

Reefplan

Oil Spill Contingency Plan
for the
Great Barrier Reef

GBRMPA
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AUS

General Department of
Transport



Great Barrier Reef
Marine Park
Authority

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R E E F P L A N
OIL SPILL CONTINGENCY PLAN
FOR THE
GREAT BARRIER REEF

DEPARTMENT OF TRANSPORT
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INTRODUCTION

The grounding of the "Torrey Canyon" in 1967 generated world-wide awareness of the hazards of ship-sourced oil pollution. Within Australia, preliminary measures were taken in 1969 to establish a national oil spill contingency plan. These attempts received added impetus with the grounding of the tanker "Oceanic Grandeur" in Torres Strait in 1970. This incident not only highlighted Australia's inability to deal with large oil spills, but also focused concern on the possible effects of oil pollution on the Great Barrier Reef. The grounding of the "Straat Chatham" on Gubbins Reef in 1972 further reinforced this concern.

The National Plan to Combat Pollution of the Sea by Oil became operational on 1 October 1973. The National Plan represents a combined effort by Commonwealth and State Governments, with the assistance of the oil industry, to minimise the impact of ship-sourced oil spills on the marine environment. State Committees have been established and have the responsibility of combating marine oil pollution within areas of State jurisdiction.

The National Plan is based on the philosophy that:

- (a) oil on the sea should be left to degrade naturally unless it is causing or is likely to cause unacceptable environmental or amenity damage;
- (b) if oil pollution must be artificially abated, physical removal methods should be adopted where safe and practicable to do so;
- (c) if oil pollution must be artificially abated and physical removal methods are not safe or practicable, low toxicity dispersants should be used.

Passage of the Great Barrier Reef Marine Park Act, 1975 and subsequent proclamation of Marine Park sections has promoted widespread recognition of the need to develop oil spill contingency arrangements for the Great Barrier Reef. To this end, the REEFPLAN has been developed as a supplement to both the National Plan and the Queensland State Plan.

The specific aims and objectives of the REEFPLAN are:

Aims

- 1) To provide guidelines for an efficient, co-ordinated and effective response to oil pollution incidents in the marine environment.
- 2) To provide guidelines for systematic pre-incident planning in an effort to minimise potential damage from oil spills.
- 3) To develop guidelines, within the framework of the National Plan, for co-operation between the Commonwealth and Queensland Governments and other authorities in the operational aspects of oil spill surveillance and response.

Objectives

Specific objectives which will require development within the framework of the plan are:

- 1) Delineation of appropriate Contingency Plan Areas and identification of key authorities for the management of oil pollution incidents within the REEFPLAN Area.
- 2) Identification of sensitive areas and rank in terms of protection priorities.
- 3) Development of oil spill clean-up guidelines to minimise overall environmental damage.
- 4) Development of procedures for the protection of wild life from oil spills and the mitigation of the effects of spills on these populations.
- 5) Identification of sites for disposal of oil contaminated debris.
- 6) Provision of guidelines for environmental monitoring.
- 7) Development of this Contingency Plan in accordance with improvements in the state-of-the-art.

Organisation of REEFPLAN

The REEFPLAN is presented in two parts. The first part (Sections 1-4) provides planning information. The second part (Sections 6-10) addresses procedural and operational aspects of oil spill response within the REEFPLAN Area.

Within Section 1, the scope of the REEFPLAN and division of responsibility are outlined and Contingency Plan Areas are identified.

Section 2 presents a general overview of legislative and other arrangements relating generally to oil pollution in the REEFPLAN Area.

The nature of the oil spill threat within the REEFPLAN Area is outlined in Section 3 and possible oil pollutants are identified. Brief consideration is also given to recent oil spills in, and in the vicinity of, the REEFPLAN Area.

In an effort to streamline decision making during oil pollution incidents, environmental protection priorities are determined in Section 4. Possible onshore sites for disposal of oiled debris are also identified.

In Part Two, Operations and Procedures, organisational aspects of oil spill response are outlined in Section 5 and the roles of key personnel are defined. Details of training are also outlined.

Key personnel are identified and contact procedures are provided in Section 6.

Reporting and notification procedures are set out in Section 7, while operational aspects of the combat phase are presented in Section 8.

Section 9 addresses the termination phase and includes details on equipment return and restoration and debriefing arrangements.

Financial procedures concerning oil pollution incidents in the REEFPLAN Area and funding of training programmes are outlined in Section 10.

An extensive section of Appendixes provides supporting information to assist the response and its planning

DEFINITIONS AND ABBREVIATIONS

ADJACENT AREA - the area defined in and illustrated in Appendix I of the REEFPLAN which is immediately adjacent to the northern boundary of the Great Barrier Reef Region.

AIPECE - the Australian Institute of Petroleum Environment Conservation Executive.

AUTHORISED RELEASING OFFICER - a person who may authorise the release of stores from a National Plan stockpile depot on behalf of an Authority.

COMBAT AUTHORITY - the Authority responsible for the combat of a pollution incident.

COMMONWEALTH GOVERNMENT AUTHORITY - the Department of Transport (DOT) Central Office, or an officer nominated to act on behalf of that office.

COMMONWEALTH REGIONAL AUTHORITY - the Director of the Department of Transport, Queensland Region or an officer nominated to act on his behalf.

DHM - The Queensland Department of Harbours and Marine

DOT - The Commonwealth Department of Transport

FEDERAL SEA SAFETY AND SURVEILLANCE CENTRE (FSSSC) - the operations centre established in Canberra and manned continuously for the conduct of marine operations and coastal surveillance.

GBRMPA - the Great Barrier Reef Marine Park Authority.

GREAT BARRIER REEF REGION - that region defined in Schedule 1 of the Great Barrier Reef Marine Park Act, 1975.

MARINE AUTHORITY - the Commonwealth DOT, Queensland Department of Harbours and Marine, Harbour Boards or Port Authorities.

MARITIME SERVICES ADVISORY COMMITTEE - MARINE POLLUTION - a committee responsible for providing technical advice on matters relating to marine pollution.

MOSC - the Marine Oil Spills Committee of AIPECE.

NATIONAL PLAN TO COMBAT POLLUTION OF THE SEA BY OIL (NATIONAL PLAN) - the combined effort of the Commonwealth and State Governments and the oil industry to provide a contingency plan to combat ship-sourced oil spills in the Australian marine environment.

ON SCENE CO-ORDINATOR (OSC) - the person appointed by an Authority to take direct charge of operations to combat a pollution incident.

ON SCENE SPILL MODEL (OSSM) - an interactive computer program which may be used to assist with the prediction of oil slick movement.

POLLUTION INCIDENT - an actual, potential or suspected ship-sourced oil discharge in the marine environment.

POLREP - a report from any source of a possible or confirmed pollution incident.

PRIME RESPONSIBILITY - the responsibility held by the Authority having statutory powers in the area in which the incident occurs, or where several Authorities have statutory powers, as agreed within this plan.

QNPWS - Queensland National Parks and Wildlife Service.

QUEENSLAND STATE PLAN - a regional contingency plan prepared by the State Committee which supplements the National Plan Operations and Procedures Manual.

REEFPLAN - the Oil Spill Contingency Plan for the Great Barrier Reef Region and Adjacent Area.

REEFPLAN Area - the Great Barrier Reef Region and Adjacent Area as defined in Appendix I of the REEFPLAN.

SCIENTIFIC SUPPORT CO-ORDINATOR (SSC) - the co-ordinator of scientific and environmental advice concerning oil pollution who is responsible to the OSC during an incident.

SITREP - a situation report on an actual or potential oil pollution incident lodged with the FSSSC.

SPILL COUNTER MEASURES WORKING GROUP - a group whose role is to address all aspects of the response to an incident including post-spill debriefing and monitoring. Membership generally comprises representatives from DOT, DHM, GBRMPA and QNPWS.

STATE COMMITTEE - the committee responsible for the administration and operation of the National Plan within the State. For membership of this Committee refer to National Plan Operational Manual and State Supplement.

PART ONE

PLANNING

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1. SCOPE OF REEFPLAN

Geographical Area

The geographical area in which the REEFPLAN will operate will be defined as the Great Barrier Reef Region and Adjacent Area. This area (as shown in Appendix I) comprises the Great Barrier Reef Region as defined in the Great Barrier Reef Marine Park Act, 1975 and an Adjacent Area. For the purpose of the REEFPLAN, the Adjacent Area has been delimited according to the 1973 MARPOL Convention* definition of the nearest land along the north eastern coast of Australia. A detailed geographical description of the GBR Region and Adjacent Area is presented in Appendix I.

Division of Responsibility

Responsibility for the management of oil spills within the REEFPLAN area generally rests with Commonwealth Government through the Department of Transport in liaison with the Great Barrier Reef Marine Park Authority subject to the following provisos:

The Department of Transport at the request of the Department of Harbours and Marine has responsibility for oil spill management in the Territorial Sea.

The administrative authority of a port or harbour has responsibility for oil spill management in waters within its port or harbour.

Local authorities, in consultation with the Department of Harbours and Marine, generally have responsibility under State legislation for cleanup of oil spills which impact beaches and foreshores under their management.

The Department of Harbours and Marine has responsibility for cleanup of oil spills which impact beaches and foreshores of those islands which are not under local authority management.

