

228001

SEISMIC SUPERVISION REPORT  
IN PERMIT AREAS T-15-P, T-16-P & T-19-P  
BASS BASIN SURVEY 1985  
FOR  
BRIDGE OIL LIMITED  
(April 2nd to April 27th, 1985)

D of M	A.O.	C.G.	E.O.	D.S.M.E.
				Registrar
D. DIR.	25 FEB 1986			E & IL
	DEPT. OF MINES			
REF. No.	1821/86			

F. Renton  
ECL Australia Pty Ltd  
16 Altona Street  
West Perth 6005  
Western Australia

C O N T E N T S

228002

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228003

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## INTRODUCTION

228004

The subject of this report is the marine seismic survey carried out by Bridge Oil Ltd. in the Bass Basin in April of 1985. The contractor used for the survey was the Western Geophysical Company of America and the vessel used was the M.V. Western Odyssey. ECL Australia Pty. Ltd. was retained to supervise the data collection operations and ensure that the contractual quality control levels were maintained throughout the duration of the project.

The project began for the author with the witnessing of the calibration of the Maxiran positioning system on the Victorian coast. This calibration started on the 2nd of April and ended on the 5th. The survey project proper began on the 6th of April with the arrival of the vessel off Portland for equipment and personnel embarkation. The project then ran until the 26th April when the survey ended and the vessel returned to Portland harbour for the offloading of data on the 27th.

During the course of the survey the only significant problem encountered was the weather and its effect on the Maxiran positioning system which was unfortunately not supported by a secondary system. However considering the area of operations and the time of year it should be borne in mind that such delays could have been greater.

The survey was completed within the contract specifications but was of less than optimum quality because of the mediocre overall performance of the positioning system. Nevertheless it is expected that the data collected should provide a very

acceptable basis for the processing and interpretation  
phases of the survey.

228003

1. SURVEY SUMMARY

228006

GENERAL

Client : Bridge Oil Ltd.  
Contractor : Western Geophysical Company  
of America  
Vessel : M.V. Western Odyssey  
Prospect : Bass Basin, T-15-P, T-16-P, T-19-P  
Surface Coverage : 1005.054 kilometres  
S.P. Interval : 26.67 metres  
Fold : 60

SEISMIC INSTRUMENTATION

System : LRS 16 Kiloseis Digital Streamer  
System #9

Streamer Cable Specifications

Centre of Near Group : 3173.73 m. (Array), 3185.87 m.  
(Raw)

to Centre of Far Group

Centre of Energy Source : 131.67 m. (Array), 125.00 m.  
(Raw)

Group Centre to Group : 26.67 m. (Array), 13.33 m.  
(Raw)

Centre

Phones per Group : 12 (Array), 6 (Raw)

Number of Groups : 120 (Array), 240 (Raw)

Streamer Depth : 40 feet.

Depth control : By means of Syntron RCL2  
individually remote controlled  
depth controllers. See  
diagram for locations.

Depth Indicators : Depth sensors located at the  
head of each of the 20 A  
sections.

Water Break Detectors : Located at the head of Raw  
group #4 and every 12 groups  
thereafter to #232.

Feather angle : Radar

Cable noise : 3mbar (Array), 6mbar, (Raw)  
increased to 5 and 10 near  
depth controllers.

#### Electronics and Recording System Specifications.

Input Noise : 10.6mV (RMS)

Maximum Input Signal : 505mV (RMS)

Preamp fixed Gain : 22.9 dB (Seismic), 7.4 dB  
(Waterbreak)

IFP Amplifier Gain : 60dB in 6dB steps

Range

Low Cut Filter : 12Hz., 12 dB/oct

High Cut Filter : 375 Hz., 72 dB/oct., on Raw  
data. Digital Anti-Alias  
Filter on 2 msec. Array data  
is 180 Hz.

A/D Linearity : 0.1% Full Scale

Resolution : 12 bits (11 bits + sign)

Polarity : As per SEG convention

Seismic Data Channels : 120 (Array), 240 (Raw) 228008  
Sample Rate : 2 msec. (Array), 1 msec. (Raw)  
Record length : 5 seconds  
Recording Density : 6250 bpi  
Tape Speed : 125 ips  
Recording Format : SEG D Code 8024 (Array), Code  
0044 (Raw)  
Time Break : Array ch. Aux.1, Raw ch.261  
Water Breaks : Raw channels 241-260 only.  
100 Hz. : Array ch. Aux.2, Raw ch.262  
Gun Break : Array ch. Aux.4, Raw ch.264

N.B. ARRAY DATA RECORDED AT 2 MSEC SAMPLE RATE IS DELAYED  
10 MSEC WITH RESPECT TO TIME BREAK.

#### ANCILLARY INSTRUMENTATION

Krupp Atlas Depth sounder.

Single Trace Recorder displaying Array group #2

#### ENERGY SOURCE

Type : Tuned High Pressure Airgun Array  
Volume : 1530 cu in.  
Pressure : 4600 psi  
Output : 59 barmeters  
Bubble Ratio : 10:1  
Gun Timing Unit : LRS 100  
Depth of Source : 6 metres

NAVIGATION

228009

Ranging System : Maxiran operated by Western  
Geophysical

Positioning and Line Control : Wisdom  
System

Spheroid : Australian National

Semi Major Axis : 6378160 metres

Flattening : 0.0033528918

Local Datum : Australian Geodetic

Projection : UTM

Cental Meridian : 147° E

Antenna to Near Group : 213.1 (Raw) 219.77m  
(Array)

Maxiran Propogation Velocity : 0.9999891  
Factor

Base Station Data

Name : Doctors Rocks

Latitude : 41° 01.0083' S

Longitude : 145° 46.9784' E

Antenna Height : 50 metres

Name : Low Head

Latitude : 41° 03.4185' S

Longitude : 146° 47.3153' E

Antenna Height : 30 metres

Name : Hardwickes Hill

Latitude : 40° 52.0345' S

Longitude : 147° 37.6987' E  
Antenna Height : 116 metres

228010

Name : Parkers Hill  
Latitude : 38° 50.8729' S  
Longitude : 143° 33.3049' E  
Antenna Height : 276 Metres

Name : Point Lonsdale  
Latitude : 38° 17.5717' S  
Longitude : 144° 36.6962' E  
Antenna Height : 22 Metres

Name : Boulder Point  
Latitude : 39° 37.8838' S  
Longitude : 144° 2.9156' E  
Antenna Height : 100 metres

VESSEL

Name : M.V. Western Odyssey  
Flag : Panama  
Official Number : 8775  
Call Sign : HO 3498  
Marisat Number : 1330716 ODYS X  
Port of Registry : Panama  
Year of construction : 1980  
Length : 185 feet  
Beam : 40 feet  
Draft : 13 feet  
Hull Material : Steel  
Helicopter Deck : 40 x 50 sq ft

Tonnage	:	894 gross/146 net	<b>228011</b>
Cruising Speed	:	12 knots	
Engine	:	2 x Caterpillar D-399TA (1090 HP each)	
Propulsion	:	2 x Kamewa 50X FA Control Pitch Propellors	
Generators	:	2 x 1100KW (compressors) 2 x 175KW (ships power) 2 x 30KW (Instrument power)	
Radar	:	2 Decca Model 926	
Gyro compass	:	Sperry Mark 227	
Bow Thruster	:	Kamewa SP 1300 (350 HP)	
Stabilisation	:	Flume type with Anti-roll Bilge Keel	
Water Maker	:	1 x 6 tons/day capacity	
Fuel Capacity	:	460 tons	
Fresh Water	:	219 tons	
Accomodation	:	38 persons	
Endurance	:	45 days	

CREW

Marine

Master	:	R. Walters
Mate	:	A. Dwyer
Chief Engineer	:	R. Wray
Second Engineer	:	R. Fenton
A.B. Seaman	:	P. Hardwick
A.B. Seaman	:	G. Taylor
A.B. Seaman	:	K. Payne
A.B. Seaman	:	R. Hunter

Chief Cook : B. Murphy  
Second Cook : M. Jones  
Chief Steward : A. Forster

228012

Second Steward : T. Skelly

Seismic

Co-ordinator : P. Rock  
Observer : B. Wise  
Observer : I. Baker  
Observer : C. Porfitt  
Observer : P. Bennet  
Compressor Mechanic : G. Todd  
Compressor Mechanic : G. Batten  
Compressor Mechanic : C. Wiggin  
Airgun Mechanic : J. Maher  
Airgun Mechanic : B. McKenzie  
Airgun Mechanic : T. Sheehan  
Airgun Mechanic : K. Rake  
Navigator : H. Hewison  
Navigator : N. Crookston  
Navigator : C. Walsh  
Navigator : C. McArthy

# WESTERN ODYSSEY

## 240 GROUP CABLE CONFIGURATION

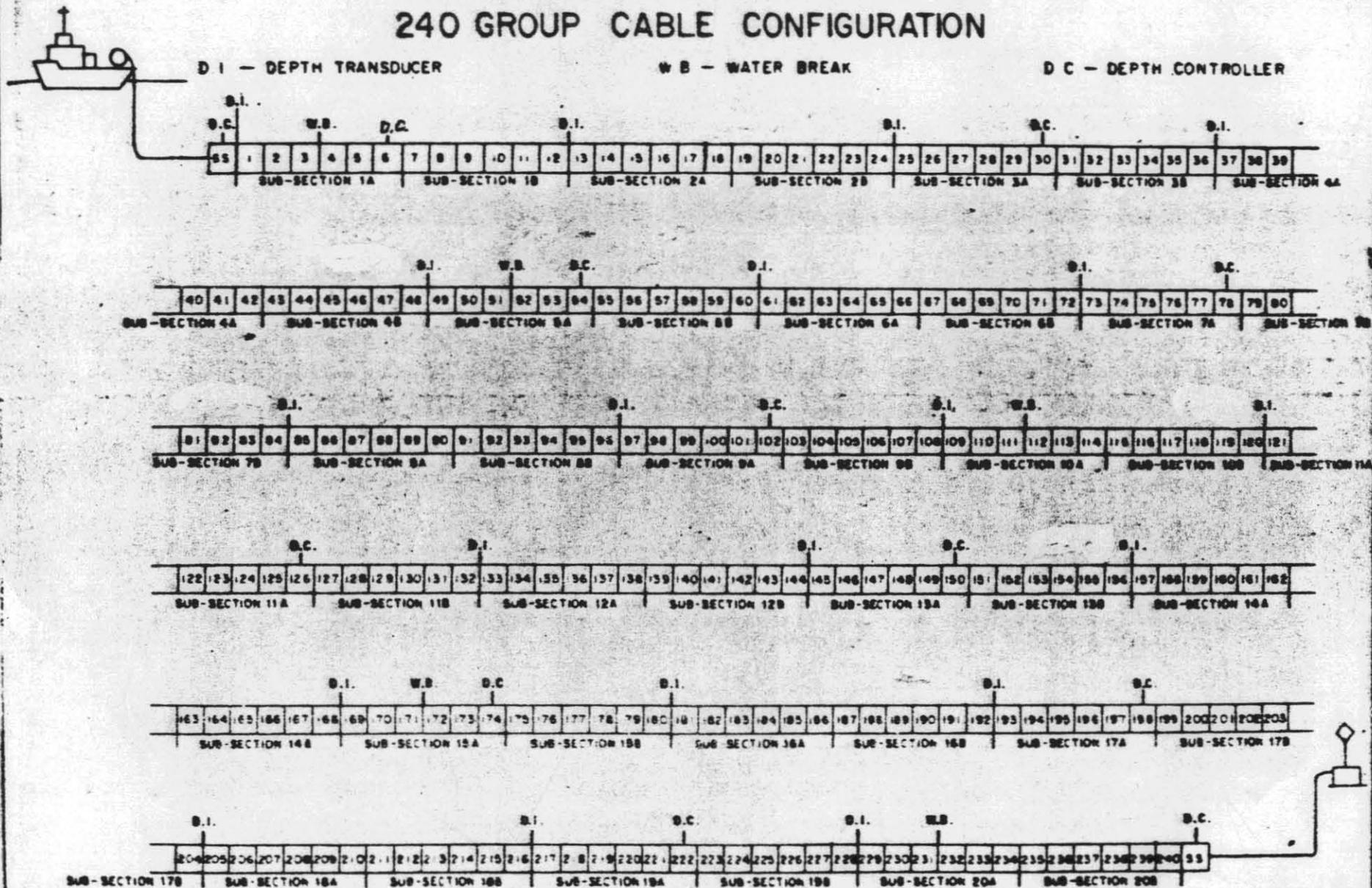
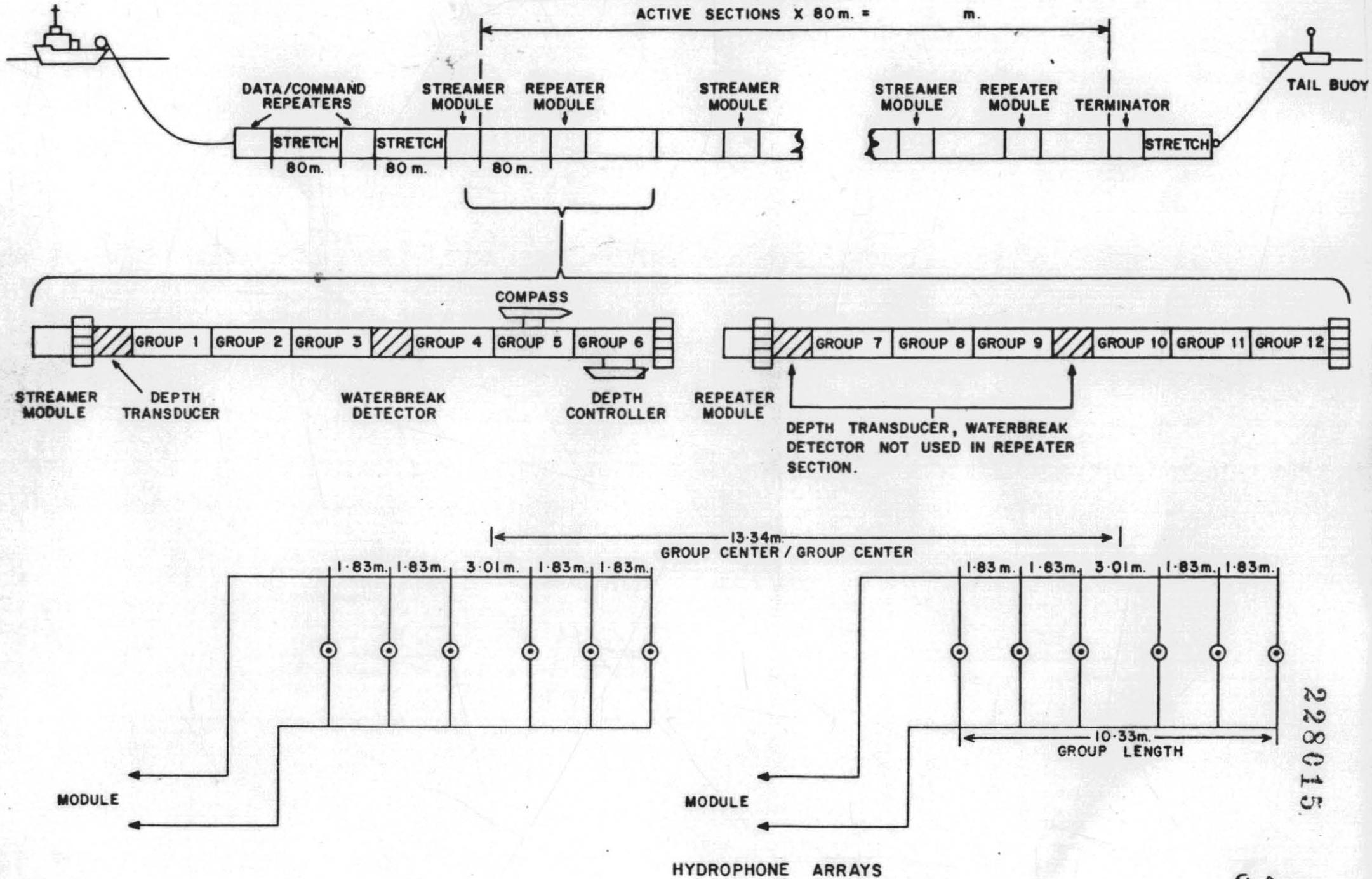


Fig. 1

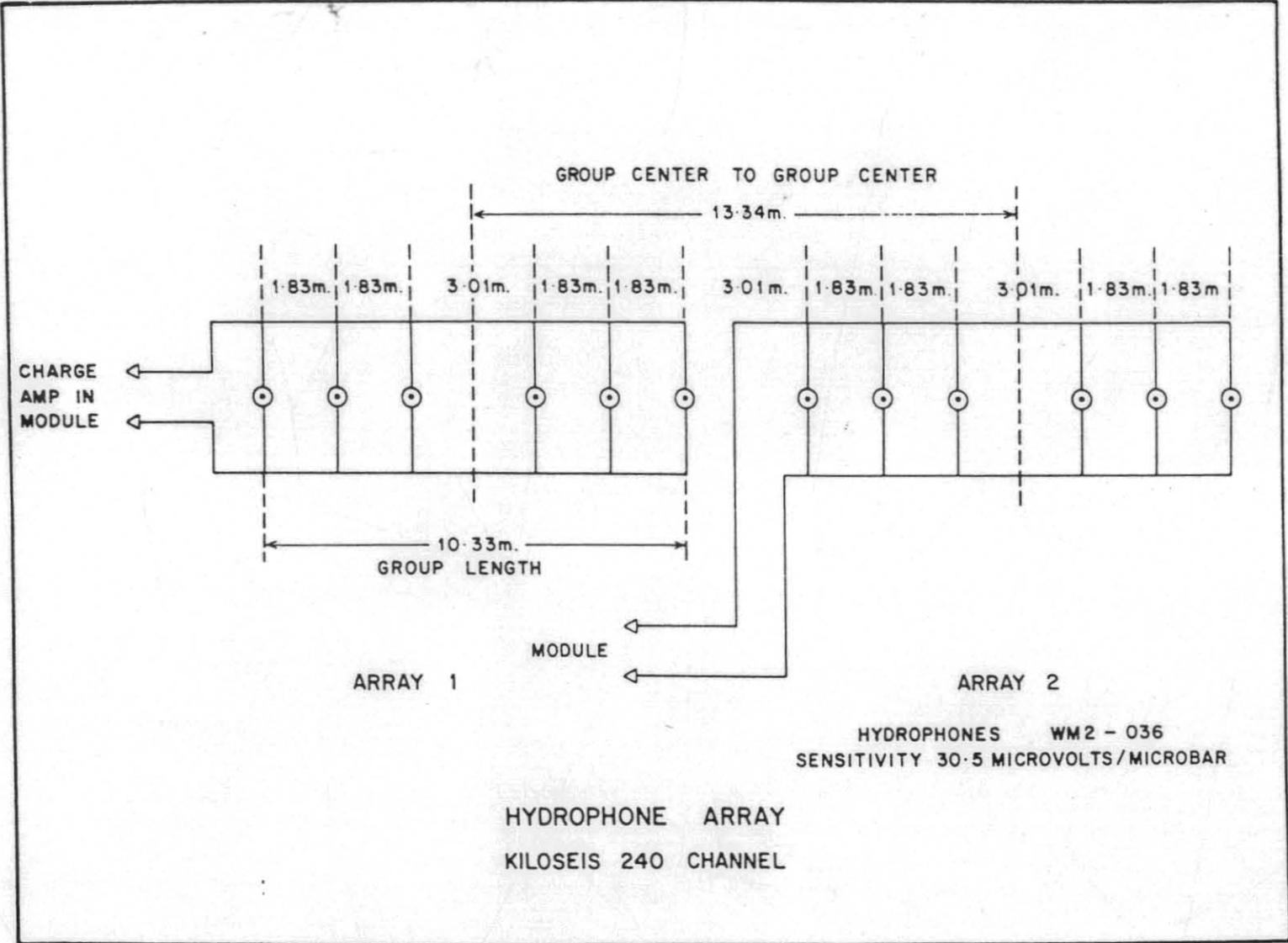
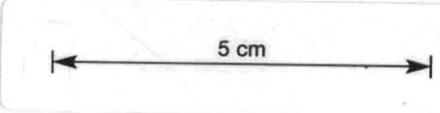
228014

# WESTERN ODYSSEY PARTY '86 LRS 16, STREAMER CONFIGURATION



228015

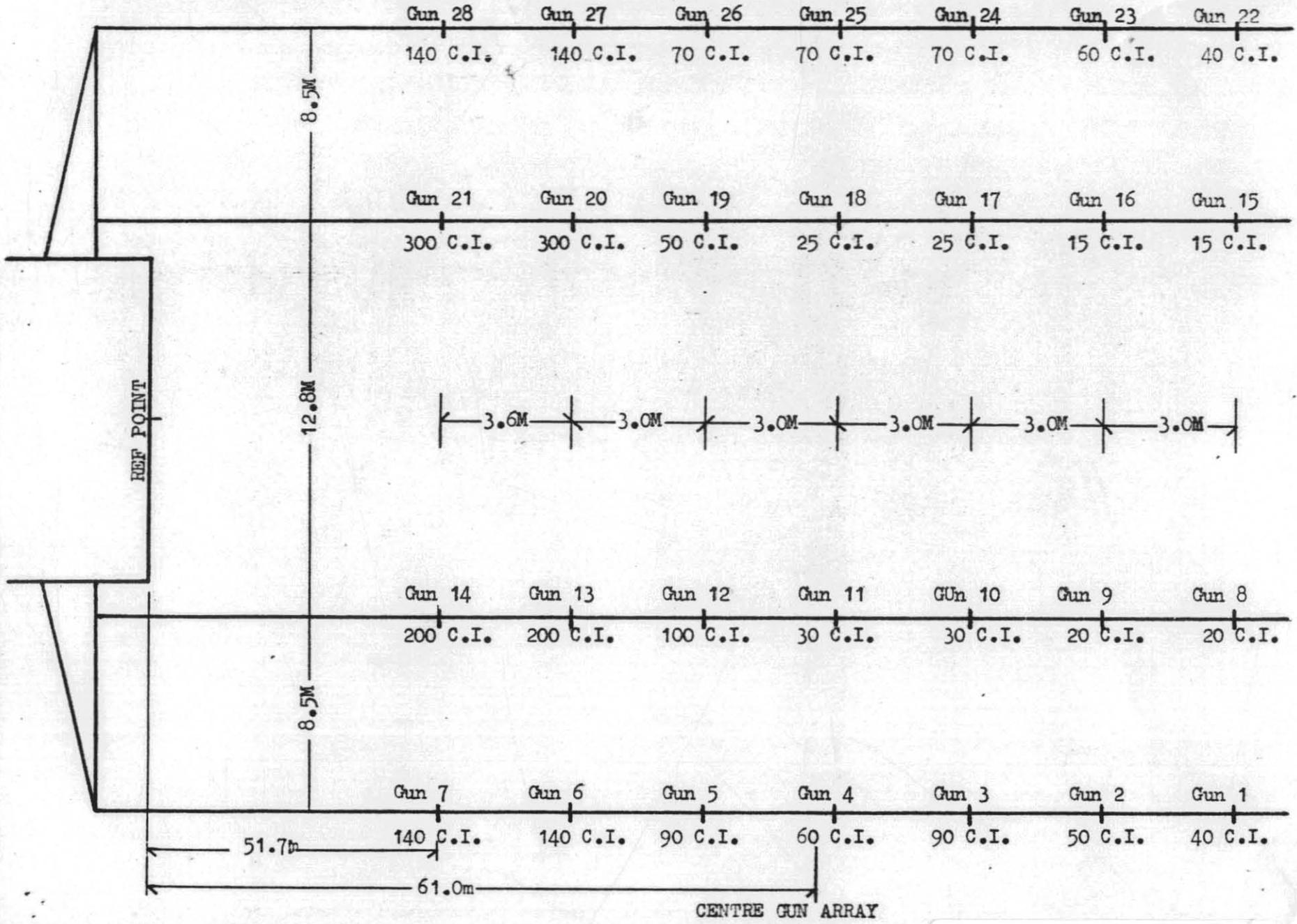
Fig 2



228016

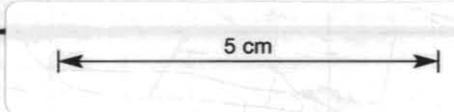
Fig 3

WESTERN ODYSSEY GUN ARRAY CONFIGURATION 1530 cu.in. ARRAY



228017

Fig 4



GUN ARRAY NO 1

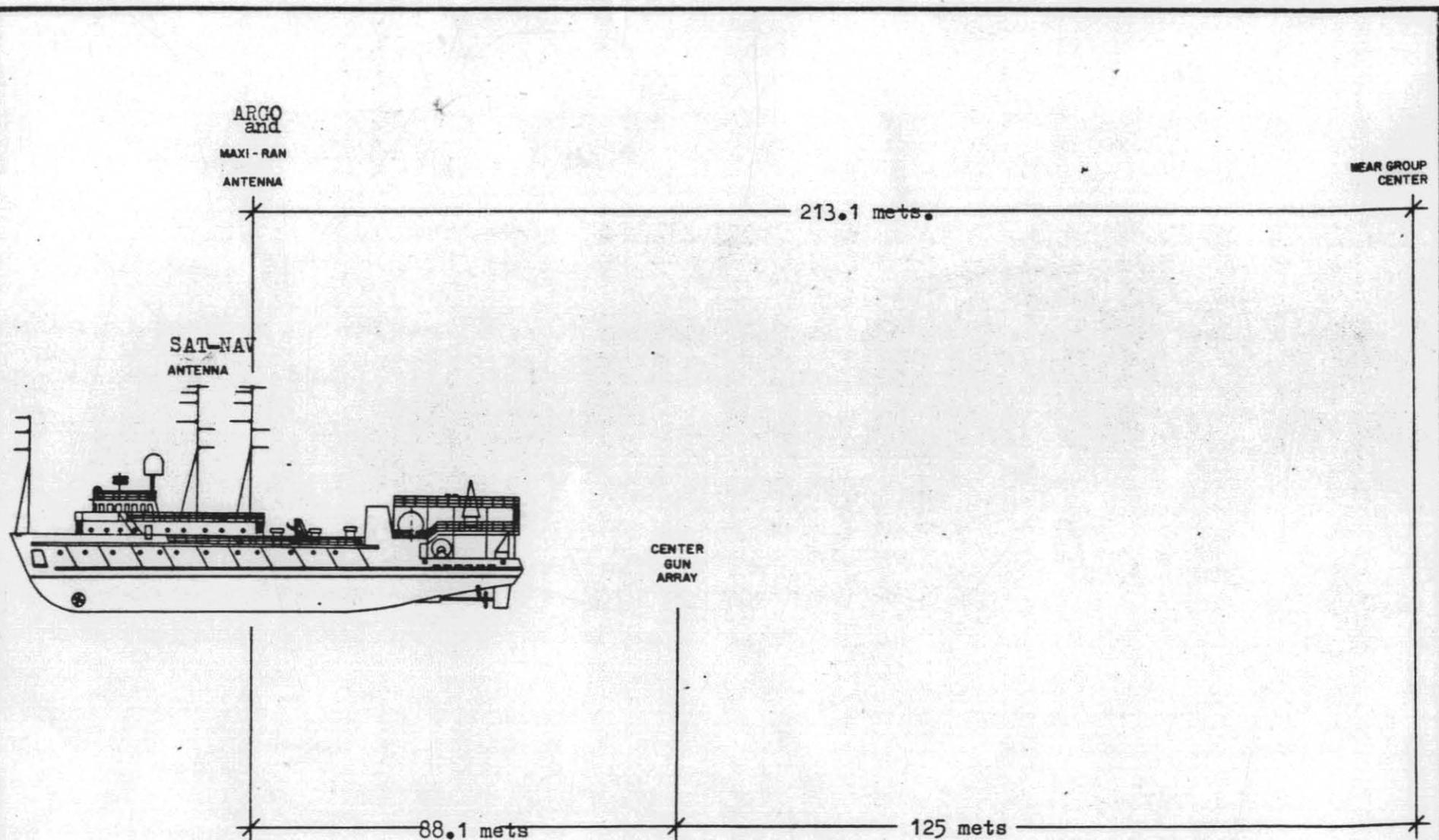
228018

GUN	VOLUME	SPARE	VOLUME
1	40 cu in		
2	50 cu in		
4	60 cu in		
5	90 cu in	3	90 cu in
7	140 cu in	6	140 cu in
9	20 cu in	8	20 cu in
10	30 cu in		
11	30 cu in		
12	100 cu in		
14	200 cu in	13	200 cu in
16	15 cu in	15	15 cu in
17	25 cu in	18	25 cu in
19	50 cu in		
20	300 cu in	21	300 cu in
22	40 cu in		
23	60 cu in		
25	70 cu in	24	70 cu in
26	70 cu in	24	70 cu in
28	140 cu in	27	140 cu in

