (15 MIN.)

1135Z GUN TOWS CHECKED. OK. OCCASIONAL  
(1 OR 2/80 SHOTS) SHOWING UP ON MONITOR.

EW00-01

090

J.D. 019

## CANTERBURY BASIN

19 JANUARY, 2000

1200Z WINDS: REL. — 29° TEMP, H<sub>2</sub>O — 16.9°C  
 TRUE — 171° CMG/SMG — 46.7°, 5Kts.  
 T.SPD. — 2Kts. (15 MIN.)

1230Z E.O.L. 1. TURNING TO PROFILE 3A.

1300Z WINDS: REL. — 22° TEMP, H<sub>2</sub>O — 16.7°C  
 TRUE — 115° CMG/SMG — TURNING  
 T.SPD. — 2Kts.

1330Z WINDS: REL. — 14° TEMP, H<sub>2</sub>O — 16.8°C  
 TRUE — 87° CMG/SMG — TURNING  
 T.SPD. — 2Kts.

1350Z S.O.L. 3A\* INTERMITTENT MISSED SHOTS.  
 \* PASSED THE 1-NMI LEAD-IN. RECORDING BEGINS  
 THEN, TOO.

1400Z ON LINE 3A. OPS. NORMAL.

WINDS: REL. — 15° TEMP, H<sub>2</sub>O — 16.2°C  
 TRUE — 182° CMG/SMG — 139.4°, 5Kts.  
 T.SPD. — 1Kt. (10 MIN.)

1407Z THE BRIDGE INFORMS THAT THE E.O.L. 3A  
WILL BE ~ 1937Z.

1430Z WINDS: REL. — 32° TEMP, H<sub>2</sub>O — 16.6°C  
 TRUE — 199° CMG/SMG — 136.3°, 5.1Kts.  
 T.SPD. — 5Kts. (15 MIN.)

1445Z Burger/Brown on watch

1500Z WINDS: REL. — 28° TEMP, H<sub>2</sub>O — 16.9°C  
 TRUE — 215° CMG/SMG — 137.4°/4.8Kts  
 T.SPD. — 4.3Kts (15 MIN.)

EW00-01  
Canterbury Basin

091

1530Z Winds - Rel -  $26^{\circ}$   
True -  $197^{\circ}$   
T. spd - 4.5 KTS  
Temp (°C)  $H_2O$  - 16.6  
CMG/SMG  
(15 min) - 137.0°/4.7

1600Z Winds - Rel -  $32^{\circ}$   
True -  $209^{\circ}$   
T. spd - 5.0 KTS  
T (°C)  $H_2O$  - 16.4°  
CMG/SMG  
(15 min) - 137.9°/4.8K

1630Z Winds Rel -  $353^{\circ}$   
True -  $130^{\circ}$   
T. spd - 3.7 KTS  
T (°C)  $H_2O$  - 16.1  
CMG/SMG  
(15 min) - 135.9°/4.9K

1700Z Winds Rel -  $2^{\circ}$   
True -  $146^{\circ}$   
T. spd - 4.7 KTS  
T (°C)  $H_2O$  - 16.3  
CMG/SMG  
(15 min) - 136.7°/4.8 KTS

1730Z Winds Rel -  $16^{\circ}$   
True -  $167^{\circ}$   
T. spd - 6.4 KTS  
T (°C)  $H_2O$  - 16.1  
CMG/SMG  
(15 min) - 136.9°/4.9 KTS

1744Z, ~~1746-1501S~~, ~~1747-1501E~~

Problem w. Port Side Buoy - appears that  
Front Chain broken; buoy dives ~ 0.5 m  
after each shot. Will stop recording and  
pull gun. Notified Bridge that we  
will stop recording, pull & report guns,  
and circle back w. 1 mile lead in and  
begin recording again @ this position

44° 46.347' 172° 19.226' ← Position @ ~~end~~ stop  
of recording

1751Z Bridge starting turn to Right

019, 19 JAN, 2000 EWOOD-01

092

# Canterbury Basin

1800Z WINDS: Rel - 306°  
True - 124°  
T SPD - 5.5 KTS  
T(°C) H<sub>2</sub>O - 15.7  
CMG/SMG - 171.5 / 110 KTS  
(15 min) (Turning)

1817Z GUNS Repaired and back in water;  
bridge notified - Will begin turn back  
to line in 12 minutes.  
Problem was not chain, but seaweed  
that had collected on the gun.

1830Z WINDS: Rel - 108°  
True - 121°  
T SPD - 8.4 KTS  
T(°C) H<sub>2</sub>O - 16.0  
CMG/SMG - 316.2 / 5.1 KTS  
(15 min) Turning

1900Z RESTART 3AA 44° 46.289'S 172° 19.748'E

1900Z WINDS SPD - 6.3 DIR - 130° SMG - 4.8°  
REL SPD - 9.1 REL DIR - 9.0° CMG - 133.1

1930Z WINDS SPD - 3.7 DIR - 115° SMG 4.9  
REL SPD 8.0 REL DIR. 349° CMG 137.1

SEA STATE 5-7' LONG WAVELENGTH SMOOTH ROLLING.  
SWELL FROM SE  
GUNS TOWING NORMALLY

2000Z WIND - REL SP 8.2 KTS TRUE SP 4.4 KTS SMG 5.0  
REL DIR 1.0° TRUE DIR 175° CMG 136  
SWT = 14.5°C

2024Z BRIDGE INFORMS ETA WAYPOINT 20:44, START TURN 20:57

20:30Z WIND REL SP 6.5 KTS TRUE SP 1.6 SMG 4.9  
REL DIR 7.0 TRUE DIR 200° CMG 137.3  
SWT 14.6°C

20:42Z 1 MINUTE TO WAYPOINT



EWOOD-01

JD 19

CANTERBURY BASIN.

21:21Z FINISHED TURN, 13 MIN TO SOL 32 WAYPOINT (21:34)

21:32Z STARTED ACQUISITION LINE 32

21:34Z BRIDGE INFORMED SEISMIC DESK JUST CROSSED  
WAYPOINT AT START LINE 32.GUNS TOWING NORMALLY, CABLE BEHAVING WELL.  
MINOR LOW FREQUENCY SWELL NOISE22:00Z WIND: REL SP 3 Kts TRUE SP 3.1 Kts CMG 315.1°  
REL DIR 328° TRUE DIR 160° SMG 4.8 Kts  
SWT (°C) 15.322:20Z - IT'S BEEN NOTED ~~THAT~~ THAT BIRD TWO,  
ACCORDING TO THE MONITOR, IS RIDING AT THE  
SURFACE, WELL OUT OF THE 2.5 M. RANGE. BIRD ONE  
(MOST OUTBOARD) IS ALSO ABOVE RANGE, BUT NOT AS  
FAR. THE TRACES, HOWEVER, DON'T SEEM TO BE RECORDING  
THE NOISE THAT WOULD LOGICALLY RESULT.22:31Z - CARL AND DR. FULTHORPE ARE DISCUSSING  
WHAT TO DO (IF ANYTHING) IT APPEARS LIKELY  
THERE IS A MALFUNCTION IN THE SIGNAL COMING  
FROM THE BIRD22:40Z ~~DECISION~~ ACTION - JOE MANUALLY SET WING ANGLE TO 0° \*  
RESULT - BIRDS 1 & 2 HAVE DIVED TO 4.5-5.5M  
JOE IS CONFIDENT BOTH BIRDS WILL COME UP  
SLOWLY. \* (WINGS HORIZONTAL)  
NOT SEEING ANY INFLUENCE ON TRACES.

22:50Z AUSTIN/LU ON WATCH. LINE 32.

22:55Z STREAMER TOWING BETTER, BUT OUTBOARD  
END RELATIVELY DEEP.23:00Z WINDS: REL - 333° TEMP, H<sub>2</sub>O - 15.9°C  
TRUE - 217° CMG/SLG - 316.1°, 5 Kts.  
T.SPD. - 6 Kts. (15 MIN.)

EW00-01

## CANTERBURY BASIN

J.D. 019 / J.D. 020 — 19/20 JANUARY, 2000

2315Z STREAMER NOW TOWING WELL. BIRD #2 STILL SET TO 0°

2330Z WINDS: REL. — 004°  
 CALM SEAS WITH TRUE — 112°  
 SOME SWELL FROM THE T. SPD. — 1kt.  
 SW. OVERCAST.

TEMP. H<sub>2</sub>O — 16.3°C  
 CMG/SMG — 316.8°, 5Kts

0000Z 20 JANUARY, 2000

WINDS: REL. — 13°  
 TRUE — 343°  
 T. SPD. — 5Kts.

TEMP. H<sub>2</sub>O — 16.3°C  
 CMG/SMG — 317.1°, 4.7Kts.  
 (15 MIN.)

GUN TOWS CHECKED — OK.

0021Z THE BRIDGE INFORMS THAT THE FOL 3Z  
 WILL BE 0311Z. SHIP WILL BEGIN TURNING  
 (A WILLIAMSON) TO PORT AT THAT TIME TO SET  
 UP FOR LINE 3Z.

0030Z WINDS: REL. — 005°  
 TRUE — 338°  
 T. SPD. — 6Kts.

TEMP. H<sub>2</sub>O — 16.2°C  
 CMG/SMG — 316.7°, 4.9Kts.  
 (15 MIN.)

0100Z WINDS: REL. — 007°  
 TRUE — 342°  
 T. SPD. — 5Kts.

TEMP. H<sub>2</sub>O — 16.1°C  
 CMG/SMG — 316.1°, 4.9Kts.  
 (15 MIN.)

0130Z WINDS: REL. — 28°  
 TRUE — 103° (VAR)  
 T. SPD. — 4Kts.

TEMP. H<sub>2</sub>O — 16.3°C  
 CMG/SMG — 316.7°, 4.9Kts.  
 (15 MIN.)

CHECKED TOWS AGAIN — GUNS OK.

# EW00-01 CANTERBURY BASIN

J.D. 020 / 20 JANUARY 2000

0200Z - WINDS: REL. — 360  
PROFILE 32 — TRUE — 13°  
Ops. Normal. T.SPD — 8 kts. TEMP. H<sub>2</sub>O — 16.7°C  
CMG/SMG — 317.1° 5 kts.  
(15 MIN)

0230Z - WINDS: REL. — 33°  
TRUE — 17°  
T.SPD — 7 kts. TEMP. H<sub>2</sub>O — 16.7°C  
CMG/SMG — 316.7° 4.9 kts.  
(15 MIN.)

0300Z WINDS: Rel — 47°  
True — 46°  
T.SPD — 5.3 kts. T(°C) H<sub>2</sub>O — 16.8  
CMG/SMG  
(15 min) — 315.6° / 5.0 kts

0250Z Passed Waypoint, 12 min to start  
OF TURN

0311Z End Line 32 44° 31.762'S  
172° 02.424'E

Begin turn + Transit to Line 30

0315Z J. Stennett reactivated bird 2. Now  
functioning normally.

0330Z WINDS: Rel — 10°  
True — 66.0°  
T.SPD 8.3 kts. T(°C) H<sub>2</sub>O — 16.8  
CMG/SMG  
(15 min) — 70° / 3.8 kts  
(Turning)

0343Z Bridge called - Finished turn, est.  
Passing Waypoint @ 0357Z, will  
call.

0357Z Begin Line 30

0400Z WINDS Rel — 300°  
True — 52°  
T.SPD — 10.3 kts. T(°C) H<sub>2</sub>O — 16.9  
CMG/SMG  
(15 min) — 135.3° / 5.0 kts

EW00-01

096

## Canterbury Basin

20 January, 2000

0430Z - Winds: Rel - 291°  
True - 47°  
T SPD - 11.2 KTS  
T(°C)H<sub>2</sub>O - 17.1  
CMG/SMG  
(15 min) - 1367/5.0 KTS

0500Z Winds: Rel - 307°  
True - 62°  
T SPD - 3.4 KTS  
T(°C)H<sub>2</sub>O - 17.0  
CMG/SMG  
(15 min) - 1366/4.9 KTS

0530Z Winds: Rel - 302°  
True - 60°  
T SPD - 10.5 KTS  
T(°C)H<sub>2</sub>O - 17.0  
CMG/SMG  
(15 min) - 1353°/4.8 KTS

0600Z Winds: Rel - 305°  
True - 62°  
T SPD - 11.1 KTS  
T(°C)H<sub>2</sub>O - 16.8  
CMG/SMG  
(15 min) - 1359°/4.9 KTS

~~0615Z - Storm watch activated with 2 N. W. waves  
(surf breaking normally).~~

0630Z Winds: Rel - 298°  
True - 62°  
T SPD - 14.8 KTS  
T(°C)H<sub>2</sub>O - 16.7  
CMG/SMG  
(15 min) - 1366°/5.0 KTS

0615Z Buise/Thorne OFF WATCH.  
CATHRO/HERR ON WATCH.

0700Z WINDS REL DIR 298 TRUE DIR 57. CMG 1361  
SP. 17.1 SP 16.2 CMG 4.6  
SWT 16.4.

EW00-01

091

JD 20: CANTERBURY BASIN.

0730Z WINDS: REL SP: 12.6 Kts TRUE SP: 13.5 Kts CMG 135.9  
DIR: 297 DIR: 55 SMG 4.9 Kts.  
SWT. 15.7 °C

0800Z WINDS: REL SP: 16.2 TRUE SP 13.1 CMG 136.9  
DIR: 293 DIR 62 SMG 4.9  
SWT. 16 °C

0830 WINDS SPD - 16.1 DIR - 52° CMG - 135.9  
REL SPD - 17.5 REL DIR - 297° SMG - 4.9

0900Z WIND SPD 15.5 DIR 39° CMG - 136.3  
REL SPD 15.0 REL DIR 280° SMG - 5.2  
SEA WATER TEMP - 15.4°

SEA STATE - 4-6 FT SWELLS FROM THE SE, WITH  
NE BREEZE KICKING UP A LITTLE SLOP, BUT DATA  
DOESN'T APPEAR TO BE TOO NOISY.

0930Z WIND SPD 14.8 DIR - 40° CMG 136°  
REL SPD 14.1 REL DIR 272° SMG 4.8

0950Z EOL #30

1000Z WIND SPD 13.7 DIR ———→ (CMG) TURNING  
REL SPD 17.9 REL DIR ———→ SMG) TO LINE 26

1019Z FINISHED TURN ONTO LINE 26. ETA TO  
WAYPOINT ST26 IS 10:31Z.

1030Z WIND REL SP 17.1 TRUE SP 15.3 Kts CMG 316.5  
DIR 66.0 TRUE DIR 24° SMG 4.5  
SWT 13.8 °C.

1032Z SOL 26.

1050Z AUSTIN/LU ON WATCH.

1100Z WINDS: REL - 410 TEMP H2O - 14.6 °C  
TRUE - 002° CMG/SMG - 316.7°, 4.8 Kts.  
T SPD - 18 Kts (15 MIN.)

## CANTERBURY BASIN

J.D. 020 20 JANUARY, 2000

1130Z WINDS: REL. — 43° TEMP, H<sub>2</sub>O — 15.5°C  
 TRUE — 002° CMG/SMG — 316.1°, 4.9kts.  
 T.SPD. — 18kts (15 MIN.)

1135Z STREAMER GETTING NOISIER. PATTERNS?  
 TRACES 1, 19 STILL BAD, BUT OTHERS — 7, 31, ... —  
 SEEM NOISIER, TOO EVERY 4TH ON DISPLAY? "CAN" PROBLEMS?

1145Z GUN TOWS CHECKED. OK. ALMOST A FULL MOON.  
 BEAUTIFUL NIGHT.

1200Z WINDS: REL. — 37° TEMP, H<sub>2</sub>O — 15.5°C  
 TRUE — 354° CMG/SMG — 317.3°, 5kts.  
 T.SPD. — 18kts (15 MIN.)

1220Z GUN "MISFIRES" BECOMING MORE COMMON ON  
 DISPLAY SCREEN.

1230Z WINDS: REL. — 32° TEMP, H<sub>2</sub>O — 15.6°C  
 TRUE — 354° CMG/SMG — 315.5°, 4.9kts.  
 T.SPD. — 18kts (15 MIN.)

1300Z WINDS: REL. — 31° TEMP, H<sub>2</sub>O — 16.1°C  
 TRUE — 346° CMG/SMG — 316.1°, 4.9kts.  
 T.SPD. — 17kts (15 MIN.)

1320Z INTERMITTENT GUN FIRE CONTINUES, PER SOFTWARE  
 MONITOR. THE BRIDGE INFORMS THAT THE EOL 26 WILL BE 1625Z.

1330Z WINDS: REL. — 19° TEMP, H<sub>2</sub>O — 16.2°C  
 TRUE — 346° CMG/SMG — 316.2°, 5kts.  
 T.SPD. — 16kts (15 MIN.)

1335Z GUN TOWS CHECKED — OK.

1400Z WINDS: REL. — 26° T.SPD. — 15kts TEMP, H<sub>2</sub>O — 16.5°C  
 TRUE — 347° CMG/SMG — 316.2°, 5kts

## CANTERBURY BASIN

JD. 020 20 JANUARY 2000

1430Z WINDS: REL — 19°  
 WINDS TRUE — 345°  
 DECREASING; T. SPD. — 9 KTS.  
 SWELL 3-4'

TEMP. H<sub>2</sub>O — 16.7°C  
 CMG/SMG — 316.9°/4.9 KTS.  
 (15 MIN.)

