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FINAL REPORT  
 OFFSHORE NAVIGATION (AUSTRALIA) PTY. LTD.  
 PROJECT 1201

GEOPHYSICAL SERVICE INTERNATIONAL  
 PARTY 2931

FOR  
 CUE MINERALS

VICTORIA, AUSTRALIA  
 BASS BASIN SURVEY

FEBRUARY 1981

OFFSHORE NAVIGATION  
 (AUSTRALIA) PTY. LTD.

A B S T R A C T

Project 1201 was a Maxiran positioned marine seismic survey for potential mineral deposits conducted in the Bass Strait, off the coast of Victoria, Australia.

The principal was Cue Minerals.

Geophysical Service International (GSI) was the prime contractor and geophysical operator.

Offshore Navigation (Australia) Pty. Ltd. (ONA) employed a Maxiran radiolocation system to provide horizontal control for the survey.

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## APPENDIX A - Daily Operations Logs

## FIGURES

1. Typical Maxiran System
2. System with Two Beacons
3. Uncertainty with Two Beacons
4. System with Three Beacons
5. Uncertainty with Three Beacons

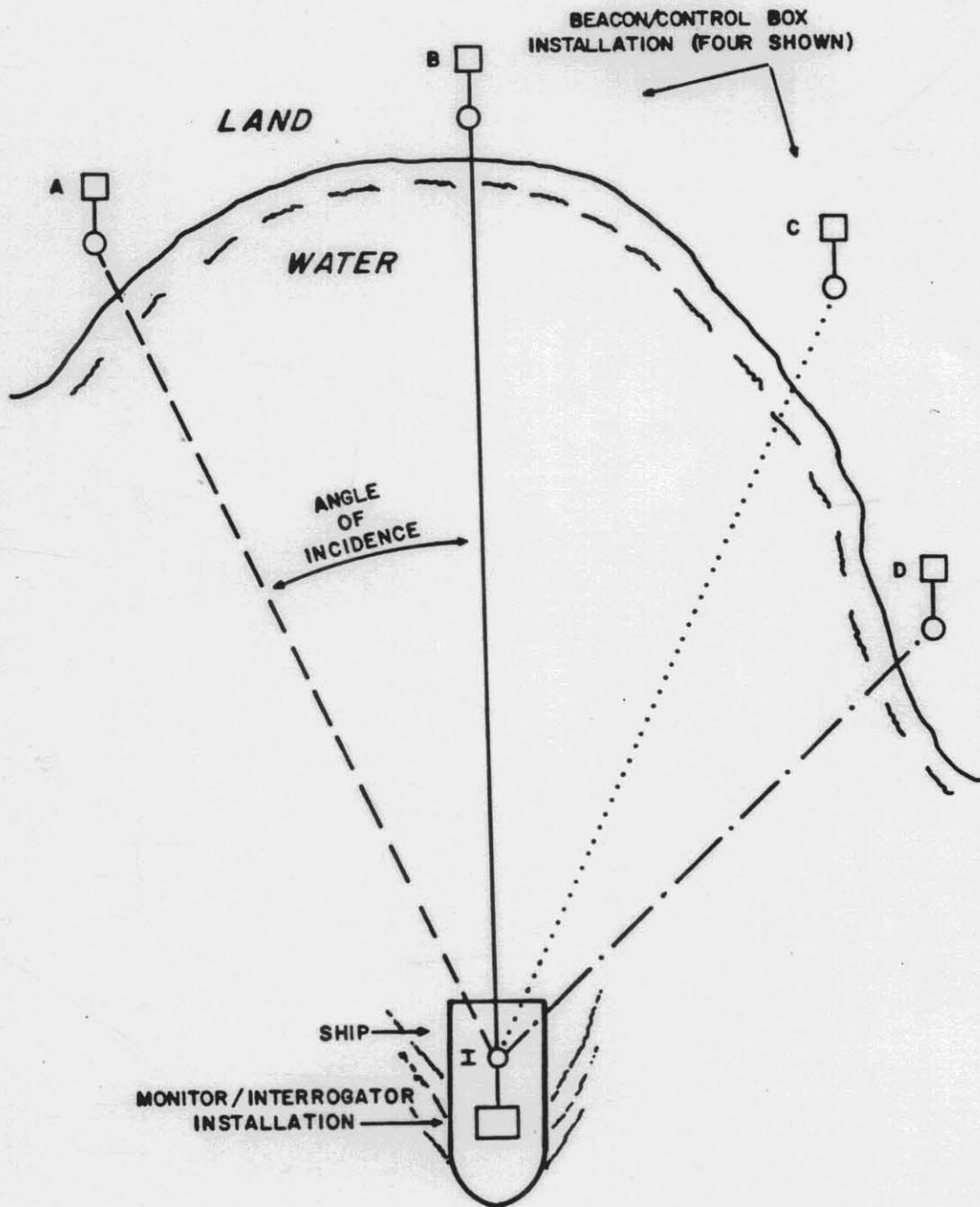
## I. THE MAXIRAN RADIOPOSITIONING SYSTEM

The Maxiran Radiopositioning System is a precision electronic ranging system capable of both manual and automatic tracking of range. It is especially useful for measuring distances across bodies of water.

The use of the Maxiran requires three or more electronic installations. For the purposes of this discussion, one of these installations is assumed to be aboard a ship (see Figure 1). This installation consists of the Maxiran Monitor and Interrogator. The other installations are located on shore. Each of these installations consist of a Maxiran Beacon and a Control Box. There are two or more of the Beacon Control Box installations situated at appropriate locations on shore.

In operation, the Monitor/Interrogator installation transmits a radio signal (containing a Beacon-Select code which addresses a selected Beacon) which is picked up by all of the Beacon/Control Box installations. Each Beacon decodes the received signal and decides whether the Beacon-Select code transmitted corresponds to that Beacon. If the Beacon-Select code is correct for a Beacon, it responds by

FIGURE-1. TYPICAL MAXIRAN SYSTEM



I. THE MAXIRAN RADIOPOSITIONING SYSTEM (continued)

transmitting a radio signal reply. The Monitor measures the amount of time elapsed between the Interrogator's transmission and the received reply sent by the Beacon. Since, for all practical purposes, radio signals travel at a known speed, the time elapsed between transmission and response is a measure of the distance the radio signal travelled. The elapsed time is converted by the Monitor into distance and then displayed. By knowing the location of the land stations and the current distance from the ship to each of them, the position of the ship can be readily calculated.

For the purposes of this discussion, let us first assume that only two Beacons are being utilized. These are the Beacons marked "A" and "B" in Figure 1. Since the distance from Beacon "A" to the Interrogator (call it distance  $A_1$ ), and the distance from Beacon "B" to the Interrogator (call it distance  $B_1$ ) are now known (these distances are the distances displayed on the Monitor front panel), we can use some geometry to calculate the position of the ship with reference to Beacons "A" and "B".

I. THE MAXIRAN RADIOPOSITIONING SYSTEM (continued)

As illustrated in Figure 2, the distances of A1 and B1 define two intersecting circles, one with a radius of length A1 centered about Beacon "A", the other with radius of length B1 centered about Beacon "B". These two circles intersect at two points (marked I and I' in Figure 2). Obviously, the ship can only be located at one of these points. Since point I' happens to be located on land, we can safely assume that the ship is located at Point I.

There is always some uncertainty associated with the exact measurements of the Beacons. This is illustrated in Figure 3. Figure 3 illustrates an enlarged view of the intersection of the circles shown in Figure 2. If the tolerance of the measurements of Beacon "B" is plus-or-minus 5 meters, then the two solid lines in Figure 3 are 10 meters apart. The tolerance of the measurements of Beacon "A" should be the same as that of Beacon "B", but this is not always the case due to differences in geographical location. Under the above conditions, we only know that the ship is located somewhere in the shaded area of Figure 3.

