### FINAL REPORT

### OFFSHORE NAVIGATION (AUSTRALIA) PTY.LTD.

PROJECT 1419

WELL LOCATION ATHENE No.1

9 5 NOV 1983

MAY, 1983

MONT





FINAL REPORT
OFFSHORE NAVIGATION (AUSTRALIA) PTY. LTD.
PROJECT 1419

FOR

PHILLIPS AUSTRALIAN OIL COMPANY

VICTORIA, AUSTRALIA MAY 1983



1 5 NOV 1983

WELL LOCATION ATHENE - 1



OFFSHORE NAVIGATION, (AUSTRALIA) PTY. LTD.

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FOR

PHILLIPS AUSTRALIAN OIL COMPANY

VICTORIA, AUSTRALIA
WELL LOCATION ATHENE - 1

MAY 1983

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### I. INTRODUCTION

Offshore Navigation (Australia) Pty. Ltd.(ONA), under contract to Phillips Australian Oil Company (PHILLIPS), employed a Maxiran Radiopositioning System to position the Drilling Vessel (D/V) DIAMOND M EPOCH on a location that was designated by PHILLIPS as:

### WELL LOCATION ATHENE - 1

The survey was conducted in Bass Strait, off the coast of Victoria, Australia. The well was located approximately 91 kilometers south-southeast of Cape Conran, Victoria.

The ONA base of operation was established at Bairnsdale on 13 May 1983.

### II. FIELD OPERATIONS RECAP

The Maxiran system required to control this survey was stored in the area from a previous operation. ONA personnel necessary for this operation travelled to Melbourne on 12 May 1983. The Maxiran system was picked up from storage in Welshpool on 13 May, and transported to Station Emerald (Offset). The Maxiran system was calibrated at this station on 14 May 1983. See "Maxiran Calibration" of this report for details.

On completion of the Maxiran calibration, the Maxiran base station equipment was transported to the three sites occupied to control the survey. Installation of the Maxiran base station equipment on these three sites began on 14 May 1983, and was completed on 16 May 1983.

The ONA mobile operator and mobile equipment were transported via helicopter to the Drilling Vessel (D/V) DIAMOND M EPOCH on 15 May 1983, arriving on board the rig at 1255 hours that date. Installation of the Maxiran mobile equipment on board the D/V DIAMOND M EPOCH was completed at 1630 hours 15 May 1983.

### II. FIELD OPERATIONS RECAP (continued)

Moving of the D/V DIAMOND M EPOCH from its position at Well Location ATHENE - 1 was delayed due to weather. Towing of the D/V DIAMOND M EPOCH to the well site began at 1940 hours 19 May 1983. The D/V DIAMOND M EPOCH arrived in the location area, and the first anchor was dropped at 0157 hours 20 May. The anchors were secured, and spudding of the 30-inch casing began at 0130 hours 2 May. A preliminary Maxiran reading was obtained at 0100 hours 2 May 1983, prior to the beginning of the spudding operation.

The 30-inch casing was set, and final Maxiran readings was recorded at 0810 hours 23 May 1983. The Maxiran system was released and secured at 1230 hours 23 May 1983. See Appendix A, Daily Operations Logs, of this report for details of operation.

The Maxiran mobile equipment and ONA mobile operator were transported to Welshpool by helicopter on 24 May 1983. The Maxiran mobile equipment was returned to the Welshpool storage facility that same date. Dismantling

### II. FIELD OPERATIONS RECAP (continued)

of Stations Cape Conran and Seacombe was accomplished on 24 may. Dismantling of Station Nighthout was not completed until 25 May, due to weather conditions on 24 May 1983 that did not permit a helicopter flight to this site.

The ONA mobile operator and one base operator were released from this survey on 25 May 1983. A second ONA base operator was released on 26 May, and the ONA party chief was released on 27 May. The third ONA base operator was released from his assignment on 28 May 1983.

### III. GENERAL INFORMATION

A. Maxiran frequencies used were:

Mobile Transmitter

441 MHz

Base Transmitter

429 MHz

- B. Satisfactory radiotelephone communications were maintained between the Maxiran stations on the frequency of 7840.0 (SSB) kilocycles.
- C. The Maxiran field data was turned over to Mr. J. Goodin, the PHILLIPS representative, on 24 May 1983. The final Maxiran ranges recorded on 23 May 1983 were transmitted to the ONA office in Perth, W.A. for final computation.
- 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 CONRAN

STATION NIGHTOUT

STATION SEACOMBE

### III. GENERAL INFORMATION (continued)

- F. The maximum range observed by the Maxiran system during this survey was 180 kilometers.
- G. The Maxiran mobile equipment was checked daily for proper delay setting. The delay setting was determined by a Maxiran Calibration conducted on 14 May 1983.

### IV. MAXIRAN CALIBRATION

The Maxiran system was calibrated on 14 May 1983, prior to the commencement of the Well Location ATHENE - 1 survey. For this calibration, the Maxiran system was transported to Station Emerald (Offset), and the equipment installed at two markers at this site. The Maxiran mobile equipment was installed at the Station Emerald (Offset) marker, and the Maxiran base station equipment was installed at the calibration marker. The computed slope range of 1102.00 meters between the two markers, used to calibrate the system, were derived from a survey conducted by M.A. Nicholas and Associates.

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

### MAXIRAN CALIBRATION REPORT

DATE: 14 MAY 1983

|                                 | MOBILE STATION |            |               | BASE STAT | ION           |
|---------------------------------|----------------|------------|---------------|-----------|---------------|
| CATION:                         | DERALD OF      | FS67)      | LOCATION: C   | ALIBRATI  | ow MARK       |
|                                 | . J. MOLLOY    |            | OPERATOR:     | H. BRIDG  |               |
| UNIT                            | MODEL          | SERIAL No. | UNIT          | MODEL     | l l           |
| ONITOR                          | NMM. DIB       | 041        | BEACON        | NTL C     | OI OIO CODE I |
| ERROGATOR                       | NTM-01         | 009        | CONTROL BOX   | NCL-C     | 077           |
| MPLIFIER                        | NT4-02         | 063        | AMPLIFIER     | NTU-      | 02 033        |
| PLIFIER P/S                     | N L 11 - 01    | 037        | AMPLIFIER P/S | vcu-      |               |
| REAMP                           | SA11-12        | 148        | PREAMP        | SAu-      | 12 096        |
| <b>L</b> V                      | TYPE           | LENGTH     | COAX          | TYPE      | LENGTH        |
| ΑX                              | ANDREWS        | 82 FT.     |               | ANDREL    | US 82 FT.     |
|                                 | TYPE           | HEIGHT     |               | TYPE      | HEIGHT        |
| TENNA                           | WHIP           | 25 FT.     |               | H' LPL    | 20            |
| PUT VOLTAGE                     |                | 117 VAC    | INPUT VOLTAGE |           | 117 VAC       |
| FREQUENCY                       |                | 441 MHz    | TX. FREQUENCY |           | 429 MHz       |
| K. FREQUENCY                    |                | 429 MHz    | RX. FREQUENCY |           |               |
| REGAIN SETTING RX. GAIN SETTING |                | G          | MAX           |           |               |
| WEATHER CONDITIONS HEAVY        |                | O'CAST.    | WEATHER COND  | ITIONS HE | AVY O'CAST    |
|                                 |                |            |               | ·         | ٠             |
|                                 |                |            |               |           |               |
|                                 |                |            |               |           |               |

| OSERVED RANGE IN CALIBRATE: | 6.110 | KM            |  |
|-----------------------------|-------|---------------|--|
| COMPUTED SLANT RANGE:       | 1.107 | КМ            |  |
| OBILE ZERO SETTING IS:      | 5.008 | КМ            |  |
| OBSERVED RANGE IN OPERATE:  | 1.102 | KM TIME: 1000 |  |

SIGNED: K. J. Molloy.

- 1. All equipment will be allowed to warm up for at least 30 minutes prior to calibrating.
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### **MAXIRAN CALIBRATION REPORT**

|                          |                |            |                  |               | DATE: 1        | 4 NAY 1983                              |  |
|--------------------------|----------------|------------|------------------|---------------|----------------|---|--|
|                          | MOBILE STATION |            |                  | BASE          | STATION        | - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 |  |
| LECATION: Em             | DERALD COFF    | CSET)      | LOCATION:        | ALIBR         | ATIEN          | Mark                                    |  |
| OPERATOR:                | K. J. MOLL     | .07        | OPERATOR:        | H. BR.        | HTION)<br>DGES |   |  |
| UNIT                     | MODEL          | SERIAL No. | UNIT             | М             | DDEL           | SERIAL No.                              |  |
| MONITOR                  | NMM - 018      | 041        | BEACON           | NT            | L - 01         | 036 CODE 5                              |  |
| II TERROGATOR            | NTA1 - 01      | 009        | CONTROL BOX      | ~ c           | L - 02         | 077                                     |  |
| AMPLIFIER                | NT4 - 02       | 063        | AMPLIFIER        | NTI           | 1 - 02         | 033                                     |  |
| PLIFIER P/S              | NC11 - 01      | 037        | AMPLIFIER P/S    |               | 4 - 01         | 077                                     |  |
| PREAMP                   | SA11 - 12      | 148        | PREAMP           |               | - 12           | 096                                     |  |
| CAX                      | TYPE           | LENGTH     | COAX             | 1             | YPE            | LENGTH                                  |  |
| T                        | ANDREWS        | 82 FT      |                  | AND           | REWS           | 82 87                                   |  |
|                          | TYPE           | HEIGHT     | ANTENNA          | T,            | YPE            | HEIGHT                                  |  |
| TENNA                    | WHIP           | 25 FT      | . 14             |               | . P            | 25 FT                                   |  |
| INPUT VOLTAGE            | ,              | 17 VAC     | INPUT VOLTAGE    |               | ,              | 7 VAC                                   |  |
| T. FREQUENCY             | u              | 41 11112   | TX. FREQUENCY    | TX. FREQUENCY |                | uza Alta                                |  |
|                          |                | 19 A1 Hg   | RX. FREQUENCY    |               |                | 441 MHZ                                 |  |
|                          |                | 1:~        | RX. GAIN SETTING | 3             | Alax           |   |  |
| WEATHER CONDITIONS HEAVY |                | e'LAST     | WEATHER CONDI    | TIONS         | HEAVY          | O'CAST                                  |  |
|                          |                |            |                  |               |                | •                                       |  |
|                          |                |            |                  |               |                |   |  |

| OBSERVED RANGE IN CALIBRATE: | 6.110 | KM            |  |
|------------------------------|-------|---------------|--|
| OMPUTED SLANT RANGE:         | 1.102 | KM            |  |
| . MOBILE ZERO SETTING IS:    | 5.008 | KM            |  |
| O SERVED RANGE IN OPERATE:   | 1.102 | KM TIME: 1010 |  |

SIGNED: 1. J. M. olloy.

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### **MAXIRAN CALIBRATION REPORT**

DATE: 141194 1982

|                                | MOBILE STATION             |            |              |               | BASE  | STATION   |            |
|--------------------------------|----------------------------|------------|--------------|---------------|-------|-----------|------------|
| LOCATION:                      | OCATION: Emplald (OFFESET) |            |              |               | •     |           | MARK       |
| OPERATOR: K. J. MOLLOY         |                            |            |              | OPERATOR:     |       | BRIDGE    |            |
| UNIT                           | 1                          | DEL        | SERIAL No.   | UNIT          | MC    | DDEĻ      | SERIAL No. |
| MONITOR                        | NMA                        | 1-018      | 041          | BEACON        | NTL   | - 01      | Obu CODE 5 |
| IN ERROGATOR                   | NTA                        | n. 01      | 009          | CONTROL BOX   | NCL   | - 02      | 077 .      |
| AMPLIFIER                      |                            | 1 - 02     | o63          | AMPLIFIER     | NTU   | - 0 2     | 033        |
| A PLIFIER P/S                  | 1                          | 01         | 037          | AMPLIFIER P/S | NCI   | 1-01      | רדס        |
| PREAMP                         |                            | - 12       | 148          | PREAMP        | 1     | -12       | 096        |
| CCAX                           | TYPE<br>ANDREWS            |            | LENGTH       | COAX          |       | YPE       | LENGTH     |
|                                |                            |            | 82 FT        |               | AND   | eews      | 82 FT      |
|                                | TYPE                       |            | HEIGHT       | ANTENINA      | í     | YPE       | HEIGHT     |
| AITENNA                        | WH.                        | ρ          | 25 FT.       | ANTENNA       | `H' . | LPL.      | 20FT       |
| INPUT VOLTAGE                  |                            | į į        | 7 VAC        | INPUT VOLTAGE |       | 11        | 7 VAC      |
| T: FREQUENCY                   |                            | ч          | 41 MHm       | TX. FREQUENCY |       | 429 MHz   |            |
| RX. FREQUENCY                  |                            | 4          | 29 MHz       |               |       | 41 AHm    |            |
| RX GAIN SETTING                | <u> </u>                   |            | 1111         |               |       | MAX       |            |
| WEATHER CONDITIONS HEAVY O'L A |                            | IT O'LAST. | WEATHER COND | ITIONS        | HEAL  | IT O'LAST |            |
|                                |                            |            | -            |               |       |           | •          |
|                                |                            |            |              |               |       |           |            |
|                                |                            |            |              |               |       |           | •          |

| OF ERVED RANGE IN CALIBRATE: | 6.110 | KM            |  |
|------------------------------|-------|---------------|--|
| COMPUTED SLANT RANGE:        | 1.102 | КМ            |  |
| OBILE ZERO SETTING IS:       | 5008  | KM            |  |
| OPCEDVED BANCE IN OPEDATE.   | 1.107 | VM TIME: 1920 |  |

signed: K.J. M. Moy.