1500Z WINDS: REL — 25°  
 TRUE — 345°  
 T. SPD. — 13.3 KTS

T(°C) H<sub>2</sub>O — 16.7  
 CMG/SMG — 316.3°/4.9 KTS  
 (15 MIN)

1530Z WINDS: REL — 35°  
 TRUE — 358°  
 T. SPD. — 12.5 KTS

T(°C) H<sub>2</sub>O — 16.9  
 CMG/SMG — 314.7°/4.8 KTS  
 (15 MIN)

1600Z WINDS: REL: 28°  
 TRUE: 352°  
 T. SPD: 12.6 KTS

T(°C) H<sub>2</sub>O — 17.1°C  
 CMG/SMG — 316.1°/4.9 KTS  
 (15 MIN)

1612Z Passed way pt, ~12 mi to start of turn

1626Z Turn started, end of line 26

1630Z WINDS: REL — 348°  
 TRUE — 343°  
 T. SPD — 11.7 KTS

T(°C) H<sub>2</sub>O — 16.9°C  
 CMG/SMG — 324.5°/4.8 KTS  
 (15 MIN) (TURNING)

1644Z Finished Turn ~12 mi. To Way Point

1656Z Start Line 24 44° 30.377'S 172° 06.819'E (Shal point)  
 84,552 Taps # 332, water depth 87.2 m

1700Z WINDS: REL: 216°  
 TRUE: 244°  
 T. SPD: 7 KTS

T H<sub>2</sub>O: 17.0  
 CMG/SMG  
 (15 MIN) 126.4/5.0

EW00-01

## Canterbury Basin

20 January, 2000

1730Z WINDS - Rel: 214°  
True: 340°  
T. SPD: 11.3 KTS  
T(°C)H<sub>2</sub>O - 16.9  
CMG/SMG  
(15 min) - 136.3/4.9K

1800Z WINDS Rel - 218°  
True - 343°  
T. SPD - 11.2 KTS  
T(°C)H<sub>2</sub>O - 16.8  
CMG/SMG  
(15 min) - 136.2/4.7K

1830Z WINDS Rel - 228°  
True - 344°  
T. SPD - 9.1 KTS  
T(°C)H<sub>2</sub>O - 16.5  
CMG/SMG  
(15 min) - 136.0/4.9K

18:55Z BURGER/BROWNE OFF  
CATHRO/HERR ON

1900Z WIND RELSP 5.7 KTS TRUE SP 8.4 KTS CMG 135.4°  
REL DIR 261° DIR 6° SMG 5.1 KTS  
SWT(°C) 16.7

1930Z WINDS SPD 8.5 DIR 6.0° CMG 136.6  
REL SPD 5.5 REL DIR 247° SMG 4.6

2000Z WIND RELSP 6.3 KTS TRUE SP 9.8 KTS CMG 136.3°  
REL DIR 251° TRUE DIR 356° SMG 4.7 KTS  
SWT(°C) 15.8°

2030Z WIND RELSP 7.8 KTS TRUE SP ~~5.0~~ 11.5 CMG 136.4  
REL DIR 244 TRUE DIR ~~115~~ 5 SMG 5 KTS  
SWT(°C) 15.6°C

2100Z WINDS SPD 8.6 DIR 12.8 CMG 135.1  
REL SPD 236 REL DIR 3.0 SMG 4.9  
SWT °C 15.6



JD 20.

## CANTERBURY BASIN.

21:03Z

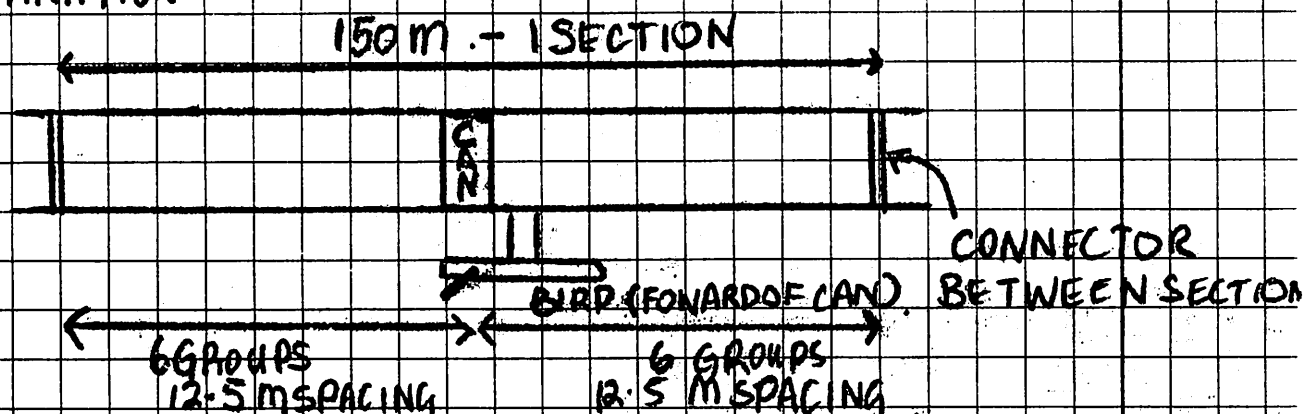
STEFFEN & JAMIE NOTICED NOISE ON SHOT GATHERS AT REGULAR 6 TRACE INTERVALS. ON THE OBSERVERS CYCLING SHOT SCREEN NOISE CAN BE SEEN REGULARLY AT LEAST EVERY 12 TRACE AND TO A LESSER EXTENT, EVERY 6TH. THE SEQUENCE OF NOISY TRACES ARE

CORRELATES  
WITH  
BAD  
LOCATIONS →

1, 7, 19, 31, 43, 55, 67, 79, 91, 103, 115

MANY OF THESE HAVE BEEN LOGGED DURING THE COURSE OF THE SURVEY ALTHOUGH THE AMPLITUDE OF NOISE IS HIGHLY VARIABLE. IT WOULD PROBABLY BE BEST TO TAKE SPECIAL NOTE OF THESE TRACES WHILE PROCESSING AND REMOVE ON A LINE BY LINE BASIS. SOME TRACES (1, 19, 91) HAVE BEEN CONSISTENTLY BAD FROM DAY 1.

## EXPLANATION:



NOISE SOURCE SUGGESTED A COMBINATION OF 2 EFFECTS

- 1.) NOISE CAUSED BY VIBRATION AT BIRDS (OR TURBULENCE BIRDS LOCATED AT CHANNELS 1, 7 (THEN EVERY 12TH TRACE
- 2.) NOISE CAUSED BY AT CONNECTION BETWEEN ADJACENT STREAMERS. THIS SEEMS TO BE MORE SUBTLE THAN NOISE CAUSED BY THE BIRDS. IT ~~ARE~~ PROBABLY AFFECTS THE FOLLOWING CHANNELS

13, 25, 37, 49, 61, 73, 85, 97, 109

THE TWO NOISE SOURCES COMBINED GENERATE NOISE EVERY 6TH TRACE, STARTING AT TRACE 1.

JD 20.

CANTERBURY BASIN.

21:30Z WIND: RELSP 9.3 ~~TRUE~~SP 13.0 CMG 137.4  
 RELDIR 235 TRUEDIR 2 SMG 4.9  
 SWT 13.6°C.

ETA TO WAYPOINT 22:37 (11:30 AM LOCAL)

START OF TURN 22:50. (11:50 AM LOCAL)

2200Z WIND - SP 11.3 DIR 7.0° CMG 136.0  
 RELSP 9.3 RELDIR 247° SMG 5.1

2230Z WINDS SPD - 10.5 DIR 13° CMG 136.0  
 REL SPD - 8.6 RELDIR 256° SMG 5.0  
 SEA STATE - 3-5 FT SWELLS FROM THE SSE

22:37Z PASSED WAYPOINT 24ED

22:50Z END OF LINE 24.  
 TRANSIT TO LINE 28.

22:55Z AUSTIN/LU ON WATCH.

WINDS: REL. — 207°  
 BEAUTIFUL! TRUE — 41°  
 T.SPD. — 10 Kts.

TEMP, H<sub>2</sub>O — 13.9°C  
 CMG/SMG — TURNING

2326Z S.O.L. 28. CHIRP ON-LINE, REPLACING  
 3.5 KHz (FOR THE MOMENT, AT LEAST — JOE  
 TESTING THE SYSTEM.)

2330Z WINDS: REL. — 63°  
 TRUE. — 35°  
 T.SPD. — 13 Kts

TEMP, H<sub>2</sub>O —  
 CMG/SMG — 315.1°, 4.8 Kts  
 (1 MIN.)

0000Z WINDS: REL. — 81°  
 21 TRUE — 48°  
 JANUARY T.SPD. — 15 Kts  
 2000

TEMP, H<sub>2</sub>O — 13.6°C  
 CMG/SMG — 314.6°, 3.8 Kts  
 (4 MIN.)  
 1 MIN.

◦  
 ↳ GPS TruTime Goes  
 DOWN BRIEFLY AT CHANGE OF DAY.

J.D.021

## CANTERBURY BASIN

21 JANUARY 2000

0030Z WINDS: REL. — 83°  
 TRUE — 55°  
 T.SPD. — 14kts.

TEMP. H<sub>2</sub>O — X  
 CMG/SMG — 315.9°, 4.8kts.  
 (15 MIN.)

0100Z WINDS: REL. — 92°  
 TRUE — 68°  
 T.SPD. — 15kts.

TEMP. H<sub>2</sub>O — 14.3°C  
 CMG/SMG — 316.3°, 5kts.  
 (15 MIN.)

0123Z BRIDGE INFORMS THAT WE ARE ~~PROBABLY~~  
 AT POINT OF CLOSEST APPROACH TO ODP 1119.

0130Z WINDS: REL. — 79°  
 TRUE — 54°  
 T.SPD. — 16kts.

TEMP. H<sub>2</sub>O — 16.0°C  
 CMG/SMG — 317.1°, 4.9kts.  
 (15 MIN.)

0140Z DOLPHINS OFF THE PORT SIDE.

0155Z THE BRIDGE INFORMS THAT THE E.O.L. 28  
 WILL BE 0530Z.

0200Z WINDS REL. — 85°  
 TRUE — 61°  
 T.SPD. — 14kts.

TEMP. H<sub>2</sub>O — 15.4°C  
 CMG/SMG — 315.3°, 4.8kts.  
 (15 MIN.)

0230Z WINDS: REL. — 89°  
 TRUE — 68°  
 T.SPD. — 15kts.

TEMP. H<sub>2</sub>O — 15.3°C  
 CMG/SMG — 316.3°, 4.8kts.  
 (15 MIN.)

0250Z Bridge estimates sea state @ 4-5', wind  
 picked up to ~20 KTS

0300Z WINDS REL. — 86°  
 TRUE — 63°  
 T.SPD. — 16.8 KTS

TEMP. H<sub>2</sub>O — 16.5  
 CMG/SMG  
 (15 MIN.) — 316.2°/5.1 KTS

## Canterbury Basin

021/21 January, 2000

0330Z Winds: Rel: 87°  
 True: 70°  
 T. spd: 13.5 KTS  
 T(°C)H<sub>2</sub>O - 17.1  
 CMG/SMG  
 (15 min) - 316.2°/5.2 KTS

0400Z Winds: Rel - 90°  
 True - 67°  
 T. spd - 15.9 KTS  
 T(°C)H<sub>2</sub>O - 17.0  
 CMG/SMG  
 (15 min) - 316.3°/4.8 KTS

0430Z Winds: Rel - 90°  
 True - 63°  
 T. spd - 17.5 KTS  
 T(°C)H<sub>2</sub>O - 16.5  
 CMG/SMG  
 (15 min) - 315.2°/4.7

0500Z Winds: Rel - 87°  
 True - 64°  
 T. spd: 17.5 KTS  
 T H<sub>2</sub>O : 17.0°C  
 CMG/SMG  
 (15 min) : 317.0°/4.8 KTS

0514Z ROUGH SEAS. WIND WAVES 4-5 FT.

0521Z BRIDGE INFORMS THAT WE HAVE REACHED WAY POINT  
 WILL START TURN IN 12 MINUTES (0533Z)

0530Z Winds: Rel - 82°  
 True - 56°  
 T. spd - 19.2 KTS  
 T(°C)H<sub>2</sub>O - 17.3  
 CMG/SMG  
 (15 min) - 316.3°/4.8 KTS

0534 Start turn to Right; End Line 28

0600 Winds: Rel - 8°  
 True - 55°  
 T. spd - 16.7 KTS  
 T(°C)H<sub>2</sub>O - 17.5  
 CMG/SMG  
 (15 min) - 48°/5.0 KTS  
 (turning)

021, 21 JAN. 2000

EW00-01

005

# Contebury Basin

0620Z Completed turn, est ~10 min to Way Pt.

0630Z WINDS. Rel -  $260^{\circ}$  T( $^{\circ}$ )H<sub>2</sub>O - 17.3  
True -  $19^{\circ}$  (MG/5MG  
T. SPD - 16.2 KTS (15 min) -

0630Z Passed Way Pt - Start Line 22

0635Z : NOTICED STARBOARD GUN BOUY TOWARD CENTRE  
NEAR STEAMER.

0644Z - <sup>Starboard</sup> Our buoy caught on steamer. Will  
end Line while we try to free buoy.  
Craig phoned bridge, will attempt to  
free buoy by turning to port, if  
that doesn't work, will pull  
steamer to free buoy.

0649 Stopped recording  $44^{\circ}30.713'S$   
 $172^{\circ}09.478'E$   
Buoy freed; will turn and restart  
recording at Way Pt.

0705Z GUN BUOY NOW DEFINITELY FREED FROM STEAMER.  
WE WILL RETURN TO THE WAY PT. AND RESTART  
LINE 22 FROM THE BEGINNING. NOTE THAT  
TAPE # 351 WILL NOT EXIST. LINE 22 WILL START  
WITH TAPE 352. CRAIG HAS ALSO INFORMED THE  
BRIDGE THAT AS SOON AS THEY FINISH TURNING, THE  
STARBOARD GUN WILL BE PULLED TO DETERMINE  
WHETHER THERE IS A PROBLEM THAT MIGHT  
HAVE CAUSED IT TO HANG UP ON THE STEAMER.

0738Z THE STARBOARD GUN IS BACK IN THE WATER  
AND IS FIRING OK ~~EXACTLY~~ SOME MORE DUCT  
TAPE WAS WRAPPED AROUND THE CABLE AS ANTI-  
(OVER)

021, 21 JAN, 2000

006

1745Z) 2W00-01 CANTERBURY BASIN

CHAFING MEASURE (THE EXISTING TAPE HAD FRAYED  
SOMEWHAT, AND IT'S POSSIBLE THAT THAT MAY HAVE  
CAUSED THE GUN TO HANG UP ON THE STREAMER  
DURING THE TURN). WE ARE NOW PROCEEDING TO  
THE S.O.L. 22 WAYPOINT.

07:52Z ~~HAVE COMPLETED~~ <sup>STARTING</sup> TURN, & APPROXIMATELY 37  
MINUTES UNTIL REACH 1 MILE LEAD IN TO SOL 22

08:41Z S.O.L. 22 BACK TO 35 KHz (ANALOG) RECORDING

0900Z WINDS SPD 17.2 DIR 14° CMG 135.5  
REL SPD 15.2 REL DIR 245° SMG 4.7

SEA WATER TEMP - 17.3 SEAS - 3-4 FT FROM NE

0930Z WINDS SPD 22.8 DIR - 0.0° CMG 136.4  
REL SPD - 18.3 REL DIR - 231° SMG - 4.9

10:00Z WINDS SPD - 22.3 DIR - 360° CMG - 136.5  
REL SPD - 20.6 REL DIR - 226° SMG - 4.9

10:30Z WINDS: REL SP. 18.8 TRUE SP 25.1 CMG 136.8  
REL DIR 230 TRUE DIR 358 SMG 4.9  
SWT 16-8°C

10:50Z AUSTIN/LV ON WATCH. LINE 22.

1100Z WINDS: REL - 233° TEMP H<sub>2</sub>O - 16.8°C  
TRUE - 358° CMG/SMG - 136.1, 4.8 Kts.  
T. SPD. - 22 Kts. (15 MIN.)

1124Z TAPE # 356 UNLOADED SPONTANEOUSLY.  
MISSED ~ 17 SHOTS. SEE TAPE LOG.  
PROCEEDED WITH RECORDING ON TAPE  
# 357. TAPE # 356 DOES NOT EXIST!!!

1136Z WINDS: REL - 233° TEMP H<sub>2</sub>O - 16.6°C  
TRUE - 009° CMG/SMG - 137, 5 Kts.  
T. SPD. - 21 Kts. (15 MIN.)

1140Z CHECKED GUN TOWS - OK.

## CANTERBURY BASIN

J.D.021 / 21 JANUARY 2000

FULL MOON!

1200Z WINDS: REL. — 241°  
 LINE 22. TRUE — 007°  
 T.SPD. — 20Kts.

TEMP, H<sub>2</sub>O — 16.4°C  
 CMG/SMG — 136.2° 4.9Kts.  
 (15 MIN.)

1230Z WINDS: REL. — 234° TEMP, H<sub>2</sub>O — 15.9°C  
 TRUE — 001° CMG/SMG — 136.8, 5.1Kts.  
 T.SPD. — 24Kts. (15 MIN.)

1250Z STEFFEN INFORMS THAT TAPE #355  
 HAS ONLY ONE SHOT. DATA LOST. GAP\*  
 IN THIS LINE — WILL PROBABLY NEED TO  
 BE RESHOT.

\* 1042Z — 1126Z ⇒ OUTER SHELF!!!  
 THIS TAPE PROBABLY OVERWRITTEN WHEN BOTH  
 DRIVES QUICKLY RELOADED DURING TAPE 356  
 RELOAD. OFU (AUSTIN).

1300Z WINDS: REL. — 238°  
 TRUE — 007°  
 T.SPD. — 14Kts.

TEMP, H<sub>2</sub>O — 15.5°C  
 CMG/SMG — 136.6°, 4.9Kts.  
 (15 MIN.)

1330Z WINDS: REL. — 237°  
 TRUE — 16°  
 T.SPD. — 15Kts.

TEMP, H<sub>2</sub>O — 15.2°C  
 CMG/SMG — 136.5, 5Kts.  
 (15 MIN.)