The Great Barrier Reef Marine Park which covers most of the Region has been established under the provisions of the Great Barrier Reef Marine Park Act 1975. The body administering the Act is the Great Barrier Reef Marine Park Authority which has the responsibility, amongst other functions, to make recommendations to the Minister for Arts, Heritage and Environment in relation to the care and development of the Marine Park, and to carry out, by itself or in co-operation with other institutions and persons, and to arrange for any other institutions or persons, to carry out research and investigations relevant to the Marine Park. The Authority therefore has an integral role to play in providing scientific advice to the relevant oil spill management agency. It is proposed that the Authority, in co-operation with other scientific bodies will develop a scientific response capability which is to be utilised in the event of an oil spill incident anywhere in the Great Barrier Reef Region.

* The International Convention for the Prevention of Pollution from Ships, 1973

The REEFPLAN is to be integrated as closely as possible with the State Plan as described in the Queensland State Supplement to the National Plan Operations and Procedures Manual. Close consultation should be maintained through the Queensland State Oil Pollution Committee and parties of the REEFPLAN to ensure that this is achieved.

Zoning Within the REEFPLAN Area

The Great Barrier Reef Marine Park contains 98.5% of the Great Barrier Reef Region as previously described. The six declared sections (shown on map at Appendix IV) are the Far Northern, Cairns, Cormorant Pass, Central, Capricorn and Capricornia Sections. Zoning plans indicating broad marine use categories are being developed for all of the Region contained in the Marine Park.

Zoning Plans for the Capricornia, Cairns, Cormorant Pass and Far Northern Sections have been proclaimed. It is anticipated that zoning for the remaining Central and Capricorn Sections will be completed by 1988. Zoning plans delineate the following use categories:

General Use 'A' - providing for reasonable use including commercial and recreational activities.

General Use 'B' - provides for reasonable use including most commercial and recreational activities.

Marine National Park Buffer Zone - providing protection of some reefs while allowing trolling.

Marine National Park 'A' - to provide protection for natural resources while allowing recreation, limited fishing.

Marine National Park 'B' - provides for recreational use other than fishing or collecting.

Scientific Research Zone - provides for approved scientific research.

Preservation Zone - provides for the preservation of natural resources in an undisturbed state.

The map also shows those areas along the coast which have been excluded from the Marine Park but are still part of the Region

2. LEGISLATION AND ARRANGEMENTS TO CONTROL OIL POLLUTION

Discharge of Oil from Ships

Discharge prohibition and operational discharges from ships within the REEFPLAN Area are regulated in accordance with standards established in the International Convention for the Prevention of Pollution from Ships 1973 as amended by its 1978 Protocol (MARPOL 73/78).

Beyond the territorial sea the controls will be exercised by the law of the ship's flag State. Australian law is contained in the Prevention of the Sea (Prevention of Pollution from Ships) Act 1983 and the Navigation (Protection of the Sea) Amendment Act 1983. These Acts have been amended to take account of further improvements made to the MARPOL Convention. Within the territorial sea, the Queensland law will apply MARPOL requirements, when enacted.

Significant controls imposed by this legislation include:

- for oil tankers
 - . discharges are prohibited within specified distances of land, where the outer edge of the reef is regarded as the land boundary
 - . the rate of oil discharge must not exceed 60 litres per mile
 - . the total quantity of oil discharged on any ballast voyage must not exceed $\frac{1}{15000}$ of the total cargo carrying capacity of the vessel
- for other ships
 - . discharge must be as far as practicable from land
 - . the rate of discharge must not exceed 60 litres per mile
 - . the oil content of any bilge water discharged must be less than 100 parts per million.

A countermeasures plan for spills of hazardous and noxious substances other than oil is being developed. In the interim, information regarding spills of these substances should be passed to the Sea Safety Centre, Canberra, telex 62349, for the attention of the Director, Pollution Prevention.

Intervention in Pollution Incidents

The Protection of the Sea (Powers of Intervention) Act 1981 came into operation on 5 February 1984, and implements the provisions of the 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties and the 1973 Protocol to that Convention. The Act contains powers that the Minister may invoke to intervene in an actual or threatened pollution incident involving oil or certain noxious substances in regard to Australian or foreign ships. The Act preserves the operation of State and Territory legislation. Australia has always asserted the right to protect its territory and coastal waters. The Protection of the Sea (Powers of Intervention) Act continues to apply this right.

Compensation for Damage

The Protection of the Sea (Civil Liability) Act 1981 implements the provisions of the 1969 Convention on Civil Liability for Oil Pollution Damage. Ships carrying more than 2000 tons of oil in bulk as cargo are required to maintain insurance to cover liability for pollution damage. In the event of a pollution incident, the costs of clean-up and compensation for damage are recoverable from the polluter up to the limits of liability specified in the Act.

Obligations under the Torres Strait Treaty

The northern section of the REEFPLAN Area falls within a Protected Zone as defined in Article 10 of the Torres Strait Treaty (see map at Appendix V). Australia and Papua New Guinea are obliged under Article 13 of the Treaty to take legislative and other measures necessary to protect and preserve the marine environment in, and in the vicinity of, the Protected Zone. This involves measures for the prevention and control of pollution from vessels in this zone.

International Maritime Organization "Areas to be Avoided"

On 11 May 1983, the International Maritime Organization (IMO) proclaimed that a central portion of the Capricornia Section of the GBR Marine Park should be regarded as an "Area to be Avoided" by ships of over 500 tons gross tonnage. The IMO "Area to be Avoided" coincides with the General Use B Zone of the Zoning Plan for the Capricornia Section.

Following the precedent set by the Capricornia Zoning Plan the Cairns - Cormorant Pass Zoning Plan also designates areas which would need to be proclaimed as "Areas to be Avoided" by ships over 500 tons gross tonnage. A map of these areas is included in Appendix VI. These areas will continue to increase in number over the next three years as the remaining portions of the Marine Park are zoned.

3. THE OIL SPILL THREAT

Ship-sourced oil pollution in the REEFPLAN Area may result from either accident or operational discharges. Accidental discharges may involve either bunker fuel loss or cargo loss resulting from a marine incident.

Within the REEFPLAN Area the oil spill threat is largely a function of the types of cargo carried through the area, the location and nature of navigation channels, the weather, the shipping density and the location and frequency of oil transfer operations.

Cargo Carried through REEFPLAN Area

In recent decades new bulk trades have developed within the REEFPLAN Area, the most important of which are the bauxite trade from Weipa to Gladstone, and the coal export trade from the central Queensland ports. Four dedicated coal fired bulk carriers of about 70,000 dwt are used in the bauxite trade, while coal is carried in vessels up to 139,000 dwt. Although the carriage of general cargo to Queensland and PNG Gulf ports has declined, the distribution of petroleum products by sea has increased. Refined products, principally from Brisbane refineries, are distributed by sea to other Queensland ports. Refined product carriers transitting the REEFPLAN Area are commonly in the 25,000-35,000 dwt range.

The carriage of crude oil and fuel oil cargoes through the REEFPLAN Area is limited to comparatively small quantities and the main destination is Brisbane. Oil tankers transitting the REEFPLAN Area can range in size up to 102,000 dwt. In the longer term it is possible development of oil-shale resources may result in larger tankers shipping oil from Central Queensland coast through the REEFPLAN Area.

Principal Shipping Routes in REEFPLAN Area

The waters of the REEFPLAN Area are traversed by various shipping routes (see map at Appendix VII). Vessels on passage between the Indian Ocean and the South Pacific Ocean or Australian east coast ports pass either directly through Torres Strait or via Torres Strait and the Inner Route. The vessels bound between the Coral Sea and Queensland ports use a number of channels through the Reef, the most important being Curtis, Capricorn, Palm and Grafton, and Hydrographer's Passage.

The Inner Route is an historic trading route between the eastern Indian Ocean and the south west Pacific. It enters the Reef through Capricorn Channel, passes to the east of High Peak and the Percy Islands, thence through Cumberland Channel and Whitsunday Passage, thence keeps relatively close to the mainland, and finally enters Torres Strait.

Shipping Density

The average daily shipping density through the REEFPLAN Area is approximately five. Some 1500 vessels are piloted through the Great Barrier Reef each year of which some 150 are tankers (oil, chemical and molasses). Unpiloted transits of Torres Strait, the North East Channel and the Inner Route are estimated at about 300.

It is expected that annual traffic through the REEFPLAN Area will increase to 1800 vessels over the next five years. This will represent approximately 72 million dwt annually. The opening of Hydrographer's Passage will result in changes to shipping patterns through the area with:

- (a) a general increase in bulk traffic to and from Central Queensland ports.
- (b) diversion of existing traffic exiting Hay Point via Capricorn Channel and East of Swain Reef.

Oil Transfer Operations - North Queensland Ports

The following table is indicative of the fuel products transferred at North Queensland ports each year.