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### **MAXIRAN CALIBRATION REPORT**

|                | MOBILE    | STATION |                    |                       | BASE   | STATION      |            |
|----------------|-----------|---------|--------------------|-----------------------|--------|--------------|------------|
| LOCATION:      |           | d COFF  | (567)              | LOCATION:             | ALIBA  | ATION)       | MARK       |
|                |           | JOLLOY  |                    | <u> </u>              | R. BRI |              |            |
| UNIT           | MOD       |         | SERIAL No.         | UNIT                  |        | DDEL         | SERIAL No  |
| MONITOR        | NMM       | 1-018   | 041                | BEACON                | NT     | L - 01       | 306 CODE   |
| ERROGATOR      | NTM       |         | 009                | CONTROL BOX           | Ne     | L - 02       | 077        |
| AMPLIFIER      |           | - 02    | 063                | AMPLIFIER             |        | u - 02       | 033        |
| A PLIFIER P/S  | Nen       |         | 037                | AMPLIFIER P/S         |        | A - 01       | י דרט      |
| PREAMP         | SAU       |         | 148                | PREAMP                |        | - 12         | 09 6       |
|                |           | PE      | LENGTH             | COAX                  |        | YPE          | LENGTH     |
| CAX            | ANDR      | EUS     | 82 FT              | JOAN                  | ANDA   | 25~3         | きょドコ       |
|                | TY        |         | HEIGHT             | ANTENNA               | Т      | YPE          | HEIGHT     |
| TENNA          | WH        | ۹.      | 25 FT.             | ANTENNA               | 'н' ,  | LPL.         | 20FT       |
| INPUT VOLTAGE  |           | . 1     | 17 V AC INPUT VOLT |                       |        | 1,           | 7 VAL      |
|                |           | 41 MHz  | TX. FREQUENCY      |                       | 4      | 29 MHz       |            |
| RX. FREQUENCY  |           | L       | 2 a MH2            | RX. FREQUENCY         | L      |              | 41 AlHa    |
| . GAIN SETTING |           |         | RX. GAIN SETTING   |                       | G      |              | 14 ×       |
| WEATHER CONDIT | IONS      | HEAV    | Y D'EAST.          | WEATHER CONDITIONS HE |        | HEAVY        | O'CAST.    |
|                |           |         |                    |                       |        |              |            |
|                |           | _       |                    |                       |        |              | A          |
| THIS CAM       | 1 To BE   | OFERAT  | ED IN MAX          | MANUAL GA             | 91N SE | TT.NG.       |            |
|                | A.G.      | c. Nor  | WORKING PA         | ROPERLY.              |        |              |            |
| GESERVED RANGE | IN CALIBE | RATE:   | 6.110              |                       | KM     |              |            |
| COMPUTED SLANT |           |         |                    |                       | KM     |              |            |
|                |           |         | 5.038              |                       | KM     |              |            |
|                |           |         | 1.102              |                       |        | TIME:        | L in       |
| OBSERVED KANGE | IN UPEKA  | 16:     |                    | ••••••                | IXIVI  | 1 1 (V) to 1 | ₹- <b></b> |
|                |           |         |                    |                       |        |              |            |
| _              |           |         | SIGNED:            | 1 / M.                | llus.  |              |            |

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### **MAXIRAN CALIBRATION REPORT**

| ······································ |                        |         |                  |               |         | DATE: 1 | 4 MAY 1983 |  |
|--|------------------------|---------|------------------|---------------|---------|---------|------------|--|
|  | MOBILE STATION         |         |                  |               | BASE    | STATION |            |  |
| LECATION: EN                           | NERAL                  | S COF   | PFSET)           | LOCATION:     | ALIBE   | RAT IN  | MARK       |  |
| OPERATOR:                              | OPERATOR: K. J. MOLLOY |         |                  | OPERATOR:     | H.R. BA | 2136 53 |            |  |
| UNIT                                   | МС                     | DEL     | SERIAL No.       | UNIT          | M       | ODEL    | SERIAL No. |  |
| MONITOR                                | NM                     | m-01B   | 041              | BEACON        | NTL     | - 01    | OL7 CODE 3 |  |
| II ERROGATOR                           | NT                     | 11 - 01 | 009              | CONTROL BOX   | NCL     | - 02    | 077        |  |
| AMPLIFIER                              | NT.                    | 1 - 02  | 063              | AMPLIFIER     | NTU     | ( - 01  | 033        |  |
| A IPLIFIER P/S                         | IER P/S NC 11 - 01     |         | 037              | AMPLIFIER P/S | Neu     | 1 - 31  | 770        |  |
| PREAMP                                 | SAU - 12               |         | 148              | PREAMP        | SAU     | -12     | 046        |  |
| CAX                                    | Т                      | YPE     | LENGTH           | COAX          | TYPE    |         | LENGTH     |  |
|  | ANDREWS                |         | 82 FT            |               | ANDA    | د ت قار | 82 57      |  |
| 4                                      | Τ'                     | YPE     | HEIGHT           | ANTENNA       | Т       | YPE     | HEIGHT     |  |
| TENNA                                  | WHIP                   |         | 25 FT.           | ANTENNA       | `H'     | LPL     | 20FT       |  |
| INPUT VOLTAGE                          |                        | 11      | 7 VAC            | INPUT VOLTAGE |         |         | 7 VAC      |  |
| T FREQUENCY                            |                        | u       | +1 MH2           | TX. FREQUENCY |         |         | 9 1142     |  |
| RX. FREQUENCY                          |                        | 4       | La Mry           | RX. FREQUENCY | 4.      |         | 1 MHm      |  |
|  |                        | ′1~     | RX. GAIN SETTING |               |         |         |            |  |
| WEATHER CONDITIONS HEAVY               |                        | O'CAST  | WEATHER CONDIT   | IONS          | HEAVY   | O'CAST. |            |  |
|  |                        |         |                  |               |         |         | ·          |  |
|  |                        |         |                  |               |         |         |            |  |

| OFFERVED RANGE IN CALIBRATE: | 6.110 | КМ            |  |
|------------------------------|-------|---------------|--|
| COMPUTED SLANT RANGE:        | 1.102 | КМ            |  |
| HOBILE ZERO SETTING IS:      | 5.008 | KM            |  |
| OSERVED RANGE IN OPERATE:    | 1.102 | EM TIME. 1350 |  |

SIGNED: Hollog.

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#### MAXIRAN CALIBRATION REPORT

DATE: ILL MAY 1983 **MOBILE STATION BASE STATION** FINERALD (OFFSET) LECATION: LOCATION: CALIBRATION MARK **OPERATOR:** OPERATOR: K.T MULLOY H.R.BRIDGES. UNIT MODEL SERIAL No. UNIT MODEL SERIAL No. 089 CODE 3 **MONITOR** NMM- OIB **BEACON** NTL- 01 041 ERROGATOR NTM - 01 009 CONTROL BOX NCL-02 077 **AMPLIFIER** NT4 - 02 033. **AMPLIFIER** 063 NT4-02 PLIFIER P/S NC11 - 01 AMPLIFIER P/S NC 11 - 01 037 077 096 **PREAMP** PREAMP SAU - 12 148 5A4-12 **LENGTH TYPE** LENGTH **TYPE** COAX ANDREWS 82 FT ANDREWS 82 FT **TYPE TYPE HEIGHT HEIGHT ANTENNA** TENNA LPL. 20FT. WHIP 25 FT. INPUT VOLTAGE **INPUT VOLTAGE** VAL 117 117 VAC **FREQUENCY** TX. FREQUENCY MHZ UUI MHm 429 **RX. FREQUENCY RX. FREQUENCY** 4.4 1 MIN GAIN SETTING **RX. GAIN SETTING** MAX HEAVY WEATHER CONDITIONS O'CAST WEATHER CONDITIONS HEAUY Oc AST

| OFFERVED RANGE IN CALIBRATE: | 6.110 | KM            |  |
|------------------------------|-------|---------------|--|
| COMPUTED SLANT RANGE:        | 1.102 | KM            |  |
| 10BILE ZERO SETTING IS:      | 5.008 | КМ            |  |
| OBSERVED RANGE IN OPERATE:   | 1102  | KM TIME: 1130 |  |

signed: R.f. M. M.

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#### MAXIRAN CALIBRATION REPORT

DATE: 14 MAY 1983 **BASE STATION MOBILE STATION** EMERALD (OFFSET) LOCATION: LOCATION: CALIBRATION MARK H.R.BR.DGES. **OPERATOR:** OR RATOR: K. T. MOLLOY MODEL SERIAL No. UNIT MODEL SERIAL No. UNIT CEG CODE 3 MONITOR **BEACON** NTL - 01 041 NMM - 01B **IN ERROGATOR CONTROL BOX** 050 NLL-02 NTM-01 **AMPLIFIER** AMPLIFIER NTU- OL 033 063 NTU - 02 PLIFIER P/S AMPLIFIER P/S NC4 - 01 037 NC4-01 דרכ **PREAMP** 096 **PREAMP** 148 SAU - 12 JAU - 12 **LENGTH** LENGTH **TYPE TYPE** COAX 82 FT. 82 FT ANDREWS ANDREWS HEIGHT **TYPE HEIGHT TYPE ANTENNA** ENNA L.f.L. WHIP 25 FT 20 FT. **INPUT VOLTAGE** INDUT VOLTAGE VAC 117 VAC TX. FREQUENCY TX FREQUENCY MHM 4 La MHz 441 RX\_FREQUENCY RX. FREQUENCY 429 MM 441 MHB **GAIN SETTING RX. GAIN SETTING** WEATHER CONDITIONS WEATHER CONDITIONS D'L AST HEAVY D'CAST. HEAVY

| OF ERVED RANGE IN CALIBRATE: | 6.110 | KM           |   |
|------------------------------|-------|--------------|---|
| COMPUTED SLANT RANGE:        | 1.102 | KM           |   |
| OBILE ZERO SETTING IS:       | 5 008 | KM           |   |
| OBSERVED RANGE IN OPERATE:   |       | KM TIME: 110 | ح |

SIGNED: K.J. Mollog.

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#### 15

# OFFSHORE NAVIGATION, INC.

### **MAXIRAN CALIBRATION REPORT**

|              |  |  | П   |  |   | 4 MAY 1983  |
|--------------|--|--|---|--|---|---|
| MOBILE       | STATION  |  | BASE STATION  |  |   |   |
| NERAL        | d COF  | FSET)  | LOCATION: CALIBRATION MARK  |  |   | MARK  |
| . J. M       | OLLOY  |  | OPERATOR:   | 1. R. B.   | RIDGES  |   |
| МО           | DEL  | SERIAL No.   | UNIT  | M  | ODEL  | SERIAL No.  |
| ~ m/         | 71 - 01B   | 04'  | BEACON  | NTI  | 01  | SEG CODE 3  |
| NTA          | n - 01   | 209  | CONTROL BOX   | NC   | - 02  | 077   |
| NTI          | 1 - 22   | 063  | AMPLIFIER   | NTU  | ( - 32  | 0330  |
| <b>~</b> € t | 1 - 01   | 037  | AMPLIFIER P/S   | NI   | 1 - 01  | ררס   |
| SAL          | (-12   | 148  | PREAMP  | SAL  | 1-12  | 096   |
|              |  | LENGTH   | COAX  | Т  | YPE   | LENGTH  |
| A~ >A        | SEMS   | EL FT  | l coax  | ANTREWS  |   | 82 FT   |
|              |  | HEIGHT   | ANITENNA  | т  | YPE   | HEIGHT  |
| 'H' L        | PL   | 25 FT  | ANTERNA   | `H'  | LPL   | 20 FT   |
|              | 1,   | 7 VAC  | INPUT VOLTAGE   |  | 1 1   | 7 JAC   |
|              | 4  | 41 11/11/11  | TX. FREQUENCY   |  | 4   | 29 1113   |
|              |  |  | RX. FREQUENCY   |  | uul M. Ma,  |   |
|              | 1  |  | RX. GAIN SETTING  | ì  | 11A ×   |   |
| ITIONS HEAVY |  | O'CAST   | WEATHER CONDIT  | IONS   | HEAV  | Y O'CAST.   |
|              |  |  |   |  |   |   |
|              |  |  |   |  |   |   |
|              | MERHAL  T. MO  MO  NTA  NTA  SAL  T'  ANDA  T'  'H'  L | MODEL  NAMI-OIB  NTM-OI  NTM-OI  NTM-OI  NTM-OI  SAU-IL  TYPE  ANDREWS  TYPE  'H' LPL  4 | MODEL SERIAL NO.  MODEL SERIAL NO.  MMMI - 018 Du  NTM - 01 DO9  NTU - D2 D63  NCU - D1 D37  SAU - 12 148  TYPE LENGTH  ANDREWS E2 FT  TYPE HEIGHT  'H LPL 25 FT  117 VAC  441 MM  470 A1119  MIN | DERALD (CFF SET)  LOCATION: COPERATOR:  MODEL  SERIAL No.  UNIT  MODEL  SERIAL No.  UNIT  BEACON  CONTROL BOX  AMPLIFIER  AMPLIFIER  AMPLIFIER  AMPLIFIER P/S  PREAMP  TYPE  LENGTH  COAX  ANDREWS  ELFT  TYPE  HEIGHT  ANTENNA  TYPE  LY ANTENNA  TX. FREQUENCY  RX. GAIN SETTING | MODEL SERIAL NO. UNIT MODEL SERIAL NO. UNIT MODEL SERIAL NO. UNIT MODEL SERIAL NO. UNIT MODEL NTM 01 DOG CONTROL BOX NC. O. NTM 01 DOG CONTROL BOX NC. O. NTM 01 DOG AMPLIFIER NTM. NC. M 01 DOG AMPLIFIER NTM. NC. M 01 DOG AMPLIFIER NTM. TYPE LENGTH COAX TYPE LENGTH COAX TYPE HEIGHT ANTENNA TYPE HEIGHT ANTENNA TO THE MALE NAMED TO THE MALE | MOBILE STATION  MERALS (CFF SET)  LOCATION: CALIBRATION  T. MOLLOY  OPERATOR: W. R. BRIDGES  MODEL  SERIAL NO.  UNIT  MODEL  MARI-OIB  OU'  BEACON  CONTROL BOX  NCL-OI  NTM-OI  O63  AMPLIFIER  NTM-OI  SAU-IL  IUB  PREAMP  SAU-IL  TYPE  LENGTH  COAX  TYPE  HEIGHT  ANTENNA  TYPE  LUIT  INPUT VOLTAGE  INPUT |

| QBSERVED RANGE IN CALIBRATE: | 6 111 | КМ |            |
|------------------------------|-------|----|------------|
| MPUTED SLANT RANGE:          | 1.102 | KM |            |
| MOBILE ZERO SETTING IS:      | 5.009 | KM |            |
| SERVED RANGE IN OPERATE:     | 1.102 | KM | TIME: 1110 |

SIGNED: K & Molley

- 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.

