82022Sei

USNS LYNCH

Geophysics Log

LY-711-82

7 JULY 1982 – 19 JULY 1982

LONG ISLAND PLATFORM

Multichannel and Minisparker

711-82
LYNC 101389
82022

WATCH KEEPERS

			ON BRIDGE
0 - 4	Ann Swift	(0400z - 0800z)	3rd mate
4 - 8	Arnie Tonner	(0800z - 1200z)	2nd mate
8 - 12	Robin Bell	(0000z - 0400z)	1st mate

DFS V WATCH

0 - 6 Greg Miller
6 - 12 Dave Nichols

Guns - Compressor: DAVE MASON
NUSC Liason: Ralph Austin
Chief Scientist: Debbie Hutchinson

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							Note: 3.5 kHz transducer mounted 5m below sea level (at base of dome on hull, ~ -19') ∴ all depths recorded in this log should be incremented by 5m for the true water depth

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8 JULY 1982
9 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION (Positions are Raw LORAN C TD's)
08	07	82	1800	+04			
09	07	82	0837				25865.1 43143.3
			0925				
			1009				
			1027				
			1200				
			1311				
			1400				
			1420				
			1610				
			1634				
			1640				25878.3 43126.8
			1643				
			1650				
			1700				
			1745				

SIGNATURE TESTS

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS 67 19hz
	DEPART NEW LONDON, NUSC dock
	Light SW winds, hazy, flat seas.
	Approach signature test area
18hz	Sonobuoy over, all line suspended. Prepare to deploy
	90 in watergun. Will keep buoy on port side.
	Gun out, being speed up to 90 rpm. Weather calm, hazy, light air
	Gun being shot ev 10s., doing calibration runs ≈ 4m depth
	Robin on watch
	Intermittent problems w/ sonobuoy
	Sonobuoy hauled – broken connection at case –
	wire being prepared (Greg & Twig)
	Sonobuoy deployed – testing connection – Sonobuoy hauled again to unsnarl rat's nest in line
	Gun over – ready to try again
	Sonobuoy + Gun Deployed 80 cubic inch water gun
	WORKING!! MARKED 3.5 TAPE # 2 – FIRST FILE # 1 first good data tape
	TAPE # 1 – A few shotpoint test file
	CLOSEST APPROACH sp. 67 filter at ~~67 hz~~ 19-512
	firing ev 10s. ~30 mV peak-to-peak signal on seismic amp
	TURNING AGAIN
	CLOSEST APPROACH PSI = 1600 spectrum = centered ~ 32 Hz
	Fire and boat drill
	End 80" watergun tests: looks like spectrum is
	flat then drops at ≈ 120 Hz (120 Hz)

9 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION
09	07	82	1815	+04			
			1818				
			1922				
			1936				
			1942				
			1955				
			1956				
			2040				25879.24 43134.5
			2100				
00	07	82	0127				
			0131				26211.6 43360.1
			0154				
			0216				261950.0 43364.8
			0230				

SIGNATURE TESTS

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	40 in³ airgun in water and firing – making some passes in ≈ 2 seconds of water. Gun 1800 psi
	file no 1, tape no 3
	file 17-18 change gain to 64dB on DFS V – signal looks weak
	Signal = 4 millivolts coming out of seismic amp.
	file 122 = end of 40 in gun depth ≈ 3 m.
	15 in gun in water – rerigged w/ shot phone on it, towing configuration as in L.T. sound.
	file 123 = start of small watergun
	199 – change filter 18 – 512 Hz from OUT – 512 Hz
	for second pass past sonobuoy.
	Getting power surges
	Spectrum ≈ – 500 Hz
	Water Temp: 71 °F
	ALL GEAR IN – STEAMING TO MINISPARKER AREA
	NOTE: THE MICROLOGIC LORAN C DIFFERS BY 10 MICROSEC FROM OUR NORTHSTAR READING Micrologic = 10 μs higher on X & Y
	AT POINT 4 MILES FROM BEGINNING OF LINE A TURNING TO 040°
	STOP ENGINES – STREAM GEAR
	LORAN IS ON + RECORDING ON TAPE every 5 minutes (ALSO hand copy)
	3.5 runs 5 SECOND SWEP
	SEAS ARE FLAT FLAT, FOG HAS LIFTED, CLEAR
	Sparker + 200 element streamer in water / sparker firing
	Entered Endpoint B in TD into Northstar (directions on how to in back)

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10 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
10	07	82	0300	+04			26168.7	43389.9
			0309					
			[illegible]					
			0400					
			0415					
			0417					
			0421		0544.5		26189.3	43366.1
			0430				26182.6	43369.2
			0500				26160.5	43380.2
			0530				26141.5	43392.2
			0600		0414.5		26123.4	43407.0
			0630		0494.5		26104.1	43418.7
			0637					
			[illegible]				[illegible]	
			0700		0144.5		26102.0	43418.7
			0720					
			0730		0124.5		26096.4	43439.0
			0736					

LINE A

26165.8
43389

40.05'
72 19.4

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							Having trouble with signal from sparker
							MINISPARKER SYSTEM WORKING
							Firing 1s. recording 1/2 s. DRH FIRING 1/2 sec SWEEPING 1/2 sec FILTER 200 - 1000
							HEADING BACK TO POINT A (40° 01.5' 72° 22.5')
							Heading back to Point A still
							Begin turn right; 20° rudder to course of 054°
							Analog tape started Chan 1 Tape Servo
							Tape spd = 15/16 Chan 2 Sparker signal on 200 element streamer
							Chan 3 Time (IRIGB)
							Chan 8 Key pulse
							BOL A
							Seas flat
							Sparker has a random single misfire
							LORAN shows us off track by approx 37 Km but bridge shows us off by only ~2 Km using sat.
							Traffic - change course. Mate could not raise tanker on radio - had to steer far off course. Complete circle made. Back on course ~ 0700.
							Foggy; flat seas
							Down to clip tips; change polarity; recorder off
							SPARKER UP

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10 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
10	07	82	0800	+04	004		26096.4	43459.6
			0830		041	4.5	26085.3	43474.7
			0900				26070.6	43487.8
			0910		041	4.5		
			0930		039	4.5	26056.0	43500.7
			1000		041	4.5	26039.8	43513.2
			1017					
			1022				26027.7	43523.2
			1030		039	4.5	26023.3	43526.6
			1048					
			1058					
			1100				26005.0	43542.0
			1130				25991.9	43555.8
			1140				25986.7	43561.0
			1142					
			1149:20				25982.2	43565.8
			1152:30				25981.1	43566.8
			1200				25977.1	43570.7
			1205				25974.6	43573.0
			1210				25972.0	43575.6
			1215				25969.4	43578.2
			1220				25966.9	43580.5
			1220				25965.7	43581.6
			1225				25967.4	43583.3
			1230				25971.3	43585.9
			1235				25974.6	43588.4

LINE A / LINE B

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							Began plotting by Loran C TD on work map - appears to be 1/2 hour behind Lat/Long plotting.
							All is going well
							End of Tape #1 Check out Tape #1, side 2: Question of whether record button was in.
							Begin Tape #2 STill Line A
							Seas still calm
							SPARKER Down for Electrode change + Tip Clip
							Silent 700 stopped, bad connection?
							Silent 700 up, but time can't be set
							Change belt on EPC Recorder (SPARKER)/SPARKER Down
							EPC Recorder back up, SPARKER back up; 700 down again
							S-700 working erratically, sometimes manual button works sometimes it doesn't.
							S-700 ON BLINK MANUALLY RECORDING 5 MIN. TDs
							~15 minutes before turn
							EOL A BOL B 20° Turn to left to course 324°
							BOL B course 315°

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10 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
10	07	82	1237	+04				
			1245				25978.8	43591.0
			1247				25981.6	43592.1
			1245				25983.9	43593.0
			1250				25988.4	43594.7
			1251					
			1256				25990.8	43591.4
			1300				25992.2	43588.8
			1305				25995.2	43586.2
			1310				25999.0	43583.8
			1315				26000.0	43581.8
			[illegible]				[illegible]	[illegible]
			1322				26007.4	43578.4
			1326				26[illegible]	
			1330				26013.4	43575.9
			1335				26017.0	43574.5
			1340				26020.8	43572.8
			1345				26024.8	43571.6
			1350				26038.1	43578.9
			1355				26041.2	43576.9
			1400				26040.3	43574.2
			1405				26026.9	43561.9
			1410				26022.9	43559.5
			1415				26019.0	43558.8
			1421				26014.1	43553.6
			1425				26011.7	43552.1
			1430				26008.1	43549.7
			1435				26004.5	43547.0

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LINE B / LINE C / LINE D

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	c/c To 293° 10 minute to EOL est 1248
	Sailing on Lake Atlantic - calm, sunny
	EOL B
	BOL C
	Hourly Check
	SILENT 700 IS WORKING BUT TIME IS
	NOT CORRECT - HAVE TO NOTE CORRECT TIME
	WILL ANNOTATE EVERY 50 min
	S-700 is not working needs to be punched and
	annotated every 5 minutes
	Sparker off line for about 1 min
	S-700 not working ETA @ point D 1355
	Saturday Sport Fishing Types are out - no other traffic noted
	EOL C begin turn to LINE D BOL D
	(BAS) firing rate 1 s. recording 0-1/2 s.
	Now Annotating + Marking Records Every 15 minutes

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10 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
10	07	82	1440	+04			26000.4	43644.5
			1443				.	.
			1445				25996.9	43542.4
			1450				25992.7	43646.6
			1455				25989.5	43638.1
			1500				25985.7	43535.8
			1505				25981.9	43533.6
			1500				25977.8	43531.2
			1515				25974.0	43529.1
			1516				25972.8	43528.3
			1522				25974.7	43525.7
			1525				25976.7	43524.3
			1530				25979.6	43522.7
			1536				25983.9	43620.0
			1540				25986.4	43518.4
			1545				25989.5	43516.2
			1550				25992.7	43514.3
			1555				25996.4	43511.7
			1600				25999.5	43509.6
			1605				26002.6	43507.4
			1610				26005.7	43505.1
			1614				.	.
			1620				.	.
			1630				26008.7	43493.0
			1632				26008.1	43490.4
							.	.
			1639				.	.
							.	.
							.	.
							.	.

LINED / LINE E / LINE F

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	ON LINE D
	Minisparker down for a minute - switch electrodes
	ETA end of line 1108
	EOL D TURNING TO LINE E BOL E
	SPARKER Down to Clip Tips; filter has been at 200-1000
	SPARKER up; recorder filter c/ to 350-1000
	EOL E SOL F
	LORAN C has been off by 10 μsec. Now set higher to agree w/ the 2 on bridge which have better antennas. Micrologic Navigator & Raytheon Navigator

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10 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
10	07	82	1700	+04			26034.5	43513.7
			1717				.	.
			1719				.	.
			1724				.	.
			1730				26053.0	43532.1
			1756				26069.8	43548.3
			1800				26071.5	43547.3
			1817				.	.
			1818				.	.
			1830				26077.2	43528.6
			1900				26097.0	43517.6
			1919				26108.5	43508.9
			1930				26102.8	43503.0
			2000				26080.5	43486.9
			2018	1:50			26066.9	43477.0
			2024	1:10			26062.4	43473.7
			2030				26058.7	43470.9
			2100				26072.6	43455.6
			2130				26088.	43445.
			2139				26095.9	43437.5
			2145				26099.1	43439.9
			2200				26109.0	43446.7
			2207				[illegible]	[illegible]
			2235				26135.6	43466.1
			2247	1:50			26145.4	43471.6
			2300				26151.9	43465.1
			2320				.	.
			2327				.	.
			2336				26171.1	43445.0
			2350				.	.

LINE F / LINE G / LINE H
LINE I / LINE J / LINE K

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							SPARKER recorder c/ filter 100 - 1000 HZ
							SPARKER tape filter to 60 - 1000 HZ
							SPARKER recorder c/ filter 350 - 1000 HZ
							EOL F / SOL G
							SPARKER off to switch electrodes
							SPARKER, recorder on
							Seas calm, sunny, hot
							MARKING ON RECORDS MINISPARKER CHANGED FROM 5min to 15 min
							EOL G / SOL H
							Tip Clip on Sparker
							Sparker back up
							EOL H / SOL I
							All Fine except Silent 700 down again
							EOL # I / SOL # J
							MSPARKER off for a minute for electrode switch
							EOL J / SOL K
							Perfect weather, MSparker fine, S-700 dead.
							Tape change End Tape
							MSparker down for Tip Clip
							MSPARKER up
							End Line K / BOL L

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
11	07	82	0000	+04			26171.4	43432.3
			0005				26168.0	43429.6
			0007					
			0010				26164.7	43426.7
			0015				26161.4	43424.1
			0020				26157.8	43421.1
			0025				26154.5	43418.5
			0030				26151.2	43415.8
			0036				26146.7	43412.2
			0040				26143.9	43419.8
			0045				26141.2	43407.7
			0047				26137.1	43404.3
			0050				26137.1	43404.3
			0056				26133.6	43401.4
			0100				26133.7	43399.2
			0105				26136.2	43396.6
			0110				26138.8	43393.9
			0115				26141.3	43391.2
			0120				26143.8	43388.6
			0125				26146.5	43386.3
			0130				26149.2	43383.8
			0135				26152.2	43381.0
			0140				26154.8	43378.5
			0145				26157.7	43375.9
			0150				26161.0	43373.1
			0155				26163.3	43371.1
			0200				26165.9	43368.9
			0205				26169.0	43366.2

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LINE L / LINE M

S

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							ON LINE L
							SPARKER BLOWN CIRCUIT BREAKER
							Spectacular sunset
							Sparker Recorder Down for Belt Change
							BACK UP
							EOL
							EOL L TURNING TO RIGHT BOL M
							MARKING ON RECORDS CHANGED TO 5 min marks from 15 min
							(annotations still @ 15 min)

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11 JULY 1982
= JD 192

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
11	07	82	0210	+04			26171.8	43368.9
			0216				26176.4	43366.0
			0220				26179.1	43368.1
			0225				26182.2	43370.8
			0230				26184.8	43378.8
			0235				26188.2	43377.4
			0240				26191.4	43380.4
			0245				26194.3	43383.2
			0339				26207.3	43396.0
			0346				26207.9	43398.8
			0428				26182.7	43378.2
			0445				26172.7	43369.7
			0450				26169.9	43367.0
			0456				26166.8	43366.7

LINE M / LINE N / LINE 1

ETA 246

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							EOL M TURNING TO LINE N BOL N
							EOL N SPEED @ 2.5 kts hand spanker
							120 m STREAMER + 15' watergun in water and working
							STEAMING AT 4 kts to Point A ETA 455
							EPC RECORDER WORKING
							NOT GOING TO SHOOT EN ROUTE TURNING OFF TRIGGER + COMPRESSOR
							Steaming to Point A
							SOL 1: DFS II 15 cu. in. watergun - 2m depth; 1800 psi
							120 m. streamer 10 ft. depth
							30 m. offset
							Shot Interval = 5 sec (10m)
							EPC filter 110-250 HZ
							DFS II sample rate = 1 msec
							2 second record length
							DFS II filter 77-256 HZ
							3.5 KHZ
							DFS: Channel 7 weak

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GMT DAY	MO	YR	TIME	TIME ZONE ±	SHIPS COURSE	SPD (LORAN)	NAVIGATION	
11	07	82	0515	+04		4.4	26158.2	43375.6
			0521					
			0530			4.4	26151.1	43383.0
			0545			4.5	26144.6	43389.8
			0600			4.2	26137.8	43396.7
			0615			4.2	26131.0	43403.5
			0627				26125.2	43409.6
			0630			4.4	26124.8	43411.0
			0645			4.2	26120.1	43419.2
			0653				26116.2	43423.0
			0700			4.1	26112.1	43423.9
			0704					
			0715			3.8	26104.9	43429.8
			0730			4.2	26098.8	43437.0
			0745			4.0	26092.7	43444.1
			0800			4.2	26087.0	43451.1
			0815			4.0	26081.1	43458.3
			0830			4.1	26075.5	43465.5
			0845			4.0	26070.0	43471.9
			0835					
			0847					
			0900			4.1	26064.0	43478.2
			0915			4.2	26057.4	43484.6
			0917					
			0930			4.4	26050.6	43490.2

LINE 1

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	File 230 LORAN: 041° GYRO: 041° gun 1800 psi
	File 303 c/ 4.4 sec shot interval to compensate for ship's speed of 4.4 Knots
	File 432 LORAN: 042° GYRO: 040° WD: 70 m gun 1800 psi
	File 628 LORAN: 039° GYRO: 038° WD: 70m gun 1800 psi
	File 831 LORAN: 042° GYRO: 040° WD: 71m gun 1800 psi
	Bleed Compressor
	File 1036 LORAN: 042° GYRO: 041° WD: 70m gun 1800 psi
	C/C TO 020 TO AVOID TRAFFIC
	File 1242 LORAN: 033° GYRO: 020° WD: 70m gun 1800 psi
	difference due to calculation time lag from course change
	File 1445 LORAN: 037° GYRO: 040° WD: 69m gun 1800 psi
	We're back on course now after avoiding traffic
	Adjusting course again to get back on track for ~10 min
	File 1648 LORAN: 065° GYRO: 070° WD: 67m gun 1800 psi
	Bleed compressor
	File 1852 LORAN: 044° GYRO: 038° WD: 66m gun 1800 psi
	File 2056 LORAN: 039° GYRO: 039° WD: 65m gun 1800 psi
	File 2260 LORAN: 039° GYRO: 039° WD: 63m gun 1800 psi
	File 2463 LORAN: 032° GYRO: 041° WD: 61m gun 1800 psi
	~~Bleed Compressor~~
	File 2669 Loran: 038° Gyro: 040° WD = 60 m gun 1800 PSI
	File 2872 Loran: 032° Gyro: 040° WD = 61 m gun 1800 PSI
	File 3067 Loran: 038° Gyro: 044° WD Recorder DOWN gun 1800 PSI
	3.5 KHz recorder stopped at about 0835.
	3.5 KHz switched to other recorder WD = 59m
	File 3280 Loran: 035° Gyro: 045° WD = 59m gun 1800 PSI
	~~Bleed Compressor~~
	File 3483 Loran: 040° Gyro: 045° WD = recorder down gun 1790 PSI
	3.5 KHz recorder down for maintenance
	" " " back up WD = 57m
	File 3688 Loran: 043° Gyro: 047° WD = 58m gun 1790 PSI