TABLE 3.1

<u>PORT</u>	<u>Motor and Aviation</u>	<u>Furnace Oil and</u>
	<u>Gasolines Automotive</u>	<u>Bitumen Feedstock</u>
	<u>Distillate</u>	
	(Tonnes)	(Tonnes)
Bundaberg	90,000	5,000
Gladstone	348,000	180,000
Rockhampton	63,000	14,000
Mackay	238,000	16,000
Townsville	365,000	217,000
Cairns	270,000	18,000
Weipa	12,000	33,000
Thursday Island	5,000	-
	1,391,000	483,000

Potential Types of Oil Pollutants

On the basis of cargo carried through the REEFPLAN Area and types of bunker fuel supplied along the Queensland coast, Table 3.2 lists characteristics of possible oil pollutants.

An understanding of the characteristics of petroleum products which may be carried through the REEFPLAN area is necessary to facilitate appropriate handling procedures.

The density of an oil, measured as specific gravity, is important in spill assessment for two main reasons: First, the density of an oil determines whether it will sink or float; heavier oils can collect sediment, entrain water, and become heavy enough to sink. Second, once it has been determined that an oil will float, the height that the oil floats in water, or its "freeboard effect", determines the surface area upon which wind forces may work; an oil which floats high in the water presents more sail area and will be more easily moved by the wind.

Specific gravity is a comparison between the weight of a substance and that of fresh water at 15.6°C, which is assigned a value of 1.0000. Therefore, an oil that floats will have a specific gravity less than the value of the water. The specific gravity of sea water ranges from about 1.02 to 1.07 and therefore oil will usually be slightly more buoyant in sea water. The density of liquid oil is inversely proportional to the temperature.

Viscosity is the measure of a fluid's internal friction, or its resistance to flow. The viscosity of an oil affects the rate of spreading of the slick, penetration of substrate, and persistence. It also affects clean-up operations. Viscosity is variable and will decrease as an oil's temperature is elevated. Low viscosity oils are those which have a light, or more fluid, consistency; high viscosity oils are those which tend to be tarry or thick.

The pour point of a material is the temperature at which it begins to flow. Oil may be solid or semi-solid during cool nights and fluid during the day, or solid when immersed in cool water and fluid when warmed past the pour point while stranded on land. These situations require different clean-up methods, and if round-the-clock clean-up efforts are carried out, daytime strategies and equipment could differ from night operations.

TABLE 3.2 Characteristics of Petroleum Products which may be carried through the REEFPLAN Area

PRODUCT	SPECIFIC GRAVITY	VISCOSITY	POUR POINT
Fuel oil	0.98	85 at 50°C	9-15
Gas oil	0.82-0.865	1.8-4.8 at 40°C	-
Ultra-light Sumatran crude oil	0.851	17.6 at 38°C	35

Recent Oil Spill History

A summary of known and potential oil pollution incidents off the north east coast of Queensland is provided in Table 3.3.

TABLE 3.3

INCIDENTS OFF THE NORTH EAST COAST OF AUSTRALIA WITH OIL POLLUTION POTENTIAL

DATE	SHIP INVOLVED	LOCATION	NATURE OF INCIDENT	APPROX. QUANTITY OF OIL SPILLED (tonnes).	COMMENTS	METHOD OF OIL DISPOSAL
3 March 1970	Oceanic Grandeur Tanker	O.G. Rock Lat 10 ⁰ 30'S Long 142 ⁰ 20.7'E	Struck unchartered rock	1400 to 4100	Pilot on board ship to ship transfer operation	Dispersant applied to fresh oil under eastward moving current, oil dispersed between reefs
3 Oct 1972	Straat Chatham Dutch General Cargo	Lat 15 ⁰ 43'S Long 145 ⁰ 24'E	Grounded on Gubbins Reef Potential Spill	Nil	No pilot on board, on route Auckland to Singapore Re-floated No oil pollution	
25 April 1979	Hui Ju Hup Taiwanese Fishing Vessel	Lat 15 ⁰ 45.8'S Long 145 ⁰ 46.2'E	Grounded on Ruby Reef		Diesel oil stored in numerous containers Sunk by demolition charges	Natural degradation
25 May 1982	Kyoten Maru Panamanian General Cargo	Lat 17 ⁰ 10'S Long 152 ⁰ 09'E (360n. miles E of Cairns)	Grounded on Lihou Reef Coral Sea		Carrying 450-700 tonnes fuel and diesel oil Sank with seepage of oil to surface	Natural degradation Dispersants precluded by sensitivity of area

7 Nov 1983	Bass Trader	20°50S 149°25E	Own report from	800 litres	506 litres
dispersant--		5'ESE of Brampton Is	Bass Trader	lube oil	applied by ship

21 August 1985	Mobil Endurance	18°21S 146°30E 10 NM off Hinchinbrook Is	Coastwatch Aircraft reported	11 tons slops	Leaving slick in wake. Owners penalised by flag State
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24 Jul 86	Mobil Endeavour		Grounded on Alert Rocks	Nil	No pilot on board Singapore to Port Moresby. Refloated. No oil pollution.
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23 Apr 1986	Royal Viking Star	10°29'E 142°25'E Torres Strait	Coastwatch Aircraft Report	Unknown	Leaving discoloured water in wake Flag State requested to investigate incident.	Natural Degradation
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4. ENVIRONMENTAL PROTECTION

Insufficient reconnaissance data on the Reef Region is at present available to provide a firm guide to develop a vulnerability grading and protection priorities.

Sensitivity mapping will be undertaken for each contingency plan area. This will result in the production of countermeasures guidelines.

Because of the susceptibility of bottom fisheries and coral reef communities to the effects of both oil pollution and dispersants it should be stated that, as a general rule, dispersants should not be used for oil spill combat in Great Barrier Reef waters.

Disposal of Contaminated Debris

An essential part of any clean-up operation involving containment and subsequent mechanical and manual recovery of the oil is the selection of suitable disposal sites for the contaminated debris. Disposal sites may be either of a temporary or permanent nature. In both these instances, environmental advice is necessary with regard to the site selection and subsequent monitoring of the site. This advice should be sought by the Scientific Support Co-ordinator (SSC).

Sites for the disposal of contaminated debris will have to be identified after discussion with State and Local Authorities. As a general rule no disposal sites should be located on any of the reef islands and cays. Sites must therefore be located on the mainland where Great Barrier Reef Marine Park Authority does not have jurisdiction, and therefore State and Local Authorities must be consulted.

Site Selection Criteria

Suitable disposal sites are to be identified in the contingency planning phase. These sites should satisfy the following basic criteria and should coincide wherever possible with sites identified in the State plan:

- (a) Planned use of the site should be compatible with on-site and adjacent land use.
- (b) The site will not become a source of water pollution (consider geology, pedology and hydrology).
- (c) Site locations are to be within a practical distance of areas where oil spill debris is expected to be collected or stockpiled.
- (d) Existing access roads into the area are to be of all-weather construction.

The SSC should hold a current list of alternative disposal sites. This will facilitate the selection of an appropriate site during the combat phase according to the spill location and method of debris disposal. There is a need to expedite procedures for securing relevant authority approval to use the particular site.

Method of Disposal

It is generally agreed that incineration is the most acceptable means of disposal, provided a suitable form of incinerator is available close to the spill scene. Where this option proves to be non-feasible, consideration should be given to the following alternatives:

- (a) Existing facilities utilised for the reception of wastes from ships
- (b) Landfilling in local authority disposal areas
- (c) Burial at selected sites
- (d) Deposition on selected vacant, denuded land
- (e) Use in construction projects as a road base
- (f) Landfarming.

The feasibility of recycling the oiled debris is to be explored in the contingency planning phase.

PART TWO

OPERATIONS AND PROCEDURES

5. ORGANISATION

Co-ordinating Procedures

Combat Authority

If an oil spill occurs in an area offshore of the low water mark within the REEFPLAN Area, the Commonwealth Government Authority is expected to assume the role of combat authority. The Commonwealth Authority may be represented by the Commonwealth regional authority. The Commonwealth Combat Authority will be the Department of Transport or its designated agent.

If an oil spill occurs on the foreshore in an area of State jurisdiction, the appropriate State marine authority will assume the role of combat authority.

The combat authority will appoint the On Scene Co-ordinator (OSC) who will implement his combat organisation. At the close of a pollution incident, the combat authority will arrange a debriefing session.