#### MAXIRAN CALIBRATION REPORT

|                  |                |              |                            |       | DATE: 1      | 4 MAY 1983  |
|------------------|----------------|--------------|----------------------------|-------|--------------|-------------|
|                  | MOBILE STATION |              | BASE STATION               |       |              |             |
| LECATION: EN     | DERALD COFF    | (SET)        | LOCATION: CALIBRATION MARK |       |              | MARK        |
| OPERATOR:        | 1. T. MOLLOY   |              | OPERATOR:                  | _     | とうらご         |             |
| UNIT             | MODEL          | SERIAL No.   | UNIT                       | МС    | DDEL         | SERIAL No.  |
| MONITOR          | NMMI - OIB     | ०५ ।         | BEACON                     | NT    | L - 01       | of a CODE 3 |
| II TERROGATOR    | NTA1 - 01      | 050          | CONTROL BOX                | NC    | 1-02         | 077         |
| AMPLIFIER        | NT4 - 02       | 063          | AMPLIFIER                  | NTI   | 4 - 02       | 033         |
| A IPLIFIER P/S   | N C W - 21     | רייט         | AMPLIFIER P/S              | Ne    | u - 01       | 077         |
| PREAMP           | SAU - 12       | 148          | PREAMP                     | SAU   | -12          | 016         |
| CAX              | TYPE           | LENGTH       | COAX                       | TYPE  |              | LENGTH      |
|                  | ANDREWS        | 82 FT        |                            | ANDR  | LEWS 82FT    | 82 57       |
| <b>4■</b> 754444 | TYPE           | HEIGHT       | ANTENNA                    | T     | YPE          | HEIGHT      |
| ATENNA           | 'H' LPL        | 25 FT        | ANTENNA                    | 'H' L |              | 20 FT.      |
| INPUT VOLTAGE    |                | 117 VAC      | INPUT VOLTAGE              | ע רוו |              | VAC         |
| T . FREQUENCY    |                | 441 MHm      | TX. FREQUENCY              |       |              | a Alta      |
| RX. FREQUENCY    |                | 429 MM       |                            |       | MHZ          |             |
| R GAIN SETTING   |                | Λ1: <b>~</b> | RX. GAIN SETTING           |       |              |             |
| WEATHER CONDITI  | IONS HEAV      | Y D'CAST     | WEATHER CONDITIONS         |       | HEAVY D'CAST |             |
|                  |                |              |                            |       |              |             |
|                  |                |              |                            |       |              |             |

| OBSERVED RANGE IN CALIBRATE: | 6.115 | KM          |   |
|------------------------------|-------|-------------|---|
| COMPUTED SLANT RANGE:        | 1 102 | КМ          |   |
| MOBILE ZERO SETTING IS:      | 5.013 | КМ          |   |
| OSERVED RANGE IN OPERATE:    | 1.102 | KM TIME:!!! | 5 |

SIGNED: K & Molloy

- 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.

### V. WELL LOCATION INFORMATION

The following information pertains to the positioning of the D/V DIAMOND M EPOCH on Well Location ATHENE - 1.

Coordinates of the desired location were obtained from PHILLIPS as:

Latitude 38°35'52"20 S N = 5,726,831 meters Longitude 148°27'20"60E E = 626,768 meters

The D/V DIAMOND M EPOCH was secured on location, and the 30-inch casing was set the morning of 23 May 1983. The following final Maxiran ranges were recorded at 0810 hours 23 May 1983, with the Maxiran mobile equipment installed on board the rig:

Sta. Cape conran to mobile antenna 90.913 kilometers
Sta. Nightout to mobile antenna 176.824 kilometers
Sta. Seacombe to mobile antenna 100.802 kilometers

At the time these final Maxiran ranges were recorded, the drill stem was 28 meters, at a bearing of 113° True, from the Maxiran mobile antenna.

### V. WELL LOCATION INFORMATION (continued)

FINAL COMPUTED COORDINATES - WELL LOCATION ATHENE - 1: (Drill stem)

Latitude 38°35'52"14 S N = 5,726,833 meters
Longitude 148°27'20"16 E E = 626,757 meters
Least square adjusted tie = .48 meter
From desired to final position = 10.68 m. @ 279.218°
True

The final coordinates of the drill stem were derived by applying a propagation factor of .9999285, and the reported offset and bearing, to the final Maxiran ranges recorded.

Coordinates of the desired and final position are expressed in the Universal Transverse Mercator Projection, Australian National Spheroid of Reference, Zone 55, Central Meridian 147° East, AUSTRALIAN GEODETIC DATUM.

### VI. BASIC CONTROL

Coordinates of the three Maxiran base stations, occupied to control this survey, were obtained from the ONA Basic Control files. Coordinates of Station Emerald (Offset), occupied to calibrate the Maxiran system, was obtained from a M.A. Nicholas and Associates survey.

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

### STATION CAPE CONRAN:

Latitude  $37^{\circ}48'28"42 S$  N = 5,814,075 meters Longitude  $148^{\circ}43'46"98 E$  E = 652,266 meters Elevation 43 meters

### STATION NIGHTOUT:

Latitude  $38^{\circ}54'29"93$  S N = 5,693,244 meters Longitude  $146^{\circ}27'37"03$  E E = 453,205 meters Elevation 229 meters

### STATION SEACOMBE:

Latitude  $38^{\circ}07'58"47$  S N = 5,779,291 meters Longitude  $147^{\circ}27'51"55$  E E = 540,692 meters Elevation 28 meters

### VI. BASIC CONTROL

### STATION EMERALD (OFFSET):

Latitude  $37^{\circ}48'48''60 \text{ S}$  N = 5,814,632 metersLongitude  $147^{\circ}42'00''03 \text{ E}$  E = 561,615 meters

Elevation 70 meters

### VII. PERSONNEL

NAME

POSITION

Bridges, H.

Party Chief

Molloy, K.

Mobile Operator

Walsh, S.

Base Operator

Ward, G.

Base Operator

Wells, G.

Base Operator

### VIII. DISTRIBUTION

Phillips Australian Oil Company 23rd Floor, City Centre Tower 48 St. Georges Terrace Perth, W.A. 6000 AUSTRALIA

Attention: Mr. R.F.C. Chase

Four copies

Offshore Navigation, Inc. Post Office Box 23504 Harahan, Louisiana 70183 U.S.A.

Two copies

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

One copy

STATION: CAPE CONRAN

LOCATED:

Station Cape Conran is located on the southeastern corner of Gippsland, Victoria, Australia, approximately 34 kilometers southeast of Orbost.

The station site is located at the highest lookout in the area. The terrain is fairly flat, and covered with small 1-foot high bush. The open sea is approximately one-half mile from the station.

ACCESS:

From Orbost, follow the road through Marlo, a small built up area 15 kilometers from Orbost. Drive 18 kilometers past Marlo to a fork in the road. Turn right at this fork, and drive on a gravel road for approximately one kilometer to a sand track on the left. This track will be seen before reaching a boat ramp and lighthouse. Turn left onto this sand track to a round about. You will notice two galvanized pipes inside the round about. This identifies the station site. This track to the station is a small narrow sand track, and has been used as a stopping place for tourists due to it being the highest lookout in the area.

MARKER:

The station marker consists of a brass plate at ground level. The two galvanized pipes, which protrude 2 feet above ground level, are on either side of the marker. The brass plate is inscribed "GEODETIC SURVEY VICTORIA - TRIANGULATION STATION".

Four permanent star stakes, driven to ground level, are at this site. The star stakes are located 10 meters, at a bearing of 010°, 12 meters, at a bearing of 105°, 17 meters, at a bearing of 205°, and 12 meters, at a bearing of 285°, from the station marker.

STATION: CAPE CONRAN (continued)

GENERAL: Food, fuel and water can be obtained in Orbost, Bairnsdale, or Marlo. If camping equipment needs to be purchased, it is best to make this purchase in Bairnsdale.

pulonuso in surinsuator

This station site can become very cold during the winter months.

A 30-foot tower was erected at this station, the minimum height required to clear surrounding obstructions. Clear vista is from 180° to 270°. Star stakes were used to secure the tower.

The station site is located on Crown land. Permission to occupy the site must be obtained from Crown Land and Survey Department, Bairnsdale, Mr. Jim Bennett, telephone 051-523975

ELEVATION: 43 meters

SKETCH: See next page.

UTM PROJECTION, AUSTRALIAN NATIONAL SPHEROID ZONE 55, C.M. 147° EAST -----A.G.D.

Lat.  $37^{\circ}48'28"42$  S N = 5,814,075 meters Long.  $148^{\circ}43'46"98$  E = 652,266 meters

# STA. CAPE CONRAN-

### -AUSTRALIA

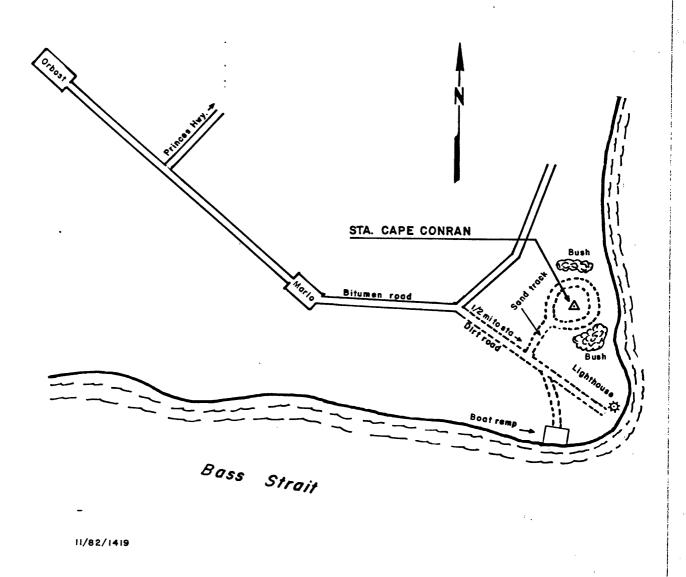
OFFSHIRE NAVIGATION (NUSTRALIA) PTV. 170.

LAT. 37°48'28"42 S LONG. 148°43'46"98 E

N 5,814,075 meters E 652,266 meters

ELEV. 43 meters

UTM PROJ. ——— AUST. NAT. SPHEROID ZONE 55, C.M. 147° E ———— A.G.D.



STATION: NIGHTOUT

MARKER:

LOCATED: Station Nightout is located in the northeast corner of Wilsons Promontory, Victoria, Australia.

The station site is located on the summit of a hill. The marker is surrounded by a few small rocks and 18-inch high scrub. The hill slopes away on all sides. There are hills of less elevation to the south, east, and northeast of the station. The Verever Ranges are about 5 kilometers away, and Mount Roundback is about 1.5 kilometers north-northwest of the station. Sealers Cove is about 11 kilometers from the station, at a bearing of 175° to 180°.

ACCESS: Access to this station is by helicopter only.
All vehicular traffic is prohibited in this area. The helicopter transported personnel and equipment from Welshpool to the site. The area at the station site is fairly flat with a slight slope to the west and is quite suitable for helicopter landing.

The station marker consists of a brass Department of Lands and Surveys Triangulation marker, set in a 6-inch square block of concrete that is flush with the ground. Two 1-1/2-inch galvanized iron pipes, standing 24 inches high, are set on either side of the marker. The pipes are painted blue and orange. See Sketch for references to this marker.

Food, fuel, water, and food is available in Welshpool.

A 35-foot tower was erected at this site. A minimum tower height of 10 feet would be required to clear surrounding obstructions. Clear vista is from 030° to 165°. Star stakes were used to secure the tower.

