



Geomex Surveys

230001

T/19P
Part 13

GEOPHYSICAL SERVICE INCORPORATED

REPORT

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23 JUN 1986			
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5964/86			

ON

PROVISION OF NAVIGATION SYSTEM

FOR

SEISMIC SURVEYS

IN

BASS STRAIT

AUSTRALIA

Dated: January 1985

Report No. K100/86/GSI

TPR OR_0214A

TABLE OF CONTENTS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PAGE NO.</u>
1	INTRODUCTION	1
2	PERSONNEL, EQUIPMENT & LOGISTICS SUPPORT	
	2.1 Personnel	2
	2.2 Equipment	3
	2.3 Logistics Support	4
3	CHRONOLOGICAL RECORD OF EVENTS	5
4	SURVEY METHODS AND PROCEDURES	
	4.1 Syledis Positioning System and Calibration	11
	4.2 Argo Positioning and Calibration	15

APPENDICES

- 1 : Syledis Calibration Results
- 2 : Station Descriptions

LIST OF FIGURES

230003

FIGURE NO.

TITLE

PAGE NO.

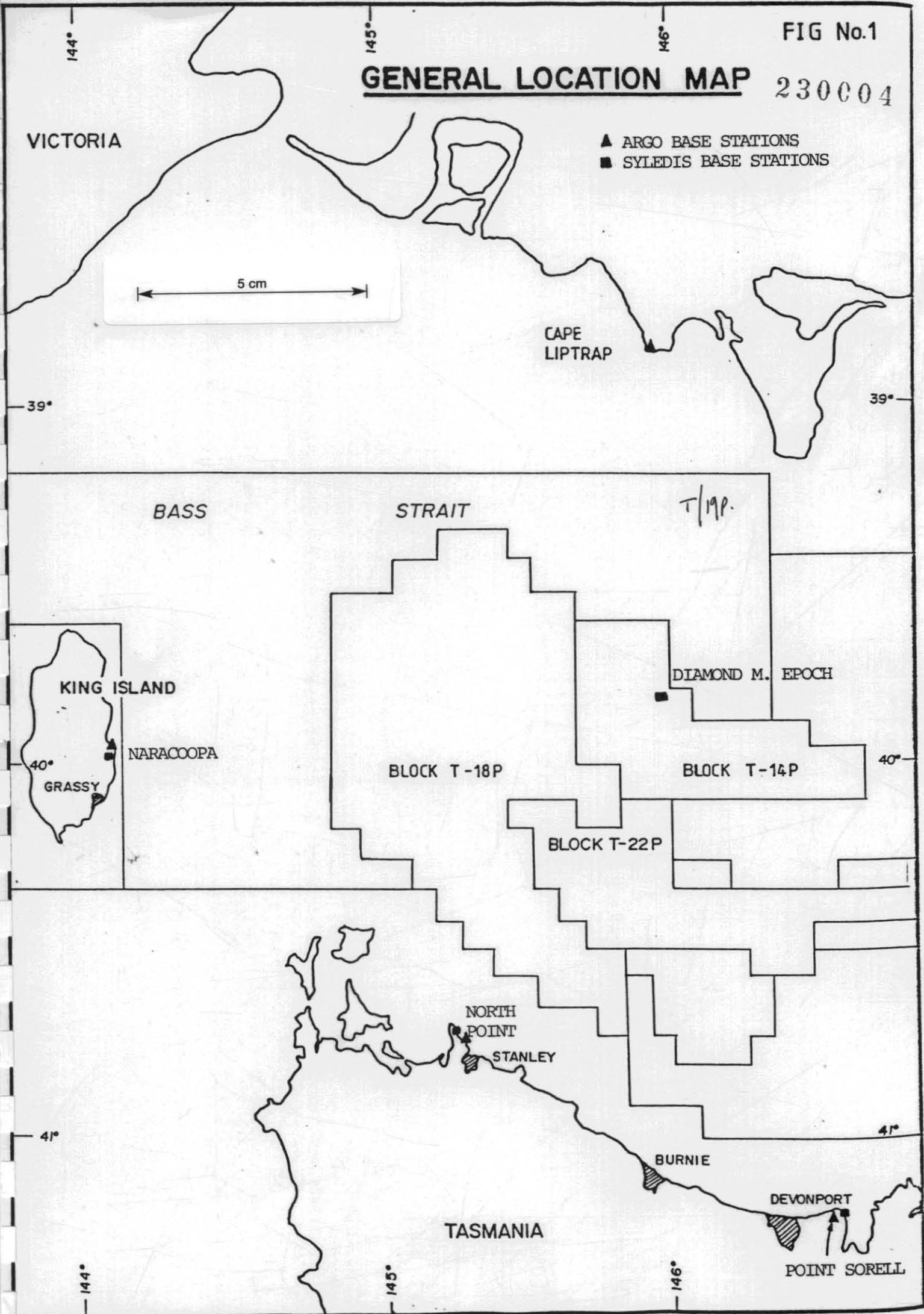
1

GENERAL LOCATION MAP

Frontispiece

GENERAL LOCATION MAP

230004



1 INTRODUCTION

GEOMEX SURVEYS (AUSTRALIA) PTY. LTD. was contracted by GEOPHYSICAL SERVICE INC., to provide navigation for the "M/V Eugene McDermott" while conducting seismic surveys for AMOCO AUSTRALIA PETROLEUM COMPANY and BRIDGE OIL in the Bass Strait, Australia.

ARGO and SYLEDIS positioning systems were provided for this work and installed during the period 30th September 1985 to 5th October 1985, with one (1) station on King Island, two (2) on the north coast of Tasmania, and one (1) on the Victorian coast; a fifth Syledis station was also installed on the drilling rig "Diamond M. Epoch" over AMOCO's 'Tilana' location. The mobile equipment was installed onboard the vessel in Devonport on 6th October 1985, and upon completion of the survey was de-rigged from the vessel on 26th November 1985.

PERSONNEL, EQUIPMENT AND LOGISTICS SUPPORT2.1 Personnel

The following personnel were engaged on this project:

P. Young : Mobile Operator
J. Cram : Logistics Manager
B. Mason : Base Station Operator (Pt. Sorell)
3rd - 9th October 1985
R. Harris : Base Station Operator (Pt. Sorell)
9th October - 2nd December 1985
T. Moore : Base Station Operator (North Point)
B. Gray : Base Station Operator (Naracoopa)
B. Hassett : Base Station Operator (Liptrap).

2 PERSONNEL, EQUIPMENT & LOGISTICS SUPPORT (Cont'd)2.2 Equipment

The following equipment was employed on this project:

Syledis Navigation System comprising:

- Mobiles : Two - Syledis mobiles S/N 235 and 236.
 Two - omni-antennae
 Two - Syledis 10 m. co-oaxial cables
 - Syledis spares, power supplies, etc.
 - Syledis test box.
- Beacons : Six - Syledis beacons S/N 598, 726, 440,
 462, 118 and 601.
 Three- Omni-antennae
 Six - Sets of GSI yagi antennae
 Three- Syledis 10 m. co-axial cables
 Six - GSI antenna commutator units
 - Tower sections, batteries, battery
 chargers
 - Spares, etc.