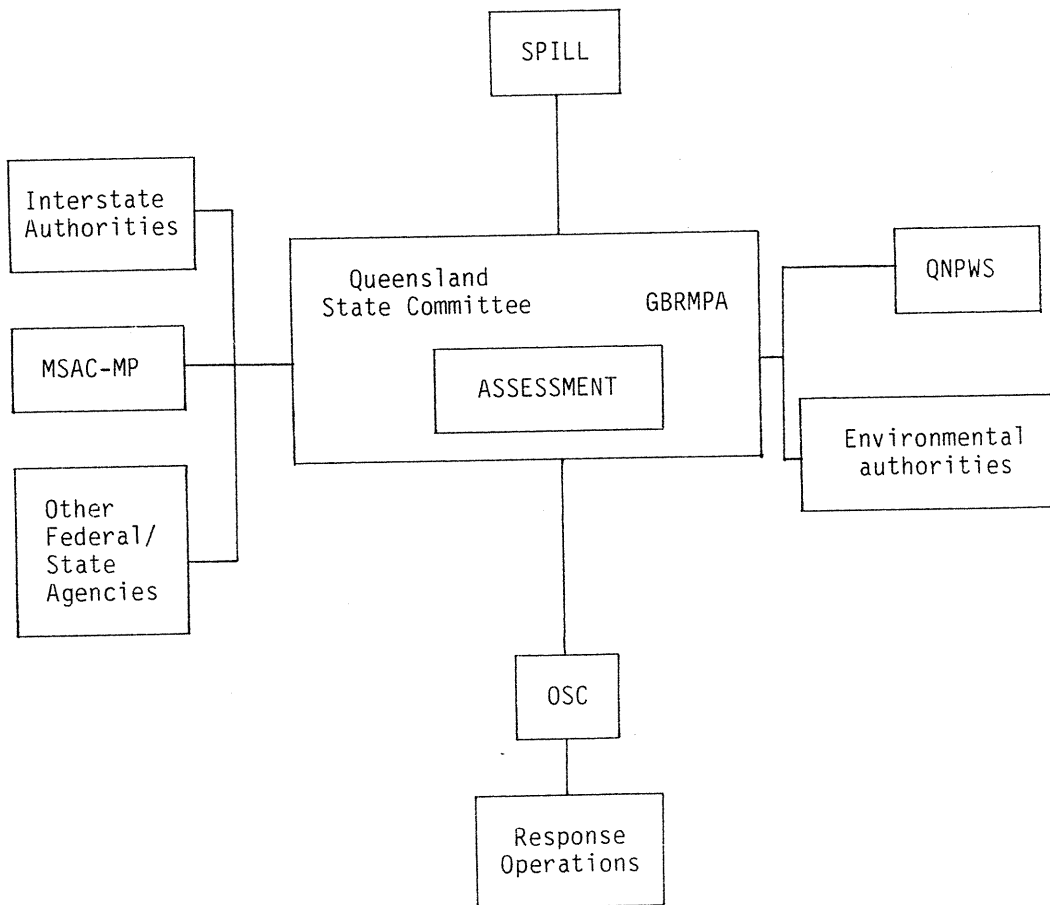


Figure 5.1 : Reefplan liaison and responses

Role of Queensland State Committee

During a pollution incident, the State Committee will meet under the chairmanship of the authority having prime responsibility. The Committee will provide advice to the On Scene Co-ordinator and will arrange combat support within the State area. The Queensland marine representative on the Committee will make arrangements for participation of other State authorities (e.g., Police, Local Authorities, Department of Primary Industries (DPI)). The Commonwealth regional member will arrange for participation of other regional representatives of Commonwealth Departments (e.g., Customs, Defence, Administrative Services).

The AIPECE representative on the State Committee will provide the coordination and support of oil industry facilities and organisation.

Defence Force Assistance

The Commonwealth Government authority will arrange for Defence Force assistance where this is required. Requests for assistance including the use of military transport are to be directed to the Marine Pollution Section, DoT, Canberra, through the Queensland Regional Director, Transport.

If Defence Department consent is given, the Commonwealth regional authority will liaise with the Chairman, Joint Services Local Planning Committee (JSLPC) in the appropriate area.

Queensland State Emergency Services (SES) Support

- . DHM to explore inclusion of SES resources
 - to assist in manpower requirement for combat phase.

Interstate Assistance

Requests for interstate assistance required of other Government bodies will be directed to the Director, Pollution Prevention Section, Canberra through the Regional Director of Transport.

Pollution Combat Technical and Environmental Advice

The Commonwealth Government authority (DoT) will coordinate advice from interested organisations such as Commonwealth and State authorities, the Maritime Services Advisory Committee - Marine Pollution, and other resource agencies.

The GBRMPA will act as the central environmental co-ordinating agency and provide the Scientific Support Co-ordinator (SSC). The GBRMPA would both co-ordinate advice and consult with environmental and research bodies and advise these bodies of developments in the pollution incident.

Roles of Key Personnel

On Scene Co-ordinator

The On Scene Co-ordinator (OSC) is the person appointed by the combat authority to co-ordinate and direct operations at the scene of a pollution incident. He will be charged with the direction and deployment of available resources to initiate and develop containment countermeasures, clean-up and disposal functions.

The OSC has the overall decision-making role and should be positively supported and assisted by appropriate scientific, administrative and media personnel. Specific responsibilities of the OSC, deputy OSCs, SSC and ASC are presented in Appendix VIII.

A typical example of the OSC's field organisation is shown in Figure 5.2.

Deputy OSCs

The OSC will be assisted by a number of deputy OSCs depending upon the size and extent of the spill. These deputies will be responsible for clearly specified areas (e.g. offshore, island/mainland foreshore). Deputy OSCs for each contingency area are identified in Section 6.

Scientific Support Co-ordinator (SSC)

A Scientific Support Co-ordinator will be appointed by GRMPA to co-ordinate the input from all environmental interests. The SSC shall have available the scientific expertise of a Scientific Response or Support Team and will be expected to provide the OSC with a balanced assessment of environmental priorities within the area under threat.

Administrative Support Co-ordinator (ASC)

An Administrative Support Co-ordinator will be appointed with, if necessary, a support team. The ASC will be responsible for accounting and recording activities and manpower and equipment management.

Media Liaison Officer (MLO)

An experienced Media Liaison Officer should be appointed by the authority having prime responsibility to ensure adequate liaison between the OSC's team and the media. All statements to the media should be released by this officer and all queries received from the media should be directed to the MLO. Before releasing any information, the MLO should have the approval of the OSC.

Pollution Combat Resources

National Plan Stockpiles

Stockpiles of National Plan equipment and dispersant in Queensland are located at:

- (i) Department of Administrative Services Stores Depot
Barrack Road
Cannon Hill
BRISBANE

(ii) DoT Stores Depot
Hartley Street
CAIRNS

Procedures for the release of stores from National Plan stockpiles are set out in the National Plan Operations and Procedures Manual. These procedures are summarised in Figure 5.3.

Transfer of Stores from other Depots

In the event that additional stores are required from another stockpile depot, or where an interstate depot is the closest stockpile to the spill site, the OSC should contact the Marine Pollution Section, Canberra or one of the Centralised Authorised Releasing Officers. These officers are identified in Section 6.

Selected Pollution Equipment Availability Register (SPEAR)

SPEAR is a computer-based register of selected oil spill combat equipment available in Australia. It contains details of equipment held at various locations under the National Plan as well as equipment owned by State Port Authorities, the oil industry and others, including distributing agencies.

The register provides regularly up-dated inventories of available equipment for oil spill combat authorities within the National Plan. In particular, the operational status of the equipment is specified. As such, the register provides valuable assistance to the OSC in field-response situations.

SPEAR is presently available on the CSIRONET computer system and is accessible via a portable computer terminal.

The structure of SPEAR files allows users to interrogate the system to obtain details of:

- (a) inventories of oil spill combat equipment available in a particular region
- (b) location of special purpose equipment at other ports
- (c) contact telephone numbers of officers responsible for access
- (d) the operational status of the equipment; whether currently available, under repair or in transit.

A current inventory of combat equipment available in the Queensland Region is presented in Appendix IX.

Selected Pollution Equipment Logistics List (SPELL)

A selected pollution equipment logistics list is being developed in support of SPEAR. This list will provide information on size, weight and transport requirements relevant to each class of equipment in SPEAR. SPELL will shortly be available on the CSIRONET system.

On Scene Spill Model

The Commonwealth, through the Department of Home Affairs and Environment has access to an interactive On Scene spill Model (OSSM) programme which may be used for predictions of oil spill movement. Officers within the Department of Arts, Heritage and Environment and State marine authority have been trained to operate the OSSM program. These officers are on call to respond to requests for assistance from the Commonwealth Government authority or any State Committee.

The OSSM program is available over the CSIRO computer network (CSIRONET) and is accessible from the spill site by the use of a portable computer terminal.

Contact with the Department of Arts, Heritage and Environment should be through an officer of the Marine Pollution Section, Canberra or through the Federal Sea Safety and Surveillance Centre.

Safety Considerations for Manpower, Equipment and Craft

The OSC should be aware that at all times the safety of the clean-up team should supersede all other considerations. The degree of risk associated with clean-up operations will depend on:

- (i) size of the spill
- (ii) type of oil spilled
- (iii) location of the spill
- (iv) circumstances of the spill
(ie. cause, extent to which oil has weathered)
- (v) weather conditions

The limitations of available equipment and craft should be known and kept in mind throughout all phases of the clean-up operation.

Fresh crude oil and other petroleum products are capable of giving off inflammable gases. Fire thus remains a real danger to personnel, craft and equipment, particularly when fresh oil is confined.

Equipment deployed in close proximity to fresh oil must be flameproof and non-sparking.

Operators of small craft employed in clean-up operations should be made aware of the dangers which exist through:

- (i) the use of cooking appliances, internal combustion engines and personnel smoking
- (ii) concentrations of inflammable gases entering the air intakes of diesel engines causing the machinery to race.

The risk of fire should not be ignored in shoreline disposal operations when the oil is again confined. The risk will be largely dependant on the type of oil and extent of weathering.

Training

Whilst the absolute risk of significant ship-sourced oil pollution in Australia is comparatively small, regular training exercises are essential to ensure an adequate level of response preparedness. As part of the National Plan, the Department of Transport through the Marine Pollution Section conducts a series of training activities:

1. Contingency Planning Workshop
 - designed for those responsible for response planning and management of resources, particularly controllers and SSCs.
2. OSC Workshop
 - designed for personnel who could be expected to take direct charge of a clean-up operation.
3. Operator Course
 - designed for equipment operators, supervisors and deputy co-ordinators.