GUN ARRAY NO. 2

228019

GUN	VOLUME	SPARE	VOLUME
1	40 cu in		
2	50 cu in		
4	60 cu in		
3	90 cu in	5	90 cu in
6	140 cu in	7	140 cu in
8	20 cu in	9	20 cu in
10	30 cu in		
11	30 cu in		
12	100 cu in		
13	200 cu in	14	200 cu in
15	15 cu in	16	15 cu in
18	25 cu in	17	25 cu in
19	50 cu in		
21	300 cu in	20	300 cu in
22	40 cu in		
23	60 cu in		
24	70 cu in	25	70 cu in
26	70 cu in	25	70 cu in
27	140 cu in	28	140 cu in



WESTERN ODYSSEY PARTY 86

( DISTANCE IN METERS )

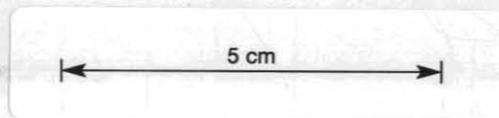
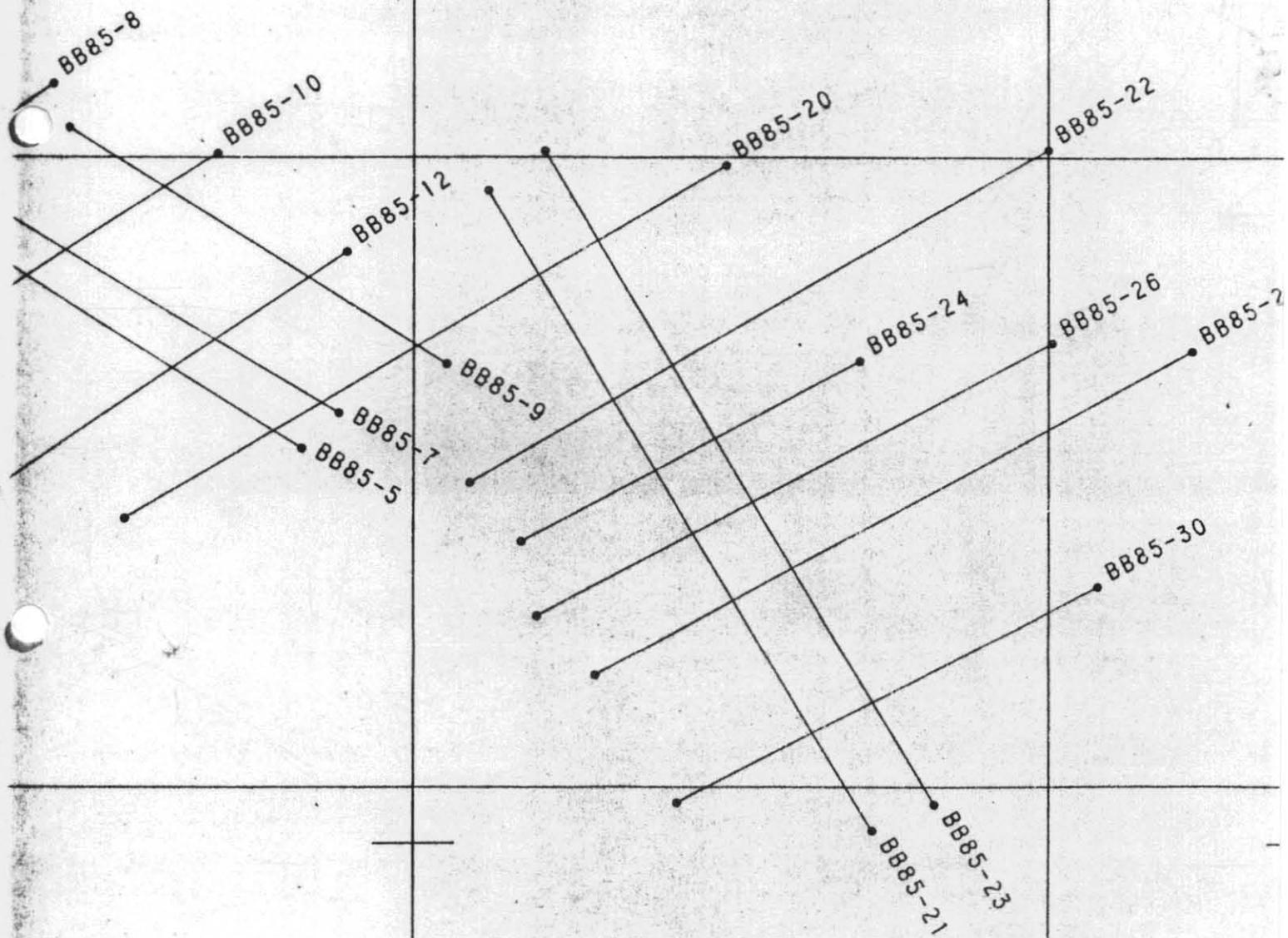


Fig 5

228020



PERMIT T-15/16-P  
SOUTHEASTERN SECTION

Fig 6

5 cm

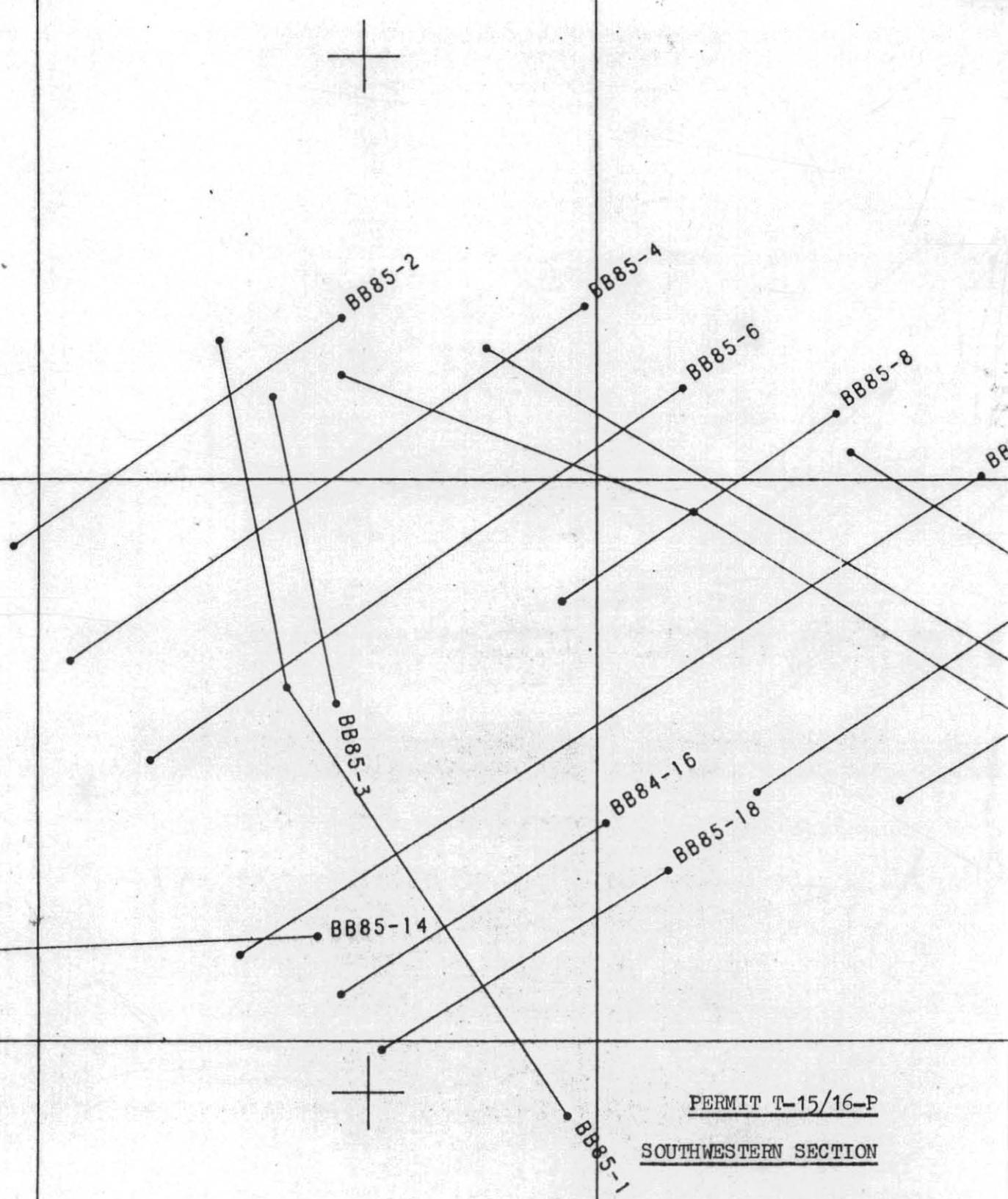
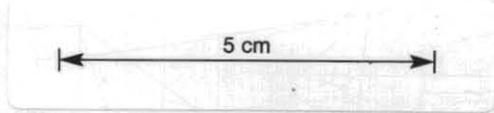


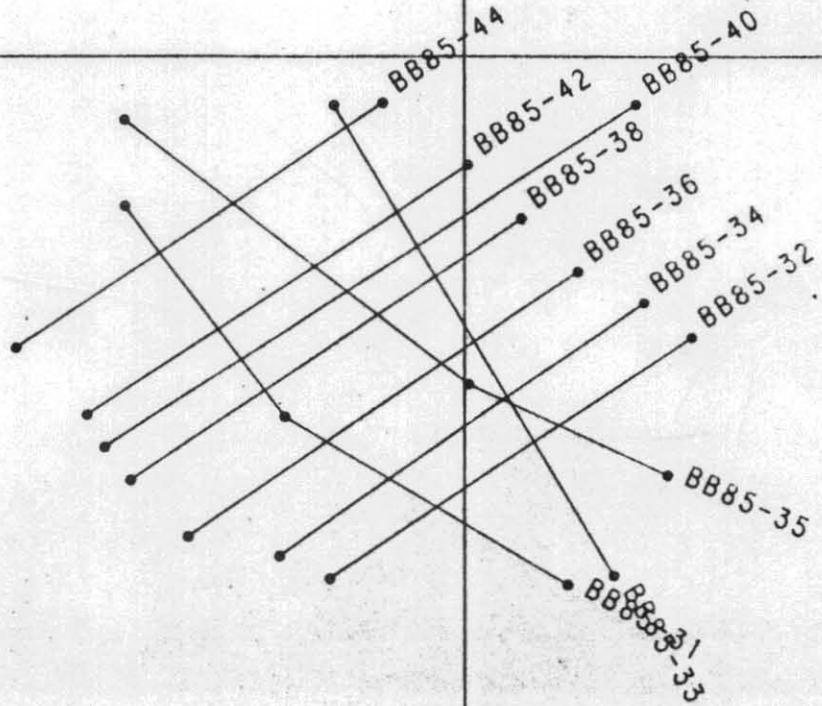
Fig 7



5 cm

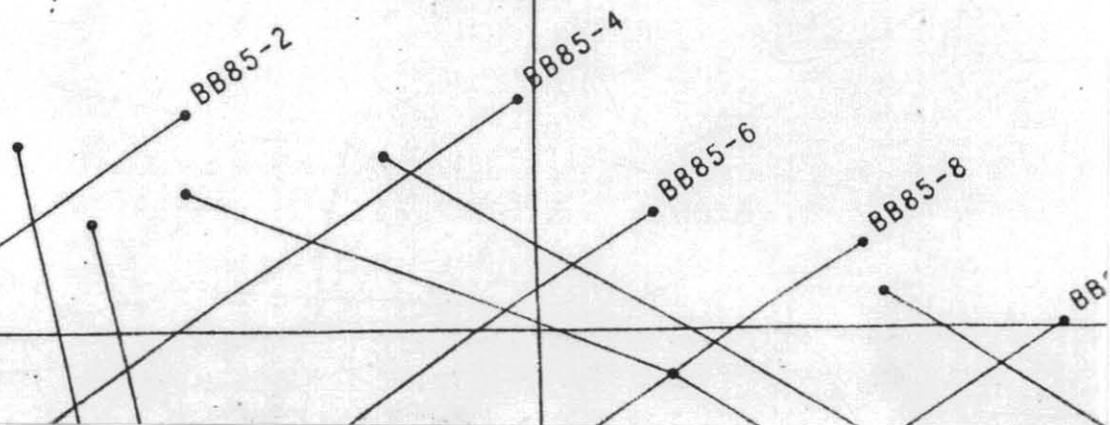
146°40

Fig 8 228023



PERMIT T-15-P

NORTHERN PROSPECT



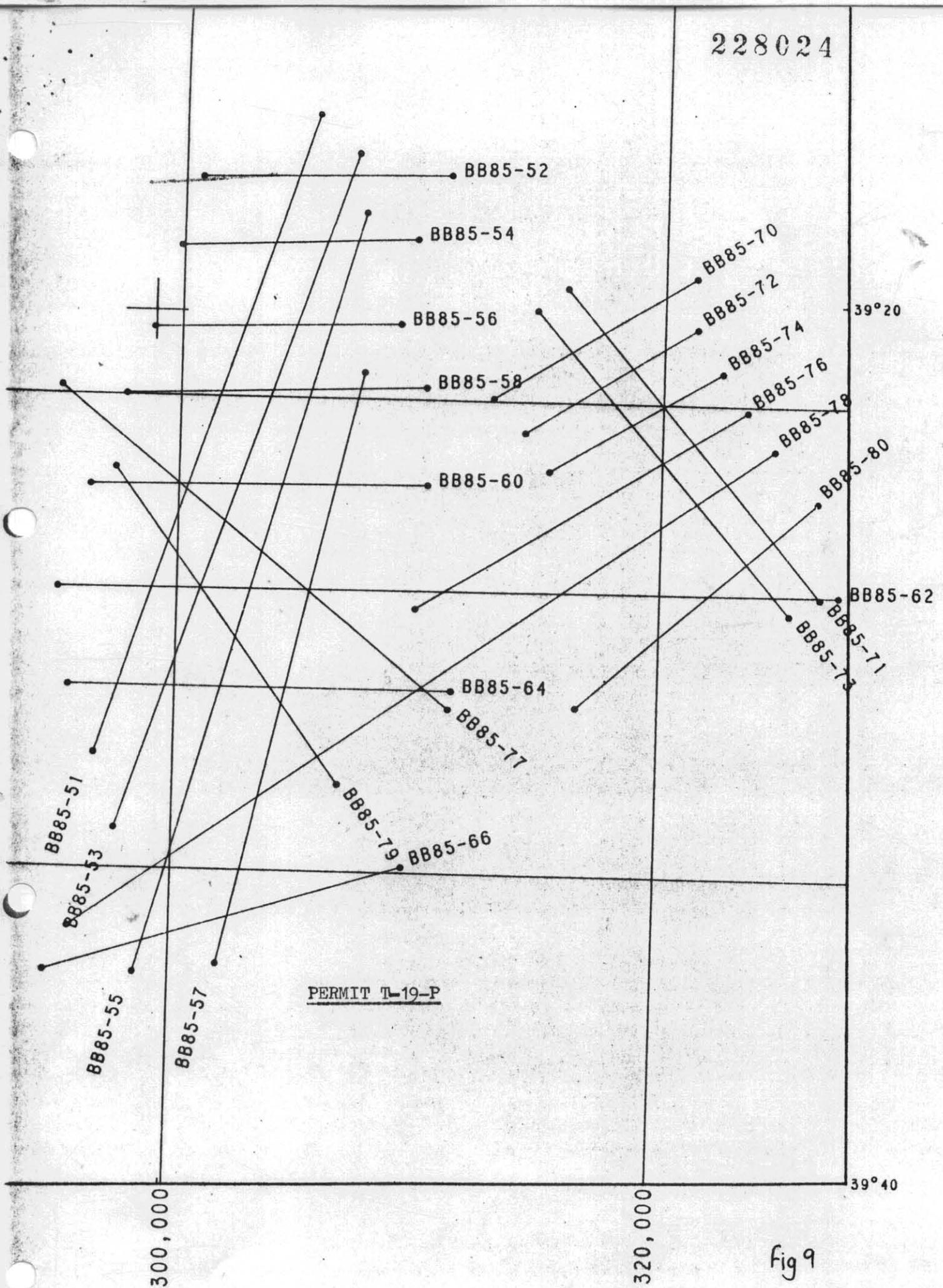


fig 9

2. PRODUCTION LOG

228025

DATE	LINE	DIRECTION	FSP	LSP	KMS	COMMENT
9.4	20	240 <sup>o</sup>	1	896	23.896	Complete
9.4	22	060	1	647	17.255	Complete as agreed by A. Luskin.
DAILY TOTAL					41.151	
10.4	24	242	1	180	4.801	Terminated for Airgun failure
10.4	24A	242	181	525	9.201	70SP over- lap shot, Line complete
10.4	26	062	1	760	20.269	Complete
10.4	28	241	1	875	23.336	Complete
10.4	30	063	1	630	16.802	
DAILY TOTAL					74.409	
SURVEY TOTAL					115.560	
11.4	23	329	1	975	26.003	Complete
11.4	21	149	1	958	25.550	Complete
11.4	5	302	1	645	17.202	Line broken at dogleg for Wisdom Failure.
11.4	5A	291	1	577	15.389	Complete
11.4	3	168	1	489	13.042	Complete
11.4	8	056	1	517	13.788	Complete

11.4	6	235	1	942	25.123	Complete
					DAILY TOTAL	136.097
					SURVEY TOTAL	251.657
12.4	4	056	1	908	24.216	Complete
12.4	7	121	1	1012	26.990	Complete
12.4	9	302	1	599	15.975	Complete
12.4	10	238	1	1255	33.471	Complete
12.4	14	270	1	190	5.067	Terminated for instrument problem.
12.4	14A	270	191	693	13.415	76 Overlap SP. Complete.
					DAILY TOTAL	119.134
					SURVEY TOTAL	370.791
13.4	2	056	1	220	5.867	Terminated for instrument failure
13.4	2A	056	221	605	10.268	75 SPs o/lap Complete
13.4	18	058	1	523	13.948	Complete
13.4	12	056	1	619	16.509	Complete
13.4	16	237	1	493	13.148	Complete
13.4	1	327	1	1224	32.644	Complete

DAILY TOTAL 92.384

SURVEY TOTAL 463.175

14.4	32	056	1	499	13.308	Complete
14.4	36	236	1	535	14.268	Complete
14.4	40	057	1	695	18.536	Complete
14.4	44	236	1	505	13.468	Complete
14.4	42	057	1	520	13.868	Complete
14.4	38	236	1	535	14.268	Complete
14.4	34	055	1	508	13.548	Complete

DAILY TOTAL 101.264

SURVEY TOTAL 564.439

15.4	35	115	1	216	5.761	First section of line, 70 SP overlap.
15.4	35A	308	1	235	6.267	Terminated for navigation.
15.4	35B	308	236	499	7.041	Second section of line complete
15.4	31	144 <sup>o</sup>	1	263	7.014	First section of line.

DAILY TOTAL 26.083

SURVEY TOTAL 590.522

17.4	33	330	1	315	8.401	Terminated for loss of signals
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17.4	33A	330	316	543	6.081	Line complete, overlap acquired.
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DAILY TOTAL	14.482
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SURVEY TOTAL	605.004
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20.4	51	199	35	1035	26.697	Terminate for poor signals. Quality poor.
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SURVEY TOTAL	631.701
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22.4	52	270	35	422	10.348	Complete
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22.4	54	090	35	403	9.341	Complete
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22.4	56	270	35	419	10.268	Complete
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DAILY TOTAL	30.456
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SURVEY TOTAL	662.158
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23.4	58	089	35	502	12.482	Complete
23.4	60	271	35	560	14.028	Raw and Array data recorded
23.4	64	091	65	662	15.949	Complete
23.4	77	311	5	799	21.203	Complete
23.4	79	146	24	635	16.322	Complete
23.4	66	254	35	617	15.549	Complete
23.4	55	017	35	343	8.241	Line continuing

DAILY TOTAL	103.774
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SURVEY TOTAL	765.932
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24.4	55	017	344	460	3.120	Terminated for streamer
24.4	55A	017	461	1293	22.216	O/Lap shot, line complete.
24.4	57	194	35	999	25.737	Complete
24.4	53	020	65	1200	30.297	Complete
24.4	73	141	65	691	16.722	Complete
24.4	62	271	5	1221	32.457	Complete

DAILY TOTAL	130.549
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SURVEY TOTAL	896.481
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25.4	78	056	35	1160	30.030	Terminated for loss of signals
25.4	74	060	35	347	8.343	Complete
25.4	72	058	35	350	8.428	Complete
25.4	70	239	35	405	9.895	Complete
25.4	71	142	70	704	16.935	Complete
25.4	80	230	35	533	13.308	Complete

DAILY TOTAL 86.944

SURVEY TOTAL 983.425

26.4	78A	056	1161	1366	5.44	Overlap shot, line complete
26.4	76	239	35	639	16.135	Raw and Array recorded

DAILY TOTAL 21.629

SURVEY TOTAL 1005.054

Total Tapes used for Array Data 178.

Total tapes used for Raw Data 13.

- 1.4 Travel to Geelong.
- 2.4 Begin Maxiran calibration.
- 3.4 Continue Maxiran calibration.
- 4.4 Base stations dispersed and long range calibration.
- 5.4 Final calibration and loading of mobile equipment for vessel.
- 6.4 Travel to Portland and on to vessel by helicopter.
- 7.4 Travel to first survey area and begin baseline crossings.
- 8.4 Complete baseline crossings and begin streamer cable preparation.
- 9.4 Complete cable preparation then start production on lines 20 and 22. Line 22 terminated slightly early for cable failure. Cable repairs to end of day.
- 10.4 Complete cable repairs then production on lines 24, 26, 28, 30, with two circles for streamer power supply failure.
- 11.4 Production on lines 23, 21, 5, 3, 8, 6.
- 12.4 Production on lines 6, 4, 7, 9, 10, 14.
- 13.4 Production on lines 2, interrupted by instrument failure, 18, 12, 16, 1. Then long line change to allow Maxiran stations to go to high power operation.
- 14.4 Production on line 32 followed by 36, 40, 44, 42, 38, 34 then loss of Maxiran signals.
- 15.4 Navigation downtime followed by production on lines 35 and 31 with further navigation downtime until streamer noise increased because of rough seas such that further work impossible. Day ends on weather downtime.

- 16.4 Weather downtime followed by standby waiting for workable Maxiran signals.
- 17.4 Further standby for signals followed by production on line 33. Recover trailing equipment and start transit to next survey area.
- 18.4 Travel time followed by baseline crossings.
- 19.4 Completion of navigation checks then standby for weather.
- 20.4 Weather standby then laying streamer, vessel downtime followed by production on line 51. Remainder of day spent waiting for usable Maxiran signals.
- 21.4 Day spent standing by waiting for Maxiran signals.
- 22.4 Standby for signals followed by production on lines 52, 54, 56.
- 23.4 Production on lines 58, 60, 64, 77, 66, 55.
- 24.4 Production on line 5 followed by streamer downtime then further production on lines 55, 57, 53, 73, 62.
- 25.4 Production on line 78 then standby for signals. Production on line 74 followed by navigation equipment downtime, line 72, then further navigation equipment downtime and production on lines 70, 71, 80.
- 26.4 Production on lines 78 and 76 then equipment recovery, navigation checks and travel to port.
- 27.4 Travel to port the port call for data shipment and crew change.