STATION: NIGHTOUT (continued)

The station site is on land that is owned by the National Parks, Victoria. Permission to occupy the station must be obtained from the Director of National Parks, Mr. Don Saunders, 240-250 Victoria Parade, Melbourne, telephone 03-6514111. The Wilsons Promotory contact is Mr. Ray Leivers of National Parks, Wilsons Promotory (South Gippsland), telephone 822796. A \$1000.00 bond had to be submitted to the National Parks to occupy the station.

ELEVATION: 229 meters

SKETCH: See next page.

UTM PROJECTION, AUSTRALIAN NATIONAL SPHEROID ZONE 55, C.M. 147° EAST ----A.G.D.

Lat. 38°54'29"93 S N = 5,693,244 meters Long. 146°27'37"03 E = 453,205 meters

### STA. NIGHTOUT-

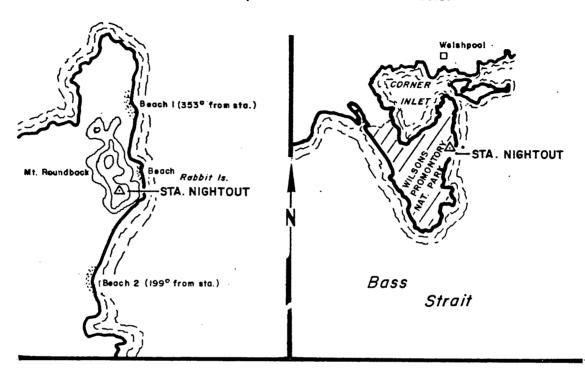
### -AUSTRALIA

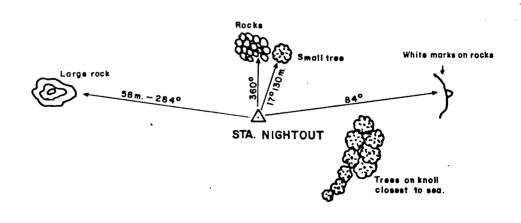
LAT. 38°54'29"93 S LONG. 146°27'37".03 E

N 5, 693, 244 meters E 453, 205 meters

ELEV. 229 meters

UTM PROJ. ——AUST. NAT. SPHEROID ZONE 55, C.M. 147° E ——A.G.D.





11/82/1419

OFFERORE PAVIGATION LAUSTRILLIA TTV. ITO.

STATION: SEACOMBE

LOCATED:

Station Seacombe is located approximately 12 kilometers south of the township of Lock Sport, Victoria, Australia. The station site is located on a small hill, with gently sloping sides. The ground at the station is hard packed sand. Plant life in the surrounding area consists of 10 to 15-foot high trees and brush. The surrounding country side is similar, with trees reaching a height of 25 to 30 feet. The land to the south, west, north, and northeast is flat to the horizon. Lake beds, approximately 1/4 mile in distance, can be seen to the southeast of the The lake beds lie in a strip of land site. known as "90-Mile Beach". The sea lies beyond this strip of land. "Ninety-Mile Beach" is relatively low land. With the exception of the rise on which the station is located, there seems to be no other feature in the area which can distinguish the site.

ACCESS:

From Yarram, Victoria, drive south on the Gippsland Highway to Sale. From Sale, continue south on the Gippsland Highway to Longford, a distance of 6 kilometers from Sale. On reaching the entrance to Longford, turn off towards Dutson and Golden Beach and drive 26 kilometers to a turnoff to the left signposted "Seacombe". Turn left onto this road and drive for approximately 12.5 kilometers on this road to a track on the right hand side of the road that is signposted "Trig Mark". This sign can be easily missed, as it is partly obscured by bush. Turn onto this track, and follow the track until you pass a cleared area for a pipe line. Go beyond this pipe line crossing to a point where another track will be seen on the right. turn right onto this steep track and follow it to its end and the station marker. A four-wheel drive vehicle is required to reach this station.

MARKER:

The station marker is located on a 10-foot diameter sand mound, approximately 3 feet above surrounding levels. The trig marker consists of

STATION: SEACOMBE (continued)

a 6-inch square block of concrete, with a 4-inch diameter bronze plaque embedded in its center. The bronze plaque is inscribed "GEODETIC SURVEY VICTORIA - 69/104 - TRIANGULATION STATION". A 10-foot high steel tubular quadrupod is located over the marker. Two 2-foot diameter black steel discs are mounted vertically on top of the quadrupod.

Four permanent star stakes are at this site. The star stakes are located 32 feet, at a bearing of 015°, 30 feet, at a bearing of 120°, 30 feet, at a bearing of 215°, and 35 feet, at a bearing of 310°, from the station marker.

GENERAL:

The town of Lock Sport is located northeast of the station, 10 kilometers away along the hard top road. This is a small town that caters to private boats. The town has a couple of gas stations, which also serve as local stores. Shell Station, located at the entrance to Lock Sport, is probably the best station for supplies. In addition to fuel supplies, vegetables, canned and frozen foods, cooking gas, water, reading material, hardware and tools can be purchased at this station. The station is also equipped to perform minor vehicle repairs, including welding. There is also a post office and marina located in Lock Sport. No local labor could be found in the area.

The station site is located on the Gippsland Lakes National Park. Permission to occupy the site was obtained from Mr. Gordon Godsack of the National Parks, telephone 051-460278. A \$1000.00 bond was submitted to the National Park to occupy the station.

It is imperative that the site be kept clean. Garbage and old oil should be disposed of at the garbage dump, 2 kilometers from Lock Sport, and 8 kilometers from the turnoff to the site.

STATION: SEACOMBE (continued)

Toilet facilities are available at Seacombe, 4.5 kilometers southwest of the site, and their use should be encouraged. The site area is also vulnerable to fire. The brush is dry and of an oily nature.

Flies, mosquitoes and sand flies are present at this station. Personnel are well advised to have a supply of repellant on hand. Warm clothing is a must, as nights at this site are very cold.

A 30-foot tower was erected at this site. A minimum height of 20 feet is required to clear surrounding obstructions. Clear vista is from 040° to 260°. Star stakes were used to secure the tower.

ELEVATION: 28 meters

SKETCH: See next page.

Coordinates of the station markers were obtained from a Department of Crown Lands and Survey, Victoria summary sheet.

UTM PROJECTION, AUSTRALIAN NATIONAL SPHEROID ZONE 55, C.M. 147° EAST - - A.G.D.

Lat.  $38^{\circ}07'59"47$  S N = 5,779,291 meters Long.  $147^{\circ}27'51"55$  E = 540,692 meters

### STA. SEACOMBE-

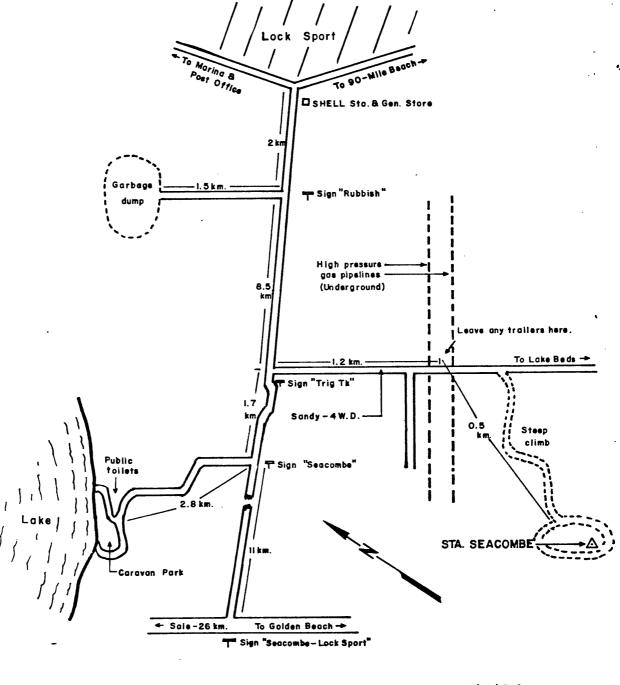
### -AUSTRALIA

LAT. 38°07'59"47 S LONG. 147°27'51"55 E ELEV. 28 meters

N 5,779,291 meters E 540,692 meters

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

AUSTRALIAN GEODETIC DATUM



5/82/1392

OFFENORE MAVIGATION LAUSTRALIAN PTY, LTD. STATION: EMERALD (OFFSET)

LOCATED: Station Emerald (Offset) is located on Emerald Hill, approximately 9 kilometers northeast of Bairnsdale, Victoria, Australia.

ACCESS: From the Marlin Motel in Bairnsdale, travel east towards Lakes entrance. Set the vehicle's odometer to 0.00 kilometer at the bridge just outside of Bairnsdale. Drive to 1 kilometer and a fork. Take the left fork to Lakes Entrances, and turn left onto Cummins Road at 5.2 kilometers. Cummins Road will be seen just before a railroad crossing. Follow Cummins Road to 6.5 kilometers and a "T" junction. Turn left, and follow the road to a gate at 7.1 kilometers. Turn into this gate, and the station marker will be located along the fence line. This is the location of the Offset marker.

A calibration marker is also established at this site. This calibration marker is 1102.1 meters, at a bearing of 319° Magnetic, from the Offset marker.

To reach the calibration marker, remain on the road at 7.1 kilometers, and drive to a second "T" junction at 8.0 kilometers. Turn left at this junction, and follow this road to 8.8 kilometers, where a cow shed will be to the right of the road, and a gate on the left hand side. The calibration point is located near this gate. See Sketch for details.

MARKER: The offset marker consists of a 1-1/2-inch brass pipe set in concrete, with a galvanized plug.

The calibration marker consists of a star stake embedded in the ground, and set in concrete.

STATION: EMERALD (OFFSET) (continued)

GENERAL: All necessary supplies and labor are available in Bairnsdale.

This station was occupied during October 1982 only to calibrate the Maxiran system between the offset and calibration markers. A 10-foot tower was erected adjacent of the two markers for this calibration. Star stakes were used to secure the towers.

The station site and markers are on land owned by Mr. Paul Needham. Permission must be obtained from Mr. Needham to occupy the sites. His telephone number is 52-5347.

ELEVATION: 70 meters (Offset) marker

SKETCH: See next page.

Coordinates of the offset marker were obtained from a M.A. Nicholas and Associates summary sheet. No coordinates are published for the calibration marker.

UTM PROJECTION, AUSTRALIAN NATIONAL SPHEROID ZONE 55, C.M. 147° EAST - - A.G.D.

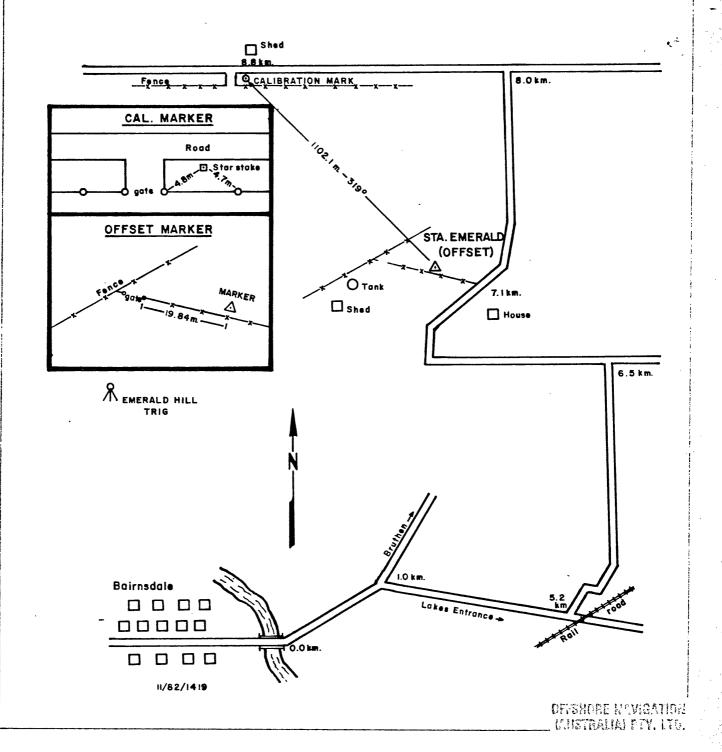
Lat.  $37^{\circ}48'48".60 \text{ S}$  N = 5,814,632 meters Long.  $147^{\circ}42'00".03 \text{ E}$  E = 561,615 meters

#### STA. EMERALD (OFFSET) ———AUSTRALIA

LAT. 37°48'48".60 \$
LONG. 147°42' 00".03 E
ELEV. 70 meters

N 5,814,632 meters E 561,615 meters

UTM PROJ. ——— AUST. NAT SPHEROID ZONE 55, C.M. 147° E ———— A.G.D.



#### WELL ATHENE-I ---- AUSTRALIA

LAT. 38° 35'52" 14 S LONG. 148° 27'20" 16 E N 5, 726,833 meters E 626,757 meters

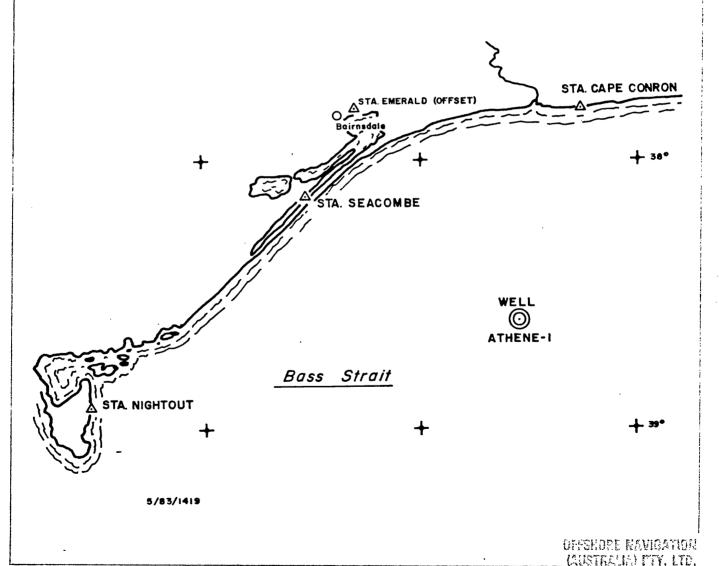
UTM PROJ. — AUST. NAT SPHEROID ZONE 55, C.M. 147° E — A. G. D.