Argo Positioning System comprising:

- Mobiles : Two - Range processing units
 Two - Control and display units
 Two - Antenna loading units
 One - Power supply unit
 Two - Shakespeare antennae
 Two - Sets of cables and antennae
 One - S.S.B. radio
 One - Digital printer
 Two - Chart recorders
- Beacons : Five - Range processing units
 Five - Antenna loading units
 Four - 100 ft. tower assembly system
 Four - 100 ft earth mats
 Five - SSB radios
 Five - Sets of cables and connectors
 - Tower sections, generators, etc.
 - Batteries, battery chargers
 - Camping equipment.

2 PERSONNEL, EQUIPMENT & LOGISTICS SUPPORT (Cont'd)2.3 Logistics Support

The vessel "M/V Eugene McDermott" from which the seismic survey was conducted, provided accomodation for the Mobile Operator.

The GEOMEX SURVEYS representative in Devonport and the base station operators provided on-shore logistics support with the overall project co-ordination and back-up support being provided by the GEOMEX SURVEYS base in Perth.

CHRONOLOGICAL RECORD OF EVENTSSunday 29th September 1985 - Tuesday 1st October 1985

Calibration of Syledis system performed from Mersey Bluff to Point Sorell.

Wednesday 2nd October - Sunday 6th October 1985

Surveying-in of stations at Cape Liptrap and North Point.

Erection of Syledis and Argo base stations.

Monday 7th October 1985

00.15 Survey vessel departs Devonport for survey area.

04.00 Commenced baseline crossings and Argo calibration.

Tuesday 8th October 1985

16.20 Completed baseline crossings and Argo calibration.

Wednesday 9th October 1985

22.50 Commenced survey for AMOCO AUSTRALIA PETROLEUM COMPANY.

Thursday 10th October 1985

Continue survey.

Friday 11th October 1985

23.30 Survey halted due to weather conditions.

Saturday 12th October 1985

09.45 Re-commenced survey.

Sunday 13th October 1985

Continue survey.

Monday 14th October 1985

Continue survey.

230010

3 CHRONOLOGICAL RECORD OF EVENTS (Cont'd)

Tuesday 15th October 1985

Continue survey.

Wednesday 16th October 1985

Continue survey.

Thursday 17th October 1985

Continue survey.

Friday 18th October 1985

Continue survey.

Saturday 19th October 1985

00.01 Survey halted due to weather conditions.

10.00 Re-commenced survey.

Sunday 20th October 1985

Continue survey.

Monday 21st October 1985

21.33 Survey halted.

23.33 Commenced steaming to Devonport.

Tuesday 22nd October 1985

05.33 Arrived in Devonport for crew change.

20.45 Vessel departs Devonport for survey area.

Wednesday 23rd October 1985

07.00 Re-commenced survey.

22.00 Survey halted due to weather conditions.

Thursday 24th October 1985

23.30 Re-commenced survey.

Friday 25th October 1985

Continue survey.

Saturday 26th October 1985

Continue survey.

Sunday 27th October 1985

Continue survey.

Monday 28th October 1985

Continue survey.

Tuesday 29th October 1985

Continue survey.

Wednesday 30th October 1985

12.00 Survey halted due to weather conditions.

Thursday 31st October 1985

21.00 Re-commenced survey.

Friday 1st November 1985

Continue survey.

Saturday 2nd November 1985

Continue survey.

Sunday 3rd November 1985

23.30 Survey halted to repair streamer.

Monday 4th November 1985

01.30 Re-commenced survey.

3 CHRONOLOGICAL RECORD OF EVENTS (Cont'd)Tuesday 5th November 1985

23.00 Survey halted, vessel steaming for Devonport.

Wednesday 6th November 1985

07.30 Vessel arrives in Devonport.

08.45 Vessel departs Devonport for survey area.

24.00 Re-commenced survey.

Thursday 7th November 1985

12.00 Survey halted due to weather conditions.

Friday 8th November 1985

22.00 Re-commenced survey.

Saturday 9th November 1985

23.00 Survey halted to repair streamer.

Sunday 10th November 1985

02.40 Re-commenced survey.

Monday 11th November 1985

Continue survey.

Tuesday 12th November 1985

Continue survey.

Wednesday 13th November 1985

Continue survey.

Thursday 14th November 1985

Continue survey.

Friday 15th November 1985

Continue survey.

3 CHRONOLOGICAL RECORD OF EVENTS (Cont'd)Saturday 16th November 1985

- 11.22 Survey completed for AMOCO AUSTRALIA PETROLEUM COMPANY.
12.40 Vessel steaming for Devonport.
19.30 Vessel arrives in Devonport.

Sunday 17th November 1985

- 05.00 Vessel departs Devonport for BRIDGE OIL prospect.
21.10 Vessel arrives at survey area; work done on streamer.

Monday 18th November 1985

- 12.00 Commenced survey for BRIDGE OIL.

Tuesday 19th November 1985

Continue survey.

Wednesday 20th November 1985

Continue survey.

Thursday 21st November 1985

Continue survey.

Friday 22nd November 1985

Continue survey.

Saturday 23rd November 1985

- 05.00 Completed survey for BRIDGE OIL.
07.30 Vessel underway to AMOCO prospect.
09.30 Commenced AMOCO survey.

Sunday 24th November 1985

Continue survey.

230014

3 CHRONOLOGICAL RECORD OF EVENTS (Cont'd)

Monday 25th November 1985

- 11.55 Survey completed.
- 21.25 Vessel steaming for Devonport.

Tuesday 26th November 1985

- 05.40 Vessel arrives in Devonport.
- 06.30 Commenced demobilisation.
- 12.00 Completed demobilisation.

SURVEY METHODS AND PROCEDURES4.1 Syledis Positioning System and Calibration4.1.1 Mode of Operation

SYLEDIS B is a medium range radio positioning system operating between the frequencies of 420 to 450 MHz with a bandwidth of ± 1.25 MHz at 99% power. The means by which the ranges are achieved is through measurement of time between the transmission code emitted by the mobile and the received code at the mobile from the beacons. Short, low powered pulses of a Pseudo Random code are transmitted over a time period, each cycle corresponding to a distance of 10 km.

All beacons receiving this code then re-transmits a signal from its code generator which after correlation, is similiar to that of the mobile. Range measurement occurs when the interrogation and the received signal are measured in time on a given format slot for that beacon after synchronisation has taken place.

Delays, due to components, may be compensated for in either the mobile electronic circuits or in the computer software.

The Syledis chain provided, comprised two (2) mobiles and six (6) beacons, tuned to the frequency of 427 MHz.

230016

4

SURVEY METHODS AND PROCEDURES

4.1 Syledis Positioning System and Calibration (Cont'd)

4.1.2 Calibration

The calibration of the Syledis Navigation system was performed over a distance of 15197.2 m. between the surveyed stations at Point Sorell and Mersey Bluff on 29th September 1985.