228033

4. DAILY TIME LOG











DAILY TIME LOG

228039

DATE 11.4.85

ACTIVITY	FROM-TO	HOURS
LINE CHANGE	0000-0041	0.68
PRODUCTION LINE BB 85-23	0041-0316	2.58
LINE CHANGE	0316-0432	1.27
PRODUCTION LINE BB 85-21	0432-0716	2.73
LINE CHANGE	0716-0942	2.43
PRODUCTION LINE BB 85-5	0942-1124	1.70
LINE CHANGE	1124-1321	1.95
PRODUCTION LINE BB 85-5A	1321-1454	1.55
LINE CHANGE	1454-1618	1.40
PRODUCTION LINE BB 85-3	1618-1738	1.33
LINE CHANGE	1738-1843	1.08
PRODUCTION LINE BB 85-8	1843-2007	1.40
LINE CHANGE	2007-2139	1.53
PRODUCTION LINE BB 85-6	2139-2400	2.37

TOTALS

PRODUCTION 13.66 HOURS  
 LINE CHANGE 10.34

PARTY CHIEF Pete Koch  
 Q.C. [Signature]

## DAILY TIME LOG

228040

DATE 12.4.85

ACTIVITY	FROM-TO	HOURS
PRODUCTION LINE BB 85-6	0000-0010	00.17
LINE CHANGE	0010-0128	01.30
PRODUCTION LINE BB 85-4	0128-0359	02.52
LINE CHANGE	0359-0542	01.72
PRODUCTION LINE BB 85-7	0542-0822	02.67
LINE CHANGE	0822-0934	01.20
PRODUCTION LINE BB 85-9	0934-1111	01.62
LINE CHANGE	1111-1305	01.90
PRODUCTION LINE BB 85-10	1305-1624	03.32
LINE CHANGE	1624-1825	02.02
PRODUCTION LINE BB 85-14	1825-1857	00.53
INSTRUMENT DOWNTIME	1857-2115	02.30
PRODUCTION LINE BB 85-14A	2115-2247	01.53
LINE CHANGE	2247-2400	01.20

## TOTALS

PRODUCTION	12.36 HOURS
LINE CHANGE	09.34 HOURS
INSTRUMENT DOWNTIME	02.30 HOURS

PARTY CHIEF Pete Cook  
O.C. [Signature]

## DAILY TIME LOG

228041

DATE 13.4.85

ACTIVITY	FROM-TO	HOURS
LINE CHANGE	0000-0040	00.67
PRODUCTION LINE BB 85-2	0040-0121	00.68
INSTRUMENT DOWNTIME	0121-0313	01.87
PRODUCTION LINE BB 85-2A	0313-0424	01.18
LINE CHANGE	0424-0756	03.53
PRODUCTION LINE BB 85-18	0756-0921	01.42
LINE CHANGE	0921-0936	00.25
PRODUCTION LINE BB 85-12	0936-1117	01.68
LINE CHANGE	1117-1337	02.33
PRODUCTION LINE BB 85-16	1337-1454	01.28
LINE CHANGE	1454-1717	02.38
PRODUCTION LINE BB 85-1	1717-2042	03.42
LINE CHANGE	2042-2400	03.31

## TOTALS

PRODUCTION	09.66 HOURS
LINE CHANGE	12.47 HOURS
INSTRUMENT DOWNTIME	01.87 HOURS

PARTY CHIEF Pat Han  
 Q.C. Pat

## DAILY TIME LOG

228042

DATE 14.4.85

ACTIVITY	FROM-TO	HOURS
LINE CHANGE	0000-0059	00.98
PRODUCTION LINE BB 85-32	0059-0227	01.47
LINE CHANGE	0227-0425	01.97
PRODUCTION LINE BB 85-36	0425-0554	01.48
LINE CHANGE	0554-0726	01.53
PRODUCTION LINE BB 85-40	0726-0925	01.98
LINE CHANGE	0925-1031	01.10
PRODUCTION LINE BB 85-44	1031-1154	01.38
LINE CHANGE	1154-1305	01.18
PRODUCTION LINE BB 85-42	1305-1435	01.50
LINE CHANGE	1435-1539	01.07
PRODUCTION LINE BB 85-38	1539-1705	01.43
LINE CHANGE	1705-1933	02.47
PRODUCTION LINE BB 85-34	1933-2102	01.48
LINE CHANGE	2102-2235	01.55
NAVIGATION DOWNTIME	2235-2400	01.43

## TOTALS

PRODUCTION	10.72 HOURS
LINE CHANGE	11.85 HOURS
NAVIGATION DOWNTIME	01.43 HOURS

PARTY CHIEF *Pat Lat.*  
 Q.C. *[Signature]*

## DAILY TIME LOG

228043

DATE 15.4.85

ACTIVITY	FROM-TO	HOURS
NAVIGATION DOWNTIME	0000-0356	03.93
PRODUCTION LINE BB 85-35	0356-0440	00.73
LINE CHANGE	0440-0546	01.10
PRODUCTION LINE BB 85-35A	0546-0624	00.63
NAVIGATION DOWNTIME	0624-1011	03.77
PRODUCTION LINE BB 85-35B	1011-1104	00.88
LINE CHANGE	1104-1246	01.70
PRODUCTION LINE BB 85-31	1246-1341	00.92
NAVIGATION DOWNTIME	1341-1800	04.32
WEATHER DOWNTIME	1800-2400	06.00

## TOTALS

PRODUCTION	03.17 HOURS
LINE CHANGE	02.81 HOURS
NAVIGATION DOWNTIME	12.02 HOURS
WEATHER DOWNTIME	06.00 HOURS

PARTY CHIEF Pete Rank  
O.C. BBanta

DAILY TIME LOG

228044

DATE 16.4.85

ACTIVITY	FROM-TO	HOURS
WEATHER DOWNTIME	0000-1515	15.25
NAVIGATION DOWNTIME (SIGNALS)	1515-2400	08.75
TOTALS		
AS ABOVE		

PARTY CHIEF Pete Lock  
 Q.C. SBarta

DAILY TIME LOG

DATE 17.4.85

ACTIVITY	FROM-TO	HOURS
NAVIGATION DOWNTIME (SIGNALS)	0000-0945	09.75
PRODUCTION LINE BB 85-33	0945-1040	00.92
NAVIGATION DOWNTIME (SIGNALS)	1040-1517	04.62
PRODUCTION LINE BB 85-33A	1517-1610	00.88
RECOVERY OF SOURCE/STREAMER	1610-1945	03.58
TRAVEL TIME	1945-2400	04.25

TOTALS

PRODUCTION	01.80 HOURS
NAVIGATION DOWNTIME	14.37 HOURS
EQUIPMENT RECOVERY	03.58 HOURS
TRAVEL TIME	04.25 HOURS

PARTY CHIEF Pete Lock  
 Q.C. SBarta

DAILY TIME LOG

228045

DATE 18.4.85

ACTIVITY	FROM-TO	HOURS
TRAVEL TIME	0000-1636	16.60
NAVIGATION CHECKS	1636-1730	00.90
NAVIGATION DOWNTIME	1730-1841	01.18
NAVIGATION CHECKS	1841-2400	05.32

TOTALS

TRAVEL TIME	16.60 HOURS
NAVIGATION CHECKS	06.22 HOURS
NAVIGATION DOWNTIME	01.18 HOURS

PARTY CHIEF Pete Rob  
 Q.C. [Signature]

DAILY TIME LOG

DATE 19.4.85

ACTIVITY	FROM-TO	HOURS
NAVIGATION CHECKS	0000-0115	##### 01.25
TRAVEL TIME	0115-0515	04.00
WEATHER DOWNTIME	0515-2400	18.75

TOTALS

NAVIGATION CHECKS	01.25 HOURS
TRAVEL TIME	04.00 HOURS
WEATHER DOWNTIME	18.75 HOURS

PARTY CHIEF Pete Rob.  
 Q.C. [Signature]

## DAILY TIME LOG

228046

DATE 20.4.85

ACTIVITY	FROM-TO	HOURS
WEATHER DOWNTIME	0000-0030	00.50
DEPLOYING STREAMER AND SOURCE	0030-0745	07.25
RUN IN TO LINE	0745-0925	01.67
VESSEL DOWNTIME	0925-1136	02.18
PRODUCTION LINE BB 85-51	1136-1417	02.68
NAVIGATION DOWNTIME (SIGNALS)	1417-2400	09.72

TOTALS

AS ABOVE

PARTY CHIEF

Pat Cole

Q.C.

Pat Cole

## DAILY TIME LOG

DATE 21.4.85

ACTIVITY	FROM-TO	HOURS
NAVIGATION DOWNTIME (SIGNALS)	0000-2400	24.00

TOTAL

AS ABOVE

PARTY CHIEF

Pat Cole

Q.C.

Pat Cole

## DAILY TIME LOG

228047

DATE 22.4.85

ACTIVITY	FROM-TO	HOURS
NAVIGATION DOWNTIME (SIGNALS)	0000-1401	14.02
PRODUCTION LINE BB 85-52	1401-1501	01.00
LINE CHANGE	1501-1635	01.57
SOURCE DOWNTIME (LRS 100)	1635-1828	01.88
PRODUCTION LINE BB 85-54	1828-1929	01.02
LINE CHANGE	1929-2147	02.30
PRODUCTION LINE BB 85-56	2147-2250	01.05
LINE CHANGE	2250-2400	01.16

TOTAL

NAVIGATION DOWNTIME	14.02 HOURS
SOURCE DOWNTIME	01.88 HOURS
PRODUCTION	03.07 HOURS
LINE CHANGE	05.03 HOURS

PARTY CHIEF

Pat Doh

Q.C.

Pat Doh

## DAILY TIME LOG

228048

DATE 23.4.85

ACTIVITY	FROM-TO	HOURS
LINE CHANGE	0000-0025	00.42
PRODUCTION LINE BB 85-58	0025-0143	01.30
LINE CHANGE	0143-0316	01.55
PRODUCTION LINE BB 85-60	0316-0436	01.33
LINE CHANGE	0436-0647	02.18
PRODUCTION LINE BB 85-64	0647-0834	01.78
LINE CHANGE	0834-1000	01.43
SOURCE DOWNTIME	1000-1235	02.59
PRODUCTION LINE BB 85-77	1235-1443	02.13
LINE CHANGE	1443-1616	01.55
PRODUCTION LINE BB 85-79	1616-1804	01.80
LINE CHANGE	1804-1948	01.73
PRODUCTION LINE BB 85-66	1948-2122	01.57
LINE CHANGE	2122-2308	01.77
PRODUCTION LINE BB 85-55	2308-2400	00.87

## TOTAL

PRODUCTION	10.78 HOURS
LINE CHANGE	10.63 HOURS
SOURCE DOWNTIME	02.59 HOURS

PARTY CHIEF

P. C. Rank

Q.C.

P. C. Rank

## DAILY TIME LOG

228049

DATE 24.4.85

ACTIVITY	FROM-TO	HOURS
PRODUCTION LINE BB 85-55	0000-0029	00.48
STREAMER DOWNTIME	0029-0229	02.00
PRODUCTION LINE BB 85-55A	0229-0510	02.68
LINE CHANGE	0510-0605	00.92
PRODUCTION LINE BB 85-57	0605-0840	02.58
LINE CHANGE	0840-1016	01.60
PRODUCTION LINE BB 85-53	1016-1324	03.13
LINE CHANGE	1324-1449	01.42
PRODUCTION LINE BB 85-73	1449-1637	01.80
LINE CHANGE	1637-1802	01.42
PRODUCTION LINE BB 85-62	1802-2117	03.25
LINE CHANGE	2117-2400	02.72

## TOTAL

PRODUCTION	13.92 HOURS
LINE CHANGE	08.08 HOURS
STREAMER DOWNTIME	02.00 HOURS

PARTY CHIEF Pete Davis  
Q.C. J. Davis

## DAILY TIME LOG

228050

DATE 25.4.85

ACTIVITY	FROM-TO	HOURS
LINE CHANGE	0000-0002	00.03
PRODUCTION LINE BB 85-78	0002-0321	03.32
NAVIGATION DOWNTIME (SIGNALS)	0321-0601	02.67
PRODUCTION LINE BB 85-74	0601-0656	00.92
LINE CHANGE	0656-0821	01.42
NAVIGATION DOWNTIME (EQUIPMENT)	0821-1107	02.77
PRODUCTION LINE BB 85-72	1107-1158	00.85
LINE CHANGE	1158-1330	01.53
NAVIGATION DOWNTIME (EQUIPMENT)	1330-1542	02.20
PRODUCTION LINE BB 85-70	1542-1639	00.95
LINE CHANGE	1639-1826	01.78
PRODUCTION LINE BB 85-71	1826-2010	01.73
LINE CHANGE	2010-2154	01.73
PRODUCTION LINE BB 85-80	2154-2317	01.38
LINE CHANGE	2317-2400	00.72
TOTAL		
PRODUCTION	9.15 HOURS	
LINE CHANGE	7.21 HOURS	
NAVIGATION DOWNTIME	7.64 HOURS	

PARTY CHIEF Pete R. ...  
 Q.C. ...

228051

## DAILY TIME LOG

DATE 26.4.85

ACTIVITY	FROM-TO	HOURS
LINE CHANGE	0000-0032	00.53
PRODUCTION LINE BB 85-78A	0032-0117	00.75
LINE CHANGE	0117-0239	01.37
PRODUCTION LINE BB 85-76	0239-0414	01.58
RECOVERY OF SOURCE/STREAMER	0414-1015	06.02
TRAVEL TIME	1015-1304	02.82
NAVIGATION CHECKS	1304-1432	01.47
TRAVEL TIME	1432-2400	09.46

TOTAL

PRODUCTION	02.33 HOURS
LINE CHANGE	01.90 HOURS
SOURCE/STREAMER RECOVERY	06.02 HOURS
NAVIGATION CHECKS	01.47 HOURS
TRAVEL TIME	12.28 HOURS

PARTY CHIEF Pete Rank  
 Q.C. Pete Rank

## DAILY TIME LOG

DATE 27.4.85

ACTIVITY	FROM-TO	HOURS
TRAVEL TIME	0000-0830	08.50
PORT CALL	0830-2400	15.50

TOTAL

AS ABOVE

PARTY CHIEF Pete Rank  
 Q.C. Pete Rank

5. STATISTICAL ANALYSIS OF PROJECT TIME

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This analysis does not include the time taken for positioning system calibration prior to the vessels arrival in the area. It begins when the equipment and personnel were transferred to the vessel by helicopter and ends at midnight on the day the vessel returned to Portland.

The first set of figures is a very gross analysis of basic activities. Phase 1 refers to the survey in blocks T-16-P. Phase 2 refers to the survey in block T-19-P.

ACTIVITY	HOURS	%
Mobilisation	61.18	11.89
Phase 1 Production	122.21	23.75
Phase 1 Downtime	83.46	16.22
Move to Phase 2	44.33	8.61
Phase 2 Production	76.45	14.85
Phase 2 Downtime	83.28	16.18
Demobilisation	43.77	8.50

The above figures show the general performance of the contractor and the relationship between the production and downtime for each phase of the survey. In phase 1 the ratio of production to downtime is 3:2. It would normally be expected that this should be a little higher but it undoubtedly reflects the crew moving into a new area and starting operations after an extended period of travel time. The ratio of the same activities in phase 2 of the survey however show a much worse relationship where one would expect to see about a 4:1 ratio. This is the result of the

problems experienced with Maxiran propagation to a great extent.

For a second analysis the activity level will be broken down into more detailed categories.

ACTIVITY	HOURS	%
Equipment and personnel transfer	2.00	
Travel time	31.80	
Navigation checks	9.46	
Streamer cable preparations	17.92	
	<hr/>	
Mobilisation Total	61.18	11.89
Online production	63.40	
Line change	58.81	
Instrument Downtime	4.17	
Streamer cable downtime	14.96	
Source downtime	4.09	
Navigation equipment downtime	8.57	
Signal propagation downtime	30.42	
Weather downtime	21.25	
	<hr/>	
Phase 1 Total	205.67	39.97
Recovery and deployment of trailing equipment	10.83	
Travel time	24.85	
Navigation checks	7.47	
Navigation equipment downtime	1.18	
	<hr/>	
Move to Phase 2 total	44.33	8.61

Online production	41.93	
Line change	34.52	
Vessel downtime	2.18	
Streamer cable downtime	2.00	
Source downtime	4.47	
Navigation equipment downtime	4.97	
Signal propagation downtime	50.41	
Weather downtime	19.25	
	<hr/>	
Phase 2 total	159.73	31.03
Recovery of streamer and source	6.02	
Navigation checks	1.47	
Travel time	20.78	
Port call	15.50	
	<hr/>	
	43.77	8.50
	<hr/>	

6. CLIENT CHARGEABLE TIME

DATE	ACTIVITY	START	END	HOURS	CHARGEABLE
15.4	Weather causing cable noise to be	18.00			
16.4	put out of specification.		15.15	21.25	9.25
19.4	Weather downtime	05.15			
20.4			00.30	19.25	7.25
Total Chargeable Time					16.50 Hours

N.B. Contract specified chargeable time to be all time in excess of 12 hours at each instance of such time.

During the course of the survey the contractor requested that all time lost when Maxiran signals were unusable should be considered as weather downtime and thus become chargeable. The author made no agreement to this effect but for information the following would be revised chargeable downtime if this were the case.

DATE	ACTIVITY	START	END	HOURS	CHARGEABLE
14.4	Maxiran signals unusable	22.35			
15.4			01.33	2.97	0.00
15.4	Maxiran signals unsuable	13.41			

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16.4 then weather downtime then				
17.4 signals unusable again		09.45	44.07	32.07
17.4 Maxiran signals unusable	10.40	15.17	4.62	0.00
19.4 Weather downtime	05.15			
20.4		00.30	19.25	7.25
20.4 Maxiran signals unusable	14.17			
22.4		14.01	47.74	35.74
25.4 Maxiran signals unusable	03.21	06.01	2.67	0.00
Total Chargeable Time				75.06 Hours

7. DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

This section of the report is based on the performance of the contractors personnel and equipment during the course of the survey. The discussion begins with a summary of the general conduct and progress of the project and is then followed by the examination of the major subsystems individually.

After initial startup delays caused mainly by streamer cable problems and to a much lesser extent, the installation of a base station, survey production began on the 9th of April. Production was hesitant on the 9th and 10th again mainly because of streamer cable problems but both the source and the navigation subsystems also contributed to the downtime. From the 11th until late on the 14th the production rate was excellent with only just over 4 hours being lost to instrument downtime. Productivity then declined as weather and Maxiran signal quality deteriorated. Only on the 23rd and 24th did the production rate return to a high level before the survey ended on the 26th.

7.1 Seismic Instruments and Streamer Cable

As could be expected, the initial cable preparation work required a lengthy period of time. The balance achieved was good but as was soon apparent the cable was still a little heavy. Production was then begun with a deviation in cable depths of 4-5 feet, and lines 20 and 22 shot before the failure of a streamer electronics module caused the early termination of the second line. Also during the course of these two lines some problems were experienced with the

running of the seismic Q.C. system in real time but all post line checks proved good so the data was accepted.

Whilst recovering the cable to execute repairs the streamer sank and became caught on some obstruction on the sea bed. This caused on 9th and 10th, almost 10 hours of downtime when streamer recovery, repairs and redeployment were carried out. On the 10th a problem with streamer cable power supply occurred which caused further downtime. This fault resulted in the activation of the circuit breaker carrying the supply to the streamer cable modules and after two attempts on line 30 any further production was curtailed to investigate the fault. After replacement of the onboard A.C. supply modules with no remedial effect it was concluded that an electrical leakage was present on the A.C. supply line in the streamer itself. As the chances of tracing such a fault was very small it was decided to reduce the supply voltage level to the streamer electronic modules (and hence the current flow) All onboard checks showed no problems with instrument performance with such a reduced voltage. On the 12th the leakage fault disappeared and the exact voltage was again supplied to the streamer cable modules and the problem did not reoccur. Almost at the same time as the A.C. supply voltage problem was cleared the instruments began to suffer random formatter failures. These could possibly have been the result of very high temperatures in the instrument room, but they did contribute to further instrument downtime and to a general degradation of the data quality by the number of missed records they caused over the next two days.

On the 14th sea conditions and line directions combined to

give some swell and tow noise on the cable. These noise sources were undoubtedly detrimental to overall data quality but were very short lived and by the 15th cable noise was improved markedly. However by later that same day sea conditions had again deteriorated to an extent where production was impossible.

From the 15th onwards sea conditions were never as good as those experienced in the first days of production and cable noise and depths were generally greater.

The only other significant problem noted was on the 24th when array trace 50 appeared to be a little weak in response.

Daily tests were performed on the instruments to the manufacturers specifications and no problems were noted during the period of the survey.

In conclusion then it can be said that the seismic instruments and streamer cable performed reasonably well during the survey with the majority of problems resulting from extraneous factors. In terms of overall reliability it is the opinion of the author that this digital streamer is a more reliable and better thought out system than that of the contractors main competitor. If anything it is lacking in its self testing functions and of course the low cut filter being higher than most clients would like to use in data acquisition.

The contractor has made very significant progress in the development of the high pressure airgun array and at this time this source is generally accepted as one of the best available.

The first problem experienced with the source occurred on the 9th of April when on attempting to start the second line of the survey a compressor failed and the resultant drop in pressure caused the source to be out of pressure specification, and a circle to restart the line. On the 10th line 24 was interrupted for gun 21 firing out of timing limits and a circle resulted. From then until the 14th the source performance was reasonable with the usual crop of gun failures, misfires and pressure variations. However after this and because of the quality of the Maxiran signals S.P. intervals were generally less consistent and therefore gun timing misfires became more frequent. On the 22nd when attempting line 54 the LRS 100 guntiming unit failed to display any information and the line was restarted after reinitiating the system. On the 23rd line 77 had to be restarted because of source timing misfires and 2.59 hours were lost.

Overall performance of the source was at a very acceptable standard.

### 7.3 Navigation

From the performance results of this survey it can unfortunately be easily seen that navigation was the weakest area of the contractors services. The concept of being able to provide reliable positioning in this area, at the required ranges with the normally expected weather conditions using Maxiran alone proved to be a fallacy. The points of discussion raised by the Maxiran performance show that:-

- a. Maxiran is not a reliable 24 hour system when used over the electrical horizon, because of weather dependence.
- b. A marine seismic survey cannot be expediently executed if there are periods when the only factor stopping production is positioning i.e. bad weather should result in only the streamer cable being out of specifications and when the cable is workable so to should be the positioning.

For this survey it would be pertinent to make a clear distinction between the various contributing components of the positioning in order to clearly define the problem areas. Thus the breakdown will be to the ranging system, Maxiran and its hardware performance, the WISDOM computing system and its hardware and software performances.

Consideration of WISDOM performance in the first instance shows that whilst the problems experienced were fairly insignificant compared with Maxiran, they were still somewhat excessive. On the 9th of April on attempting to start the second line of the survey the Wisdom system failed to record

any shotpoint data on tape and this in turn caused a circle. The cause of this problem was not apparent and on reloading the system and starting the line again the problem disappeared. On the 11th there occurred the first of several instances during the survey when the system line control software failed to execute a dogleg. Initially the operators personnel claimed that incorrect input data was the cause but after two more attempts at dogleg lines on the 13th (line BB 85-35) it became readily apparent that the software did have a fault. It was then agreed that all future dogleg lines would be shot in two sections with the extra overlap required at no extra cost to the client. Also on the 15th on shooting the second portion of line 35 the Wisdom system stopped issuing closures to the seismic instruments and the line was broken while the source of the problem was investigated. On the 25th there was a reoccurrence of the initial problem of the systems failure to record shotpoint data and line 72 had to be restarted a second time losing almost 3 hours of production time.

The above paragraph covers in detail virtually all the instances of Wisdom failures and problems. Coverage of the Maxiran performance in a similar way would be, because of the extent of the problems, a very lengthy story and as all instances are recorded in the daily log a general overview follows, to avoid duplication.

The hardware reliability of the Maxiran system was quite poor. From the initial failure of four beacons out of the twelve which the contractor proposed to calibrate the system maintained that level of reliability. Maxiran is by nature of its design a multiple component system i.e. the

transmit/receive signals pass through many more cables and modules than say Syledis. This makes it a fairly sensitive system in terms of connections and the general scope for hardware problems is large. On this survey the overall failure rate and repair processes were in turn hampered by the signal propagation problems. Several instances of hardware failure were undoubtedly induced by attempts to modify the system to combat propagation losses. Other surprising failures were that of two dish antenna active elements.

The propagation problems encountered during the survey were not unexpected by the author. The catalogue of time lost because of the Maxiran propagation losses are well detailed in sections 5 and 6 of this report and any further emphasis of such lost time is unnecessary. In conclusion therefore it should be well noted that Maxiran, in common with other systems which operate in the 420-430 MHz. band, are very weather dependant because of the very nature of their propagation mode over the radio horizon i.e. stable weather conditions with strong well defined temperature inversions will provide ideal low loss conditions for signal propagation. Unfortunately there is in the Bass Strait area very low possibility of such conditions existing for any lengthy periods of time. It is strongly recommended that in any future work both Maxiran and Argo be used jointly to provide positioning control. This combination cannot guarantee uninterrupted positioning 24 hours a day for 365 days a year but it would lead undoubtedly to a more efficient survey in this area.

It should also be noted that on occasions during the survey

Maxiran signals whilst workable did not provide the best input for line control because of range instability. This in turn led to erratic spread lengths and poorer source synchronisation.