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD (LORAN)	NAVIGATION	
11	07	82	0945	+04		4.2	26043.1	43496.1
			0939					
			0951					
			1000			4.2	26034.4	43501.5
			1015			4.5	26026.7	43506.5
			1030			4.4	26016.6	43511.0
			1045			4.4	26008.0	43515.9
			1048					
			1100			4.5	26000.0	43522.6
			1102					
			1115			4.7	25992.3	43529.4
			1130			4.6	25986.1	43536.9
			1145			4.4	25979.3	43543.8
			1200			4.5	25971.8	43550.1
			1215			4.4	25964.7	43556.9
			1230			4.3	25957.1	43562.8
			1245			4.4	25949.3	43568.5
			1248			4.4	25947.2	43570.7

LINE 1

935

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	File: 3891 Loran: 043° Gyro: 047° WD = 58 gun: 1780 psi
	Original 3.5 KHz recorder backup
	File: 3480 c/4.6 sec shot interval to compensate for 4.2 speed
	File: 4090 Loran: 053° Gyro: 053° WD = 58 gun: 1780 PSI
	Bleed Compressor
	File: 4284 Loran: 050° Gyro: 055° WD = 59 gun: 1790 PSI
	File: 4480 Loran: 055° Gyro: 056° WD = 58 gun: 1780 psi
	File: 4677 Loran: 051° Gyro: 056° WD = 59 gun: 1790 PSI
	File: 4696 c/4.4 sec shot interval: SP 4.4 Knots
	File: 4878 Loran: 041° Gyro: 045° WD = 61 gun: 1800 PSI
	File: 4913 c/4.3 sec. shot interval speed 4.5
	File: 5085 Loran: 038° Gyro: 046° WD = 60 gun: 1800 PSI
	c/4.1 sec shot interval speed: 4.7 Knts
	File: 5307 Loran: 033° Gyro: 040° WD = 63 gun 1800 PSI
	File: 5523 Loran: 039° Gyro: 047° WD = 65 gun 1800 PSI
	c/4.4 shot rate Speed: 4.4 Knts
	File: 5729 Loran: 042° Gyro: 046° WD = 66 gun 1800 PSI
	File: 5932 Loran: 040° Gyro: 046° WD = 65 gun 1800 PSI
	FILE: 6135 LORAN: 043° GYRO: 046° WD = 65 GUN 1800 PSI
	FILE: 6340 LORAN: 044° GYRO: 045 WD = 65 GUN 1800 PSI
	EOL 1
	FILE 6709 LORAN: 041° GYRO 042° WD GUN:
	GUN: DFS V off stream to begining of LINE 2
	EOL 1 15 cu in watergun - 2 m depth 1800 psi
	120 m streamer 10 ft depth
	30 m offset
	4.4 sec shot interval (10 m)
	EPC filter 110 - 250 Hz
	DFS V sample rate = 1 m sec
	2 sec record length
	DFS V filter 77-256

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11 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD (LORAN)	NAVIGATION	
11	07	82	1258	+04				
			1332					
			1334					
			1338				25980.2	43687.8
			1349					
			1345			41	25983.3	43584.3
			1400			43	25990.5	43578.6
			1402					
			1415			43		
			1430			43	26005.2	43567.3
			1445			44	26012.0	43561.4
			1454					

LINE 2

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	STEAMING TO LINE 2 3.5 kHz running
	At point C turning onto line
	BOL #2
	KEEP SPEED TO 4 kts
	FILE: 001 LORAN: 225 GYRO: 210 WD: 64 GUN: 1800PSI
	15 cu in water gun - 2 m depth 1800 psi
	120 m streamer - 10 foot depth
	30 m offset
	shot interval 2.5 sec 5 m
	EPC filter 120-250 sweep: 1sec 0-1sec
	DFS V Sample Rate .5 msec
	Record Length 1 sec
	FILTER 77 - 512
	c/ filter EPC 120 - 500 Hz
	LORAN: 218° GYRO: 219 WD 64 GUN
	COURSE TO STEER 221
	SPORT FISHING BOATS OUT TODAY
	FILE: 550 LORAN: 223 GYRO: 221 WD 63 GUN: 1800 PSI
	c/ EPC FILTER 130 - 300 Hz
	our speed from Northstar is 4.4 kt but the bridge says
	their LORAN is making 4.0 kts
	FILE 928 LORAN 223 GYRO 220 WD 65 GUN 1800 PSI
	FILE 1297 LORAN 223 GYRO 220 WD 64 GUN 1800 PSI
	FILE 1674 LORAN 222 GYRO 219 WD 64 GUN 1800 PSI
	BLEED COMPRESSOR

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11 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD (LOGS)	NAVIGATION	
11	07	82	1500	+04	227	4.2	26020.6	43555.3
			1515			4.5	26028.1	43549.2
			1530			4.5	26035.8	43542.7
			1546			4.4	26043.1	43536.1
			1550					
			1600			4.5	26050.2	43529.8
			1615			4.2	26056.0	43522.6
			1630			4.2	26059.1	43514.0
			1645			4.2	26065.0	43506.5
			1700			4.4	26072.0	43499.5
			1715			4.1	26078.9	43492.8
			1730			4.3	26085.1	43485.7
			1745			4.5	26091.7	43478.4
			1800			4.6	26099.2	43471.4
			1815			4.7	26107.1	43464.4
			1825					
			1830			4.8	26115.6	43457.6
			1837					
			1845			5.0	26123.8	43450.4
			1848					
			1900			4.7	26131.1	43443.2
			1903					
			1903					
			1915			4.5	26137.7	43436.0
			1930			4.0	26144.4	43429.2
			1937					
			1945			4.3	26151.1	43422.5
			2000			4.3	26157.6	43415.8
			2015			4.4	26164.5	43408.3
			2030			4.5	26171.2	43401.4

LINE 2

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	File 2044 LORAN 221 GYRO 220 WD 64 GUN 1800 PSI
	File 2418 LORAN 223 GYRO 219 WD 65 GUN 1800 PSI
	File 2791 LORAN 221 GYRO 220 WD 65 GUN 1800 PSI
	File 3166 LORAN 220 GYRO 219 WD 65 GUN 1800 PSI
	Check / Bleed compressor
	File 3539 LORAN 219° GYRO 219° WD 58m GUN 1760 PSI
	File 3912 LORAN 204° GYRO 198° WD 58m GUN 1760 PSI
	File 4287 LORAN 199° GYRO 200° WD 57m GUN 1760 PSI
	File 4660 LORAN 220° GYRO 220° WD 58m GUN 1760 PSI
	File 5033 LORAN 222° GYRO 222° WD 59m GUN 1760 PSI
	File 5406 LORAN 221° GYRO 219° WD 60m GUN 1760 PSI
	File 5782 LORAN 216° GYRO 220° WD 60m GUN 1760 PSI
	File 6154 LORAN 218° GYRO 225° WD 60m GUN 1760 PSI
	File 6528 LORAN 221° GYRO 226° WD 60m GUN 1760 PSI
	File 6900 LORAN 225° GYRO 221° WD 62m GUN 1760
	File 7171 Change firing interval from 2.4 to 2.1
	File 7289 *put on fixed gain (DFS D) LORAN 225° GYRO 230° WD 65m GUN 1760
	Back on AGC (DFS V)
	File 7719 LORAN 221° GYRO 224° WD 65m GUN 1760
	Asked bridge to slow to 4.5 Knots
	File 8144 LORAN 220° GYRO 226° WD 65m GUN 1760
	File 8231 Bridge says we're at 4.5 Knots
	File 8252 c/ firing interval to 2.2
	File 8557 LORAN 218° GYRO 220° WD 65m GUN 1760
	File 8971 LORAN 223° GYRO 224° WD 65m GUN 1760
	Back to AGC on DFS V
	File 9371 LORAN 219° GYRO 222° WD 64m GUN 1760 PSI
	File 9779 LORAN 219° GYRO 220° WD 65m GUN 1760 PSI
	File 188 Loran: 219° Gyro 222° WD 68m Gun 1760 PSI
	File 595 Loran: 219° Gyro: 221° WD: 65 Gun: 1760 PSI

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11 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
11	07	82	2045	+04		4.3	26197.9	43394.6
			2100			4.4	26185.1	43387.9
			2115			4.4	26192.7	43381.1
			2123			4.4	26196.4	43378.1
			2150					
			2211			4.3	26216.0	43401.3
			2223					
			2226				26211.8	43407.3
			2241			4.3	26209.1	43411.3
			2300			4.3	26204.2	43418.2
			2308				[illegible]	[illegible]
			2317			4.3	26198.1	43423.4
			2330			4.3	26192.8	43426.7
			2345			4.3	26186.8	43430.7

LINE 2/ LINE 3

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV.	SONO	STA	
							File: 1009 Loran: 221° Gyro: 222° WD = 66 Gun: 1760 PSI
							File: 1411 Loran: 222° Gyro: 222° WD = 65 Gun: 1760 PSI
							File: 1818 Loran: 223° Gyro: 225° WD = 65 Gun: 1760 PSI
							File: 2024 EOL #2 Nav Heading: 322° WD = 65 Gun: 1760 PSI
							Wrong gauge read 1800 PSI
							Dave reports compressor leak fixed
							File: 001 Loran: 004° Gyro: 036 WD = 59m Gun: 1800 PSI
							BOL #3
							15 cu in watergun depth 2 m
							120 m streamer 8 & 11 meter depths
							30 m offset
							2 m shot interval
							EPC Filters 130 – 500 HZ
							DFS V .5 msec
							1 sec
							77 – 512 HZ
							2.5 Shot rate
							File #170 Gun firing intermittently
							File #214 Gun off Stop line.
							Switching to 40 in³ Airgun Resume Line 3
							File #215 Loran: 030 Gyro: — WD: 60m Gun: 1800 PSI
							offset of streamer is 70 meters
							14.5 meters from fantail to gun
							4.4 shot rate All else the same.
							File #461 Loran: 033° Gyro: 039° WD: 60m Gun: 1800 PSI
							Drifting off a little to Port; Bridge is adjusting taking 060°
							File #870 Loran: 054° Gyro: 058° WD: 62m Gun: 1800 PSI
							File #1074 Loran: 052° Gyro: 054° WD: 65m Gun: 1800 PSI

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12 JULY 1982

GMT DAY	MO	YR	TIME	TIME ZONE ±	SHIPS COURSE	SPD	NAVIGATION		
12	07	82	0000	+04		43	26180.2	43435.7	
12			0015			44	26174.2	43441.1	
12			0030			37	26168.0	43446.5	
			0045			38	26161.9	43452.2	
			0100			38	26155.6	43458.2	
			0115			39	26149.1	43464.0	
			0115			39	26149.1	43460.0	
			0130			40	26142.5	43468.1	should be 470.1
			0145			38	26136.7	43475.8	
			0200			36	26130.9	43481.5	
			0215			37	26124.6	43487.0	
			0226				26119.7	43491.2	
			0232				26118.4	43492.9	
			0245				26114.6	43478.2	20 usec lows
			0257						
			0300			39	26108.6	43484.1 (504.1)	
			0301						
			0315			51	26101.6	43510.6	

LINE 3

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	File #1280 Loran: 050° Gyro: 053° WD: 67 Gun 1800 PSI
	FILE 1483 LORAN 044 GYRO 053° WD 66 GUN 1800 PSI
	FILE 1688 LORAN 44 GYRO 055 WD 65 GUN 1800 PSI
	FILE 1890 LORAN 43 GYRO 53 WD 62 GUN 1800 PSI
	BRIDGE SAYS WE ARE DOING 4.5 kts OVER GROUND
	FILE 4100 LORAN 40 GYRO 58 WD 62 GUN 1800 PSI
	BRIDGE GETS 4.5 kts BUT PLOTTING THEIR LORAN IS ALSO GIVING LOW VALUES
	FILE 2301 LORAN. 42 GYRO 57 WD 64 GUN 1800 PSI
	FILE 2508 LORAN 40 GYRO 56 WD 57 GUN 1800 PSI
	BLEED COMPRESSOR
	FILE 2710 LORAN 48 GYRO 58 WD 59 GUN 1800 PSI
	FILE 2914 LORAN 41 GYRO 59 WD 56 GUN 1800 PSI
	FILE 3121 LORAN 44 GYRO 54 WD 56 GUN 1800 PSI
	Changing guns SLOW TO 3 kts 30 m offset
	FILE 3270
	START FIRING AGAIN W/ 15 in³ watergun 30 m offset
	FILE 3271 GUN 1800 PSI
	LORAN IS 10 High Y only was not so at 0100
	FILE 3436 LORAN ? GYRO 50 WD 57 GUN 1800 PSI
	LORAN IS BEING PLAYED WITH TOOK THESE READING OFF MICROLOGIC
	OUR NORTHSTAR AGREES W/BRIDGE TD's not WITH MICROLOGIC'S
	ON X and Y
	FILE 3640 LORAN 38 GYRO 54 WD GUN 1800 PSI
	LOOKS AS IF THE NORTH STAR SINCE ~ 0115 Has been 10 microseconds high now switched back to auto tracking all right
	info on DFS IV from 0115-0300 may not be correct
	FILE 3848 LORAN 40 GYRO WD 57 GUN 1800 PSI

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION
12	07	82	0310	+04			
12	07	82	0330			46	26093.2 43517.4
			0345			52	26082.9 43524.4
			0354				
			0400			54	26074.7 43530.2
			0405				
			0415			53	26065.1 43537.0
			0424				

LINE 3

OPS	COMMENTS AND OBSERVATIONS
12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA	

LORAN PROBLEMS:

seems to be tracking alright until 0130z – that fix is 10 μsec low on y (43000 stn).

Fixes plot alright through 0232.

At ~0232, our Northstar was reading 10 μsec high on y compared to the micrologic unit. This was probably good – I set it 10 μsec low, which it didn't like in the auto mode. Then we developed a 20 μsec (low) discrepancy on y, and x (26000) began to be 10 μsec higher than the micrologic unit. A check with the bridge Loran (Raytheon) shows the TD's the Northstar wants to track on auto agree with that unit. The micrologic unit is probably wrong.

Net conclusion: Sometime around 0130, y reads 10 μsec low. This is probably corrected by automatically 0145z.

Then at 0232z – ~~that~~ fixes on y are low by 10 – 20 μsec until ~0300.

at 0325 = y (Northstar) is automatically tracking 10 μsec above y (Micrologic) – Northstar = correct.

x (both units) agree. DRF

FILE 4048 LORAN 48 GYRO 050 WD 59 GUN 1800 PSI

FILE 4254 LORAN 45 GYRO 050 WD 60 GUN 1800 PSI

File 4388 c/ shot interval from 4.4 to 4.3 sec

File 4458 LORAN 044° GYRO 050° WD 58m GUN 1800 PSI

Bleed compressor

File 4667 LORAN 044° GYRO 049° WD 58m GUN 1800 PSI

Bridge will cut speed to maintain 4.5 knots

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12 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
12	07	82	0430	+04		4.8	26057.1	43544.3
			0445			4.8	26053.9	43553.5
			0454					
			0500					
			0500			4.4	26050.0	43562.0
			0510					
			0515			4.7	26043.4	43569.3
			0530			4.4	26037.0	43576.2
			0545			4.7	26030.2	43583.1
			0600			4.7	26023.1	43589.8
			0601					
			0609				26018.6	43594.0
			0610					
			0615			4.6	26015.9	43596.6
			0630			4.8	26008.4	43603.1
			0645				26000.4	43609.8
			0651					
			0658					
			0715				26020.2	43609.1
			0730				26028.5	43606.2
			0745				26034.7	43601.8
			0800				26042.5	43598.8
			0830				26061.6	43595.6
			0840				26063.4	43593.3

LINE 3 / LINE 4

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	File 4878 LORAN 031° GYRO 020° WD 60m GUN 1800 PSI
	File 5085 LORAN 016° GYRO 021° WD 60m GUN 1800 PSI
	Back on track of 039°. Traffic ahead so we may
	have to manuver.
	File 5295 LORAN 026° GYRO 039° WD 60m GUN 1800 PSI
	Bleed compressor
	File 5504 LORAN 034° GYRO 040° WD 60m GUN 1800PSI
	File 5713 LORAN 035° GYRO 041° WD 60m GUN 1800 PSI
	File 5923 LORAN 037° GYRO 043° WD 59m GUN 1800 PSI
	File 6132 LORAN 038° GYRO 042° WD 60m GUN 1800PSI
	Bleed compressor
	File 6248 DFSII down
	File 6249 DFSII up
	File 6316 LORAN 040° GYRO 040° WD 59m GUN
	File 6526 LORAN 039° GYRO 043° WD 60m GUN 1800psi
	File 6742 EOL 3 DFSII sample rate=1/2 ms
	Bleed compressor record length=1 s
	filter 77-512 HZ
	15 in³ water gun; 2m depth; 1800 PSI
	4.3 sec shot interval
	EPC filter 130-500 HZ; 0-1s.
	Fairfield 12 channel 120m streamer 10' depth
	Speed up to 7 Knots to blow stacks
	Steaming to begin line 4
	"
	"
	"
	"
	File #1 Loran: 128° Gyro: 125° WD: 56 Gun PSI
	BOL (4) Specs same as line 3

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD		NAVIGATION	
12	07	48	0900	+04		4.3 3.9	Sat. Loran	26051.2	43586.6
			0915			4.3 4.1	Sat Loran	26041.4	43580.2
			0930			4.3 4.2	Sat Loran	26032.5	43574.5
			0938					.	.
			0941					.	.
			0945			4.3 4.3	Sat Loran	26022.4	43567.7
			1000			4.3 4.5	Sat Loran	26013.0	43561.2
			1015			4.3 4.5	Sat Loran	26003.2	43554.3
			1030			4.3	Loran	25993.8	43547.5
			1045			43		25984.8	43540.2
			1100			44		25976.5	43533.2
			1105					.	.
			1107					.	.
			1115			43		25968.7	43526.4
			1130			42		25960.2	43519.4
			1136			41		25956.0	43515.6
			1145					.	.
			1150			48		25961.0	43509.9
			1200			48		25965.9	43505.0
			1215					25973.3	43497.3
			1230					25980.7	43490.3
			1245					25988.1	43483.0
			1300					25995.1	43476.0
			1315					26002.3	43468.6
			1330					26009.6	43461.1
			1345					26016.6	43453.3
			1400					26023.6	43445.2
			1402					.	.
								.	.
								.	.