Appropriate personnel from all relevant agencies identified in the REEFPLAN would be expected to attend Contingency Planning and OSC Workshops held along the east coast of Australia. Personnel attending Operator courses would attend those courses held at locations along the Queensland coast..

To provide continuity in training, regular training activities should be conducted within the REEFPLAN Area and should include use of locally held equipment. These activities should be planned in association with the Queensland State Committee, and where possible, the Marine Oil Spills Committee (MOSC) of AIPECE.

Substantial benefit can be gained from regular well planned exercises designed to simulate oil spills of differing size. Exercises held within the REEFPLAN Area should involve relevant Commonwealth and Queensland marine authorities, GBRMPA, scientific support agencies including the Qld NPWS, and local oil industry personnel. The exercise should also entail a debriefing session at which the effectiveness of the combat response will be critically examined. Any necessary amendments to the REEFPLAN should be considered. The effectiveness of combat resources should also be assessed, and where feasible, measures should be taken to correct any deficiencies.

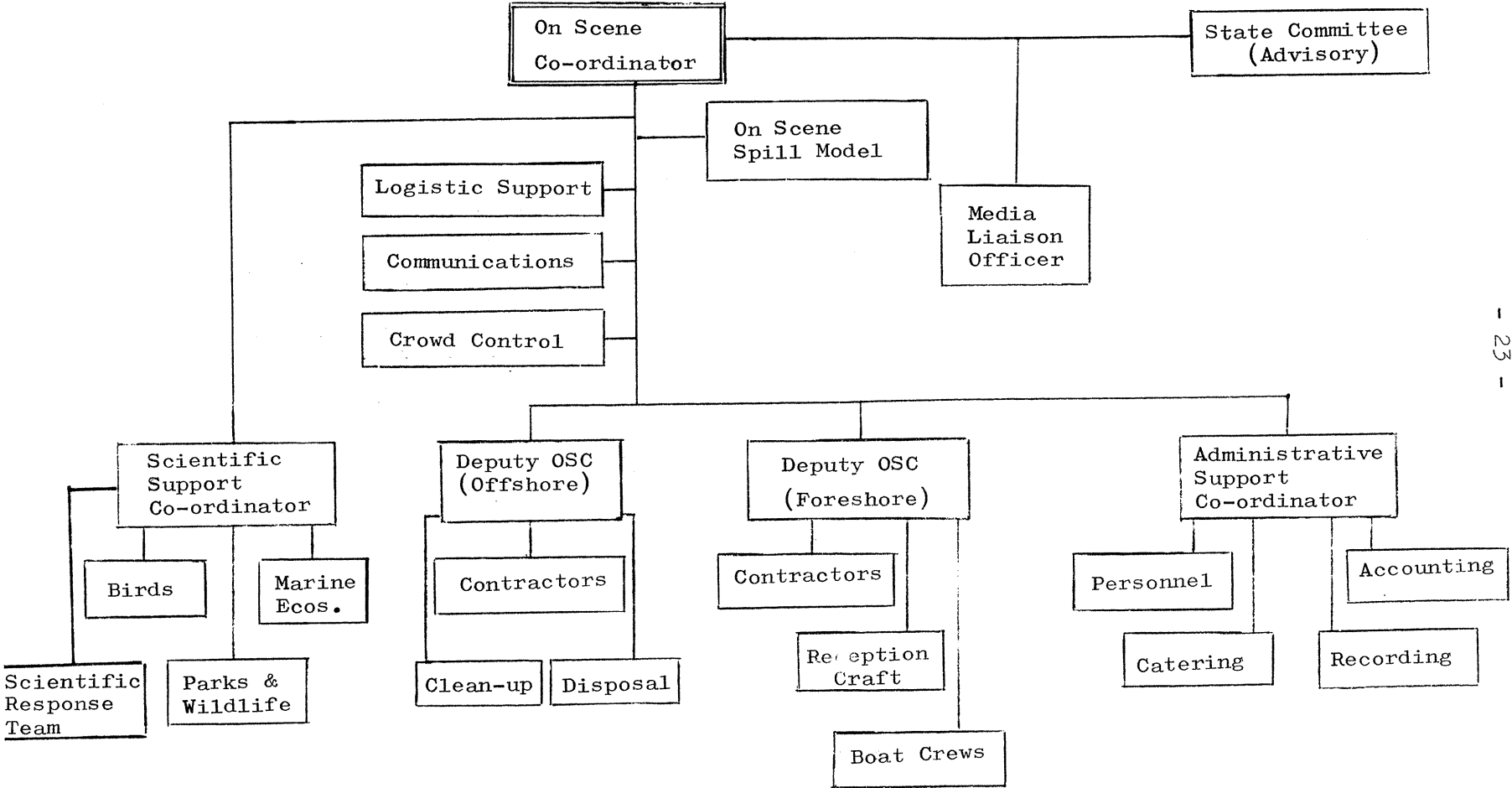
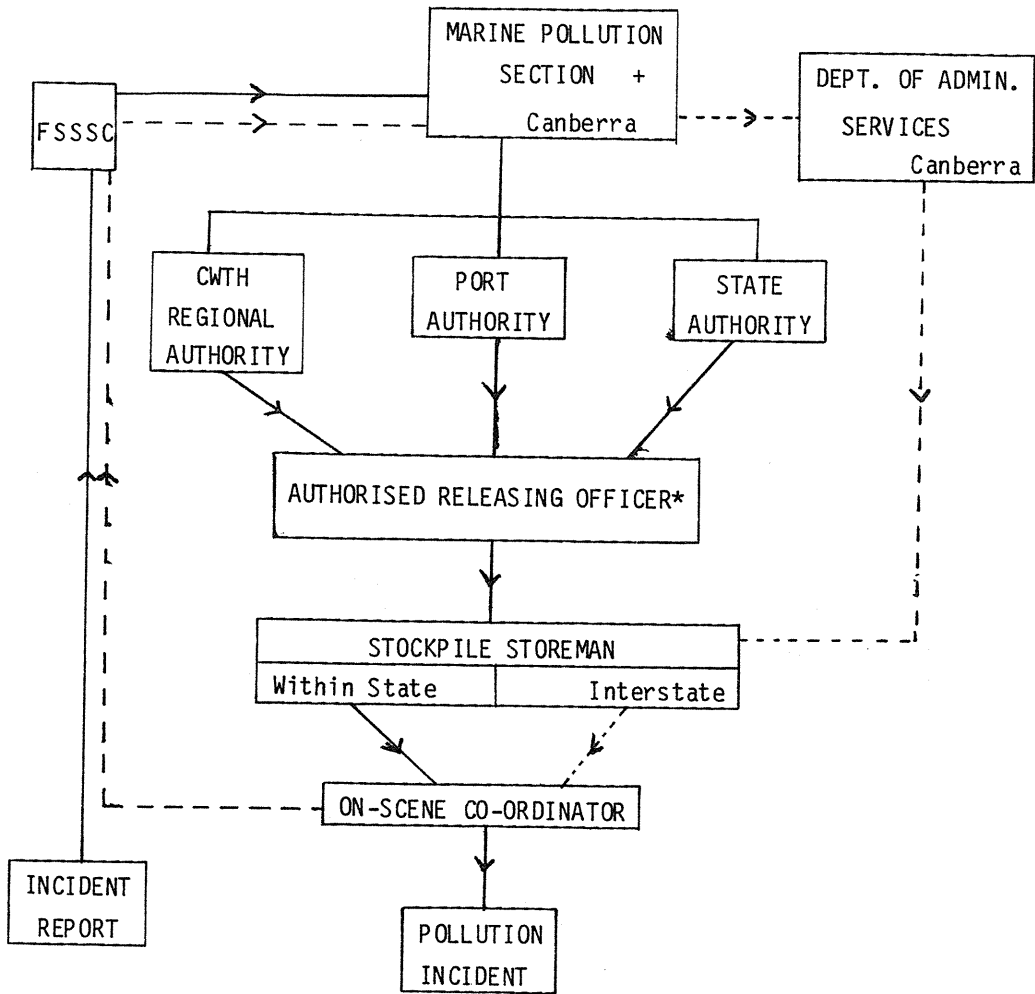


FIGURE 5.2: TYPICAL OSC FIELD ORGANISATION

Figure 5.3

Procedures for Release of Stores
from National Plan Stockpiles



Key:

- Request and release of equipment within State in which incident occurs
- - - - Request and release of equipment from Interstate stockpile
- * OSC and Authorised Releasing Officer may be same person
- + Marine Pollution Section officers can authorise release of equipment from all stockpiles

6. IDENTIFICATION OF KEY PERSONNEL

OSC

In the event of an oil pollution incident occurring within the REEFPLAN Area the Regional Director of Transport may call upon the assistance of the Marine Pollution Section in Central Office, Canberra. The decision would be made according to the availability of suitable personnel at both Regional and Central Office level, and the potential of supporting resources at the time.

The contact point for this action will be through the Director, Pollution Prevention Section.