#### 7.4 Vessel and Personnel

During the survey the contractors vessel and crew performed well despite the sometimes adverse conditions. The navigation personnel on board the vessel should be commended for their dedicated efforts to drag signals from the ether when none were there. They did in fact perform their duties under very difficult and tiring conditions and exhibited in general a good knowledge of their systems. Other members of the seismic crew also performed well with the major slip up occurring on the 24th on line 55 when the cable depth controller reset to 0 and before anyone noticed the cable had risen to the surface and was out of specification. The marine crew whilst adequate were not well versed in seismic work and lacked a truly professional approach. The vessel as should be expected from its age performed well with only the failure of the compressor generator on the 20th spoiling an otherwise perfect performance.

8. DAILY LOG

TIMES ARE LOCAL

Monday 1 April, Day 91

- 08.00 Depart Newcastle on flight PO626 for Sydney.
- 12.00 Depart Sydney on Ansett flight 17 for Melbourne.
- 13.20 Arrive Melbourne airport and pick up Avis rental car then begin drive to Geelong.
- 15.00 Arrive at Geelong International hotel. Talk briefly with B. Dean of Western who is just leaving for the airport to pick up the base station personnel.
- 19.00 Attend briefing of the base station personnel on the project.
- 22.00 Truck carrying all navigation equipment from W.A. arrived at hotel.

Tuesday 2 April, Day 92

- 08.00 Standby at hotel to allow time for the equipment to be set up on the calibration range between Point Lonsdale and Ocean Grove.
- 12.00 Depart hotel for calibration range.
- 13.00 Arrive at Point Lonsdale where the mobile equipment is located.
- 13.12 Begin calibration procedures in overcast skies and blustery rain showers.
- 16.00 Calibration ceased because of 3-4 metres changes in measurements caused by weather conditions changing rapidly. Standby for an improvement in conditions.
- 19.00 Weather continues to be stormy and therefore

calibration is postponed until tomorrow morning.

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Wednesday 3 April, Day 93

- 06.00 Leave hotel for Point Lonsdale.
- 07.00 Arrive at calibration range and power up equipment to begin calibration.
- 07.45 Restart calibration procedures from the beginning as weather conditions have given a slight change in measurements.
- 08.45 Calibration again restarted when a code 2 beacon cannot be calibrated because of lack of adjustment. Mobile delay adjusted from 4777 to 4770 and procedures restarted.
- 17.30 Short range equipment calibration complete. Return to the hotel via the Ocean Grove station where the base equipment is being packed away for transporting to the various base locations for the survey.

Thursday 4 April, Day 94

- 09.45 Leave hotel for Point Lonsdale to observe range measurements to base station now set up at Parkers Hill.
- 10.15 Arrive at Point Lonsdale and power up mobile equipment.
- 11.15 After observing ranges for some time B. Dean concludes that the data is not steady enough to give an accurate propagation factor. The explanation put forward is that the weather is still poor and because the calibration range is along the coast and therefore subject to a higher noise level than should be normal for the survey operations. Decision is made to return

this afternoon to see if conditions have improved.

- 11.45 Arrive back at Geelong Hotel.
- 14.00 Leave hotel for Point Lonsdale again.
- 14.30 Arrive at Point Lonsdale station and warm up equipment.
- 15.30 After similar results to this morning, it is decided to wait until tomorrow in the hope of improved conditions.
- 16.00 Arrive back at hotel.

Friday 5 April, Day 95

- 08.45 Leave hotel for Point Lonsdale.
- 09.15 Arrive at calibration station.
- 12.30 After changing out base beacon and mobile interrogator with no visible signal quality improvement the decision is made to go to high power operation at 1Kw. This yields stable signals and gives an average of 110786-7 metres over the computed range of 110785. Depart Point Lonsdale for hotel and then drive to Melbourne to return hire car.
- 15.30 Return to Geelong with B. Wise who has been to Melbourne airport to collect some spare parts for the Western Odyssey.
- 17.00 Return to Geelong Hotel.

Saturday 6 April, Day 96

- 07.30 Check out of hotel and drive with B. Dean to Portland in light truck carrying mobile Maxiran equipment to go onboard vessel.
- 12.00 Arrive at Portland airport.
- 13.20 Leave on first helicopter flight to Western Odyssey.
- 13.35 Arrive onboard vessel.

15.19 Last helicopter trip completed. Vessel takes up course  
of 114<sup>o</sup> for transit to block T-15. Estimating 24-26  
hours travel. Fairly heavy ESE swell running at  
present.

Sunday 7 April, Day 97

00.00 En route to prospect.  
13.40 Doctors Rock base station operational.  
21.00 Hardwickes Hill base station operational.  
23.07 Commence first crossing of Doctors Rock/Hardwickes  
Hill baseline.  
23.19 Complete first crossing, results show observed 2m. long.  
23.49 Commence second crossing of Doctors Rock/Hardwickes Hill  
baseline.  
24.00 Completed second crossing, results show observed 2m.  
long.

Monday 8 April, Day 98

03.17 Commence first crossing of Doctors Rock/Low Head  
baseline.  
03.37 Complete first crossing, results show observed 5m short.  
04.42 Commence second crossing of Doctors Rock/Low Head  
baseline.  
04.56 Complete second crossing, results show observed 2m short.  
08.00 Onboard interrogator 138 not transmitting.

- 08.35 Start to deploy cable.
- 09.00 As range continues to increase the quality of the signal from Doctors Rock drops.
- 10.15 Base station at Doctors Rock performing poorly. Problem diagnosed to be intermittent transmitter on beacon #230, and spare #278 fails to transmit. Spare from Low Head being taken to Doctors Rock. Now have the three base stations on Tasmania sharing one spare beacon presently located at Hardwickes Hill.
- 16.30 Replacement beacon installed on Doctors Rock. Three way fixes now showing an average value of around 5 metres for mean residual.
- 16.45 Cable deployed and streaming to check balance. Changed sections 4B and 6B for distortion.
- 18.30 After studying streamer depths on 090<sup>o</sup> and 270<sup>o</sup> it appears to be marginally heavy so will recover and remove weights from most sections to improve balance.

Tuesday 9 April, Day 99

- 01.05 Streamer deployed after removing two pieces of lead from each section. Begin travelling on various line headings to check the balance.
- 02.30 Cable performance looks reasonably good so decide to complete checks while running for line 20.
- 05.40 Start of line BB 85-20 Direction 240<sup>o</sup>
- |                        |                    |
|------------------------|--------------------|
| First shotpoint        | 1                  |
| First record number    | 3                  |
| Water depth            | 66.3 m.            |
| Source array/Volume    | 1 / 1530 cu in.    |
| Streamer depth         | 36-40 ft.          |
| Streamer noise/Feather | 1-3 mbar, 4.5 max. |

on DC / 4 N<sup>o</sup>

Comments Sea state and wind  
1-2.

08.10 End of line BB 85-20

Last shotpoint 896

Last record number 898

Water depth 66.7 m.

Source volume 1530 cu in.

Streamer depth 37-40 ft.

Streamer noise/Feather As SOL / 6 N<sup>o</sup>

Maxiran mean residual 7.4 m.

using Doctors Rock, Low Head, Hardwickes Hill.

Comments Maxiran stable for majority of line but short periods of instability shows up in final mean. Seismic QC system failed at SP437 but real time and post line indications are that data is good.

09.50 Started line BB 85-22

09.53 Line aborted for compressor failure, circling to restart.

11.45 Again started line BB 85-22

12.06 Line terminated because Wisdom System is failing to record data. Circling round again to restart.

14.10 Start of line BB 85-22 Direction 060

First shotpoint 1

First record number 5

Water depth 67.8 m.

Source array/Volume 1 / 1530 cu in.

Streamer depth 38-40 ft.

Streamer noise/Feather 1-3 mbar, 4-5 on some DCs / 4 S<sup>o</sup>

Comments Seismic QC system

again not operating but line started on the condition  
post-line reproductions show no problems.

- 15.53 End of line BB 85-22
  - Last shotpoint 647
  - Last record number 651
  - Water depth 59.9 m.
  - Source volume 1530 cu in.
  - Streamer depth 37-41 ft.
  - Streamer noise/Feather As SOL / 4 S<sup>o</sup>
  - Maxiran mean residual 5.9 m.

using Doctors Rock, Low Head, Hardwickes Hill.

Comments SP 598 NDR on tape  
change. Line terminated early for failure of  
electronics module for sections 18A and 18B. As per  
decision from A.Luskin line can be considered to be  
complete. The last SP was in fact 670 but all after 647  
have out of spec. bad groups. Maxiran residual slightly  
distorted and is the result of one large range excursion  
during the line.
- 16.30 Airguns onboard, preparing to recover streamer.
- 16.50 Start to recover streamer.
- 19.45 Streamer onboard after long delay incurred whilst  
freeing some obstruction from tailbuoy rope.
- 19.55 Start to deploy streamer with new tailbuoy rope and make  
repairs to holed sections and replace module 18.
- 24.00 Continue laying streamer, changed section 19A.

Wednesday 10 April, Day 100

- 01.44 Streamer deployed running for line 24
- 02.40 Start of line BB 85-24 Direction 242<sup>o</sup>
- First shotpoint 1

	First record number	2
	Water depth	67.4 m.
	Source array/Volume	1/1530 cu in.
	Streamer depth	39-42 ft.
	Streamer noise/Feather	1-3mbar DC3 noisy to ° 5/1 N
	Comments	SP 9 misfire for gun timing, 53 also.
03.13	Line terminated at SP 211 for guns firing out of specs. (gun 21) LGSP 180 circling to restart.	
05.23	Start of line BB 85-24A	Direction 242 <sup>o</sup>
	First shotpoint	110A
	First record point	3
	Water depth	66.3 m
	Source array/Volume	1/130 cu in.
	Streamer depth	38-41 ft.
	Streamer noise/Feather	1-2mbar, 3-4 on some ° DCs/2 N
	Comments	1.867 km. surface overlap.
06.30	End of line BB 85-24A	
	Last shotpoint	525
	Last record number	418
	Water depth	65.3 m.
	Source volume	1530 cu in.
	Streamer depth	38-41 ft.
	Streamer noise/Feather	As SOL/4 N <sup>o</sup>
	Maxiran mean residual	13 m.
	using Doctors Raock, Low Head, Hardwickes Hill.	
	Comments	Line complete.
	Maxiran performance poor on both sections of line due to Doctors Rock signal quality.	

228073

08.07	Start of line BB 85-26	Direction 062 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	65.2 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	39-42 ft.
	Streamer noise/Feather	1-2mbar, 3-4 on DCs/2 N <sup>o</sup>
	Comments	Weather remains ideal, sea state 2
10.09	End of line BB 85-26	
	Last shotpoint	760
	Last record number	762
	Water depth	59.6 m.
	Source volume	1460 cu in.
	Streamer depth	40-43 ft.
	Streamer noise/Feather	As SOL/2 N <sup>o</sup>
	Maxiran mean residual	8.2 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	Gun 24 off at SP 688. Misfiring. Reduced volume to EOL. Maxiran performance appears poor but mainly due to very short term atmospheric effects.
11.48	Start of line BB 85-28	Direction 241 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	59 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	40-46 ft.
	Streamer noise/Feather	1-2mbar/3 N <sup>o</sup>
	Comments	Cable very slightly deeper at SOL.

228074

excellent weather.

22.34 End of line BB 85-30

Last shotpoint	630
Last record number	633
Water depth	58.4 m.
Source volume	1530 cu in.
Streamer depth	39-42 ft.
Streamer noise/Feather	1-3mbar/2 S <sup>o</sup>
Maxiran mean residual	6.9 m.

using Doctors Rock, Low Head, Hardwickes Hill.

Comments Line complete.

Thursday 11 April, Day 101

00.41 Start of line BB 85-23 Direction 329<sup>o</sup>

First shotpoint	1
First record number	3
Water depth	61.7 m.
Source array/Volume	1/1530 cu in.
Streamer depth	37-42 ft.
Streamer noise/Feather	1-2mbar, 3.5 on some DCs / 2 S <sup>o</sup>

Comments Cable module voltage running on 6V.

01.31 End of line BB 85-23

Last shotpoint	975
Last record number	975
Water depth	68.7 m.
Source volume	1530 cu in.

228075

	Streamer noise/Feather	As SOL/1 N <sup>o</sup>
	Maxiran mean residual	6.5 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	At SP 848 gun 17 off
	Then 18 on 852. Gun misfires at SP 374, 852. SPs 784 and	
	785 NDRs lost on tape change	
04.32	Start of line BB 85-21	Direction 149 .
	First shotpoint	1
	First record number	3
	Water depth	68.8 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	40-43 ft.
	Streamer noise/Feather	,1mbar to 3.5 max on first DC/4 S <sup>o</sup>
	Comments	Cable module voltage
07.16	End of line BB 85-21	
	Last shotpoint	958
	Last record number	960
	Water depth	60.6 m.
	Source volume	1530 cu in.
	Streamer depth	38-42 ft.
	Streamer noise/Feather	1-2mbar, 2-4 on near 3 DCs/1 N
	Maxiran mean residual	10.2 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	10 Misfires due to
	gun timing. SP 299 gun 26 off, SP 305 gun 25 on	
09.42	Start of line BB 85-5	Direction 302 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	67.6 m.
	Source array/Volume	1/1530 cu in.

	Streamer depth	37-41 ft.
	Streamer noise/Feather	1-3mbar/1 N <sup>o</sup>
	Comments	Weather remains moderate.
11.24	End of line BB 85-5	
	Last shotpoint	645
	Last record number	647
	Water depth	70.0 m.
	Source volume	1530 cu in
	Streamer depth	37.40 ft.
	Streamer noise/Feather	As SOL /0 <sup>o</sup>
	Maxiran mean residual	9.5 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	Because of incorrect procedures the Wisdom system failed to execute the dogleg and thus line was terminated after running extra 70 SPs. Just after SP 400 a series of noise spikes were seen moving down the cable. This disappeared after SP480. At EOL vessel over 300 m. offline and data may be very slightly degraded.
13.21	Start of line BB 85-5A	Direction 291 <sup>o</sup>
	First shotpoint	1
	First record lnumber	3
	Water depth	70.1 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	37-42 ft.
	Streamer noise/Feather	1-3mbar, 6 on Gp.27 <sup>o</sup> from DC/4 S
	Comments	Second section of line 5
14.54	End of line BB 85-5A	

228077

	Last shotpoint	577
	Last record number	579
	Water depth	75.5 m.
	Source volume	1530 cu in.
	Streamer depth	39-44 ft.
	Streamer noise/Feather	3mbar max./3 S <sup>o</sup>
	Maxiran mean residual	5.7 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	Line complete
16.18	Start of line BB 85-3	Direction 168 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	75.9 m.
	Source array/Volume	1/1530 cu in.
	Streamer depth	37-42 ft.
	Streamer noise/Feather	1-3 mbar / 3 W <sup>o</sup>
	Comments	
17.38	End of line BB 85-3	
	Last shotpoint	489
	Last record number	491
	Water depth	74.6 m.
	Source volume	1530 cu in.
	Streamer depth	40-45 ft.

228078

	Streamer noise/Feather	As SOL / 3 W <sup>o</sup>
	Maxiran mean residual	3.5 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	Slightly low pressure SP109-240, compressor problems. Maxiran signal quality and hence residuals better.
18.43	Start of line BB 85-8	Direction 056 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	72.9 m.
	Source array/Volume	2/1530 cu in
	Streamer depth	38-41 ft.
	Streamer noise/Feather	3mbar max. / 3 S <sup>o</sup>
	Comments	Sea conditions till moderate.
20.07	End of line BB 85-8	
	Last shotpoint	517
	Last record number	519
	Water depth	68.5 m.
	Source volume	1530 cu in.
	Streamer depth	37-42 ft.
	Streamer noise/Feather	Both as SOL.
	Maxiran mean residual	3.2 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	Maxiran signals excellent.
21.39	Start of line BB 85-6	Direction 235 <sup>o</sup>
	First shotpoint	1
	First record number	3

228079

Water depth	70.8 m.
Source array/Volume	1/1530 cu in.
Streamer depth	37-40 ft.
Streamer noise/Feather	3.5mbar max on ° Gp27/1 N
Comments	Streamer module voltage 5.85 volts.

Friday 12 April, Day 102

00.10	End of line BB 85-6	
	Last shotpoint	942
	Last record number	944
	Water depth	72.4 m.
	Source volume	1530 cu in.
	Streamer depth	38-42 ft.
	Streamer noise/Feather	1-2mbar to 3.5 on ° DC1/0
	Maxiran mean residual	1 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	Line complete °
01.28	Start of line BB 85-4	Direction 056
	First shotpoint	1
	First record number	3
	Water depth	73.7 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	40-43 ft.
	Streamer noise/Feather	2mbar, max 5.4 on ° Gp15 DC/8 S

	Comments	Very late low level return on noise.
03.59	End of line BB 85-4	
	Last shotpoint	908
	Last record number	910
	Water depth	74.0 m.
	Source volume	1530 cu in.
	Streamer depth	38-41 ft.
	Streamer noise/Feather	1-2mbar, 5.4 max. on Gp27/3 S
	Maxiran mean residual	1.4 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	Line complete
05.42	Start of line BB 85-7	Direction 121
	First shotpoint	1
	First record number	3
	Water depth	75.6 m.
	Source array/Volume	1/1530 cu in.
	Streamer depth	36-41 ft.
	Streamer noise/Fether	1-2mbar, 3.5 on Gp27 DC/0
	Comments	Sea state remains moderate.
08.22	End of line BB 85-7	
	Last shotpoint	1012
	Last record number	1014
	Water depth	67.2 m.
	Source volume	1530 cu in.
	Streamer depth	37-41 ft.
	Streamer noise/Feather	1-2mbar 4.5 on Gp27

DC/0<sup>o</sup>

228081

Maxiran mean residual 3

using Doctors Rock, Low Head, Hardwickes Hill.

	Comments	Line complete
09.34	Start of line BB 85-9	Direction 302 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	67.4m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	37-41 ft.
	Streamer noise/Feather	1-2mbar, 4 on Gp27 <sup>o</sup> DC/1 N
	Comments	All systems good.
11.11	End of line BB 85-9	
	Last shotpoint	599
	Last record number	601
	Water depth	68.5 m.
	Source volume	1530 cu in.
	Streamer depth	40-44 ft.
	Streamer noise/Feather	1-3mbar/0 <sup>o</sup>
	Maxiran mean residual	1.5 m.
		using Doctors Rock, Low Head, Hardwickes Hill.
	Comments	Instrument room temperature 32 C <sup>o</sup> switching off tape transports on line change to alleviate problems.
13.05	Start of line BB 85-10	Direction 238 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	66.0 m.

228082

	Source array/Volume	1/1530 cu in.
	Streamer depth	38-42 ft.
	Streamer noise/Feather	1-3mbar/4 N <sup>o</sup>
	Comments	Sea state 2-3.
16.24	End of line BB 85-10	
	Last shotpoint	1255
	Last record number	1246
	Water depth	73.5 m.
	Source volume	1490 cu in.
	Streamer depth	41-45 ft.
	Streamer noise/Feather	1-3mbar/1 S <sup>o</sup>
	Maxiran mean residual	3.3 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	SP373 gun 22 off blow transducer hose, volume reduced to 1490 cu in. 14 SPs NDRs because of possible bad tape problems.
18.25	Start of line BB 85-14	Direction 270 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	73.4 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	40-44 ft.
	Streamer noise/Feather	1-3mbar generally/1 S <sup>o</sup>
	Comments	Streamer module voltage now 6.10 v.

228083

18.57	Line terminated for misfires	
	Last shotpoint	242 LGSP 190
	Last record number	192
	Water depth	73.5 m.
	Source volume	1530 cu in.
	Streamer depth	40-44 ft
	Streamer noise/Feather	As SOL/2 N <sup>o</sup>
	Maxiran mean residual	4.2 m.
	using Doctors Rock, Low Head, Harwikes Hill.	
	Comments	Line terminated for combination of instrument failure and to lesser extent gun timing misfires.
21.15	Restart of line BB 85-14A	
	First shotpoint	115A
	First record number	3
	Water depth	72.5 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	39-42 ft.
	Streamer noise/Feather	1-2mbar/3 N <sup>o</sup>
	Comments	76 overlap A shotpoints.
22.47	End of line BB 85-14A	
	Last shotpoint	693
	Last record number	573
	Water depth	71.1 m.
	Source volume	1530 cu in.
	Streamer depth	39-42 ft.
	Streamer noise/Feather	As SOL but Gp27 <sup>o</sup> 5.5mbar/5 N
	Maxiran mean residual	7.33 m.

using Doctors Rock, Low Head, Hardwickes Hill.

228084

Comments Again instrument problems and 11 NDRs on this line.

Saturday 13 April, Day 103

00.40 Start of line BB 85-2 Direction 056<sup>o</sup>  
First shotpoint 1  
First record number 3  
Water depth 73.0 m.  
Source array/Volume 1/1530 cu in.  
Streamer depth 39-43 ft.  
Streamer noise/Feather 1-3mbar, 5 on Gp27<sup>o</sup>  
DC/4 S  
Comments SEa state 2-3

01.21 Line terminated for instrument failure, LSP229,  
LGSP220, file 222.

03.13 Line resumed as 2A. FSP 146, file 3, FCSP 221

04.24 End of line BB 85-2A

Last shotpoint 605  
Last record number 458  
Water depth 76.2 m.  
Source volume 1530 cu in.  
Streamer depth 36-39 ft.  
Streamer noise/Feather 1-3mbar/3 S<sup>o</sup>  
Maxiran mean residual 5 m.

using Doctors Rock, Low Head, Hardwickes Hill.

Comments Lost 14 records to instrument failure, worst instance being SP600 to 603

		then 606 to 608. °
07.56	Start of line BB 85-18	Direction 058
	First shotpoint	1
	First record number	3
	Water depth	71.7 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	34-41 ft.
	Streamer noise/Feather	1-3.5mbar/2 S °
	Comments	Sea moderated  slightly.
09.21	End of line BB 85-18	
	Last shotpoint	523
	Last record number	521
	Water depth	68.4 m.
	Source volume	1530 cu in.
	Streamer depth	37-40 ft.
	Streamer noise/Feather	As SOL/1 N °
	Maxirean mean residual	10.0 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	Again 10 NDRs due to Instruments. Worst case SP118-122 inclusive.
09.36	Start of line BB 85-12	Direction 056 °
	First shotpoint	1
	First record number	1
	Water depth	68.6 m.
	Source array/Volume	2/1530 cu in.

228086

	Streamer depth	36-39 ft.
	Streamer noise/Feather	1-3mbar/8 S <sup>o</sup> decreasing
	Comments	First SP source misfire.
10.30	Helicopter onboard with G. Batten, spares and preplots.	
10.40	Chopper departed with line 26 data, A. Luskin, compressor mechanic and seaman.	
11.17	End of line BB 85-12	
	Last shotpoint	619
	Last record number	611
	Water depth	65.9 m.
	Source volume	1530 cu in
	Streamer depth	38-41 ft.
	Streamer noise/Feather	As SOL/3 S <sup>o</sup>
	Maxiran mean residual	10.0 m.
	using Docorts Rock, Low Head, Hardwickes Hill.	
	Comments	Again lost 12 SPs due to instrument problems.
12.16	Helicopter back on second trip with further spares and supplies.	
12.21	Helicopter departed vessel.	
13.37	Start of line BB 85-16	Direction 273 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	68.7 m.
	Source array/Volume	1/1530 cu in.
	Streamer depth	36-41 ft.
	Streamer noise/Feather	1-3mbar/0 <sup>o</sup>

	Comments	Fairly strong 228087 following seas.
14.54	End of line BB 85-16	
	Last shotpoint	493
	Last record number	495
	Water depth	71.9 m.
	Source volume	1530 cu in.
	Streamer depth	39-42 ft.
	Streamer noise/Feather	As SOL/1 S
	Maxiran mean residual	10.9 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	Line complete.
17.17	Start of line BB 85-1	Direction 327 /349
	First shotpoint	1
	First record number	3
	Water depth	70.3 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	36-40 ft.
	Streamer noise/Feather	1-3mbar/0
	Comments	Sea state now such that slight sea swell noise occasionally on cable.
19.00	SP630 start gradual heading change to execute dogleg of 22 . Swell noise increased slightly with new heading.	
20.42	End of line BB 85-1	
	Last shotpoint	1224 (Annotated as 543 on records)
	Last record number	1203
	Water depth	75.9 m

Source volume 1530 cu in.  
 Streamer depth 38-44 cu in.  
 Streamer noise/Feather 1 W swell noise  
 occas. to 10mbar.  
 Maxiran mean residual N/A as most of line  
 using 2-way not using  
 Doctors Rock.

Comments This line had  
 several problems which all detract from the quality of  
 the data.

1. During the line for both seismic and navigation system problems some 31 SPs were NDRs.
2. After executing the dogleg to a heading of 349<sup>o</sup> the swell noise on the cable increased and whilst not excessive will have some effect.
3. On attempting to execute the dogleg the Wisdom system failed with the following results  
 No records were taken on SPs 685-688  
 SPs 689-697 were recorded using a manually entered time SP interval.  
 The Wisdom then started to issue closures in distance mode again but the SP numbered 17 and was equivalent to SP 698 had the correct sequence been maintained. On both seismic and navigation logs the sequence of events was clearly noted and instructions given to ensure the correct processing and renumbering of shotpoints should be done when processing the data.

20.45 Because of weather changes and signal quality deterioration going to linear amplifier operation on

Line change being extended to accommodate this.