LINE 4

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	Bridge reporting our speed at 4.4 Knts at 0922Z
	File# 277 Lovan 121° Gyro 129° WD 57 m Gun 1800 PSI
	~~Bleed Compressor~~ File# 496 Lovan 122° Gyro 129° WD 57 Gun 1800 PSI
	File# 695 Lovan 128° Gyro 131° WD 60° Gun 1800 PSI
	EPC Recorder (15³ watergun) shut down for belt change
	" " back up
	File# 905 Lovan 126° Gyro 131° WD 61 m Gun 1800 PSI
	File# 1114 Lovan 129° Gyro 133° WD 62 m Gun 1800 PSI
	~~Bleed compressor~~ File# 1325 Lovan 128° Gyro 131° WD 64 m Gun 1800 PSI
	File# 1533 Lovan 129° Gyro 133° WD 65 m Gun 1800 PSI
	File# 1742 Lovan 134° Gyro 133° WD 65 m Gun 1800 PSI
	File# 1952 Lovan 135° Gyro 134° WD 61 m Gun 1800 PSI
	EPC Recorder (15³ watergun) Shut down for belt change - bent bug
	" " back up.
	File# 2162 Lovan 135° Gyro 131° WD 66 m Gun 1800 PSI
	File# 2372 Lovan 132° Gyro 133 WD 67 m Gun 1800 PSI
	EOL# 4; File# 2465 Lovan 134° Gyro 134° WD 69 m Gun 1800 PSI
	On route to Line 5. - speed increased to 5 Knts
	ON route to " "
	" " " " " Gun at 1600 PSI
	" " " " 1500
	Weather foggy, light SSW wind
	1/2 MILE FROM START LINE DROP SPEED 4 kts

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12 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
12	07	82	1416	+04		29	26030.7	43441.8
			1430			40	26036.6	43446.5
			1445			39	26044.0	43452.4
			1500			41	26051.7	43458.2
			1515			41	26060.3	43464.6
			1530			42	26068.4	43470.6
			1545			40	26076.8	43477.2
			1600			3.8	26084.6	43483.5
			1615			4.2	26092.7	43490.3
			1630			4.2	26101.0	43497.8
			1645			3.9	26107.4	43505.6
			1700			4.2	26116.0	43511.9
			1715			4.4	26125.7	43518.2
			1730			4.4	26133.2	43524.9
			1741				26141.0	43531.0

LINE 5

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	FILE 001 LORAN 296 GYRO 310 WD 62 GUN 1800 PSI
	BOL # 5
	15 in^3 watergun 1800 PSI
	120 m streamer 10 foot depth
	30 m offset
	Shot interval 2.5 sec (5 m)
	DFS V Sample Rate .5 millisec
	Record Length 1 sec
	FILTER 77 - 512 Hz
	EPC Sweep 1 sec 0-1 sec
	FILTER 130 - 500 Hz
	FILE 321 LORAN 321 GYRO 314 WD 61 GUN 1800 PSI
	FILE 628 LORAN 310 GYRO 314 WD 62 GUN 1800 PSI
	FILE 1030 LORAN 308 GYRO 315 WD 60 GUN 1800 PSI
	FILE 1394 LORAN 308 GYRO 315 WD 60 GUN 1800 PSI
	FILE 1752 LORAN 310 GYRO 315 WD 60 GUN 1800 PSI
	FILE 2120 LORAN 313 GYRO 328 WD 61 GUN
	FILE 2469 LORAN 310° GYRO 318° WD 60m GUN 1800 PSI
	FILE 2828 LORAN 311° GYRO 320° WD 60m GUN 1800 PSI
	FILE 3187 LORAN 317° GYRO 330° WD 58m calm seas, foggy
	FILE 3546 LORAN 326° GYRO 330° WD 57m GUN 1800 PSI
	FILE 3905 LORAN 306° GYRO 310° WD 57m GUN
	FILE 4264 LORAN 303° GYRO 310° WD 55m GUN 1800 PSI
	FILE 4622 LORAN 309° GYRO 325° WD 55m GUN
	FILE 4900 EOL #5 WD 56m calm seas; still foggy
	compressor shut off, difference in relative amplitude of
	→ solenoid & outgoing pulse not as great as last night; gun may be faili

from shot phone on waveform analyzer

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION		
12	07	82	1800	+04		4.6		26148.4	43523.5
			1815			4.8		26150.7	43513.7
			1830			5.1		26153.5	43503.9
			1845			4.5		26162.1	43498.1
			1900			4.1		26169.2	43492.1
			1915			4.5		26175.6	43485.3
			1930			4.8		26182.7	43478.2
			1945			4.6		26189.8	43471.4
			2000			4.4		26197.0	43464.8
			2015			4.4		26203.8	43458.9
			2027			4.0 2.4	Sat Loran	26206.9	43454.0
			2045			4.0 3.5	Sat Loran	26198.4	43446.7
			2100			3.4	Loran	26190.3	43441.9
			2103						
			2115			4.1	Lor	26182.6	43435.4
			2130			4.1		26173.1	43430.2
			2145			4.1		26163.1	43425.7
			2200			4.1		26154.4	43419.7
			2218			4.0		26144.3	43412.2
			2230			3.9		26138.1	43407.2
			2245			4.0		26130.0	43401.1
			2300			4.1		26121.2	43394.8
			2315			4.3		26112.5	43388.8
			2330			4.3		26103.5	43382.9
			2334			4.4		26100.9	43381.2
			2346			3.8		26107.6	43381.0
13	07	82	0000					261	4338

LINE 6

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	LORAN 201° WD 55m steaming to POINT K
	LORAN 195°
	LORAN 196°
	LORAN 231°
	LORAN 220° WD 56m
	LORAN 219°
	LORAN 218°
	LORAN 221°
	Loran 220°
	Loran 221°
	BOL#6 File# 001 Loran 189° Gyro 127° WD 63 Gun 1800 PSI
	Info same as line 5 except shot interval is 10 m. not 5.
	File# 218 Loran 133° Gyro 127° WD 63 Gun 1800 PSI
	File# 399 Loran 114° Gyro 126° WD 63m Gun 1800 PSI
	Bridge said we were only doing 3 knts & will bring it up to 4 knts
	File# 578 Loran 130° Gyro 126° WD 66m Gun 1800 PSI
	File# 760 Loran 113° Gyro 110° WD 66M Gun 1800 PSI
	FILE # 940 Loran 111° Gyro 123° WD 64m Gun 1800 PSI
	FILE # 1119 Loran 122° Gyro 115° WD 65m Gun 1800 PSI
	File# 1334 Loran 131° Gyro 128° WD 68m Gun 1800 PSI
	File #1479 Loran 131° Gyro 128° Weather clearing WD 67 m Gun 1800 PSI
compressor bled	File# 1658 Loran 125° Gyro 129° WD 71m Gun 1800 PSI
	File# 1839 Loran 127° Gyro 127° WD 71m Gun 1800 PSI
	File# 2018 Loran 125° Gyro 129° WD 71m Gun 1800 PSI
	File# 2201 Loran 123° Gyro 128° WD 72m Gun 1800 PSI
	EOL#6 File# 2245 Loran 127° Gyro WD 72m Gun 1800 PSI
	Same as BOL#6 info
	ON route to Line 7 pulling in 15 in³ watergun
	streamer left out for next line
	ON route to Line 7 Run aboard.

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
13	07	82	0000	+04	273	49	26117.1	43382.3
			0015				26130.8	43383.7
			0030				26141.6	43384.8
			0045				26154.0	43386.6
			0100				26165.7	43387.2
							.	.
			0126				.	.
							.	.
							.	.
							.	.
							.	.
13	07	82	0155			32	26193.4	43389.4
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.
13	07	82	0200			37	26191.1	43391.4
			0215			46	26183.9	43397.9
			0230			46	26175.3	43464.6
							.	.
			0235				.	.
							.	.
							.	.

LINE 7

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	ON ROUTE — LINE 7
	" "
	" "
	" "
	80 in watergun in water ETA 0145
	NOTE KEEP EYE TO SPEED TO 4 kts
	FILE 001 LORAN 339 GYRO 047 WD 63 GUN 1800 PSI
	BOL 7
	80 in³ watergun 1800 PSI 4m depth
	120 m streamer 10 foot depth
	60 m offset
	Shot interval 10 sec 20m
	DFS V Sample Rate 1 m
	Record Length 2 sec
	Filter 18 - 256 Hz
	EPC Sweep 1sc
	Filter 30-250 Hz
	FILE 29 LORAN 035 GYRO 041 WD 63 GUN 1800 PSI
	FILE 119 LORAN 044 GYRO 046 WD 62 GUN 1800 PSI
	FILE 209 LORAN 045 GYRO 045 WD 65 GUN PSI
	ROTTING ½ mile to L of line
	ASKED BRIDGE TO CORRECT TO RIGHT AND TO BRING SPEED DOWN
	OUR LORAN has 4.6 kts they say 4.4 kts

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
13	07	82	0245	+04		4.7	26168.5	44410.6
			0300			4.0	26160.9	43415.3
			0315				.	.
			0315			4.2	26153.0	43420.2
			0330			4.1	26145.3	43425.0
			0345			4.0	26137.7	43430.1
			0400			4.0	26130.2	43435.1
			0409				.	.
			0415			3.9	26122.7	43439.7
			0430			4.0	26118.4	43446.0
			0445			4.1	26113.9	43452.7
			0500			4.6	26108.5	43460.1
			0504				.	.
			0515			4.7	26103.0	43468.2
			0530			3.7	26097.8	43474.9
			0545			3.8	26090.5	43480.0
			0600			3.7	26083.5	43484.8
			0615			3.6	26076.9	43489.4
			0630			3.8	26069.3	43493.6
			0636				.	.
			0637				.	.
			0645			3.8	26062.0	43498.2
			0700			3.8	26055.0	43503.1
			0701				.	.
			0715			3.4	26048.9	43508.4
			0750			3.6	26044.8	43514.4
			0745			3.4	26041.6	43520.8
			0800			3.6	26038.6	43527.5
			0802				.	.
			0815			3.9	26036.1	43534.7

LINE 7

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	FILE 299 LORAN 043 GYRO 052 WD 65 GUN 1800 PSI
	FILE 389 LORAN 053 GYRO 050 WD 66 GUN 1800 PSI
	BLEED COMPRESSOR
	FILE 478 LORAN 049 GYRO 052 WD 65 GUN 1800PSI
	FILE 569 LORAN 050 GYRO 051 WD 65 GUN 1800 PSI
	FILE 658 LORAN 049 GYRO 047 WD 66 GUN PSI
	File 748 LORAN 051° GYRO 046° WD 66m GUN 1800 PSI
	Bleed compressor
	File 838 LORAN 049° GYRO 036° WD 66m GUN
	File 929 LORAN 028° GYRO 024° WD 66m GUN 1800 PSI
	File 1018 LORAN 029° GYRO 025° WD 65m GUN
	File 1109 LORAN 031° GYRO 024° WD 65m GUN 1800 PSI
	Bleed compressor
	File 1198 LORAN 028° GYRO 024° WD 61m GUN
	File 1289 LORAN 032° GYRO 029° WD 60m GUN 1800 PSI
	File 1378 LORAN 049° GYRO 040° WD 60m
	File 1469 LORAN 047° GYRO 034° WD 60m GUN 1800PSI
	File 1558 LORAN 048° GYRO 039° WD 60m GUN
	File 1649 LORAN 052° GYRO 039° WD 60m GUN
	3.5 KHZ down for stylus repair
	3.5 up
	File 1738 LORAN 048° GYRO 035° WD 56m GUN
	File 1829 LORAN 047° GYRO 037° WD 58m GUN 1800PSI
	Bleed compressor
	File 1918 LORAN 042° GYRO 025° WD 57m
	File 2009 LORAN 023° GYRO 017° WD 58m
	File 2098 LORAN 023° GYRO 015° WD 58m
	File 2189 LORAN 019° GYRO 014° WD 59m Gun 1800PS
	Bleed compressor
	File 2278 Loran 017° Gyro 015° WD 59m

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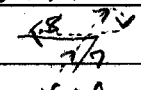
GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
13	07	82	0830	+04		40	26031.4	43544.7
			0845			39	26026.0	43547.3
			0900			40	26019.9	43552.8
			0915			39	26013.1	43558.9
			0930			39	26006.5	43563.3
			0945			39	25998.6	43567.3
			1000			35	25992.8	43572.4
			1005					
			1015			40	25986.5	43577.9
			1030			38	25980.5	43583.4
			1035					
			1043			40	25974.6	43589.0
			1050					
			1056			39	25979.4	43588.7
			1115			47 Loran	25995.3	43594.1
			1130					
			1130			4.4 loran	26006.2	43597.8
			1145			44 loran	26017.7	43601.7
			1200			4.5 loran	26029.3	43605.6

LINE 7 / LINE 8

OPS: 12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	COMMENTS AND OBSERVATIONS
							File# 2369 Loran 032° Gyro 028 WD 60 m
							Our Course a little to port side of course, bridge will try to bring us
							back. Said their Loran C was a little weak.
							File# 2458 Loran 036° Gyro 035° WD 62 m gun 1800 PSI
							File# 2549 Loran 039° Gyro 040° WD 63 gun 1800 PSI
							Next fix for bridge is: 40° 34.1' 72° 19.4' 26191 43657.5 End pt. of Line 8
							File# 2639 Loran 040° Gyro 046° WD 62 m Bridge having a little trouble Currents.
							File# 2729 Loran 047° Gyro 055° WD 64 m Course parallel to Line
							File# 2818 Loran 047° Gyro 040° WD 63 m
							File# 2909 Loran 043° Gyro 040° WD 64 m gun 1800 PSI
							Bleed compressor, called Bridge to pick up speed a little.
							File # 2998 Loran 039° Gyro 041° WD 65 m
							File# 3090 Loran 041° Gyro 041° WD 62 m
							Gave Bridge new coordinates and told him to make a loop
							when making turn  .
							File# 3168 Loran 039° Gyro 040° WD 62 m
							EOL #7
							Looping to Line 8 beginning point.
							BOL #8 File# 001 Loran 272° Gyro 283° WD 62 m
							We are a little south of Line 8 - Loran C appears to be off because
							Bridge says we should be allright. They are steering 5° to
							right to compensate. Compressor bled.
							File# 113 Loran 288° Gyro 289° WD 60 m
							Told Bridge to slow it down.
							Fog is back sea-poop thick. Loran may be [illegible] high (Y)
							File# 204 Loran 286° Gyro 290° WD 59 m gun 1800 PS
							File# 293 Loran 285° Gyro 289° WD 58 m
							File# 384 Loran 287° Gyro 290° WD 58 m

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
13	07	82	1228	+04			26052.2	43612.9
			1332			31	26090.6	43625.1
			1345				2610	4362
			1346			46	26100.9	43628.9
			1400			45	26113.5	43633.6
			1415			45	26125.1	43638.2
			1424					
			1430			46	26137.4	43643.1
			1445			45	26149.0	43647.8
			1500			40	26162.0	43652.9
			1515			44	26173.8	43657.1
			1530			43	26185.7	43661.1
			1542				26195.8	43664.3
			1542				26195.8	43664.3
			1549					

LINE 8/ LINE 9

NEW COURSE - 280

OPS 12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	COMMENTS AND OBSERVATIONS
							GUN OFF TO LET OUT FURTHER
							FILE 551
							SP 552 Resume shooting
							NEW OFFSET 50 METER
							FILE 552 LORAN 281 GYRO 288 WD 58 GUN
							FILE 630 LORAN 286 GYRO 289 WD 59M GUN 1800 PSI
							FILE 720 LORAN 289 GYRO 290 WD 56 GUN 1800 PSI
							FILE 809 LORAN 292 GYRO 290 WD 56 GUN PSI
							ASKED BRIDGE ABOUT SPEED. THEIR ONE ON ONE STATION IS NOT GOOD
							WILL TRY TO KEEP @ 4.0 kt BY FIXES
							change filter on EPC 30-100
							FILE 900 LORAN 291 GYRO 290 WD 57 GUN 1800 PSI
							FILE 991 LORAN 289 GYRO 289 WD 55 GUN 1800 PSI
							FILE 1079 LORAN 288 GYRO 288 WD 56 GUN 1800 PSI
							FILE 1170 LORAN 284 GYRO 285 WD 54 GUN 1800 PSI
							FILE 1260 LORAN 283 GYRO 283 WD 50 GUN 1800 PSI
							FILE 1331 EOL #8
							FILE 001
							BEGIN LINE 9
							80 in³ watergun 1800 PSI 4 m Depth
							Shot interval 10 sec 20 m
							120 m streamer 10 foot depth
							50 m offset
							DFS V Sample Rate 1ms
							Record Length 1 sec
							Filter 18-256 Hz
							EPC Sweep 2 sec
							FILTER 30-100 Hz
							c/EPC Sweep 2 sec

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
13	07	82	1558	+04				
13	07	82	1600			4.1	26207.4	43663.2
			1615			4.0	26217.5	43667.0
			1630			3.9	26227.1	43660.6
			1640			[illegible]	[illegible]	[illegible]
			1645			5.1	26238.1	43657.1
			1653					
			1700			4.2	26247.5	43653.8
		~	1650					
			1700					
			1715			3.9	26255.6	43650.1
			1715					
			1719					
			1726					
			1730			3.8	26263.0	43646.0
			1745			4.0	26270.4	43642.3
			1800			3.9	26279.0	43639.9
			1815			4.0	26288.5	43638.1
			1830			4.1	26299.2	43637.9
			1845			4.0	26299.7	43638.3
			1900			3.8	26319.7	43637.8
			1915			3.6	26329.1	43636.7
			1930			3.7	26338.1	43635.5
			1945			3.5	26346.8	43634.2
			2000			3.4	26354.9	43633.0
			2000					
			2015			3.3	26363.3	43631.1
			2022					