1400Z WINDS: REL. — 244°  
 TRUE — 22°  
 T.SPD. — 14Kts.

TEMP, H<sub>2</sub>O — 14.9°C  
 CMG/SMG — 136.6°, 4.8Kts.  
 (15 MIN.)

1405Z GUN TOWS CHECKED — OK.

1415Z A LOT OF STREAMER NOISE.

1430Z WINDS: REL. — 233°  
 TRUE — 13°  
 T.SPD. — 13Kts.

TEMP, H<sub>2</sub>O — 14.9°C  
 CMG/SMG — 136.5, 5Kts.  
 (15 MIN.)

## CANTERBURY BASIN

J.D.021 / 21 JANUARY 2000

1447Z E.O.L. 22. TURNING TO LINE 20.

1500Z winds Rel - 134°  
 True - 6°  
 T.Spd - 15.5 KTS  
 T(°C) H<sub>2</sub>O - 13.2°C  
 CMG/SMG - 146.5°/46 KTS  
 (15 MIN) (TURNING)

1530Z winds Rel - 287°  
 True - 35°  
 T.Spd - 14.7 KTS  
 T(°C) H<sub>2</sub>O - 13.0  
 CMG/SMG - 141.7°/42 KTS  
 (15 MIN) (TURNING)

1600Z winds Rel - 60  
 True - 37  
 T.Spd - 14.7  
 T(°C) H<sub>2</sub>O - 13.3  
 CMG/SMG - 133.3°/17.7 KTS  
 (15 MIN) (TURNING)  
 (SHUT!)

1605Z BRIDGE CALLED. TURN COMPLETED.

1620Z Problem with guns on monitor, called Joe to work on problem. Guns temporarily shut off while he works on problem. Ship still enroute to way point, so has not affected data recording yet.

1630Z winds Rel - 74  
 True - 34  
 T.Spd - 15  
 T(°C) H<sub>2</sub>O - 13.5  
 CMG/SMG  
 (15 MIN) - 317.6°/4.8 KTS

1631Z - Gun Monitor program Fixed, Software had become corrupted and was re-installed. Ship haven't passed way point (!), so data recording was not impacted by problem

1646Z Start Line 20. Total time for turn - 14, 59 min (!?)



## Canterbury Basin

1700Z WINDS: Rel -  $58^{\circ}$  T(°)H<sub>2</sub>O - 14.6  
 True -  $18^{\circ}$  CMG/SMG  
 T. SPD - 12.8 KTS (15 min) - 316.3/4.7 KTS

1730Z WINDS Rel -  $44^{\circ}$  T(°)H<sub>2</sub>O - 15.1  
 True -  $11^{\circ}$  CMG/SMG - 316.9/4.8 KTS  
 T. SPD - 7.8 KTS (15 min)

1745Z A low Frequency Streamer noise continuing  
 due to sea state (~4-5' waves)

1800Z WINDS Rel -  $43^{\circ}$  T(°)H<sub>2</sub>O - 15.4  
 True -  $7^{\circ}$  CMG/SMG  
 T. SPD - 10.3 KTS (15 min) - 316.4/4.9 KTS

1830Z WINDS Rel -  $355^{\circ}$  T(°)H<sub>2</sub>O - 15.2  
 True -  $299^{\circ}$  CMG/SMG  
 T. SPD - 4.8 KTS (15 min) - 317.0/5.0 KTS

1835Z Low Frequency noise along streamer  
 decreasing as we move into shallower water.

1840Z CATHRO/HERR ON

1900Z WINDS SPD 7.2 DIR  $263^{\circ}$  CMG - 316.3  
 REL SPD 11.0 REL DIR  $334^{\circ}$  SMG - 4.9  
 SEA WATER TEMP - 15.0

1930Z WIND: REL SP 8 Kts TRUE SP 7.5 kts. CMG 317  
 REL DIR 306 TRUE DIR 239 SMG 5.1  
 SWT 16 °C.

JD 21

CANTERBURY BASIN.

20:00Z WIND: RELSP 8.2 kts TRUESP 8.2 kts CMG 316.4° SWT 16.3°C  
 RELDIR 277° TRUEDIR 189° SMG 5.0 kts

2030Z WIND SPD - 6.3 DIR 113° CMG 316.0°  
 REL SPD 4.0 REL DIR 94° SMG 4.9

2100Z WIND <sup>REL</sup> SPD 13.9 TRUESP 15.4 CMG 316  
 REL DIR 86 TRUEDIR 68 SMG 5.1  
 SWT 16.5°C.

2130Z WIND SPD - 13.7 DIR - 55° CMG 316.5  
 REL SPD - 14.3 REL DIR 74° SMG 4.9

SEA STATE - 3-5 SLOPPY SEAS, MOSTLY FROM NE

2200Z WIND SPD 16.3 DIR - 53° CMG 316.5  
 REL SPD 16.4 REL DIR - 77° SMG - 5.0  
 SEA WATER TEMP 16.7°

2230Z WIND SPD - 19.9 DIR 47° CMG 316.5  
 REL SPD 22.1 REL DIR 76° SMG 4.9

22:32Z SWELL NOISE INCREASING

22:34Z ETA WAYPOINT ED 20 22:39  
 START OF TURN 22:52.

22:39Z PASSED WAYPOINT ED 20.

22:52Z EOL 20. AUSTIN/LU ON WATCH.

23:00Z WINDS: REL. — 830° TEMP H<sub>2</sub>O — 17.2°C  
 TRUE — 36° CMG/SMG — turning  
 T.SPD. — 11 kts

2330Z WINDS REL. — 245° TEMP H<sub>2</sub>O — 17.1°C  
 TRUE — 318° CMG/SMG — turning  
 T.SPD. — 6 kts.

2345Z S.O.L. 18

## CANTERBURY BASIN

J.D. 022 / 22 JANUARY 2000

0000Z WINDS: REL. —  $574^{\circ}$  TEMP, H<sub>2</sub>O —  $17.1^{\circ}\text{C}$   
 OVERCAST, WITH TRUE —  $30^{\circ}$  CMG/SMG —  $130.6^{\circ}$ , 5.4 kts.  
 SHOWERS T.SPD. — 13 kts. (15 MIN.)

THE BRIDGE INFORMS THAT THE E.O.L. 1B WILL BE  
 NOT 735Z.

0030Z WINDS: REL. —  $277^{\circ}$  TEMP, H<sub>2</sub>O —  $16.6^{\circ}\text{C}$   
 TRUE —  $32^{\circ}$  CMG/SMG —  $137.7^{\circ}$ , 5.1 kts.  
 T.SPD. — 16 kts. (15 MIN.)

0100Z WINDS: REL. —  $113^{\circ}$  TEMP, H<sub>2</sub>O —  $16.4^{\circ}\text{C}$   
 TRUE —  $276^{\circ}$  CMG/SMG —  $136.7^{\circ}$ , 5 kts.  
 T.SPD. — 12 kts. (15 MIN.)

0105 DGPS lost on both receivers. Joe to the  
 bridge to check.

011Z DGPS back on one receiver, then a second.  
 Then off again.

0121Z DGPS back on Trimble, then off again, then  
 up on Tasman.

0130Z WINDS: REL. —  $126^{\circ}$  TEMP, H<sub>2</sub>O —  $16.5^{\circ}\text{C}$   
 TRUE —  $278^{\circ}$  CMG/SMG —  $136.2^{\circ}$ , 4.8 kts.  
 T.SPD. — 16 kts. (15 MIN.)

0136Z GUN TOWS CHECKED — OK. RAINING! (FIRST TIME  
 ON THIS CRUISE).

0200Z WINDS: REL. —  $307^{\circ}$  TEMP, H<sub>2</sub>O —  $16.6^{\circ}\text{C}$   
 TRUE —  $51^{\circ}$  CMG/SMG —  $136.8^{\circ}$ , 5 kts.  
 T.SPD. — 8 kts. (15 MIN.)

0230Z WINDS: REL. —  $34^{\circ}$  TEMP, H<sub>2</sub>O —  $16.4^{\circ}\text{C}$   
 TRUE —  $71^{\circ}$  CMG/SMG —  $136.5^{\circ}$ , 5 kts.  
 T.SPD. — 12 kts. (15 MIN.)

## CANTERBURY BASIN

J.D.022 / 22 JANUARY '000

0231Z DGPS NOW UP ON BOTH NAV. RECEIVERS.

0240Z THE BRIDGE ADVISES THAT THE E.O.L. 18  
WILL BE ~ 0613Z.

0258Z STARBOARD GUN ON STREAMER.

0300Z	WINDS:	Rel - 311°	T(°C)H <sub>2</sub> O - 15.6
		True - 70°	CMG/SMG
		T. SPD - 14.4 KTS	(15 MIN) - 136.1/5.0 KTS

0302Z - Gun still firing, crew pulling it in  
to attempt to dislodge from streamer.0305Z BOWY REMOVED FROM STREAMER. STARBOARD GUN  
OFF0307Z STARBOARD BOWY & GUN BROUGHT TO STERN. PORT  
GUN STILL FIRING. SEAWEED REMOVED FROM GUN0310Z STARBOARD GUN RETURNED TO POSITION AND FIRING  
NORMALLY.

0330Z	WINDS	Rel - 305°	T(°C)H <sub>2</sub> O - 15.7
		True - 67°	CMG/SMG
		T. SPD - 19.6 KTS	(15 MIN) - <del>136.5</del> 136.5/4.9 KTS

0400Z	WINDS	Rel - 285°	T(°C)H <sub>2</sub> O - 15.5
		True - 50°	CMG/SMG
		T. SPD - 17.1 KTS	(15 MIN) - 136.4/5.0 KTS

0430Z	WINDS	Rel 292°	T H <sub>2</sub> O - 15.6°C
		True 53°	CMG/SMG - 136.5/5.0 KTS
		T. SPD 15.0 KTS	

EW00-01  
Canterbury Basin

013

0500Z WINDS Rel. - 238°  
True - 54°  
T. Spd. - 14 KTS  
T H<sub>2</sub>O - 13.8°C  
CMG/SMG  
(15 min) - 136.8/50 KTS

0530Z WINDS Rel - 260°  
True - 31°  
T. Spd - 13.9 KTS  
T(°)H<sub>2</sub>O - 12.9°C  
CMG/SMG  
(15 min) - 136.8/48 KTS

0600Z WINDS Rel: 253°  
True: 30°  
T. Spd: 18 KTS.  
T H<sub>2</sub>O: 13.2°  
CMG/SMG: 136.8/4.8

0600Z Reached Way Pt., end of Line est 0612Z

0612Z End Line 18

0615Z Port Gun being pulled and inspected during turn to Line 16.

0623Z Gun back in water, after being cleaned of seaweed.

0630Z WINDS: Rel: 214°  
True: 36°  
T. Spd: 21 KTS  
T(°)H<sub>2</sub>O - 13.1  
CMG/SMG - 158.1/4.3 KTS  
(15 min) (Turning)

0642Z BROWNE/BURGER OFF WATCH  
CATHRO/HEER ON

0700Z WIND: REL SP 24.6 kts TRUE SP 22.4 kts SMG 4.2 kts  
REL DIR 46° TRUE DIR 16 CMG 349.8  
SWT 13.0

0710Z ETA TO WAYPOINT ST 16 = 0725Z

JD 22

CANTERBURY BASIN

22 JANUARY 2000

07:25Z SOL 16.

07:30Z WIND RELSP 22.3 KTS TRUESP 20 KTS CMG 315.3°  
 RELDIR 64° TRUEDIR 23° SMG 4.8 KTS  
 SWT 13.1 °C

0800Z WIND SPD 20.0 DIR 14.0 CMG 317.4  
 REL SPD 23.6 REL DIR 53.0 SMG 4.7  
 SEA STATE - 4-6 FT SWELLS FROM THE NE

0830Z WIND SPD 12 DIR 8 CMG 316.9  
 REL SPD 15.6 REL DIR 50 SMG 4.7

0831Z BRIDGE HAS INFORMED US THEY MUST KEEP  
 THEIR SPEED BELOW 4.9 KNOTS BECAUSE THE  
 TENSION ON THE STREAMER HAS BEEN EXCEEDING  
 1500 AT THAT SPEED

0838Z BRIDGE INFORMS US THAT ARE TWO PILOT WHALES  
 ARE CRUISING BY ABOUT 75 METERS TO PORT.  
 WATCHSTANDERS MISSED EM AGAIN.

0900Z WIND SPD 10.4 KTS DIR 350° CMG 317.4°  
 RELSP 14.8 KTS RELDIR 16° SMG 4.7 KTS  
 SWT 15.4 °C

0930Z WIND SPD 8.4 DIR 357° CMG 316.5  
 REL SPD 11.4 REL DIR 34° SMG 4.8  
 SEA WATER TEMP 15.4°

1000Z WIND SPD 12.5 DIR 1.0 CMG 316.8  
 REL SPD 15.6 REL DIR 36.0 SMG 4.9

10:30Z WIND SP ~~15.4~~ 10.4 DIR 31 CMG 316.7  
 REL SP 15.2 REL DIR 358 SMG 4.9  
 SWT 16.3

10:50Z AUSTIN/LV ON WATCH. LINE 16. Ops. NORMAL

11:00Z WINDS: REL. — 36° T. SPD. — 16 KTS. TEMP H<sub>2</sub>O — 16.7°C  
 TRUE — 355° CMG/SWG — 316.6° 4.9

## CANTERBURY BASIN

J.D. 022 22 JANUARY 2000

1105Z GUN TOWS CHECKED - OK. NICE MOON!

1130Z WINDS: REL. — 20°  
 TRUE — 335°  
 T.SPD. — 11kts.  
 TEMP, H<sub>2</sub>O — 16.9°C  
 CMG/SMG — 317.8°, 5kts.  
 (15 MIN.)

1200Z WINDS: REL. — 340°  
 TRUE — 288°  
 T.SPD. — 15kts.  
 TEMP, H<sub>2</sub>O — 16.8°C  
 CMG/SMG — 316.5°, 4.9kts.  
 (15 MIN.)

1230Z WINDS: REL. — 328°  
 TRUE — 255°  
 T.SPD. — 10kts.  
 TEMP, H<sub>2</sub>O — 16.8°C  
 CMG/SMG — 317.1°, 5kts.  
 (15 MIN.)

1300Z WINDS: REL. — 290°  
 TRUE — 216°  
 T.SPD. — 13kts.  
 TEMP, H<sub>2</sub>O — 16.9°C  
 CMG/SMG — 317.4°, 4.9kts.  
 (15 MIN.)

1338Z WINDS: REL. — 288°  
 TRUE — 205°  
 T.SPD. — 10kts.  
 TEMP, H<sub>2</sub>O — 17.2°C  
 CMG/SMG — 316.3°, 5kts.  
 (15 MIN.)

1345Z E.O.L. 16. TURNING TO LINE 14.

~1350Z Seismic window locks up, program and  
 login crash. We're on a line change, so  
 no problem yet.

1407Z LOGGING PROGRAM\* BACK ON-LINE. STILL  
 TURNING TO LINE 14.

WINDS: REL. — 191°  
 TRUE — 202°  
 T.SPD. — 14kts.  
 TEMP, H<sub>2</sub>O — 17.2°C  
 CMG/SMG — TURNING.  
 (15 MIN.)

\* ON OCTOPUS.

## CANTERBURY BASIN

J.D. 022 / 22 JANUARY 2000

1440Z S.O.L. 14.

1500Z Winds Rel —  $51^\circ$   
 true —  $223^\circ$   
 T SPD — 8.3 KTS

T( $^\circ$ )H<sub>2</sub>O — 17.2  
 CMG/SMG — 136.8/4.8 KTS  
 (15 min)

1530Z Winds Rel — 50  
 true — 216  
 T SPD — 8.8

T( $^\circ$ )H<sub>2</sub>O — 16.8  
 CMG/SMG  
 (15 min) — 136.0/5.0 KTS

1542Z DATA DISPLAY ON NAVIGATION MONITORS PLAYING UP.  
 ESPECIALLY PIT LOG DATA DISPLAY.

1600Z Winds Rel — 67  
 true — 233  
 T SPD — 9.5 KTS

T( $^\circ$ )H<sub>2</sub>O — 16.9  
 CMG/SMG  
 (15 min) — 136.5/4.8 KTS

1630Z Winds Rel — 64  
 true — 217  
 T SPD — 10.6

T( $^\circ$ )H<sub>2</sub>O — 16.8  
 CMG/SMG — 136.7/5.0 KTS  
 (15 min)

1700Z Winds Rel — 69  
 true — 210  
 T SPD — 10.6

T( $^\circ$ )H<sub>2</sub>O — 16.1  
 CMG/SMG  
 (15 min) — 136.8/5.0 KTS

1730Z Winds Rel —  $69^\circ$   
 true —  $206^\circ$   
 T SPD — 12.1 KTS

T( $^\circ$ )H<sub>2</sub>O — 15.4  
 CMG/SMG  
 (15 min) — 136.2/5.0 KTS

1800Z Winds Rel —  $71^\circ$   
 true —  $236^\circ$   
 T SPD — 10.4 KTS

T( $^\circ$ )H<sub>2</sub>O — 14.8  
 CMG/SMG — 136.7/4.8 KTS  
 (15 min)



## Canterbury Basin

J.D 022/22 January, 2000

1830Z WINDS: Rel — 56° T(2)H<sub>2</sub>O — 14.4  
True — 231° CMG/SMG  
T. SPD — 9.7 KTS (15 min) — 135.8°/4.7K

1845 BURGER/BROWNE OFF — CATHRO/HERR ON

1900Z WIND SPD - 9.3 DIR. 213° CMG 137.5  
REL SPD 11.4 REL DIR 45° SMG 5.0  
SEA WATER TEMP - 14.1° SEA STATE - 4-6 FT. SEAS FROM NE

1910Z IT IS NOTED TO JOE THAT THE TASMAN/TRIMBLE  
DISPLAY/MONITOR IS INTERMITTENTLY DISPLAYING  
STRANGE NUMBERS ON THE TASMAN (LEFT) SIDE.  
HE WILL RESTART THE PROGRAM, WHICH HE BELIEVES  
WILL SOLVE THE PROBLEM.