147°

148°

49° **∔** 37°

#### VICTORIA



APPENDIX A
DAILY OPERATIONS LOGS

| Piect<br>Naher                          | 1419                                    | Date     | 15 M                                    | AY 1983                                 | RIG          | DIAMOND A                               | T EPOLH            | Party<br>Number        | RIG Lo       | CATICA                                |
|---|---|----------|---|---|--------------|---|--------------------|------------------------|--------------|---------------------------------------|
| Geophysica<br>Company                   | al .                                    | ٨,       | Α.                                      |   | Oil<br>Compa | ny PHILLIPS                             | ρε⊤. co.           | Radio<br>Frequency .   | 78           | 40                                    |
| c nuv A                                 | u stre                                  | LIA      | Area/<br>Prospe                         | OFFSHORE G                              | n pps it     | Stepback                                | N.A.               | Shot Point<br>Interval | Ν.           | A.                                    |
| Mobile                                  |   | QUENC    |   | INTERROGAT                              |              | MONITOR                                 | AMPLIFIE           |                        |              | INA SYSTEM                            |
| Seption                                 | 4                                       | 41       |   | 009                                     |              | 041                                     | 063                |                        | W+           | 41 P.                                 |
|   |   |          |   |   | ,            | SE STATIONS                             |                    |                        |              |                                       |
| P                                       | osition                                 |          |   | Operator                                | Freque       | ncy Beacon                              | Amplifier          | . Cod                  | ie           | Delay                                 |
| ,64                                     | T ou-                                   | τ        | G. L                                    | VELLS                                   | 420          | 089/                                    | 006                | 3                      |              | 5008                                  |
| SEAC                                    | -om BE                                  |          | S. L                                    | JALSH                                   | 42           | 9 064                                   | 055                | 5                      |              | 50 cf                                 |
| con                                     | RAN                                     |          | G.                                      | WARD                                    | 429          | 7 010                                   | 033                | 1                      |              | 5008                                  |
| ~                                       |   |          |   |   |              | •                                       |                    |                        |              | , ,                                   |
|   |   |          |   |   | OP           | ERATING TIME                            |                    | <u> </u>               |              |                                       |
| Time                                    | On                                      | Tir      | ne Off                                  | Reques                                  |              |   | Used For           |                        |              |                                       |
|   |   |          |   |   |              |   |                    |                        |              |                                       |
| 1                                       |   |          |   |   |              |   | <del></del>        |                        |              |                                       |
|   |   |          |   | :                                       |              |   |                    |                        |              |                                       |
| -                                       |   |          | -                                       |   |              |   |                    |                        | <del></del>  |                                       |
|   |   |          |   | <u> </u>                                |              |   |                    |                        | <del> </del> |                                       |
| O/T Re                                  | equested                                | Ву       |   |   |              |   | stem - Hours Opera | ition for Cl           | ient         |                                       |
| <b>!</b>                                |   |          |   | T 112-22-1-22                           | 1            | LOST TIME                               | D/1)               |                        |              | · · · · · · · · · · · · · · · · · · · |
| From                                    |   | 1        | o                                       | Hours Lost                              | 1            |   | Reason(s)          |                        |              |                                       |
|   |   |          |   | -                                       | <del> </del> |   |                    |                        |              |                                       |
|   |   |          |   |   | <u> </u>     |   |                    |                        |              |                                       |
| <u> </u>                                |   |          |   |   | <u> </u>     |   |                    |                        |              |                                       |
|   |   |          |   |   | <u></u>      |   |                    |                        |              |                                       |
| Bef Oper                                | rations L                               | oa & Ren | narks                                   | •••••                                   |              |   |                    | _                      |              |                                       |
|   |   |          |   |   |              | NT TO RIG                               | DIAMAND C          | n Epoc                 | H BY         | CHOPPE                                |
| 1315-                                   | 1630                                    | No       | BIN                                     | STALLATIO                               | لہ           |   |                    |                        |              |                                       |
| co                                      | No                                      | RADI     | o Cc                                    | ATACT AN                                | Y STA        | T.ONS , SHU                             | T Down u           | NTIL                   | 0800         | 16 MAY                                |
| 2400                                    | 5 777                                   | ~9 67    | 04                                      |   |              | ••••                                    |                    | •••••                  | ,<br>        |                                       |
|   |   | ••••     |   |   |              | *************************************** |                    | •••••                  |              |                                       |
|   |   |          | •••••                                   | • |              | ••••••                                  |                    |                        | , <b></b>    | •••••••                               |
|   | ••••••                                  |          | •••••                                   |   |              | ••••                                    |                    | ••••••                 |              | .,                                    |
|   | ••••                                    |          | •••••                                   | ·····                                   |              | •••••                                   | •••••              | •••••                  |              |                                       |
| • | •••••                                   |          | • | •••••••••••                             |              |   | ···········        | •••••                  |              |                                       |
| •                                       |   |          |   |   |              |   |                    |                        |              |                                       |
|   | • | •••••    | • |   |              |   |                    | ••••••                 |              |                                       |
|   |   |          |   |   | :=           |   |                    |                        |              |                                       |
| Mapile                                  | K                                       | T 1      | loLLo                                   | 2 Y                                     |              |   | /**·               |                        |              |                                       |
| perators                                | !.                                      |          | M. L. F.                                | ••••••••••••••••••••••••••••••••••••••• |              | Party                                   | 1118               | -                      |              |                                       |
| - n N 1                                 | Δ                                       | ••••••   | •••••                                   | SEE ING                                 | C            |   | au Massa           |                        | ••••••       | ••••••                                |
|   | ~                                       |          |   | SEE IN                                  | o i nuc i i  | ONS ON REVERSE                          |                    |                        |              |                                       |

| ect<br>nber]                           | 419 Date                              | 16 MA                                 | Y 1913           | RIG DI   | Amord M                                 | EPOCH P                                 | lient<br>arty<br>lumber R1            | h LOCATIO                               |
|--|---------------------------------------|---------------------------------------|------------------|--|---|---|---------------------------------------|---|
| eophysical<br>ompany                   | <u>N</u>                              | . A .                                 |                  | Oil<br>Company                                   | PHILLIP                                 | S PET. CO. F                            | ladio<br>requency                     | 7840                                    |
| intry A                                | USTRY LIA                             | Area/<br>Prospec                      | OFFSHORE (       | GIPPS LAND                                       | Stepback                                | <i>√.А</i> . s                          | hot Point<br>nterval                  | √.A.                                    |
| Mobile                                 | FREQUENC                              |                                       | INTERROGAT       |  | MONITOR                                 | AMPLIFIE                                |                                       | NTENNA SYSTE                            |
| ation                                  | 441                                   |                                       | 009              | 9 041  |   | 063                                     |                                       | WHIP.                                   |
|  |                                       |                                       |                  | BASE S   | TATIONS                                 |   |                                       |   |
| Po                                     | sition                                |                                       | Operator         | Frequency  | Beacon                                  | Amplifier                               | . Code                                | · Delay                                 |
| 1.6H                                   | TOUT                                  | 5.1                                   | シミレーシ            | 429  | 084                                     | 006                                     |                                       | 5008                                    |
| -<br>SEAC                              | OMSE                                  | J . v.                                | JAI-SH           | 429  | 064                                     | 055                                     | 5                                     | 5001                                    |
|  | RAN                                   | 1                                     | WARD             | 429  | 010                                     | 033                                     |                                       | 5008                                    |
| -                                      |                                       |                                       |                  |  |   |   |                                       |   |
|  | · · · · · · · · · · · · · · · · · · · | <u> </u>                              |                  | OPERA  | TING TIME                               |   |                                       |   |
| Time C                                 | On T                                  | ime Off                               | Reques           |  | System U                                | Ised For                                |                                       | <del></del>                             |
|  |                                       |                                       |                  |  |   |   |                                       | · · · · · · · · · · · · · · · · · · ·   |
|  |                                       |                                       | <del> </del>     | <del></del>                                      |   |   |                                       |   |
|  |                                       |                                       |                  |  |   |   |                                       |   |
|  |                                       | •                                     | :                |  |   |   |                                       |   |
|  |                                       |                                       |                  |  |   |   |                                       |   |
| O/T Rec                                | quested By                            |                                       |                  |  | Total Sys                               | tem - Hours Operat                      | ion for Clien                         | t                                       |
|  |                                       |                                       |                  | LO   | ST TIME                                 | ·                                       |                                       |   |
| From                                   |                                       | То                                    | Hours Lost       | <u> </u>   |   | Reason(s)                               |                                       |   |
|  |                                       |                                       |                  |  |   |   |                                       |   |
|  |                                       |                                       |                  |  |   | •                                       |                                       |   |
|  |                                       |                                       |                  |  |   |   |                                       |   |
|  |                                       |                                       |                  | <del>                                     </del> |   | • .                                     | · · · · · · · · · · · · · · · · · · · |   |
|  |                                       | · · · · · · · · · · · · · · · · · · · | <u> </u>         | <u> </u>   |   |   |                                       |   |
| ef Opera                               | ations Log & Re                       | marks                                 |                  |  |   | ••••••••••                              | •••••••                               | •••••••••••                             |
|  |                                       |                                       | Rig moi          |  |   |   |                                       |   |
|  |                                       |                                       |                  |  |   | R DOWN.                                 | EXTR                                  | EMELY KOL                               |
| ······································ |                                       | 19.47.)                               | CANNOT 1         | JORK A   | NCH DRS.                                | 4 BASE. Se                              |                                       | C = 25 ·-                               |
| aug.                                   | KADIO CI                              | T (0                                  | sin i            | combe,   | CONKAN                                  | 4 BASE, SE                              | CURE                                  | JTN . 100                               |
|  |                                       |                                       |                  |  |   |   |                                       |   |
|  | 1                                     | <i>)</i> H                            |                  |  |   |   |                                       |   |
| 900                                    | RADIO                                 |                                       |                  |  |   |   |                                       |   |
| 900<br>1200                            | RADIO                                 | CHECI                                 | <                | ••••••   | • | • | •••••••                               | • |
| 900<br>1200<br>100                     | RADIO                                 | CHEC!                                 | i< ,             |  |   |   |                                       |   |
| 900<br>1200<br>100                     | RADIO                                 | CHEC<br>CHEC<br>VI, On                | ic,<br>1 Rib To  | Move (   | VEATHER                                 |   |                                       |   |
| 900<br>1200<br>100                     | RADIO                                 | CHEC<br>CHEC<br>VI, On                | ic,<br>1 Rib To  | Move (   | VEATHER                                 |   |                                       |   |
| 900<br>1200<br>100                     | RADIO                                 | CHEC<br>CHEC<br>VI, On                | ic,<br>1 Rib To  | Move (   | VEATHER                                 |   |                                       |   |
| 900<br>1200<br>100                     | RADIO                                 | CHEC<br>CHEC<br>VI, On                | ic,<br>1 Rib To  | Move (   | VEATHER                                 |   |                                       |   |
| 1200                                   | RADIO<br>RADIO<br>WAITIN              | CHEC<br>CHEC<br>VI, On                | ic,<br>/ Rily To | Move (   | VEATHER                                 |   |                                       |   |
| 1200                                   | RADIO                                 | CHEC<br>CHEC<br>VI, On                | ic,<br>/ Rily To | Move (   | VEATHER                                 |   |                                       |   |