LINE 9

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	NB - SINCE GUN WAS PUT OUT AN ADDITIONAL 10m, the polyform float has sunk & does not appear to be w/in 1-2m of the surface. ∴ Gun prob at least 6m deep
	SP 105 LORAN 250° GYRO 251° WD 41m
	File 194 LORAN 251° GYRO 250° WD 41m
	File 285 LORAN 248° GYRO 240° WD 37m
	Begin deploying maggie
	File 376 LORAN 239° GYRO 240° WD 40m
	Maggie deployed; adjusting recorder
	File 465 LORAN 240° GYRO 240° WD ? (3.5 down)
	3.5 KHZ out of paper
	Maggie up and running
	File 555 LORAN 235 GYRO 235 WD ? (3.5 down)
	Power supply on maggie down; 3.5 down - power supply off
	3.5 KHZ up, maggie up
	3.5 KHZ off momentarily
	File 645 LORAN 231° GYRO 235° WD 41m
	File 735 LORAN 230° GYRO 238° WD 40m GUN 1800 PSI
	File 826 LORAN 246° GYRO 250° WD 40m
	File 914 LORAN 248° GYRO 259° WD 40m GUN 1800 PSI
	File 1005 LORAN 258 GYRO 263° WD 40m GUN 1800 PSI
	File 1094 LORAN 266° GYRO 263° WD 39m GUN 1800 PSI
	File 1185 LORAN 254° GYRO 251° WD 40m GUN 1800 PSI
	File 1274 LORAN 260° GYRO 251° WD 40m GUN 1800 PSI
	File 1364 LORAN 248° GYRO 251° WD 40m GUN 1800 PSI
	File 1454 LORAN 249 GYRO 251° WD 38m GUN 1800 PSI
	FILE 1545 LORAN 245 GYRO 249° WD 39m GUN
	Gun has crossed streamer - Probably occurred on turn 8/9? NO - no float ∴ entangled???
	File # 1634 Loran 252 Gyro 248° WD 42 m
	File 1678 Gun shut down to pull in until clear of streamer

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GMT DAY	MO	YR	TIME	TIME ZONE ±	SHIPS COURSE	SPD	NAVIGATION		
13	07	82	2032	+04		1.3	loran(?)	26369.1	43630.9
			2045			2.7		26373.5	43630.2
			2057			Loran catching up		26377.2	43629.5
			2100						
			2100			2.4		26378.9	43629.2
			2115			3.0		26385.5	43627.8
			2121						
			2130			3.0		26392.3	43626.0
			2145			3.0		26399.4	43624.4
			2200			2.7		26406.2	43623.2
			2215			2.5		26413.0	43621.6
			2220						
			2230			3.2		26419.3	43620.0
			2245			3.5		26418.1	43618.1
			2258			3.2		26433.5	43616.4
			2330			1.8		26440.8	43614.3
			2345					46.6	12.1
14	07	82	0013			2.1		26454.3	43608.7
								2[illegible]45	4

LINE 9

OPS 12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	COMMENTS AND OBSERVATIONS
							Gun still in Loran 260° Gyro 248° WD:41m
							" " " Loran: 248° Gyro 247° WD:40m
							Resume line, Gun going, Norwegian float severed 1ft from gun; 2nd one put on tail end of gun on 12 ft rope
							File #1679 Loran 242° Gyro 246° WD:40m
							File #1699 Loran 245° Gyro 246° WD: 40m gun: 1800 PSI
							File # 1791 Loran 247° Gyro 246° WD: 37m gun: 1800 PSI
							Crew noticed the Norwegian float (#2) (gun float) was saying good bye on the far horizon.
							File # 1878 Loran: 246° Gyro: 246 WD: 36M gun: 1800 PSI
							FILE # 1975 LORAN 248 GYRO 251 WD 36M GUN 1800 PSI
							FILE # 2065 LORAN 255° Gyro: 246° WD 37.5m Gun 1800 PSI
							File # 2150 Loran 255° Gyro 247° WD 37m
							File # 2180 Bridge has 2 speeds: 3.4 Loran, 4.1 sat. — Sat prob. weak, ∴ will bring speed up very slightly to try and get 4.0 kts.
							File # 2238 Loran: 245° Gyro: 244° WD 37m
							File # 2328 Loran: 240° Gyro: 246° WD 37m
							Bridge informed us Loran is out & they will maintain present speed and proceed by satellite.
							File # 2403 Loran 248 Gyro WD 40m
							INTERRUPT LINE 9 pulling in Streamer - possible Salt water leak Channels 7, 6 + 4 have noise on them.
							LORAN 245
							SLED to gun → 92½"
							No Leak Found - Maybe The Deck Connection
							Other Possibility was super neutys from Passing U.S. Destroyer
							Beautiful into the fog bank "Turner" sunset
							Gun in WATER ON SLED READY TO GO offset = 50 m gun depth = 5 m
							FILE 2404 LORAN 240 GYRO 256 WD 33 GUN 1800 PSI
							MAGGIE IS IN

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GMT DAY	MO	YR	TIME	TIME ZONE ±	SHIPS COURSE	SPD	NAVIGATION	
14	07	82	0030	+04		3.2	26461.1	43601.3
			0045			3.2	26468.2	43603.2
			0100			3.2	26474.6	43601.2
			0106			3.1		
			0113					
			0115			3.6	26482.5	43599.2
			0130			3.8	26491.1	43596.9
			0145			3.9	26500.0	43595.2
			0200			4.0	26510.2	43594.9
			0215			3.9	26520.1	43596.3
			0235			3.9	26530.	43595.
			0245			3.9	26540.	43595.3
			0300			4.0	26549.9	43594.6
			0315			4.0	26559.8	43593.9
			0330			4.3	26570.6	43593.2
			0345			4.3	26580.7	43592.4
			0400			4.3	26591.3	43591.6
			0404					
			0415			4.4	26601.9	43590.5
			0430			3.9	26611.1	43588.6
			0445			3.6	26618.3	43584.6
			0500			3.6	26625.4	43580.6
			0515			3.9	26633.2	43576.8
			0530			4.5	26642.4	43573.8
			0545			3.8	26651.0	43571.0
			0600			3.6	26659.1	43568.0
			0601					

LINE 9

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	FILE 2504 LORAN 238 GYRO 246 WD 36 GUN 1800 PSI
	FILE 2595 LORAN 242 GYRO 246 WD 36 GUN 1800 PSI
	FILE 2686 LORAN 246 GYRO 246 WD 37 GUN 1800 PSI
	ASKED BRIDGE TO COME TO RIGHT + INCREASE SPEED
	BACK ON LINE - WRONG
	FILE 2774 LORAN 249 GYRO 251 WD 36 GUN 1800 PSI
	FILE 2865 LORAN 246 GYRO 248 WD 38 GUN 1800 PSI called bridge to come 5° to right
	FILE 2954 LORAN 254 GYRO 257 WD 37 GUN 1800 PSI
	FILE 3046 LORAN 259 GYRO 263 WD 35 GUN 1800 PSI
	BLEED COMPRESSOR - NOT BACK ON TRACK
	FILE 3134 LORAN 266 GYRO 265 WD 35 GUN 1800 PSI
	FILE 3225 LORAN 268 GYRO 265 WD 35 GUN 1800 PSI
	FILE 3315 LORAN 258 GYRO 255 WD 35 GUN 1800 PSI
	FILE 3405 LORAN 258 GYRO 255 WD 33 GUN 1800 PSI
	FILE 3498 LORAN 254 GYRO 255 WD 33 GUN 1800 PSI
	BLEED COMPRESSOR
	FILE 3584 LORAN 257 GYRO 255 WD 32 GUN 1800 PSI
	FILE 3674 LORAN 257 GYRO 255 WD 32 GUN 1800 PSI
	FILE 3764 LORAN 257 GYRO 254 WD 33 GUN
	BLEED COMPRESSOR
	FILE 3854 LORAN 256 GYRO 254 WD 33 GUN
	FILE 3944 LORAN 251 GYRO 240 WD 32 GUN 1800 PSI
	FILE 4034 LORAN 240 GYRO 236 WD 31m GUN 1800 PSI
	FILE 4124 LORAN 241 GYRO 237 WD 31m GUN 1800 PSI
	FILE 4214 LORAN 247 GYRO 247 WD 30m GUN 1800 PSI
	FILE 4304 LORAN 243 GYRO 252 WD 30m GUN
	FILE 4394 LORAN 244 GYRO 252 WD 30m GUN 1800 PSI
	FILE 4484 LORAN 252 GYRO 254 WD 30m GUN 1800 PSI
	Bleed compressor

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
14	07	82	0615	+04		4.0	26667.2	43565.3
			0630			3.6	26676.0	43563.9
			0645			3.5	26684.7	43562.6
			0700			3.7	26693.5	43561.5
			0701				.	.
			0715			3.6	26702.1	43560.1
			0730			3.7	26710.2	43557.5
			0745			4.1	26718.4	43555.1
			0800			3.9	26727.3	43553.8
			0815			4.2	26736.7	43552.4
			0830			4.2	26746.2	43550.9
			0845			3.9	26756.1	43548.7
			0900			3.8	26765.0	43546.8
			0915			4.2	26773.6	43545.2
			0930			4.0	26782.4	43543.6
			0945			4.0	26791.9	43542.0
			1000			3.9	26800.6	43539.9
			1015			3.9	26809.4	43537.5
			1030			4.4	26817.7	43534.2
			1045			3.7	26824.7	43531.4
			1100			4.2	26832.5	43528.3
			1110				.	.
							.	.
			1111				26838.9	43526.2
			1140				.	.
							.	.
							.	.
			1200			2.8	26860.1	43520.9
			1215			2.6	26866.3	43519.5
							.	.

LINE 9

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	FILE 4574 LORAN 241° GYRO 254° WD 30m GUN 1800 psi
	FILE 4664 LORAN 261 GYRO 263° WD 30m GUN 1800 psi
	FILE 4754 LORAN 262° GYRO 263° WD 28m GUN 1800 psi
	FILE 4844 LORAN 256° GYRO 263° WD 28m GUN 1800 psi
	BLEED COMPRESSOR
	FILE 4934 LORAN 256° GYRO 251° WD 28m GUN
	FILE 5024 LORAN 248° GYRO 252° WD 30m GUN 1800PSI
	FILE 5114 LORAN 243° GYRO 256° WD 28m GUN 1800PSI
	File 5204 Loran 255° Gyro 260° WD 27m Gun 1800 PSI
	~~Bleed compressor~~
	File 5294 Loran 250 Gyro 261° WD 25m
	File 5384 Loran 252° Gyro 250° WD 25m Gun 1800PSI
	File 5474 Loran 256 GYRO 254° WD 25m
	File 5564 Loran 250° Gyro 254° WD 26m
	~~Bleed Compressor~~
	FILE 5654 Loran 251° GYRO 254 WD 28m Gun 1800 PSI
	File 5744 Loran 259° Gyro 255° WD 30m
	File 5834 Loran 256° Gyro 248° WD 30m
	File 5922 Loran 254° Gyro 250° WD 30m Gun 1800 PSI
	~~Compressor Bled~~
	File 5912 Loran 248 Gyro 245° WD 30m
	File 6105 Loran 239 Gyro 242° WD 38m Gun 1800 PSI
	File 6194 Loran 248 Gyro 243° WD 53m
	File 6284 Loran 242° Gyro 246° WD 23m
	Gun pressure down to 800 PSI
	Shutdown line no 9 compressor probs, File 6352
	Bridge given new co-ordinates (Point D) and told to maintain
	3 Knts. Repair will take a couple hours, at least. 25m
	LORAN 250
	LORAN 261

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14 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
14	07	82	1235	+04			26875.9	43517.8
							.	.
			1251				26876.5	43523.9
			1300		00435		26878.	43528.3
			1416		20441		26890.0	43500.0
							.	.
							.	.
			1658				.	.
			1713		LORAN ↓		.	.
			1720		063		26999.8	43509.7
							.	.
							.	.
			1722				.	.
			1728		0755.3		26893.8	43511.1
							.	.
							.	.
			1745		(	5.7	26879.5	43511.3
			1748				26876.6	43511.7
			1749				26876.0	43512.4
			1756			5.2	26870.5	43512.9
			1800				26867.6	43513.1
			1815		0844.9		26856.1	43513.8
			1825				26847.4	43514.2
			1830				26843.8	43514.3
			1831				26843.1	43514.3
			1845		0805.1		26832.5	43514.7
			1906		0825.1		26820.5	43515.2
			1905				26816.5	43515.4
			1910				26812.4	43515.5
			1915		0795.3		26808.3	43515.8

LINE 10

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	START TURN + HEAD TOWARDS 40° 11' - 73° 49' TO BEGIN MINISPARKER
	MINISPARKER WONT BE READY NEW PLAN IS TO STEAM N FOR 1 hr
	WEST FOR 1 hr and SOUTH FOR 2 hr
	Fairfield Streamer aboard, prepare to deploy minisparker
	Sparker in the water
	Sparker off
	SOL 110 3.5 KHZ Firing rate 1s.
	Minisparker 200-1000 HZ; recording 0-0.5 s.
	Analog tape (of minisparker signal) 60-1000 Hz
	LORAN 078° GYRO WD
	Sparker off to switch trigger board
	Sparker up then down, switch trigger again, bad electrode
	Sparker up
	WD 25m
	Sparker recorder off, system misfiring; electrode worn
	Sparker up.
	WD 25m
	WD 33m
	WD 45m

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14 - 15 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
14	07	82	1920	+04			26804.2	43516.0
			1925				26800.0	43516.2
			1930		0825.2		26795.8	43516.4
			1935				26791.7	43516.5
			1940				26787.2	43516.8
			1945		0825.6		26782.8	43516.9
			1950				26777.8	43517.2
			1955				26774.0	43517.4
			2000		0805.7		26769.4	43517.5
			2003				26766.5	43517.6
							.	.
							.	.
							.	.
			2328				26464.7	43575.1
							.	.
15	07	82	0009		27930		26476.2	43578.0
							.	.
							.	.
			0043				26494.6	82.5
							.	.
							.	.
			0121			28	26502.8	43577.0
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.
							.	.

LINE 10 / LINE 11

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	WD 50m
	Sparker misfiring
	WD 37m
	EOL #10 Minisparker Same data as beginning of line at 1728Z
	Steaming to Eastern-most point of line 10 to start it ETA 2330Z for setting out gear.
	3 km East of starting point STEAMING GEAR
	LEAK IN COMPRESSOR - TRYING TO FIX - High pressure hose is cracked at its junction with the compressor.
	Weather calm slightly hazy - Nice Sunset Orange Ball
	FILE # 001 LORAN 221 GYRO 210 WD 37 GUN 1800 PSI
	BOL # 11 80 in³ waterguns 1800 PSI 4m Depth
	Shot Interval 10 sec
	120 m streamer 10 ft depth
	50 m offset
	DFS V Sample Rate 1 ms
	Record Length 2
	Filter 18 - 256 Hz
	EPC 2 sec sweep
	Filter 25 - 90 Hz

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15 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
15	07	82	0127	+04				
			01				265 06.6	435 14.2
			0130			39	265 06.6	435 74.2
			0139					
			0145			29	265 14.9	435 73.1
			0147				265 15.6	435 73.0
			0200			41	265 23.9	435 71.8
			0215			42	265 33.9	435 70.4
							26	
			0230			40	265 43.7	435 69.0
			0245			42	265 53.8	436 67.4
			0300			42	265 63.5	435 66.3
			0315			39	265 72.8	435 64.2
			0330			42	265 81.4	435 61.0
			0345			38	265 89.8	435 57.7
			0400			3.7	265 98.1	435 54.4
			0415			4.0	266 06.4	435 51.2
			0430			4.1	266 14.0	435 47.1
			0445			3.8	266 20.9	435 42.2
			0500			4.1	266 27.7	435 37.1
			0503					
			0515			4.1	266 35.1	435 32.7
			0530			3.8	266 42.7	435 28.5
			0535					
			0545			4.2	266 51.9	435 26.6
			0600			4.2	266 62.1	435 27.2

LINE 11

OPS 12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	COMMENTS AND OBSERVATIONS
							Streamer connector problems: channel 9 dead - wiggle connector & up - belt 7 & 9 are showing noise spikes. Twig is working on it.
							FILE 054 LORAN 237 GYRO 250 WD 35 GUN 1800 PSI
							SLOWING DOWN FOR TRAFFIC
							FILE 144 LORAN 254 GYRO 250 WD 35 GUN 1800 PSI
							BRIDGE CALLED BACK TO SPEED + ON COURSE
							FILE 251 LORAN 254 GYRO 250 WD 34 GUN 1800 PSI
							FILE 322 LORAN 254 GYRO 248 WD 35 GUN 1800 PSI
							BLEED COMPRESSOR
							FILE 415 LORAN 262 GYRO 248 WD 36 GUN 1800 PSI
							FILE 503 LORAN 253 GYRO 248 WD 35 GUN 1800 PSI
							FILE 594 LORAN 254 GYRO 240 WD 35 GUN 1800 PSI
							COMPRESSOR BLEED
							FILE 684 LORAN 247 GYRO 246 WD 34 GUN 1800 PSI
							FILE 774 LORAN 241 GYRO 238 WD 35 GUN 1800 PSI
							FILE 857 LORAN 248 GYRO 238 WD 35 GUN 1800 PSI
							FILE 954 LORAN 246 GYRO 240° WD 34m GUN 1800 PSI
							BLEED COMPRESSOR
							FILE 1044 LORAN 242 GYRO 239° WD 33m GUN 1800 PSI
							FILE 1134 LORAN 231 GYRO 229 WD 34m GUN 1800 PSI
							FILE 1224 LORAN 234 GYRO 229 WD 35m GUN 1800 PSI
							FILE 1314 LORAN 229 GYRO 230 WD 35m GUN 1800 PSI
							BLEED COMPRESSOR
							FILE 1403 LORAN 236 GYRO 239 WD 35m GUN 1800 PSI
							FILE 1493 LORAN 241 GYRO 240 WD 34m GUN 1800 PSI
							Steering north to get back on line - traffic
							FILE 1583 LORAN 256 GYRO 271 WD 35m GUN 1800 PSI
							FILE 1673 LORAN 266 GYRO 270 WD 35m GUN 1800 PSI

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15 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
15	07	82	0608	+04				
			0615			4.1	26672.3	43527.8
			0630			4.1	26682.2	43527.5
			0645			4.1	26690.7	43524.7
			0700			3.9	26699.2	43521.9
			0701					
			0715			3.9	26707.8	43519.4
			0730			4.0	26716.6	43517.1
			0745			4.0	26725.2	43514.7
			0800			3.9	26733.8	43512.1
			0815			4.0	26742.8	43509.3
			0830			3.7	26750.3	43506.7
			0845			3.8	26758.1	43504.5
			0900			3.6	26766.5	43501.9
			0915			3.8	26774.8	43499.8
			0930			3.7	26783.5	43498.0
			0945			3.9	26792.0	43496.3
			1000			3.6	26800.6	43494.8
			1015			3.7	26809.1	43493.5
			1030			3.9	26817.2	43491.9
			1045			4.0	26825.8	43489.6
			1100			3.9	26834.0	43486.5
			1115			4.3	26842.4	43484.0
			1130			4.1	26851.1	43481.4
			1139:30			3.9	26856.7	43479.9
			1145					

LINE 11

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS				
	BLEED COMPRESSOR				
	FILE 1763	LORAN 266°	GYRO 271	WD 34m	GUN 1800 PSI
	FILE 1853	LORAN 254	GYRO 250	WD 35m	GUN 1800 PSI
	FILE 1945	LORAN 244	GYRO 248	WD 32m	GUN 1800 PSI
	FILE 2033	LORAN 250	GYRO 247	WD 32m	GUN 1800 PSI
	BLEED COMPRESSOR				
	FILE 2123	LORAN 251	GYRO 250	WD 32m	GUN 1800 PSI
	FILE 2213	LORAN 249	GYRO 250	WD 35m	GUN 1800 PSI
	FILE 2303	LORAN 250	GYRO 250	WD 36m	GUN 1800 PSI
	FILE 2393	LORAN 253°	GYRO 250	WD 33m	GUN 1800 PSI
	Bleed Compressor				
	File 2483	Loran 245°	Gyro 251°	WD 32m	Gun 1800 PSI
	File 2573	Loran 245	Gyro 251°	WD 32m	gun 1800 PSI
	File 2663	Loran 251°	Gyro 253°	WD 33	gun 1800 PSI
	File 2753	Loran 256°	Gyro 253°	WD 41m	gun 1800 PSI
	Bleed compressor				
	File 2843	Loran 256°	Gyro 254°	WD 60m	gun 1800 PSI
	File 2933	Loran 257°	Gyro 253°	WD 51	gun 1800 PSI
	File 3023	Loran 253°	Gyro 254°	WD 40	gun 1800 PSI
	File 3113	Loran 257°	Gyro 254°	WD 34m	gun 1800 PSI
	Bleed Compressor	Told Bridge to pick up speed a little			
	File 3203	Loran 256°	Gyro 254°	WD 31	gun 1800 PSI
	Noted bubble forming on air hose near connector to next section on hose leading out of holding tank.				
	File 3293	Loran 255°	Gyro 253°	WD 27m	gun 1800 PSI
	File 3383	Loran 250	Gyro 252°	WD 25m	gun 1800 PSI
	File 3474	Loran 252°	Gyro 250°	WD 25m	gun 1800 PSI
	Bleed Compressor				
	File 3564	Loran 243°	Gyro 252°	WD 24m	gun 1800 PSI
	File 3654	Loran 250°	Gyro 251°	WD 25m	gun 1800 PSI
→	EOL #11 File 3710	Loran 252°	Gyro 251°	WD 23m	
	Foggy weather last hour or so, but not bad				
	Told bridge to make turn to 40° 02.0', 73° 50.0' with 5° rudder				
	gun down to 1650 PSI.				