FIGURE-2. SYSTEM WITH TWO BEACONS

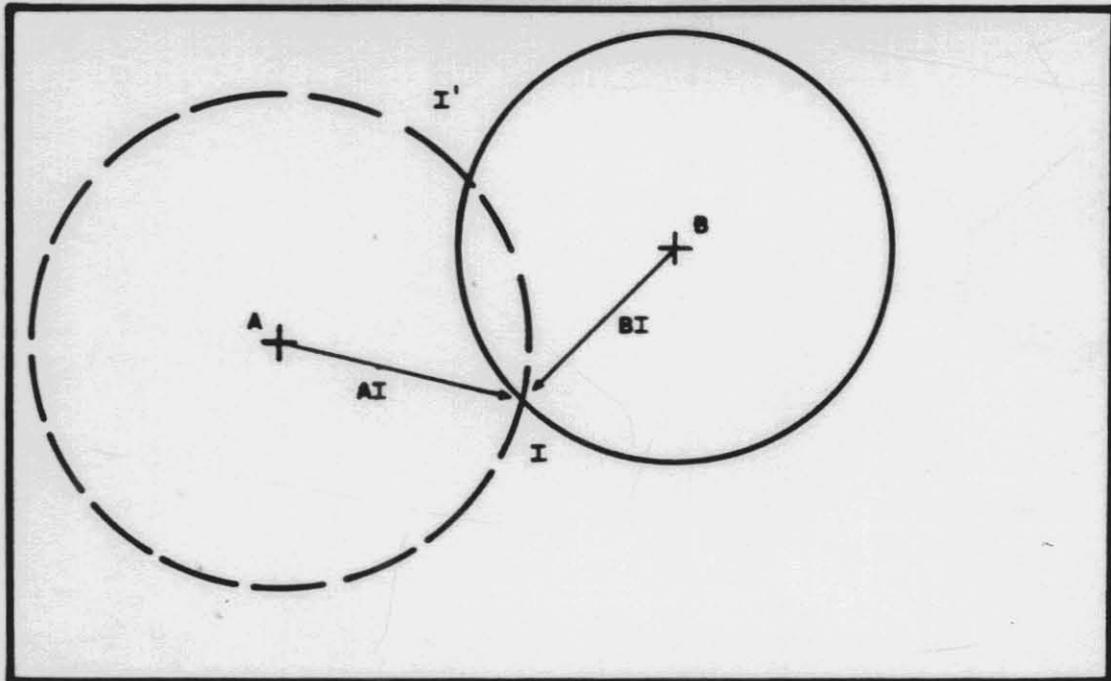
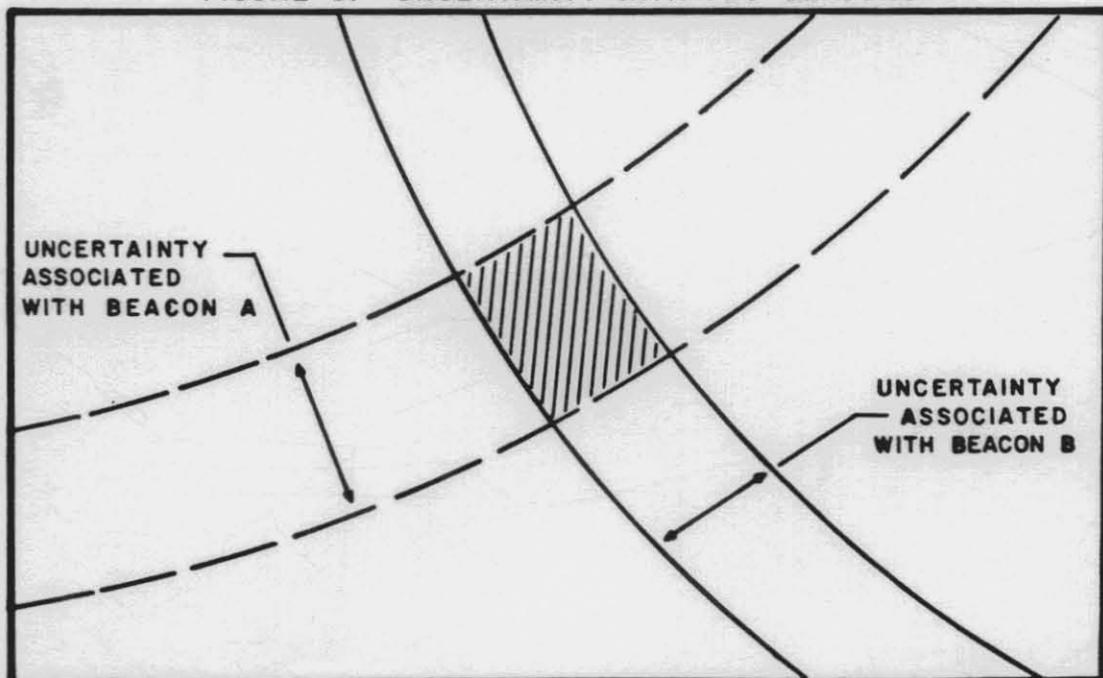


FIGURE-3. UNCERTAINTY WITH TWO BEACONS



I. THE MAXIRAN RADIOPOSITIONING SYSTEM (continued)

For the purposes of the following discussion, it is assumed that there are now three Beacons utilized. Now three circles are defined instead of the two from the discussion above. The third distance, from Beacon "C" to the Interrogator (call it distance  $C_1$ ), defines a circle of radius length  $C_1$  centered about Beacon "C". The new situation is illustrated in Figure 4. Notice that with the three circles, there is only one location where all three circles can intersect. This eliminates the ambiguity associated with using only two Beacons. Now there is no 'I' to worry about. An additional advantage of using three Beacons is illustrated in Figure 5. Now the area of uncertainty has been reduced even though the tolerance of Beacon "C"'s measurement is no better than that of the other Beacons.

As the ship moves along, one or more of the Beacons may become unusable for various reasons (out of range, too small or too great an operating angle, etc.), if additional Beacons are situated on shore, they may be interrogated as desired to greatly expand the range and usability of the system.

FIGURE-4. SYSTEM WITH THREE BEACONS

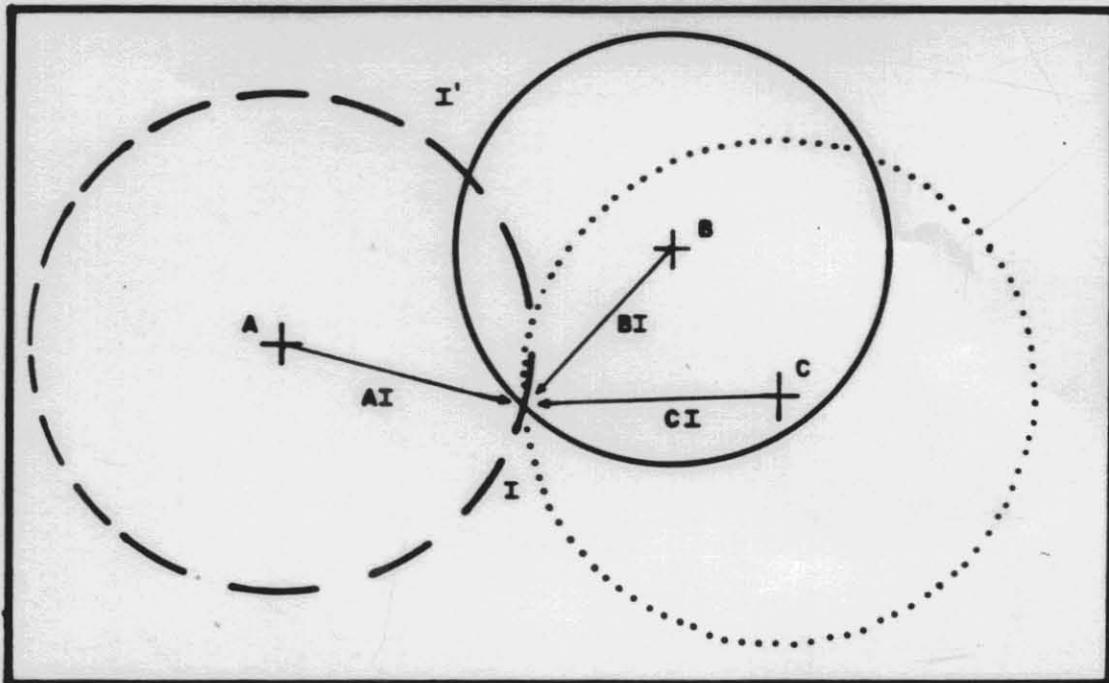
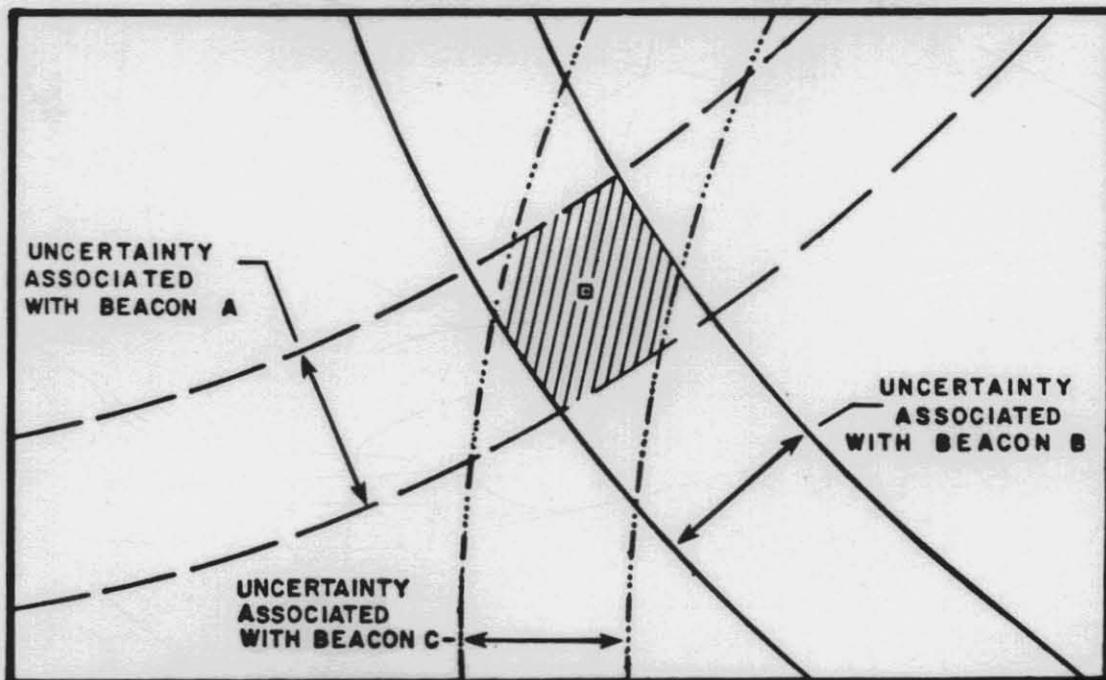


FIGURE-5. UNCERTAINTY WITH THREE BEACONS



I. THE MAXIRAN RADIOPOSITIOINING SYSTEM (continued)

As many as three different Beacons may be selected at one time by the proper setting of the Monitor's Beacon-Select switches.

## II. AREA OF OPERATIONS

Operations, conducted during the period covered by this report, were located off the coast of Victoria, Australia in Bass Strait. The work area extended along the coast from Cape Liptrap to Wilson's Promontory and up to approximately 200 kilometers offshore.

The ONA base of operation for this survey was established at Foster, Victoria on 3 February 1981.

## III. FIELD OPERATIONS RECAP

ONA personnel and the Maxiran system was under contract to GSI prior to the commencement of this survey. The three Maxiran base stations required to control this survey were erected, manned and operational for another survey being conducted under GSI control. The Maxiran mobile equipment had been previously installed on board the recording vessel, M/V EUGENE McDERMOTT II.

Geophysical operations in the Cue Minerals Bass Basin Block began on 20 February 1981. The Cue Minerals and

### III. FIELD OPERATIONS RECAP (continued)

Bass Strait Oil & Gas prospects are adjacent blocks, and some lines surveyed on 20 February were shot as one line with the data split at the concession boundaries. Geophysical operations on lines that were solely Cue Minerals lines began at 0602 hours 21 February, and were completed at 1907 hours 24 February 1981. See Appendix A of this report for details.

The Maxiran base stations remained erected, manned and operational on completion of this survey for another operation to be conducted under GSI control. The Maxiran mobile equipment remained installed on board the the recording vessel for that operation. All ONA personnel assigned to this project were retained by GSI.

#### IV. GENERAL INFORMATION

A. Maxiran frequencies used were:

Mobile Transmitter	441 MHz
Base Transmitter	429 MHz

B. Satisfactory radiotelephone communications between all Maxiran installations were maintained on the frequencies of 7840 and 4637.5 (SSB) kilocycles.