Each beacon was calibrated with its co-axial (10 m. long) cable, yagi antenna and commutator. For details of this calibration see Appendix 1.

230017

4 SURVEY METHODS AND PROCEDURES4.1 Syledis Positioning System and Calibration (Cont'd)4.1.3 Base Station Data

The Syledis beacons were erected at the following surveyed points:

(a) Point Sorell

Latitude : 41° 07' 24.73" South
 Longitude : 146° 31' 41.93" East
 Easting : 460 404.43 m.
 Northing : 5 447 406.07 m.
 Height : 30 m.

(b) North Point

Latitude : 40° 42' 51.40" South
 Longitude : 145° 15' 31.31" East
 Easting : 352 919.23 m.
 Northing : 5 491 486.24 m.
 Height : 5.5 m.

(c) Naracoopa

Latitude : 39° 55' 29.95" South
 Longitude : 144° 07' 39.47" East
 Easting : 254 528.10 m.
 Northing : 5 576 602.42 m.
 Height : 56.0 m.

(d) Cape Liptrap

Latitude : 38° 53' 35.43" South
 Longitude : 145° 56' 51.54" East
 Easting : 408 736.90 m.
 Northing : 5 694 536.48 m.
 Height : 113.6 m

4.1 Syledis Positioning System and Calibration4.1.3 Base Station Data (Cont'd)(e) Diamond M.

Latitude : 39° 53' 36.53" South
 Longitude : 145° 58' 37.08" East
 Easting : 412 537.49 m.
 Northing : 5 583 549.10 m.
 Height : 30.0 m.

Note: All coordinates refer to the following:

Spheroid : Australian National
 Datum : Australian Geodetic
 Projection : U.T.M. (Zone 55)
 Central Meridian : 147° East
 Rectangular Co-ordinates : Australian Map Grid (in m.)
 Heights : In metres on the Australian
 Height Datum.

4.2 Argo Positioning System and Calibration

4.2.1 Mode of Operation

ARGO DM-54 is a long range radio positioning system operating between the frequencies of 1600 and 2000 KHz. The system determines the range (in lanes) of the mobile station from each of the co-ordinated base stations by measurement of fractional lane distances and accumulation of whole lane counts. The fractional lane distances are determined by measuring the phase difference between RF signals transmitted by the mobile station and received from the base station. The mobile station initiates the basic ranging process by transmitting a pulse of RF energy (Interrogation Burst). The fixed stations receive this signal, correct the phase to that of the original transmission, and broadcast in sequence a pulse of RF energy (Reply Burst). These pulses are received by the mobile station, and the phases of these signals are compared to the phase of that originally broadcast. This phase difference (delay) is used in the computations to determine the whole lane count. A weighted average of fractional values is used to determine when a whole lane value should be changed.

The ground wave component of the high frequency (HF) transmission utilised by the ARGO system enables measurement beyond the optical horizon. Operational ranges up to 400 nm can be expected during daytime hours. Maximum usable range decreases during night time hours due primarily to changing atmospheric conditions and increased skywave interference to the ground wave signals.

SURVEY METHODS AND PROCEDURES

4.2 Argo Positioning System and Calibration

4.2.1 Mode of Operation (Cont'd)

Range accuracy is quoted by the manufacturer at 0.05 lanes, achievable field accuracy. The lane width typically varies from 75 to 94 m. depending on frequencies used and propagation velocity. For this survey it was 88.0347 m.

4 SURVEY METHODS AND PROCEDURES

4.2 Argo Positioning System and Calibration (Cont'd)

4.2.2 Calibration

The Argo chain was calibrated by means of successive and repetitive comparisons between the Argo and Syledis ranges received from Point Sorell, North Point, Naracoopa and Cape Liptrap.

With a velocity of propagation of 299670 km/sec, and an operating frequency of 1.702 MHz, a lane width of 88.0347 metres was calculated and the partial lane counts were observed:

Point Sorell	:	0.75 lane
North Point	:	0.69 lane
Naracoopa	:	0.41 lane
Cape Liptrap	:	0.49 lane.

4 SURVEY METHODS AND PROCEDURES (Cont'd)

4.2 Argo Positioning System and Calibration (Cont'd)

4.2.3 Base Station Data

The four shore/base stations were located at the following surveyed locations:

(a) Point Sorell

Latitude : 41° 07' 23.63" South
 Longitude : 146° 31' 42.35" East
 Easting : 460 414 m.
 Northing : 5 447 440 m.
 Height : 30 m.

(b) North Point

Latitude : 40° 42' 52.15" South
 Longitude : 145° 15' 30.28" East
 Easting : 352 895.49 m.
 Northing : 5 491 462.76 m.
 Height : 5 m.

(c) Naracoopa

Latitude : 39° 55' 29.05" South
 Longitude : 144° 07' 39.04" East
 Easting : 254 517 m.
 Northing : 5 576 630 m.
 Height : 56 m.

(d) Cape Liptrap

Latitude : 38° 53' 35.54" South
 Longitude : 145° 56' 53.90" East
 Easting : 408 781.82 m.
 Northing : 5 694 533.67 m.
 Height : 114 m.

4.2 Argo Positioning System and Calibration

4.2.3 Base Station Data (Cont'd)

NOTE: All co-ordinates refer to:

Spheroid	:	Australian National
Datum	:	Australian Geodetic
Projection	:	U.T.M. (Zone 55)
Central Meridian	:	147° East
Heights	:	In metres on the Australian Height Datum.

230024

APPENDIX 1

SYLEDIS CALIBRATION RESULTS

Mobile 235 + 10 m. cable & antenna

Beacon	Code	Location	Raw Range	True Distance	Delay
580	02	Spare	15446.6 m.	15197.2 m.	249.4 m.
598	03	North Point	15448.5 m.	15197.2 m.	251.3 m.
726	04	Naracoopa	15436.8 m.	15197.2 m.	239.6 m.
440	05	Cape Liptrap	15442.6 m.	15197.2 m.	245.4 m.
462	07	Point Sorell	15446.1 m.	15197.2 m.	248.9 m.
426	06	Diamond M	15435.1 m.	15197.2 m.	237.9 m.

Mobile 236 + 10 m. cable & antenna

Beacon	Code	Location	Raw Range	True Distance	Delay
580	02	Spare	15441.7 m.	15197.2 m.	244.5 m.
598	03	North Point	15445.2 m.	15197.2 m.	248.0 m.
726	04	Naracoopa	15432.8 m.	15197.2 m.	235.6 m.
440	05	Cape Liptrap	15438.6 m.	15197.2 m.	241.4 m.
462	07	Point Sorell	15442.1 m.	15197.2 m.	244.9 m.
426	06	Diamond M	15430.4 m.	15197.2 m.	233.2 m.

230026

APPENDIX 2

STATION DESCRIPTIONS

STATION:

GEOMEX NO. 1 and GEOMEX NO. 2

230027

LOCATED:

Cape Liptrap.

The stations are located approximately 2 kilometres east of the Cape Liptrap Lighthouse which is situated 45 kilometres from the township of Tarwin Lower, Victoria, Australia.