1930Z WIND SPD - 8.2 DIR: 198° CMG 137.8  
REL SPD - 11.1 REL DIR: 41° SMG 4.9

2000Z WIND SPD 8.2 DIR 158° CMG  
REL SPD 11.6 REL DIR 13° SMG  
SEA WATER TEMP 13.0°C

2008Z JOE CANNOT FIX NAVIGATION SCREEN. WILL  
WAIT UNTIL LINE CHANGE TO RESTART. UNTIL  
RESTART WE WILL NOT HAVE CMG, SMG  
READINGS, ~~AND~~ DEPTH AND PIT LOG ARE  
NOT ALWAYS CORRECT.  
TASMAN NAV SOURCE IS INCORRECT.

2024Z 4-7' ROLLING SWELL FROM NE.  
GUNS TOWING NORMALLY

2030Z WIND SPD - 6.1 DIR 23° CMG 136.7  
REL SPD - 9.9 REL DIR 347° SMG 5.0

022 22 JANUARY, 2000

018

## EW00-01 CANTERBURY BASIN

21:00 WIND SPD 3.9 DIR 71° CMG-136.6  
REL SPD 7.6 REL DIR 342° SMG-4.75

BRIDGE SAYS THEY ARE DEALING WITH A "SHIT LEAD OF CURRENT" UP THERE, SO THE SMG HAS NOT BEEN TOO STEADY FOR THE LAST COUPLE OF HOURS. WE ARE NOW (SINCE 20:30) GETTING SMG & CMG ON THE HALF HOUR FROM THE BRIDGE BECAUSE THE NAVI. DISPLAY IS STILL NOT SHOWING THESE NUMBERS.

21:13Z PASSING WAYPOINT 14 ED, 13 MINUTES UNTIL EOL.

2126Z EOL 14.

2130 WIND: SP. ~~6.5~~ 6.5 DIR 16 CMG. } NO WORD  
RELSP. 4.6 RELDIR 271 SMG } FROM BRIDGE  
SWT. 13.4 THEY'RE TURNING

22:30Z WIND SPD 8.6 DIR 7.0 CMG 335.7  
REL SPD 12.2 REL DIR 33.0 SMG 4.2  
SEA WATER TEMP - 13.4 (1/2 HR. AVE. FROM BRIDGE)

22:31Z BOB IS CONSULTED REGARDING THE NAVIGATIONAL DISPLAY. HE MAINTAINS THAT THE DATA ARE FINE, BUT DISPLAY IS NOT. HE AND JOE ARE WORKING ON IT.  
SEISMIC SYSTEM RESTARTED, GUNS SHUTOFF, SHOTS RESET TO 6000 IN TRANSITION  
22:39Z S.O.L. 12 BUT STILL PROBLEMS REMAIN  
BOB STILL WORKING.

22:41Z PASSED WAYPOINT - ST72

22:50Z AUSTIN ON WATCH. LU ON HIS WAY. THE SYSTEMS ANALYST INFORMS THAT THE MAIN LAB NAV. DISPLAY IS MALFUNCTIONING, AND WILL BE IN THAT CONDITION FOR THE DURATION OF THE WATCH. THE BRIDGE WILL CALL DOWN WITH 30-MINUTE CMG/SMG INFORMATION.

## CANTERBURY BASIN

J.D. 022 / 22 JANUARY 2000

2307Z BRIDGE IS GOING TO CALL DOWN SET AND  
DRIFT INFORMATION EVERY 600 MINUTES:

SET: 270° DRIFT: 1.2 Kts (!)

WINDS: REL. — 66°

TRUE — 48°

T.SPD. — 7 Kts

CMG/SMG — 316.47°, 4.9 Kts.  
(30 MIN.)

BEAUTIFUL, WITH SOME FOG.

A CROSS-SWELL OF 1-2m, FROM  
THE N.

2316Z GUN TOWS CHECKED - OK.

2330Z WINDS: REL. — 29°

TRUE — 74°

T.SPD. — 3 Kts.

TEMP, H<sub>2</sub>O — 13°CCMG/SMG — 316.8°, 4.8 Kts.  
(30 MIN.)

0000Z

23 JANUARY 2000

WINDS: REL. — 63°

TRUE — 55°

T.SPD. — 7 Kts.

TEMP, H<sub>2</sub>O — 13.1°CCMG/SMG — 316.8°, 4.9 Kts.  
(30 MIN.)

SET: NE (@ 046°), 1/10 Kt.

TASMON NAV SOURCE NOT IN DIFFERENTIAL MODE,  
ACC. TO THE DISPLAY. BOB SAYS IT'S OK — ONLY A  
DISPLAY PROBLEM.

0030Z WINDS: REL. — 117°

TRUE — 89°

T.SPD. — 12 Kts.

TEMP, H<sub>2</sub>O — 14.1°CCMG/SMG — 317.7°, 4.8 Kts.  
(30 MIN.)

0100Z

WINDS: REL. — 101°

TRUE — 91° (30 MIN.)

T.SPD. — 11 Kts.

TEMP, H<sub>2</sub>O — 14.3°CCMG/SMG — 316.6°, 4.8 Kts.  
SET/DRIFT: 050°, 0.2 Kts.

0130Z

WINDS: REL. — 115°

TRUE — 95°

T.SPD. — 11 Kts.

TEMP, H<sub>2</sub>O — 14.6°CCMG/SMG — 317°, 4.9 Kts.  
(30 MIN.)

## CANTERBURY BASIN

J.D. 023/23 JANUARY, 2000

0143Z — GUN TOWS CHECKED — OK.

0200Z WINDS: REL. — 105° TEMP H<sub>2</sub>O — 15.3°C  
 TRUE — 73° CMG/SMG — 317° 5 Kts.  
 T. SPD. — 12 Kts. (30 MIN)  
 DRIFT: 024°  
 SET: 0.3 Kts.

0211Z ETA FOR EOL 12 IS 0515Z.

0230Z WINDS: REL. — 111° TEMP H<sub>2</sub>O — 16.3°C  
 TRUE — 77° CMG/SMG — 316.7° 5.1 Kts.  
 T. SPD. — 15 Kts. (30 MIN)

0300Z WINDS: REL — 111° TEMP H<sub>2</sub>O — 17.2°C  
 TRUE — 78° CMG/SMG — 317.2° 4.9 Kts  
 T. SPD — 14.8 Kts  
 DRIFT — 344°  
 SET — 0.5 Kts

0330Z WINDS: REL — 100° TEMP H<sub>2</sub>O — 17.3°C  
 TRUE — 64° CMG/SMG — 316.9° 4.8 Kts  
 T. SPD — 19.0 Kts (30 min)  
 DRIFT — 017°  
 SET — 0.7 Kts

0400Z WINDS REL — 95° TEMP H<sub>2</sub>O — 17.2°C  
 TRUE — 63° CMG/SMG — 316.5° 4.73 Kts  
 T. SPD — 19.2 Kts (30 min)  
 DRIFT — 335°  
 SET — 0.2 Kts

0430Z WINDS REL — 83° TEMP H<sub>2</sub>O — 17.2°C  
 TRUE — 59° CMG/SMG — 317° 4.8 Kts  
 T. SPD — 13.3 Kts (30 min)  
 DRIFT — 002°  
 SET — 0.3 Kts

J.D. 023

EW00-01

THIS IS

022-

23 JAN. 2000 Canterbury Basin

CARBON COPY  
OF P. 21THERE IS NO P. 22  
IN THIS LOG.

0500Z

WIND

REL - 210°

TRUE - 17°

T. SPD - 13 KTS

DIR - 019

TEMP H<sub>2</sub>O

CMG/SMG - 317.1/36

(3 M)

SM - 0.2

0504Z

Bridge etc 2 min to way pt, 14 min  
to end of Line 12

0506Z

Passed way pt, 12 min to start of turn

0518Z

END OF LINE 12; TURN STARTED

0520Z

NAV WITH JURYMAN COUN. AND RE-SET

0530Z

WINDS REL - 61°

TRUE - 61°

T. SPD - 12.3

TEMP H<sub>2</sub>O - 17.2°C

CMG/SMG - TURNING BRIDGE

(1.5 M) 2.4

0551Z

Finished TURN, ETA. 18 min (0609Z) TO  
START OF LINE 10.

0600Z

WINDS REL - 298°  
TRUE - 49°  
T. SPD - 12 KTSTEMP H<sub>2</sub>O - 17.4°CCMG/SMG - Monitor still down,  
Bridge visible to  
give 30 min cruise  
while turning

0607Z

STARBOARD GUN CAUGHT ON STEERING  
WILL START

0611Z

LINE 400 STARTED

0612Z

STARBOARD GUN STOPPED. PORT GUN STILL CREDITED  
STARBOARD GUN WENT TO STEERING AND SHOT  
AT PULL.

JD-023

EW00-01

023

23 JAN 2000

CANTERBURY BASIN

0620 Z Firing of starboard gun commenced ~  
FILE # 110, TAPE # 413, SP# 11670.

~~0630Z~~ ~ 0625Z - Nav. Monitor Fixed CMG/SMG data  
now obtained from lab monitor rather  
than from bridge.

0630Z WINDS: Rel -  $291^{\circ}$  Temp. H<sub>2</sub>O -  $17.3$   
True -  $50^{\circ}$  CMG/SMG  
T. SPD -  $11.8$  KTS (15min) -  $137.0/4.8$  KTS

0642Z BURGER/BROWNE OFF  
CATHRO/HEER ON

0700Z WINDS SPD -  $11.6$  DIR  $29^{\circ}$  CMG/36.0  
REL SPD -  $11.0$  REL DIR  $275^{\circ}$  SMG -  $4.8$   
SEA WATER TEMP -  $17.1^{\circ}$   
SEA STATE - 3-5 FT SEAS FROM THE NE

0730Z WIND SPD  $12.4$  DIR  $12^{\circ}$  CMG -  $136.7^{\circ}$   
REL SPD  $11.3$  REL DIR  $257^{\circ}$  SMG -  $4.9$

0800Z WIND - SPD -  $10.1$  DIR -  $18^{\circ}$  CMG  $136.2$   
REL SPD -  $8.8$  REL DIR -  $270^{\circ}$  SMG  $4.9$   
SEA WATER TEMP -  $17.2^{\circ}$

0830Z WIND-SPD  $9.3$  KTS DIR  $13^{\circ}$  CMG  $136.9^{\circ}$   
REL SP  $7.6$  KTS REL DIR  $267^{\circ}$  SMG  $4.9$  KTS  
SWT  $16.9^{\circ}$ C

0900Z WIND-SP  $6.7$  KTS DIR  $253^{\circ}$  CMG  $136^{\circ}$   
REL SP  $6.3$  KTS REL DIR  $75^{\circ}$  SMG  $4.9$  KTS  
SWT  $16.7^{\circ}$ C

0930Z WIND SP  $3.6$  KTS DIR  $182^{\circ}$  CMG  $136.9^{\circ}$   
REL SP  $7.4$  KTS REL DIR  $14^{\circ}$  SMG  $4.7$  KTS  
SWT  $16^{\circ}$ C

JD 23. CANTERBURY BASIN. 23 JANUARY, 2000

1000Z WIND SP 6.0 DIR 108 CMG 136  
 REL SP 10.3 REL DIR 338 SMG 4.9  
 SWT 15.3 °C

1030Z WIND SP 4.6 DIR 96 CMG 138.7  
 REL SP 9.1 REL DIR 335 SMG 4.7  
 SWT = 14.8 °C

1100Z AUSTIN/LU ON WATCH. LINE D. OPS. NORMAL.

WINDS: REL. — 296° TEMP, H<sub>2</sub>O — 14.5°C  
 TRUE — 39° CMG/SMG — 137.1°, 4.9 Kts.  
 T.SPD — 12 Kts. (15 MIN.)

1132Z THE BRIDGE INFORMS THAT THE END OF THIS  
 LINE, EOL 10, WILL BE 1253Z.

1130Z WINDS: REL. — 275° TEMP, H<sub>2</sub>O — 13.5°C  
 TRUE — 21° CMG/SMG — 136.2°, 4.9 Kts.  
 T.SPD. — 9 Kts. (15 MIN.)

1200Z WINDS: REL. — 277° TEMP, H<sub>2</sub>O — 12.9°C  
 TRUE — 10° CMG/SMG — 136.9°, 4.8 Kts.  
 T.SPD. — 8 Kts. (15 MIN.)

1230Z WINDS: REL. — 241° TEMP, H<sub>2</sub>O — 12.9°C  
 TRUE — 16° CMG/SMG — 136.8°, 5 Kts.  
 T.SPD — 14 Kts. (15 MIN.)

1255Z E.O.L. 10. TURNING TO LINE 31.

1300Z WINDS: REL. — 231° TEMP, H<sub>2</sub>O — 13.1°C  
 TRUE — 14° CMG/SMG — TURNING  
 T.SPD. — 12 Kts. (15 MIN.)

1330Z WINDS: REL. — 002° TEMP, H<sub>2</sub>O — 13.1°C  
 TRUE — 340° CMG/SMG — TURNING  
 T.SPD. — 14 Kts.

## CANTERBURY BASIN

ID.023 / 23 JANUARY 2000

1402Z WINDS: REL — 355°  
 TRUE — 345°  
 T.SPD. — 8.6 Kts.

TEMP. H<sub>2</sub>O — 13.6°C  
 CMG/SMG — 350.5°/5.5 Kts.  
 (15 MIN.)

Enroute to S.O.L. 31.

1430Z WINDS: REL — 001°  
 TRUE — 336°  
 T.SPD. — 8 Kts.

TEMP. H<sub>2</sub>O — 14.0°C  
 CMG/SMG — 356.3°/5.3 Kts.  
 (15 MIN.)

1500Z WINDS REL — 353°  
 TRUE — 333°  
 T.SPD — 5.7 KTS

TEMP. H<sub>2</sub>O — 14.7°C  
 CMG/SMG — 354.6°/5.2 Kts.  
 (15 MIN.)

1526Z Started turn to LEFT to come onto  
 Line 31

1530 WINDS REL — 355°  
 TRUE — 307°  
 T.SPD — 6.3 KTS

TEMP. H<sub>2</sub>O — 15.4  
 CMG/SMG — 350.9°/5.3 KTS  
 (15 MIN.)

1548 Z BRIDGE CALLED, TURN COMPLETED. WILL BE AT  
 START OF LINE IN 12 MINUTES (1600 Z)

1600Z WINDS. REL — 25°  
 TRUE — 274°  
 T.SPD — 5.7

TEMP. H<sub>2</sub>O — 14.9°C  
 CMG/SMG — 232.4°/4.6 KTS  
 (15 MIN.)

1600Z Start Line 31

1630Z WINDS. REL — 1°  
 TRUE — 43°  
 T.SPD — 1.6 KTS

TEMP. H<sub>2</sub>O — 14.1°C  
 CMG/SMG — 225.3°/4.7  
 (15 MIN.)



## Canterbury Basin

7

J.D. 023/23 January, 2000

1700Z Winds: Rel -  $44^{\circ}$  Temp H<sub>2</sub>O -  $14.4^{\circ}\text{C}$   
 True -  $293^{\circ}$  CMG/SMG  
 T. SPD - 9.1 KTS (15 min) - 225.0°/4.7K

1730Z Winds Rel - 182 Temp H<sub>2</sub>O -  $13.5^{\circ}\text{C}$   
 True - 47 CMG/SMG  
 T. SPD - 13.1 KTS (15 min) - 225.4°/4.7K

1800Z Winds Rel -  $179^{\circ}$  Temp H<sub>2</sub>O -  $13.1^{\circ}\text{C}$   
 True -  $43^{\circ}$  CMG/SMG - 225.3°/4.8KTS  
 T. SPD - 8.7 KTS (15 min)

1820Z 1-2 ft SWELL coming in from STEADY.

1830Z Winds Rel -  $39^{\circ}$  Temp H<sub>2</sub>O -  $13.1^{\circ}\text{C}$   
 True -  $308^{\circ}$  CMG/SMG - 224.7°/4.6KTS  
 T. SPD - 4.5 KTS (15 min)

1845 Burger/Browne OFF Watch  
 CATHRO/HERR ON

1900Z WIND SP 3.9 KTS DIR  $301^{\circ}$  CMG 225.4°  
 REL SP 8.0 KTS RELDIR  $24^{\circ}$  SMG 4.7 KTS  
 SWT  $12.4^{\circ}\text{C}$

SWELL NOISE ON CABLE - LOW FREQUENCY

1918Z BRIDGE IS UP AGAINST A SHIT LOAD OF CURRENT  
 AGAIN. THEY CANNOT MAINTAIN 4.9 KTS DUE TO  
 TENSION ON STREAMER WILL TRY TO MAINTAIN  
 4.6 - 4.7 KTS.

EW00-01

027

JD 23

CANTERBURY BASIN

23 JANUARY 2000

19:30Z WIND SP 1.9 Kts DIR 318° CMG 226.5' SWT 12.7 C  
 RELSP 5.1 Kts RELDIR 5° SMG 4.5 Kts

2000Z WIND SPD 2.4 DIR - 291° CMG - 224.7  
 RELSPD 7.2 RELDIR - 23° SMG - 4.8

20:06Z CROSSING WAYPOINT 31ED.

20:20Z END OF LINE 31

20:30Z WIND SPD 4.7 DIR 293° CMG 223.4°  
 RELSPD 7.8 RELDIR 38° SMG 4.8'

2100Z WIND SPD 14.2 DIR 236° CMG 62.1  
 RELSPD 11.6 RELDIR 244° SMG 4.8  
 SWT 13°C.