C. The Maxiran field data was turned over to the GSI representative on board the M/V EUGENE McDERMOTT II on 24 February 1981.

D. Three Maxiran base station installations were provided by ONA for this survey.

E. Three Maxiran base station sites were occupied during this operation. They were:

STATION CAPE SCHANK

STATION DEAL ISLAND

STATION LIPTRAP

IV. GENERAL INFORMATION (continued)

- F. The maximum range that was observed by the Maxiran system during this survey was 300 kilometers.
- G. The Maxiran mobile equipment was checked daily during this survey for a proper delay setting of 000.000 kilometers, and fixed tested with a calibration cable. The delay setting established during the Maxiran calibration check of 18 January 1981 was 5019 meters.
- H. ONA provided a Serial Printer on board the recording vessel during this survey.

V. MAPPING

Maxiran preplots of the survey were provided to the field operations by GSI. The interval between shotpoint locations was constant at 25 meters.

No final mapping was accomplished by ONI on this survey. For this survey, the Maxiran equipment was interfaced to GSI's CMS, and provided range information to the CMS. The Maxiran hard copy field data obtained by the ONA mobile operator during this survey was turned over to the GSI representative on board the M/V EUGENE McDERMOTT II on completion of the survey.

VI. MAXIRAN CALIBRATION

The Maxiran mobile equipment was removed from the recording vessel, M/V EUGENE McDERMOTT II, at Portland, Victoria on 18 January 1981 and transported to Station Picnic Hill West. The Maxiran equipment calibration was checked between 0700 and 1045 hours 18 January 1981 over the Stations Picnic Hill/Mount Warrnambool computed baseline of 105.141 kilometers.

The following pages consist of the field report pertaining to this calibration.

# OFFSHORE NAVIGATION, INC.

133018

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## MAXIRAN CALIBRATION REPORT

DATE: 18<sup>TH</sup> JAN 81

MOBILE STATION			BASE STATION		
LOCATION: <b>PICNIC HILL WEST.</b>			LOCATION: <b>WARRJAMBOOL</b>		
OPERATOR: <b>TAYLOR / HENNESSY</b>			OPERATOR: <b>BRIDGE / Bampton</b>		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	<b>NMM 01</b>	<b>004</b>	BEACON	<b>NTL 01</b>	<b>029</b> CODE <b>5</b>
INTERROGATOR	<b>NTM 01</b>	<b>012</b> <del>009</del>	CONTROL BOX	<b>NCL 02</b>	<b>060</b>
AMPLIFIER	<b>NTU 01</b>	<b>009</b>	AMPLIFIER	<b>NTU 03</b>	<b>033</b>
AMPLIFIER P/S	<b>NPU 01</b>	<b>009</b>	AMPLIFIER P/S	<b>NPU</b>	<b>033</b>
PREAMP	<b>SAU 12</b>	<b>108</b>	PREAMP	<b>SAU 12</b>	<b>109</b>
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
		<b>82'</b>			
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
		<b>60</b>			
INPUT VOLTAGE		<b>115</b>	INPUT VOLTAGE		<b>115</b>
TX. FREQUENCY		<b>441</b>	TX. FREQUENCY		<b>429</b>
RX. FREQUENCY		<b>429</b>	RX. FREQUENCY		<b>441</b>
RX. GAIN SETTING		<b>MIN</b>	RX. GAIN SETTING		<b>MIN</b>
WEATHER CONDITIONS		<b>CLEAR, FINE, WARM.</b>	WEATHER CONDITIONS		<b>AS MOBILE.</b>

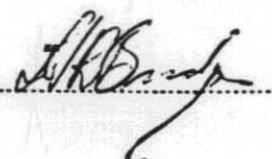
OBSERVED RANGE IN CALIBRATE: ..... **110.162** ..... KM

COMPUTED SLANT RANGE: ..... **105.141** ..... KM

MOBILE ZERO SETTING IS: ..... **5019** ..... KM

OBSERVED RANGE IN OPERATE: ..... **105.141** ..... KM TIME **07.50**

SIGNED: .....



### NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
2. All readings entered hereon will be final readings for the item in question, not preliminary or intermediate readings.
3. Each report will be complete in itself. Do not refer to other reports for information.
4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

# OFFSHORE NAVIGATION, INC.

133019

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## MAXIRAN CALIBRATION REPORT

DATE: 18 JAN 81

MOBILE STATION			BASE STATION		
LOCATION: <b>PICNIC HILL WEST</b>			LOCATION: <b>WARRENAMBOOL</b>		
OPERATOR: <b>TAYLOR / HENNESSY</b>			OPERATOR: <b>BRIDGES / BAMPTON</b>		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	Nmm 01	004	BEACON	NTL 01	029 CODE 5
INTERROGATOR	NTM 01	038	CONTROL BOX	RICK 02	060
AMPLIFIER	N.T.U 01	009	AMPLIFIER	NTU 03	033
AMPLIFIER P/S	N.P.U 01	009	AMPLIFIER P/S	NPU 03	033
PREAMP	SAU 12	108	PREAMP	SAU 12	109
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	RCBU ANDREWS	82'		RCBU ANDREWS	82'
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	LPLS	60'		LPLS	30'
INPUT VOLTAGE		115	INPUT VOLTAGE		115
TX. FREQUENCY		441	TX. FREQUENCY		429
RX. FREQUENCY		429	RX. FREQUENCY		441
TX. GAIN SETTING		MIN	RX. GAIN SETTING		MIN
WEATHER CONDITIONS		CLEAR FINE	WEATHER CONDITIONS		AS. MOBILE
		WARM			

OBSERVED RANGE IN CALIBRATE: ..... KM  
 COMPUTED SLANT RANGE: ..... **105.141** ..... KM  
 MOBILE ZERO SETTING IS: ..... **5019** ..... KM  
 OBSERVED RANGE IN OPERATE: ..... **105.142** ..... KM      TIME: **08:15**

SIGNED: .....

### NOTES REGARDING CALIBRATION PROCEDURES:

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2. All readings entered hereon will be final readings for the item in question, not preliminary or intermediate readings.
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4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

# OFFSHORE NAVIGATION, INC.

133020

17

## MAXIRAN CALIBRATION REPORT

DATE: 18 JAN 81

MOBILE STATION			BASE STATION		
LOCATION: <b>PICNIC HILL WEST</b>			LOCATION: <b>WARRJAMBOOL</b>		
OPERATOR: <b>TAYLOR / HENNESSY</b>			OPERATOR: <b>BRIDGES / BAMPTON</b>		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	N.M.D. 01	004	BEACON	NTL 01	082 CODE 5
INTERROGATOR	NTM 01	038	CONTROL BOX	NCL 02	060
AMPLIFIER	NTU 01	009	AMPLIFIER	NTU 03	038
AMPLIFIER P/S	NPU 01	009	AMPLIFIER P/S	NPU 03	033
PREAMP	STU 12	108	PREAMP	STU 12	109
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
		60			
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
INPUT VOLTAGE		115	INPUT VOLTAGE		115
TX. FREQUENCY		441	TX. FREQUENCY		429
RX. FREQUENCY		429	RX. FREQUENCY		441
TX. GAIN SETTING		MIN	RX. GAIN SETTING		MIN
WEATHER CONDITIONS		CLEAR FINE WARM	WEATHER CONDITIONS		AS. MOBILE.

~~4.5 mts.~~

OBSERVED RANGE IN CALIBRATE: ..... KM

COMPUTED SLANT RANGE: ..... 105.141 ..... KM

MOBILE ZERO SETTING IS: ..... 5019 ..... KM

OBSERVED RANGE IN OPERATE: ..... 105.142 ..... KM      TIME: 08.35.

SIGNED: .....

**NOTES REGARDING CALIBRATION PROCEDURES:**

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
2. All readings entered hereon will be final readings for the item in question, not preliminary or intermediate readings.
3. Each report will be complete in itself. Do not refer to other reports for information.
4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

# OFFSHORE NAVIGATION, INC.

133021

18

## MAXIRAN CALIBRATION REPORT

DATE: 18 JAN 81

MOBILE STATION			BASE STATION		
LOCATION: <u>PICNIC HILL WEST</u>			LOCATION: <u>WARRNAMBOOL</u>		
OPERATOR: <u>TAYLOR / HENNESSY</u>			OPERATOR:		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	<u>Nmm 01</u>	<u>004</u>	BEACON	<u>NTL 01</u>	<u>031</u> CODE <u>3</u>
INTERROGATOR	<u>NTM 01</u>	<u>038</u>	CONTROL BOX	<u>NCL 02</u>	<u>060</u>
AMPLIFIER	<u>NTU 01</u>	<u>009</u>	AMPLIFIER	<u>NTU 03</u>	<u>033</u>
AMPLIFIER P/S	<u>NPV 01</u>	<u>009</u>	AMPLIFIER P/S	<u>NPV 03</u>	<u>033</u>
PREAMP	<u>SAU 12</u>	<u>108</u>	PREAMP	<u>SAU 12</u>	<u>109</u>
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	<u>RCAF ANDREWS</u>	<u>82'</u>		<u>RCAF ANDREWS</u>	<u>82'</u>
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	<u>LPLs</u>	<u>60'</u>		<u>LPLs</u>	<u>30'</u>
INPUT VOLTAGE		<u>115</u>	INPUT VOLTAGE		<u>115</u>
TX. FREQUENCY		<u>441</u>	TX. FREQUENCY		<u>429</u>
RX. FREQUENCY		<u>429</u>	RX. FREQUENCY		<u>441</u>
RX. GAIN SETTING		<u>MIN</u>	RX. GAIN SETTING		<u>MIN</u>
WEATHER CONDITIONS		<u>Clear. Fine</u>	WEATHER CONDITIONS		<u>As possible</u>
		<u>WARM</u>			

up 5mts.

OBSERVED RANGE IN CALIBRATE: ..... KM  
 COMPUTED SLANT RANGE: 105.141 ..... KM  
 MOBILE ZERO SETTING IS: 5019 ..... KM  
 OBSERVED RANGE IN OPERATE: 105.139 ..... KM      TIME: 08.50

SIGNED: .....

### NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
2. All readings entered hereon will be final readings for the item in question, not preliminary or intermediate readings.
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4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

# OFFSHORE NAVIGATION, INC.

133022

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## MAXIRAN CALIBRATION REPORT

DATE: 18 JAN 81

MOBILE STATION			BASE STATION		
LOCATION: PICNIC HILL WEST			LOCATION: WARRNAMTOOL		
OPERATOR: TAYLOR/HENNESSY			OPERATOR: BRIDGES/BAMPTON.		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NMM 01	004	BEACON	NTL 01	023 CODE 3
INTERROGATOR	NTM 01	038	CONTROL BOX	NCL 02	060
AMPLIFIER	NTU 01	009	AMPLIFIER	NTU 03	033
AMPLIFIER P/S	N.PV 01	009	AMPLIFIER P/S	NPV 03	033
PREAMP	SAU 12	108	PREAMP	SAU 12	109
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	RGBU ANDREWS	82		RGBU ANDREWS	82'
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	LPLS	60'		LPLS	30'
INPUT VOLTAGE		115	INPUT VOLTAGE		115
TX. FREQUENCY		424	TX. FREQUENCY		429
RX. FREQUENCY		429	RX. FREQUENCY		441
RX. GAIN SETTING		MIN	RX. GAIN SETTING		MIN
WEATHER CONDITIONS		CHARK. FINE	WEATHER CONDITIONS		As. MOBILE
		WARM			

OBSERVED RANGE IN CALIBRATE: ..... KM  
 COMPUTED SLANT RANGE: ..... 105.141 ..... KM  
 MOBILE ZERO SETTING IS: ..... 5019 ..... KM  
 OBSERVED RANGE IN OPERATE: ..... 105.142 ..... KM TIME: 0903

SIGNED: .....

### NOTES REGARDING CALIBRATION PROCEDURES:

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4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

# OFFSHORE NAVIGATION, INC.

133023

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## MAXIRAN CALIBRATION REPORT

DATE: 18 JAN 81

MOBILE STATION			BASE STATION		
LOCATION: <u>PICNIC HILL WEST</u>			LOCATION: <u>WARRNAMBOOL</u>		
OPERATOR: <u>TAYLOR/HENNESSY</u>			OPERATOR: <u>BRIDGES/RAMPTON</u>		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	<u>N.M.M 01</u>	<u>004</u>	BEACON	<u>NTZ 01</u>	<u>035</u> CODE <u>1</u>
INTERROGATOR	<u>NT.M 01</u>	<u>038</u>	CONTROL BOX	<u>NCL 02</u>	<u>060</u>
AMPLIFIER	<u>NTU 01</u>	<u>009</u>	AMPLIFIER	<u>NTU 03</u>	<u>033</u>
AMPLIFIER P/S	<u>N.PU 01</u>	<u>009</u>	AMPLIFIER P/S	<u>N.PU 03</u>	<u>033</u>
PREAMP	<u>SAU 12</u>	<u>108</u>	PREAMP	<u>SAU 12</u>	<u>109</u>
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	<u>RG8U</u> <u>ANDREWS</u>	<u>82'</u>		<u>RG8U</u> <u>ANDREWS</u>	<u>82'</u>
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	<u>LPLS</u>	<u>60'</u>		<u>LPLS</u>	<u>30'</u>
INPUT VOLTAGE		<u>115</u>	INPUT VOLTAGE		<u>115</u>
TX. FREQUENCY		<u>441</u>	TX. FREQUENCY		<u>429</u>
RX. FREQUENCY		<u>429</u>	RX. FREQUENCY		<u>441</u>
RX. GAIN SETTING		<u>MIN</u>	RX. GAIN SETTING		<u>MIN</u>
WEATHER CONDITIONS		<u>CLEAR, FINE</u> <u>WARM.</u>	WEATHER CONDITIONS		<u>As. DISCRE.</u>

OBSERVED RANGE IN CALIBRATE: ..... KM  
 COMPUTED SLANT RANGE: 105.141. ..... KM  
 MOBILE ZERO SETTING IS: 5019 ..... KM  
 OBSERVED RANGE IN OPERATE: 105.141. ..... KM TIME: 0912

SIGNED: .....

### NOTES REGARDING CALIBRATION PROCEDURES:

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4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

# OFFSHORE NAVIGATION, INC.

133024

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## MAXIRAN CALIBRATION REPORT

DATE: 18 JAN 81

MOBILE STATION			BASE STATION		
LOCATION: <u>PICNIC HILL WEST</u>			LOCATION: <u>WARRNAMBOOL</u>		
OPERATOR: <u>TAYLOR/HEWNESSY</u>			OPERATOR: <u>BRIDGES/WARRNAMBOOL.</u>		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	<u>NMM 01</u>	<u>004</u>	BEACON	<u>NL 01</u>	<u>067</u> CODE 1
INTERROGATOR	<u>NTM 01</u>	<u>038</u>	CONTROL BOX	<u>NCL 02</u>	<u>060</u>
AMPLIFIER	<u>NTU 01</u>	<u>009</u>	AMPLIFIER	<u>NTU 03</u>	<u>033</u>
AMPLIFIER P/S	<u>NPU 01</u>	<u>009</u>	AMPLIFIER P/S	<u>NPU 03</u>	<u>033</u>
PREAMP	<u>SAU 12</u>	<u>108</u>	PREAMP	<u>SAU 12</u>	<u>109</u>
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	<u>RCSU ANDREWS</u>	<u>82'</u>		<u>RCSU ANDREWS</u>	<u>82'</u>
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	<u>LPLS</u>	<u>60'</u>		<u>LPLS</u>	<u>30'</u>
INPUT VOLTAGE		<u>115</u>	INPUT VOLTAGE		<u>115</u>
TX. FREQUENCY		<u>441</u>	TX. FREQUENCY		<u>429</u>
RX. FREQUENCY		<u>429</u>	RX. FREQUENCY		<u>441</u>
TX. GAIN SETTING		<u>MIN</u>	RX. GAIN SETTING		<u>MIN</u>
WEATHER CONDITIONS		<u>CLEAR FINE</u>	WEATHER CONDITIONS		<u>H.S. WIND</u>
		<u>Warm</u>			

OBSERVED RANGE IN CALIBRATE: ..... KM  
 COMPUTED SLANT RANGE: 105.141 ..... KM  
 MOBILE ZERO SETTING IS: 5019 ..... KM  
 OBSERVED RANGE IN OPERATE: 105.142. ..... KM      TIME: 0930

SIGNED: .....

### NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
2. All readings entered hereon will be final readings for the item in question, not preliminary or intermediate readings.
3. Each report will be complete in itself. Do not refer to other reports for information.
4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

# OFFSHORE NAVIGATION, INC.

133025

22

## MAXIRAN CALIBRATION REPORT

DATE: 18 JAN 81

MOBILE STATION			BASE STATION		
LOCATION: PICNIC HILL WEST			LOCATION: WARRNAMBOOL		
OPERATOR: TAYLOR/HENNESSY			OPERATOR: BRIDGES/BAMPTON		
UNIT	MODEL	SERIAL No.	UNIT	MODEL	SERIAL No.
MONITOR	NMP 01	004	BEACON	NTL 01	033 CODE 2
INTERROGATOR	NTM 01	038	CONTROL BOX	NCL 02	060
AMPLIFIER	NTU 01	009	AMPLIFIER	NTU 03	033
AMPLIFIER P/S	N.PU 01	009	AMPLIFIER P/S	NPU 03	033
PREAMP	SAU 12	108	PREAMP	SAU 12	109
COAX	TYPE	LENGTH	COAX	TYPE	LENGTH
	RGBU ANDREWS	82'		RGBU ANDREWS	82'
ANTENNA	TYPE	HEIGHT	ANTENNA	TYPE	HEIGHT
	LPLS	60'		LPLS	30'
INPUT VOLTAGE		115	INPUT VOLTAGE		115
TX. FREQUENCY		441	TX. FREQUENCY		429
RX. FREQUENCY		429	RX. FREQUENCY		441
RX. GAIN SETTING		MIN	RX. GAIN SETTING		MIN
WEATHER CONDITIONS		CLEAR, FINE WARM.	WEATHER CONDITIONS		AS POSSIBLE

OBSERVED RANGE IN CALIBRATE: ..... KM

COMPUTED SLANT RANGE: ..... 105.141 ..... KM

MOBILE ZERO SETTING IS: ..... 50.9 ..... KM

OBSERVED RANGE IN OPERATE: ..... 105.141 ..... KM TIME: 10.00

SIGNED: .....

### NOTES REGARDING CALIBRATION PROCEDURES:

1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
2. All readings entered hereon will be final readings for the item in question, not preliminary or intermediate readings.
3. Each report will be complete in itself. Do not refer to other reports for information.
4. Use the reverse side of this report for any additional comments deemed necessary or advisable for completeness and clarity.

VII. BASIC CONTROL

Coordinates of the three Maxiran base station sites occupied to control this survey were obtained from the Victorian Lands Department and ONA files.

Universal Transverse Mercator Projection  
Australian National Spheroid  
Zone 55  
Central Meridian 147° East  
AUSTRALIAN GEODETIC DATUM

STATION CAPE SCHANK:

Latitude	38°27'43"77 S	N = 5,740,804 meters
Longitude	144°54'03"42 E	E = 316,862 meters
Elevation	157 meters	

STATION DEAL ISLAND:

Latitude	39°29'41"36 S	N = 5,628,246 meters
Longitude	147°19'09"23 E	E = 527,449 meters
Elevation	304 meters	

STATION LIPTRAP:

Latitude	38°51'05"51 S	N = 5,699,175 meters
Longitude	145°57'54"92 E	E = 410,211 meters
Elevation	170 meters	

VIII. PERSONNEL

NAME	POSITION
Bridges, H.	Party Chief
Hennessy, H.	Mobile Operator
Taylor, D.	Mobile Operator
Bampton, R.	Base Operator
Rathbone, P.	Base Operator
Wells, G.	Base Operator

IX. DISTRIBUTION

Geophysical Service International  
25 Barracks Street  
Perth, W.A. 6000  
AUSTRALIA

Attention: Mr. Dick Miles

Four copies

Offshore Navigation, Inc.  
Post Office Box 23504  
Harahan, LA 70123  
U.S.A.