	<u>Office Hours</u>	<u>After Hours</u>
Telephone:	(062) 687902	(062) 416408
Telex:	TRANS 61680	62349

Deputy OSCs

Deputy OSCs for each contingency area within the REEFPLAN area will be appointed as follows:

Far Northern Section	-	Harbour Master Cairns
Cairns Section	-	Harbour Master Cairns
Townsville Section	-	Harbour Master Townsville
Whitsunday Section	-	Harbour Master Bowen
Capricornia Section	-	Harbour Master Gladstone

SSC

The GBRMPA will pre-designate appropriate officers for the position of Scientific Support Coordinator and will be consulted at the time of an incident on the appointment of the SSC. The SSC will have available the scientific resources and expertise of a Scientific Response Team. The SSC in concert with the OSC will be responsible, as necessary, for co-ordinating the activities and actions of this team during field operations.

ASC

An Administration Support Coordinator will be pre-designated by GBRMPA.

MLO

An appropriate officer with media liaison capabilities will be appointed by the OSC following consultation with GBRMPA.

National Plan Releasing Officers

Centralised Authorised Releasing Officers

Officers in order of contact are:

<u>Name</u>	<u>Designation</u>	<u>Office</u>	<u>After Hours</u>
R. Lipscombe	Operations Co-ordinator Marine Pollution	(062) 68 7052	(062) 58 1848
D. Brodie	Technical Adviser Marine Pollution	(062) 68 7050	(062) 31 9910
M. R. Hawes	Director Pollution Prevention	(062) 68 7902	(062) 88 9732
	Admin. Officer Marine Pollution	(062) 68 7053	(062)
FSSSC Co-ordinators		(062) 47 5244 47 6666 62349	24 hours (free call) 24 hours
	TELEX		

Authorised Releasing Officers - Brisbane Stores

Initial contact: Light Transport Service
McLachlan Street
FORTITUDE VALLEY

Telephone: (07) 52 3788
Manned 0700-2300 each day

The Light Transport Service attendant will immediately contact:

<u>Name</u>	<u>Designation</u>	<u>Location</u>	<u>Work (07)</u>	<u>Home (07)</u>
G. Jaillet	Snr Stores Supvr	Cannon Hill	3957155	-
	Storeholder	Cannon Hill	3957155	-
	Transport Supvr	Cannon Hill	3957668	3996066
	Transport Supvr	Cannon Hill	3957211	3904771
	After Hours Supervisor Alutha Street Cannon Hill			
	Entry to Stores Depot	(07) 3957155 (w)	(07) 3955609 (h)	

The Stores Supervisor will arrange for:

- (i) Admittance to the area
- (ii) Opening of the storehouse
- (iii) Handling equipment and operator
- (iv) Issue of material and equipment

The Transport Foreman will arrange for:

- (i) Vehicles and drivers
- (ii) Delivery of material and equipment

In the unlikely event of a breakdown of these arrangements, the following contacts can be made:

<u>Name</u>	<u>Designation</u>	<u>Work</u> (07)	<u>Home</u> (07)
L. Clarence	Manager - Transport	2252926	2454836
A. Barker	Asst. Manager - Transport	528315	3765950
A. Mowbray	Asst. Manager - Stores	3957079	2081951

Upon completion of the pollution combat operation the OSC will ensure that all equipment is recovered, cleaned and returned, along with empty dispersant drums and unused materials, to the stockpile depot.

7. ALERT PHASE

The alert phase usually consists of:

1. Observation: Has the spill occurred/is a spill about to occur?
2. Action: Is safety of life at risk?
3. Can the spill be prevented or minimised?
4. Notification: From spill source/to action organisations.
5. Confirmation: Spill has occurred and initial assessment of incident provided.

At all times the safety of human life should supersede all other considerations.

Reporting Procedures

Initial reports of pollution incidents may originate from the ship concerned, other ships in the vicinity, craft undertaking surveillance duties, officers of the GBRMPA Park, and members of the public.

To enable a prompt response, reports of pollution incidents in areas outside the GBR Region should be passed by telex or telephone to the Federal Sea Safety and Surveillance Centre (FSSSC), Canberra via the coast radio service, port facilities radio or aviation communications network.

Reports of incidents in the GBR Region can be made to the FSSSC (Coastwatch) directly, or relayed through the GBRMPA. Where reports are received by Queensland marine and National Park authorities these can be passed to the FSSSC via the GBRMPA or the Regional Director of Transport.

Pollution incidents reported by members of the public can be relayed to the FSSSC via the GBRMPA, Regional Director of Transport, State Marine authorities or State Police, through Police Operations, Brisbane.

Under international convention, the polluter is obliged to report pollution incidents. Commonly these reports are made on marine band HF or VHF and relayed by the coast radio service. If the vessel is able to proceed to the next port (close to the spill site) a report can be made to the marine authority on immediate arrival.

The FSSSC is manned 24 hours a day and can be contacted as follows:

Telex : 62349
Telephone : (062) 47 6666 (free call)
Telegraphic Code : CANBERRA
GBRMPA contact : Executive Officer
GBRMPA

AOPXXPO278

Telex : GBRMPA 47332) N.B. phone and telex are not manned
Telephone : (077) 712191) on a 24 hours basis
Telegraphic Code : REEFPARK

The format of a marine pollution report (POLREP) is outlined in the National Plan Operations and Procedures Manual. For information, this format is set out in Appendix X.

Notification Procedure

On receipt of a POLREP in the FSSSC the following action is taken:

(a) During office hours

Telex to the Regional Director of Transport, with copies to Director, Pollution Prevention Section, Executive Officer, GBRMPA and Director, Marine Programs Branch, Department of Arts, Heritage and Environment. Follow up action will be taken by the Regional Director of Transport.

(b) After normal working hours

- (1) Telephone/Telex Regional Director of Transport
- (2) Telephone Marine Pollution Section personnel in the following order of availability:
 - (i) Operations Co-ordinator - Marine Pollution (062) - 58 1848
 - (ii) Technical Adviser - Marine Pollution (062) - 31 9910
 - (iii) Director - Pollution Prevention. (062) - 88 9732
- (3) Telephone/Telex Executive Officer, GBRMPA.
- (4) Followed up by Telex as during office hours.

The Regional Director of Transport will the notify relevant Queensland authorities eg., Deputy Director (Fisheries) DPI, QNPWS. In the event of the oil slick moving towards the mainland foreshores, the relevant local authorities will be notified by the DHM.

GBRMPA will form an assessment group to evaluate the environmental aspects of the incident and will notify relevant environmental research bodies of the possibility of their involvement.

8. COMBAT PHASE

Preliminary Field Assessment

Following confirmation of an oil spill, an assessment should be carried out by the combat authority, in order to obtain information essential to the planning of future response action. A check list to assist in the field assessment is set out below.

Field Assessment Check List

1. Location of spill.
2. Identify type of oil pollutant, e.g. crude oil, fuel oil.
3. Identify origin of pollutant, e.g. Arabian crude, Bass Strait crude, local/foreign blend.
4. Identify source of pollutant (or suspected source)
 - vessel name
 - flag
 - position of vessel.
5. Confirm whether outflow of oil is continuing
 - arrange for emergency transfer.
6. Estimate quantity of oil spilled (a guide is provided in Appendix XI) alert OSSM facility.
7. Obtain samples (if necessary) according to procedures set out in Appendix XII.
8. Estimate extent to which oil has weathered.
9. Estimate probable direction and rate of movement of oil slick.
10. Assess prevailing oceanographic and meteorological conditions
 - sea state
 - tidal stage
 - wind strength and direction
 - noticeable current influences.
11. Identify areas which may be affected and assign initial priorities for protection.
12. Identify any safety/environmental hazards.

13. Identify any problems in site access.

Check List for Selection of Combat Technique

To assist the OSC, a check list for the selection of an appropriate combat technique is set out in Figure 8.1.

Provision of Information in Combat Phase

During a pollution incident it is essential that appropriate authorities be kept advised of all significant developments. This information is usually provided in the form of a Situation Report (SITREP).

The OSC will be responsible for ensuring that periodic SITREPS are despatched to those concerned.

For information, the format of a SITREP is set out in Appendix XIII.

Specialist Assistance

Technical advice on appropriate pollution combat techniques within the REEFPLAN Area may be sought from:

- (i) The GBR Countermeasures Working Group.

The Working Group will advise on appropriate combat techniques and equipment for pollution response in the REEFPLAN Area. It is suggested that membership of the Working Group be representatives of DoT, DHM, GBRMPA and QNPWS and others as appropriate.

The GBR Countermeasures Working Group can be contacted through the SSC.