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15 JULY 1982

GMT DAY	MO	YR	TIME	TIME ZONE ±	SHIPS COURSE	SPD	NAVIGATION	
15	07	82	0800	+04				
			0200			56	26853.6	43461.9
			0215			59	26850.5	43447.6
			0219					
							2684	41
			0225			36	26845.9	43441.7
			1230			40	26843.4	43442.9
			0845			38	26836.1	43446.0
			1300			40	26828.0	43449.2
			1315			34	26820.2	43452.2
			1330			42	26812.8	43455.2
			1345			36	26804.9	43457.9
			1400			40	26796.3	43461.6
			1415			38	26788.3	43464.0
			1436			38	26781.0	43467.1
			1445			38	26773.3	43470.1
			1451				26769.9	43471.7

40 05.4
73 37.0

LINE 12

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	

ON Route to Line 12.

LORAN 180 GYRO 178

LORAN 186 GYRO 179

ASKED BRIDGE TO BRING DOWN SPEED

TURING ON TO COURSE

BOL # 12

FILE 001 LORAN 109 GYRO 70 WD 23 GUN 1800 PSI

80 m³ watergun 1800 PSI, 5m depth

Shot int. 10s

120 m streamer 10 ft depth

50 m offset

DFSV Sample Rate 1ms

Record Length 2 sec

Filter 18-256 Hz

FPC 2 sec sweep

Filter 25-90 Hz

FILE 28 LORAN 70 GYRO 70 WD 25 GUN 1800 PSI

FILE 116 LORAN 068 GYRO 72 WD 24 GUN 1800 PSI

FILE 207 LORAN 67 GYRO 69 WD 24 GUN 1800 PSI

MANOVERED FOR TRAFFIC

FILE 286 LORAN 73 GYRO 69 WD 25 GUN 1800 PSI

FILE 389 LORAN 063 GYRO 069 WD 26 GUN 1800 PSI

FILE 477 LORAN 067 GYRO 069 WD 27 GUN 1800 PSI

FILE 567 LORAN 066 GYRO 72 WD 27 GUN 1800 PSI

FILE 657 LORAN 066 GYRO 070 WD 30 GUN 1800 PSI

FILE 747 LORAN 066 GYRO 069 WD 30 GUN 1800 PSI

FILE 837 LORAN 065 GYRO 70 WD 32 GUN 1800 PSI

EOL #12 Doing Tear Drop To Left

FILE 876

15 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
15	07	82	1505		1		26775.1	43473.8
			1517			4.1	26786.3	43469.4
			1518			4.1	26780.3	43469.4
			1530			3.8	26785.6	43465.1
			1545			4.1	26792.7	43459.4
			1600			4.1	26798.8	43453.8
			1615			3.7	26803.0	43446.4
			1630			4.0	26806.1	43438.5
			1645			4.2	26809.4	43430.5
			1700			4.0	26812.8	43422.5
			1715			3.6	26816.0	43414.5
			1730			3.8	26820.2	43407.2
			1745			4.2	26826.6	43401.7
			1800			3.8	26832.7	43396.3
			1815			3.9	26838.2	43390.4
			1813					
			1830			4.0	26843.4	43384.1
			1845			4.3	26848.6	43767.6
			1900			4.3	26853.7	43369.9
			1915			4.2	26859.6	43362.5
			1930			4.3	26865.2	43355.8
			1945			4.4	26870.8	43348.3
			2000			4.4	26876.5	43341.3

LINE 13

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	Boe # 13
	FILE 001 LORAN 245 GYRO 228 WD 32 GUN 1800 PSI
	DFS V Sample Rate 1ms
	Record Length 2sec
	Filter 18-256 Hz
	80 in³ watergun 5m depth 10 sec firing rate
	120 m streamer 10 foot depth 50m offset
	EPC filter 25-90 Hz 2sec sweep
	FILE 75 LORAN 234 GYRO 228 WD 31 GUN 1800 PSI
	FILE 148 LORAN 236 GYRO 228 WD 30 GUN 1800 PSI
	FILE 238 LORAN 231 GYRO 228 WD 29 GUN 1800 PSI
	Manuvering to avoid fishing boats off port side
	FILE 227 LORAN 229 GYRO 228 WD 29m GUN 1800 PSI
	FILE 417 LORAN 214 GYRO 210 WD 27m GUN 1800 PSI
	FILE 507 LORAN 212 GYRO 210 WD 25m GUN 1800 PSI
	FILE 597 LORAN 212 GYRO 211 WD 29m GUN 1800 PSI
	FILE 687 LORAN 213 GYRO 210 WD 25m GUN 1800 PSI
	FILE 777 LORAN 215 GYRO 210 WD 23m GUN 1800 PSI
	FILE 867 LORAN 226 GYRO 229 WD 23m GUN 1800 PSI
	FILE 957 LORAN 231 GYRO 231 WD 23m GUN 1800 PSI
	FILE 1047 LORAN 233 GYRO 231 WD 23m GUN 1800 PSI
	FILE 1137 LORAN 229 GYRO 225 WD 22m GUN 1800 PSI
	change EPC filter 25-80
	FILE 1227 LORAN 225 GYRO 225 WD 22m GUN 1800 PSI
	FILE 1317 LORAN 223 GYRO 222 WD 23m GUN 1800 PSI
	FILE 1407 LORAN 223 GYRO 222 WD 22m GUN 1800 PSI
	FILE 1493 LORAN 227 GYRO 226 WD 22m GUN 1800 PSI
	FILE 1587 LORAN 228 GYRO 229 WD 20m GUN 1800 PSI
	FILE 1677 LORAN 226 GYRO 229 WD 20m GUN 1800 PSI
	File 1767 Loran 224° Gyro 233 WD 16m Gun 1800 PSI
	Compressor bled

These water depths = ½ × multiple

15 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
15	07	82	2015	+04		38	26882.4	43334.7
			2030			40	26888.2	43328.3
			2045				26891.	43322.
			2046			42	26895.8	43320.4
							.	.
			2100			42	26899.1	43315.2
			2108				26902.	43311.
			2115			41	26906.2	43309.2
			2130			40	26914.3	43307.3
			2133			40	26915.9	43307.1
							.	.
			2141			33	26914.3	43303.0
			2200				.	.
							.	.
							.	.
							.	.
							.	.
							.	.
			2200			45	26903.8	43292.7
			2215			43	26896.0	43285.0
			2230			41	26887.3	43276.9
			2245			42	26879.2	43269.2
			2300			39	26871.2	43261.9
			2315			37	26863.6	43255.4
			2330			36	26855.7	43249.2
			2344			38	26848.6	43243.0
							.	.
							.	.
			2351			37	26845.1	43243.0
							.	.

LINE 13/LINE 14/
LINE 15

These water depths are ½ × multiple
[True bottom on 3.5kHz = clipped]

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	File 1857 Loran 230 Gyro 233 WD 7 m Gun 1800 PSI
	File 1947 Loran 230 Gyro 232 WD 14 m Gun 1800 PSI
	File 2037 Loran 230 Gyro 233 WD 15 Gun 1800 PSI
	Water depths before 2015 in question possibly for several hours. – Reading wrong signal.
	File 2127 Loran 227 Gyro 230 WD 24 Gun 1800 PSI
	Course adjust to go in close to shore.
	FILE 2217 Loran 247 Gyro 259 WD 27 Gun 1800 PSI
	FILE 2307 Loran 260° Gyro 271° WD 11 m Gun 1800 PSI
	File 2327 Loran 260° Gyro 273° WD 11 m Gun 1800 PSI
	EOL #13 Same info as before 1 mi off Island Beach Well
	BOL #14 File # 001 Loran 167 Gyro 119° WD 21 Gun 1800 PSI
	80 in³ watergun 5 m depth 10 sec firing rate
	120 m streamer 10 ft depth 50 m offset
	EPC filter 25-90 Hz
	2 sec sweep
	DFS V sample rate 1 ms 18-256 Hz
	record length 3 sec
	File 114 Loran 145 Gyro 133 WD 10 m Gun 1800 PSI
	File 200 Loran 140 Gyro 130 WD 11 m Gun 1800 PSI
	File 292 Loran 136 Gyro 127 WD 14 m Gun 1800 PSI
	File 382 Loran 139 Gyro 128 WD 16 m Gun 1800 PSI
	File 472 Loran 140 Gyro 130 WD 17 m Gun 1800 PSI
	File 562 Loran 129 Gyro 131 WD 18 m Gun 1800 PSI
	File 651 Loran 129 Gyro 133 WD 19 m Gun 1800 PSI
	File 734 Loran 135 Gyro 140 WD 19 m Gun 1800 PSI
	EOL #14
	SPECS. same as beginning of line.
	BOL #15 File 001 Loran 090° Gyro 063° WD ~19 m Gun 1800 PSI
	SPECS. same as Line 14 above.

N.B. These water depths may be beyond resolution of 3.5 kHz on 1 s sweep.

16 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION		
16	07	82	0000	+04		3.9		26840.8	43245.7
			0015			4.3		26833.4	43260.5
			0030			4.3		26825.6	43255.0
			0045			4.2		26818.8	43259.9
			0100			4.3		26811.2	43264.7
			[illegible]					.	.
								.	.
			0115			3.8		26803.2	43269.8
			0130			4.1		26796.7	43274.1
			0145			4.3		26789.6	43278.8
			0200			4.1		26782.4	43283.7
			0215			3.8		26775.6	43288.4
			0230			3.8		26768.8	43293.6
			[illegible]					.	.
			0245			4.2		26762.6	43297.9
			0300			4.0		26754.9	43302.7
			0315			4.0		26747.7	43307.2
			0330			4.1		26740.7	43311.3
			[illegible]					.	.
			0345			3.6		26733.3	43316.7
			0400			3.8		26726.0	43320.1
			0402					.	.
			0415			4.0		26718.3	43323.4
			0430			4.1		26709.9	43325.9
			0445			4.4		26701.1	43328.5
			0500			4.3		26692.2	43331.2
			0502					.	.
			0515			4.1		26684.3	43335.3
			0530			3.9		26677.0	43339.5
			0537					.	.

39 55
73 22

LINE 15

OPS 12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO STA	COMMENTS AND OBSERVATIONS
						File # 57 loran 063° Gyro 063° WD Gun 1800 PSI
						FILE 146 LORAN 062 GYRO 063 WD 23 GUN 1800 PSI
						FILE 236 LORAN 060 GYRO 064 WD 22 GUN 1800 PSI
						FILE 327 LORAN 062 GYRO 063 WD 20 GUN 1800 PSI
						FILE 416 LORAN 061 GYRO 063 WD 19 GUN 1800 PSI
						NOTE 3.5 changed to 1/2 sec sweep W.D should be 0 for from here.
						BLEED COMPRESSOR
						FILE 506 LORAN 064 GYRO 063 WD 17 GUN 1800 PSI
						FILE 596 LORAN 059 GYRO 064 WD 18 GUN 1800 PSI
						FILE 686 LORAN 064 GYRO 063 WD 20 GUN 1800 PSI
						FILE 776 LORAN 061 GYRO 063 WD 20 GUN 1800 PSI
						FILE 865 LORAN 062 GYRO 063 WD 22 GUN 1800 PSI
						FILE 957 LORAN 062 GYRO 063 WD 25 GUN 1800 PSI
						BLED COMPRESSOR
						FILE 1046 LORAN 055 GYRO 063 WD 24 GUN 1800 PSI
						FILE 1136 LORAN 060 GYRO 063 WD 23 GUN 1800 PSI
						FILE 1226 LORAN 062 GYRO 063 WD 24 GUN 1800 PSI
						FILE 1316 LORAN 059 GYRO 064 WD 24 GUN 1800 PSI
						BLED COMPRESSOR
						FILE 1405 LORAN 072 GYRO 064 WD 29 GUN 1800 PSI
						FILE 1495 LORAN 062 GYRO 065 WD 26 GUN 1800 PSI
						BLEED COMPRESSOR
						FILE 1585 LORAN 067 GYRO 075 WD 28 GUN 1800 PSI
						FILE 1675 LORAN 070 GYRO 075 WD 29 GUN 1800 PSI
						FILE 1765 LORAN 069 GYRO 075 WD 31 GUN 1800 PSI
						FILE 1855 LORAN 069 GYRO 076 WD 31 GUN 1800 PSI
						BLEED COMPRESSOR
						FILE 1945 LORAN 056 GYRO 065 WD 33 GUN 1800 PSI
						FILE 2035 LORAN 062 GYRO 064 WD 35 GUN 1800 PSI
						TURNING RIGHT TO AVOID TRAFFIC

16 July 1982

GMT DAY	MO	YR	TIME	TIME ZONE ±	SHIPS COURSE	SPD	NAVIGATION	
16	07	82	0545	+04		3.8	26668.7	43341.6
			0600			4.0	26659.0	43340.0
			0602					
			0615			3.9	26649.7	43340.4
			0630			3.4	26641.7	43343.3
			0645			4.0	26635.8	43349.5
			0700			4.0	26630.0	43355.8
			0702				26629.3	43356.7
			0707			3.2	26628.5	43359.5
			0710					
			0715			4.1	26628.8	43364.5
			0730			4.3	26629.3	43373.9
			0745			4.2	26629.7	43383.5
			0800			4.0	26629.9	43393.4
			0815			4.0	26630.0	43402.8
			0830			4.0	26630.1	43411.7
			0845			3.6	26629.9	43422.8
			0900			3.6	26629.6	43430.5

LINES 15 & 16

OPS 12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	COMMENTS AND OBSERVATIONS
							FILE 2125 LORAN 092 GYRO 099 WD 36m GUN 1800 PSI
							FILE 2215 LORAN 088 GYRO 095 WD 39m GUN 1800 PSI
							BLEED COMPRESSOR
							FILE 2305 LORAN 084 GYRO 078 WD 40m GUN 1800 PSI
							FILE 2395 LORAN 068 GYRO 054 WD 41m GUN 1800 PSI
							FILE 2485 LORAN 045 GYRO 046 WD 40m GUN 1800 PSI
							FILE 2575 LORAN 047 GYRO 046 WD 43m GUN 1800 PSI
							FILE 2588 EOL #15 80 in³ watergun 5m depth
							120m Fairfield 12 channel streamer 10 ft depth
							10 sec. firing rate ; 50 m. offset
							EPC filter 24-80 HZ
							DFS V sample rate 1ms
							record length 3 s.
							18-256 HZ
							Start DFSV ; SOL #16 FILE 1 LORAN 022
							80 in³ watergun 5m depth
							120m Fairfield 12 channel streamer 10ft depth
							10 s. firing rate ; 50 m. offset
							EPC filter 24-80 HZ
							DFSV sample rate 1ms ; record length 2 s.
							18-256 HZ
							Bleed compressor
							FILE 48 LORAN 008 GYRO 006 WD 45m GUN 1800 PSI
							FILE 138 LORAN 007 GYRO 006 WD 48m GUN 1800 PSI
							FILE 228 LORAN 008 GYRO 006 WD 58m GUN 1800 PSI
							File 318 Loran 009 Gyro 005 WD 67m Gun 1800 PSI
							File 408 Loran 010 Gyro 005 WD 70m Gun 1800 PSI
							File 498 Loran 010 Gyro 008 WD 49m Gun 1800 PSI
							File 588 Loran 012° Gyro 007 WD 45m Gun 1800 PSI
							File 678 Loran 012° Gyro 007 WD 44m Gun 1800 PSI
							Compressor bled

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16 JULY 1982

GMT DAY	MO	YR	TIME	TIME ZONE ±	SHIPS COURSE	SPD	NAVIGATION	
16	09	82	0915	+04		34	loran prob? 26629.4	43438.7
			0930			39	26629.4	43447.9
			0945			37	26629.6	43457.8
			1000			37	26629.8	43465.3
			1015			38	26630.2	43474.3
			1030			36	26630.8	43483.2
							.	.
			1045			39	26631.6	43492.1
			1100			39	26632.1	43501.3
			1115			41	26633.0	43510.6
							.	.
							.	.
			1130			39	26633.9	43520.4
			1145			39	26634.8	43529.7
			1200			41	26635.5	43538.5
			1215			39	26636.6	43548.2
			1230			39	26638.4	43558.8
			1245			41	26639.9	43567.8
							.	.
			1225				.	.
			1300			42	26641.8	43578.0
			1315			43	26643.7	43588.6
			1330			43	26645.7	43597.8
			1345			41	26648.1	43608.6
			1400			41	26650.7	43619.2
			1415			42	26653.1	43628.9
			1430			42	26654.9	43637.9
			1445			42	26656.9	43648.2
			1500			43	26658.1	43658.0
							.	.