Two copies

Offshore Navigation (Australia) Pty. Ltd.  
Post Office Box 291  
Cloverdale, W.A. 6105  
AUSTRALIA

One copy

BASE STATION DESCRIPTIONS AND PLATES

25

**STATION:** CAPE SCHANK

**LOCATED:** Station Cape Schank is located near the Cape Schank Lighthouse. The nearest town to this station is Rosebud, Victoria, Australia.

The station is located on a hill of approximately 157 meters in elevation. This hill stands well over other hills in the area. The hill and surrounding area has been divided up for development. When more buildings go up in this area, there is a good chance that this station will not be available for occupancy.

The station site is covered with thick, bushy trees. Since the station is located within the "Green Belt", permission will be required to clear any trees.

Port Phillips Bay, the coast line, and a golf course can be seen from the station site. A house, that is lived in year-round, is located near the marker.

**ACCESS:** From the township of Rosebud, drive on the road towards Franston (the main street of Rosebud) to the intersection of Finders Road, which is clearly marked. Finders Road will intersect with a road that leads towards Melbourne. Continue straight on Finders Road at this point. Six miles past this intersection, a sign indicating "Cape Country Club Golf Course" will be seen on the left. Continue 600 yards past this sign to a tar sealed road to the right signposted "Bernards Way". Turn right onto this road to its end, and turn left again. On making this left turn, the trig marker will be seen on your left, on top of a hill (See Sketch).

**MARKER:** The station is marked by a standard 12-foot quadripod constructed of 2-inch steel pipe. The quadripod is painted black, and is sitting directly over a bronze plaque inscribed "GEODETIC SURVEY, VICTORIA, TRIANGULATION STATION".

STATION: CAPE SCHANK (continued)

GENERAL: All supplies, including labor, required for a base station can be obtained in Rosebud, a 20 minutes' ride from the site. Water can be obtained from the local garages, Cape Schank Light Station, and from residents in the area (provided permission is obtained). The availability of water will depend on the rain and supply in water tanks. The water from the lighthouse is bore water, but drinkable.

The weather in this area is very unpredictable, with sudden cold changes due to its elevation and proximity to the sea.

A 50-foot tower was erected at this station during February 1981. A minimum of 40 feet of tower is required to clear surrounding obstructions. Star stakes were used to secure the tower.

The station site is on land owned by Mr. Phil White (Phone number 03-645-1111). Permission to occupy this station must be obtained from Mr. White, and the Shire of Flinders, Mr. S. Richardson (Phone number 03-986-2500)

ELEVATION: 157 meters

SKETCH: See next page.

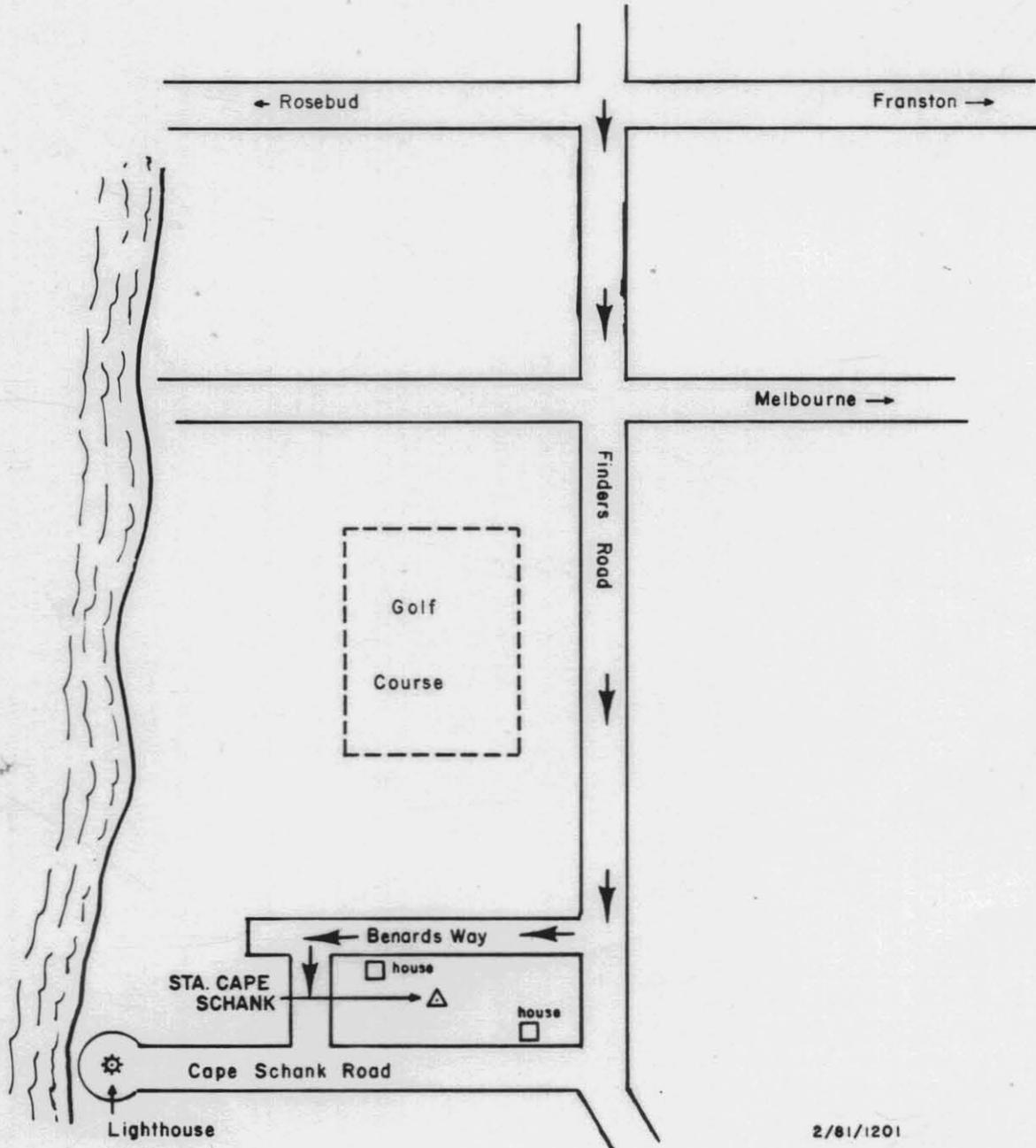
GEOGRAPHICAL COORDINATES		AUSTRALIAN GEODETIC DATUM	
Latitude	Longitude	UTM Proj., AUST. NATIONAL SPHEROID ZONE 55, C. M. 147° EAST	
		North	East
38°27'43".77 S	144°54'03".42 E	5,740,804 meters	316,862 meters

# STA. CAPE SCHANK — AUSTRALIA

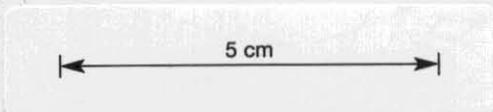
LAT. 38°27'43".77 S  
LONG. 144°54'03".42 E  
ELEV. 157 meters

N 5,740,804 meters  
E 316 862 meters

UTM PROJECTION, AUST. NATIONAL SPHEROID  
ZONE 55 C.M. 147° E  
AUSTRALIAN GEODETIC DATUM



2/81/1201



**STATION:** DEAL ISLAND

**LOCATED:** The station is located on the highest point of Deal Island, Victoria, Australia. The station marker is approximately 1250 meters at a bearing of 110° from the lighthouse. The lighthouse and station site are located on separate hills. Vegetation near the site is low scrub, which is very thick. Large rocks and boulders near and on the site make getting the equipment up to the station and setting up very awkward.

**ACCESS:** Deal Island is the main island in the Kent Group, located in Bass Strait, approximately 50 kilometers northwest of Flinders Island, and 90 kilometers southeast of Wilsons Promontory, on the Mainland of Australia.

Access to Deal Island is by boat or helicopter. Port Welshpool is the closest mainland port to the station. There is a pier suitable for tying up small vessels at the island. Access from the pier to the station is by the only road on the island, which passes through the yard of the lightkeeper's house, and terminates at the lighthouse. Before reaching the lighthouse, the ruins of an old house will be seen on the right. Due to the thickness of the vegetation, a path may have to be cut from this house to the station site.

Transportation on the island consists of a four-wheel drive vehicle owned by the Government and used as transportation by lighthouse personnel. The lightkeeper assisted the operator during the February 1981 occupancy of this station and transported the equipment to the station with his vehicle. As lighthouse staff changes may take place, it is recommended that availability of transportation be checked before equipment and personnel arrives on the island.

**MARKER:** The station is marked by a star stake set in cement. The stake protrudes 1 meter above the cement, and is painted orange.

STATION: DEAL ISLAND (continued)

The lighthouse is 250 meters from this marker at a bearing of  $110^\circ$ . The ruins of the old house is 150 meters at a bearing of  $110^\circ$ .

GENERAL: Leongatha is the largest town in the area of the station. Camping equipment can be obtained there. Food and fuel supplies can be obtained either in Leongatha, Foster, or Toora. The camp-helper was obtained from Welshpool during the February 1981 occupancy of this station. Since Welshpool isn't a very large town, labor (if required) may have to be sought elsewhere.

Drinking water was obtained from a tank behind the lighthouse engine room. A secondary water supply, which is drinkable but slightly brackish, is available at the lightkeeper's house.

The station is prone to very high gusty winds. The elevation of the station can place it in clouds for days, even during the summer months.

The station is on property owned by the Commonwealth of Australia. Permission to occupy the station was obtained from the Transportation Department, 188 Queens Street, Melbourne. (Phone 03-620131). No rent was paid for its use. The lightkeeper on Deal Island (Phone 056-808534) must be notified of the day personnel and equipment will be arriving.

The boat used to transport personnel and equipment during February 1981 is owned by Mr. Don Jacobsen, Phone Inuelock 056-741532.

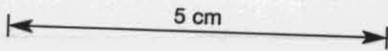
A 30-foot tower was erected at this station. A minimum of 20 feet is required to give a clear vista of  $360^\circ$ . Star stakes were used to secure the tower.

ELEVATION: 304 meters

SKETCH: See next page.