2112Z ETA TO START OF LINE 2123Z  
 USING CHIRP RATHER THAN 3.5 KHz ON THIS LINE.

2122Z SOL 36.

2124Z CROSSING WAYPOINT ST36.

2127Z CHIRP STOPPED - JOE INVESTIGATING.

2130Z WIND SP 18.4 Kts DIR 225° CMG 312.6°  
 RELSP 20.2 Kts RELDIR 300° SMG 4.6 Kts  
 SWT 12.7°C.

2144Z CHIRP RESTARTED.

JOE HAS TURNED OFF HARD COPY OPTION.  
 CURRENTLY ONLY COLLECTING DIGITAL DATA.

2200Z WIND SP 23.6 Kts DIR 223° CMG 318° SWT 13.1 C  
 RELSP 22.4 Kts RELDIR 284° SMG 4.8 Kts

22:05Z SWELL NOISE INCREASED IN THIS DIRECTION.  
 NOISE ON CHANNELS ADJACENT BIRDS INCREASED

2208 . CHIRP PROVED UNRELIABLE, JOE TURNED  
 3.5 KHz BACK ON.

## CANTERBURY BASIN

22:08Z. BRIDGE CALLED: CANNOT MAINTAIN 4.9 KTS AND KEEP STREAMER TENSION BELOW 1500. WILL TRY TO KEEP SPEED ~4.7 KTS.

22:24Z SEA STATE - BREAKING 4-8' ~~SEA~~ & CROSS SEAS AND GETTING UGLIER. WINDS PICKING UP.

22:27Z <sup>SWELL</sup> NOISE INCREASING, BIRDS STRUGGLING TO KEEP STREAMER ANYWHERE NEAR 2.5 M.  
GUNS DRIFTING

22:30Z WIND SPD. 22.4 KTS DIR 219° CMG 317.5°  
RELSP 26.8 KTS BEL DIR 288° SMG. 4.5 KTS.  
SWT(C) 13.5

22:38Z SEA STATE 6-7 ft from SW. (very sloppy).

22:46Z TRYING TO DROP BIRDS FROM 2.5 M TO 3.5 M.  
TO REDUCE SWELL NOISE.

22:50Z AUSTIN / LU ON WATCH. LINE 36.  
CONDITIONS NOT OPTIMAL — CROSS-SWELL AND WINDS AT ~25 KTS. STREAMER AT 3.5 M. NOISE LEVELS REDUCED.

2300Z WINDS: REL. — 288° TEMP, H<sub>2</sub>O — 14.2°C  
TRUE — 218° CMG/SMG — 317°, 4.8 KTS.  
T.SPD. — 20 KTS (15 MIN)

2330Z WINDS: REL. — 297° TEMP, H<sub>2</sub>O — 14.8°C  
TRUE — 226° CMG/SMG — 316.7°, 4.8 KTS.  
T.SPD — 24 KTS (15 MIN)  
(W/ HIGHER GUSTS)

2339Z GUN TOWS CHECKED. QUARTERING SEA, PORT SIDE, IS DRIVING THE PORT GUN OVER THE STREAMER. THEY'RE TAKING A POUNDING OUT THERE.

## CANTERBURY BASIN

J.D. 024 / 24 JANUARY 2000

0000Z WINDS: REL. — 291° TEMP H<sub>2</sub>O — 15.1°C  
 TRUE — 220° CMG/SMG —  
 T.SPD — 33kts. (15 MIN.)

0016Z GUSTS OVER 40 Kts.

0130Z WINDS: REL. — 287° TEMP H<sub>2</sub>O — 15.3°C  
 QUARTERING SEAS TRUE — 219° CMG/SMG — 317.9° 5kts  
 (PORT SIDE) — T.SPD — 33kts (15 MIN.)  
 2-3M. (W/HIGHER GUSTS)

0100Z WINDS: REL. — 290° TEMP H<sub>2</sub>O — 15.4°C  
 TRUE — 205° CMG/SMG — 317.3° 4.8kts  
 T.SPD — 31kts. (15 MIN.)

0130Z WINDS: REL. — 287° TEMP H<sub>2</sub>O — 15.1°C  
 TRUE — 194° CMG/SMG — 315.9° 5kts.  
 T.SPD — 34kts (15 MIN.)  
 (AND GUSTING)

0145Z CHECKED GUN TOWS. SOME WERE VISIBLE  
 ON THE PORT GUN, AND THEY ARE TOWING PRETTY  
 CLOSE TOGETHER.

0100Z WINDS: REL. — 270° TEMP H<sub>2</sub>O — 14.7°C  
 2-3M TRUE — 195° CMG/SMG — 316.3° 4.9kts.  
 SEAS PORT T.SPD — 26kts. (15 MIN.)  
 QUARTER (AND GUSTY)

0250Z Starboard gun is going to be pulled.

0255Z Bridge ETA 15min to start of turn and another  
 10min to start of line while starboard gun  
 being pulled, they will maintain course  
 but reduce speed to allow gun work  
 to be completed before start of line.

# EW00-01 Cantersbury Basin

030

0300Z Winds: Rel - 354°  
True - 213°  
T SPD - 30.5 KTS  
(and gusting)  
Temp H<sub>2</sub>O - 15.2  
C/MG/S/MG - 248.2°/3.1  
(15 min)

0302Z Towing wire whipped around starboard gun cables.  
Still working to attempt to

0330Z winds: Rel - 21  
True - 221  
T SPD - 34.7 KTS  
(and gusting)  
Temp H<sub>2</sub>O - 14.8  
C/MG/S/MG - 229.2°/2.3 KTS  
(15 min)

0334Z Starboard gun back in water and firing

0337Z Ship finished turn, coming back up to  
Speed, ~2.4 Nav. miles from start of Line 40

0345Z Bridge noticed that current speed (~3.7-4.0 KTS)  
is the maximum they will be able to maintain  
in this sea state due to tension on line.  
Will increase speed as weather passes.

~~2-3M~~ Sea state - 2-3M waves.

0400Z Winds: Rel - 416°  
True - 205°  
T SPD - 36.0 KTS  
(and gusting)  
Temp H<sub>2</sub>O - 14.6°C  
C/MG/S/MG - 136.5°/4.0 KTS  
(15 min)

0411Z Start of Line 40

0430Z Winds: Rel - 48  
True - 200  
T SPD - 31.0 KTS  
Temp H<sub>2</sub>O - 14.4°C  
C/MG/S/MG - 138.0°/3.9 KTS  
(15 min)

0453 Dullies Port gun - appears to be tangled  
will shoot with only starboard gun until  
Port gun repaired.

## Canterbury Basin

024/24 January 2000

0500Z Winds Rel -  $44^{\circ}$  Temp H<sub>2</sub>O -  $14.1^{\circ}\text{C}$   
 True -  $201^{\circ}$  CMC/SMC -  $137.6^{\circ}/4.2\text{KTS}$   
 T. SPD -  $32.3\text{KTS}$  (15 min)

0509Z Starboard Gun Gun off and is being  
 Pulled - now recording with port gun.

0515Z Port Gun off as well; recording  
 stopped due to weather and risk to  
 equipment. Recording will resume when  
 weather improves.

Line 40 Stopped at:  $44^{\circ}38.447'S$   
 $172^{\circ}03.477'E$

Shotpoint: 28,171

0530Z Winds Rel -  $62^{\circ}$  Temp H<sub>2</sub>O -  $14.3$   
 True -  $218^{\circ}$  CMC/SMC -  $138.2^{\circ}/3.9\text{KTS}$   
 T. SPD -  $27.4\text{KTS}$  (15 min)

0600Z Winds Rel -  $59^{\circ}$  Temp H<sub>2</sub>O -  $13.6^{\circ}\text{C}$   
 True - Display CMC/SMC -  $137.8^{\circ}/3.2\text{KTS}$   
 T. SPD - Offline (15 min)

Lost True wind direction + wind speed  
 displays Notified Bob + Karl, they'll work  
 on it.

BOTH GUNS TO HAVE ROUTINE MAINTENANCE WHILE OUT OF  
 WATER HERE.

0630Z Winds Rel -  $62^{\circ}$  Temp H<sub>2</sub>O -  $12.8$   
 True - Not operating CMC/SMC -  $136.9^{\circ}/3.4\text{KTS}$   
 T. SPD - " (15 min)  
 Rel. SPD -  $29.9\text{KTS}$

J.D. 024

FW00-C1

24 JANUARY, 2000 032

## CANTERBURY BASIN

0645 BLIRGER/BROWNE OFF. CATARO/HERR ON

0700Z WINDS SPD 28.9 DIR 213° CMG 138.0  
REL SPD 27.2 REL DIR 60° SMG 3.50730Z WINDS SPD 26.1 DIR 213° CMG 139.1  
REL SPD 29.3 REL DIR 54° SMG 3.30800Z WINDS SPD 27.5 DIR 204° CMG 137.8  
REL SPD 29.2 REL DIR 43° SMG 3.20830Z WINDS SPD 27.6 DIR 202° CMG 138.0  
REL SPD 25.9 REL DIR 32° SMG 3.00900Z WINDS SPD 23° DIR 206° CMG 137.1  
REL SPD 26.5 REL DIR 48° SMG 3.50900Z IT'S BEGINNING TO FEEL A LITTLE LESS SEVERE DOWN  
HERE.0930Z WINDS SPD 24.8 DIR 206° CMG 137.6°  
REL SPD 27.2 REL DIR 43° SMG 3.51000Z WINDS SPD 22.2 DIR 216° CMG 136.8°  
REL SPD 25.9 REL DIR 44° SMG 3.510:15Z CRAIG HAS INFORMED US THAT THEY WILL PUT  
THE GUNS BACK IN THE WATER, BEFORE THE TURN  
AT END OF THIS LINE (40) IF EVERYTHING IS  
WORKING PROPERLY THROUGH THE TURN, WE  
WILL GO BACK ON LINE TO SHOOT LINE 44.10:23Z CRAIG HAS DECIDED NOT TO DEPLOY THE  
GUNS ~~UNTIL~~ UNTIL AFTER THE TURN. THE  
BRIDGE HAS BEEN INSTRUCTED TO EXTEND  
THE RUN PAST THE ~~K~~ E.O.L. 40 WAY POINT,  
SO THERE WILL BE EXTRA TIME TO PUT THE

J.D.024

EW00-01 (CANTERBURY BASIN

24

033

JAN, 2000

GUNS IN THE WATER BEFORE THE ONE MILE  
LEAD IN TO LINE 44.

10:28Z BRIDGE INFORMS US THAT THEY HAVE JUST  
PASSED THE WAY PT. FOR THE END OF LINE 40.

10:30Z WINDS SPD-30.1 DIR-219° CMG-137.3  
REL SPD-31.6 REL DIR-55° SMG 3.8  
SEA WATER TEMP-12.50 SEASTATE 3-4 METERS  
OUT OF THE SW, BREAKING AND UGLY

10:50Z AUSTIN/LV ON WATCH. TURNING TO START  
LINE 44. WINDS DECREASING.

1100Z WINDS: REL. — 44° TEMP H<sub>2</sub>O — 12.6°C  
TRUE — 202° CMG/SMG — TURNING  
T.SPD — 21Kts. (15 MIN.) TO LINE 44.

1130Z WINDS: REL. — 346° TEMP H<sub>2</sub>O — 12.6°C  
TRUE — 204° CMG/SMG — TURNING  
T.SPD — 22Kts. (15 MIN.)

1151Z BRIDGE HAS COMPLETED THE TURN.  
GETTING READY TO PUT IN THE GUNS. WINDS  
CONTINUING TO DECREASE. C/S 3.5 KTS.

1155Z STARBOARD GUN GOING IN THE WATER.

1205Z PORT GUN GOING IN THE WATER.

1210Z GUNS FIRING. GETTING READY TO START LINE 44.

1220Z S.O.L. 44.

1230Z WINDS: REL. — 279° TEMP H<sub>2</sub>O — 12.4°C  
TRUE — 205° CMG/SMG — 316.6°, 4.6Kts  
T.SPD. — 21Kts. (1 MIN)



## CANTERBURY BASIN

J.D. 024 / 24 JANUARY 2000

1300Z WINDS: REL. — 276° TEMP, H<sub>2</sub>O — 12.30°C  
 SEAS + TRUE — 196° CMG/SMG — 313.4°/4.9 Kts.  
 WINDS T. SPD. — 16 Kts. (15 MIN.)  
 SUBSIDING

ETA E.O.L. 44 0635L / 1735Z

1330Z WINDS: REL. — 281° TEMP, H<sub>2</sub>O — 12.20°C  
 TRUE — 203° CMG/SMG — 313.5°/4.8 Kts.  
 T. SPD. — 14.7 Kts. (15 MIN.)

1340Z CHECKED GUN TOWS — THEY LOOK OK. WIND  
 AND SEA SLOWLY MODERATING

1400Z WINDS: REL. — 276° TEMP, H<sub>2</sub>O — 12.0°C  
 TRUE — 208° CMG/SMG — 314°/5.1 Kts.  
 T. SPD. — 15.5 Kts. (15 MIN.)

1430Z WINDS: REL. — 270° TEMP, H<sub>2</sub>O — 11.7°C  
 TRUE — 201° CMG/SMG — 313.8°/5 Kts.  
 T. SPD. — 16 Kts. (15 MIN.)

1500Z WINDS: REL. — 282° TEMP, H<sub>2</sub>O — 12.8°C  
 TRUE — 207° CMG/SMG — 314.5°/4.9 Kts.  
 T. SPD. — 16.5 Kts (15 MIN.)

1530Z WINDS: REL. — 279° TEMP, H<sub>2</sub>O — 13.2°C  
 TRUE — 204° CMG/SMG  
 T. SPD. — 15.9 Kts (15 MIN.) — 314.1°/5.1 Kts

1600Z WINDS: REL. — 271° TEMP, H<sub>2</sub>O — 13.5°C  
 TRUE — 196° CMG/SMG  
 T. SPD. — 14.4 Kts (15 MIN.) — 313.8°/4.9 Kts

1630Z WINDS: REL. — 275° TEMP, H<sub>2</sub>O — 13.5°C  
 TRUE — 200°  
 T. SPD. — 15 Kts

## Conley Bay

024/24 January 2000

0643Z - John called from Gun Group, Starboard gun appears to be tangled again, Carlos notified, we're being put to Fantail to inspect.

0655Z - After inspection, guns may be wrapped, but Carlos thinks they're OK to remain until end of line in ~30 minutes. Guns will probably be inspected during turn to next l.r.e.

1700Z Winds True -  $196^{\circ}$  Temp H<sub>2</sub>O -  $13.5^{\circ}\text{C}$   
 Rel -  $272^{\circ}$  CMG/SMG  
 T. spd - 13.8 kts (15 min) - 313.8°/5.0 kts

1715Z With daylight, both guns appear to generally be towing in correct positions, although Port gun may be slightly twisted

1722Z Finished Line 44, ETA 12 minutes until start of turn and end of recording

1730Z Winds Rel -  $257^{\circ}$  Temp H<sub>2</sub>O -  $13.5^{\circ}\text{C}$   
 True -  $182^{\circ}$  CMG/SMG  
 T. spd - 16.4 kts (15 min) - 313.9°/4.9 kts

1734Z Begin turn to left, end recording Fore Line 44

1735Z During turn, Starboard gun being pulled and inspected, as Carlos does not think it is towing correctly. The Port gun is also

## Carterbury Basin

024/24 Jun. 2000

1800Z Winds Rel - 336°  
 True - 187°  
 T. SPD - 13.5 KTS  
 Temp H<sub>2</sub>O - 13.8°C  
 CMG/SMG  
 (15 min) - 229.0°/4.5 KTS

1805Z Starboard gun back in water. Shooting slightly obliquely on occasion. Will carry on as is for now. Cable had been tangled, and has been freed.

1830Z Winds Rel - 25°  
 True - 188°  
 T SPD - 12.8 KTS  
 Temp H<sub>2</sub>O - 13.6°C  
 CMG/SMG  
 (15 min) - 171.9°/4.1 KTS

1833Z Completed turn to Line 48

1840Z Start of Line 48 (BIRDS STILL AT 3.5 METERS)

1845 - BURGER/BROWNE OFF. HERRON. CATHERO STILL UP HAVING HER VEGEMITE TOAST.

1854Z THOUGH THE SEAS AND WINDS HAVE CALMED OVERNIGHT, THERE IS STILL CONSIDERABLE SWELL NOISE IN DATA

1900Z - WINDS SPD - 14.2 DIR - 183° CMG - 135.0  
 REL SPD - 19.2 REL DIR - 17.9° SMG - 4.8

1930Z WINDS - SPD - 15.1 DIR - 188° CMG - 132.3  
 REL SPD 19.4 REL DIR - 20° SMG 4.8

2000Z WINDS SPD - 16.0 DIR 197° CMG - 134.0  
 REL SPD - 18.1 REL DIR 42° SMG - 4.9

2030Z WINDS SPD 15.8 DIR 202° CMG - 135.6°  
 REL SPD 19.4 REL DIR 40° SMG - 4.8

SEA WATER TEMP - 12.8° SEAS - 2 METERS + FROM SW

24 JANUARY, 2000

037

D.024

EDU00-01 CANTERBURY BASIN

21:00 Z WINDS SPD-15.5 DIR-183° CMG-135.2  
REL. SPD-19.2 REL. DIR-35° SMG-5.2

21:30 Z WINDS SPD-17.1 DIR-192° CMG-134.5  
REL. SPD-19.6 REL. DIR-41° SMG-4.9  
SEA WATER TEMP-12.1° SEA STATE ~2 METERS FROM SW

22:00 Z WINDS SPD-14.6 DIR-183° CMG-134.8°  
REL SPD-18.7 REL DIR-34° SMG-4.6

22:30 Z WINDS SP 17.5 Kts DIR-186° CMG-135.2°  
REL SP 20.7 Kts REL DIR-36° SMG-4.8 Kts  
SWT-12.0°C

22:45Z AUSTIN/LU ON WATCH. STILL LINE 4B. OPS.  
NORMAL. BIRDS STILL AT 3.5 M. WINDS N 15 M; STILL A  
SEA RUNNING.