The station's site is 110 metres above sea level and surrounded on three sides by the sea. The only vegetation on the site is low grass which is used for the grazing of stock animals.

The most direct route to the site is to travel southeast from Tarwin Lower on the Tarwin Lower - Walkerville Road. After about 40 kilometres there is a turn off to the right which is unsealed and signposted to Cape Liptrap Lighthouse. Follow this road for about 5 kilometres whence there is a property access road to the left. The station site is located about 1 kilometre along this access road on the headland overlooking the sea.

The site is accessible by any type of vehicle by following this route. Permission to enter must be obtained from the property owner, Mr. Bill Bray (telephone number 056-632265).

MARKER:

The station markers consist of driven starpickets set in concrete. The concrete is inscribed "Geomex No. 1 and Geomex No. 2" respectively.

GENERAL:

Local labour, food, fuel, oil and drinking water can be obtained from the nearest township of Tarwin Lower. As the site is very much exposed, rain and wind mainly from the west and east will be the main source of discomfort experienced on the site.

STATION: GEOMEX NO. 1 and GEOMEX No. 2 (Cont'd)

CO-ORDINATES: The stations were surveyed in from the Australian Triangulation Station No. 00146 located near the intersection of the Cape Liptrap - Tarwin Lower Roads.

Geomex No. 1

Latitude : 38° 53' 36.024" South
 Longitude : 145° 56' 53.272" East
 Easting : 408 778.815 m.
 Northing : 5 694 518.719 m.
 Height : 113.865 m.

Geomex No. 2 (Syledis Station)

Latitude : 38° 53' 35.433" South
 Longitude : 145° 56' 51.541" East
 Easting : 408 736.896 m.
 Northing : 5 694 536.482 m.
 Height : 113.638 m.

Argo Station

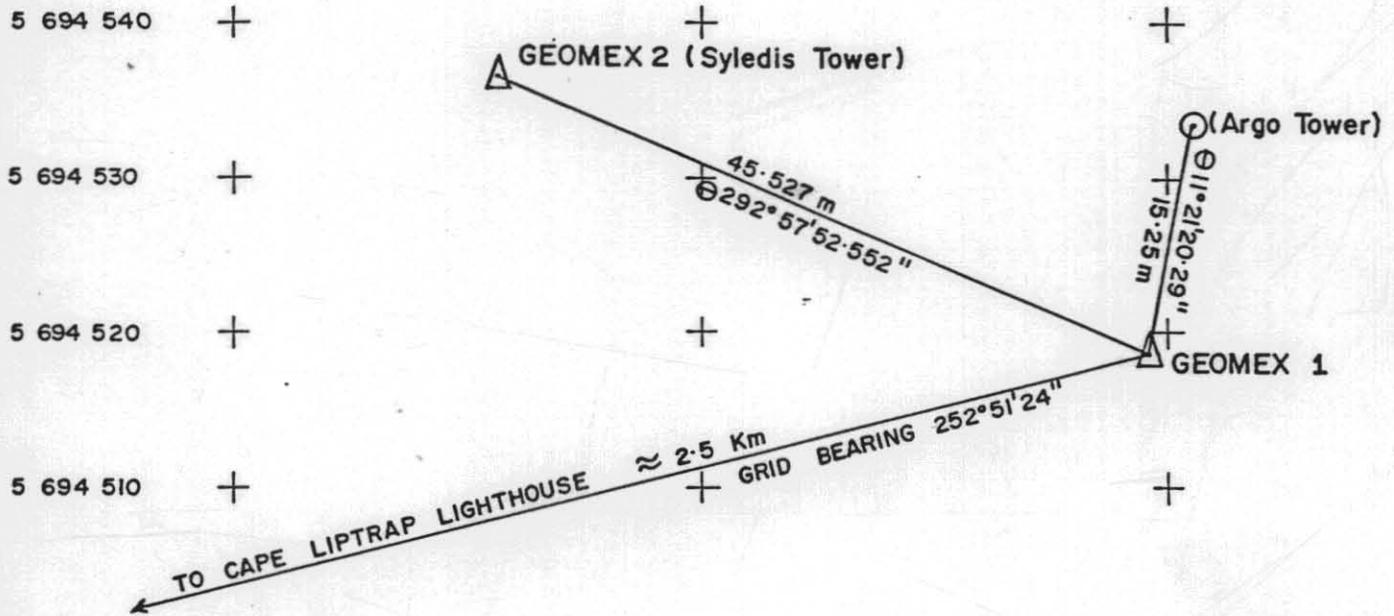
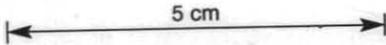
Latitude : 38° 53' 35.541" South
 Longitude : 145° 56' 53.404" East
 Easting : 408 781.818 m.
 Northing : 5 694 533.670 m.
 Height : 114.705 m.

NOTE: All co-ordinates refer to:-

Spheroid : Australian National
 Datum : Australian Geodetic
 UTM Projection : Zone 55
 Central Meridian : 147° East
 Rectangular
 Co-ordinates : Australian Map Grid (in metres)
 Height : In metres above the Australian
 Height Datum

STATION DETAILS

230029



	<u>GEOMEX 1</u>	<u>GEOMEX 2</u>	<u>ARGO TOWER</u>
EASTING	408778.815 m	408736.896 m	408781.818 m
NORTHING	5694518.719 m	5694536.482 m	5694533.670 m
LATITUDE	38° 53' 36.024" South	38° 53' 35.433" South	38° 53' 35.541" South
LONGITUDE	145° 56' 53.272" East	145° 56' 51.541" East	145° 56' 53.404" East
HEIGHT	113.865 m	113.638 m	114.705 m