228089

Sunday 14 April, Day 104

00.59	Start of line BB 85-32	Direction 056 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	75.3 m.
	Source array/Volume	1/1530 cu in
	Streamer depth	40-44 ft.
	Streamer noise/Feather	1-2.5mbar Gp3 6/1 S <sup>o</sup>
	Comments	Unable to achieve 3-way fixing on this line because of no signal from Doctors Rock. Unable to contact on radio. Just prior to line a short period of 3-way fixes was observed and within tolerance.
02.27	End of line Bb 85-32	
	Last shotpoint	499
	Last record number	500
	Water depth	69.7 m.
	Source volume	1530 cu in.
	Streamer depth	39-43 ft.
	Streamer noise/Feather	As SOL/5 S <sup>o</sup>

Maxiran mean residual N/A

using Doctors Rock, Low Head, Hardwickes Hill.

Comments This line suffered from the poor Maxiran signal quality in that some SP intervals were slightly long or short because of resulting velocity computations. Also lost SP 388 to the ever present instrument problem.

02.30 In light of the recent signal quality no further lines will be started until the signal from Doctors Rock is received.

02.45 After finding a broken coax on stern antenna, and repairing receiver all three stations again.

04.25	Start of line BB 85-36	Direction 236 <sup>o</sup>
	First shotpoint	1
	First record number	6
	Water depth	72.9 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	38-47 ft.
	Streamer noise/Feather	1-3mbar/4 N <sup>o</sup>
	Comments	Swell noise still occasionally seen but decreased since line 1.

05.54 End of line Bb 85-36



using Low Head, Hardwickes Hill.

228092

	Comments	21 NDRs due to instrument failure.
10.31	Start of line BB 85-44	Direction 236 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	75.5 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	38-45 ft.
	Streamer noise/Feather	1-4mbars/6 N <sup>o</sup>
	Comments	Streamer noise slightly higher line direction is with seas.
11.45	End of line BB 85-44	
	Last shotpoint	505
	Last record number	507
	Water depth	75.8 m.
	Source volume	1530 cu in.
	Streamer depth	37-43 ft.
	Streamer noise/Feather	1-3mbar/5 N <sup>o</sup>
	Maxiran mean residual	9.9 m.
		using Doctors Rock, Low Head, Hardwickes Hill.
	Comments	5 source misfires noted on line. On all this line heading 056/236 <sup>o</sup> SP interval is slightly erratic mainly because the rate station at Doctors Rock is performing poorly.
13.05	Start of line BB 85-42	Direction 057 <sup>o</sup>
	First shotpoint	1
	First record number	3

	Streamer depth	36-40 ft.
	Streamer noise/Feather	1-4 mbar/3 S <sup>o</sup>
	Comments	Streamer noise due to running into sea.
14.35	End of line BB 85-42	
	Last shotpoint	520
	Last record number	522
	Water depth	72.2 m.
	Source volume cu in.	1530 cu in.
	Streamer depth	37-41 ft.
	Streamer noise/Feather	As SOL/4 S <sup>o</sup>
	Maxiran mean residual	13.7
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	Doctors Rock signal very poor. 3 source misfires online.
15.39	Start of line BB 85-38	Direction 236 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	72.2 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	37-46 ft.
	Streamer noise/Feather	1-3mbar genrally/5 N <sup>o</sup>
	Comments	Following seas.
17.05	End of line BB 85-38	
	Last shotpoint	235
	Last record number	536
	Water depth	78 m.
	Source volume	1530 cu in.
	Streamer depth	40-44 ft.
	Streamer noise/Feather	As SOL/3 N <sup>o</sup>
	Maxiran mean residual	22.9 m.
	using Doctors Rock, Low Head, Hardwickes Hill.	



using Doctors Rock, Low Head, Hardwicks Hill.

Comments SP 311 gun 21 off,  
SP312 gun 20 on SP 311 source misfire for timing.

Maxiran signals improved greatly.

22.35 Start of line BB 85-35<sup>o</sup> Direction 295<sup>o</sup>  
First shotpoint 1  
First record number 3

23.02 Line terminated because Maxiran signals now unworkable.  
LSP 155 circling back to start while removing power  
amplifiers from the onboard system.

Monday 15 April, Day 105

01.33 Start of line BB 85-35 Again Direction 295<sup>o</sup>

02.10 Once again the Wisdom system failed to execute dogleg  
and because of resulting confusion no overlap SPs were  
recorded to ensure full fold coverage on this section  
of the line. Data scratched and circling to restart  
line on reciprocal heading. In future all dogleg lines  
will be shot in two sections with the resulting extra  
overlap shotpoints not chargeable.

03.56 Start of line BB 85-35 Direction 115<sup>o</sup>  
First shotpoint 1  
First record number 3  
Water depth 74.8 m.  
Source array/Volume 1/1530 cu in.  
Streamer depth 40-43 ft.  
Streamer noise/Feather 1-3mbar/8 S<sup>o</sup>  
Comments Maxiran signals  
still weak but just workable. Sea state decreasing  
steadily now and swell and sea generated noise  
now becoming very infrequent.

04.40 End of line BB 85-35

228096

Last shotpoint	286
Last record number	288
Water depth	70.0 m.
Source volume	1530 cu in.
Streamer depth	37-42 ft.
Streamer noise/Feather	1-3mbar/6 <sup>o</sup> S
Maxiran mean residual	7.7 m.

using Doctors Rock, Low Head, Hardwickes Hill.

Comments

SP 89 source misfire. The last 70 SPs are overlap and non chargeable.

05.46	Start of line BB 85-35A	Direction 308 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	74.9 m.
	Source array/Volume	2/1530 cu in
	Streamer depth	36-41 ft.
	Streamer noise/FEather	1-3mbar/0 <sup>o</sup>

Comments

This is the second portion of the original line 35.

06.24 Line terminated because Wisdom system stopped issuing closures to instruments. Begin searching for cause of fault while circling to restart. LSP 235, last file 237.

10.11 Restarted line as 35B, FSP 161A, first file 3. No significant changes in any other parameters.

11.04	End of line BB 85-35B	
	Last shotpoint	499
	Last record number	341
	Water depth	76.7 m.
	Source volume	1530 cu in.

228097

11.04	End of line BB 85-35B	
	Last shotpoint	499
	Last record number	341
	Water depth	76.7 m.
	Source volume	1530 cu in.
	Streamer depth	37-42 ft.
	Maxiran mean residual	5.3 mm.
	using Doctors Rock, Low Head, Hardwickes Hill.	
	Comments	SP 336 source misfire. Again maxiran very unstable and weak resulting in erratic spreads.
12.46	Start of line BB 85-31	Direction 144 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	76.5 m.
	Source array/Volume	1/1530 cu in.
	Streamer depth	39-43 ft.
	Streamer noise/Feather	1-3mbar generally/2 <sup>o</sup> S
	Comments	First section of line only.
13.41	End of line BB 85-31	
	Last shotpoint	333
	Last record number	335

Water depth 75.9 m.  
 Source volume 1530 cu in.  
 Streamer depth 38-41 ft.  
 Streamer noise/Feather As SOL/7 S<sup>o</sup>  
 Maxiran mean residual N/A because of poor signals.

using Doctors rock, Low Head.

Comments Line just completed with marginal Maxiran signals and used sonar for SP interval generation.

- 14.00 Maxiran signals still deteriorating, and now completely useless.
- 14.45 Mobile antennae switched to high power with no significant improvement in quality.
- 18.00 Sea state increased rapidly over the last 2 hours and is now such that sea noise on cable makes recording impossible even if the positioning system were usable.
- 24.00 Riding out seas.

Tuesday 16 April, Day 106

- 06.00 Still down for bad weather causing cable noise to be out of specifications.
- 15.15 Cable noise now reduced to acceptable level on line heading so the downtime is now attributable to signal propagation of Maxiran.

21.00 Now to the south end of line 33 and having put the stations at Doctors Rock and Hardwikes on high power, are receiving weak but usable signals.

23.50 Having run in to just a few hundred metres from the start of line 33 the signals from Low Head and Hardwikes are now too weak and erratic to give acceptable positioning. Going to standby further north.

Wednesday 17 April, Day 107

00.00 Standing by for improvement in Maxiran signal quality.

09.45	Start of line BB 85-33	Direction 330 <sup>o</sup>
	First shotpoint	1
	First record number	3
	Water depth	72.2 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	36-40 ft.
	Streamer noise/Feather	1-3mbar/3 N <sup>o</sup>
	Comments	No usable signal from Doctors Rock so using 2-way of the very minimum quality.

10.40 Lost signal for Hardwikes, antenna blown off heading.

- Circling to restart LGSP 315, LRN 316.
- 15.17 After circling twice for poor Maxiran signals, restart line 33 as 33A FSP 241, FRN3, FCSP 316. All other parameters constant.
- 16.10 End of line BB 85-33A
- |                       |                                 |
|-----------------------|---------------------------------|
| Last shotpoint        | 543                             |
| Last record number    | 305                             |
| Water depth           | 75.7 m.                         |
| Source volume         | 1530 cu in.                     |
| Streamer depth        | 40-45 ft.                       |
| Maxiran mean residual | Not available only partial line |
- using Doctors Rock, Low Head, Hardwickes Hill.
- Comments Hardwickes signal only seen during the middle portion of line and at that time HL looked reasonable at around 4-6 m. Slight ships noise at SOL but only 1-2mbar.
- 16.30 Running with seas to recover trailing equipment.
- 17.29 Airguns onboard start to pull in streamer.
- 19.45 Cable onboard. Now discovered that a fault found to exist on port antenna and cannot be isolated and repaired because of rough sea which is now running. (This antenna was used for Hardwickes on the last line). Thus unable to do any final 3-way fixes so heading to block. T-19-P.
- Initially running on one main engine while engineers perform oil change on port engine.

Thursday 18 April, Day 108

228101

- 01.30 Now running on both engines, but sea state and wind holding down speed.
- 16.36 After transit which was slowed by sea conditions and engine work of some 140 nautical miles, preparing to start baseline checks on Boulders Point and Point Lonsdale.
- 17.17 Complete first crossing 6 m. long.
- 17.30 Because of failure of port antenna rotor baseline checks discontinued until repairs completed.
- 18.41 Begin second crossing of baseline again at 270<sup>o</sup>
- 18.57 Second crossing complete 4 m. long.
- 19.00 En route to Boulder/Parker Hill baseline.

Friday 19 April, Day 109

- 00.00 After transit slowed by sea state begin first crossing of baseline on 244<sup>o</sup>.
- 00.14 Completed first crossing, 3 m. short.
- 00.51 Begin second crossing of baseline on same heading as first.
- 01.15 Completed second crossing of baseline same result. Now heading towards the prospect at reduced speed because of weather.
- 05.15 This is the time at which vessel would have arrived in survey area had weather been good.
- 08.30 In survey area starting to take 3-way fixes.
- 15.45 Having travelled down to the southern end of the prospect while seas still too rough for production, find that signals are very weak but just usable at this time.

24.00 After standing by waiting for the weather all day the **228102**  
sea now is to the stage where cable laying can begin  
soon.

Saturday 20 April, Day 110

00.30 Starting to lay cable.

05.45 Cable out streaming to check balance.

06.55 Start deploying airguns as cable performing within  
specifications.

07.45 Source deployed running for line 51.

09.25 On run in to line compressor generator failed and as  
spare unit is out of commission, unable to start.  
Circling.

11.36 Start of line BB 85-51 Direction 199<sup>o</sup>  
First shotpoint 35  
First record number 3  
Water depth 57.9 m.  
Source array/Volume 1/1530 cu in.  
Streamer depth 39-45 ft.  
Streamer noise/Feather 1-4mbar/4 W<sup>o</sup>  
Comments Still some  
occasional sea noise in short bursts on streamer.  
Line started on Parkers Hill and Boulders Point  
only, no signal from Point Lonsdale.

14.17 End of line BB 85-51  
Last shotpoint 1035  
Last record number 1003  
Water depth 57.4 m.  
Streamer depth 42-46 ft.  
Streamer noise/Feather 1-4mbar/6 S<sup>o</sup>  
Maxiran mean residual N/A

using Point Lonsdale, Parkers Hill, Boulder Point.

228103

Comments

Cable run very slightly deeper than normal to minimise residual sea noise burst. During the line 24 source misfires were logged. Gun 12 off SP96-109, then off SP 112-179, gun 21 off 20 on at SP 128. As this line progressed the Maxiran signal from Parkers Hill deteriorated and was compensated slightly by the reception of a signal from Point Lonsdale on the later part of the line. However signals had worsened to such an extent that nearing the end Parkers was being manually tracked and the line was stopped as soon as full fold coverage was achieved with line 64.

NO MORE LINES WILL BE STARTED UNTIL 3 GOOD RANGES ARE RECIEVED.

24.00 Standing by in prospect area awaiting improvement of Maxiran signals. Neither Lonsdale nor Parkers able to operated on high power because of failure of both high voltage supplies. Tried replacing beacon at Lonsdale but replacement giving double return pulse. Boulder signal remains fairly consistent but the limit for the other stations appears to be 110-115 kms. at present.

Sunday 21 April, Day 111

03.30 Changed all mobile interrogators to low power and see a marked improvement in Parkers signal.

05.30 Lonsdale station changed back to original code 1 beacon and checked all cables and connectors, still no improvement.

- 11.00 Just as signals from Lonsdale show improvement, both **228104**  
Parkers and Boulder signals fade away to unusable.
- 16.30 At eastern end of line 52 Lonsdale found unusable and  
both other stations which are reasonable at western  
end, are also no good.
- 20.00 Again attempted line 52 east end Boulder good abut both  
other stations showing very high variances because of  
weak and unstable signals.
- 24.00 Still circling around the east end of line 52 waiting  
for signals.

Monday 22 April, Day 112

- 01.00 Signals now all completely useless.
- 11.15 After going to high power on the boat and at Lonsdale  
notice an improvement in signal. High voltage supply  
now operational at Lonsdale after attention from B.  
Dean.

11.40 Parkers now on high power operation also and giving a usable also. Boulder is still erratic but overall signals are better than have been observed since the start of this block.

14.01 Start of line BB 85-52 Direction 270°  
 First shotpoint 35  
 First record number 3  
 Water depth 59.7 m.  
 Source array/Volume 2/1530 cu in.  
 Streamer noise/Feather 1-3mbar Gp 27 6,  
 DC/8 N  
 Comments Using one dish to track Parker and Boulder, giving better signal than omni. Antenna on Boulder.

THIS IS THE FIRST OCCASION WHEN THE MAXIRAN SIGNALS HAVE GIVEN ACCEPTABLE SIGNALS. HOW MUCH OF THIS WAS DUE TODAY TO THE NOW AVAILABLE HIGH POWER OPERATION FROM BOTH PARKERS AND LONSDALE IS DIFFICULT TO SAY BUT SOME RESPONSIBILITY FOR DOWNTIME MUST BE TO EQUIPMENT FAILURE.

15.01 End of line BB 85-52  
 Last shotpoint 422  
 Last record number 389  
 Water depth 56.5 m.  
 Source volume 1530 cu in.  
 Streamer depth 41-45 ft.  
 Streamer noise/Feather 1-3mbar Gp 27 9 DC/3 N  
 Maxiran mean residual 6.4 m.  
 using Point Lonsdale, Parkers Hill, Boulder Point.  
 Comments Navigation good,

line complete.

15.30 Parkers Hill High voltage power supply shutdown.

16.35 Attempted to start line 54 but failure of LRS 100 gun timing unit causes immediate termination.

18.00 Parkers back up after working on power supply.

18.28 Start of line BB 85-54 Direction 090<sup>o</sup>  
 First shotpoint 35  
 First record number 3  
 Water depth 55.1 m.  
 Source array/Volume 1/1530 cu in.  
 Streamer depth 38.43 ft.  
 Streamer noise/Feather 1-4mbars/3 S<sup>o</sup>  
 Comments Range from Parkers seems to be in error and operator informs that the high voltage supply is kicking out. Boulder now OK on omni antenna. Not using Parkers for positioning.

19.29 End of line BB 85-54  
 Last shotpoint 403  
 Last record number 371  
 Water depth 58.4 m.  
 Source volume 1530 cu in.  
 Streamer depth 39-43 ft.  
 Streamer noise/Feather 1-4mbar/0<sup>o</sup>  
 Maxiran mean residual N/A as only in 2-way for line.  
 using Point Lonsdale, Boulder Point.  
 Comments During the course of the line the signal from Parkers improved until those 3-ways taken were very low. 4-5mbar ships noise SP35-240 due to passing ship.

21.47 Start of line BB 85-56 Direction 270<sup>o</sup>

1st shotpoint 35  
 2nd record number 3  
 3rd depth 58.5 m.  
 4th array/Volume 2/1530 cu in  
 5th beamer depth 40-45 ft.  
 6th beamer noise/Feather As SOL/2 N  
 7th comments 3-way fixes showing  
 average of 5-6 m. at  
 SOL.

42-45 ft.  
 1-4mbar/2 S  
 Line started on 3-  
 power.  
 502  
 470  
 60.5 m.  
 1530 cu in.

of line BB 85-56  
 1st shotpoint 419  
 2nd record number 387  
 3rd depth 55.5 m.  
 4th array volume 1530 cu in.  
 5th beamer depth 40-44 ft.  
 6th beamer noise/Feather As SOL/2 N  
 7th airan mean residual N/A various 2-way  
 and 3-way fixes.

39-44 ft.  
 1-4mbar Gp 15, 87  
 noisy/2 S  
 N/A 3-way and 2-way  
 fixing.  
 Boulder Point.  
 Complete.  
 Misfires on  
 SPs 174-6

8th location Point Lonsdale, Parkers Hill, Boulder Point.  
 9th comments Towards EOL reduced  
 1st location at Boulder as Parkers down for failed high  
 stage power supply and Lonsdale suffering two short  
 on similar failures. Parkers going to low power  
 line change.

Direction 271  
 35  
 3  
 60.2 m.  
 2/1530 cu in.  
 39-45 ft.

Monday 23 April, Day 113

1-3mbar Gps 15, 87  
 noisy/2 N  
 At SOL Parkers

1st of line BB 85-58 Direction 089  
 2nd shotpoint 35  
 3rd record number 3  
 4th depth 53.4 m.  
 5th array/Volume 1/1530 cu in.

04.36 End of line BB 85-60

Last shotpoint 560

Last record number 527

Water depth 53.2 m.

Source volume 1530 cu in.

Streamer 40-43 ft.

Streamer noise/Feather As SOL/1 N<sup>o</sup>

Maxiran mean residual N/A

using Point Lonsdale, Parkers Hill, Boulder Point.

Comments Just before EOL

Parkers on air and 3-way fixes around 1 m. 7 source misfires on line and at SP 406 gun 13 off, SP 408 gun 14 on. Missed SP 123 on tape change.

RAW AND ARRAY DATA RECORDED.

06.47 Start of line BB 85-64 Direction 091<sup>o</sup>

First shotpoint 65

First record number 3

Water depth 55.2 m.

Source array/Volume 1/1530 cu in.

Streamer depth 41-44 ft.

Streamer noise/Feather 1-3mbar/3 S<sup>o</sup>

Comments Array data only.

08.34 End of line BB 85-64

Last shotpoint 662

Last record number 600

Water depth 58.0 m.

Source volume 1530 cu in.

Streamer depth 40-45 ft.

Streamer noise/Feather 1-3mbar/1 S<sup>o</sup>

Maxiran mean residual 5-6 m.

using Point Lonsdale, Parkers Hill, Boulder Point. 228109

	Comments	Complete
10.00	Started line BB 85-77, direction 311 .	o
10.15	Line terminated for source misfires, data scratched and circling to restart.	
12.35	Start of line Bb 85-77	Direction 311 . o
	First shotpoint	5
	First record number	3
	Water depth	58.9 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	38-44 ft.
	Streamer noise/Feather	o 1-4mbar/1 S
	Comments	Sea state increased from west.
14.43	End of line BB 85-77	
	Last shotpoint	799
	Last record number	797
	Water depth	55.4 m.
	Source volume	1530 cu in.
	Streamer depth	39-42 ft.
	Streamer nois/Feather	o As SOL/1 S
	Maxiran mean residual	9.4 m.
	using Point Lonsdale, Parkers Hill, Boulder Pont.	
	comments	Line complete. o
16.16	Start of line BB 85-79	Direction 146
	First shotpoint	24
	First record number	3
	Water depth	55.7 m.
	Source array/Volume	1/1530 cu in.
	Streamer depth	36-40 ft.

228110

Streamer noise/Feather As SOL/1<sup>o</sup> N  
 Maxiran mean residual 2.6 m.  
 using Point Lonsdale, Parkers Hill, Boulder Point.  
 Comments Cable varying in  
 depths more than normal because of strong following  
 sea. Signals holding well.

23.08 Start of line BB 85-55 Direction 017<sup>o</sup>  
 First shotpoint 35  
 First record number 3  
 Watere depth 50.6 m.  
 Source array/Volume 1/1530 cu in.  
 Streamer depth 39-46 ft.  
 Streamer noise/Feather 1-5mbar/0<sup>o</sup>  
 Comments SOL noise record  
 shows tow jerk  
 frequency of  
 occurrenc

day 24 April, Day 114

00.29 Line terminated because cable has risen out of spec  
 after depth controller system fault causes the birds to  
 be reset to zero. Last good SP 460, record 427.  
 Circling to restart.  
 02.29 Line 55 restarted as 55A, FSP 385A, FRN 3.  
 05.10 End of line BB 85-55A  
 Last shotpoint 1293

228111

	Last record number	911
	Water depth	57.2 m.
	Source volume	1530 cu in.
	Streamer depth	40-44 ft.
	Streamer noise/Feather	1-4mbar/4 W <sup>o</sup>
	Maxiran mean residual	3.4 m.
	using Point Lonsdale, Parkers Hill, Boulder Point.	
	Comments	Complete.
06.05	Start of line BB 85-57	Direction 194 <sup>o</sup>
	First shotpoint	35
	First record number	3
	Water depth	58.4 m.
	Source array/Volume	2/1530 cu in.
	Streamer noise/Feather	1-4.5mbar/8 W <sup>o</sup>
	Comments	Feathering fairly high.
08.40	End of line BB 85-57	
	Last shotpoint	999
	Last record number	967
	Water depth	51.0 m.
	Source volume	1530 cu in.
	Streamer depth	39-43 ft.
	Streamer noise/Feather	1-3mbar/0 <sup>o</sup>
	Maxiran mean residual	2.2 m.
	using Point Lonsdale, Parkers Hill, Boulder Point.	
	Comments	Source M/Fs SPs 519, 520, 527, 723.
10.16	Start of line BB 85-53	Direction 020 <sup>o</sup>
	First shotpoint	65
	First record number	3

	Water depth	54.3 m.
	Source array/Volume	1/1530 cu in.
	Streamer depth	39-43 ft.
	Streamer noise/Feather	1-4mbar/1 W <sup>o</sup>
	Comments	Maxiran signals remain good.
13.24	End of line BB 85-53	
	Last shotpoint	1200
	Last record number	1135
	Water depth	59.3 m.
	Source volume	1530 cu in.
	Streamer depth	39-44 ft.
	Streamer noise/Feather	1-4mbar/1 E <sup>o</sup>
	Maxiran mean residual	3-4 m.
	using Point Lonsdale, Parkers Hill, Boulder Point.	
	Comments	Maxiran signals very poor and erratic at EOL.
14.49	Start of line BB 85-73	Direction 141 <sup>o</sup>
	First shotpoint	65
	First record number	3
	Water depth	62.8 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	37-40 ft.
	Streamer noise/Feather	1-4mbar/2 S <sup>o</sup>
	Comments	Maxiran signals weaker. Dish now operating on stern. 6 NDRs on line.

16.37	End of line BB 85-73	
	Last shotpoint	691
	Last record number	629
	Water depth	65.1 m.
	Source volume	1530 cu in.
	Streamer depth	40-43 ft.
	Streamer noise/Feather	1-4mbar/4 S <sup>o</sup>
	Maxiran mean residual	6.1 m.
	using Point Lonsdale, Parkers Hill, Boulder Point.	
	Comments	Maxiran signals remain weak. Array trace 50 looks a little weak.
18.02	Start of line BB 85-62	Direction 271 <sup>o</sup>
	First shotpoint	5
	First record number	3
	Water depth	64.2 m.
	Source array/Volume	1/1530 cu in.
	Streamer depth	39-43 ft.
	Streamer noise/Feather	1-4mbar/1 N <sup>o</sup>
	Comments	Maxiran signals very weak at start.
21.17	End of line BB 85-62	
	Last shotpoint	1221
	Last record number	1219
	Water depth	54.2 m.
	Source volume	1530 cu in.
	Streamer depth	39-42 ft.
	Streamer noise/Feather	As SOL/0 <sup>o</sup>

228114

Maxiran mean residual 2-3 m.  
using Point Lonsdale, Parkers Hill, Boulder Point.

Comments 8 M/Fs, SP1147 gun  
14 off, 13 on.

Thursday 25 April, Day 115

00.02 Start of line BB 85-78 Direction 056<sup>o</sup>  
 First shotpoint 35  
 First record number 3  
 Water depth 53.4 m.  
 Source array/Volume 2/1530 cu in.  
 Streamer depth 40-46 ft.  
 Streamer noise/Feather 1-4mbar/3 S<sup>o</sup>  
 Comments Maxiran signals

markedly weaker. For this and previous line stern antenna back to omni because of dish element failure again. Port antenna also gave problems on line change, drawing high current.

03.21 Line terminated for failure of Maxiran signals. LGSP 1160, record number 1127. There were some erratic spreads on this line because of the quality of the signals.