GEOGRAPHICAL COORDINATES		AUSTRALIAN GEODETIC DATUM	
		UTM Proj., AUST. NATIONAL SPHEROID ZONE 55, C.M. $147^\circ$ EAST	
Latitude	Longitude	North	East
39°29'41"36 S	147°19'09"23 E	5,628,246 meters	527,449 meters

133033

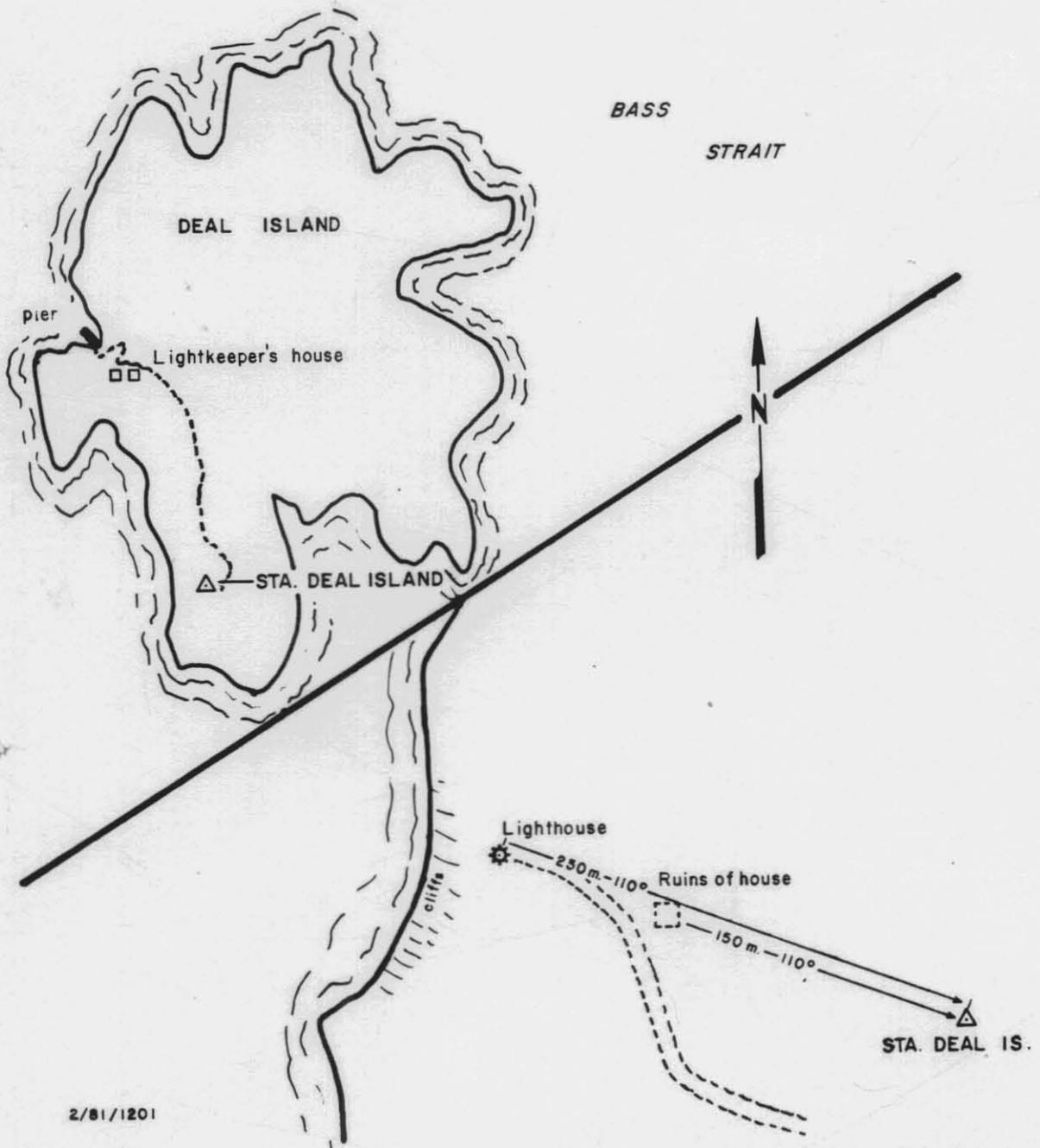


# STA. DEAL ISLAND — AUSTRALIA

LAT. 39°29' 41"36 S  
LONG. 147° 19' 09"23 E  
ELEV. 304 meters

N 5,628,246 meters  
E 527,449 meters

UTM PROJECTION, AUST. NATIONAL SPHEROID  
ZONE 55 C.M. 147° E  
AUSTRALIAN GEODETIC DATUM



2/81/1201

OFFSHORE NAVIGATION  
(AUSTRALIA) PTY. LTD.

STATION: LIPTRAP

LOCATED: Station Liptrap is located approximately 15 miles from the township of Tarwin Lower, Victoria, Australia, and 5 miles north of the Cape Liptrap Lighthouse. The station site is 170 meters above sea level and surrounded on three sides by the sea. The land around the base station is undulating sand hills, covered by low mallee scrub with areas of secondary growth consisting of ferns and prickly bush. Also, some livestock grazing areas are within a mile radius. The station is located within a triangle of dirt roads, the northern side being the apex leading to the township of Tarwin Lower. The two southern apexes lead to beaches, one at Cape Liptrap, and the other at Walker ville. The immediate area at the trig marker is covered by scrub 1 to 2 feet high, growing on white and yellow sand. The trig marker is approximately 200 feet east of the dirt road. The area for approximately 200 feet around the marker is reasonably flat. This station is accessible by all types of vehicles.

MARKER: The original marker, placed in 1863, was about 3/4 mile south-southwest from the present marker, but has never been found. A second marker was placed in 1920, about 1 mile north-northeast of the present marker, but the beacon on this marker disappeared during the 1950's.

The present marker is made of a 3-foot square slab of concrete that is flush with the ground. A brass plaque, inscribed "AUST. TRIANGULATION STN., SURVEY CORPOS.", is imbedded in the concrete. A 15-foot steel quadripod, with 2-foot vanes on top, has been constructed over the marker. The quadripod and vanes are painted black.

There are no prominent features in the immediate vicinity of the marker that could be used as reference, with the exception of the roads. (See Sketch.)

STATION: LIPTRAP (continued)

GENERAL: Local labor, food, fuel, oil, and drinking water can be obtained from either the towns of Fish Creek (15 miles) or Tarwin Loweres (14 miles). If the operator has no transportation the local Lands Department will be only too willing to get water and/or supplies for the operator.

Due to the ground being sandy, garbage can be buried.

Rain and wind, mainly from the west and east, will be the main discomfort experienced on this station. It would be advisable to double tie the tents down. The station should never be left unmanned, due to heavy tourist traffic going by this site every day.

A 60-foot tower was erected at this station during February 1981. A minimum of 40 feet is required to clear surrounding obstructions. Clear vista is from 120° to 290°. Six foot steel star stakes were used to secure the tower.

ELEVATION: 170 meters

SKETCH: See next page.

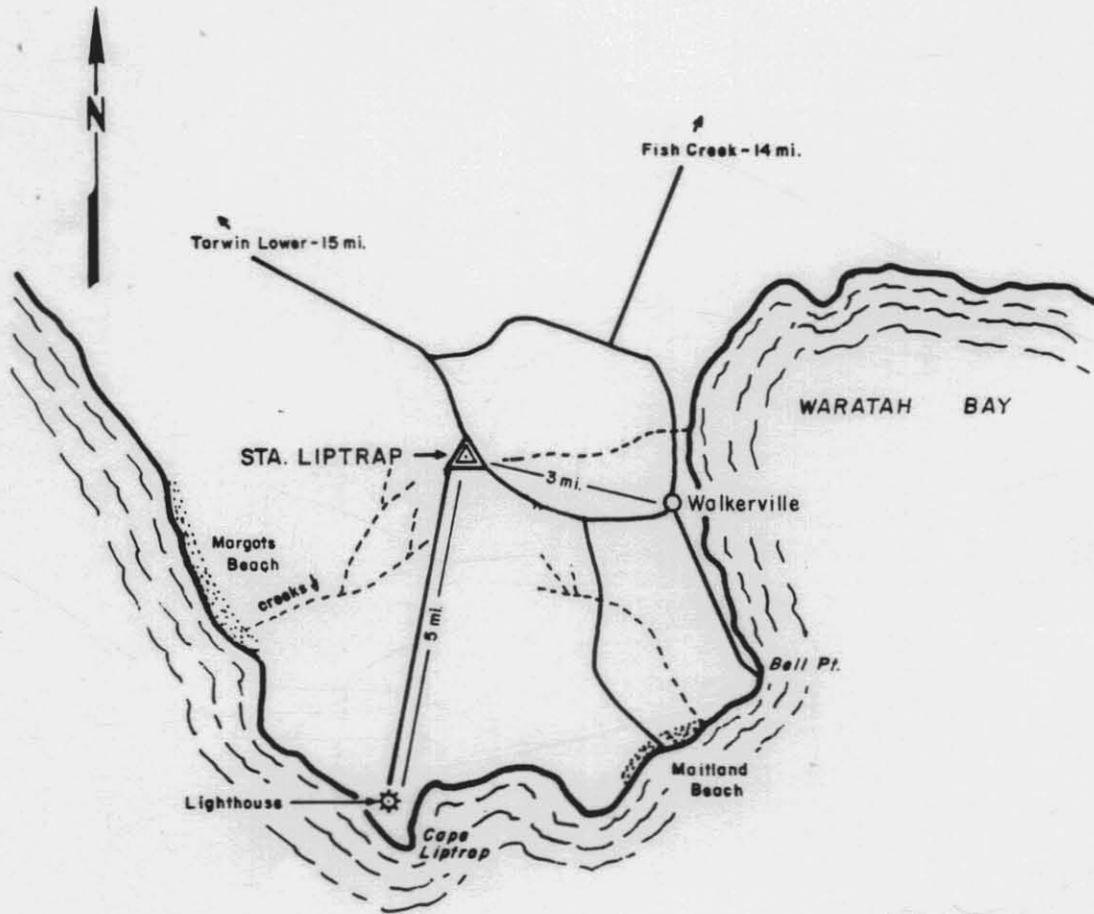
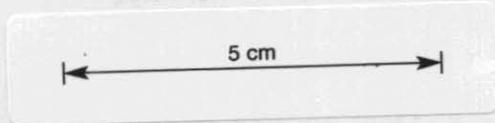
GEOGRAPHICAL COORDINATES		AUSTRALIAN GEODETIC DATUM	
		UTM Proj., AUST. NATIONAL SPHEROID	
		ZONE 55, C. M. 147° EAST	
Latitude	Longitude	North	East
38°51'05"51 S	145°57'54"92 E	5,699,175 meters	410,211 meters