U.T.M. PROJECTION

ZONE 55. C.M. 147° E

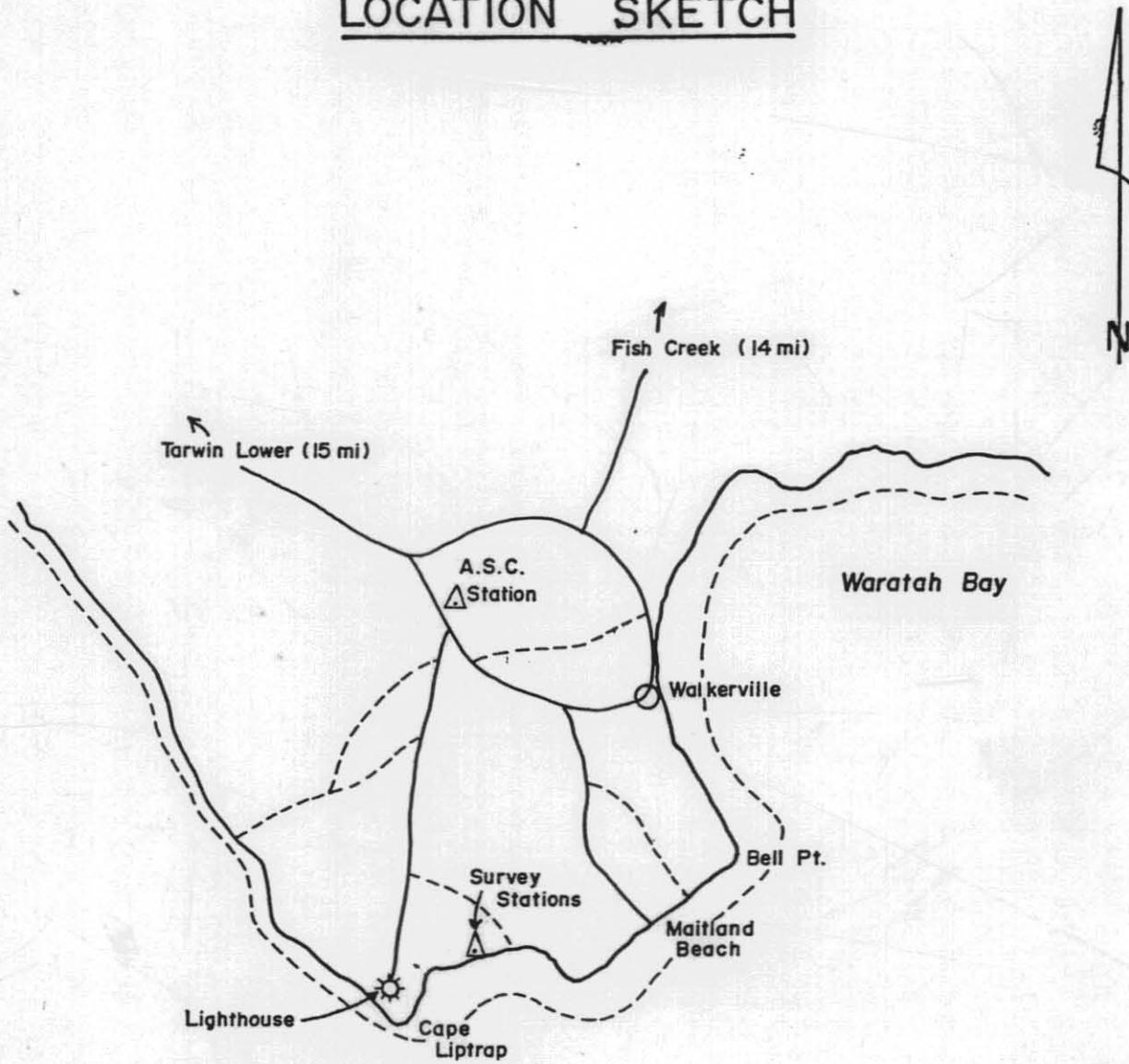
AUSTRALIAN GEODETIC DATUM.

408 720

408 750

408 780

LOCATION SKETCH



STATION: NORTH POINT

230031

LOCATION: The station is located near the township of Stanley, Circular Head, Tasmania, Southern Australia.

ACCESS: From Devonport head west along the Bass Highway for approximately two hours. Turn right towards Stanley and head towards the very obvious hill (The Nut). On reaching the township of Stanley turn left 50 m. before the B.P. Garage, then left again at the Union Hotel. Follow this road along the coast, towards the lighthouse. There is only one access track to the station. Use the diagram from here. From the Union Hotel the distance to the station is 8.6 km.

MARKERS: There are three (3) markers on the site:

- (1) GEOMEX 10/85 - 320 mm. block of concrete inscribed "GEOMEX 10/85" with a star picket protruding 1" above the concrete.
- (2) SYLED GEOMEX 10/85 - 240 mm block of concrete inscribed "GEOMEX 10/85"
- (3) ARGO 10/85 - 270 mm. block of concrete inscribed "ARGO 10/85".

GENERAL: A caravan is recommended for this site. Access can be made by 2 wheel-drive vehicle for most of the year except after heavy rains.

Food, fuel, water, etc. may be obtained from Stanley.

Permission to occupy the site must be obtained from Mr. David Bruce (tel: 004-581321). The local Ranger, Mr. Brian Carson (tel: 004-581320) has proved very useful in obtaining local labour and for general assistance.

STATION: NORTH POINT (Cont'd)

CO-ORDINATES: GEOMEX 10/85

Latitude: 40° 42' 50.472" South
Longitude: 145° 15' 31.329" East
Easting: 352 919.11 m.
Northing: 5 491 514.85 m.
Height: 5.5 m.

SYLED GEOMEX 10/85

Latitude: 40° 42' 51.396" South
Longitude: 145° 15' 31.313" East
Easting: 352 919.30 m.
Northing: 5 491 486.36 m.

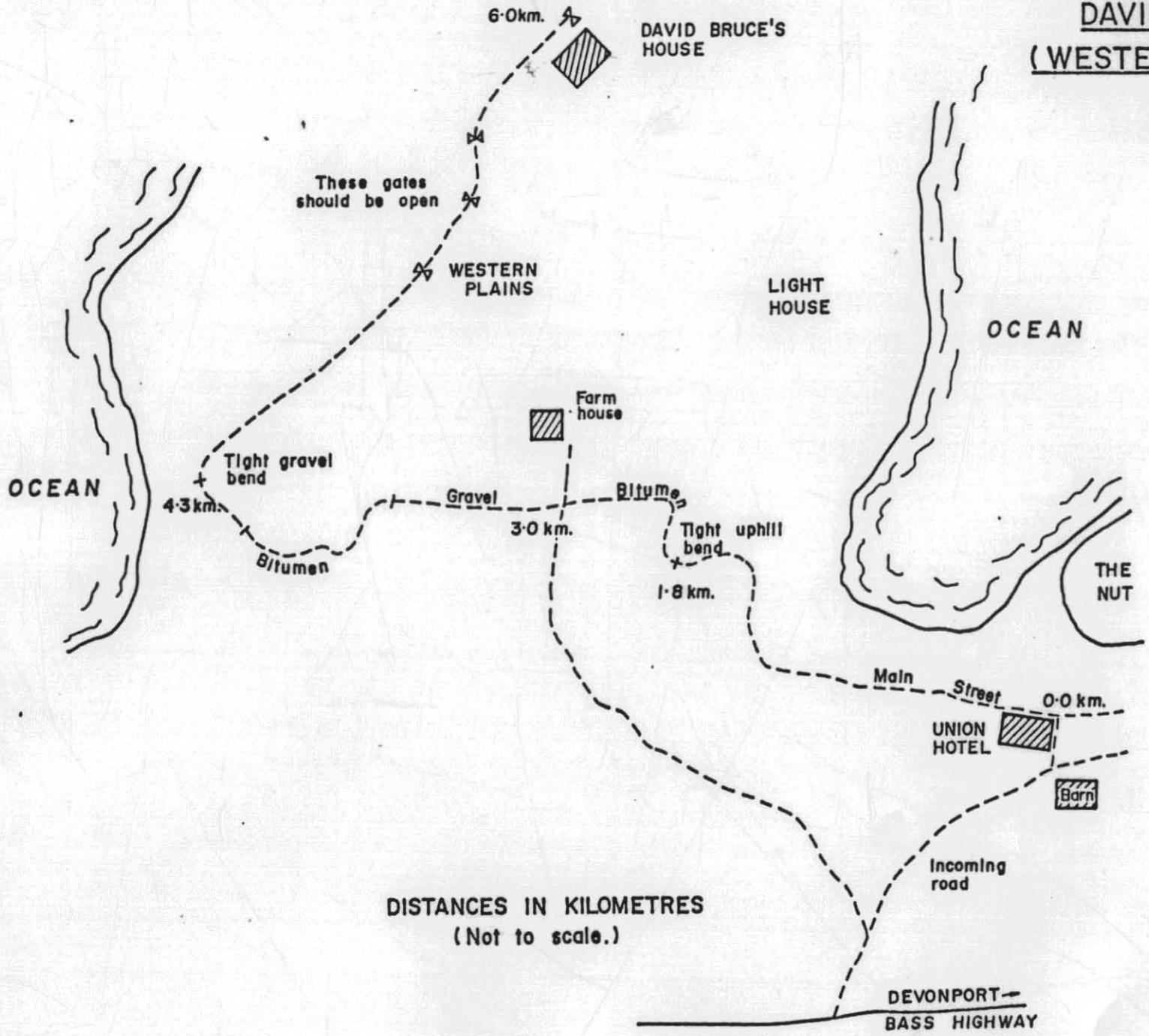
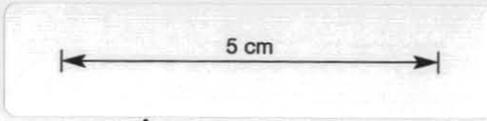
ARGO 10/85