LINE 16

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS				
	File 768	Loran 011°	Gyro 005°	WD 39m	Gun 1800 PSI
	File 858	Loran 010	Gyro 006°	WD 42m	Gun 1800 PSI
	File 948	Loran 009°	Gyro 006°	WD 29m	Gun 1800 PSI
	File 1038	Loran 009°	Gyro 008°	WD 39m	Gun 1800 PSI
	File 1128 ~~Compressor bled~~	Loran 007°	Gyro 004°	WD 34m	Gun 1800 PSI
	File 1219	Loran 006°	Gyro 008°	WD 38m	Gun 1800 PSI
	Excellent weather - flatter than it has been and HOT				
	File 1309	Loran 006°	Gyro 004°	WD 35m	Gun 1800 PSI
	File 1399	Loran 007°	Gyro 004°	WD 37m	Gun 1800 PSI
	File 1489 ~~Compressor bled~~	Loran 006°	Gyro 000°	WD 39m	Gun 1800 PSI
	Another bubble observed on air hose leading out of holding tank about 3 ft from tank the size of a nickel.				
	File 1579	Loran 006°	Gyro 000°	WD 34m	Gun 1800 PSI
	File 1669	Loran 006°	Gyro 002°	WD 34m	Gun 1800 PSI
	File 1759	Loran 006°	Gyro 002°	WD 35m	Gun 1800 PSI
	File 1850	Loran 003	Gyro 002	3.5 out of 1206z ↓ paper	Gun 1800 PSI
	File 1940	Loran 001	Gyro 002	WD 32	Gun 1800 PSI
	File 2029	Loran 001	Gyro 002	WD 31	Gun 1800 PSI
	35 KHz back up New roll				
	File 2118	Loran 001	Gyro 002	WD 29	Gun 1800 PSI
	File 2209	Loran 002	Gyro 002	WD 31	Gun 1800 PSI
	File 2302	Loran 001	Gyro 000	WD 27	Gun 1800 PSI
	File 2387	Loran 359	Gyro 001	WD 29	Gun 1800
	File 2480	Loran 357	Gyro 000	WD 27	Gun 1800 PSI
	File 2568	Loran 359	Gyro 002	WD 24	Gun 1800 PSI
	File 2660	Loran 002	Gyro 006	WD 28	Gun 1800 PSI
	File 2747	Loran 002	Gyro 010	WD 25	Gun 1800 PSI
	File 2839	Loran 004	Gyro 016	WD 24	Gun 1800 PSI
	Long Line off Starboard			Turning to R	

16 July 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
16	09	82	1501	+04				
			1507				26657.1	43662.5
			1515			4.4	26658.6	43667.9
			1530			4.5	26660.0	43678.6
			1545			4.4	26661.3	43687.5
			1600			4.1	26662.6	43697.8
			1615			4.4	26662.8	43707.4
			1630			4.6	26661.7	43716.5
			1645			4.0	26660.9	43725.2
			1700			4.1	26659.8	43733.6
			1706					
			1709					
			1715			4.1	26660.5	43742.9
			1719				26660.4	43745.5
			1745					
			1820				26652.6	43746.0
			1828				26656.9	43746.4
			1830				26657.8	43746.6
			[illegible]					
			1832					
			1834				26660.4	43746.7
			1836				26601.8	43746.6
			1840		LORAN		26663.8	43745.3
			1845				26667.2	43743.6
			1850				26670.5	43741.6
			1855		2315.2		26673.6	43739.6
			1900		2275.4		26676.5	43737.5
			1907				26680.1	43734.7
			1910				26681.5	43733.7
			1915		2284.4		26683.8	43732.0

Lines 16 & 17

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							BROUGHT STREAMER TO SURFACE / SNAPPED BY LAVE LINER
							STREAMER BACK DOWN
							FILE 2929 LORAN 005 GYRO 010 WD 26 GUN 1800PSI
							FILE 3021 LORAN 005 GYRO 010 WD 23 GUN 1800 PSI
							FILE 3109 LORAN 006 GYRO 012 WD 20 GUN 1800 PSI
							FILE 3198 LORAN 003 GYRO 011 WD 21m GUN 1800 PSI
							FILE 3287 LORAN 017 GYRO 024 WD 21m GUN 1800
							FILE 3378 LORAN 016 GYRO 024 WD 18m GUN 1800
							FILE 3468 LORAN 015 GYRO 024 WD 18m GUN 1800
							FILE 3558 LORAN 018 GYRO 025 WD 16m GUN 1800
							FILE 3605 Lower streamer to 30ft to avoid traffic
							FILE 3613 Streamer back at 10 ft
							FILE 3648 LORAN 010 GYRO 018 WD 13m GUN 1800
							FILE 3675 WD 11m EOL#16 ~.9 mi off Fire Island.
							Gear in ; blowing stacks
							Stream gear
							Sparker in water, checking gear SOL #17 3.5KHZ &
							Minisparker EPC 200-1000 HZ Analog tape 60-1000 HZ
							826 - Start position on analog tape; Speed 3 3/4 1s. firing
							Bring it up to 4.5 Knots 0-1/2s. record
							Closest to Fire Island well
							Adjusted course, headed to next way point
							WD 13m
							WD 14m c/ filter EPC 300-1000 HZ
							WD 14m

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16 JULY 1982

GMT DAY	MO	YR	TIME	TIME ZONE ±	SHIPS COURSE	SPD	NAVIGATION	
16	07	82	1920	+04	232	3.9	26686.1	43730.3
			1922				26687.4	43729.4
			1925		2304	4.0	26688.4	43728.7
			1926				26689.1	43728.3
			1930		2314	4.2	26690.9	43727.2
			1935		2344	4.2	26693.4	43725.6
			1940		2324	4.2	26695.9	43724.0
			1945					
			1945		2344	4.1	26698.4	43722.2
			1950		2304	4.5	26700.9	43720.7
			1955		2314	4	26703.4	43718.8
			2000		2324	3	26705.9	43717.2
			2005		2324	1	26708.2	43715.7
			2005:30				26708.6	43715.2
			2007:30				26709.6	43714.7
			2010		2284	5	26710.6	43713.9
			2015		2324	1	26713.0	43712.3
			2020		2343	7	26715.2	43710.6
			2025		2294	2	26717.6	43709.1
			2030		2324	2	26719.9	43707.4
			2035		2314	2	26722.5	43705.7
			2035				26722.5	43705.7
			[illegible]		[illegible]		[illegible]	[illegible]
			2040		2534	0	26725.6	43705.4
			2045		2414	6	26729.5	43705.6
			2050		2604	2	26732.7	43705.6
			2055		2674	0	26736.3	43705.8
			2100		2614	0	26739.8	43706.0
			2105		2604	0	26743.5	43706.1

LINE 17 / LINE 18

OPS						COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO STA	
						Analog tape #4 end Speed 3 3/4 Filter 60-1000 HZ
						Analog tape #5 start : Speed 15/16
						WD 14m
						0097 on Analog tape c/filter to 60-1500
						WD 16m
						WD-15m
						SPARKER shut down - Electrode switch
						0267 on analog tape
						0319 - analogue tape
						WD - 15m
						EOL #17 0395 ~~analog tape~~ Minisparker info at beginning of line
						BOL #18 [3.5 KHz + Minisparker
						[EPC filtering being adjusted constantly noted on record Analog tape: 60-1500!
						WD- 18 m
						0463 on analog tape
						WD - 15 m
						0509 ANALOG TAPE WD- 15. Meter

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16 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
16	07	82	2110	+04	259	4.1	26746.6	43706.2
			2115		261	4.0	26750.0	43706.3
			2120		261	4.0	26753.7	43706.5
			2125		260	4.2	26756.9	43706.4
			2130		259	4.0	26760.2	43706.5
			2135		2	4	2676	43706
			2141		265	40	26768.2	43706.9
			2145		261	41	26770.8	43707.0
			2150		267	40	26774.3	43707.1
			2155		266	41	26777.6	43707.2
			2200		261	41	26781.0	43707.3
			2210		257	41	26788.0	43707.3
			2215		261	39	26791.2	43707.3
			2220		264	37	26794.3	43707.4
			2225		260	38	26797.4	43707.3
			2230		258	38	26800.6	43707.1
			2240:30		258	38	26807.5	43706.8
			2245		252	39	26809.7	43706.5
			2250		251	3.9	26812.9	43706.2
			2255		254	3.8	26815.7	43706.0
			2300		254	38	26818.6	43705.7
			2305		255	38	26821.7	43705.4
			2310		257	39	26824.7	43705.3
			2315		262	38	26828.0	43705.1
			2320		263	40	26831.3	43705.1
			2325		266	38	26834.7	43705.0
			2330		259	4.1	26838.1	43704.9
			2335		262	42	26841.6	43704.8

LINE 18

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	0551 ANALOG TAPE WD K meters
	0578 " " WD K METERS
	0594 —
	0614 —
	0635 WD 16 METERS
	Tip Clip, Electrode switch Sparker down
	Sparker up
	0693 – Analog tape WD 15 m
	0750 – Analog tape WD 17 m
	Called Bridge to adjust course back to line – they were heading a little off to the Right
	0857 – Analog tape WD 19 m
	SPARKER Shut down – clean line lead connectors into box
	Analog tape left on – will be a blank space on tape
	Sparker back up 0896 analog Tape
	0959 – Analog tape WD 15 m
	1007 – Analog tape WD 17 m
	1055 – Analog tape WD 16 m

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16-17 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
16	07	82	2340	+04	25847		26845.1	43704.6
			2345		25151		26849.2	43704.5
			2348:30				26852.0	43704.3
			2350		25647		26853.0	43704.2
			2355		25747		26856.7	43704.1
17	07	82	0000		26145		26860.5	43703.8
			0005		25448		26864.1	43703.7
			0010		26445		26867.9	43703.5
			0015		26145		26871.4	43703.2
			0020		25348		26875.6	43703.1
			0025		26744		26879.1	43703.3
			0030		27742		26882.0	43703.3
			0035		25051		26886.5	43703.4
			0036				.	.
			0040		25747		26890.5	43703.4
			0045		27144		26894.3	43703.6
			0050		26346		26897.8	43703.9
			0055		26645		26901.6	43703.9
			0100		26644		26905.5	43704.0
			0105		25448		26909.1	43703.9
			0110		25646		26912.6	43703.8
			0115		25944		26916.2	43703.7
			0120		26044		26919.8	43703.6
			0125		26543		26923.3	43703.5
			0130		25545		26927.0	43703.4
			0134				26930.1	43703.2

LINE 18

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	1099 - Analog tape WD 19 m
	EPC down for beltchange Sparker still on.
	EPC back up
	1146 - Analog tape WD 21 m
	ANALOG TAPE 1190 WD 22 m
	ANALOG TAPE 1232 WD 23
	SPARKER DOWN 1 MIN SWITCH ELECTRODES
	ANALOG TAPE 1264 WD 22
	ANALOG TAPE 1279 WD 22
	ANALOG TAPE 1317 WD 21
	Ambrose tower just astern
	ANALOG TAPE 1360 WD 18
	A. TAPE 1398 WD 18
	EOL # 18 Turning to 19 01397 tape = 1411
	ANALOG FILTER 60-1500 Hz
	EPC 1/2 sec sweep 40-700

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17 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
17	07	82	0143		080	47	26926.9	43705.0
			0146					
			0150		113		26920.1	43702.0
			0152					
			0200		11251		26911.2	43698.1
			0244				26886.7	43687.4
			0247		10732		26885.2	43686.9
			0205					
			0250		10532		26883.5	43686.3
			0255		10541		26879.1	43684.5
			0257					
			0300		10849		26875.0	43682.6
			0305		11650		26870.4	43680.6
			0308				26867.6	43679.1
			0311		11149		26864.8	43678.4
			0315		09849		26862.0	43678.0
			0320		09350		26857.3	43677.0
			0325		09850		26853.0	43676.2
			0330		09950		26848.8	43675.4
			0335		08951		26844.0	43674.5

LINE 19

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							BOL # 19 MINI SPARKER 3.5 kHz
							Analog Tape 60 - 1500 Hz
							EPC 1/2 sec 40 - 700 Hz
							NORTH OF TRACK STEERING 113° BACK ON LINE B'll LIGHT
							ANALOG 1436 WD 18 m
							CLIPPING TIPS + CHANGING ELECTRODES
							END OF TAPE # 5
							PROBLEM WITH SPARKER SLOWING DOWN TO 3 kts
							CONNECTOR PROBLEM
							RECONNECTED CONNECTOR
							SPARKER BACK IN WATER TAPE # 6 ON
							RECORDER ON + TAPE GOING
							SPEED COMING UP TO 4.5 kts
							3.5 out of paper
							AnaTape 36 WD ?
							Antape 69 WD ?
							3.5 back on line / not on line
							ANTAPE WD ?
							Thanks To The Wonders of Modern Masking Tape 3.5 is now on line
							c/c at point D on LINE 19
							Bridge Says Speed is 4.3-4.5 ANTAPE 019 WD 24
							ANTAPE 272 WD 22
							BRIDGE BRINGING SPEED BACK TO 4.5 kts

17 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
17	07	82	0340		096	48	26840.1	43673.9
			0345		068	945	26836.8	43673.2
			0350		102	4.3	26832.7	43672.5
			0355		095	4.3	26828.9	43671.7
			0400		095	4.3	26825.1	43670.9
			0405				26820.7	43670.1
			0410		092	4.3	26817.4	43669.3
			0415		095	4.1	26814.0	43667.8
			0420				26810.3	43666.4
			0425				26806.7	43664.9
			0430		107	4.1	26803.1	43663.3
			0435		100	4.1	26799.4	43662.0
			0440		108	4.1	26795.8	43661.3
			0441				26795.0	43661.0
			0442				26794.3	43660.8
			0443				26793.5	43660.7
			0444				26792.7	43660.5
			0445				26792.1	43660.4
			0446				26791.2	43660.1
			0447				26790.5	43660.1
			0450				26788.3	43659.7
			0455		090	4.3	26784.6	43659.0
			0500		083	4.8	26780.5	43658.3
			0505		101	5.1	26776.0	43657.6
			0510		099	5.1	26771.4	43656.6
			0515		093	5.0	26767.0	43655.9
			0520				26763.1	43655.3
			0524				26759.5	43654.8
			0528				26756.6	43654.2
			0529					

LINE 19 / LINE 20

OPS 12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	COMMENTS AND OBSERVATIONS
							ANTAPE 346 WD 20
							WD 18 m
							WD 17 m
							WD 19 m 3.5 KHZ to 1/4 s. sweep
							WD 16 m ?
							c/ 3.5 KHZ c/ 1/2 s. sweep
							WD 19 m
							WD 19 m 3.5 KHZ 0-1/2 s.
							Minisparker 400-700 HZ recording 0-1/2 s.; 1 s. firing
							Analog tape 60-1500 HZ
							EOL #19; SOL #20 turning left since a bit south of Pt. E
							Sparker recorder off to clean; switch electrodes

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17 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
17	07	82	0530	+04			26755.4	43654.2
			0532				.	.
			0535				26755.7	43656.3
			0540		2642.1		26757.6	43655.3
			0545		1933.0		26757.0	43652.3
			0550		1803.6		26756.2	43649.1
			0555		1794.9		26755.0	43645.8
			0600		1733.8		26753.8	43642.6
			0605		1754.2		26752.6	43639.3
			0610		1744.3		26751.4	43636.0
			0615		1734.0		26750.2	43632.7
			0620		1834.0		26749.7	43629.3
			0625		1844.4		26749.2	43626.2
			0630		1864.2		26748.7	43622.9
			0635		1854.1		26748.2	43619.6
			0640		1864.4		26747.7	43616.3
			0645		1854.0		26747.3	43613.0
			0650		1853.5		26746.8	43618.9
			0655		1904.6		26746.8	43606.6
			0700		1924.2		26746.8	43603.6
			0705		2044.1		26747.7	43600.8
			0710		2134.0		26748.9	43598.4
			0712				26749.4	43597.4
							.	.
			0715		2183.5		26750.4	43596.2
			0720		2723.4		26753.4	43596.9
			0720				.	.
			0728				26758.8	43599.7
			0730		2973.9		26760.2	43600.5
			0735		2893.9		26763.5	43602.2

26750.
43597.5

LINE 20 / LINE 21

OPS						COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV.	SONO	STA
						WD 18m Traffic ahead
						Sparker up
						WD 18m
						WD 22m
						WD 21m
						WD 23m
						WD 22m
						WD 22m
						WD
						EOL # 20 SOL #21 Minisparker, analog tape, 3.5 KHZ
						WD 21m (400-700 HZ) (60-1500 HZ)
						WD 21m Firing rate = 1s.
						Down to clip tips
						Sparker up
						WD 23m

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GMT DAY	MO	YR	TIME	TIME ZONE ±	SHIPS COURSE	SPD	NAVIGATION	
17	07	82	0740	+04	296	4.0	26766.9	43604.0
			0745		304	4.2	26770.3	43606.0
			0750		308	4.0	26773.6	43607.8
			0755		294	38	26776.9	43609.7
			0800		307	40	26780.1	43611.8
			0802		297	38	26781.5	43612.6
			0803		293	37	26782.1	43613.0
			0804		295	38	26782.8	43613.4
			0805		297	38	26783.4	43613.8
			0806		292	37	26784.2	43614.2
			0807		304	39	26784.7	43614.6
			0808		303	39	26785.4	43615.0
			0809		303	39	26786.0	43615.5
			0810		311	40	26786.7	43616.0
			0811		310	38	26787.3	43616.3
			0812		301	37	26787.9	43616.9
			0813		304	40	26788.7	43617.3
			0814		309	40	26789.3	43617.8
			0815		302	39	26789.9	43618.3
			0816		305	40	26790.5	43618.7
			0817		296	37	26791.3	43619.3
			0818		291	37	26791.9	43619.7
			0819		307	40	26792.5	43620.2
			0820		308	40	26793.2	43620.6
			0821		300	38	26793.8	43621.0
			0822		301	39	26794.4	43621.5
			0823		303	39	26795.1	43622.0
			0824		305	39	26795.7	43622.4
			0825		319	45	26796.3	43622.9
			0830		294	38	26799.6	43624.8