06.01 Start of line BB 85-74 Direction 060<sup>o</sup>

228115

	First shotpoint	35
	First record number	5
	Water depth	60.1 m.
	Source array/Volume	1/1530 cu in.
	Streamer depth	40-45 ft.
	Streamer noise/Feather	1-4mbar/0 <sup>o</sup>
	Comments	Maxiran signals improved slightly.
06.56	End of line BB 85-74	
	Last shotpoint	347
	Last record number	317
	Water depth	64.1 m.
	Source volume	1510 cu in.
	Streamer depth	39-44 ft.
	Streamer noise/Feather	1-3mbar/2 <sup>o</sup> N
	Maxiran mean residual	N/A
	using Point Lonsdale, Parkers Hill, Boulder Point.	
	Comments	Using only Lonsdale and Boulder for most of line. 7 source misfires SP131 gun 16 off, SP134 gun 15 on, SP139 gun 15 off.
08.21	Started line 72 on heading of 238 <sup>o</sup> .	
09.02	Line terminated for Wisdom system failure to record SP data. Line to be reshot in entirety.	
11.07	Start of line BB 85-72	Direction 058 <sup>o</sup>
	First shotpoint	35
	First record number	3

228116

	Water depth	60.4 m.
	Source array/Volume	1/1530 cu in.
	Streamer noise/Feather	39-43 ft.
	Comments	Controller noise high on noise strip only.
11.58	End of line BB 85-72	
	Last shotpoint	350
	Last record number	318
	Water depth	63.7 m.
	Source volume	1530 cu in.
	Streamer depth	39-45 ft.
	Streamer noise/Feather	As SOL/4 S <sup>o</sup>
	Maxiran mean residual	N/A for last part of line not using Point Lonsdale, Parkers Hill, Boulder Point. Signal from
	Comments	Boulders disappeared, beacon failed.
13.30	Unable to start line 70 because of port antenna failure and no signal from Boulders. Circling to restart.	
14.00	Signal received from Boulders after replacement of beacon.	
15.00	Once again replaced stern omni with dish but now both this and the port antenna are operating with very makeshift repairs to combat bad connections in the elements.	

228117

15.42	Start of line BB 85-70	Direction 239 <sup>o</sup>
	First shotpoint	35
	First record number	3
	Water depth	63.9 m.
	Source array/Volume	2/1530 cu in.
	Streamer depth	37-41 ft.
	Streamer noise/Feather	1-3mbar/1 N <sup>o</sup>
	Comments	Wrong delay entered for Boulder range, 4770 instead of 4757.
16.39	End of line BB 85-70	
	Last shotpoint	405
	Last record number	373
	Water depth	60.6 m.
	Source volume	1530 cu in.
	Streamer depth	37-41 ft.
	Streamer noise/Feather	As SOL/3 N <sup>o</sup>
	Maxiran mean residual	5.6 m.
	using Point Lonsdale, Parkers Hill, Boulder Point.	
	Comments	Signals to port and stern antennae shaky and as both are rate stations some erratic spreads incurred.
18.26	Start of line BB 85-71	Direction 142 <sup>o</sup>
	First shotpoint	70
	First record number	3
	Water depth	91.4 m.

228118

	Source array/Volume	1/1530 cu in.
	Streamer depth	39-42 ft.
	Streamer noise/Feather	1-4mbar/5 W <sup>o</sup>
	Maxiran mean residual	2.7 m.
	using Point Lonsdale, Parkers Hill, Boulder Point.	
	Comments	4 source misfires, SP141 gun 16 off SP143 gun 15 on.
21.54	Start of line BB 85-80	Direction 230 <sup>o</sup>
	First shotpoint	35
	First record number	3
	Water depth	64.1 .
	Source array/Volume	2/1530 cu in.
	Streamer depth	37-41 ft.
	Streamer noise/Feather	1-4mbar/2 S <sup>o</sup>
	Comments	Again the weak stations are on rate.
23.17	End of line BB 85-80	
	Last shotpoint	533
	Last record number	501
	Water depth	59 m.
	Source volume	1530 cu in.
	Streamer depth	39-43 ft.
	Streamer noise/Feathe	As SOL/0 <sup>o</sup>
	Maxiran mean residual	4-5 m.
	using Point Lonsdale, Parkers Hill, Boulder Point.	
	Comments	4 source misfires. Some velocity fluctuations caused by Maxiran.

Friday 26 April, Day 116

228119

00.32	Start of line BB 85-78A	Direction 056 <sup>o</sup>
	First shotpoint	1085A, FCSP 1161
	First record number	3
	Water depth	62.6 m.
	Source array/Volume	1/1530 cu in.
	Streamer depth	39-44 ft.
	Streamer noise/Feather	1-4mbar/5 <sup>o</sup> S
	Comments	Maxiran signals very poor again.
01.17	End of line BB 85-78A	
	Last shotpoint	1366
	Last record number	284
	Water depth	65.3 m.
	Source volume	1530 cu in.
	Stramer depth	40-44 ft.
	Streamer noise/Feather	1-6mbar/4 <sup>o</sup> S
	Maxiran mean residual	N/A
	using Point Lonsdale, Parkers Hill, Boulder Point.	
	Comments	Maxiran signals very poor and line completed using various station combinations. 6 source misfires, gun 16 off, 15 on SP1220, 1221.
02.39	Start of line BB 85-76	Direction 239 <sup>o</sup>
	First shotpoint	35
	First record number	3
	Water depth	63.9 m.

	Source array/Volume	2/1530 cu in.
	Streamer depth	39-42 ft.
	Streamer noise/Feather	1-4mbar/2 N <sup>o</sup>
	Comments	Maxiran signals improved. Array data recorded.
04.14	End of line BB 85-76	
	Last shotpoint	639
	Last record number	607
	Water depth	58.1 m.
	Source volume	1530 cu in.
	Streamer depth	40-43 ft.
	Streamer noise/Feather	1-3mbar/2 N <sup>o</sup>
	Maxiran mean residual	N/A
	using Point Lonsdale, Parkers Hill, Boulder Point.	
	Comments	Line shot using 2-way for most of the time.
04.20	Start to recover airguns.	
05.40	Airguns onboard.	
10.15	Streamer onboard, underway to Portland.	
13.04	Start Boulder/Lonsdale baseline crossing.	
13.20	Baseline cut complete, results show 16 m. long.	
14.16	Start Boulder/Parkers baseline crossing.	
14.32	Crossing complete, results show 7 m. long	
24.00	En route to Portland.	
	Saturday 27 April, Day 117	
08.30	Tied up alongside at Portland.	
	F. Renton remaining with the vessel for further survey.	

228121

APPENDIX A

=====

TELEX REPORTS

228122

444 1425

SIG 14

1334713 ODE3 X

GA

007126518

RF00CL AA2513PL

TO: BRIDGE OIL

ATTN: W. JAMESON

2.57001E

FROM: A. LESTER

BASE: BRIDGE OIL REPORT 1, 1111 101RS, 9.4.45

VESSEL DEPARTED PORTLAND 1524 101RS LOCAL TIME ON 5.4.45. ARRIVED

OFF TASMANIAN COAST AND BEGAN NAVIGATION SYSTEM TESTS AT 2047

101RS 7.4.45. TESTS COMPLETED AND STEAMER TABLE LAYING BEGAN

1335 101RS, 5.4.45. TABLE PREPARATION CONTINUES AT THIS TIME.

HOPE TO BE ABLE TO ADVISE THE EXACT NUMBERS REQUIRED TO CONTACT

THIS VESSEL BY TELETYPE AND TELEPHONE IN TOMORROW'S REPORT

1334713 ODE3 X

RF00CL AA2513.....

444 1425

11.11.45

1944 1443

3MG 14

1334715 0073 X

GA\*

447125513\*

BE600E7BA255135\*4

TO: BRIDGE OIL  
 ATTN: W. TAYLOR  
 C. SCOPPER  
 FROM: A. LISKOV  
 F. BENTON

BASS BASIN SERVICE REPORT 2, 4444 101RS 14.4.35

PRODUCTION FOR 9.4.35

LEVEL	DEP.	FSP	LSP	AMS	COMMENT
24	244	1	393	23.395	COMPLETE
22	434	1	347	17.255	COMPLETE

NO MEASURABLE TIME INCURRED. THE FOLLOWING ARE THE ACTIVITY  
 TIMES FOR THE DAY

PRODUCTION 4.21 HRS  
 LEVEL CHANGE 4.34 HRS  
 TABLE PREPARATION 2.54 HRS  
 TABLE DOWNTIME 3.11 HRS  
 SORTER DOWNTIME 1.92 HRS  
 NAVIGATION DOWNTIME 2.42 HRS

FOR FULL DETAILS OF PROCEDURES AND NUMBERS NECESSARY TO TELE  
 OF TELEPHONE THE VESSEL IF YOU REQUIRE SUGGEST CONTACT WITH  
 WESTERN PARTY MANAGER G. TAYLOR AT THE GILONG INTERNATIONAL  
 HOTEL.

1334715 0073 X

BE600E7BA25513.....

4449 1443

14.4.35

576 11  
1304713 0073 X  
GA  
117125513

REC'D AA25513116

TO: REEDGE OIL  
ATTN: W. JAMESON  
7.3300PER  
FROM: A. L. J. STON  
P. RINTON

BASE BASIN SURVEY REPORT 3. 4444 HOURS 11.4.55

PRODUCTION FOR 11.4.55

LINE	DIR.	FSP	LSP	AMS.	COMMENT
24	242	1	134	4.341	LINE TERMINATED FOR SURVEY FAILURE
24A	242	131	525	9.241	OVERLAP SHOT LINE COMPLETE
25	242	1	754	24.259	COMPLETE
25	241	1	375	23.334	COMPLETE
24	243	1	634	15.342	COMPLETE

NO CHARGEABLE TIME INCURRED TOTAL CHARGEABLE KILOMETERS TO DATE  
115.554

THE FOLLOWING ARE THE ACTIVITY TIMES FOR THE DAY  
PRODUCTION 7.32 HOURS  
LINE CHANGE 7.15 HOURS  
TABLE DOWNTIME 5.35 HOURS  
SURVEY DOWNTIME 2.17 HOURS

1304713 0073 X  
REC'D AA25513.....  
4414 1449  
11.4.55

1304715 ODYS X

228125

1144 1515  
549 14

1304715 ODYS X

GA  
147125513  
REC'D AA25513  
XD

TO: BRIDGE OIL  
ATTN: W. JAMISON  
R. SCOPPER  
FROM: A. LISKIN  
F. FENTON

BASE BASIN SURVEY REPORT 3, 1144 HOJRS 12.4.35

PRODUCTION FOR 11.4.35

LINE	DCR.	FSP	LS	RMS.	COMMENT
23	329	1	975	25.443	COMPLETE
21	149	1	953	25.551	COMPLETE
5	342	1	545	17.222	LINE BROKEN AT DOGLE
5A	291	1	577	15.339	COMPLETE
2	133	1	439	13.742	COMPLETE
3	455	1	517	13.733	COMPLETE
6	235	1	942	25.123	COMPLETE

DAILY TOTAL 136.497 RMS.  
CHARGEABLE KILOMETERS TO DATE 251.657

NO CHARGEABLE TIME INCURRED TO DATE.  
THE FOLLOWING ARE THE ACTIVITY TIMES FOR THE DAY  
PRODUCTION 13.33 HOJRS  
LINE CHANGE 14.34 HOJRS

1304715 ODYS X

REC'D AA25513.....  
1411 1515  
11.12.34

228126

1244 1419  
3NG 14  
\*  
1334713 ODYS X

GAP  
447125513\*  
BROCKL AA25513\*  
1334713 ODYS X

TO: BRIDGE OIL  
ATTN: W. JAMESON  
R. SCRIPPER  
FROM: A. LUSKIN  
P. BENTON

BASS BASIN SURVEY REPORT 4. 4444 HOJRS 12.4.35

PRODUCTION FOR 12.4.35

LINE	DCR.	FSP	LSO	RMS.	COMMENT
4	456	1	943	24.215	COMPLETE
7	121	1	1412	26.994	COMPLETE
9	342	1	599	15.975	COMPLETE
14	233	1	1255	33.471	COMPLETE
14	274	1	194	5.457	LINE TERMINATED FOR MISSED SPS
14A	274	191	593	13.415	75 OVERLAP SPS, LINE COMPLETE
DAILY TOTAL				119.134 RMS.	
CHARGEABLE KILOMETERS TO DATE 374.791					

NO CHARGEABLE TIME TO DATE  
THE FOLLOWING ARE THE ACTIVITY TIMES FOR THE DAY  
PRODUCTION 12.35 HOJRS  
LINE CHANGE 9.34 HOJRS  
INSTRUMENT DOWNTIME 2.34 HOJRS

1334713 ODYS X

\*  
BROCKL AA25513.....  
4412 1422  
11.12.34

1344 1554

SNG 11

\*  
1334713 ODYS X

GA"

117123513"

BR100L AA23513\*

1334713 ODYS X

TO: BRIDGE OIL

ATTN: A. L. JERIN

FROM: F. RENTON

PASS BASIN SURVEY REPORT 9, 1111 HOURS 14.4.35

PRODUCTION FOR 13.4.35

LINE	DEP.	FSP	LSP	RMS.	COMMENT
2	153	1	221	5.337	TERMINATED FOR INSTRUMENT FAILURE
2A	153	221	315	11.233	COMPLETE
13	153	1	523	13.943	COMPLETE
12	153	1	319	13.519	COMPLETE
13	237	1	493	13.143	COMPLETE
1	327	1	1224	32.344	COMPLETE

DAILY TOTAL 92.354

CHARGEABLE RMS. TO DATE 463.175

NO CHARGEABLE TIME TO DATE

ACTIVITY TIMES FOR DAY

PRODUCTION 9.33 HOURS

LINE CHANGE 12.77 HOURS

INSTRUMENT DOWNTIME 1.37 HOURS

1334713 ODYS X

\*  
BR100L AA23513.....

4413 1553

11.12.17

1414 1423  
 3NG 14  
 \*

1334713 ODYS X  
 GA\*  
 147125513\*  
 BRICOL AA25513\*  
 1334713 ODYS X

TO: BRIDGE OIL  
 ATTN: A. LJUSTEN  
 FROM: F. BENTON

BASS BASIN SURVEY REPORT 5. 1111 HOURS 15.4.35

PRODUCTION FOR 14.4.35

LINE	DEF.	FSP	LSP	RMS.	COMMENT
32	455	1	499	13.333	COMPLETE
33	233	1	505	14.263	COMPLETE
41	457	1	595	13.533	COMPLETE
44	233	1	505	13.463	COMPLETE
45	457	1	524	13.333	COMPLETE
35	233	1	505	14.263	COMPLETE
34	455	1	513	13.543	COMPLETE

DAILY TOTAL 141.264  
 CHARGEABLE KILOMETERS TO DATE 564.439

NO CHARGEABLE TIME TO DATE.

ACTIVITY TIMES FOR DAY  
 PRODUCTION 14.72 HOURS  
 LINE CHANGE 11.35 HOURS  
 NAVIGATION DOWNTIME 1.43 HOURS

DURING THE LAST 24 HOURS OR SO THE WEATHER HAS DETERIORATED  
 SOMEWHAT FROM THE IDEAL CONDITIONS EXPERIENCED INITIALLY.  
 THE EFFECT ON DATA COLLECTED HAS BEEN HAS BEEN THE  
 FALL OFF IN THE QUALITY OF THE POSITIONING. AS CAN  
 BE SEEN ABOVE TIME WAS LOST BECAUSE OF THIS BUT ON THE WHOLE  
 SIGNALS ARE GENERALLY WITH LESS STABLE THAN BEFORE.

BRICOL AA25513  
 1334713 ODYS X

.....  
 1414 1432  
 14.10.35

1514 1483

316 13

1334715 0573 X

GA\*

447125513\*

RECORD AA25513\*

1334715 0573 X

228129

TO: BRIDGE OIL  
ATTN: A. LISKIN  
FROM: F. RENTON

BASE BASED SURVEY REPORT 7, 4414 40JRS 15.4.35

PRODUCTION FOR 15.4.35

LINE	D.C.F.	FSP	LSP	RMS.	COMMENT
35	115	1	215	5.761	FIRST PART OF DOGLEG LINE
35A	343	1	235	5.257	TERMINATED FOR WISDOM FAILURE
35B	343	235	499	7.441	LINE 35 COMPLETE
31	144	1	233	7.414	FIRST SECTION OF DOGLEG LINE

DAILY TOTAL 25.433  
CHARGEABLE KILOMETRES TO DATE 594.522

NB BECAUSE OF SYSTEM PROBLEMS LINE 31 AND 35 ARE EACH BEING  
SHOT IN TWO SECTIONS WITH THE NECESSARY ADDITIONAL OVERLAP  
POINTS NON CHARGEABLE.

NO CHARGEABLE TIME TO DATE

ACTIVITY TIMES FOR DAY

PRODUCTION	43.17 40JRS
LINE CHANGE	42.31 40JRS
NAVIGATION DOWNTIME	12.42 40JRS
WEATHER DOWNTIME	45.33 40JRS

THE WEATHER DOWNTIME CAN BE SUBDIVIDED INTO TWO CATEGORIES  
THAT OF SYSTEM FAILURE AND THAT OF SIGNAL FAILURE. DURING  
THE DAY A NUMBER OF PROBLEMS WERE EXPERIENCED WITH THE  
WISDOM SYSTEM BUT THE REST OF THE TIME LOST WAS CAUSED  
BY THE ABSENCE OF USABLE MAXIMUM SIGNALS. THIS CATEGORY  
WAS RESPONSIBLE FOR ABOUT 6 40JRS LOST TIME.

TORECTION LINE 13 SHOULD READ

THE NAVIGATION DOWNTIME CAN BE SUBDIVIDED INTO

RECORD AA25513

1334715 0573 X

.....

4415 1514

11.14.35

228130

1744 1448  
346 14  
1334715 0073 X

GA  
417123513  
BEFOOL AA23513  
1334715 0073 X

TO: BRIDGE OIL  
ATTN: A. LISTER  
FROM: F. BENTON

BASS BASIN SURVEY REPORT 9 4444401RS 13.4.55

PRODUCTION FOR 17.4.55

LINE	DIR.	FSP	LSP	KMS.	COMMENTS
33	334	1	315	3.441	TERMINATED FOR LOSS OF SIGNALS
33A	334	315	540	5.431	LINE COMPLETE, OVERLAP SHOT

DAILY TOTAL 14.452  
SURVEY TOTAL FOR BLOCK 15-16 545.444 KILOMETERS

LINE 33 WAS SHOT WITHOUT FINISH AT END OF LINE.

ACTIVITY TIMES FOR THE DAY

PRODUCTION	1.34	401RS
NAVIGATION DOWNTIME	14.37	401RS
STREAMER RECOVERY	3.53	401RS
TRAVEL TIME	4.25	401RS

CHARGEABLE TIME REMAINS AT 9.25 401RS

AFTER COMPLETION OF LINE 33 TRAILING EQUIPMENT WAS RECOVERED AND VESSEL STARTED STEAMING FOR NEXT PROSPECT. AS OF THIS REPORT ACTIVITY CONTINUES TO BE TRAVEL WITH NAVIGATION 347RS EXPECTED TO BEGIN THIS MORNING. WEATHER CONTINUES TO BE FAIRLY POOR (RESPECT OF MAXIMUM PROPAGATION.

1334715 0073 X  
BEFOOL AA23513.....  
1417 1445  
44.42.53

1333715 0073 X

1333 1441

319 11

1873 9.25 /

GA\*

44718513\*

RECOLL AA23513\*

RECOLL AA23513

TO: BRIDGE OIL

ATTN: A. LUSKIN

FROM: F. FINTON

PASS BASIN SURVEY REPORT S. 1111 10JRS 17.4.55

NO PRODUCTION TO REPORT FOR THE 13TH.  
CHARGEABLE KILOMETRES REMAIN AT 591.522

ACTIVITY TIMES FOR THE DAY

WEATHER DOWNTIME 15.25 10JRS  
NAVIGATION DOWNTIME 3.75 10JRS

FOR THE FIRST PART OF THE DAY SEA NOISE ON THE TABLE WAS TOO HIGH FOR RECORDING PRODUCTION. AT 1815 10JRS IT WAS CONSIDERED THAT THE TABLE WAS WITHIN SPECIFICATIONS FOR WORK AND THAT HAD MAXIMUM SIGNALS BEEN GOOD PRODUCTION WOULD HAVE BEEN RESTARTED.

IN ACCORDANCE WITH MY PRESENT UNDERSTANDING OF THE CONTRACT THIS WOULD GIVE 9.25 10JRS OF WEATHER DOWNTIME AS CHARGEABLE.

IN RESPECT OF THE TELEPHONE DISCUSSION WE HAD TODAY I WILL CALL YOU AT 1111 10JRS TODAY THE 17 TH FOR THE OUTCOME OF DISCUSSIONS.

1333715 0073 X

RECOLL AA23513.....

1415 1441

11.12.54

228131

228132

1344 1341  
306 11

1334715 0023 X

GA  
447125513\*

REC'D. AA25513\*  
1334715 0023 X

TO: BRIDGE OIL  
ATTN: A. L. JEN  
FROM: F. FENTON

BASS BASIN SURVEY REPORT 14 4444 HOURS 19.4.35

NO PRODUCTION TO REPORT

SURVEY TOTAL REMAINS 345.444

ACTIVITY TIMES FOR DAY

TRAVEL TIME	13.34 HOURS
NAVIGATION TIMES	5.22 HOURS
NAVIGATION DOWNTIME	1.13 HOURS

WEATHER IS STILL POOR AT THIS TIME AND BOTH THE TRAVEL AND NAVIGATION TIMES INDICATED ABOVE WERE OF LONGER DURATION THAN WOULD HAVE BEEN ENJOINED IN GOOD WEATHER. PROPAGATION CONDITIONS ARE STILL NOT GOOD FOR MAXIFAN SIGNALS BUT BAROMETER IS RISING. PRESENTLY HEADING OUT TO SURVEY AREA TO OBSERVE WEATHER AND MAXIFAN SIGNALS.

1334715 0023 X

REC'D. AA25513\*  
1413 1344  
14.12.35

228133

1944 1455  
316 14  
1334713 ODYS X

GA  
147125513

RECOIL AA23513  
1334713 ODYS X

TO: BRIDGE OIL  
ATTN: A. L. J. COV  
FROM: F. RINTON

PASS BASIN SURVEY REPORT 11, 4444 HOURS 24.4.35

NO PRODUCTION TO REPORT

SURVEY TOTAL REMAINS 345.444

ACTIVITY TIMES FOR DAY

NAVIGATION HOURS	1.25 HOURS
TRAVEL TIME	4.44 HOURS
WEATHER DOWNTIME	13.75 HOURS

CHARGEABLE TIME FOR THE DAY IS 6.75 HOURS BRINGING TOTAL CHARGEABLE TIME TO 15.44 HOURS

WEATHER HAS GRADUALLY IMPROVED AND ONLY EXPECT TO WAIT ANOTHER 24 HOURS BEFORE STARTING TO LAY STREAMER AT WHICH TIME CHARGEABLE TIME WILL DEASE. OBSERVATIONS OF THE MAXIMUM SIGNAL PERFORMANCE DURING THE DAY HAS SHOWN A SLIGHT IMPROVEMENT ON THE QUALITY SEEN AT THE END OF THE LAST PROSPECT BUT AT THE SOUTH END OF THE BLOCK THEY ARE STILL JUST POOR AND ONLY JUST USABLE.

1334713 ODYS X

RECOIL AA23513.....  
4419 1541  
14.42.23

2104 1545  
 31011 \*  
 130715 0023 X  
 00  
 412 5813  
 PERIOD AA25513\*  
 130715 0023 X

TO: BRIDGE OIL  
 ATTN: A. L. BROWN  
 FROM: F. B. TON

BASE BASED WIRE REPORT IS 3000 1018 21.04.49

THE ONLY PRODUCTION FOR THE DAY WAS LINE BB 35-51 WHICH WAS 3407  
 FROM NORTH TO SOUTH. THE LINE BEGAN AT SHOTPOINT 35 AND WAS  
 TERMINATED EARLY AS SOON AS A TIE HAD BEEN ACHIEVED WITH LINE  
 54. AT SHOTPOINT 1435 BECAUSE OF MAXIMUM SIGNAL QUALITY.  
 LINE 51 HAD 25.57 KMS. OF COVERAGE AND THAT BRINGS THE TOTAL  
 CHARGEABLE KILOMETERS TO 631.741

ACTIVITY TIMES FOR DAY

WEATHER DOWNTIME	4.54 10183
DEPLOYING STREAMER AND 30183	17.25 10183
FIN OF TO LINE	41.37 10183
VEHICLE DOWNTIME	12.13 10183
PRODUCTION	12.53 10183
NAVIGATION DOWNTIME	19.72 10183

THE PERIOD OF WEATHER DOWNTIME BRINGS THE TOTAL NUMBER OF  
 CHARGEABLE 10183 TO 15.54 10183.

130715 0023 X

PERIOD AA25513  
 PERIOD AA25513.....  
 4421 1549  
 41.12.49

228135

2144 1414  
356 14 \*  
1334715 0075 X

GA\*  
447125513\*

REC'D AA25513\*  
1334715 0075 X

10: REEDGE OIL  
FROM: F. RINTON  
ATTN: A. LISKIN

BASS BASIN SURVEY REPORT 10, 4444 HOURS 22.4.52

NO PRODUCTION TO REPORT. THE DAY HAS BEEN SPENT IN CLOSE  
VICINITY OF LINE 52 OBSERVING THE QUALITY OF MAXIMUM SIGNALS  
WHICH HAVE BEEN DISPLAYING VARYING CHARACTERISTICS  
THROUGHOUT THE DAY BUT HAVE NEVER SHOWN ANY CONSISTENCY  
OR SUFFICIENT STABILITY OR STRENGTH TO BEGIN PRODUCTION.

IN LIGHT OF THIS CONTINUING PROBLEM I WOULD LIKE TO  
ADVISE CONSIDERATION OF THE BATTERY 22 SITUATION WHICH  
COULD POSSIBLY DEVELOP. THAT IS IF THIS SIGNAL  
PROPAGATION PROBLEM CONTINUES AND IS INTERRUPTED BY  
ANY WEATHER DOWNTIME PERIODS OF ANY APPRECIABLE DURATION  
THE BUDGET FOR THIS SURVEY COULD BE RAPIDLY EATEN AWAY  
IN PACING FOR SURVEY DOWNTIME WITHOUT ANY INCREASE IN THE  
AMOUNT OF DATA COLLECTED.