Latitude: 40° 42' 52.146" South
Longitude: 145° 15' 30.279" East
Easting: 352 895.49 m.
Northing: 5 491 462.76 m.

All co-ordinates refer to:

Spheroid	:	Australian National
Datum	:	Australian Geodetic
UTM Projection	:	Zone 55
Central Meridian	:	147° East
Rectangular Co-ordinates	:	Australian Map Grid (in m.)
Heights	:	In metres above the Australian Height Datum.

ACCESS DIAGRAM TO
DAVID BRUCE'S PROPERTY
(WESTERN PLAINS) VIA STANLEY



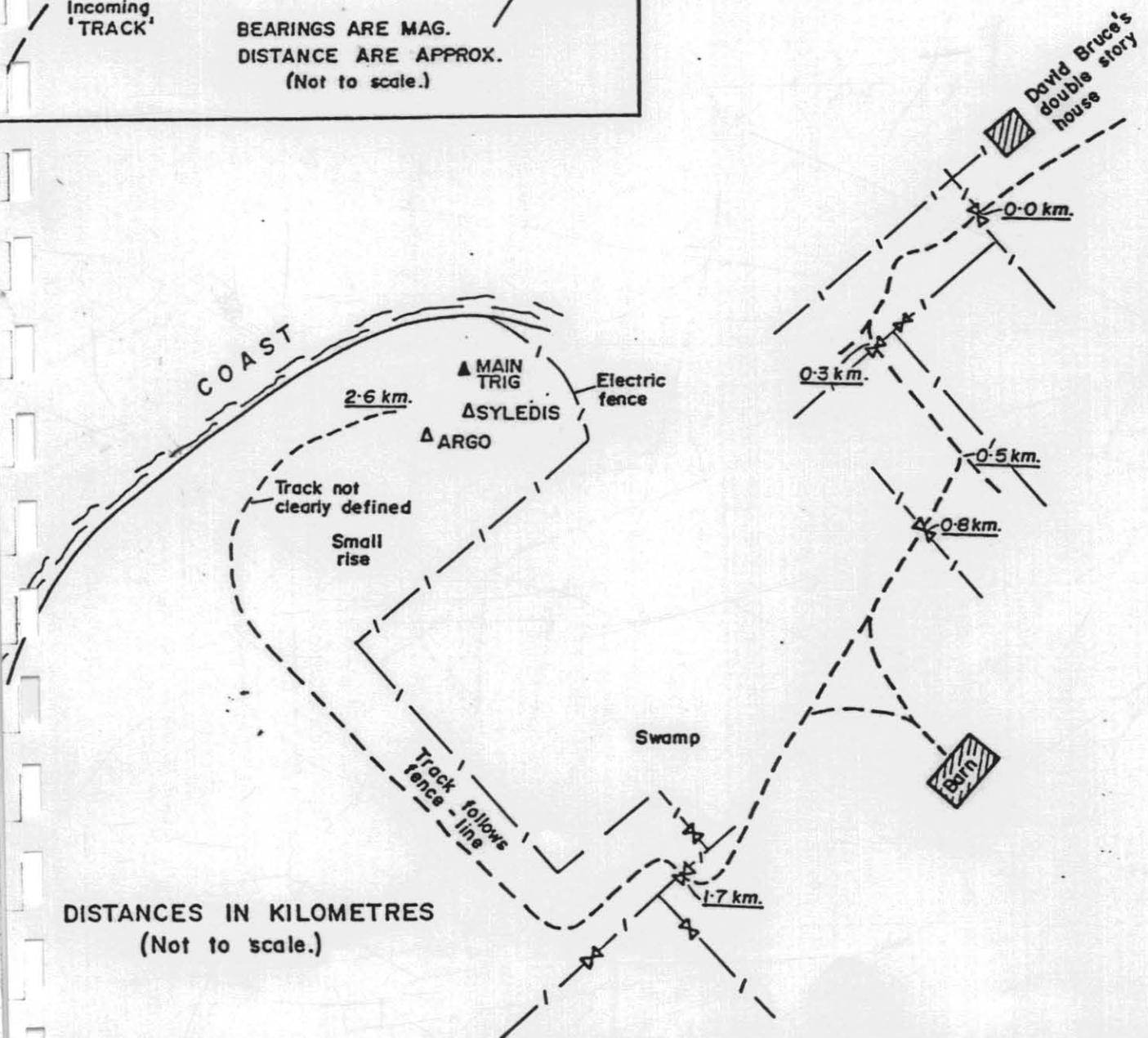
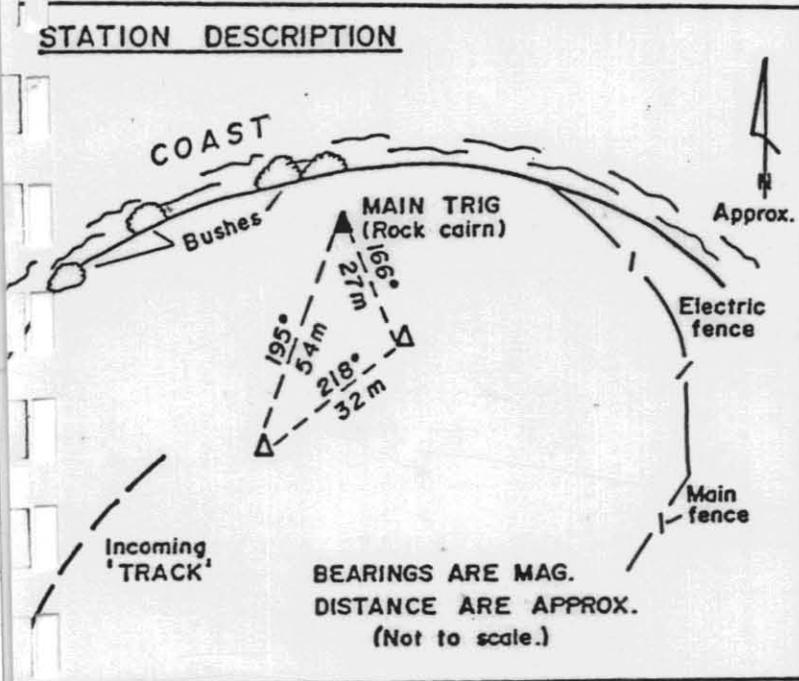
DISTANCES IN KILOMETRES
 (Not to scale.)