23:00Z WINDS: REL. - 27° TEMP. H<sub>2</sub>O - 11.9°C  
TRUE - 182° CMG/SMG - 134.2°, 4.9 Kts.  
T. SPD. - 12 Kts (15 MIN.)

23:10Z CHECKED GUN TOWS- OK.

23:30Z WINDS: REL. - 25° TEMP. H<sub>2</sub>O - 12.3°C  
TRUE - 184° CMG/SMG - 133.1°, 4.6 Kts.  
T. SPD. - 14 Kts (15 MIN.)

23:55Z E.O.L. 4B. TURNING TO LINE 50.

0000Z 25 JANUARY / JD 025

WINDS: REL - 008° TEMP. H<sub>2</sub>O - 12.6°C  
TRUE - 183° CMG/SMG - TURNING  
T. SPD. - 15 Kts (15 MIN.)

## CANTERBURY BASIN

J.D. 025/25 JANUARY 2000

0030Z WINDS: REL - 337°  
 TRUE - 178°  
 T. SPD - 16.1 KTS  
 TEMP, H<sub>2</sub>O - 12.1°C  
 CMG/SMG - TURNING  
 222.5°/4.3 KTS  
 (15 MIN)

0055Z S.O.L. SZ.

0100Z WINDS: REL - 275°  
 SEAS MODERATING. TRUE - 196°  
 SUN IS OUT T. SPD. - 12 KTS.  
 TEMP, H<sub>2</sub>O - 12.5°C  
 CMG/SMG - 313.6°/4.9 KTS  
 (15 MIN.)

0115Z THE BRIDGE INFORMS THAT THE E.O.L. SZ  
 WILL BE N 0610Z.

0130Z WINDS: REL - 279°  
 TRUE - 188°  
 T. SPD - 12.5 KTS.  
 TEMP, H<sub>2</sub>O - 12.3°C  
 CMG/SMG - 314.5°/5 KTS.  
 (15 MIN)

0200Z WINDS: REL - 252°  
 TRUE - 181°  
 T. SPD. - 13.1 KTS.  
 TEMP, H<sub>2</sub>O - 11.7°C  
 CMG/SMG - 315.6°/4.8 KTS  
 (15 MIN.)

0205Z GUN TOWS CHECKED - OK.

0230Z WINDS: REL - 259°  
 TRUE - 190°  
 T. SPD. - 13.5 KTS  
 TEMP, H<sub>2</sub>O - 12.0°C  
 CMG/SMG - 313.7°/5.1 KTS.  
 (15 MIN)

0300Z WINDS REL - 246°  
 TRUE - 181°  
 T. SPD - 13.8 KTS  
 TEMP, H<sub>2</sub>O - 12.0°C  
 CMG/SMG  
 (15 MIN) - 314.4°/4.9 KTS

0314Z SOLAR EPC RECORDER OFF WHILE TAPEK BEING  
 CORRECTLY RE-PLACED. BACK RECORDING AT 0322Z  
 0322

EWO0-01

039

## Canterbury Basin

025/25 January, 2000

0340Z Winds Rel - 244°  
True - 178°  
T. SPD - 11.8 KTS

Temp. H<sub>2</sub>O - 12.0  
CMG/SMG  
(15 min) - 314.6°/4.8 KTS

0400Z Winds Rel - 247°  
True - 175°  
T. SPD - 11.8 KTS

Temp. H<sub>2</sub>O - 12.1°C  
CMG/SMG  
(15 min) - 313.0°/4.8 KTS

0430Z Winds Rel - 229°  
True - 164°  
T. SPD - 14.6 KTS

Temp. H<sub>2</sub>O - 12.4°C  
CMG/SMG  
(15 min) - 315.3°/4.7 KTS

0500Z Winds REL. - 252°  
TRUE. - 184°  
T. SPD - 13.2 KTS

T. H<sub>2</sub>O - 12.5°C  
CMG/SMG  
(15 min) - 313.8°/4.9

0530Z Winds Rel - 242°  
True - 170°  
T. SPD - 11.0 KTS

Temp H<sub>2</sub>O - 13.0°C  
CMG/SMG  
(15 min) - 314.8°/4.8 KTS

0558Z End of line, eta 12 min. to turn and end of recording.

0600Z Winds Rel - 238°  
True - 169°  
T. SPD - 13.0 KTS

Temp H<sub>2</sub>O - 12.9°C  
CMG/SMG  
(15 min) - 314.6°/4.9 KTS

0611Z ~~End~~ Began turn to line 56; end of recording for line 52

0615Z Birds being set back to 2.5 m from 3.5 m due to calmer weather.

EW00-01

040

## Canterbury Basin

025/25 January 2000

0630Z WINDS Rel - 32.1°  
 True - 179°  
 T. SPD - 10.4 KTS  
 Temp, H<sub>2</sub>O - 13.4°C  
 CMG/SMG  
 (15 Min) - 271.7°/4.2 KTS

0645Z BURGER PLAYING PONG  
 BROWNE OFF  
 CATHRO/HERR ON.

0700Z WINDS TRUE SP. 13.8 TRUE DIR 177 CMG 14.3  
 REL SP. 17.1 REL DIR 28 SMG 4.8  
 SWT 13.3°C.

0703Z SOL 56, PASS WAYPOINT BT 56.  
 Line started with significant low frequency noise  
 that subsided to a tolerable level within 15 minutes  
 main problem tended to be middle of streamer.

0730 WINDS TRUE SP 10.8 TRUE DIR 182 CMG 35.1  
 REL SP 15.0 REL DIR 33 SMG 4.9  
 SWT 12.8°C.

0800Z WINDS SPD 10.9 DIR 189° CMG 133.8  
 REL SPD 15.2 REL DIR 35° SMG 4.9

0830Z WINDS SPD 9.8 DIR 178° CMG 134.6  
 REL SPD 15.4 REL DIR 27° SMG 5.0  
 SEA WATER TEMP - 12.3 SWELLS 3-5 FT. FROM SOUTH

0900Z WINDS SPD 10.4 DIR 185° CMG 133.8  
 REL SPD 14.7 REL DIR 28° SMG 5.0

0913Z SWELL NOISE INCREASING  
 0930Z WINDS SPD 12.8 DIR 190° CMG 135.0  
 REL SPD 14.3 REL DIR 36° SMG 4.9  
 SWT 12.0°C

JD 25

CANTERBURY BASIN

25 JAN 2000

1000Z WIND SP. 12.1 DIR 197° CMG 133.7 SWT.  
REL SP 14.5 REL DIR 131° SMG 4.8

SWELLS HAVE NOTICEABLY INCREASED AS WE  
HEAD FURTHER OFFSHORE. SWELL NOISE ON STREAMER  
ALSO INCREASED.

1030Z WIND SPD 12.2 DIR - 191° CMG 134.2°  
REL SPD 15.0 REL DIR 37° SMG 5.0  
SWT - 12.2°

1050Z AUSTIN/LU ON WATCH. LINE 56.

1100Z WINDS: REL - 72° TEMP, °C - 12.0°C  
TRUE - 192° CMG/SMG - 134.3°, 4.9 kts.  
T. SPD - 13 kts. (15 MIN.)

PERSISTENT LOW-FREQUENCY (FREE SURFACE) NOISE  
ON STREAMER/SCREEN GATHERS. STREAMER NOT TOWING  
WELL. CHECKING FREQ. SPECTRA (USING "FOCUS" - SIGNALS  
COMING IN ONLY), COMPARING DEEP-WATER END OF  
52 (COLLECTED AT 3.5 M) VS. DEEP-WATER PORTION OF  
56 (COLLECTED AT 2.5 M) TO DETERMINE IF BIRDS  
SHOULD BE SENT BACK TO 3.5 M FOR START OF NEXT  
LINE (19A). JOE DOES NOT THINK STREAMER  
MAINTENANCE WORK IS WORTH DOING(?). (AUSTIN).

1130Z WINDS: REL - 44° TEMP, H<sub>2</sub>O - 12.1°C  
TRUE - 207° CMG/SMG - 134.2°, 5 kts.  
T. SPD - 15 kts. (15 MIN.)

1200Z WINDS: REL - 47° TEMP H<sub>2</sub>O - 12.0°C  
TRUE - 217° CMG/SMG - 134.6°, 4.7 kts.  
T. SPD - 12 kts. (15 MIN.)

1206Z E.O.L. 56. TURNING TO 19A - A ~ 2 1/2  
HOUR TRANSIT. C/S 7.5 KTS FOR TRANSIT.

1230Z WINDS: REL - 133° TRUE - 221° T. SPD - 11.4 kts  
TEMP, H<sub>2</sub>O - 12.0°C CMG/SMG (1 MIN) - 136.6°, 5.6 kts



## CANTERBURY BASIN

J.D. 025/25 JANUARY 2000

1235Z SETTING BIRDS TO 3.5 M DURING  
TRANSIT TO SEE HOW STREAMER TOWS.

1300Z WINDS: REL. — 237°      TEMP H<sub>2</sub>O —  
TRUE — 207°      CMG/SMG — 359.5°, 6 Kts.  
T.SPD. — 10 Kts.      (15 MIN.)

STREAMER NOISE REDUCED, EVEN AT INCREASED  
TRANSITING SPEED.

1330Z WINDS: REL. — 235°      TEMP H<sub>2</sub>O — 12.1°C  
TRUE — 202°      CMG/SMG — 300.9°, 5.7 Kts.  
T.SPD. — 10.9 Kts.      (15 MIN.)

1400Z WINDS: REL. — 241°      TEMP H<sub>2</sub>O — 12.0°C  
TRUE — 218°      CMG/SMG — 004.2°, 5.4 Kts.  
T.SPD. — 11.3 Kts.      (15 MIN.)

STARTING TO LINE UP ON LINE 19A. WE WILL  
LEAVE THE BIRDS AT 3.5 M DEPTH FOR THIS LINE.  
STEFFEN HAS DETERMINED THAT THERE IS AN  
INSIGNIFICANT DIFFERENCE IN FREQ. SPECTRUM OF  
THE INCOMING DATA AT 3.5 M (VS. 2.5 M).

1430Z WINDS: REL. — 355°      TEMP H<sub>2</sub>O — 12.0°C  
TRUE — 232°      CMG/SMG — 268.8°, 4.1 Kts.  
T.SPD. — 9.8 Kts.      (15 MIN.)

1435Z S.O.L. 19A.

1450Z ETA TO TURN OFF LINE AT 1912Z

1500Z WINDS: REL. — 355°      TEMP H<sub>2</sub>O — 11.9°C  
TRUE — 218°      CMG/SMG — 227.8°, 4.7 Kts.  
T.SPD. — 11.1 Kts.      (15 MIN.)

## Canterbury Basin

J.D. 025/25 January 2000

1530Z Winds: Rel — 353°  
 True — 213°  
 T SPD — 18.2 KTS  
 Temp, H<sub>2</sub>O — 12.2°C  
 CMG/SMG  
 (15 min) — 2278/11.5K

1600Z Winds: Rel — 307°  
 True — 149°  
 T SPD — 13.6 KTS  
 Temp, H<sub>2</sub>O — 12.3°C  
 CMG/SMG  
 (15 min) — 2268/4.1KTS

1630Z Winds: Rel — 310°  
 True — 147°  
 T SPD — 11.5 KTS  
 Temp, H<sub>2</sub>O — 12.1°C  
 CMG/SMG — 228.3°/1.6KT  
 (15 min)

1700Z Winds: Rel — 312°  
 True — 153°  
 T SPD — 12.6 KTS  
 Temp, H<sub>2</sub>O — 12.1°C  
 CMG/SMG — 2279°/4.8KTS  
 (15 min)

1730Z Winds: Rel — 313°  
 True — 154°  
 T SPD — 8.4 KTS  
 Temp, H<sub>2</sub>O — 11.9°C  
 CMG/SMG  
 (15 min) — 227.8°/4.5KTS

1800Z Winds: Rel — 321°  
 True — 154°  
 T SPD — 6.7 KTS  
 Temp, H<sub>2</sub>O — 12.0°C  
 CMG/SMG  
 (15 min) — 228.0°/4.4KTS

1830Z Winds: Rel — 4°  
 True — 229°  
 T SPD — 140 KTS  
 Temp, H<sub>2</sub>O — 11.8°C  
 CMG/SMG  
 (15 min) — 228.6°/4.5K

1845Z BURGER/BROWNE OFF, CATHRC-HERR ON

1900Z WINDS SPD-6.6 DIR-213° CMG 2273  
 REL SPD 11.8 REL DIR 354° SMG-4.6  
 SEA WATER TEMP-12.1°

J.D. 025 25 JANUARY, 2000

1916Z EOL 19A, TURNING TO TRANSIT LINE 33

1930Z WINDS SP. 6.7 Kts TRUE DIR 202° CMG 229.3'  
RELSP 11.6 Kts REL DIR 4° SMG 4.8 kts  
SWT 12.4°C

1956Z CRAIG WANTS TO LIFT STREAMER TO SEE IF IT WILL  
TOW OKAY AT 2.5M (DONE BY 1958).  
DEPTH NOTCH FREQ (WATER VEL / 2x DEPT)  
2M DEPTH 375 Hz  
2.5m 300 Hz  
3.0m 250 Hz  
3.5m 214 Hz

STEFFEN BELIEVES MOST OF ENERGY AT <200 Hz  
BUT THERE IS STILL SOME ENERGY UNTIL AT LEAST  
250 Hz, MAYBE 300. IF STREAMER IS UNSTABLE  
AT 2.5M THEN CRAIG WILL DROP TO 3.0M.  
AT THIS DEPTH THE NOTCH IS ENCRACHING ~~THE~~  
THE TOP END OF THE FREQUENCY BANDWIDTH.

20:29Z LINE WILL BE STARTED A LITTLE EARLY TO <sup>(20:38)</sup>  
LOOK AT HOW STREAMER TOWING - ETA TO  
WAYPOINT 20:41.

20:30Z WIND SP 7.2 Kts DIR 157° CMG 24'  
RELSP 7.4 Kts REL DIR 69° SMG 4.9 kts  
SWT 12.3°C

20:38Z STARTED RECORDING SOL 33.

20:41Z PASSED WAYPOINT SOL 33.

STREAMER TOWING AT 2.5M, SEEMS TO BE ~~BEHAVING~~  
BEHAVING WELL AND A VERY LITTLE NOISE DETECTED  
ON SHOT MONITOR. WILL REASSESS THROUGHOUT  
SHOOTING

JD 25

CANTERBURY BASIN

25 JANUARY 2000

2100Z WINDS SPD - 5.9 DIR - 182° CMG - 51.2  
REL SPD - 4.4 REL DIR - 92° SMG - 5.0  
SEA WATER TEMP - 12.3° SEA STATE - 3-5 FT. SWELLS FROM SSW

2130Z WINDS SPD - 6.5 DIR 184° CMG - 50.8  
REL SPD - 4.9 REL DIR 71° SMG - 4.9

2144Z SWELL NOISE STARTING TO PICK UP MID STREAMER  
(BIRDS 7-9 HIGH) - NOT A CONSISTENT PROBLEM.  
YET CHANNELS (55-79)

2200Z WINDS SPD - 9.6 DIR 227° CMG - 50.3°  
REL SPD - 5.9 REL DIR 159° SMG - 5.0  
SEA WATER TEMP - 12.1° SEA STATE - 3-5' FT. SWELLS FROM SSW

2205Z WATCHING BIRDS 7-9 - STILL RIDING HIGH  
IT IS NOTED THAT THE CURRENT IS HAVING A  
PARTICULARLY STRONG EFFECT HERE - OUR SPEED  
THROUGH THE WATER IS AVERAGING JUST OVER  
4 KNOTS TO MAINTAIN A SMG OF 5.0. OUR SLOW  
SPEED THROUGH THE WATER MAY BE HAVING SOME  
NEGATIVE EFFECT ON KEEPING THE STREAMER DOWN.

2230Z WIND SP 4.0 KTS TRUE DIR 195° CMG 51.9° SWT 12.1°C  
RELSP 2.1 KTS REL DIR 80° SMG 4.9 KTS

ETA TO EOL 33 0305Z (JD 26).

2240Z LOW FREQUENCY NOISE STILL PRESENT (LOWER AMPLITUDE)  
WHEN MID-STREAMER BIRDS APPEAR TO BE TOWING WELL  
JOHN DIEBOLD SUSPECTS THERE MAY BE SOMETHING CAUGHT ON  
THIS PART OF THE STREAMER.

## CANTERBURY BASIN

025/25 JANUARY 2000

2250Z AUSTIN/LU ON WATCH. LINE 33. STREAMER AT 2.5 M FROM START OF THIS LINE — NOISY. CONTINUING TO COLLECT DATA. STEFFEN IS STACKING THE EARLY TAPES (2) FROM THIS LINE, TO LOOK AT STACK OUTPUT.

2300Z WINDS: REL. — 79° TEMP, H<sub>2</sub>O — 12.1°C  
 TRUE — 196° CMG/SMG — 51.4°, 4.9 kts.  
 T. SPD. — 4.5 kts. (15 MIN.)

2330Z WINDS: REL. — 333° TEMP, H<sub>2</sub>O — 12.1°C  
 TRUE — 227° CMG/SMG — 52.7°, 4.9 kts.  
 T. SPD. — 4 kts. (15 MIN.)

0000Z 26 JANUARY 2000

WINDS: REL. — 195° TEMP, H<sub>2</sub>O — 12.1°C  
 TRUE — 225° CMG/SMG — 51.1°, 4.7 kts.  
 T. SPD. — 4.8 kts. (15 MIN.)