| Project<br>Number | 14 19 Dan       | . 17 M           | AY 1983    | R167                        | Dianows M                               | EFOCH                                   | Client<br>Party R1<br>Number                     | 6 LOCATIE                               |
|-------------------|-----------------|------------------|------------|-----------------------------|---|---|--|---|
| Geophysical       | ν.              | Α.               |            | Oil<br>Compa                | ny PHILLIP                              | S PET. CO.                              | Radio<br>Frequency                               | .7840                                   |
| OUNTRY A          | u STRALIA       | Area/<br>Prospec | OFFINORE G | PPS LA                      | Stepback                                | N.A.                                    | Shot Point                                       | N.A.                                    |
| Mobile            | FREQUEN         |                  | INTERROGAT |                             | MONITOR                                 | AMPLIFIE                                |  | NTENNA SYSTEM                           |
| ation             | 441             |                  | 009        |                             | 041                                     | 063                                     |  | WHIP.                                   |
| ■ Pc              | sition          | 1                | Operator   | BA:<br>Frequer              | SE STATIONS ncy Beacon                  | Amplifier                               | . Code   | Delay                                   |
|                   |                 |                  | VELLS      | 1                           |   | 006                                     | i  |   |
|                   | TOUT            |                  |            | 429                         |   | 055                                     | 3  | 5008                                    |
|                   | COMBÉ           | i                | JARD       | 429                         |   |   | <del>                                     </del> |   |
|                   | IRAN            | (a · r           | JANU       | 4.6                         | 1 010                                   | 033                                     | <u> </u>   | <u> ५००५ त</u>                          |
|                   |                 | <u> </u>         |            | OBI                         | ERATING TIME                            |   | <u> </u>   |   |
| Time (            | On T            | ime Off          | Reques     |                             | System L                                | Jsed For                                |  |   |
| 0800              | ) iA            | 00               | J. 60      | كيمه                        | 0                                       | 16 LOCAT                                |  |   |
| <u> </u>          |                 |                  | J. 90      | 0012                        | <del> </del>                            | IG WEAT                                 | 1074.  |   |
|                   |                 |                  | :          |                             |   |   |  |   |
|                   |                 |                  |            |                             |   |   |  |   |
| T)/T Red          | quested By      | ·                | <u> </u>   |                             | Total Sys                               | tem - Hours Opera                       | tion for Client                                  | 10 00                                   |
|                   |                 |                  |            |                             | LOST TIME                               | tem Tools Opera                         | tion for Cheff                                   | 10.00                                   |
| From              |                 | То               | Hours Lost |                             | 2001 11112                              | Reason(s)                               | · · · · · · · · · · · · · · · · · · ·            | •                                       |
|                   |                 |                  |            |                             |   |   |  |   |
|                   |                 |                  |            |                             | <i>ال</i> ال.                           |   |  |   |
|                   |                 |                  |            |                             |   | , |  |   |
|                   |                 |                  |            |                             | <u> </u>                                | •                                       |  |   |
| f Opera           | ations Log & Re | marke            | I          | - <del>1</del>              |   | · · · · · · · · · · · · · · · · · · ·   |  |   |
|                   |                 |                  | WEATH      | ĒR                          | ••••••••••••••••••••••••••••••••••••••• |   | •••••••••  | *************************************** |
|                   |                 |                  |            |                             | ON ANLHOR                               | 25.                                     | ************************                         | •••••••••••••••••••••••••••••••         |
| 0800              | STAMO           | Vs To            | OPERAT     | = -W/                       | ARM GEAR                                | up. WORK                                | od Mos   | ANTENNA                                 |
|                   |                 |                  |            |                             | 90 Km WITH                              |   |  |   |
| 945               |                 |                  |            | £16E                        | ROM SEALO                               | moë æ 90                                | Km . Si  | 6 From                                  |
|                   |                 |                  | 16 KM.     |                             |   |   | •••••••  | •••••                                   |
|                   |                 |                  |            |                             | 164 KM.                                 |   |  |   |
|                   |                 |                  |            |                             | 18 MAY.                                 |   | •          | • |
|                   |                 |                  |            | <del>7V</del>               | ••••••••••••                            |   | ***************************************          | •••••••                                 |
|                   |                 | ••••••           |            | • • • • • • • • • • • • • • |   | • | ***************                                  |   |
|                   |                 |                  |            |                             |   |   |  |   |
| lobile            | • • • • •       |                  |            |                             |   |   |  |   |
| perators .        | K.J.            | NW L             | LOY        |                             | artv                                    | 11/2                                    | - , .  |   |
| E .               | •••••           | ••••••           | ······     |                             | hief                                    | SIND                                    | 2002   | •                                       |
| orm N⋅1A<br>—     |                 |                  | SEE INS    | HUCTI                       | ONS ON REVERSE                          |   |  |   |

| Presect 1, 1, G                         | · _          | iP MA        | Y 10+7                                  | RIG 7                                   | amout M                                 | FORCH                                   | lient<br>arty Ri                        | 5 LOCATION                              |
|---|--------------|--------------|---|---|---|---|---|---|
| Geophysical                             | Date         |              |   | Oil                                     | Punnan                                  | PET. Co. F                              | ladio                                   | 781.0                                   |
| A. ST                                   |              | Area/        | Darwage C                               | Company.                                | - A ( V ) P 3                           | S 4                                     | requency<br>hot Point                   | N.A.                                    |
|   | EQUENC       |              | INTERROGA                               |   | Stepback                                | AMPLIFIE                                |   | ANTENNA SYSTEM                          |
| dian                                    | 41           |              | 009                                     | -                                       | 041                                     | 063                                     |   |   |
|   | 4 1          |              | 004                                     | BASE                                    | STATIONS                                | 1 003                                   |   | WHIP.                                   |
| Position                                |              |              | Operator                                | Frequency                               | Beacon                                  | Amplifier                               | . Cod                                   | e Delay                                 |
| JIGHTON                                 |              | <u>G.</u> L  | seus                                    | 1179                                    | 084                                     | 086                                     | 3.                                      | J-008                                   |
| SEACOM                                  | SE           | 5,6          | <i>laush</i>                            | 47.9                                    | 064                                     | 051                                     |   | 5008                                    |
| SEACOM!<br>CONRAN                       | /            | G-1          | JARD                                    | 147.9                                   | 010                                     | 033                                     |   | 2008                                    |
| _                                       |              |              |   |   |   |   |   |   |
|   |              |              | ,                                       | OPER                                    | ATINGTIME                               |   |   |   |
| Time On                                 | Tir          | ne Off       | Reque                                   | sted By                                 | System U                                | sed For                                 |   |   |
|   |              |              |   |   |   |   |   |   |
|   |              |              |   | •                                       |   |   |   |   |
|   |              |              | :                                       |   |   |   | _                                       |   |
|   |              |              |   | •                                       |   |   |   |   |
| D/T Requested                           |              |              |   |   | Total Sus                               | tom House Operat                        | ion for Cli                             | •1                                      |
| - Nequester                             | J DY         |              |   |   | OST TIME                                | tem - Hours Operat                      | ion for Cit                             | ent                                     |
| From                                    | Т            | ·            | Hours Lost                              |   | JST TIME                                | Reason(s)                               |   | · · · · · · · · · · · · · · · · · · ·   |
|   |              |              |   |   | <del></del>                             |   |   |   |
|   | 1            |              |   | <del></del>                             |   |   |   |   |
|   | -            | ·            |   |   |   | •                                       |   |   |
|   | <del> </del> |              |   | <del></del>                             |   |   |   |   |
|   | <u> </u>     |              | <u> </u>                                |   |   | -                                       |   |   |
| B of Operations                         | -            |              |   |   |   | •••••                                   | ••••••                                  | • |
| <u> </u>                                | WAITI        | <i>ب</i> الا | on more                                 |   | •••••                                   | ·····                                   | • |   |
|   | RAD.         | ) CH         | FCK ALL                                 | STN 3.                                  |   | ••••••                                  |   | • |
| 200                                     |              |              |   |   |   | ••••••                                  |   |   |
| 1750                                    | · IA.T       |              | 0~ R.h                                  | M ~ . / s                               |   | ••••••                                  |   |   |
| 4.00                                    | <u>~</u>     | ·····        | .0.~                                    | 71000                                   | <                                       | • |   |   |
|   | •••••        | •••••        | *************************               | * • • • • • • • • • • • • • • • • • • • | •••••••••••••••••••••••                 | ••••••••••••••••••                      | ••••••                                  |   |
|   | ••••••••     | •••••        | •••••                                   | ••••••                                  | •                                       |   |   |   |
| ••••••••••••••••••••••••••••••••••••••• | •••••        | ••••••       | • | •••••                                   | *************************************** | •                                       |   |   |
|   |              |              |   |   |   |   |   |   |
|   |              | ••••••       |   |   | *************************************** |   |   |   |
|   |              |              |   |   |   |   |   |   |
| Mobile .                                |              | <del></del>  |   |   |   |   |   |   |
| Operators                               | · T.M        | WLL          | 0 Y                                     |   |   | 17.                                     | 1-1                                     | , •                                     |
|   |              |              |   | Pari<br>Chi                             |   | - althi                                 | 3777                                    |   |
| Form N-1A                               |              | ·            | SEE IN                                  | STRUCTION                               | S ON REVERSE                            |   |   |   |

| Project 1419 Date 19 MAY 19 P3 Rif DIAMOND M EPOCH Number Rif LOCATION Number 1419 Date 19 MAY 19 P3 Rif DIAMOND M EPOCH Number Rif LOCATION Dephysical Company PHILLIPS PET. Co. Radio Frequency 7 P4 O Shot Point Interval N.A.  Country Australia Prospect Off Shore 61813 Land Stepback N.A. Shot Point Interval N.A.  Tobile FREQUENCY INTERROGATOR MONITOR AMPLIFIER ANTENNA SYSTEMATION 441 009 041 065 WHIP.   |
|--|
| Country Australia Area/ Prospect Off Shore 6.1913 Land Stepback N.A. Shot Point Interval N.A.  Tobile FREQUENCY INTERROGATOR MONITOR AMPLIFIER ANTENNA SYSTEM STEPP STEP |
| pobile FREQUENCY INTERROGATOR MONITOR AMPLIFIER ANTENNA SYSTEMATION 441 009 041 065 WHIP.  |
| = 1 441 001 0E1 063 WATE.  |
|  |
| BASE STATIONS  |
| Position Operator Frequency Beacon Amplifier Code Delay  |
| NIGHTOUT G. WELLS 429 OF4/067 006 3 5008   |
| SEALONBE S. WAASH 429 064 055 5 5008   |
| CONRAN G.WARD 429 010 033 1 5008   |
|  |
| OPERATING TIME   |
| Time On Time Off Requested By System Used For  |
| 0500 2400 J. GOODIN RIG LOCATION.  |
|  |
| . :  |
|  |
| O/T Requested By  Total System - Hours Operation for Client 16 H25   |
| LOST TIME  |
| From To Hours Lost Reason(s)   |
|  |
|  |
|  |
|  |
| Basef Operations Log & Remarks   |
| DOOL WAITING ON ANCHORS.   |
| FOO MAXIRAN NET TO OPERATE.  |
| 1220 3.W.F. NIGHTOUT 163.282, SEACONBE 89.515 CONRAN 95.938<br>147 - 163.428, - 49.642, - 95.888<br>40 CHANGED OUT NIGHT OUT CAN - 3WF'S NOT COMPUTING CORRECT   |
| 103.44 to 642 = 95-FFF   |
| 1655 3 W.F. NIGHTOUT 163.397 PRAYOMBE 89. IN COURSE OF G.C.  |
| 1655 3 W.F. NIGHTOUT 163.393, SEACOMBE 89.64 CONRAN 95.95  7.35 - 163.183 - 89.397 - 95.948  1940 UNDER TOW FROM HERMET 1 TO NEW LOCATION ATHENE 1   |
| 1940 UNDER TOW FROM HERMET ! TO NEW LOCATION "ATHENE"!"  |
| 1400 ON TOW.   |
|  |
|  |
|  |
| Mobile Operators K.T Mulloy.   |
| Party ////   |
| Form N-1A SEE INSTRUCTIONS ON REVERSE  |

| Project<br>Number      | 1419 Date                                | عم مد                                   | Y 483           | RIG DI                                  | 900ND M                                  | Epoint P                               | arty<br>Jumber Rig                      | LOCATION     |
|------------------------|--|---|-----------------|---|--|--|---|--------------|
| Geophysical<br>Campany | N  | , A .                                   |                 | Oil<br>Company                          | PHILLIPS                                 | PET. Co. F                             | ladio                                   | 1940         |
| Country A              | 1STRALPA                                 | Area/<br>Prospec                        | OFFSHORE C.     | PPSLAND                                 | Stepback                                 | <u>'</u> As                            | hot Point                               | V.A.         |
| <b>M</b> obile         | FREQUENC                                 |   | INTERROGAT      |   | MONITOR                                  | AMPLIFIE                               |   | TENNA SYSTEM |
| ation                  | 441                                      |   | ००५             |   | 041                                      | 063                                    |   | JHIP.        |
|                        |  | 1                                       |                 |   | TATIONS                                  |  |   |              |
| Po                     | sition                                   | 1 .                                     | Operator        | Frequency                               | Beacon                                   | Amplifier                              | . Code                                  | Delay        |
| NIGHT                  |  |   | LEUS            | 429                                     | ०६७                                      | 006                                    |   | 5005         |
| CONI                   | ongE                                     | 5.1                                     | JALJH           | 429                                     | 064                                      | 055                                    |   | 5008         |
| CON                    | RAN                                      | S-                                      | WARD            | 429                                     | OID                                      | 033                                    |   | 5008.        |
|                        |  |   |                 | 5                                       |  |  |   |              |
|                        |  |   |                 | OPERA                                   | TINGTIME                                 |  |   |              |
| Time (                 | On Ti                                    | ime Off                                 | Request         | ed By                                   | System L                                 | Ised For                               |   |              |
| 0001                   | · 24                                     | 0                                       | J. 600          | 314                                     | Ric                                      | LOCATING                               |   |              |
|                        |  |   |                 |   |  |  |   |              |
|                        |  | •                                       | :               |   |  |  |   |              |
|                        |  |   |                 |   |  |  |   |              |
| D/T Red                | quested By                               |   |                 |   | Total Sys                                | tem - Hours Operat                     | ion for Client                          | Z4 Hes.      |
|                        |  |   |                 | LOS                                     | ST TIME                                  |  |   |              |
| From                   | •  | То                                      | Hours Lost      |   |  | Reason(s)                              |   |              |
|                        |  |   |                 |   |  |  |   |              |
|                        |  |   |                 |   | NIL.                                     |  |   |              |
|                        |  |   |                 |   |  |  |   |              |
|                        |  |   |                 |   |  |  |   |              |
| R of Opera             | etions Loo & Re                          | marks                                   |                 | <del>-1</del>                           |  |  |   |              |
| 0601                   |  |   | ATHENE          |   | DCATION                                  |  | ••••••                                  |              |
| 157                    | ANUH                                     | or *                                    | フ くミエ 6         |   | •••••••••••••••••                        | •••••••                                | •••••••                                 |              |
|                        | R.c                                      | PA                                      | A A A T A A A T | ~ ~ ~                                   |  |  |   |              |
| 810                    | FOUR                                     | ANCH                                    | lors SET        | BOAT                                    | 1 LAYINI                                 | 5 TO FOR                               | Union                                   | BREAK.       |
|                        |  |   | RUNN ING        |   |  | •••••••••••••                          |   |              |
| 24.9.0                 | UORK                                     | (126                                    | ANCHORS         | ·<br><del>-</del>                       | ••••••••••                               |  | •••••••                                 | •            |
|                        | ••••••                                   |   |                 |   |  |  |   |              |
|                        | ••••••••                                 |   |                 |   |  | •                                      |   |              |
| •                      | •••••••                                  | ••••••                                  | •••••           |   | •• •• •• • • • • • • • • • • • • • • • • | ······································ | •••••                                   |              |
|                        | •• | **********                              | •••••           | • | •••••••••••                              | •••••••                                | •••••••                                 |              |
|                        | •••••••                                  | **********                              |                 | ••••••••••                              | •••••                                    | •••••••••••                            | • | ······       |
| Mobile                 | =========                                | <del></del>                             |                 |   |  |  |   |              |
| Degrators              | K. T.                                    | Mo H                                    | ωY.             | •••••                                   |  | dans.                                  |   | ,            |
|                        | ••••••                                   | • |                 | Party Chief                             | ***************************************  | Albordy                                | <b>.</b>                                |              |
| orm N-1A               |  |   |                 |   | ON REVERSE                               |  | •••••••••                               |              |