LINE 21

OPS						COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA
						WD 22m Requested turn slightly N to get back on line
						WD
						WD-20m

17 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
17	07	82	0835	+04	298	40	26803.0	43626.6
			0840		292	37	26806.4	43628.4
			0845		287	38	26809.7	43630.3
			0850		296	38	26813.0	43632.2
			0855		298	38	26816.3	43634.0
			0900		302	39	26819.5	43635.9
			0904		300	38	26822.0	43637.3
			0906		297	37	26823.2	43637.8
			0910				2682	
			0928		197	12	26827.0	43626.2
			0929		197	18	26827.1	43625.7
			0935		200	38	26827.6	43622.4
			0940		201	40	26828.1	43619.2
			0944		202	40	26828.6	43616.2
			0947		—	—	26827.9	43614.9
			(0946)					
			0950		169	36	26826.4	43613.4
			0955		139	44	26822.7	43610.7
			1000		136	45	26819.8	43607.8
			1006		136	44	26815.9	43604.4
			1010		134	44	26813.3	43602.1
			1015		135	44	26810.0	43599.3
			1020		134	43	26806.7	43596.5
			1025		133	44	26803.4	43593.7
			1030		136	44	26800.1	43590.9
			1035		134	44	26796.8	43588.0
			1037		134	44	26795.5	43586.9
			1038		134	44	26794.8	43586.2

LINE 21 / LINE 22 / LINE 23

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							WD-21 meters
							EOL #21 Mini sparker, analog tape, 3.5 KHz
							BOL #22 (400-700 Hz) (60-1500) 0-.55 sec
							MSPARKER + LORAN down — fuse blown?
							At end of analog tape also End Tape #6
							MSparker + Loran UP
							Analog tape #7 up
							WD-22 m
							EOL #22 Mini sparker, analog tape, 3.5 KHz
							BOL #23 400-700 Hz 60-1500 Hz 0-.55 sec
							Electrode switch (0944-0947)
							WD-21 m
							WD-20 m
							WD-21 m
							WD-21 m

17 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
17	07	82	1039	+04	13444		26794.2	43585.7
			1040		13644		26793.6	43585.1
			1041		13644		26792.9	43584.6
			1042		13545		26792.1	43583.9
			1043		13645		26791.6	43583.4
			1044		13545		26790.9	43582.8
			1045		13545		26790.2	43582.3
			1046		13444		26789.7	43581.7
			1047		13644		26789.0	43581.2
			1048		13544		26788.3	43580.6
			1049		13745		26787.5	43579.9
			1050		13745		26787.0	43579.4
			1055		13544		26783.7	43576.7
			1100		13344		26780.4	43573.9
			1105		13544		26779.1	43571.1
			1110		13643		26773.9	43568.3
			1115		13545		26770.8	43565.4
			1120		13746		26767.5	43562.5
			1125		13544		26764.2	43559.7
			1130		13744		26760.9	43556.7
			1135		13545		26757.8	43553.9
			1140		13545		26754.6	43550.9
			1141		13844		26754.0	43550.4
			1146		17038		26753.3	43547.2
			1149		19837		26754.1	43545.8
			1150:25				26754.6	43544.9
			1155		21441		26755.7	43542.7
			1157				26756.5	43541.1
			1200		21442		26757.1	43540.0

LINE 23/LINE 24

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							Fault Area
							WD-22m
							WD-22m
							WD-23m
							WD-24m
							EOL#23 Minisparker, analog tape, 3.5 KHz
							BOL#24 400-700 Hz 60-1500 Hz 0-.55 sec.
							Firing rate = 1s. (BBS)
							SPARKer down for Tip chip + Electrode switch
							Sparker still down
							Sparker up.
							WD = 30 m thick fog outside - light wind

17 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
17	07	82	1205	+04	21542		26758.5	43537.3
			1210		21442		26769.9	43534.7
			1215		21542		26761.3	43532.1
			1220		21441		26762.4	43530.1
			1225		21541		26764.0	43526.9
			1230		21542		26765.4	43524.4
			1234				26766.8	43522.1
			1240				26769.2	43520.8
			1245		28636		26772.2	43522.2
			1250		29139		26775.7	43523.8
			1254					
			1255		29239		26779.1	43525.3
			1300		29640		26782.4	43527.0
			1305		29839		26785.8	43529.0
			1307					
			1310		30041		26789.0	43530.8
			1315		29843		26792.7	43532.9
			1320		29848		26797.0	43535.2
			1325		29650		26801.0	43537.4
			1330		29850		26805.1	43539.5
			1335		29851		26809.4	43541.8
			1338					
			1341		29751		26814.7	43544.7
			1345		29752		26818.2	43546.6
			1350		29951		26822.2	43548.8
			1353					
			1355		29751		26826.7	43551.2
			1357		238		26828.5	43551.6
			1400		26644		26830.0	43550.9
			1403					

LINE 24 + 25

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							WD 33 FOGGY FOGGY
							WD 32
							EOL 24 C/C TO LINE 25
							BOL LINE 25
							Minispeaker + 3.5 kHz
							EPC 400-700 Hz ANALOG TAPE 60-1500 Hz
							ASKED BRIDGE TO CORRECT TO RIGHT
							WD 32
							ASKED BRIDGE TO CORRECT AND BRING SPEED 4.5
							WD 33m
							WD 28 m
							SPARKER OFF 2 min ELECTRONIC CHECK
							BACK ON LINE
							WD 29
							SPARKER OFF - ITS GETTING TIRED SNORE
							BACK ON LINE
							~~EOL~~ POR TRAFFIC
							WD 31
							EOL 25 Winds picking up. Southerly 15-20 kts

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
17	07	82	1403		24146		26832.1	43549.8
			1405		24346		26833.0	43549.3
			1410		24048		26835.9	43547.6
			1415		23747		26838.7	43545.8
			1420		23747		26841.6	43543.8
			1425		23647		26844.1	43542.1
			1430		23547		26846.7	43540.4
			1432					
			1436		23646		26850.2	43538.0
			1440		23746		26852.0	43536.7
			1445		23646		26854.7	43534.8
			1450		23546		26857.9	43532.4
			1454		23547		26859.8	43531.0
			1459		—	37	26859.2	43528.1
			1505		12445		26854.8	43525.7
			1510		11449		26850.5	43524.0
			1515		10850		26846.2	43522.2
			1520		10950		26842.1	43520.7
			1525		10849		26837.6	43528.9
			1530		11048		26834.4	43517.5
			1535		16948		26830.0	43515.8
			1540		10747		26826.0	43514.4

Line 26 + 27

OPS							COMMENTS AND OBSERVATIONS
12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	
							BOL 26 MINISPARKER + 3.5
							EPC 400 - 700 Hz
							TAPE - ANALOG 60 - 1500 Hz
							WD 69
							NOTE SOME CONFUSION WITH TURN + EOL 25 14
							RECORDS MARKED WITH 1403 AS EOL25 + BOL26
							TURN STARTED AT 1357 THIS SHOULD BE EOL 25
							EPC down for belt change WD 28
							BACK ON LINE
							WD 25m BRIDGE SAYS 4.4 kts is speed my plots look diffent ??
							EOL 26
							BOL 27 MINISPARKER + 3.5
							EPC 400 - 700 Hz
							ANALOG TAPE 60 - 1500
							WD 25
							WD 28

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
17	07	82	1545		109	48	26821.9	43612.7
			1550		110	50	26818.3	43611.5
			1554		1		26814.1	43509.9
			1555		106	4.7	26813.8	43509.8
			1600		108	4.7	26810.1	43508.4
			1605		106	4.7	26805.8	43506.9
			1606				26805.1	43506.7
			1610				26802.0	43505.6
			1615		110	4.6	26798.3	43504.0
			1620		116	4.1	26795.2	43502.3
			1625		115	3.7	26792.1	43500.7
			1630		122	3.7	26789.1	43498.8
			1635		128	3.6	26786.5	43496.7
			1637				26785.1	43495.7
			1640		130	37	26783.6	43494.5
			1642				26782.2	43493.5
			1645		128	3.5	26781.0	43492.5
			1650		133	3.5	26778.4	43490.3
			1655		140	3.4	26776.2	43487.9
			1700		142	3.4	26774.0	43485.5
			1705		137	3.4	26771.5	43483.2
			1710		134	3.4	26769.1	43481.3
			1715		131	3.3	26766.7	43479.3
			1720		130	3.3	26764.1	43477.4
			1725				26761.4	43475.4
			1810		302	4.1	26772.6	43484.8

LINE 27 / LINE 28

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	31 WD
	END OF TAPE # 7
	START TAPE #8 (Minisparker analog tape) 60-1500HZ
	WD 35m
	Sparker down to switch electrodes
	Sparker up
	3.5 KHZ recorder up to 1/4 s. sweep ; 40m
	40m = WD
	WD 42m
	Down to clip tips
	Up to burn out tips again ; 3.5KHZ back to 1/2 s. sweep
	WD 43m
	WD 40m
	WD 39m
	EOL #27 Minisparker ; 3.5KHZ ; analog tape 497
	SOL #28 3.5KHZ
	15 in^3 watergun 2m depth
	120m streamer 10' depth
	2.5s. shot interval; 30m offset
	EPC 100-500HZ DFS II 22-512 HZ, 1/2 ms sample rate
	1 s. record length

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
17	07	82	1815	+04		4.5	26775.5	43486.5
			1818				26777.5	43487.8
			1830			4.3	26785.7	43492.4
			1845			4.0	26795.7	43497.1
BAD?			1900			4.1	26795.9	43493.1
			1915			3.7	26815.1	43508.4
			1930			3.4	26823.9	43513.3
			1945			3.8	26833.1	43517.7
			2000			4.0	26842.7	43523.7
			2015			3.9	26852.0	43530.6
			2030			3.8	26861.0	43537.4
			2045			3.6	26869.8	43543.4
			2100			3.6	26878.8	43549.1
			2115			3.8	26888.6	43554.2
			2122:30			3.8	26893.5	43556.6
			2129					
			2130			3.8	26894.6	43562.4
			2132					
			2145			5.1	26895.0	43574.8
			2200			4.5	26895.7	43585.9
			2208				[illegible]	[illegible]
			2215 30			4.3	26898.1	43596.5
			2230				268	43600
			2220 ~~to~~ 2229					
			~~2245~~				~~269~~	

LINE 28 / LINE 29

OPS 12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	COMMENTS AND OBSERVATIONS
							SP 87 LORAN 300 GYRO 294 WD 41m
							Filter to EPC turned on
							SP 436 LORAN 298 GYRO 281 WD 39m GUN 1800 PSI
							SP 796 LORAN 295 GYRO 288 WD 39m GUN 1800 PSI
							SP 1154 LORAN 297 GYRO 287 WD 37m GUN 1800 PSI
							SP 1513 LORAN 300 GYRO 288 WD 34m GUN 1800 PSI
							SP 1871 LORAN 294 GYRO 278 WD 32m GUN 1800 PSI
							SP 2230 LORAN 294 GYRO 280 WD 30m GUN 1800 PSI
							SP 2589 LORAN 306 GYRO 294 WD 22m GUN 1800 PSI
							SP 2947 Loran 310 Gyro 294 WD 29m Gun 1800 PSI
							SP 3306 Loran 310 Gyro 294 WD 24m Gun 1800 PSI
							SP 3665 Loran 301 Gyro 290 WD 22m Gun 1800 PSI
							SP 4024 Loran 304 Gyro 284 WD 19m Gun 1800 PSI
							Called Bridge to speed it up a little (4 Kn)
							SP 4383 Loran 296 Gyro 284 WD 21m Gun 1800 PSI
							SP 4561 Loran 294 Gyro 282 WD 16m Gun 1800 PSI
							EOL #28 Info Same as beginning of line
							BOL #29 15³ in watergun 2 m depth
							120 m streamer 10' depth
							5 sec shot interval; 30 m offset
							EPC 100-500 Hz DFSI 77-512 Hz ½ ms sample rate 1 second record leg
							SP NOT ON LINE LORAN 010° GYRO 004 WD 19M GUN 1800 PSI
							SP 0001 ON LINE BOL #29
							SP# 158 LORAN 014° GYRO 008 WD 19M GUN 1800 PSI
							SP# 337 LORAN 012° GYRO 002 WD 22m GUN 1800 PSI
							Noticed that gun was missing about every other shot
							SP# 496 Loran 004° Gyro 002 WD 20m Gun 1800 PSI
							SP 655 ~~Loran~~ Gun down to switch to 40 in³ airgun
							3.5 KHz EPC recorder down for new roll of paper

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17 - 18 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SPD	NAVIGATION	
			2238	+04				
			2245					
			2245			30	26901.1	43614.7
			2300			44	26903.3	43624.6
			2315			46	26906.1	43636.1
			2330			47	26908.7	43647.8
			2345			45	26911.4	43659.1
			2347					
			2348				26912.1	43661.6
			2354			38	26912.7	43664.9
18	07	82	0000			38	26913.	43668.6
			0015			45	26915.3	43680.7
			0030			40	26915.9	43689.9
							2	
			0035				26915.8	43694.1
			0043			39	26915.8	43698.2
			0045			39	26915.8	43699.2
			0100			35	26916.6	43708.1
			0115			33	26919.0	43716.6
			0130			32	26922.1	43724.7
			0145			35	26924.3	43733.2
			0146				26924.5	43734.0

LINE 29

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	SP 691 Start 40" airgun on line
	EPC filter changed to 130 -250 HZ
	SP 783 Loran 005° Gyro 358 WD 21m Gun 1800 PSI
	EPC filter changed to 155-250 HZ
	SP963 Loran 001° Gyro 357 WD 22m Gun 1800 PSI
	SP1146 Loran 002° Gyro 358 WD 20m Gun 1800 PSI
	SP 1323 Loran 004° Gyro 359 WD 22m Gun 1800 PSI
	SP 1501 Loran 001° Gyro 359 WD 17m Gun 1800 PSI
	Slowing down to switch guns - put 15 in³ back in
	File# 1548 Winds still 15-20 kts.
	File# 1549 15" gun out 30 meter offset
	EPC 130 -250 HZ
	SP 1621 Loran 003° Gyro 359 WD 17m Gun 1800 PSI
	SP 1808 LORAN 010° GYRO 006 WD 18 GUN 1800 PSI
	SP 1980 LORAN 013 GYRO 010 WD 21 GUN 1800 PSI
	SP 1950 gun occasionally (sp) misfiring
	SP 2061 Pulling 15 in³ Putting in 40 in³
	SP 2062 LORAN 013 1st shot, 40 in³ gun.
	70 m offset
	SP 2084 LORAN 013 GYRO 010 WD 22 GUN 1800 PSI
	AMBROSIE OFF TO PORT LOTS OF SHIPS
	SP 2261 LORAN 011 GYRO 349 WD 19 GUN 1800 PSI
	SP 2444 LORAN 356 GYRO 345 WD 18 GUN 1800 PSI
	SP 2621 LORAN 353 GYRO 337 WD 18 GUN 1800 PSI
	2802 004
	SP 2813 EOL # 29
	LOOPING AROUND IN N'L HARBOUR

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GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
18	07	82	0208	+04	126	23	26922.2	43731.9
			0246					
			0246			38	26916.8	43727.7
			0230			42	26907.9	43719.9
			0245			42	26899.1	43711.5
			0256					
			0300			33	26890.3	43763.3
			0315			43	26881.3	43694.5
			0330			44	26871.9	43685.2
			0331				26871.0	43684.3
			0345			49	26859.8	43681.4
			0400			4.7	26847.1	43678.2
			0415			4.1	26835.4	43673.9
			0430			4.1	26824.7	43671.5
			0445			4.6	26813.0	43668.7
			0500			4.5	26801.0	43665.1
			0515			3.8	26789.8	43661.8
			0530			4.0	26779.6	43659.2
			0532					
			0545			4.2	26768.5	43656.5

LINE 30

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	Capt'n says we have been set to East By Tide
	SP 001 WD 16 GUN 1800PSI
	BOL #30
	40 in³ AIRGUN 70 m offset 5 sec firing rate 4m depth
	DFS V 4 ms sampling
	1 sec record length
	37-512 Hz
	EPC 145-250 Hz
	1 sec sweep
	120 m streamer 10 ft depth
	SP 95 LORAN 131 GYRO 138 WD 15 GUN 1800PSI
	SP 267 LORAN 138 GYRO 150 WD 17 GUN 1800PSI
	SP 446 LORAN 143 GYRO 150 WD 20 GUN 1800PSI
	slow down for traffic
	SP 635 LORAN 136 GYRO 150 WD 22 GUN 1800PSI
	SP 808 LORAN 142 GYRO 150 WD 23 GUN 1800PSI
	SP 991 LORAN 143 GYRO 150 WD 24 GUN 1800PSI
	COMING LEFT AT DOG LEG IN LINE
	SP 1171 LORAN 095 GYRO 100 WD 24 GUN 1800PSI
	SP 1349 LORAN 098 GYRO 109 WD 22 GUN 1800 PSI
	SP 1526 LORAN 104 GYRO 111 WD 20 m GUN 1800 PSI
	SP 1707 LORAN 094 GYRO 99 WD 18m GUN 1800 PSI
	Bleed compressor
	SP 1886 LORAN 100 GYRO 106 WD 16m GUN 1800 PSI
	SP 2068 LORAN 103 GYRO 105 WD 16m GUN 1800 PSI
	SP 2247 LORAN 102 GYRO 104 WD 18m GUN 1800 PSI
	SP 2427 LORAN 097 GYRO 099 WD 19m GUN 1800 PSI
	Bleed compressor
	SP 2606 LORAN 097 GYRO 095 WD 19m GUN 1800PSI

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18 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
18	07	82	0600	+04		3.9	26758.1	43654.5
			0602				26756.3	43654.4
			0630		3264.7		26765.6	43670.0
			0647		3335.2		26776.8	43683.3
			0700		3375.4		26785.0	43694.2
			0715		3375.4		26793.4	43706.9
			0730		3514.6		26799.4	43718.7
			0758		0893.1		26787.2	43721.8
			0800			3.5	26785.4	43721.5
			0815			35	26776.1	43720.1
			0830			41	26765.6	43719.1
			0845			43	26754.8	43718.8
			0900			43	26743.7	43718.3
			0915			42	26733.1	43718.7
			0930			43	26722.8	43719.6

LINE 30 / LINE 31

OPS (12 KHz, 3.5 KHz, CSP, MAG, GRAV, SONO, STA)	COMMENTS AND OBSERVATIONS
	SP 2787 LORAN 094° GYRO 084 WD 18m GUN 1800 PSI
	SP 2820 EOL #30 3.5 KHZ
	40 in³ airgun; 4 m depth
	120 m streamer; 10' depth
	offset 70 m
	shot interval 5 s.
	EPC 150-250 HZ
	DFS V sample rate: ½ ms
	record length: 1 s.
	filter: 77-512 HZ
	"Winds dying down" ~5 kts southerly
	SOL #31 80 in³ watergun; 5m depth; 1800 PSI
	120 m streamer; 10' depth
	offset 50m
	shot interval: 10 s.
	EPC 25-90 HZ
	DFS V sample rate: 1 ms
	record length 2s
	filter 18-256 HZ
	SP 20 LORAN 090 GYRO 090 WD 11m GUN 1800 PSI
	SP 107 Loran 090 Gyro 089 WD 13m Gun 1800 PSI
	SP 197 Loran 084° Gyro 082 WD 15m Gun 1800 PSI
	SP 287 Loran 083 Gyro 081° WD 15m Gun 1800 PSI
	SP 377 Loran 085° Gyro 083° WD 13m Gun 1800 PSI
	~~Compression Bled~~ SP 467 Loran 076° Gyro 072° WD 15m Gun 1800 PSI
	SP 557 Loran 074° Gyro 075° WD 13m Gun 1800 PSI

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18 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
18	07	82	0945	+04		43	26712.5	43720.6
			1000			43	26701.3	43721.0
			1015			42	26690.8	43721.1
			1030			42	26679.4	43721.1
			1045			43	26668.9	43721.5
			1100			43	26657.9	43722.1
							.	.
			1107			43	26652.8	43722.9
			1115			43	26648.0	43723.6
			1130			43	26637.8	43725.2
			1145			41	26627.9	43727.2
			1200				.	.
			1200			41	26618.2	43729.1
			1215			40	26608.9	43730.9
			1230			40	26599.7	43732.7
			1245			41	26590.1	43734.9
			1300			40	26580.5	43736.5
			1315			40	26570.9	43738.4
			1330			41	26561.0	43740.2
			1342				.	.
			1345			41	26551.3	43742.1
			1346				.	.
			1400			41	26541.4	43743.5
			1415			41	26530.9	43744.6
			1430			42	26520.8	43745.7
			1432				.	.
			1440				.	.
			1445			42	26510.7	43747.4
							.	.
							.	.