I WOULD INTEND TO CALL YOU BY TELEPHONE THIS MORNING TO  
TALK ABOUT THIS POINT AND THE GENERAL SITUATION.

1334715 0075 X

\*  
REC'D AA25513.....  
4481 1417  
44.42.52

2240 4143  
 3MG 11 \*  
 1224715 0073 X

GA\*  
 117125513\*  
 BEFOOL AA25513\*  
 1224715 0073 X

TO: BRIDGE OIL  
 ATTN: A. L. JERON  
 FROM: F. FINTON

BASS BASIN SURVEY REPORT 13A 22.4.65

DOWNTIME INCURRED BECAUSE OF BAD SIGNAL PROPAGATION OF  
 MAXIFAN.

DATE	START TIME	END TIME	FOJRS
14.4	2235	2411	41.42
15.4	1111	1133	41.55
15.4	1341	1344	44.32
15.4	1515	2411	45.75
17.4	1111	1945	49.75
17.4	1441	1517	44.32
21.4	1417	2411	49.72
21.4	1111	2411	24.11

ACCORDING TO T103 THE ONLY PERIODS WHERE THE DOWNTIME  
 EXCEEDED 12 FOJRS ARE ON THE 15-17 WHEN 15.54 FOJRS WERE  
 INCURRED AND FROM 1417 ON THE 21ST UNTIL THE PRESENT.

1224715 0073 X  
 \*  
 BEFOOL AA25513.....  
 1422 4114  
 11.12.14

228137

1334713 0023 X

2244 4257

SVG 14 \*

1334713 0023 X

GA\*

447125513\*

RF100L AA25513\*

1334713 0023 X

TO: BRIDE OIL  
ATTN: A. L. J. KIN  
FROM: F. RINTON

PASS BASIN SURVEY REPORT 13B 22.4.55

DOWNTIME CAUSED BY WEATHER AND OR SIGNAL PROPOGATION

DATE	START TIME	END TIME	HOJRS
14.4	2235	2444	41.42
15.4	4444	4133	41.55
15.4	1341	2444	14.32
16.4	4444	2444	24.44
17.4	4444	4945	49.75
17.4	1444	1517	44.32
19.4	4515	2444	13.75
20.4	4444	4434	44.54
20.4	1417	2444	49.72
21.4	4444	2444	24.44
22.4	4444		

PRESENTLY STILL LEADING FOR LINE 52.  
I WILL TELEK AGAIN IF PRODUCTION IS STARTED  
AND LINE 52 COMPLETED.

1334713 0023 X

RF100L AA25513.....

4422 4344

44.42.32

2234 1514  
3NG 11 \*  
1334715 ODPS X

GA\*  
447125513\*

077

228138

2234 1515  
3NG 11 \*  
1334715 ODPS X

GA\*  
447125  
XXXXX

2234 1517  
3NG 11 \*  
1334715 ODPS X

GA\*  
447125513\*

077

7013AT ISA 22241 14/22 15132\*  
1334715 ODPS X

GA\*  
447125513\*

VP FITTING

077 FITTING

BR/OIL AA25513\*  
1334715 ODPS X

TO: BRIDGE OIL  
ATTN: A. LUBIN  
FROM: F. RENTON

BASS BASIN SURVEY REPORT 137 22.4.55

LEVEL BB 35-52 STARTED AT 1441 HOURS AND COMPLETED AT  
1541 HOURS. MAXIMUM PERFORMED LIKE WELL ON THIS LEVEL  
BUT STILL A NOTICEABLE IMPROVEMENT FROM THE EAST TO  
WEST END. DESPITE THE COMPLETION OF THIS LEVEL I STILL  
WOULD NOT LIKE TO SAY THAT THE SYSTEM WILL PROVE GOOD  
ENOUGH FOR THE WHOLE SURVEY. WOULD YOU INFORM ME IF  
THERE IS ANY PARTICULAR PART OF THIS PROSPECT  
WHERE WE SHOULD TRY TO COMPLETE WHILE SIGNALS REMAIN  
WORKABLE.

1334715 ODPS X

BR/OIL AA25513.....  
14/22/35 1522Z 142.4 10V

22.4.55  
370 11 \*  
1334715 ODEB X

00P  
14716513P

BR100L AA25513\*  
1334715 ODEB X

228139

TO: BRIDGE OIL  
ATTN: A. L. J. KIN  
FROM: F. FINNION

BASS BASIN SERVICE REPORT 14, 1441 HOURS 22.4.55

PRODUCTION FOR 22.4.55

LEVEL	DEP.	ASP	LSP	RMS.	COMMENT
52	271	25	422	14.343	COMPLETE
54	191	25	413	9.341	COMPLETE
55	271	25	419	14.233	COMPLETE

DAILY TOTAL 39.456  
SERVICE TOTAL 332.153

ACTIVITY TIMES FOR THE DAY

NAVIGATION DOWNTIME	14.42 HOURS
SERVICE DOWNTIME	1.33 HOURS
PRODUCTION	3.47 HOURS
LEVEL CHANGE	5.33 HOURS

PRODUCTION HAS CONTINUED STEADILY SINCE 1441 HOURS  
WITH SOME EQUIPMENT PROBLEMS ON THE MAXIMAN STORE  
STATIONS UNDER THE LOSS SIGNALS HAVE MAINTAINED A  
FAIRLY REASONABLE QUALITY AND IT IS HOPED THAT PRODUCTION  
WILL CONTINUE THROUGHOUT THE NIGHT.

1334715 ODEB X

BR100L AA25513.....  
1422 1455  
11.12.55

228140

2534 4435  
SNG 14 \*  
1334716 ODFB X

GA\*  
447126513\*  
P5393460E751\*

TO: BRIDGE OCL  
ATTN: A. LISTER

F. FINTON

BASS BASIN SURVEY REPORT 13, 1984 HOJES 25.4.85

PROJECTION FOR 25.4.85

LINE	DEF.	FSP	LSP	FMS.	COMMENT
73A	455	1161	1365	5.494	OVERLAP 3407. LINE COMPLETE
73	239	35	339	15.135	COMPLETE

DAILY TOTAL 21.629  
SURVEY TOTAL 1445.454

TOTAL TAPES USED FOR 241 CHANNEL RECORDING ON LINES 71 AND 73 WAS THIRTYN 13.

PRESENTLY INTENT TO PERFORM FINAL BASILINE CROSSINGS  
TUN TO PORTLAND FOR PORT CALL AND DATA DROP.

1334716 ODFB X  
BRIDGE ADDRESS.....  
1425 4441  
44.41.55

228141

2244 1425  
SNG 14 +  
1304715 ODYS X

GA\*  
447125513\*

REC'DL AA25513\*  
1304715 ODYS X

TO: BRIDGE OIL  
ATTN: A. L. J. S. K. V.  
FROM: F. DIVISION

PASS PASSENGER SERVICE REPORT IS. 4444 HOURS 24.4.55

PRODUCTION FOR 23.4.55

LINE	D&F.	FSP	LSP	RMS.	COMMENT
53	439	35	542	12.432	COMPLETE
54	271	35	564	14.423	COMPLETE
54	491	35	632	15.949	COMPLETE
77	311	5	799	21.243	COMPLETE
79	145	24	635	13.322	COMPLETE
55	254	35	617	15.549	COMPLETE
55	17	35	343	3.241	LINE CONTINUING AT THIS TIME

DAILY TOTAL	143.774
SERVICE TOTAL	735.932

ACTIVITY TIMES FOR THE DAY

PRODUCTION	14.73 HOURS
LINE CHANGE	14.33 HOURS
SERVICE DOWNTIME	2.59 HOURS

WEATHER HAS DEGRADATED DURING THE DAY BUT SIGNALS  
REMAIN GOOD AND THE ONLY RESULT IS INCREASED SEA STATE  
WHICH IS NOT HAVING ANY EFFECT ON TABLE NOISE AT THIS  
TIME.

1304715 ODYS X

REC'DL AA25513.....

4422 1425  
44.42.47

228142

2414 1452  
SNG 14 \*  
1334713 ODPS X

2414 1453  
SNG 14 \*  
1334713 ODPS X

GA\*  
447123513\*

BR00L AA23513\*  
1334713 ODPS X

TO: BRIDGE OIL  
FROM: F. RENTON  
ATTN: A. LISREN

BASS BASIN SURVEY REPORT 13, 1444 40JRS 25.4.35

PRODUCTION FOR 24.4.35

LEV	DEP.	FSP	LSP	RMS.	COMMENT
55	17	344	434	3.124	LINE STOPPED FOR STREAMER FAULT
55A	417	431	1293	22.213	OVERLAP SHOT LINE COMPLETE
57	194	35	999	25.737	COMPLETE
58	424	35	1244	34.297	COMPLETE
73	141	35	391	13.722	COMPLETE
32	271	5	1221	32.457	COMPLETE

DAILY TOTAL 134.549  
SURVEY TOTAL 393.431

ACTIVITY TIMES FOR DAY

PRODUCTION	13.92 40JRS
LINE CHANGE	3.33 40JRS
STREAMER DOWNTIME	2.44 40JRS

1334713 ODPS X

\*  
BR00L AA23513.....  
1424 1453  
44.42.22

XXXXX

228143

2504 1402  
SVC 17 \*  
1334715 ODYS X

GA#  
447125513#  
VP

2504 1404  
SVC 17 \*  
1334715 ODYS X

GA#  
447125513#

BR00L AA25513\*  
1334715 ODYS X

BR00L AA25513

TO: BRIDGE OIL  
FROM: F. RINTON  
ATTN: A. LISKIN

BASS BASKIN SURVEY REPORT 17 4444 HOURS 25.4.55

PRODUCTION FOR 25.4.55

LEVEL	DR.	FSP	LSP	RMS.	COMMENT
73	455	35	1150	34.834	TERMINATED FOR LOSS OF MAXIMUM SIGNALS.
74	434	35	547	3.343	COMPLETE
75	453	35	354	3.423	COMPLETE
76	239	35	445	9.595	COMPLETE
71	142	71	714	13.935	COMPLETE
54	234	35	533	13.343	COMPLETE

DAILY TOTAL 33.944  
SURVEY TOTAL 913.425

ACTIVITY TIMES FOR DAY

PRODUCTION 9.15 HOURS  
 LEVEL CHANGE 7.21 HOURS  
 NAVIGATION DOWNTIME 2.37 HOURS FOR LOSS OF SIGNALS  
 4.97 HOURS FOR EQUIPMENT FAILURE

WILL SEND FURTHER TELETYPE TODAY ON COMPLETION OF SURVEY.

1334715 ODYS X

\*  
BR00L AA25513.....  
4425 1403  
44.42.42

228144

2514 1123  
SNG 14 \*  
1334716 ODYS X

GA\*  
117125513\*  
P539716A0E751 X\*

TO: BRIDGE OCL  
ATTN: A. L. J. S. C. N

F. R. INTON

BASS BASIN SURVEY REPORT 13, 1434 10JRS 23.4.35

PRODUCTION FOR 23.4.35

LINE	DEF.	FSP	LSP	RMS.	COMMENT
73A	455	1161	1365	5.494	OVERLAP 3407, LINE COMPLETE
73	239	35	339	15.135	COMPLETE

DAILY TOTAL 21.529  
SURVEY TOTAL 1445.154

TOTAL TAPES USED FOR 241 CHANNEL RECORDING ON LINES 31 AND 73 WAS THIRTY TWO.

PRESENTLY INTENT TO PERFORM FINAL BASILINE CROSSINGS THEN TO PORTLAND FOR PORT CALL AND DATA DROP.

1334716 ODYS X

BRIDGE A025513.....  
1423 1141  
11.11.55

228145

APPENDIX B  
=====

MAXIRAN CALIBRATION RESULTS

BASELINE CROSSING LOG

SHEET NO. : 1

CLIENT : BRIDGE OIL

VESSEL : WESTERN ODYSSEY

AREA : T-16-P

PARTY : 86

PRE/POST PROSPECT

DATE : 7th APRIL 85

	Station No. 1	Station No. 2	Ships Antenna	Ships Heading	Baseline Results	Overall Results
Cut/ <del>EXT</del> No. <u>1</u> System <u>MAXIRAN</u> Time _____ Commenced <u>1307</u> Completed <u>1319</u>	Name <u>DOCTORS ROCKS</u> Ant Type <u>DISH</u> Zero Set <u>4746</u>	Name <u>HARDWICKES HILL</u> Ant Type <u>DISH</u> Zero Set <u>4746</u>	Dish  <del>OMNI</del>	355	Computed <u>156277</u> Observed <u>156277</u> Plus Offset <u>4m</u> R.U.F. <u>.999989</u> Corrected <u>156279</u>	<del>Short</del> /Long _____ _____ <u>2</u> Meters
Cut/ <del>EXT</del> No. <u>2</u> System <u>MAXIRAN</u> Time _____ Commenced <u>1349</u> Completed <u>1403</u>	Name <u>DOCTORS ROCKS</u> Ant Type <u>DISH</u> Zero Set <u>4746</u>	Name <u>HARDWICKES HILL</u> Ant Type <u>DISH</u> Zero Set <u>4746</u>	Dish  <del>OMNI</del>	175	Computed <u>156277</u> Observed <u>156277</u> Plus Offset <u>4m</u> R.U.F. <u>.999989</u> Corrected <u>156279</u>	<del>Short</del> /Long _____ _____ <u>2</u> Meters
Cut/Ext No. _____ System _____ Time _____ Commenced _____ Completed _____	Name _____ Ant Type _____ Zero Set _____	Name _____ Ant Type _____ Zero Set _____	Dish  OMNI		Computed _____ Observed _____ Plus Offset _____ R.U.F. _____ Corrected _____	Short/Long _____ _____ Meters

COMMENTS :

228146

BASELINE CROSSING LOG

SHEET NO. : 2

CLIENT : BRIDGE OIL

VESSEL : WESTERN ODYSSEY

AREA : T - 16 - P

PARTY : 86

PRE/POST PROSPECT

DATE : 7th APRIL 85

	Station No. 1	Station No. 2	Ships Antenna	Ships Heading	Baseline Results	Overall Results
Cut/ <del>Ext</del> No. <u>1</u> System <u>MAXIRAN</u> Time _____ Commenced <u>17:17</u> Completed <u>17:37</u>	Name <u>DOCTORS ROCKS</u> Ant Type <u>DISH</u> Zero Set <u>4746</u>	Name <u>LOW HEAD</u> Ant Type <u>DISH</u> Zero Set <u>4746</u>	Dish  <del>OMNI</del>	183	Computed <u>84678</u> Observed <u>84670</u> Plus Offset <u>4m</u> R.U.F. <u>.999989</u> Corrected <u>84673</u>	Short/ <del>Long</del> _____ <u>5</u> Meters
Cut/ <del>Ext</del> No. <u>2</u> System <u>MAXIRAN</u> Time _____ Commenced <u>18:42</u> Completed <u>18:56</u>	Name <u>DOCTORS ROCKS</u> Ant Type <u>DISH</u> Zero Set <u>4746</u>	Name <u>LOW HEAD</u> Ant Type <u>DISH</u> Zero Set <u>4746</u>	Dish  <del>OMNI</del>	003	Computed <u>84678</u> Observed <u>84673</u> Plus Offset <u>4m</u> R.U.F. <u>.999989</u> Corrected <u>84676</u>	Short/ <del>Long</del> _____ <u>2</u> Meters
Cut/Ext No. _____ System _____ Time _____ Commenced _____ Completed _____	Name _____ Ant Type _____ Zero Set _____	Name _____ Ant Type _____ Zero Set _____	Dish  OMNI		Computed _____ Observed _____ Plus Offset _____ R.U.F. _____ Corrected _____	Short/Long _____ _____ Meters

COMMENTS :

228147

BASELINE CROSSING LOG

SHEET NO. : 1

CLIENT : BRIDGE OIL

VESSEL : WESTERN ODYSSEY

AREA : T-10-P

PARTY : 86

PRE/~~POST~~ PROSPECT

DATE : 18 APRIL 1985

	Station No. 1	Station No. 2	Ships Antenna	Ships Heading	Baseline Results	Overall Results
Out/Ext No. <u>1</u> System <u>MAXIRAN</u> Time _____ Commenced <u>1700</u> Completed <u>1717</u>	Name <u>BOULDER PT.</u> Ant Type <u>OMNI</u> Zero Set <u>4776</u>	Name <u>FT.LONSDALE</u> Ant Type <u>DISH</u> Zero Set <u>4760</u>	Dish  <del>OMNI</del>	270	Computed <u>156404</u> Observed <u>156408</u> Plus Offset <u>4</u> R.U.F. <u>0.999989</u> Corrected <u>156410</u>	<del>Short</del> / Long <u>6</u> Meters
Out/Ext No. <u>2</u> System <u>MAXIRAN</u> Time _____ Commenced <u>1841</u> Completed <u>1857</u>	Name <u>BOULDER PT.</u> Ant Type <u>OMNI</u> Zero Set <u>4776</u>	Name <u>PT.LONSDALE</u> Ant Type <u>DISH</u> Zero Set <u>4760</u>	Dish  <del>OMNI</del>	270	Computed <u>156404</u> Observed <u>156406</u> Plus Offset <u>4</u> R.U.F. <u>0.999989</u> Corrected <u>156408</u>	<del>Short</del> / Long <u>4</u> Meters
Out/Ext No. _____ System _____ Time _____ Commenced _____ Completed _____	Name _____ Ant Type _____ Zero Set _____	Name _____ Ant Type _____ Zero Set _____	Dish  OMNI		Computed _____ Observed _____ Plus Offset _____ R.U.F. _____ Corrected _____	Short / Long _____ Meters

COMMENTS :

228148

BASELINE CROSSING LOG

SHEET NO. : 2

CLIENT : BRIDGE OIL

VESSEL : WESTERN ODYSSEY

AREA : T-19-P

PARTY : 86

~~PRE/BOGIX~~ PROSPECT

DATE : 19 APRIL 1985

	Station No. 1	Station No. 2	Ships Antenna	Ships Heading	Baseline Results	Overall Results
Out/Ext No. <u>1</u> System <u>MAXIRAN</u> Time _____ Commenced <u>23.59</u> Completed <u>00.14</u>	Name <u>BOULDER PT.</u>  Ant Type <u>OMNI</u> Zero Set <u>4776</u>	Name <u>PARKERS HILL</u>  Ant Type <u>DISH</u> Zero Set <u>4760</u>	Dish  <del>MAXIX</del>	244	Computed <u>96860</u> Observed <u>96854</u> Plus Offset <u>4</u> R.U.F. <u>0.999989</u> Corrected <u>96857</u>	<del>Short/Long</del>  <u>3</u> Meters SHORT
Out/Ext No. <u>2</u> System <u>MAXIRAN</u> Time _____ Commenced <u>00.51</u> Completed <u>01.13</u>	Name <u>BOULDER PT.</u>  Ant Type <u>OMNI</u> Zero Set <u>4776</u>	Name <u>PARKERS HILL</u>  Ant Type <u>DISH</u> Zero Set <u>4760</u>	Dish  <del>MAXIX</del>	244	Computed <u>96860</u> Observed <u>96854</u> Plus Offset <u>4</u> R.U.F. <u>0.999989</u> Corrected <u>96857</u>	<del>Short/Long</del>  <u>3</u> Meters SHORT
Out/Ext No. _____ System _____ Time _____ Commenced _____ Completed _____	Name _____  Ant Type _____ Zero Set _____	Name _____  Ant Type _____ Zero Set _____	Dish  OMNI		Computed _____ Observed _____ Plus Offset _____ R.U.F. _____ Corrected _____	Short/Long  _____ Meters

COMMENTS :

228149

BASELINE CROSSING LOG

SHEET NO. : 1

CLIENT : BRIDGE OIL

VESSEL : WESTERN ODYSSEY

AREA : T-19-P

PARTY : 86

~~XX~~ PRE/POST PROSPECT

DATE : 28-APRIL -1985

	Station No. 1	Station No. 2	Ships Antenna	Ships Heading	Baseline Results	Overall Results
Cut/ <del>Ext</del> No. <u>1</u> System <u>MAXIRAN</u> Time _____ Commenced <u>1305</u> Completed <u>1320</u>	Name <u>BOULDER POINT</u> Ant Type <u>OMNI</u> Zero Set <u>4757</u>	Name <u>PT. LONSDALE</u> Ant Type <u>DISH</u> Zero Set <u>4773</u>	Dish  <del>OMNI</del>	290	Computed <u>156404</u> Observed <u>156420</u> Plus Offset <u>4</u> R.U.F. <u>0.999989</u> Corrected <u>156422</u>	<del>Short</del> /Long  <u>16</u> Meters
Cut/ <del>Ext</del> No. <u>1</u> System <u>MAXIRAN</u> Time _____ Commenced <u>1416</u> Completed <u>1432</u>	Name <u>BOULDER PT.</u> Ant Type <u>OMNI</u> Zero Set <u>4770</u>	Name <u>PARKERS HILL</u> Ant Type <u>DISH</u> Zero Set <u>4756</u>	<del>OMNI</del>  OMNI	245	Computed <u>96860</u> Observed <u>96868</u> Plus Offset <u>0</u> R.U.F. <u>0.999989</u> Corrected <u>96867</u>	<del>Short</del> /Long  <u>7</u> Meters
Cut/Ext No. _____ System _____ Time _____ Commenced _____ Completed _____	Name _____ Ant Type _____ Zero Set _____	Name _____ Ant Type _____ Zero Set _____	Dish  OMNI		Computed _____ Observed _____ Plus Offset _____ R.U.F. _____ Corrected _____	Short/Long  _____ Meters

COMMENTS :

228150

228151

## MAXIRAN CALIBRATION

Vessel *W. ODYSSEY*

Client	<i>BRIDGE OIL</i>	Country	<i>AUST</i>	Area	<i>VIC</i>
Mobile Station	<i>PT LONSDALE</i>	Base Station	<i>OCEAN GROVE</i>		
	Computed Range	<i>8691.79</i>			
Interrogator S/No.	<i>138</i>	Beacon S/No.	<i>92.</i>		
Monitor S/No.	<i>133</i>	Code	<i>3</i>		
Triple Int. SW S/No.	<i>1003</i>	Linear S/No.	<i>NIL</i>		
Linear S/No.	<i>NIL</i>	Power Output	<i>200W</i>		
Power Output	<i>200W</i>				

Zero Set *4770*

	Time	Range A	Range B	Range C
1	<i>1001</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
2	<i>1001.5</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
3	<i>1002</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
4	<i>1002.5</i>	<i>8691</i>	<i>8691</i>	<i>8692</i>
5	<i>1003</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
6	<i>1003.5</i>	<i>8691</i>	<i>8691</i>	<i>8692</i>
7	<i>1004.</i>	<i>8691</i>	<i>8691</i>	<i>8692</i>
8	<i>1004.5</i>	<i>8691</i>	<i>8691</i>	<i>8692</i>
9	<i>1005</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
10	<i>1005.5</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
	Average	<i>8691.6</i>	<i>8691</i>	<i>8692</i>

Remarks : *OMNI ON MOBILE*  
 " *ON BASE*

Signature : *B DEAN*Date : *3/4/65*

228152

MAXIRAN CALIRBATION

Vessel W. ODYSSEY

Client	BRIDGE OIL	Country	AUST	Area	VIC
Mobile Station	PT. LONSDALE	Base Station	OCEAN GROVE		
Computed Range		8691.79			

Interrogator S/No.	138	Beacon S/No.	96
Monitor S/No.	133	Code	2
Triple Int. SW S/No.	1003	Linear S/No.	NIL
Linear S/No.	NIL	Power Output	200W
Power Output	200W		

Zero Set 4770

	Time	Range A	Range B	Range C
1	0849	8691	8691	8692
2	0849.5	8691	8691	8692
3	0850	8691	8691	8692
4	0850.5	8691	8691	8692
5	0851	8692	8691	8692
6	0851.5	8692	8691	8692
7	0852	8692	8691	8692
8	0852.5	8692	8691	8692
9	0853	8691	8691	8692
10	0853.5	8692	8691	8692
Average		8691.6	8691	8692.

Remarks : OMNI ON MOBILE  
" " BASE

Signature : B. DEAN

Date : 3/4/85

228153

MAXIRAN CALIRBATION

Vessel | W. ODSEY

Client	BRIDGE OIL	Country	AUST	Area	VIC
Mobile Station	PT. LONSDALE	Base Station	OCEAN GROVE		

Computed Range | 8691.79

Interrogator S/No.	138	Beacon S/No.	111
Monitor S/No.	133	Code	5
<del>Dist</del> Int. SW S/No.	1003	Linear S/No.	NIL
Linear S/No.	NIL	Power Output	200W
Power Output	200W		

Zero Set | 4770.