STA. LIPTRAP ————— AUSTRALIA

LAT. 38°51'05".51 S  
 LONG. 145°57'54".92 E  
 ELEV. 170 meters

N 5,699,175 meters  
 E 410,211 meters

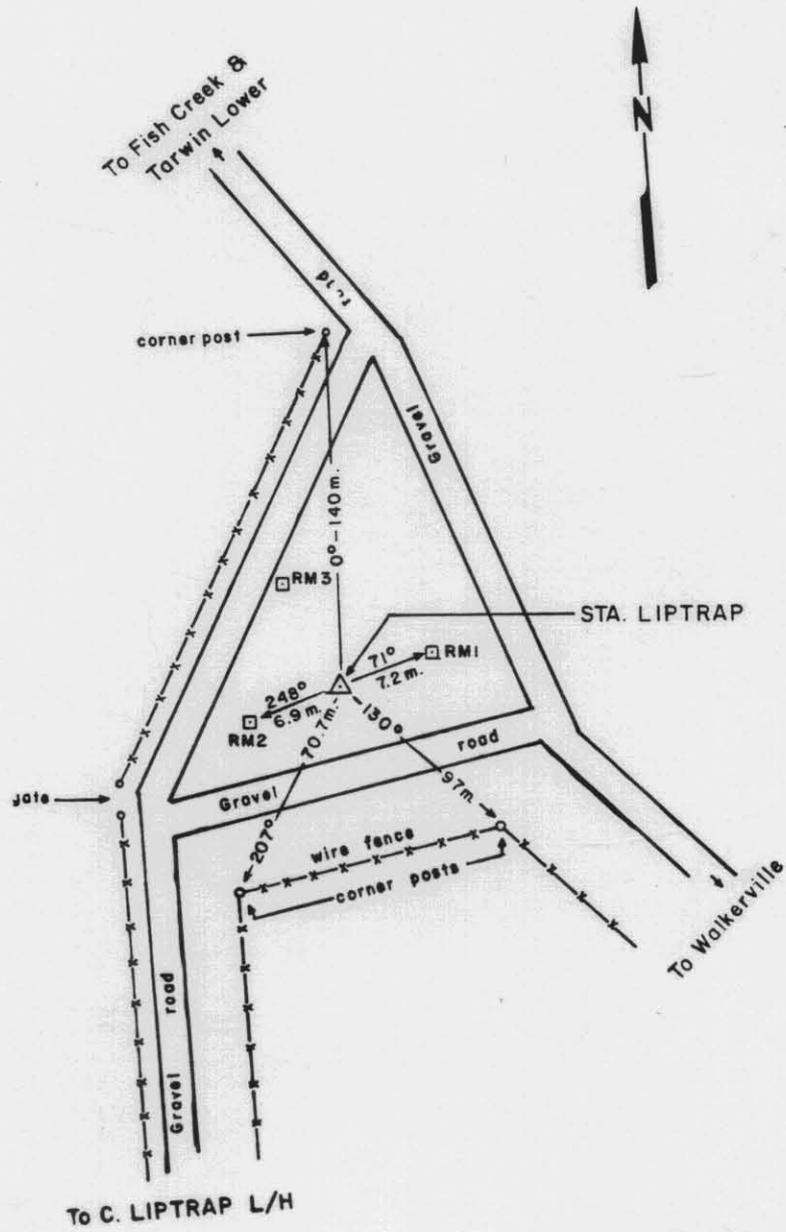
UTM PROJECTION, AUST. NATIONAL SPHEROID  
 ZONE 55 C.M. 147° E  
 AUSTRALIAN GEODETIC DATUM



2/81/1201

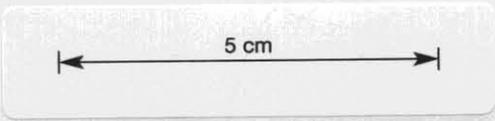
STA. LIPTRAP — AUSTRALIA

STATION DETAILS

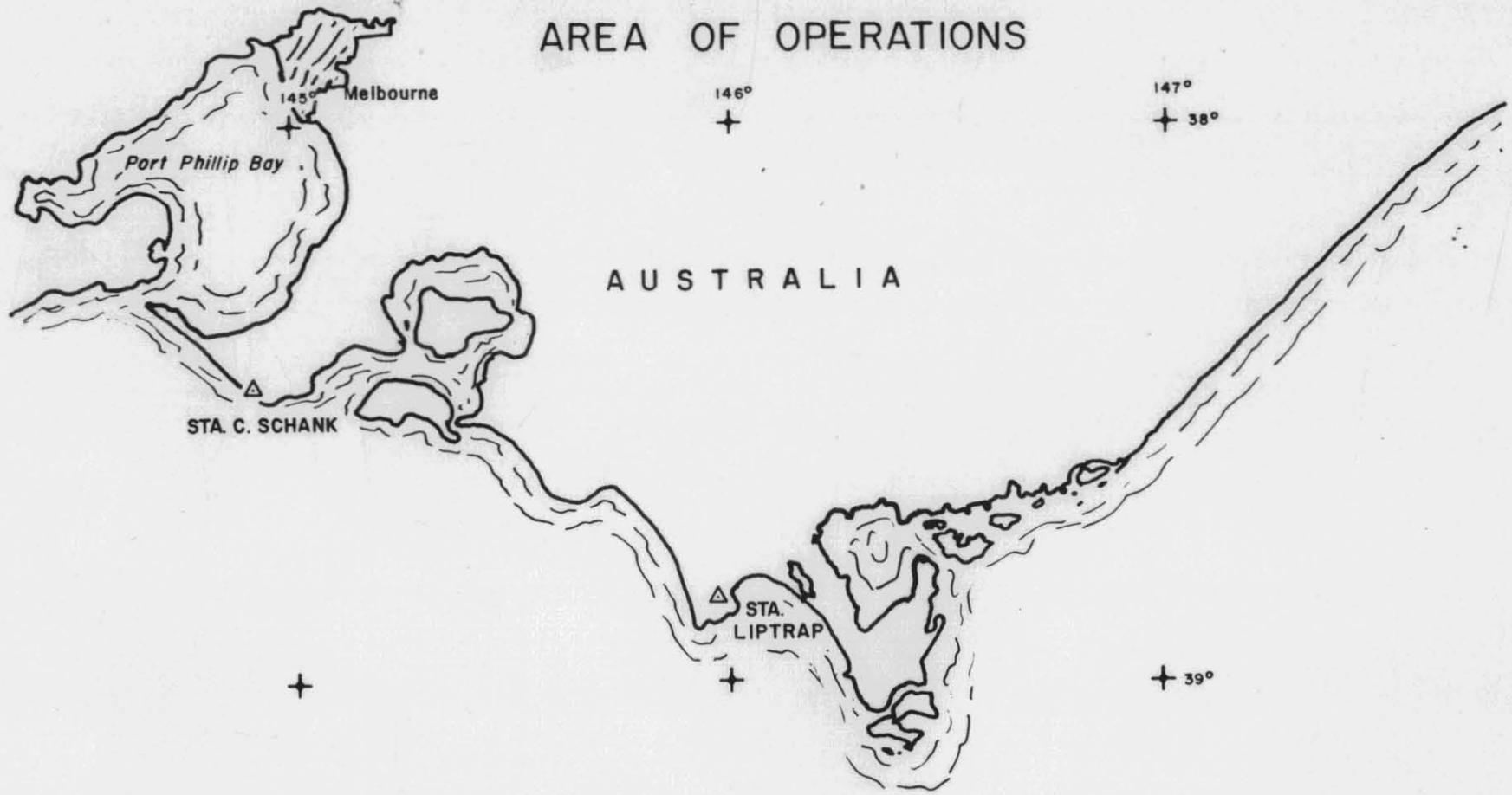


2/81/1201

To C. LIPTRAP L/H



AREA OF OPERATIONS



146°  
+

147°  
+ 38°

AUSTRALIA

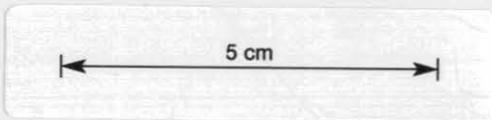
STA. C. SCHANK

STA. LIPTRAP

+ 39°

*Bass Strait*

STA. DEAL IS.



2/81/1201

OFFSHORE NAVIGATION  
(AUSTRALIA) PTY. LTD.

133038

APPENDIX A  
DAILY OPERATIONS LOGS

133040

OFFSHORE NAVIGATION INC.  
MAXIRAN DAILY OPERATIONS LOG

Project Number 1201 Date 20<sup>th</sup> FEB. 1981 Boat EUGENE McDERMOTT II Client Party Number 2931  
Geophysical Company G.S.I. Oil Company BASS STRAIT OIL & GAS Radio Frequency 7840 KHZ  
Country AUSTRALIA Area/Prospect BASS BASIN Stepback Interval 25 MTS.

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441 MHz	038	004	009	DUPLEX LPL'S

## BASE STATIONS

Position	Operator	Frequency	Beacon	Control Box	Amplifier	Code
C. SCHANCK	G. WELLS	429	025	070	004/011	3)
C. LIPTRAP	R. BAMPTON	429	029	060	033	5) SD19
DEAL ISLAND	P. RATHBONE	429	003	024	024	2)

## OPERATING TIME

Time On	Time Off	Requested By	System Used For
0001	2400	C. ORR	SEISMIC SURVEY.
O/T Requested By	Total System - Hours Operation for Client		24:00

## LOST TIME

From	To	Hours Lost	Reason(s)
		NIL.	

## Brief Operations Log &amp; Remarks

0001 - 1040 Repairing, laying & ballasting cable.  
1245 - 1522 line BCS81-1 DIR NE FSP1 thru ASP 953.  
1719 - 2025 line BCS81-3 DIR SW FSP1 thru ASP 1151 - continued w  
2025 - 2400 line BBS81-9 DIR SW FSP1152 thru ASP 2435 -  
SP 1152 on line BBS81-9 corresponds to prepl'd SP 1151 for this line.  
Continuing on line BBS81-9 SW.