0030Z WINDS: REL. — 123° TEMP, H<sub>2</sub>O — 12.2°C  
 TRUE — 195° CMG/SMG — 50.3°, 4.8 kts.  
 T. SPD. — 12.4 kts (15 MIN.)

0100Z WINDS: REL. — 43° TEMP, H<sub>2</sub>O — ~~12.2~~ 12.3°C  
 TRUE — 208° CMG/SMG — 50.0°/4.8 kts  
 T. SPD. — 3.6 kts (15 MIN.)

0130Z WINDS: REL. — 126° TEMP, H<sub>2</sub>O — 12.2°C  
 TRUE — 198° CMG/SMG — 51.4°, 4.9 kts.  
 T. SPD. — 7.8 kts. (15 MIN.)

CHECKED GUN TOWS — OK. BRIDGE ESTIMATES  
 E.O.L. 33 AT ~ 0200Z

## CANTERBURY BASIN

J.D. 026 / 26 JANUARY 2000

0200Z STILL LINE 33.

WINDS: REL. —  $116^{\circ}$   
 TRUE —  $193^{\circ}$   
 T. SPD. — 9.9 KTS.

TEMP. H<sub>2</sub>O —  $12.3^{\circ}\text{C}$   
 CMG/SMG —  $50.4^{\circ}/4.8\text{ KTS}$   
 (15 MIN.)

0230Z

WINDS: REL. —  $124^{\circ}$   
 TRUE —  $192^{\circ}$   
 T. SPD. — 11.6 KTS

TEMP. H<sub>2</sub>O —  $12.0^{\circ}\text{C}$   
 CMG/SMG —  $50.5^{\circ}/4.8\text{ KTS}$   
 (15 MIN.)

BRIDGE INFORMS THAT TURN OFF 33 (E.O.L. 35)  
 WILL BE 0314Z

0244Z PASSING OVER ODP 1119.

0300Z WINDS REL —  $110^{\circ}$   
 TRUE —  $186^{\circ}$   
 T. SPD — 8.3 KTS

TEMP. H<sub>2</sub>O —  $12.3^{\circ}\text{C}$   
 CMG/SMG  
 (15 MIN) —  $50.4^{\circ}/4.9\text{ KTS}$

0301Z Finished line; ETA 12 min. TO start OF TURN

0314Z Start TURN, end recording FOR LINE 33

0330Z WINDS REL:  $56^{\circ}$   
 True:  $189^{\circ}$   
 T SPD: 9.4 KTS

T H<sub>2</sub>O:  $12.5^{\circ}$   
 CMG/SMG  
 (15 MIN):  $70.0^{\circ}/4.7$

0400Z WINDS REL —  $343^{\circ}$   
 True —  $187^{\circ}$   
 T SPD — 11.0 KTS

TEMP. H<sub>2</sub>O —  $12.8^{\circ}\text{C}$   
 CMG/SMG  
 (15 min) —  $196.4^{\circ}/4.1\text{ KTS}$

0430Z WINDS REL —  $332^{\circ}$   
 True —  $180^{\circ}$   
 T SPD — 12.0 KTS

TEMP. H<sub>2</sub>O —  $12.6^{\circ}\text{C}$   
 CMG/SMG  
 (15 MIN) —  $212.9^{\circ}/4.6\text{ KTS}$

EW00-01

048

Canterbury Basin

026/26 January 2000

0500Z Winds Rel - 307°  
 True - 165°  
 T. Spd - 13.1 KTS

Temp H<sub>2</sub>O - 12.6°C  
 CMG/SMG  
 (15 min) - 218.7°/4.5 KTS

0527Z Finish Turn, ETA 12 min From Start of  
 Line 25

0530Z Winds Rel - 142°  
 True - 166°  
 T. Spd - 13.1 KTS

Temp H<sub>2</sub>O - 12.4°C  
 CMG/SMG  
 (15 min) - 348.6°/4.7 KTS

0539Z Start Line 25

0555Z Passing over ODP 1119  
 44°45.322'S  
 172°23.622'E

0600Z Winds Rel - 164°  
 True - 184°  
 T. Spd - 13.2 KTS

Temp H<sub>2</sub>O - 12.4°C  
 CMG/SMG  
 (15 min) - 16.3°/5.0 KTS

0630Z Winds Rel - 134°  
 True - 168°  
 T. Spd - 8.8 KTS

Temp H<sub>2</sub>O - 12.3°C  
 CMG/SMG  
 (15 min) - 17.2°/4.9 KTS

~~0645Z~~

0645Z

BURGER/BRONNE OFF  
 CATHRO/HERR ON.

0700Z WINDS SP. 8.5 Kts DIR 187°  
 RELSP. 4 Kts REL DIR 167°

CMG 16.9° SWT 12.5°C  
 SMG 4.8 Kts

EW00-01

AUSTRALIA DAY

JD 026

CANTERBURY BASIN

26 JANUARY 2000

0730Z WIND SP 9.7 kts DIR 183° CMG 16.4° SWT 12.5°C  
RELSP 5.7 kts RELDIR 160° SMG 4.6 kts

0800Z WIND SP 7.3 kts DIR 180° CMG 17.3° SWT 12.7°C  
RELSP 3.2 kts RELDIR 130° SMG 4.8 kts

0830Z WIND SPD - 7.2 DIR - 166° CMG - 17.0°  
REL SPD - 4.2 REL DIR 117° SMG - 4.8  
SWT - 12.9° SEA STATE - 3-5 FT SWELLS FROM SSW

0900Z WIND SPD - 8.0 DIR - 176° CMG 16.0°  
REL SPD - 4.2 REL DIR - 126° SMG 4.8

0930Z WIND SPD - 4.7 DIR - 175° CMG - 17.4°  
REL SPD - 2.7 REL DIR - 100° SMG - 4.9  
SWT - 14.4 SEA STATE UNCHANGED

1000Z WIND SPD - 5.2 DIR - 157° CMG - 16.0°  
REL SPD 3.8 REL DIR - 79° SMG 4.9

1030Z WIND SPD 4.8 kts DIR 188° CMG 18° SWT 15.0°  
REL SPD 0.8 kts RELDIR 100° SMG 4.8 kts

10:50Z AUSTIN/LV ON WATCH. LINE 25. OPS  
NORMAL.

11:05Z WINDS: REL. — 44° TEMP, H<sub>2</sub>O — 15.0°C  
TRUE — 138° CMG/SMG — 16.5°, 4.9 kts.  
T. SPD. — 4 kts. (15 MIN.)

1130Z WINDS: REL. — 79° TEMP, H<sub>2</sub>O — 15.1°C  
TRUE — 173° CMG/SMG — 17°, 4.8 kts.  
T. SPD. — 4.7 kts. (15 MIN.)

1200Z WINDS: REL. — 334° TEMP, H<sub>2</sub>O — 15.3°C  
TRUE — 218° CMG/SMG — 16.4°, 5.1 kts.  
T. SPD. — 2.8 kts. (15 MIN.)



## CANTERBURY BASIN

J.D. 26 / 26 JANUARY 2000

1230Z

WINDS: REL. — 24°  
TRUE — 118°  
T.SPD. — 1.1 kt.TEMP, H<sub>2</sub>O — 15.7°C  
CMG/SMG — 17.3°, 4.8 kts.  
(15 MIN.)

1300Z

WINDS: REL. — 15°  
TRUE — 124°  
T.SPD. — 2.2 kts.TEMP, H<sub>2</sub>O — 15.7°C  
CMG/SMG — 16.3°, 4.8 kts.  
(15 MIN.)

1320Z

PASSED OVER THE "RESOLUTION" WELL. EXPECTED  
EOL 25 @ ~ 1400Z, W/ ~ 2-2.5 MI RUNOUT BEYOND THAT.

1330Z

WINDS: REL — 354°  
TRUE — 251°  
T.SPD — 0.5 kt (!)TEMP, H<sub>2</sub>O — 15.7°C  
CMG/SMG — 17.7°, 4.7 kts.

1400Z

WINDS: REL. — 003°  
TRUE — 73°  
T.SPD. — 0.8 kt.TEMP, H<sub>2</sub>O — 16.0°C  
CMG/SMG — 15.9°, 4.9 kts  
(15 MIN.)

1403Z E.O.L. 25.

1409Z

BRIDGE INFORMS THAT THE END OF THE  
TURN TO LINE 3 WILL OCCUR AT 1446Z. WAY-POINT  
WILL BE CROSSED AT 1508Z ⇒.

1430Z

WINDS: REL — 12°  
TRUE — 258°  
T.SPD — 1.9 kts.TEMP, H<sub>2</sub>O — 16.1°C  
CMG/SMG — TURNING.  
(15 MIN.)

1447Z

At turn complete, ETA 1507Z TO start of line

1500Z

Winds Rel — 20°  
True — 34°  
T.Spd — 2.6 ktsTemp, H<sub>2</sub>O — 16.1°C  
CMG/SMG  
(15 min) — 225.8/4.7 kts

1523

Passing over Resolution-1 waypoint

## Canterbury Basin

026/26 January, 2000

1530Z Winds: Rel -  $35^{\circ}$  Temp, H<sub>2</sub>O -  $15.8^{\circ}\text{C}$   
 True -  $355^{\circ}$  CMG/SMG  
 T. Spd - 2.6 KTS (15 min) -  $228.0^{\circ}/4.8\text{KTS}$

1600Z Winds: Rel -  $50^{\circ}$  Temp, H<sub>2</sub>O -  $15.7^{\circ}\text{C}$   
 True -  $2410^{\circ}$  CMG/SMG  
 T. Spd - 2.6 KTS (15 min) -  $226.8^{\circ}/4.8\text{KTS}$

1630Z Winds: Rel -  $15^{\circ}$  Temp, H<sub>2</sub>O -  $15.7^{\circ}\text{C}$   
 True -  $280^{\circ}$  CMG/SMG  
 T. Spd - 2.0 KTS (15 min) -  $226.1^{\circ}/4.9\text{KTS}$

1700Z Winds: Rel -  $19$  Temp, H<sub>2</sub>O -  $15.8^{\circ}\text{C}$   
 True -  $330$  CMG/SMG  
 T. Spd - 1.5 KTS (15 min) -  $227.2^{\circ}/4.8\text{KTS}$

1730Z Winds: Rel -  $354^{\circ}$  Temp, H<sub>2</sub>O -  $15.8^{\circ}\text{C}$   
 True -  $86^{\circ}$  CMG/SMG  
 T. Spd - 0.7 KTS (15 min) -  $226.6^{\circ}/4.8\text{KTS}$

1800Z Winds: Rel -  $350^{\circ}$  Temp, H<sub>2</sub>O -  $15.6^{\circ}\text{C}$   
 True -  $82^{\circ}$  CMG/SMG -  $226.1^{\circ}/4.9\text{KTS}$   
 T. Spd - 1.8 KTS (15 min)

1830Z Winds: Rel -  $338^{\circ}$  Temp, H<sub>2</sub>O -  $15.4^{\circ}\text{C}$   
 True -  $79^{\circ}$  CMG/SMG -  $227.2^{\circ}/4.9\text{KTS}$   
 T. Spd - 2.3 KTS (15 min)

1845Z BURGER/BROWNE OFF  
 CATHRO/HERK ON.

1900Z WIND SPD - 3.3 DIR -  $11.0^{\circ}$  CMG -  $225.9^{\circ}$   
 REL SPD - 3.8 REL DIR -  $36^{\circ}$  SMG - 4.9

JD 026

EW00-01

26 JANUARY, 2000

052

## CANTERBURY BASIN

19:30Z WINDS SPD 2.9 DIR 350° CMG-227.2  
 REL SPD 3.2 REL DIR 41° SMG-4.9  
 SWT-14.9° - IT'S AS BEAUTIFUL MORNING AS WE'VE  
 HAD. DOZENS OF PILOT WHALES AROUND TUST AFTER  
 SUNRISE. SEA STATE - 2-4 FT GENTLE SWELLS  
 FROM SOUTH.

2000Z WINDS SPD-3.1 DIR-20° CMG 226.5  
 REL SPD-2.9 REL DIR-41° SMG-5.0

20:30Z WINDS SPD-5.6 DIR-4.0° CMG-225.8°  
 REL SPD-2.7 REL DIR-76° SMG-5.1

2100Z WINDS SPD 7.4 kts DIR-18° CMG 226.5°  
 REL SPD 3.8 kts REL DIR-110° SMG 4.9 kts  
 SWT-14°C

2130Z WIND SP 6.1 DIR 6.0 CMG 225.3  
 REL SP 3.6 REL DIR 115° SMG 4.8  
 SWT 13.9°C.

2200Z WIND SP 7.2 kts DIR 10° CMG 226.8°  
 REL SP 4.2 kts REL DIR 91° SMG 4.9 kts.  
 SWT 13.9°C

22:30Z WIND SPD: 7.8 DIR-28° CMG-226.1  
 REL SPD-3.6 REL DIR-124° SMG-5.0

2250Z AUSTIN / LU ON WATCH. LINE 3. OPS.  
 NORMAL. BEAUTIFUL DAY!

2300Z WINDS: REL. — 98° TEMP, H<sub>2</sub>O — 13.9°C  
 TRUE — 356° CMG/SMG — 226.4°, 4.9 kts.  
 T. SPD. — 6.3 kts. (15 MIN.)

2310Z THE GUN'S <sup>OW</sup>T was CHECKED BY LU. IT IS NORMAL.  
 SUNNY OUT SIDE. SEA LEVEL IS FLAT (CALM).

## CANTERBURY BASIN

J.D. 026 / 26 JANUARY 2000

2330Z

STILL

LINE 3.

WINDS: REL. — 103°

TRUE — 130°

T.SPD. — 8.1 Kts.

TEMP, H<sub>2</sub>O — 14.1°C

CMG/SMG — 226.6°, 5 Kts.

(15 MIN.)

THE BRIDGE INFORMS THAT THE E.O.L 3 WILL BE  
 ~ 0409Z, 27 JANUARY.

0000Z / J.D. 027 — 27 JANUARY 2000

0000Z

WINDS: REL. — 137°

TRUE — 21°

T.SPD. — 9.3 Kts.

TEMP, H<sub>2</sub>O — 13.1°C

CMG/SMG — 225.8°, 5 Kts.

(15 MIN.)

0030Z

WINDS: REL. — 111°

TRUE — 22°

T.SPD. — 7.7 Kts.

TEMP, H<sub>2</sub>O — 12.8°C

CMG/SMG — 227.5°, 4.8 Kts.

(15 MIN.)

0140Z

GUN TOWS CHECKED — AOK. GORGEOUS day.

0100Z

WINDS: REL. — 149°

TRUE — 55°

T.SPD. — 9.2 Kts.

TEMP, H<sub>2</sub>O — 13.1°C

CMG/SMG — 226.3°, 4.9 Kts.

(15 MIN.)

0130Z

WINDS: REL. — 162°

TRUE — 36°

T.SPD. — 9.6 Kts.

TEMP, H<sub>2</sub>O — 12.9°C

CMG/SMG — 227.3°, 4.9 Kts.

(15 MIN.)

0200Z

WINDS: REL. — 155°

TRUE — 33°

T.SPD. — 10.1 Kts.

TEMP, H<sub>2</sub>O — 12.9°C

CMG/SMG — 226.3°, 4.9 Kts.

(15 MIN.)

0230Z

WINDS: REL. — 174°

TRUE — 45°

T.SPD. — 11.8 Kts.

TEMP, H<sub>2</sub>O — 13.2°C

CMG/SMG — 227.5°, 4.9 Kts.

(15 MIN.)

FISHING BOAT PASSING 1-2 MI TO PORT.

EW00-01

054

## CANTERBURY BASIN

J.D. 027/27 JANUARY 2000

0300 Z

WINDS

REL :

208

TRUE :

60

T SPD :

11.2

KTS.

T H<sub>2</sub>O : 14.5

CMG/SMG

(15 MIN) : 225.6/4.9

0330 Z

WINDS

Rel - 206°

True - 63°

T SPD - 13.1 KTS

T H<sub>2</sub>O - 14.9°C

CMG/SMG

(15 MIN) - 227.2°/4.7 KTS

0400 Z

WINDS

Rel - 206°

True - 64°

T SPD - 14.5 KTS

T H<sub>2</sub>O - 14.8°C

CMG/SMG

(15 MIN) - 226.0°/5.0 KTS

0357 Z

END OF LINE 3, eta 12 min to 1 NM leadout +  
END OF RECORDING

0409 Z

END RECORDING FOR LINE 3 - begin turn  
TO LINE 35

0430 Z

WINDS

Rel - 297°

True - 58°

T SPD - 13.7 KTS

Temp, H<sub>2</sub>O - 13.0°C

CMG/SMG

(15 MIN) - 158.3°/4.4 KTS

0448

- BRIDGE CALLED. WILL BE AT THE WAYPOINT IN 12  
MINUTES (0500)

0500 Z

WINDS

Rel :

2.0

True :

59.0

T SPD :

15.9 KTS.

T H<sub>2</sub>O :

13.4

CMG/SMG

(15 MIN) : 5.0/4.3

0500 Z

Start Line 35

0530 Z

WINDS

Rel : 18°

True : 70°

T SPD : 14.9 KTS

T H<sub>2</sub>O - 14.8°C

CMG/SMG

(15 MIN) - 43.1°/5.0 KTS

## Canterbury Basin

027/27 January, 2000

0600Z WINDS - Rel -  $22^{\circ}$   
 True -  $76^{\circ}$   
 T. SPD - 15.7 KTS

TEMP H<sub>2</sub>O -  $14.0^{\circ}\text{C}$   
 CMG/SMG  
 (15 MIN) - 48.0/4.8 KTS

0630Z WINDS: Rel -  $14^{\circ}$   
 True -  $69^{\circ}$   
 T. SPD - 13.2 KTS

TEMP H<sub>2</sub>O -  $13.7^{\circ}$   
 CMG/SMG  
 (15 MIN) - 5.0/4.9

0645Z BURGER/BROWNE OFF  
 CATHRO/HERR ON.