| umber               | 9 Date           | 2111             | 1 Y 1983                         | Kig Di              | AMOND M                                 | EPOCH PA             | umber K                               | 6 LOCATIO                               |  |
|---------------------|------------------|------------------|----------------------------------|---------------------|---|----------------------|---------------------------------------|---|--|
| eophysical<br>npany | N. A             | ł                |                                  | Oil<br>Company      | PHILLIPS A                              | ET. Co. Fr           | dio<br>equency                        | 7840                                    |  |
| ontiv Aus           | TRALIA           | Area/<br>Prospec | OFFSHORE (                       | IPPSLAN             | Stepback                                | . A                  | ot Point<br>terval                    | Ν.Α.                                    |  |
| Mobile F            | REQUENCY         |                  | INTERROGAT                       | OR                  | MONITOR                                 | AMPLIFIER            |                                       | NTENNA SYSTE                            |  |
| ation               | 441              |                  | 009                              |                     | 041                                     | 063                  |                                       | WHIP                                    |  |
| Position            | n                | (                | Operator                         | BASE S<br>Frequency | TATIONS<br>Beacon                       | Amplifier            | . Code                                | Delay                                   |  |
| NIGHTO              |                  |                  | VELLS                            |                     |   |                      | 3                                     |   |  |
|                     | 1                | _                |                                  | 429                 | 067                                     | 006                  | 7                                     | 5008                                    |  |
| SEAC OM<br>ARNO D   |                  |                  | JALSH                            | 429                 | 064                                     | 055                  |                                       | 5008                                    |  |
| - CONKH             | - <del> </del>   | — <u></u>        | WARD                             | 429                 | 010                                     | 033                  |                                       | 5008                                    |  |
|                     |                  |                  |                                  | OPERA               | TING TIME                               |                      |                                       |   |  |
| Time On             | Tim              | e Off            | Request                          |                     | TING TIME System U                      | sed For              |                                       |   |  |
| 0001.               | 2,               | 100              | J. 6,00                          | Did                 |   | LOCATIA              | r (,                                  |   |  |
|                     |                  |                  | 37 6,00                          | 7.76                | 1 100                                   | , 200                | <u> </u>                              |   |  |
|                     |                  |                  | :                                |                     |   |                      |                                       |   |  |
|                     |                  |                  |                                  | <del></del>         |   |                      |                                       | <del></del>                             |  |
| D/T Requeste        | <br>ed Bv        |                  |                                  |                     | Total Syst                              | em - Hours Operation | on for Client                         | 1 24 1105                               |  |
|                     |                  |                  |                                  | 1.09                | ST TIME                                 | em - rious Operati   | on for Chent                          | 124 HRS                                 |  |
| From                | То               |                  | Hours Lost                       |                     |   | Reason(s)            | ·                                     | •                                       |  |
|                     |                  |                  |                                  |                     |   |                      | · · · · · · · · · · · · · · · · · · · |   |  |
|                     |                  |                  |                                  |                     |   |                      |                                       |   |  |
|                     |                  |                  |                                  | <u> </u>            |   |                      |                                       |   |  |
|                     |                  |                  |                                  | <u> </u>            |   |                      |                                       |   |  |
|                     |                  |                  |                                  |                     |   |                      |                                       |   |  |
|                     |                  |                  |                                  |                     |   |                      |                                       |   |  |
| f Operations        | Log & Rema       | arks<br>[.       | A. HORC                          | ••••••              | ••••••                                  |                      | ••••••                                | *************************************** |  |
| 001. Ru             | اندا نديد        | G A              | ve HORS.                         | -825                | SEACON BE                               | 100 · for C          | 0.184.                                | / 90 917                                |  |
| 001. Ru             | اندا نديد        | G A              | ve HORS.                         | -825<br>567 BAC     | SEACON BE<br>-K ANCH                    | 100.fou (            | ONRAN                                 | 90.913                                  |  |
| 001. Ru             | اندا نديد        | G A              | ve HORS.                         | . 825<br>167 BAC    | SEACON BE<br>K ANCH                     | 100. fox (           | ONRAN                                 | 90.913                                  |  |
| 001. Ru             | اندا نديد        | G A              | VEHORS,<br>TOUT 176<br>IME & PIL | . 825<br>167 BAC    | ••••••••••••••••••••••••••••••••••••••• | 100.804 (            | ONRAN                                 | 90-913                                  |  |
| 001. Ru             | اندا نديد        | G A              | VEHORS,<br>TOUT 176<br>IME & PIL | •••••               | ••••••••••••••••••••••••••••••••••••••• | 100·fo4 (            | ONRAN                                 | 90-913                                  |  |
| 001. Ru             | اندا نديد        | G A              | VEHORS,<br>TOUT 176<br>IME & PIL | •••••               | ••••••••••••••••••••••••••••••••••••••• | 100·fo4 (            | o.J.R.A.A                             | 90-913                                  |  |
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| 001. Ru             | اندا نديد        | G A              | VEHORS,<br>TOUT 176<br>IME & PIL | •••••               | ••••••••••••••••••••••••••••••••••••••• | 100.804 (            | ONRAN                                 | 90.913                                  |  |
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| Printet<br>Number                       | 419 Date                                | 22 M                                    | MY 1983     | R16                                     | Dian                                    | vand a                                  | PET. CO.                                | Client<br>Party /                       | 2.6.1.                                  | 07.00      |
|---|---|---|-------------|---|---|---|---|---|---|------------|
| Geophysical<br>Company                  | N.A                                     | •                                       |             | ⊯oat<br>Oil<br>Comp                     | any Pr                                  | 114105                                  | Pat Co                                  | Number/.)<br>Radio                      | 72.                                     | 0          |
| Country A                               | 4)TR4L0                                 | Area/                                   | OFFSHORE 6  | GPPSL                                   | A PStent                                |   | .A.                                     | hot Point                               |   |            |
| Mobile                                  | FREQUENC                                | Y                                       | INTERROGAT  | OR                                      |   | NITOR                                   | AMPLIFIE                                | R                                       |   | A SYSTEM   |
| Stion                                   | 441.                                    |   | 009         |   | ρų                                      | + ſ                                     | 063                                     |   | WH                                      | P          |
| Posi                                    | tion                                    |   | 0000000     |   | ASE STAT                                | IONS                                    |   |   |   |            |
|   |   | <u> </u>                                | Operator    | Freque                                  |   | Beacon                                  | Amplifier                               | , Cod                                   | le                                      | Delay      |
| FIGHT                                   |   |   | JEUS        | 42                                      | - 1                                     | 067                                     | 006                                     |   |   | 500F       |
| EAC                                     | RAN                                     | i .                                     | JALSH       | 42                                      |   | 064                                     | 0.55                                    | 2                                       |   | 500f       |
| <b>■</b> Co~                            | RAN                                     | G. L                                    | JARD        | 420                                     | 9                                       | 010                                     | 033                                     | ,                                       |   | 50080      |
|   |   |   |             |   | <u> </u>                                |   |   |   |   |            |
| Time On                                 | Ti.                                     | me Off                                  | Reques      |   | PERATING                                |   | - 4 -                                   |   |   |            |
| 0001.                                   |   |   |             |   |   | System Us                               | ed For                                  |   |   |            |
|   |   | 400                                     | J. 600      | <i>P 1</i> ✓                            |   | <del> </del>                            |   |   | · · · · · · · · · · · · · · · · · · ·   |            |
|   |   |   | :           | <del></del>                             |   |   |   |   |   |            |
|   |   | ·                                       |             |   |   |   |   |   |   |            |
| T Requ                                  | ostad Pv                                |   |             |   |   |   |   |   |   |            |
| - Nequi                                 | ested by                                |   |             |   | 1.007.7                                 |   | em - Hours Operat                       | ion for Cli                             | ent 24                                  | HRS        |
| From                                    | T                                       | 0                                       | Hours Lost  | Γ                                       | LOST TI                                 | ME                                      | Reason(s)                               |   |   |            |
|   |   |   |             | <b>1</b>                                |   |   | 11000011(3)                             |   |   |            |
|   |   |   |             |   |   | 114                                     |   |   |   |            |
|   |   |   |             |   |   | <i></i>                                 |   |   |   |            |
|   |   |   |             | <del> </del>                            |   |   |   |   |   |            |
| Brie Operatio                           | ons Log & Ren                           | l                                       |             | 1                                       | <del></del>                             |   | · · · · · · · · · · · · · · · · · · ·   |   |   |            |
|   |   |   | ANCHOR      | ζ.                                      | •••••                                   | • | •••••                                   | •••••••                                 | ••••••                                  | ••••••     |
| 000                                     | PRELIM                                  | NAR'                                    | r FIX. NI   | GHTO                                    | out 1                                   | 76.826                                  | SEACOMBE                                | - 100 F                                 | -07 Can                                 | 1RA-190.91 |
|   | DRILL                                   | S.T.F.M.                                | 15 6.8 M    | rs l                                    | BEARIN                                  | 16 272°                                 | SEACONSE<br>FROM DE                     | J·RE)                                   | LOCA                                    | TION.      |
| 0130                                    | MART I                                  | RILLI                                   | NE 30 INC   | H $H$ .                                 | OLE 1                                   | FOR CI                                  | 15126                                   | ••••••                                  | • | ••••••     |
| <i></i>                                 | 157712                                  | <u>ي کے ۔ را</u>                        | NCH (       | Asia                                    | <u> </u>                                | •••••                                   |   | •••••                                   | •••••                                   | •••••      |
| ••••••••••••••••••••••••••••••••••••••• | ••••••••                                | ••••••                                  |             | •••••                                   | ••••••                                  | •••••••                                 | ••••••••••••••••••••••••••••••••••••••• | • | • | •••••      |
|   | ••••••••••                              | • | ••••••••••  | • | •••••••                                 | ••••••••••••••••••••••••••••••••••••••• | ••••••••••                              | • | •••••••                                 | ••••••     |
| ···· <u>··</u> ·····                    | •••••                                   | ••••••                                  | ••••••      | ••••••••••                              | • | ••••••••••••                            | • | • | •••••••                                 | •••••      |
| ••••                                    | •••••                                   | • | •••••       | ••••••                                  | •                                       | •••••••                                 | •••••                                   | ••••••                                  | •••••••                                 |            |
|   | ••••••••••••••••••••••••••••••••••••••• | ••••••••••••••••••••••••••••••••••••••• | ••••••••••• | ••••••                                  | ••••                                    | •••••                                   | •••••                                   | •••••••                                 |   | ••••••     |
|   |   |   | <del></del> |   |   |   |   |   |   |            |
| †obile<br>perators                      | K- T.                                   | Moll                                    | LOY.        |   |   |   | 24                                      |   |   |            |
|   |   | •••••••••                               |             |   | arty                                    |   | SIFK                                    | ^ /·                                    |   |            |
| orm N-1A                                | • | ••••••                                  | SEE INST    |   | hief<br>ONS ON R                        | EVERSF                                  | or y                                    | -                                       |   | ••••••     |
| _                                       |   |   |             |   |   |   | Ű                                       |   |   |            |