LINE 31

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS				
	SP 647	Loran 076°	Gyro 074°	WD 15 m	Gun 1800 PSI
	SP 737	Loran 081°	Gyro 078°	WD 16 m	Gun 1800 PSI
	SP 827	Loran 080°	Gyro 079°	WD 17 m	Gun 1800 PSI
	~~Compressor bled~~				
	SP 917	Loran 081°	Gyro 079°	WD 16 m	Gun 1800 PSI
	SP 1007	Loran 077°	Gyro 076°	WD 17 m	Gun 1800 PSI
	SP 1097	Loran 076°	Gyro 076°	WD 20 m	Gun 1800 PSI
	Bridge making small turn at point S now				
		Loran 071°	Gyro 072°	WD 18 m	Gun 1800 PSI
	SP 1187	Loran 072°	Gyro 070°	WD 17 m	Gun 1800 PSI
	~~Compressor bled~~ Toldo Bridge				
	SP 1277	Loran 070	Gyro 067°	WD 18 m	Gun 1800 PSI
	SP 1367	Loran 068°	Gyro 068°	WD 17 m	Gun 1800 PSI
	Very Hazy but good weather, gentle seas. (light wind)				
	SP 1457	Loran 069°	Gyro 067°	WD 19 m	Gun 1800 PSI
	SP 1547	LORAN 070	GYRO 067	WD 19 m	Gun 1800 PSI
	SP 1635	LORAN 068	GYRO 067	WD 17	Gun 1800 PSI
	SP 1725	LORAN 068	GYRO 065	WD 16	Gun 1800 PSI
	SP 1815	LORAN 070	GYRO 067	WD 16	Gun 1800 PSI
	SP 1905	LORAN 068	GYRO 065	WD 15	Gun 1800 PSI
	SP 1995	LORAN 069	GYRO 070	WD 17	Gun 1800 PSI
	going to Left to avoid fishing fleet				
	SP 2085	LORAN 068	GYRO 069	WD 13	Gun 1800 PSI
	BACK ON LINE				
	SP 2176	LORAN 073	GYRO 074	WD 15	Gun 1800 PSI
	SP 2261	LORAN 073	GYRO 074	WD 15	Gun 1800 PSI
	SP 2354	LORAN 073	GYRO 074	WD 16	Gun 1800 PSI
	maneuvering around a string of buoys				
	CUTTING TO RIGHT TO GET OUT OF BOUY-ORS SO RUNNER [illegible]				
	SP 2446	LORAN 076	GYRO 078	WD 18	Gun 1800 PSI
	BACK ON COURS				

18 JULY 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
18	07	82	1500			4.3	26500.0	43747.8
			1515			4.4	26488.3	43748.7
			1530			4.4	26478.0	43749.8
			1545			4.3	26467.3	43750.7
			1600			4.3	26456.1	43751.6
			1603				26453.8	43751.7
			1611				26447.7	43751.7
			1615			4.2	26444.9	43751.8
			1630			3.8	26434.9	43752.3
			1635				26431.5	43752.5
			1645			3.9	26425.7	43753.7
			1657				26418.0	43755.3
			1700			3.9	26416.4	43755.5
			1707				26411.5	43755.9
			1715			4.0	26406.7	43756.9
							.	.
			1730			4.1	26397.3	43759.0
			1747			4.0	26385.6	43760.9
			1800			3.9	26378.0	43762.7
			1815			3.8	26368.9	43764.3
			1830			3.7	26359.4	43765.3
			1845			3.9	26349.7	43766.5
			1900			3.8	26339.9	43767.6
			1915			3.9	26330.2	43768.6
			1930			3.8	26320.4	43769.6
			1945			3.9	26310.1	43770.8
			2000			3.9	26300.8	43772.3
			2015			3.8	26291.2	43773.3
			2030			3.9	26281.1	43774.7
			2045			4.0	26271.4	43776.1

LINE 31

OPS: 12 KHz	3.5 KHz	CSP	MAG	GRAV	SONO	STA	COMMENTS AND OBSERVATIONS
							SP 2535 LORAN 077 GYRO 080 WD 20 GUN 1800 PSI
							SP 2625 LORAN 073 GYRO 074 WD 20 GUN 1800 PSI
							SP 2716 LORAN 074 GYRO 077 WD 20 GUN 1800 PSI
							SP 2803 LORAN 074 GYRO 076 WD 22 GUN 1800 PSI
							SP 2894 LORAN 074 GYRO 75 WD 21 GUN 1800 PSI
							Turning right to avoid bouys
							Back on course
							SP 2984 LORAN 078 GYRO 075 WD 22m GUN 1800 PSI
							SP 3074 LORAN 077 GYRO 077 WD 23m GUN 1800 PSI
							Turning left to get back on line
							SP 3164 LORAN 067 GYRO 066 WD 23m GUN 1800 PSI
							Turning right to avoid bouys
							SP 3254 LORAN 069 GYRO 074 WD 22m GUN 1800 PSI
							Clear of bouys, turning left to get on line
							SP 3344 LORAN 067 GYRO 065 WD 22 GUN 1800 PSI
							Weather hazy, hot, SW winds ≈ 10 kts.
							SP 3434 LORAN 066 GYRO 070 WD 23m GUN 1800 PSI
							SP 3541 LORAN 068 GYRO 069 WD 23m GUN 1800 PSI
							SP 3614 LORAN 064 GYRO 065 WD 24m GUN 1800 PSI
							SP 3704 LORAN 071 GYRO 072 WD 24m GUN 1800 PSI
							SP 3794 LORAN 072 GYRO 073 WD 23m GUN 1800 PSI
							SP 3884 LORAN 071 GYRO 073 WD 25m GUN 1800 PSI
							SP 3974 LORAN 070 GYRO 072 WD 23m GUN 1800 PSI
							SP 4064 LORAN 071 GYRO 071 WD 25m GUN 1800 PSI
							SP 4154 LORAN 069 GYRO 071 WD 23m GUN 1800 PSI
							SP 4244 LORAN 071 GYRO 068 WD 24m GUN 1800 PSI
							SP 4334 Loran 068 Gyro 068 WD 24m Gun 1800 PSI
							~~Compressor bled~~
							SP 4424 Loran 070 Gyro 070 WD 26 m Gun 1800 PSI
							SP 4514 Loran 069 Gyro 070 WD 26 m Gun 1800 PSI
							SP 4604 Loran 068 Gyro 070 WD 25 m Gun 1800 PSI

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July 18/19 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
18	07	82	2100	+04		41	26261.2	43777.7
			2115			42	26250.9	43779.2
			2130			41	26240.8	43780.8
			2145			41	26230.4	43782.0
			2200			41	26219.7	43783.3
			2215			42	26209.1	43784.3
			2230			42	26198.2	43785.1
			2245			42	26186.5	43786.0
			2300			43	26176.0	43786.9
			2315			43	26165.0	43787.7
			2330			44	26153.5	43788.3
			2345			42	26142.7	43789.3
19	07	82	0000			43	26131.3	43790.2
			0015			43	26120.8	43791.2
			0030			43	26109.2	43792.2
			0045			38	26099.8	43793.4
			0100			37	26090.0	43794.5
			0115			38	26079.9	43795.4
			0130			39	26069.3	43796.4
			0145			38	26060.5	43797.3
			0200			37	26050.3	43798.3
			0215				260	
			0215			37	26040.8	43799.2
			0230			36	26030.7	43799.8
			0245			38	26021.3	43800.3
			0300			40	26010.7	43801.0
			0315			41	26000.2	43801.3
			0330			40	25988.8	43802.4

Line 31

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS				
	SP 4694	Loran 069°	Gyro 071°	WD 24 m	Gun 1800 PSI
	SP 4784	Loran 069°	Gyro 068°	WD 25 m	Gun 1800 PSI
	SP 4874	Loran 068°	Gyro 067°	WD 25 m	Gun 1800 PSI
	SP 4965	Loran 070°	Gyro 068	WD 26 m	Gun 1800 PSI
	SP 5056	Loran 069	Gyro 067	WD 26 m	Gun 1800 PSI
	SP 5146	Loran 073	Gyro 072	WD 26 m	Gun 1800 PSI
	SP 5235	Loran 072	Gyro 072	WD 27 m	Gun 1800 PSI
	SP 5331	Loran 072	Gyro 074	WD 28 m	Gun 1800 PSI
	SP 5416	Loran 073	Gyro 074°	WD 29 m	Gun 1800 PSI
	SP 5505	Loran 073°	Gyro 074°	WD 30 m	Gun 1800 PSI
	~~Compressor bled~~ SP 5595	Loran 073	Gyro 074	WD 31 m	Gun 1800 PSI
	SP 5685	Loran 070°	Gyro 070°	WD 32 m	Gun 1800 PSI
	SP 5775	Loran 072	Gyro 070°	WD 29 m	Gun 1800 PSI
	SP 5864	LORAN 071	GYRO 072	WD 31	GUN 1800 PSI
	SP 5954	LORAN 070	GYRO 070	WD 29	GUN 1800 PSI
	SP 6044	LORAN 069	GYRO 069	WD 29	GUN 1800 PSI
	SP 6135	LORAN 069	GYRO 072	WD 30	GUN 1800 PSI
	SP 6224	LORAN 071	GYRO 072	WD 30	GUN 1800 PSI
	SP 6314	LORAN 071	GYRO 069	WD 28	GUN 1800 PSI
	SP 6405	LORAN 070	GYRO 069	WD 30	GUN 1800 PSI
	SP 6495	LORAN 070	GYRO 069	WD 27	GUN 1800 PSI
	Bridge Says There are a lot of boats.....				
	SP 6505	LORAN 070	GYRO 069	WD 27	GUN 1800 PSI
	SP 6674	LORAN 073	GYRO 070	WD 27	GUN 1800 PSI
	NOTE PLOTTED POINTS SUGGEST SPEED IS JUST 4 kts				
	SP 6765	LORAN 073	GYRO 070	WD 28	GUN 1800 PSI
	SP 6855	LORAN 072	GYRO 070	WD 28	GUN 1800 PSI
	SP 6944	LORAN 072	GYRO 072	WD 28	GUN 1800 PSI
	SP 7034	LORAN 072	GYRO 070	WD 28	GUN 1800 PSI

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July 19, 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION	
19	07	82	0345	+04		4.1	25977.6	43803.0
			0400			4.1	25966.4	43803.4
			0402					
			0408					
			0409					
			0415			4.1	25955.4	43803.9
			0430			3.8	25944.8	43804.7
			0445			4.0	25934.4	43805.8
			0500			4.0	25924.1	43806.5
			0503					
			0515			4.1	25913.3	43807.4
			0530			4.2	25902.4	43808.4
			0545			4.3	25891.1	43809.5
			0600			3.9	25880.5	43810.4
			0605					
			0615			3.8	25870.7	43812.0
			0630			3.8	25861.5	43813.8
			0633					
			0634					
			0645			4.3	25840.4	43814.6
			0700			4.2	25838.7	43815.0
			0702					
			0715			4.1	25827.5	43815.7
			0730			3.3	25818.5	43817.3
			0745			3.8	25809.4	43818.5
			0800			3.6	25799.6	43819.4
			0815			3.5	25790.0	43819.8
			0830			3.9	25779.5	43820.4

Line 31

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	SP 7124 LORAN 074 GYRO 071 WD 30 GUN 1800 PSI
	SP 7214 LORAN 074 GYRO 071 WD 33m GUN 1800 PSI
	Bleed compressor
	SP 7268 Take streamer connector apart to clean
	Connector together SP 7269
	SP 7304 LORAN 071 GYRO 068 WD 34m GUN 1800 PSI
	SP 7394 LORAN 072 GYRO 068 WD 34m GUN 1800 PSI
	Channels 1, 2, 8, 9 & 10 weak; adjusting connector
	SP 7484 LORAN 069 GYRO 065 WD 38m GUN 1800 PSI
	Channels 1, 2, 4, 5 weak 10 very weak
	SP 7574 LORAN 071 GYRO 064 WD 42m GUN 1800 PSI
	BLEED COMPRESSOR
	SP 7664 LORAN 070 GYRO 062 WD 44m GUN 1800 PSI
	SP 7754 LORAN 071 GYRO 061 WD 40m GUN 1800 PSI
	SP 7844 LORAN 069 GYRO 059 WD 36m GUN 1800 PSI
	SP 7934 LORAN 069 GYRO 060 WD 38m GUN 1800 PSI
	BLEED COMPRESSOR
	SP 8024 LORAN 063 GYRO 056 WD 39m GUN 1800 PSI
	SP 8114 LORAN 062 GYRO 055 WD 37m GUN 1800 PSI
	3.5 KHZ down to change stylus
	3.5 KHZ up
	SP 8204 LORAN 074 GYRO 064 WD 35m GUN 1800
	SP 8294 LORAN 074 GYRO 065 WD 37m GUN 1800
	BLEED COMPRESSOR
	SP 8384 LORAN 071 GYRO 064 WD 41m GUN 1800 PSI
	SP 8474 LORAN 062 GYRO 061 WD 40m GUN 1800 PSI
	SP 8564 LORAN 069 GYRO 070 WD 41m GUN 1800 PSI
	SP 8654 Loran 070 Gyro 072 WD 42m Gun 1800 PSI
	compressor bled
	SP 8744 Loran 073 Gyro 074 WD 41m Gun 1800 PSI
	SP 8834 Loran 072 Gyro 074 WD 40m Gun 1800 PSI

July 19, 1982

GMT DAY	GMT MO	GMT YR	GMT TIME	TIME ZONE ±	SHIPS COURSE	SHIPS SPD	NAVIGATION		
19	07	82	0845	+04	072	41		25768.3	43820.9
			0900			42		25757.7	43827.7
			0915			42		25745.0	43822.6
			0930			42		25734.0	43823.2
			0945			40		25723.3	43823.9
			1000			39		25712.3	43824.3
			1015			39		25700.7	43824.7
			1030			40		25690.6	43825.2
			1045			40		25679.5	43825.9
			1100			41		25668.7	43826.5
			1115			41		25657.6	43827.2
			1130			41		25645.9	43827.6
			1145			42		25634.2	43827.6
			1200			42		25622.6	43827.3
			1215			41		25611.1	43827.5
			1230			46		25599.3	43827.8
			1303						
			2025						

Line 31

OPS (12 KHz / 3.5 KHz / CSP / MAG / GRAV / SONO / STA)	COMMENTS AND OBSERVATIONS
	SP 8924 Loran 072 Gyro 075 WD 39 m Gun 1800 PSI
	SP 9014 Loran 071 Gyro 075 WD 36 m Gun 1800 PSI
	~~Compressor bled~~
	SP 9104 Loran 070 Gyro 074 WD 36 m Gun 1800 PSI
	SP 9194 Loran 073 Gyro 074 WD 51 m Gun 1800 PSI
	SP 9284 Loran 073 Gyro 074 WD 37 m Gun 1800 PSI
	SP 9374 Loran 070 Gyro 074 WD 37 m Gun 1800 PSI
	~~Compressor bled~~
	SP 9464 Loran 074 Gyro 074 WD 39 m Gun 1800 PSI
	SP 9554 Loran 073 Gyro 073 WD 40 m Gun 1800 PSI
	SP 9644 Loran 072 Gyro 073 WD 33 m Gun 1800 PSI
	SP 9734 Loran 071 Gyro 076 WD 32 m Gun 1800 PSI
	~~Compressor bled~~
	SP 9824 Loran 072 Gyro 073 WD 29 m Gun 1800 PSI
	SP 9915 Loran 073 Gyro 073 WD 28 m Gun 1800 PSI
→	~~SP's relayed~~ SP 004A Loran 075 Gyro 073 WD 31 m Gun 1800 PSI
	SP 094A Loran 075 Gyro 073 WD 31 m Gun 1800 PSI
	SP 0191A LORAN 076 GYRO 073 WD 32 m GUN 1800 PSI
	SP 279A LORAN 076 GYRO WD 26 GUN
	EOL #31
	80 in³ watergun Use firing rate 5 m depth
	DFS V 1ms sample rate 2 sec record length filter 18-256
	120 m streamer 50 m offset 10 ft depth
	EPC 2 sec sweep 25-90 Hz
	Gun and streamer aboard - head for New London.
	First line ashore at New London!