- (ii) Maritime Services Advisory Committee - Marine Pollution

which can be contacted through:

The Director
Pollution Prevention Section
Department of Transport
CANBERRA

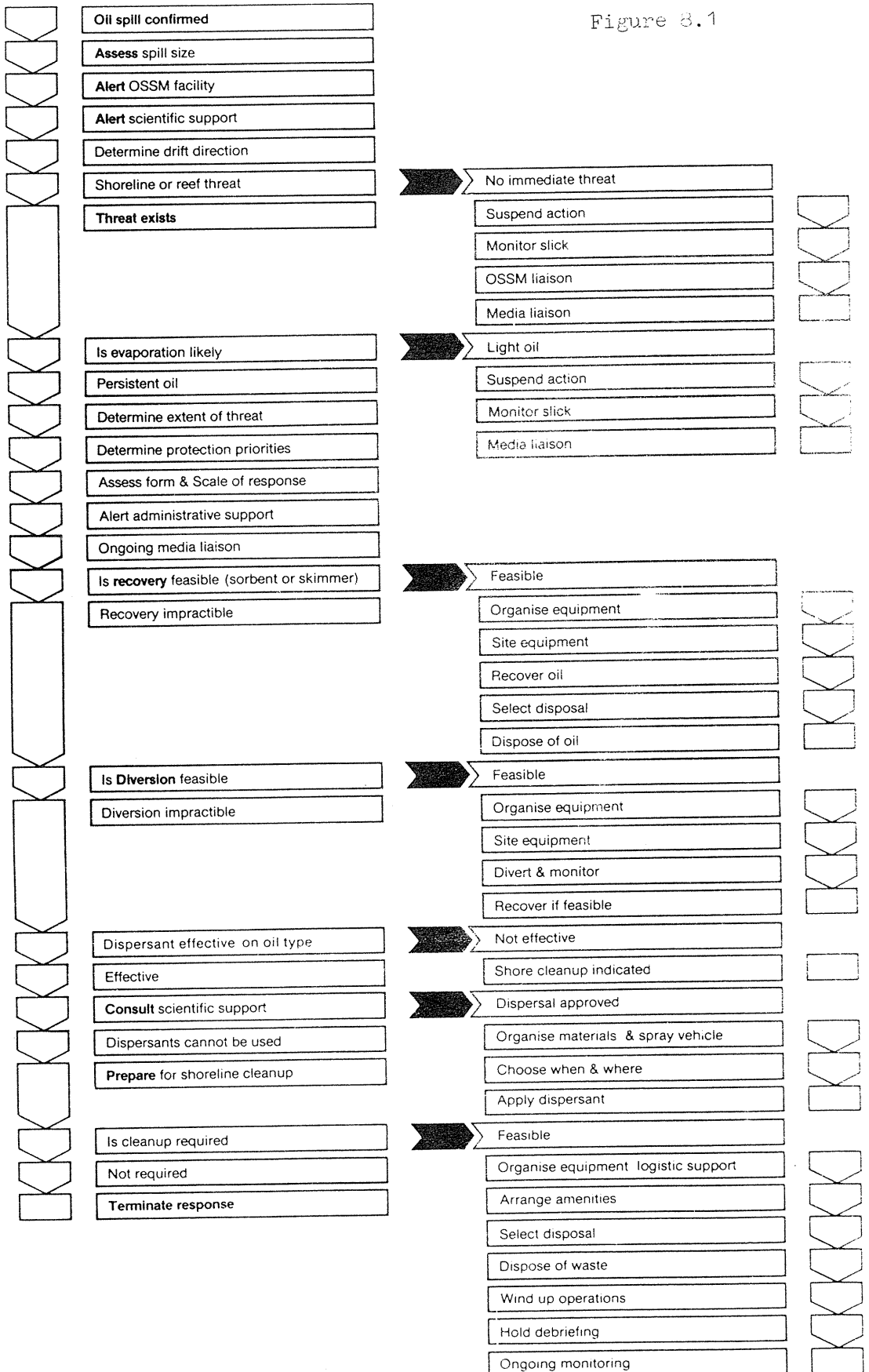
Telephone: (062)687111

Telex : TRANS AA61680

Location of Support Facilities

Information on location of airstrips, boat ramps and other facilities is contained in Appendix XIV.

Figure 8.1



9. TERMINATION PHASE

Termination of clean-up Activity

An important and frequently neglected aspect of clean-up activity is its termination. It is inevitable that the benefits of clean-up in relation to the effort expended will decrease as the operation progresses.

The OSC should be able to determine the point when further effort and expenditure in clean-up becomes unreasonable. This will vary according to the type, size and location of the spill, the particular coastal environment affected, and the level of human usage. In making this decision the OSC should seek advice from relevant environmental and resource management agencies.

Return and Restoration of Equipment

Upon completion of the clean-up operation the OSC will ensure that all equipment is recovered and cleaned to the extent practicable under field conditions. Any damage, malfunction or loss of equipment during the combat operation must be recorded and promptly reported to the ownership authority. Quantities of dispersants used and any materials retrieved and not reusable should be recorded and reported to the ownership authority for replacement. Equipment being returned to the ownership authority is to be transported by the quickest means possible, having regard to the freight costs involved.

Debriefing Arrangements

As soon as practicable after completion of the clean-up operations, a full-debriefing session will be held. Only in this way can the operation be evaluated and the experience gained can be translated into planning for future operations.

The debriefing session will be organised by the combat authority and attended by all key personnel, including the OSC, deputy OSCs, SSC, ASC, MLO and other appropriate members of the support team. The session will be held at the most appropriate location as determined by the combat authority.

All facets of the pollution incident and response operation will be critically examined. Particular attention should be given to the adequacy of the REEFPLAN organisation and the efficiency and effectiveness of pollution combat resources deployed in the combat operation. The latter will require extensive inputs from the chronological summary together with cost analyses of the equipment and manpower resources deployed. The associated transportation costs will also be considered.

Following a major pollution incident, the Scientific Response Team will conduct a study on the spill's biophysical and socio economic effects and impacts. This study will be evaluated at the debriefing session.

Recommendations to minimise or remove any operational or organisational deficiencies identified should be directed to the combat authority. The combat authority will consider all such recommendations with regard to the possible inclusion in revised contingency plan arrangements.

Restoration and Monitoring of Impact and Disposal Sites

On termination of the clean-up operation the OSC will ensure that measures are taken, where practicable, to restore both the impact site and disposal site to their pre-incident condition. Where oiled sediment has been removed in significant amounts from foreshores, an attempt should be made to replace this with compatible sediment.

Advice should be sought in the selection of the source area to ensure that environmental disturbance is minimised. Care must also be exercised to minimise the impact on the environment of equipment and manpower used in restoring the site.

It is essential that adequate monitoring practices are implemented both in and around the impact and disposal sites to assess the level of environmental disturbance. Monitoring should be undertaken on both a short and long term basis.

The SSC will co-ordinate monitoring activities and will arrange access and provision of facilities for monitoring teams. Regular appraisals of the short and long term environmental effects of the oil pollution incident and response operations should be provided to the SSC. The SSC will take measures to incorporate the findings of monitoring studies in future revisions of the REEFPLAN.

10. FINANCIAL PROCEDURES

Pollution Incidents

The financial provisions of the National Plan provide for the Commonwealth Government authority to reimburse the authority having prime responsibility for the costs incurred in incident response. Reimbursement is made on the understanding that:

- (1) The incident involves costs in excess of \$500 or requires the use of 500 litres or more of dispersant.
- (2) The authority having prime responsibility will make every effort to recover the clean-up cost from the polluter.
- (3) The authority having prime responsibility is satisfied that the incident is attributable to ship-sourced pollution.

In instances where it is decided not to recover costs from the known polluter, the authority having prime responsibility must advise the Secretary, DoT of the grounds for such a decision.

Funds for reimbursement of incident costs are provided from consolidated revenue. These costs are offset by revenue collected from a levy imposed on shipping using Australian ports. This revenue is credited to consolidated revenue. Costs recovered from the polluter and paid directly to the Secretary, Department of Transport, are also credited to consolidated revenue.

Statement of Expenditure, Oil Pollution

To expedite settlement of claims arising from a particular incident, the authority having prime responsibility should promptly advise Director, Pollution Prevention DoT of an estimate of costs likely to be incurred. This information should be conveyed by either telephone or telex.

On completion of a pollution incident, the authority shall assess and compile claims for costs incurred by all authorities and submit a single claim to the DoT under the cover of a "Statement of Expenditure, Oil Pollution" (Form OP-A). Each item of expenditure must be supported by financial and descriptive statements.

Claims for costs incurred by other authorities in the incident response should be submitted to the authority having prime responsibility.

The authority having prime responsibility will be reimbursed for the total value of approved expenditure.

Pollution Incident Combat Report

The authority having prime responsibility is required to furnish a pollution incident combat report where claims for cost reimbursement are to be made from the National Plan. This report is necessary to substantiate the claim that the oil spill emanated, or was suspected to emanate, from a ship source. The combat report should be forwarded to the Director, Pollution Prevention for assessment. To expedite settlement of the claim, the combat report should be sent at the same time as the Statement of Expenditure.

A list of points to be addressed, where relevant, in the combat report are set out in Appendix XV.

Training Activities

Provision is made within the National Plan for the funding of:

- (i) OSC and contingency planning workshops, operator courses and exercises conducted by DoT;
- (ii) travel expenses of approved workshop attendants; and
- (iii) costs associated with transportation and deployment of National Plan equipment.

Training activities undertaken at the local level and involving the use of combat equipment which is not part of the National Plan might be jointly funded by GBRMPA and Queensland State Committee. Possible funding contributions might be obtained from AIPECE through MOSC.