| Preset 1419   | D                                       | 23 M               | AY 1983                                 | RIG                 | DIAN                                    | 1000 M                                  | EPOCH !                                 | Client<br>Party                            | '16 Lor                                 | ATION                                   |
|---------------|---|--------------------|---|---------------------|---|---|---|--|---|---|
| Geophysical   |   | <del></del><br>А , |   | Oil                 |   | HILLIPS                                 | PET. Co.                                | Radio                                      | 784                                     |   |
| Aus TR        | 4L 1A                                   | Area/              | .DF=SHOCE                               | CIPPSL              | A~Dsi                                   | nhack ~                                 | .A.                                     | Shot Point                                 | N.F                                     | 4 .                                     |
|               | EQUENC                                  |                    | INTERROGAT                              |                     |   | ONITOR                                  | AMPLIFIE                                |  |   | NA SYSTEM                               |
| Sition 4      | 41                                      |                    | 009                                     | 041                 |   |   | 067                                     |  | WHIP                                    |   |
|               |   |                    |   |                     |   | ATIONS                                  |   |  |   |   |
| Position      |   |                    | Operator                                | Frequi              |   | Beacon                                  | Amplifier                               | . Cod                                      | le l                                    | Delay                                   |
| 716HTDU       |   |                    | wells                                   | 47                  |   | 067                                     | 006                                     | 3  |   | 5008                                    |
| SEACOM        | BE                                      |                    | WALSH                                   | 42                  | q                                       | 064                                     | 0.517                                   | .5   |   | 5008                                    |
| CONKA         | ~                                       | 6.                 | WARD                                    | 42                  | 9                                       | 010                                     | 033                                     | 1  |   | 50080                                   |
| -             |   |                    |   |                     |   |   |   |  |   |   |
|               |   |                    |   |                     | PERATI                                  | NG TIME                                 |   |  |   |   |
| Time On       | Ti                                      | me Off             | Request                                 | ed By               |   | System Us                               | ed For                                  |  |   |   |
| 0001          | 123                                     | 6                  | J- 60                                   | 0 D1                | <u>~/</u>                               | RI                                      | 6 LOEAT                                 | .0~  |   |   |
| · <b></b>     | ļ                                       |                    |   |                     |   |   |   |  |   |   |
|               |   | •                  | <u> </u>                                |                     |   |   |   |  |   |   |
|               |   |                    |   |                     |   |   |   |  |   |   |
| )/T Requested | ј Ву                                    |                    |   |                     | <del></del>                             | Total Syst                              | em - Hours Opera                        | tion for CI                                | ient /2                                 | L-5 HRS                                 |
|               |   |                    |   |                     | LOST                                    | TIME                                    |   |  |   |   |
| From          | ]7                                      | О                  | Hours Lost                              |                     |   |   | Reason(s)                               |  | -                                       |   |
| •             |   |                    |   |                     |   |   |   |  |   |   |
|               |   |                    |   |                     |   | NIL.                                    | •                                       |  |   |   |
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| Grations I    | Log & Por                               | n arke             | .d                                      | <del></del>         |   |   |   |  | <del></del>                             |   |
|               |   |                    | DINCH PA                                | らん                  | 6                                       | • | • | ••••••                                     | ,                                       | • |
|               |   |                    | 16HTOUT !                               |                     |   | SE Acom 1                               | BE 100.802                              | CONR                                       | AN 90.                                  | 913                                     |
| <b>1 b</b> 6  | RILL S                                  | 76M                | BEARS 113"                              | TRU                 | e F/                                    | ROM ANTE                                | NNA @ 28                                | METER                                      | 52                                      |   |
|               |   |                    | BOARD COMP                              |                     |   |   |   |  |   | ON 10.71                                |
| <u>e</u>      | BEA                                     | <u>eing</u> .      | 261 FROM                                | n co                | mpu                                     | τED.                                    | ····· <u>·</u> ··                       | •<br>• • • • • • • • • • • • • • • • • • • |   |   |
|               |   |                    | FOR FURT                                |                     | INST                                    | RUCTIONS                                | FROM PH                                 | ups  | PEN.                                    | io, PERT                                |
|               |   |                    | MOVENEN                                 |                     |   | ••••••                                  | · · · · · · · · · · · · · · · · · · ·   |  |   |   |
|               |   |                    | ET SELUR                                |                     | AVA                                     | 17 12/6 . RO                            | TXPORTA                                 | 4 SHORI                                    | 7 <u>,</u>                              |   |
| 2400 W/       | יאידוני                                 | ያር <i>ላ</i> .      | TRANSPOR                                | 21.,                | • | ••••••••••••••••••••••••••••••••••••••• | ••••••                                  |  | • |   |
| •             | ••••••                                  | ••••••             | •••••••••••••••••••••••                 | • • • • • • • • • • | • | •••••••••••                             | •••••••••••                             |  | •••••                                   |   |
| ·····         | •••••                                   | ••••••             | • | ••••••              |   | **************                          | ••••••••••••••••••••••••••••••••••••••• |  | •••••                                   |   |
| Mobile        |   |                    |   |                     |   |   |   |  |   |   |
| perators K    | - J.                                    | MULI               | ~0 Y                                    |                     |   |   | العدار الراجر                           |  |   |   |
|               | • |                    | ••••••                                  |                     | Party<br>Chief                          | *******                                 | SHO                                     | -19-                                       |   |   |
| orm N-1A      |   |                    | SEE INS                                 | TRUCT               | IONS O                                  | N REVERSE                               |   |  |   |   |

| roject   | 1419       | Date                                    | Lu M                                    | AY 1983                                 | ્રિયું.<br><del>Boa</del> t .           | DIAN                                    | M Cra                                   | EPOLH P            | arty Ri                                 | 6 Loc                                   | 97,02    |
|----------|------------|---|---|---|---|---|---|--------------------|---|---|----------|
| physica  | al         | N, A                                    | e                                       |   | Oil<br>Compa                            | any                                     | PHILLIPS                                | PET.Co.F           | ladio<br>requency                       | 7840                                    | )        |
| ountry A | usted L    | A                                       | Area/<br>Prosper                        | OFFSHORE GI                             | PPSLA                                   | <b>~</b> ⊅ s                            | tepback                                 | /. A - S           | hot Point<br>nterval                    | N.A.                                    |          |
| obile    |            | DUENC.                                  |   | INTERROGAT                              |   |   | MONITOR                                 | AMPLIFIE           |   |   | A SYSTEM |
| ation    | 72         |   |   |   |   |   |   |                    |   |   |          |
|          |            |   |   |   |   |   | ATIONS                                  |                    |   |   |          |
| -        | Position   |   |   | Operator                                | Freque                                  | ency                                    | Beacon                                  | Amplifier          | . Code                                  | 2                                       | Delay    |
|          |            |   |   |   |   |   |   |                    | ·                                       |   |          |
|          |            |   |   |   |   |   | - ···                                   |                    |   |   |          |
| <b>-</b> |            |   |   |   |   |   |   |                    |   |   | •,*      |
|          |            |   |   |   |   |   |   |                    |   |   |          |
|          |            |   |   |   | OP                                      | ERAT                                    | ING,TIME                                |                    |   |   |          |
| Time     | On         | Tir                                     | ne Off                                  | Request                                 | ed By                                   |   | System U                                | sed For            |   |   |          |
|          |            |   |   |   |   |   |   |                    |   |   |          |
|          |            |   |   |   | •                                       |   |   |                    |   |   |          |
|          |            |   |   | :                                       |   |   |   |                    |   |   |          |
|          |            |   |   |   |   |   |   |                    |   |   |          |
| р/Т.В    | equested   | B <sub>V</sub>                          |   |   |   | <del></del>                             | Total Syst                              | tem - Hours Operat | ion for Cli                             | ent                                     | <u> </u> |
|          |            |   |   |   |   | 1.05                                    | T TIME                                  | Trouis Operat      |   |   |          |
| From     | , T        | T                                       | o                                       | Hours Lost                              | T                                       |   |   | Reason(s)          | ·····                                   | ·                                       |          |
|          |            |   |   |   |   |   |   |                    |   |   |          |
|          |            |   |   |   |   |   |   |                    |   |   |          |
|          |            |   |   |   |   |   |   |                    | •-                                      | ·                                       |          |
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# APPENDIX B THE MAXIRAN RADIOPOSITIONING SYSTEM

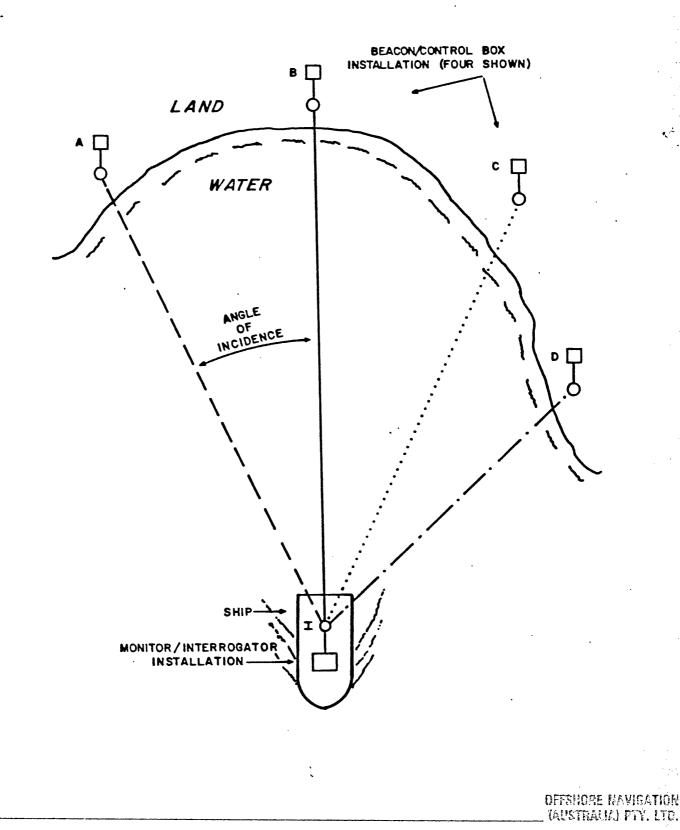
#### I. THE MAXIRAN RADIOPOSITIONING SYSTEM

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 onshore. 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 onshore.

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

#### FIGURE-I. TYPICAL MAXIRAN SYSTEM



#### I. THE MAXIRAN RADIOPOSITIONING SYSTEM (continued)

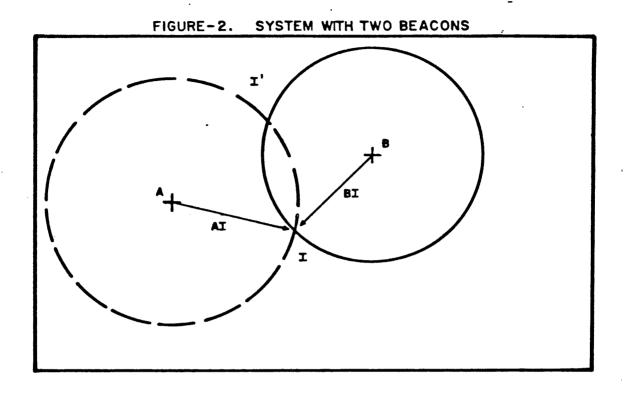
Beacon, it responds by transmitting a radio signal reply. The Monitor measures the amount of time elapsed between the Interrogator's transmission and the received reply sent by the Beacon. Since, for all practical purposes, radio signals travel at a known speed, the time elapsed between transmission 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. 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.

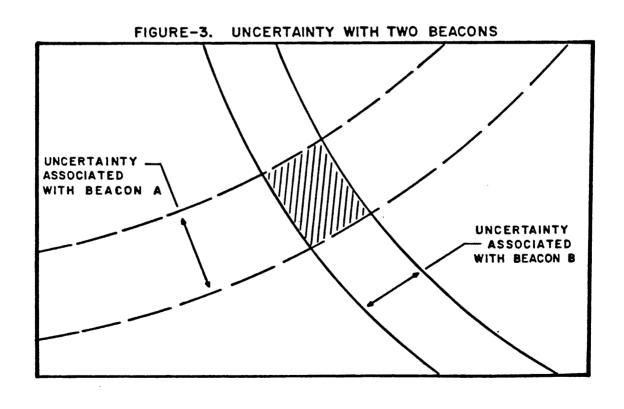
For the purposes of this discussion, let us first assume that only two Beacons are being utilized. They are the Beacons marked "A" and "B" in Figure 1. Since the distance from Beacon "A" to the Interrogator (call it distance Al), and the distance from Beacon "B" to the Interrogator (call it distance Bl) 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 Al and Bl define two intersecting circles, one with a radius of length Al centered about Beacon "A", the other with radius of length Bl centered about Beacon "B". The two circles intersect at two points (marked I and I' in Figure 2). Obviously, the ship can only be located at one of the 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 plusor-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.





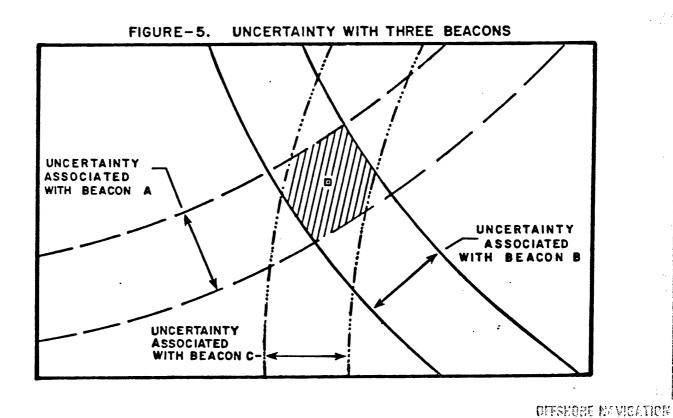
OFFSHORE HAVIGATION (AUSTRALIA) PTV. LTD.

#### 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 Cl), defines a circle of radius length CI 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 isn't any 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



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#### I. THE MAXIRAN RADIOPOSITIONING 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.

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