	Time	Range A	Range B	Range C
1	1051.5	8691	8691	8692
2	1052	8691	8691	8692
3	1052.5	8691	8691	8692
4	1053	8691	8691	8692
5	1053.5	8691	8691	8692
6	1054	8691	8691	8692
7	1054.5	8691	8691	8692
8	1055	8691	8691	8692
9	1055.5	8691	8691	8692
10	1056.	8691	8691	8692.
	Average	8691	8691	8692

Remarks : OMNI ON MOBILE  
 " " BASE

Signature : B. DEAN  
 Date : 3/4/85,

228154

## MAXIRAN CALIBRATION

Vessel | W. ODYSSEY

Client	BRIDGE OIL	Country	AUST	Area	VIC
Mobile Station	PT. LONSDALE	Base Station	PARKES HILL		
	Computed Range	110785			
Interrogator S/No.	138	Beacon S/No.	111		
Monitor S/No.	133	Code	5		
<del>TRIPLE</del> Int. SW S/No.	1003	Linear S/No.	1628		
Linear S/No.	1650	Power Output	1 KW		
Power Output	1 KW				

Zero Set | 4772

	Time	Range A	Range B	Range C
1	1220	110784	110784	110784
2	1221	110787	110787	110788
3	1222	110786	110785	110787
4	1223	110786	110786	110787
5	1224	110785	110786	110787
6	1225	110786	110786	110787
7	1226	110787	110787	110787
8	1227	110786	110786	110787
9	1228	110789	110789	110789
10	1229	110786	110786	110787
	Average	110786.2	110786.2	110787.0

Remarks : VELOCITY FACTOR  $\frac{110785}{110786.2}$   
 = 999989168

Signature : B. DEAN

Date : 5/4/85

228155

## MAXIRAN CALIBRATION

Vessel W. ODYSSEY

Client	BRIDGE OIL	Country	AUST	Area	VIC
Mobile Station	PT. LONSDALE	Base Station	OCEAN GROVE		
	Computed Range	8691.79			
Interrogator S/No.	138	Beacon S/No.	113		
Monitor S/No.	133	Code	2		
Triple Int. SW S/No.	1003	Linear S/No.	NIL		
Linear S/No.	NIL	Power Output	200W		
Power Output	200W				

Zero Set 4770

	Time	Range A	Range B	Range C
1	0912.5	8691	8691	8692
2	0913	8691	8691	8692
3	0913.5	8691	8691	8692
4	0914	8691	8691	8692
5	0914.5	8691	8691	8692
6	0915	8691	8691	8692
7	0915.5	8691	8691	8692
8	0916	8691	8691	8692
9	0916.5	8691	8692	8692
10	0917	8692	8692	8692
	Average	8691.1	8691.2	8692

Remarks : OMNI ON MOBILE  
 " " BASE

Signature : B. DEAN

Date : 3/4/85

228156

## MAXIRAN CALIRBATION

Vessel *W. ODYSSEY*

Client	<i>BRIDGE OIL</i>	Country	<i>AUST</i>	Area	<i>VIC.</i>
Mobile Station	<i>PT. LONSDALE</i>	Base Station	<i>OCEAN GROVE</i>		
	Computed Range	<i>8691.79</i>			
Interrogator S/No.	<i>138</i>	Beacon S/No.	<i>169</i>		
Monitor S/No.	<i>133</i>	Code	<i>1</i>		
Triple Int. SW S/No.	<i>1003</i>	Linear S/No.	<i>NIL</i>		
Linear S/No.	<i>NIL</i>	Power Output	<i>200 W</i>		
Power Output	<i>200 W</i>				

Zero Set *4770.*

	Time	Range A	Range B	Range C
1	<i>0930.5</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
2	<i>0931</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
3	<i>0931.5</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
4	<i>0932</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
5	<i>0932.5</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
6	<i>0933</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
7	<i>0933.5</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
8	<i>0934</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
9	<i>0934.5</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
10	<i>0935</i>	<i>8692</i>	<i>8691</i>	<i>8692</i>
	Average	<i>8692</i>	<i>8691</i>	<i>8692</i>

Remarks : *OMNI ON MOBILE*  
 " " *BASE*

Signature : *B. DEAN*Date : *3/4/85*

228157

MAXIRAN CALIRBATION

Vessel W. ODYSSEY

Client	BRIDGE OIL	Country	AUST	Area	VICTORIA
Mobile Station	PT. LONSDALE	Base Station	OCEAN GROVE		

Computed Range 8691.79

Interrogator S/No.	43	Beacon S/No.	169
Monitor S/No.	133	Code	1
Triple Int. SW S/No.	1003	Linear S/No.	NIL
Linear S/No.	NIL	Power Output	200 W
Power Output	200W		

Zero Set 4770

	Time	Range A	Range B	Range C
1	1329	8691	8691	8692
2	1329.5	8691	8692	8692
3	1330	8691	8692	8692
4	1330.5	8692	8692	8692
5	1331	8691	8691	8691
6	1331.5	8691	8692	8692
7	1332	8691	8692	8692
8	1332.5	8691	8692	8692
9	1333	8691	8692	8692
10	1333.5	8692	8692	8692
	Average	8691.2	8692	8691.9

Remarks : ONNI ON MOBILE  
" " BASE

Signature : B. DEAN  
Date : 3/4/85

228158

MAXIRAN CALIRBATION

Vessel **W. ODYSSEY**

Client	<b>BRIDGE OIL</b>	Country	<b>AUST.</b>	Area	<b>VICTORIA</b>
Mobile Station	<b>PT. LONSDALE</b>	Base Station	<b>OCEAN GROVE</b>		

Computed Range **8691.79**

Interrogator S/No.	<b>146</b>	Beacon S/No.	<b>169</b>
Monitor S/No.	<b>133</b>	Code	<b>1</b>
Triple Int. SW S/No.	<b>1003</b>	Linear S/No.	<b>NIL</b>
Linear S/No.	<b>NIL</b>	Power Output	<b>200 W</b>
Power Output	<b>200 W</b>		

Zero Set **4770**

	Time	Range A	Range B	Range C
1	1343	8691	8692	8692
2	1343.5	8691	8692	8692
3	1344	8691	8692	8692
4	1344.5	8691	8691	8691
5	1345	8691	8691	8691
6	1345.5	8691	8692	8692
7	1346	8692	8692	8692
8	1346.5	8691	8692	8692
9	1347	8691	8692	8692
10	1347.5	8692	8692	8692
	Average	8691.2	8691.8	8691.8

Remarks : **OMNI ON MOBILE**  
 " " **BASE**

Signature : **B. DEAN**  
 Date : **3/4/85**

228159

MAXIRAN CALIRBATION

Vessel W. ODYSSEY

Client	BRIDGE OIL	Country	AUST	Area	VICTORIA
Mobile Station	PT. LONSDALE	Base Station	OCERN GROVE		
	Computed Range	8691.79			

Interrogator S/No.	63.	Beacon S/No.	169
Monitor S/No.	133	Code	1
Triple Int. SW S/No.	1003	Linear S/No.	NIL
Linear S/No.	NIL	Power Output	200w
Power Output	<del>200w</del> 200w		

Zero Set 4770

	Time	Range A	Range B	Range C
1	1402	8691	8691	8691
2	1402.5	8692	8691	8692
3	1403	8691	8692	8692
4	1403.5	8691	8691	8692
5	1404	8692	8692	8692
6	1404.5	8691	8692	8692
7	1405	8691	8692	8692
8	1405.5	8691	8692	8692.
9	1406	8691	8692	8692
10	1406.5	8692	8692	8692.
	Average	8691.3	8691.7	8691.9

Remarks : OMNI ON MOBILE  
" " BASE

Signature : B. DEAN  
Date : 3/4/85

WESTERN GEOPHYSICAL CO. OF AMERICA 228160

MAXIRAN CALIBRATION

VESSEL W. ODYSSEY

CLIENT	BRIDGE OIL	COUNTRY	AUSTRALIA	AREA	YIC
MOBILE STATION	PT. LONSDALE	BASE STATION	OCEAN GROVE		
	COMPUTED RANGE	8691.79			
INTERROGATOR S/No.	138	BEACON S/No.	230		
MONITOR S/No.	133	CODE	4		
TRIPLE INT. SW. S/No.	1033	LINEAR S/No.	NIL		
LINEAR S/No.	NIL	POWER OUTPUT	200 W		
POWER OUTPUT	200 W				

ZERO SET 4770.

	TIME	RANGE A	RANGE B	RANGE C
1	1118.5	8691	8691	8691
2	1119	8691	8691	8691
3	1119.5	8691	8691	8691
4	1120	8691	8691	8691
5	1120.5	8691	8691	8692
6	1121	8691	8691	8692
7	1121.5	8691	8691	8692
8	1122	8691	8691	8692
9	1122.5	8691	8691	8692
10	1123	8691	8691	8692
	AVERAGE	8691	8691	8691.6

REMARKS: OMNI ON MOBILE  
 " " BASE

SIGNATURE: B. DEAN

DATE: 3-4-85

228161

## MAXIRAN CALIBRATION

Vessel | W. ODYSSEY

Client	BRIDGE OIL	Country	AUST	Area	VIC
Mobile Station	PT. LONSDALE	Base Station	OCERN GROVE		
	Computed Range	8691.79			
Interrogator S/No.	138	Beacon S/No.	245		
Monitor S/No.	133	Code	3		
Triple Int. SW S/No.	1003	Linear S/No.	NIL		
Linear S/No.	NIL	Power Output	200W		
Power Output	200W				

Zero Set | 4770

	Time	Range A	Range B	Range C
1	0944.5	8691	8691	8692
2	0945	8691	8691	8692
3	0945.5	8691	8691	8692
4	0946	8691	8691	8692
5	0946.5	8691	8691	8692
6	0947	8691	8691	8692
7	0947.5	8691	8691	8692
8	0948	8691	8691	8692
9	0948.5	8691	8691	8692
10	0949.	8691	8691	8692
	Average	8691	8691	8692

Remarks : OMNI ON MOBILE  
 " " BASE

Signature : B. DEAN

Date : 3/4/85

228162

## MAXIRAN CALIBRATION

Vessel | W. ODYSSEY

Client	BRIDGE OIL	Country	AUST.	Area	VIC
Mobile Station	PT LONSDALE	Base Station	OCEAN GROVE		
	Computed Range	8691.79			
Interrogator S/No.	138	Beacon S/No.	274.		
Monitor S/No.	133	Code	6		
Triple Int. SW S/No.	1003	Linear S/No.	NIL		
Linear S/No.	NIL	Power Output	200 W		
Power Output	200 W				

Zero Set | 4770.

	Time	Range A	Range B	Range C
1	1106	8691	8691	8692
2	1106.5	8691	8691	8692
3	1107	8691	8691	8692
4	1107.5	8691	8691	8692
5	1108	8691	8691	8692
6	1108.5	8691	8691	8692
7	1109	8691	8691	8692
8	1109.5	8691	8691	8692
9	1110	8691	8691	8692
10	1110.5	8691	8691	8692
	Average	8691	8691	8692

Remarks : OMNI ON MOBILE  
" " BASE

Signature : B DEAN

Date : 3/4/85

WESTERN GEOPHYSICAL CO. OF AMERICA

228163

MAXIRAN CALIBRATION

VESSEL W. ODYSSEY

CLIENT	<u>BRIDGE OIL</u>	COUNTRY	<u>AUST.</u>	AREA	<u>VIC</u>
MOBILE STATION	<u>PT. LONSDALE</u>		BASE STATION	<u>OCEAN GROVE</u>	

COMPUTED RANGE 8691.79

INTERROGATOR S/No.	<u>138</u>	BEACON S/No.	<u>274</u>
MONITOR S/No.	<u>133</u>	CODE	<u>6</u>
<del>DUAL</del> TRIPLE INT. SW. S/No.	<u>21</u>	LINEAR S/No.	<u>NIL</u>
LINEAR S/No.	<u>NIL</u>	POWER OUTPUT	<u>200 W</u>
POWER OUTPUT	<u>200 W</u>		

ZERO SET 4768

	TIME	RANGE A	RANGE B	RANGE C
1	<u>1131</u>	<u>8691</u>	<u>8691</u>	<u>8692</u>
2	<u>1131.5</u>	<u>8691</u>	<u>8691</u>	<u>8692</u>
3	<u>1132</u>	<u>8691</u>	<u>8691</u>	<u>8692</u>
4	<u>1132.5</u>	<u>8692</u>	<u>8692</u>	<u>8692</u>
5	<u>1133</u>	<u>8692</u>	<u>8692</u>	<u>8692</u>
6	<u>1133.5</u>	<u>8691</u>	<u>8691</u>	<u>8692</u>
7	<u>1134</u>	<u>8691</u>	<u>8691</u>	<u>8692</u>
8	<u>1134.5</u>	<u>8692</u>	<u>8691</u>	<u>8692</u>
9	<u>1135</u>	<u>8692</u>	<u>8691</u>	<u>8692</u>
10	<u>1135.5</u>	<u>8692</u>	<u>8692</u>	<u>8692</u>
	AVERAGE	<u>8691.5</u>	<u>8691.3</u>	<u>8692</u>

REMARKS: OMNI ON MOBILE  
" " BASE  
DUAL INT. INTERFACE S/No 22. HAS 4/5 ON OFF SWITCH.

SIGNATURE: B. DEAN

DATE: 3-4-85

WESTERN GEOPHYSICAL CO. OF AMERICA 228164

MAXIRAN CALIBRATION

VESSEL W. ODYSSEY

CLIENT	BRIDGE OIL	COUNTRY	AUST	AREA	VIC
MOBILE STATION	PT. LONSDALE	BASE STATION	OCEAN GROVE		

COMPUTED RANGE 8691.79

INTERROGATOR	S/No.	138	BEACON	S/No.	274
MONITOR	S/No.	133	CODE	6	
TRIPLE INT. SW.	S/No.	1003	LINEAR	S/No.	NIL
LINEAR	S/No.	NIL	POWER OUTPUT	200 W	
POWER OUTPUT	200 W				

ZERO SET ~~8691~~ 4756

TIME	RANGE A	RANGE B	RANGE C
1	1320	8691	8691
2			
3			
4			
5			
6			
7			
8			
9			
10			
AVERAGE			

REMARKS: OMNI ON MOBILE  
 DISH ON BASE  
 DRIVEN ELEMENT FOR STATION. 6LR4 (BLUE)  
 " " " 6LR3 (RED)  
 " " " 6LR1 (GREEN)  
 " " " 6LR2 (GREEN)  
 " " " 6LR7

ALL DRIVEN ELEMENTS FOR BASE STATIONS READ THE SAME

SIGNATURE : \_\_\_\_\_  
 DATE : \_\_\_\_\_

WESTERN GEOPHYSICAL CO. OF AMERICA 228165

MAXIRAN CALIBRATION

VESSEL W ODYSSEY

CLIENT	BRIDGE OIL	COUNTRY	AUST	AREA	VIC
MOBILE STATION	PT. LONSDALE	BASE STATION	OCEAN GROVE		

COMPUTED RANGE 8691-79

INTERROGATOR S/No.	138	BEACON S/No.	274
MONITOR S/No.	133	CODE	6
TRIPLE INT. SW. S/No.	1003	LINEAR S/No.	NIL
LINEAR S/No.	NIL	POWER OUTPUT	200 W
POWER OUTPUT	200 W		

ZERO SET 4746

	TIME	RANGE A	RANGE B	RANGE C
1	1400	8691	8691	8691
2				
3				
4				
5				
6				
7				
8				
9				
10				
	AVERAGE			

REMARKS: BASE STATION DISH  
 MOBILE " " STBD ELEMENT, ✓  
 PORT " ✓  
 STERN " ✓

ALL MOBILE ELEMENTS READ THE SAME.

SIGNATURE: B DEAN

DATE: 3/4/65

WESTERN GEOPHYSICAL CO. OF AMERICA

228166

MAXIRAN CALIBRATION

VESSEL W. ODYSSEY

CLIENT	BRIDGE OIL	COUNTRY	AUST	AREA	VIC
MOBILE STATION	PT LONSDALE		BASE STATION	OCEAN GROVE	

COMPUTED RANGE 8691.79

INTERROGATOR S/No.	138	BEACON S/No.	274
MONITOR S/No.	133	CODE	6
TRIPLE INT. SW. S/No.	1003	LINEAR S/No.	4661
LINEAR S/No.	NIL	POWER OUTPUT	1 KW
POWER OUTPUT	200 W		

ZERO SET 4759

	TIME	RANGE A	RANGE B	RANGE C
1	1430	8691	8691	8691
2				
3				
4				
5				
6				
7				
8				
9				
10				
AVERAGE				

REMARKS: MOBILE DISH  
BASE DISH.

(RED BOX)

SIGNATURE: B. DEAN

DATE: 3/4/85.

WESTERN GEOPHYSICAL CO. OF AMERICA

228167

MAXIRAN CALIBRATION

VESSEL *W. ODDYSEY*

CLIENT	<i>BRIDGE OIL</i>	COUNTRY	<i>AUST</i>	AREA	<i>VIC</i>
MOBILE STATION	<i>PT LONSDALE</i>		BASE STATION	<i>OCEAN GROVE</i>	
	COMPUTED RANGE	<i>8691.79</i>			
INTERROGATOR S/No.	<i>138</i>		BEACON S/No.	<i>274</i>	
MONITOR S/No.	<i>133</i>		CODE	<i><del>6</del> 6</i>	
TRIPLE INT. SW. S/No.	<i>1003</i>		LINEAR S/No.	<i>1628A</i>	
LINEAR S/No.	<i>NIL</i>		POWER OUTPUT	<i>1 KW</i>	
POWER OUTPUT	<i>200W</i>				

ZERO SET *4759*

	TIME	RANGE A	RANGE B	RANGE C
1	<i>1600</i>	<i>8691</i>	<i>8691</i>	<i>8692.</i>
2				
3				
4				
5				
6				
7				
8				
9				
10				
	AVERAGE			

REMARKS: *MOBILE DISH*  
*BASE DISH.*

*BLUE BOX.*

SIGNATURE: *B. DEAN*

DATE: *3/4/85*

WESTERN GEOPHYSICAL CO. OF AMERICA

228168

MAXIRAN CALIBRATION

VESSEL W. ODYSSEY

CLIENT	<u>BRIDGE OIL</u>	COUNTRY	<u>AUST</u>	AREA	<u>VIC</u>
MOBILE STATION	<u>PT. LONSDALE</u>		BASE STATION	<u>OCEAN GROVE</u>	

COMPUTED RANGE 8691.79

INTERROGATOR S/No.	<u>138</u>	BEACON S/No.	<u>274</u>
MONITOR S/No.	<u>133</u>	CODE	<u>6</u>
TRIPLE INT. SW. S/No.	<u>1003</u>	LINEAR S/No.	<u>1365</u>
LINEAR S/No.	<u>NIL</u>	POWER OUTPUT	<u>1 KW</u>
POWER OUTPUT	<u>200 W</u>		

ZERO SET 4759

	TIME	RANGE A	RANGE B	RANGE C
1	<u>1615</u>	<u>8691</u>	<u>8691</u>	<u>8691</u>
2				
3				
4				
5				
6				
7				
8				
9				
10				
	AVERAGE			

REMARKS: MOBILE DISH  
BASE DISH.

(GREEN)

SIGNATURE: B. DEAN

DATE: 3/4/85

WESTERN GEOPHYSICAL CO. OF AMERICA

228169

MAXIRAN CALIBRATION

VESSEL W. ODYSSEY

CLIENT	BRIDGE OIL	COUNTRY	AUST	AREA	VIC
MOBILE STATION	PT LONSDALE	BASE STATION	OCEAN GROVE		
COMPUTED RANGE		8691.79			
INTERROGATOR S/No.	138	BEACON S/No.	274		
MONITOR S/No.	133	CODE	6		
TRIPLE INT. SW. S/No.	1003	LINEAR S/No.	42		
LINEAR S/No.	NIL	POWER OUTPUT	1 KW		
POWER OUTPUT	200W				

ZERO SET 4760.

	TIME	RANGE A	RANGE B	RANGE C
1	1625	8691	8691	8691
2				
3				
4				
5				
6				
7				
8				
9				
10				
AVERAGE				

GREEN & BLACK.

REMARKS :

SIGNATURE : B. DEAN

DATE : 3/4/85

WESTERN GEOPHYSICAL CO. OF AMERICA

228170

MAXIRAN CALIBRATION

VESSEL *W ODYSSEY*

CLIENT	<i>BRIDGE OIL</i>	COUNTRY	<i>AUST</i>	AREA	<i>VIC</i>
MOBILE STATION	<i>PT. LONSDALE</i>		BASE STATION	<i>OCEAN GROVE</i>	

COMPUTED RANGE *8691.79*

INTERROGATOR S/No.	<i>138</i>	BEACON S/No.	<i>274</i>
MONITOR S/No.	<i>133</i>	CODE	<i>6</i>
TRIPLE INT. SW. S/No.	<i>1003</i>	LINEAR S/No.	<i>42</i>
LINEAR S/No.	<i>1652</i>	POWER OUTPUT	<i>1 KW</i>
POWER OUTPUT	<i>1 KW.</i>		

ZERO SET *4773*

	TIME	RANGE A	RANGE B	RANGE C
1	<i>1630</i>	<i>8691</i>	<i>8691</i>	<i>8691</i>
2				
3				
4				
5				
6				
7				
8				
9				
10				
AVERAGE				

REMARKS: *MOBILE DISH  
BASE DISH.*

SIGNATURE: *B. DEAN*

DATE: *3/4/85*

WESTERN GEOPHYSICAL CO. OF AMERICA

228171

MAXIRAN CALIBRATION

VESSEL *W. ODYSSEY*

CLIENT	<i>BRIDGE OIL</i>	COUNTRY	<i>AUST</i>	AREA	<i>VIC</i>
MOBILE STATION	<i>PT. LONSDALE</i>		BASE STATION	<i>OCEAN GROVE</i>	

COMPUTED RANGE *8691.79*

INTERROGATOR S/No.	<i>138</i>	BEACON S/No.	<i>274</i>
MONITOR S/No.	<i>133</i>	CODE	<i>6</i>
<del>DUAL</del> <sup>TRIPLE</sup> INT. SW. S/No.	<i>1003</i>	LINEAR S/No.	<i>42</i>
LINEAR S/No.	<i>1650.</i>	POWER OUTPUT	<i>1KW</i>
POWER OUTPUT	<i>1KW</i>		

ZERO SET *4773*

	TIME	RANGE A	RANGE B	RANGE C
1	<i>1648</i>	<i>8691</i>	<i>8691</i>	<i>8691</i>
2				
3				
4				
5				
6				
7				
8				
9				
10				
AVERAGE				

REMARKS: *MOBILE DISH*  
*BASE DISH*

SIGNATURE: *B. DEAN*

DATE: *3/4/85*

228172

WESTERN GEOPHYSICAL CO. OF AMERICA

MAXIRAN CALIBRATION

VESSEL W. ODYSSEY

CLIENT BRIDGE OIL COUNTRY AUSTRALIA AREA VICTORIA

MOBILE STATION PT LONSDALE BASE STATION OCEAN GROVE

COMPUTED RANGE 8691.79

INTERROGATOR S/No.	138	BEACON S/No.	274
MONITOR S/No.	133	CODE	6
<del>TRIPLE</del> INT. SW. S/No.	1033	LINEAR S/No.	42
LINEAR S/No.	1648	POWER OUTPUT	1KW
POWER OUTPUT	1KW		

ZERO SET 4778

	TIME	RANGE A	RANGE B	RANGE C
1	1710	8691	8691	8691
2				
3				
4				
5				
6				
7				
8				
9				
10				
AVERAGE				

REMARKS: MOBILE DISH  
BASE DISH.

SIGNATURE: B. DEAN

DATE: 3/4/85

WESTERN GEOPHYSICAL CO. OF AMERICA

228173

MAXIRAN CALIBRATION

VESSEL *W. ODSEY*

CLIENT	<i>BRIDGE OIL</i>	COUNTRY	<i>AUSTRALIA</i>	AREA	<i>VICTORIA</i>
MOBILE STATION	<i>PT. LONSDALE</i>		BASE STATION	<i>OCEAN GROVE</i>	
	COMPUTED RANGE	<i>8691.79</i>			
INTERROGATOR S/No.	<i>138</i>		BEACON S/No.	<i>274</i>	
MONITOR S/No.	<i>133</i>		CODE	<i>6</i>	
<del>TRIPLE</del> INT. SW. S/No.	<i>1003</i>		LINEAR S/No.	<i>NIL</i>	
LINEAR S/No.	<i>NIL</i>		POWER OUTPUT	<i>200W</i>	
POWER OUTPUT	<i>200W</i>				

ZERO SET *4757*

	TIME	RANGE A	RANGE B	RANGE C
1	<i>1725</i>	<i>8691</i>	<i>8691</i>	<i>8691</i>
2				
3				
4				
5				
6				
7				
8				
9				
10				
	AVERAGE			

REMARKS: *MOBILE DISH  
BASE OHNI.*

SIGNATURE: *B. DEAN*

DATE: *3/4/85*

228174

MAXIRAN CALIRBATION

Vessel W. ODYSSEY

Client	BRIDGE OIL	Country	AUST	Area	VIC
Mobile Station	PT. LONSDALE	Base Station	OCEAN GROVE		
Computed Range					

Interrogator S/No.	138	Beacon S/No.	278
Monitor S/No.	133	Code	4
Triple Int. SW S/No.	1003	Linear S/No.	NIL
Linear S/No.	NIL	Power Output	200 W
Power Output	200 W		

Zero Set 4770

	Time	Range A	Range B	Range C
1	1016	8691	8691	8691
2	1016.5	8691	8691	8691
3	1017	8691	8691	8691
4	1017.5	8691	8691	8691
5	1018	8691	8691	8691
6	1018.5	8691	8691	8691
7	1019.	8691	8691	8691
8	1019.5	8691	8691	8691
9	1020	8691	8691	8691
10	1020.5	8691	8691	8691
	Average	8691	8691	8691

Remarks : OMNI ON MOBILE  
 " " BASE

Signature : B. DEAN  
 Date : 3/4/85

228175

MAXIRAN CALIRBATION

Vessel W. ODYSSEY

Client	BRIDGE OIL	Country	AUST	Area	VIC
Mobile Station	PT. LONSDALE	Base Station	OCEAN GROVE		
	Computed Range	8691.79			

Interrogator S/No.	138	Beacon S/No.	<del>340</del> 340
Monitor S/No.	133	Code	#5
<del>Dist</del> <sup>TRIPLE</sup> Int. SW S/No.	1003	Linear S/No.	NIL
Linear S/No.	NIL	Power Output	200 W
Power Output	200 W		

Zero Set 4770

	Time	Range A	Range B	Range C
1	1040	8691	8691	8692
2	1040.5	8691	8691	8691
3	1041	8691	8691	8691
4	1041.5	8691	8691	8691
5	1042	8691	8691	8691
6	1042.5	8691	8691	8691
7	1043	8691	8691	8691
8	1043.5	8691	8691	8691
9	1044	8691	8691	8691
10	1044.5	8691	8691	8691
	Average	8691	8691	8691.1

Remarks : OMNI ON MOBILE  
" " BASE

Signature : B. DEAN  
Date : 3/4/85