Bass Strait Oil & Gas/Cue Minerals prospects are on adjacent blocks and some lines, as above, are shut as one but data is split at concession boundaries.

Mobile Operators *[Signature]* A. HENNESSY Party Chief H. R. BRIDGES

Form N-1A

SEE INSTRUCTIONS ON REVERSE

OFFSHORE NAVIGATION INC.  
MAXIRAN DAILY OPERATIONS LOG

Project Number 1201 Date 21ST FEB. 1981 Boat EUGENE McDERMOTT II Client Party Number 2931  
 Geophysical Company C.S.I. Oil Company BASS STRAIT OIL & GAS Radio Frequency 7840KHZ  
 Country AUSTRALIA Area/Prospect BASS BASIN Stepback CUE MINERALS. Shot Point Interval 25mts.

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441MHZ	038	004	009	DUPLEX LPL'S

BASE STATIONS						
Position	Operator	Frequency	Beacon	Control Box	Amplifier	Code
C. SCHANCK.	C. WELLS	429	025	070	004/011	3)
C. LIPTRAP.	R. BAMPTON	429	029	060	033	5) 5019
DEAL ISLAND.	P. RATHBONE	429	003	024	024	2)

OPERATING TIME			
Time On	Time Off	Requested By	System Used For
0001	2400	C. ORR.	SEISMIC SURVEY.
O/T Requested By		Total System - Hours Operation for Client	
		24:00	

LOST TIME			
From	To	Hours Lost	Reason(s)
		NIL.	

Brief Operations Log & Remarks

0602 - 0945 Line BCS 81-5 DIR. NE FSP 1 thru LSP 1371.  
 1000 - 1615 Working on the cable.  
 1704 - 2054 Line BCS 81-4 DIR. SE FSP 1 thru LSP 1461.  
 1834 - 1859 SP552 thru SP709 no signal from Cape Schanck - generator.  
 2252 - 2400 Line BCS 81-2 DIR. NW FSP 1 thru LSP 425  
 Continuing on line BCS 81-2 NW.

Mobile Operators *A. Hennessy* Party H. R. BRIDGES.  
 A. HENNESSY

133042

OFFSHORE NAVIGATION INC.  
MAXIRAN DAILY OPERATIONS LOG

Project Number 1201 Date 22<sup>nd</sup> FEB. 1981 Boat EUGENE McDERMOTT II Client Party Number 2931  
 Geophysical Company G.S.I. Oil Company CUE MINERALS. Radio Frequency 7840 kHz  
 Country AUSTRALIA Area/Prospect BASS BASIN Stepback Shot Point Interval 25 mts.

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441 MHz	038	004	009	DUPLEX LPL'S

## BASE STATIONS

Position	Operator	Frequency	Beacon	Control Box	Amplifier	Code
C. SCHANCK	C. WELLS	429	025	070	004/011	3
C. LIPTRAP	R. BAMPTON	429	029	060	033	5 } 5019
DEAL ISLAND	P. RATHBONE	429	003	024	024	2 }

## OPERATING TIME

Time On	Time Off	Requested By	System Used For
0001	2400	C. ORR	SEISMIC SURVEY.
O/T Requested By			Total System - Hours Operation for Client 24:00

## LOST TIME

From	To	Hours Lost	Reason(s)
		NIL.	

## Brief Operations Log &amp; Remarks

0001 - 0112 Line BCS 81-2 DIR. NW. FSP 426 THRU LSP 881.  
 0234 - 1016 Line BCS 81-9 DIR. SW. FSP 1 THRU LSP 2861.  
 1140 - 1334 Line BCS 81-16 DIR. SE. FSP 1 THRU LSP 721.  
 34 km. line change. 1800 Mt. Taylor operational.  
 3 way fixes: CAPE LIPTRAP MOUNT TAYLOR DEAL ISLAND  
 146.990 302.000 129.691  
 146.971 301.984 129.686  
 146.945 301.967 129.676  
 1902 - 2041 Line BCS 81-11 DIR. NE FSP 1 THRU LSP 631 -  
 line terminated - compressors. Cuckling.  
 2226 - 2400 Line BCS 81-11A DIR. NE FSP 561 THRU LSP 1150  
 Continuing on line BCS 81-11A NE.

Mobile Operators *D.P.* Party Chief A. HENNESSY H. R. BRIDGES.

**OFFSHORE NAVIGATION INC.  
MAXIRAN DAILY OPERATIONS LOG**

Project Number 1201 Date 23<sup>d</sup> FEB. 1981 Boat EUGENE McDERMOTT II Client Party Number 2931  
 Geophysical Company G.S.I. Oil Company CUE MINERALS. Radio Frequency 7840KHZ  
 Country AUSTRALIA Area/Prospect BASS BASIN Stepback Shot Point Interval 25MS.

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441MHZ	038	004	009	DUPLEX LPL'S

**BASE STATIONS**

Position	Operator	Frequency	Beacon	Control Box	Amplifier	Code
C. SCHANCK	G. WELLS	429	025	070	004/011	3)
C. LIPTRAP	R. BAMPTON	429	029	060	033	5; 5019
DEAL ISLAND	P. RATHBONE	429	003	024	024	2)

**OPERATING TIME**

Time On	Time Off	Requested By	System Used For
0001	2400	C. ORR.	SEISMIC SURVEY.
O/T Requested By			Total System - Hours Operation for Client 24:00

**LOST TIME**

From	To	Hours Lost	Reason(s)
		NIL.	

**Brief Operations Log & Remarks**

0001 - 0043 Line BCS 81-11A DIR. NE FSP 1151 Time LSP 1410.  
 0250 - 0407 Line BCS 81-13 DIR. SW FSP 1 Time LSP 471.  
 0550 - 1238 Line BCS 81-8 DIR. NW FSP 1 Time LSP 2611.  
 1428 - 2128 Line BCS 81-10 DIR. SE FSP 1 Time LSP 2611.  
 2336 - 2400 Line BCS 81-12 DIR. NW FSP 1 Time LSP 150.

Continuing on line BCS 81-12 NW.

1613 - 1619 Line 10 SP's 659 thru 694 CMS switched to Sat/Smar control inhibit taking 3 way fixes from Mt. Taylor.

See Over.

Mobile Operators

*[Signature]*

A. HENNESSY

Party Chief

H. R. BRIDGES

Operations Log &amp; Remarks (con'd.)

3 WAY FIXES: LINE TBCS 81 - 10

STN. BRC.	329°	003°	035°	075°	S.P. No.
	CAPE SCHANCK	CAPE LIPTRA	MT. TAYLOR	DEAL IS.	
	—	101.605	271. 271	127. 642	670
	—	101.623	271. 283	127. 631	671
167.503		—	271. 428	127. 550	680
167.528		—	271. 442	127. 542	682
167.678		101.942	271. 446	—	687
167.705		101.965	271. 457	—	688
167.751		102.002	—	127. 472	690
167.778		102.024	—	127. 465	691

## INSTRUCTIONS

1. This form is to be filled out **completely** for each day that the crew, or any member thereof, is in a work status.
2. It is intended to provide a concise but complete log of one day's activity on an operating radiopositioning crew. Completeness is more important than brevity.
3. If more space is needed in order to make a complete report, use supplemental sheets.
4. In addition to providing an operational log, it also provides information required for billing purposes, particularly as it lists operating days, lost time, overtime, etc.
5. It has been specifically modified from previous forms to provide (under Operating Time) for a notation as to what the system is being used for during a specific period. This is particularly important (1) in case of overtime operations; (2) when the system is being used for other than the client's normal, day to day, operations; and (3) when the system is kept on the air but no production is being realized.
6. Under "Operating Time", the name of the client's representative requesting that the system be turned on or off or requesting overtime (O/T) operations should be noted. Notations such as "Client" or "Client Rep." are not sufficient.
7. Mobile operators should ascertain from their Party Chief if overtime charges are applicable on a particular operation (Party Chiefs are normally furnished with a copy of the applicable contract). If overtime is applicable to the operation, it should not be incurred without the client representative being fully aware of it and specifically authorizing it. In brief, if the system is not required, it should be turned off. If the client will not permit its being turned off to eliminate unnecessary overtime, that should be noted on this form, including all pertinent particulars.
8. The client, or his representative, always has the final decision as to whether the system should be turned on or off.

133045

**OFFSHORE NAVIGATION INC.  
MAXIRAN DAILY OPERATIONS LOG**

Project Number 1201 Date 24<sup>TH</sup> FEB. 1981 Boat EUGENE McDERMOTT II Client Party Number 2931  
 Geophysical Company C.S.I. Oil Company CUE MINERALS Radio Frequency 7840 kHz  
 Country AUSTRALIA Area/Prospect BASS BASIN Stepback \_\_\_\_\_ Shot Point Interval 25ms

Mobile Station	FREQUENCY	INTERROGATOR	MONITOR	AMPLIFIER	ANTENNA SYSTEM
	441 kHz	038	006	009	DUPLEX LPL's

BASE STATIONS						
Position	Operator	Frequency	Beacon	Control Box	Amplifier	Code
C. SCHANCK	C. WELLS	429	025	070	006/011	3
C. LIPTRAP	R. RAMPTON	429	029	060	033	5
DEAL ISLAND	P. RATHBONE	429	003	024	024	2
MT. TAYLOR	C. WARD	429	NOT USED.			5

OPERATING TIME			
Time On	Time Off	Requested By	System Used For
0001	2400	C. ORR.	SEISMIC SURVEY.
O/T Requested By			Total System - Hours Operation for Client <u>24:00</u>

LOST TIME			
From	To	Hours Lost	Reason(s)
		NIL.	

**Brief Operations Log & Remarks**

0001 - 0538 Line BCS 81-12 DIR. NW. FSP 151 THM LSP 2211.  
 0737 - 1045 Line BCS 81-14 DIR. SE. FSP 1 THM LSP 1222.  
 1207 - 1655 Line BCS 81-7 DIR. NE. FSP 1 THM LSP 1861.  
 1832 - 1907 Line BCS 81-6 DIR. SE. FSP 1 THM LSP 221.

This completes the Cue Minerals prospect.  
 1920 Cape Liptrap secured for station move.

2400 Underway to Bass Strait Oil & Gas prospect - Gippsland Basin.

Mobile Operators [Signature] Party Chief A. HENNESSY H.R. BRIDGES