230033

NORTH POINT STATION
ACCESS DIAGRAM

STATION DESCRIPTION



STATION: NARACOOPA

LOCATED: Station NARACOOPA is located in the village of Naracoopa, approximately 20 km. from the town of Curry on King Island, in the Bass Strait, Southern Australia.

ACCESS: Follow the road from Curry towards Naracoopa, just before reaching Naracoopa, there is a turn-off to the right, signposted "Millbrook". Follow this road for 0.8 km. whence there is a property access to the left which is gated. Proceed through the gate and drive to the right around a small dam. The station is located in a small grass paddock on a ridge which is easily seen.

For most of the year a 4WD vehicle is required to reach the site. A tractor may be obtained to provide transport from Mr. D. Spittle (tel: 004-611206).

MARKERS: Two markers exist on the site, both consisting of brass plaques set in concrete. One plaque is inscribed "ONI Argo 1984" and the other "GSI Syledis 1984". The points are also marked with star pickets.

GENERAL: The property the stations are located on is owned by Mrs. Gail Henderson who should be contacted prior to occupying the site. She lives in Curry and as Curry is a small community, locating her is not a problem.

Assistance in establishing the station (e.g. employing local labour, etc.) may be obtained from Mr. Ian Whitehouse who also lives in Curry.

STATION: NARACOOPA (Cont'd)

GENERAL: Food, fuel, and small hardware items may be
(Cont'd) obtained from Curry. At present, a caravan is
located on the property, however, if not avail-
able there is a deserted house 175 m. from the
station which may be used as accomodation.
Contact Mrs. Henderson for details.

CO-ORDINATES: Marker "(281/150)"

Latitude: 39° 55' 27.64" South
Longitude: 144° 07' 26.23" East
Easting: 254 211 m.
Northing: 5 576 663 m.

Marker "ONI ARGO 1984"

Latitude: 39° 55' 29.05" South
Longitude: 144° 07' 39.03" East
Easting: 254 517 m.
Northing: 5 576 630 m.
Height: 55.9 m.

Marker "GSI Syledis 1984"

Latitude: 39° 55' 29.95" South
Longitude: 144° 07' 39.47" East
Easting: 254 528 m.
Northing: 5 576 603 m.
Height: 56 m.

All co-ordinates refer to:

Spheroid	:	Australian National
Datum	:	Australian Geodetic
UTM Projection	:	Zone 55
Central Meridian	:	147° East
Rectangular Co-ordinates	:	Australian Map Grid (in m.)
Heights	:	In metres above the Australian Height Datum.

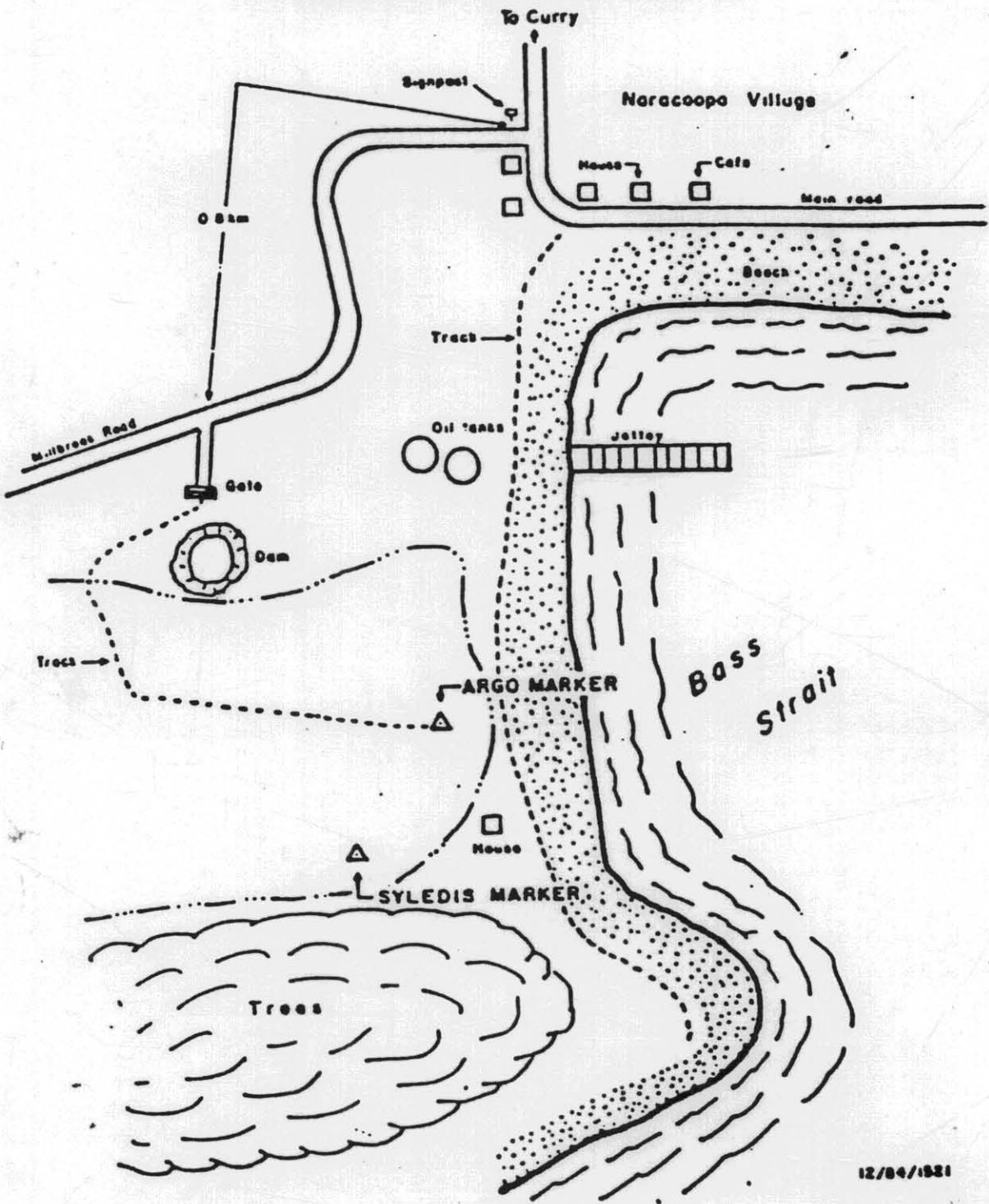
STA. NARACOOPA ————— 230037 ————— AUSTRALIA

MARKER (281/150) COORDINATES

LAT. 38°55'27".64 S
LONG. 144°07'26".23 E
ELEV. Not reported

N 5,576,663 meters
E 254,211 meters

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



5 cm

12/84/1981

STATION: POINT SORELL (ST. 517)

230038

LOCATED: The station is located on the highest point of Point Sorell, which is 4.8 km. from Hawley Beach or 26 km. from the city of Devonport, Tasmania.