0700Z WINDS SPD 11.8 KTS DIR  $73^{\circ}$   
 REL SPD 16.4 KTS REL DIR  $21^{\circ}$

CMG 47.5' SWT  $13.5'$   
 SMG 5.0 KTS

0730Z WINDS SPD 11.8 KTS DIR  $84^{\circ}$   
 REL SPD 15.4 KTS REL DIR  $25^{\circ}$

CMG 48.3' SWT 13.3  
 SMG 4.9 KTS

~~0740Z~~ 0759Z. LOST TRIMBLE NAV, INTERMITTENT PROBLEM,  
 TOF & LAT READINGS LOST, OTHERS OKAY, <sup>JOE</sup> CALLED

0800Z WIND SP 13.4 DIR 97  
 REL SP 17.1 REL DIR 31

CMG 48.1' SWT  $13.2'$   
 SMG 4.9

0805Z WHILE FIXING TRIMBLE, LOST MOST OF NAVIGATION  
 SCREEN. JOE ASSURES DATA IS BEING  
 CORRECTLY WRITTEN TO SEISMIC HEADERS

0807Z BIRDS  $1\frac{1}{2}$  <sup>→ (END OF STREAMER)</sup> ARE WAVERING UP AND DOWN  
 BETWEEN  $1\frac{1}{2}$  M TO  $4\frac{1}{2}$ .

0810Z TASMAN & TRIMBLE NAV SCREENS BOTH BACK  
 CMG/SMG REBUILDING

0830Z WIND SP 9.7 KTS DIR 91  
 REL SP 13.3 KTS REL DIR  $28^{\circ}$

CMG 47.5' SWT  $13.0^{\circ}\text{C}$   
 SMG 5.0 KTS

## CANTERBURY BASIN

J027/27 JANUARY 2000

0848Z FISHING BOAT OFF STARBOARD BEAM, 1 MILE AWAY. IT IS MOVING VERY SLOWLY AND WILL CLEAR END OF STREAMER IN ABOUT 1 HOUR.

0900Z WIND SP 10.5 DIR 78 CMG 47.9 } SWT 13.5  
REL SP 14.3 REL DIR 19 SMG 4.85 } 30 MIN AV FROM BRIDGE

0930Z WIND SP 10.2 Kts DIR 68° CMG 47.9° SWT 14.1°C  
REL SP 14.1 Kts REL DIR 15° SMG 4.9 Kts

1000Z WIND SP 9.5 DIR 79 CMG 47.3 SWT 14.4°C  
REL SP 14.1 REL DIR 20 SMG 5.0

1006Z 10 MINUTES UNTIL TURN. THERE IS NO 1 MILE RUNOUT, THEY WILL START TURNING ON WAYPOINT.

10:16Z EOL 35.

10:17Z PASS WAYPOINT EOL 35

1030Z WIND SPD - 7.6 DIR 75° CMG 339°  
REL SPD - 4.4 REL DIR 122° SMG 3.2  
TURNING TO START LINE 40A @ 10°/MIN. TURNS.

10:45Z AUSTIN/LV ON WATCH. TURNING TO LINE 40A.

1100Z WINDS: REL: 318° TEMP, H<sub>2</sub>O — 14.3°C  
TURNING TO TRUE 98° CMG/SMG — 227.3°, 3.9 Kts  
LINE 40 T.SPD. 5.5 Kts (15 MIN.)  
GUN TOWS CHECKED —  
OK.

1110Z S.O.L. 40A ETA FOR THE E.O.L. WILL BE  
~ 1500Z.

1130Z WINDS: REL — 331° T.SPD. — 4.9 Kts TEMP, H<sub>2</sub>O — 14.3°C  
TRUE — 73° CMG/SMG — 138.1°, 4.9 Kts

## CANTERBURY BASIN

J.D. 27/27 JANUARY 2000

1200Z WINDS: REL. — 339°  
 STILL TRUE — 80°  
 LINE 40. T.SPD. — 3.6 Kts.  
 TEMP, H<sub>2</sub>O — 13.5°C  
 CMG/SMG — 138.0°, 4.8 Kts.  
 (15 MIN.)

1230Z WINDS: REL. — 347°  
 TRUE — 88°  
 T.SPD. — 3.9 Kts.  
 TEMP, H<sub>2</sub>O — 13.7°C  
 CMG/SMG — 137.2°, 4.9 Kts.  
 (15 MIN.)

1232Z GUN TOW CHECKED BY LU. IT IS IN ORDER.  
 HALF MOON OUTSIDE. SEA LEVEL IS CALM WITH  
 PRETTY SMALL WAVES.

1300Z WINDS: REL. — 352°  
 TRUE — 114°  
 T.SPD. — 4.8 Kts.  
 TEMP, H<sub>2</sub>O — 13.7°C  
 CMG/SMG — 137.3°, 5 Kts.  
 (15 MIN.)

1330Z WINDS: REL. — 355°  
 TRUE — 131°  
 T.SPD. — 5.0 Kts.  
 TEMP, H<sub>2</sub>O — 12.8°C  
 CMG/SMG — 137.6°, 4.8 Kts.  
 (15 MIN.)

1400Z WINDS: REL. — 355°  
 TRUE — 135°  
 T.SPD. — 5.4 Kts.  
 TEMP, H<sub>2</sub>O — 12.2°C  
 CMG/SMG — 137.6, 5.0 Kts.  
 (15 MIN.)

1405Z GUN TOWS CHECKED — OK. BEAUTIFUL NIGHT.

1430Z WINDS: REL. — 350°  
 TRUE — 130°  
 T.SPD. — 4.7 Kts.  
 TEMP, H<sub>2</sub>O — 12.7°C  
 CMG/SMG — 138.7°, 4.7 Kts.  
 (15 MIN.)

1440Z AUSTIN / LU OFF. BROWNE / BURGER ON.

1451Z Pushed way po N. CTA 13 minutes to  
 start of turn



## Canterbury Basin

027/27 January 2000

1500Z Winds Rel - 353° Temp, H<sub>2</sub>O - 12.9°C  
 True - 132° CMG/SMG  
 T. Spd - 4.5 KTS (15 Min) - 136.8/4.9

1504Z Begin turn, end Recording For Line 40A  
~~Begin~~ start transit to Line 19B

1530Z Winds Rel - 295° Temp, H<sub>2</sub>O - 12.8°C  
 True - 132° CMG/SMG  
 T. Spd - 4.9 KTS (15 Min) - 267.1/4.9 KTS

1600Z Winds Rel - 278° Temp, H<sub>2</sub>O - 12.5°C  
 True - 120° CMG/SMG  
 T. Spd - 6.1 KTS (15 Min) - 268.1/4.7 KTS

1630Z Winds Rel - 300° Temp, H<sub>2</sub>O - 12.3°C  
 True - 111° CMG/SMG - 266.4/4.6 KTS  
 T. Spd - 4.7 KTS (15 Min)

1642Z BRIDGE CALLED. DIFF. GPS IS STILL OUT -  
 COMES ON FOR BRIEF PERIODS ONLY.

1700Z Winds Rel - 323° Temp, H<sub>2</sub>O - 12.7°C  
 True - 96° CMG/SMG - 269.0/4.7 KTS  
 T. Spd - 4.2 KTS (15 Min)

1702Z JOE CALLED TO RESTORE DIFF. GPS.

1715Z DIFF. GPS RESTORED.

1730Z Winds Rel - 9° Temp, H<sub>2</sub>O - 12.8°C  
 True - 49° CMG/SMG  
 T. Spd - 3.5 KTS (15 Min) - 337.0/4.4 KTS

EW00-01

059

## Canterbury Basin

027/27 Jan 2000

1744Z Start Line 19B

1800Z Winds- Rel-  $3^{\circ}$   
 True-  $64^{\circ}$   
 T. SPD- 1.3 KTS

Temp. H<sub>2</sub>O-  $12.9^{\circ}\text{C}$   
 CMG/SMG-  $47.6^{\circ}/49\text{KTS}$   
 (15min)

1830Z Winds- Rel-  $10^{\circ}$   
 True-  $81^{\circ}$   
 T. SPD- 2.0 KTS

Temp. H<sub>2</sub>O-  $12.5^{\circ}\text{C}$   
 CMG/SMG  
 (15 min)-  $47.5^{\circ}/4.9\text{KTS}$

1845Z BURGER/BROWNE OFF CATARO/HERR ON

19:00Z WINDS SPD-0.8 DIR-  $90^{\circ}$  CMG-  $47.9^{\circ}$   
 REL SPD-5.1 REL DIR-  $5^{\circ}$  SMG-  $4.8^{\circ}$   
 SWT-  $12.4^{\circ}$  SEA STATE -  $\sim 1\text{m}$ . SWELLS FROM SOUTH

19:30Z WIND SPD-0.5 DIR-  $134^{\circ}$  CMG-  $47.5^{\circ}$   
 REL SPD-4.8 REL DIR-  $08^{\circ}$  SMG-  $5.0^{\circ}$

20:00Z WIND SPD-1.7 DIR-  $191^{\circ}$  CMG-  $46.5^{\circ}$   
 REL SPD-3.8 REL DIR-  $18^{\circ}$  SMG-  $5.0^{\circ}$

20:30Z WIND SPD 3.8 KTS DIR 197 $^{\circ}$  CMG 48.0 $^{\circ}$   
 REL SPD 2.3 KTS REL DIR 59 $^{\circ}$  SMG 5.1 KTS  
 SWT 12.7 $^{\circ}\text{C}$

2100Z WIND SP 2.6 KTS DIR 229 $^{\circ}$  CMG 46.6 $^{\circ}$   
 REL SP 1.9 KTS REL DIR 1 $^{\circ}$  SMG 4.9 KTS  
 SWT 12.8 $^{\circ}\text{C}$

2130Z WIND SPD-1.7 DIR-  $213^{\circ}$  CMG  $47.2^{\circ}$   
 REL SPD-2.7 REL DIR-  $12^{\circ}$  SMG  $4.8^{\circ}$

027/J.D.

EW00-01 CANTERBURY BASIN

060

27 JANUARY, 2000

2133 - SEISMIC SYSTEM HAS STOPPED ACQUIRING  
DATA - BOB IS CALLED BY JOE

2135 - ON AGAIN - JOE RESTARTED SHOOTING,  
ACQUISITION HAS RESUMED. BOB SAYS DATA LOOK FINE.

THERE WILL BE A TWO MINUTE GAP BEGINNING  
AT 2133, SHOTPOINT # 88053, TAPE # 541, LINE 19B  
FILE # 2728.

AS CLOSE AS I CAN FIGURE LAT-44°38.600'S <sup>SEE</sup>  
N LONG-172°27.950'E <sup>BELOW</sup>

ACCORDING TO BOB ARKO, HIS DATA IS TELLING  
HIM THAT THE SYSTEM STOPPED ACQUIRING AT 2131Z  
AT SHOT POINT 88057, THEN RESUMED ACQUIRING  
AFTER GUNS WERE RESET, AT 2135Z. THE GUN  
MONITOR RESET THE SHOTPOINT AT 88,053, SO THERE  
SHOULD RESULT 7 DUPLICATE SHOTS IN THE DATA.  
STEFFEN HAS BEEN INFORMED THAT TAPE 541 WILL  
NEED TO BE READ CAREFULLY.

SATELLITE #5 - STOPPED ACQ AT 44°38.798S, 172°27.729'E  
FROM BOB ARKO - STARTED AGAIN AT 44°38.607S, 172°28.020'E

2200Z WIND SP 3 kts DIR 184° CMG 47.5 SWT 13.6°C  
REL SP 3.8 kts REL DIR 64° SMG 4.7

2230Z WIND SP 5.0 kts DIR 193° CMG 47.5° SWT 12.8°C  
REL SP 4.0 kts REL DIR 74° SMG 4.8 kts

2250Z AUSTIN / LU ON WATCH. LINE 19B.

2300Z WINDS = REL. — 57° TEMP, H<sub>2</sub>O — 13.1°C  
TRUE — 185° CMG/SMG — 47.3°, 5 kts  
T. SPD. — 4.1 kts (15 MIN.)

2325Z E.O.L. 19B. TRANSITING TO LINE 84.

2330Z WINDS = REL. — 47° TEMP, H<sub>2</sub>O — 14.0°C  
TRUE — 172° CMG/SMG — TURNING  
T. SPD. — 5.0 kts. (15 MIN.)

## CANTERBURY BASIN

J.D. 028 / 28 JANUARY, 2000

0000Z WINDS: REL. - 355°  
 TRUE - 186°  
 T.SPD. - 3.9 Kts.  
 TEMP. H<sub>2</sub>O - 12.8°C  
 CMG/SMG - 186.7°, 5.6 Kts  
 (15 MIN.)

0000Z WINDS: REL. - 345°  
 TRANSITING TRUE - 148°  
 TO SOL 84 T.SPD. - 3.4 Kts.  
 TEMP. H<sub>2</sub>O - 12.9°C  
 CMG/SMG - 189.0°, 5.3 Kts  
 (15 MIN.)

0034Z C/S TO 5.5 KTS OVER THE GROUND.

0100Z WINDS: REL. - 340°  
 TRANSITING TRUE - 143°  
 TO SOL 84. T.SPD. - 5.3 Kts.  
 TEMP. H<sub>2</sub>O - 12.9°C  
 CMG/SMG - 187.3°, 5.5 Kts  
 (15 MIN.)

0130Z WINDS: REL. - 328°  
 TRUE - 117°  
 T.SPD. - 4.7 Kts.  
 TEMP. H<sub>2</sub>O - 12.9°C  
 CMG/SMG - 188.5°, 5.5 Kts  
 (15 MIN.)

0200Z WINDS: REL. - 319°  
 TRUE - 122°  
 T.SPD. - 4.7 Kts.  
 TEMP. H<sub>2</sub>O - 12.7°C  
 CMG/SMG - 187.5°, 5.3 Kts  
 (15 MIN.)

0207Z TURNING TO LINE UP ON LINE 84. REDUCING SPEED

0223Z PASSING THE ONE-MILE LEAD-IN POINT.

0230Z SOL 84.

WINDS: REL. - 94°  
 TRUE - 105°  
 T.SPD. - 5.4 Kts.  
 TEMP. H<sub>2</sub>O - 12.8°C  
 CMG/SMG - 318.2°, 4.9 Kts  
 (5 MIN.)

0245 AUSTIN/LU OFF; P. KAWNE/SURGER ON.

## Canterbury Basin

028/28 January, 2000

0300Z WINDS Rel — 124  
True — 105  
T SPD — 8.6

Temp. H<sub>2</sub>O — 12.7°C  
CMG/SMG — 316.1°/4.1 KTS  
(15 MIN)

0330Z WINDS Rel — 105°  
True — 99°  
T SPD — 7.4 KTS

Temp. H<sub>2</sub>O — 13.0°C  
CMG/SMG — 317.3°/4.4 KTS  
(15 MIN)

0400Z WINDS Rel — 111°  
True — 99°  
T SPD — 8.8 KTS

Temp. H<sub>2</sub>O — 13.2°C  
CMG/SMG — 316.7°/5.0 KTS  
(15 MIN)

0423Z EOL 84 led 44° 39.540'S 172° 24.365'E

0430Z WINDS REL: 177°  
TRUE: 116°  
T SPD: 8.5 KTS

T H<sub>2</sub>O: 13.6  
CMG/SMG: 310.8/4.8  
(15 MIN)

0500Z WINDS REL: 108°  
TRUE: 91°  
T SPD: 11.8 KTS

T H<sub>2</sub>O: 14.3  
CMG/SMG: 304.8/4.4  
(15 MIN)

0458Z Finished turn to Line 22A; will wait  
several minutes to straighten gyrocompass and begin recording

0503Z Start Recording, Line 22A

0509Z WIDGE CALLED. AT START POINT FOR RECORDING  
THOUGH WE STARTED EARLIER THAN THIS (AT 0503Z).

0530Z WINDS Rel: 93°  
True: 70°  
T SPD: 13.5 KTS

Temp. H<sub>2</sub>O — 13.9°C  
CMG/SMG — 316.8°/5.0 KTS  
(15 MIN)

0600Z WINDS Rel: 104°  
True: 74°  
T SPD: 15.1 KTS

Temp. H<sub>2</sub>O — 14.0°C  
CMG/SMG — 342°/4.1 KTS  
(15 MIN)

## Canterbury Basin

028/28 January, 2000

0615 Z Started Turn, END LINE 22A FINITO.

0616 Z STREAMER BROUGHT IN DURING TURN &amp; TRANSIT LYTTELTON

0630Z WINDS REL -  $21^{\circ}$  Temp. H<sub>2</sub>O -  $14.2^{\circ}\text{C}$   
 TRUE -  $69^{\circ}$  CNG/SMG  
 T SPD - 13.5 KTS (15 MIN) - 343.6 / 3.7 K

0700 Z WINDS REL  $19^{\circ}$  T H<sub>2</sub>O :  $14.5$   
 TRUE :  $62^{\circ}$  CNG/SMG  
 T SPD : 16.8 KTS (15 MIN) : 45.2 / 3.2

0703 - IN THE PROCESS OF PULLING IN THE STREAMER  
 THEY HAVE DISCOVERED A SHARK BITE, AND  
 CONSEQUENT LEAK. THAT SECTION WILL BE REMOVED  
 FOR REPAIR.

CHUNK OF WOOD ON BIRD 7, BIG SHARK ~~BITES~~ JUST  
 BEFORE BIRD. BITE HOLES

STREAMER HAS SEVERAL SHARK BITES!

0815Z GEAR IS IN. WE'RE BOOGYING BACK TO PORT.

Yeeeeee HAH!

1925Z Approaching Lyttelton