The station marker is located on a point, 150 m. from the water's edge. Vegetation around the site is made up of grass, with patches of 0.5m. high tussocks.

ACCESS: Access may be by two-wheel drive type vehicle unless there has been recent rain when a four-wheel drive vehicle will be needed.

From Devonport follow the Bass Highway towards Launceston for 2 km. past the East Devonport turn-off, then turn left at the Exeter/Port Sorell turn-off. Follow this road towards Port Sorell for approximately 12 km. to an intersection located approximately 2 km. before Port Sorell. Turn left at this intersection which is signposted "Hawley Caravan Park". Follow this road to Hawley Beach until a 'T' junction is reached. Turn left at this junction, just after making this turn, turn right onto a sealed road marked "Heavy Vehicles Only". Follow this road until another 'T' junction. Turn left and follow this road for approximately 700 metres to a white wooden gate. Immediately in front of the gate the road veers to the right. Follow this road until a road leads to left which is signposed "LHC Private Road". Turn left here and follow the road for approximately 100 m., then turn to the right. Directly ahead of you should be the residence of Mr. Roger Moncrieff. Continue on this road for a further 300 m. until a locked gate is reached. Obtain a key for this gate from the property owner, or if open follow

STATION: POINT SORELL (ST 517) (Cont'd)

ACCESS: the road to a set of double gates, near the
(Cont'd) council sewage pond. The station marker can
be seen about 2 km. from these gates. Mr. Roger
Moncrieff, the station owner (tel: 004-286193),
should be contacted before attempting to occupy
the site.

MARKER: The station marker located on a hill consists of
a brass mushroom S.P.M., which is not numbered,
is set in concrete at ground level, with stones
surrounding the marker.

The Maxiran station was erected approximately
1 metre at about 270° from the station marker.
A 3 metre quadrapod is erected over the station.

GENERAL: Mr. Roger Moncrieff may be able to assist with
the provision of labour. Labour, food, fuel,
supplies etc. may be obtained in Devonport.

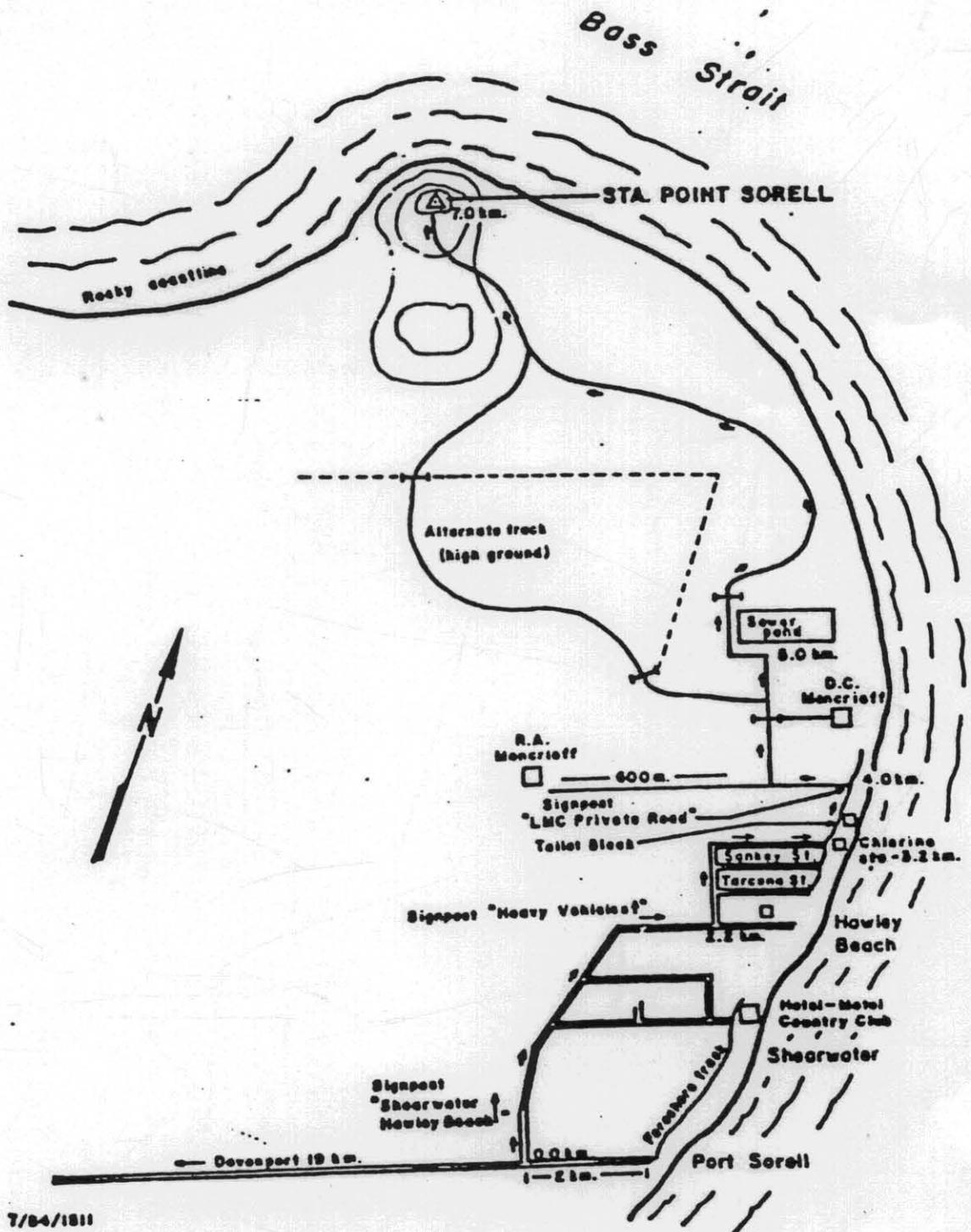
A caravan with heater is essential at this site
which may be obtained from "Devon Coastavans"
in Devonport. Although a 40 ft. tower has
been used on this station, a 20 ft. tower
should suffice.

230041

STA. POINT SORELL (ST 517) — AUSTRALIA

LAT. $41^{\circ}07'24''.69$ S N 5,447,407 meters
 LONG. $148^{\circ}31'41''.88$ E (MARKER COORDS.) E 460,403 meters
 ELEV. 30 meters

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



7/84/1811

5 cm