APPENDIXES

AOPXXP0278

DEFINITION OF THE GREAT BARRIER REEF REGION
AND ADJACENT AREA

The Great Barrier Reef Region

1. As defined in the Great Barrier Reef Marine Park Act 1975, the area within the boundary which
 - (a) commences at the point that, at low water, is the northern-most extremity of Cape York peninsula, Queensland;
 - (b) runs thence easterly along the geodesic to the intersection of parallel of Latitude $10^{\circ}41'$ South with meridian of Longitude $145^{\circ}00'$ East;
 - (c) runs thence southerly along that meridian to its intersection by the parallel of Latitude $13^{\circ}00'$ South;
 - (d) runs thence south-easterly along the geodesic to a point of Latitude $15^{\circ}00'$ South, Longitude $146^{\circ}00'$ East;
 - (e) runs thence south-easterly along the geodesic to a point of Latitude $17^{\circ}30'$ South, Longitude $147^{\circ}00'$ East;
 - (f) runs thence south-easterly along the geodesic to a point of Latitude $21^{\circ}00'$ South, Longitude $152^{\circ}55'$ East;
 - (g) runs thence south-easterly along the geodesic to a point of Latitude $24^{\circ}30'$ South, Longitude $154^{\circ}00'$ East;
 - (h) runs thence westerly along the parallel of Latitude $24^{\circ}30'$ South to its intersection by the coastline of Queensland at low water; and
 - (j) runs thence generally northerly along that coastline at low water to the point of commencement.

Adjacent Area to Great Barrier Reef Region

2. The Adjacent Area will be defined as the area the boundary of which:
 - (a) extends from the point of Latitude $11^{\circ}00'$ South, Longitude $142^{\circ}08'$ East on the west coast of Cape York Peninsula to the point of Latitude $10^{\circ}35'$ South, Longitude $141^{\circ}55'$ East;
 - (b) runs thence to the point of Latitude $10^{\circ}00'$ South, Longitude $142^{\circ}00'$ East;
 - (c) runs thence to the point of Latitude $9^{\circ}10'$ South, Longitude $143^{\circ}52'$ East;
 - (d) runs thence to the point of Latitude $9^{\circ}00'$ South, Longitude $144^{\circ}30'$ East; and

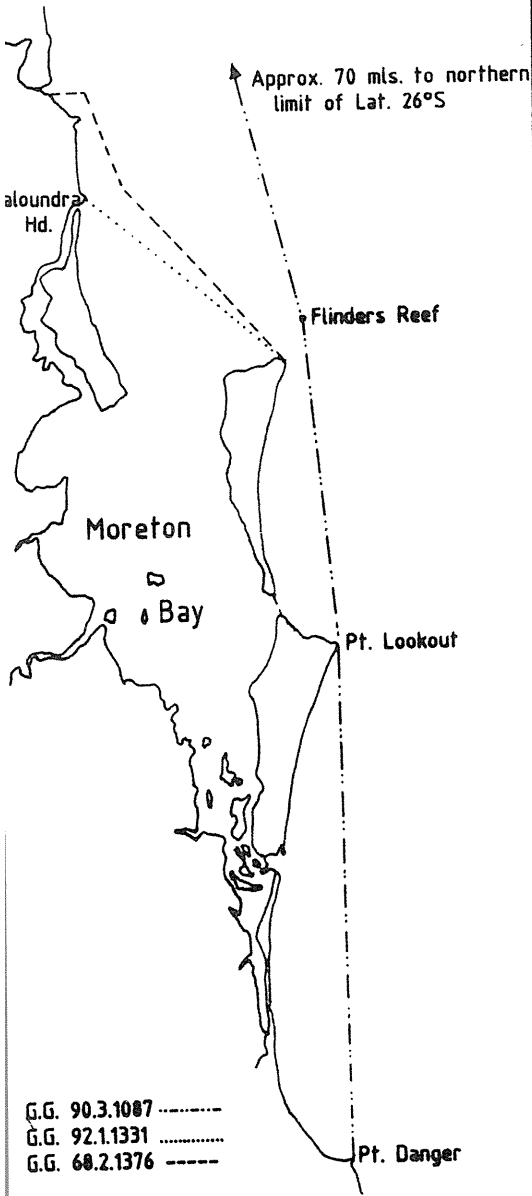
- (e) runs thence to the point of Latitude $10^{\circ}41'$ South, Longitude $144^{\circ}18'$ East to intersect with the northern boundary of the Great Barrier Reef Region.

QUEENSLAND PORT LIMIT CHARTLETS

AOPXP0278

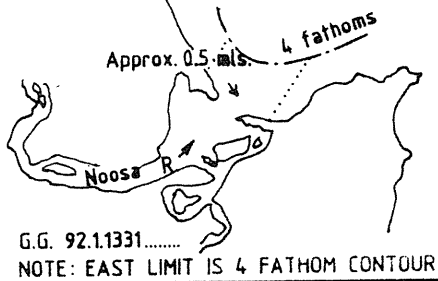
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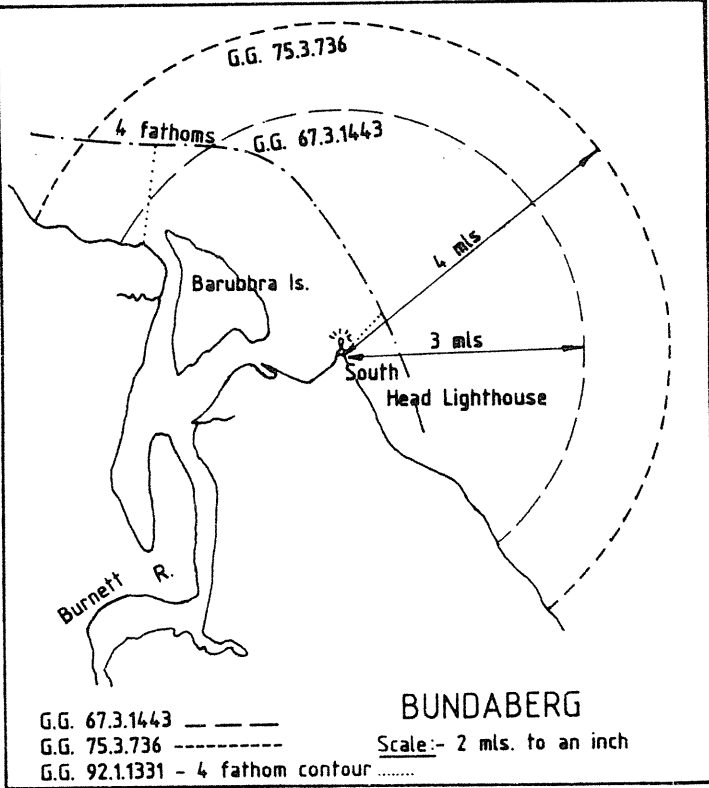
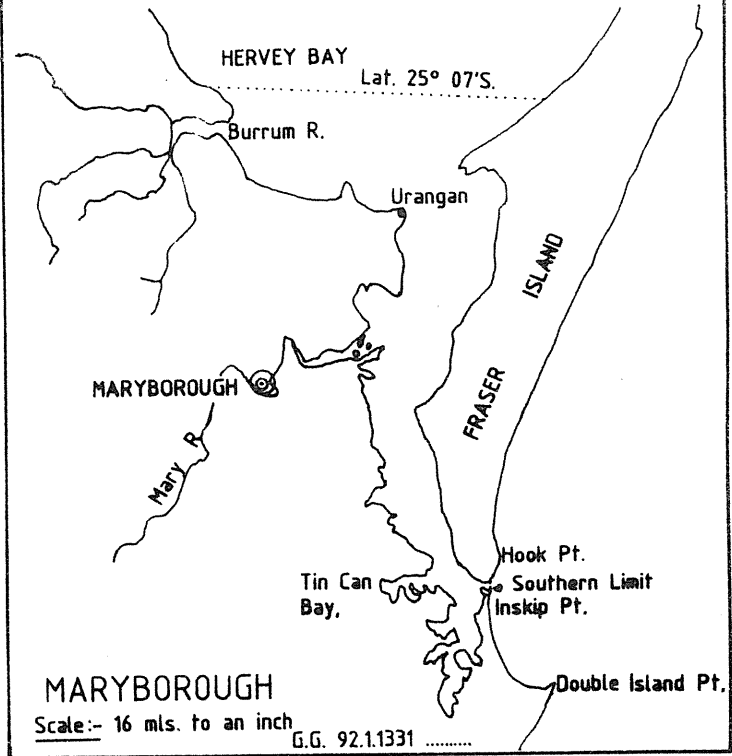
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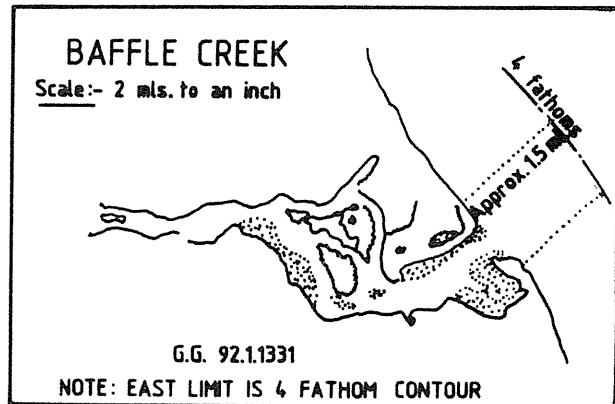
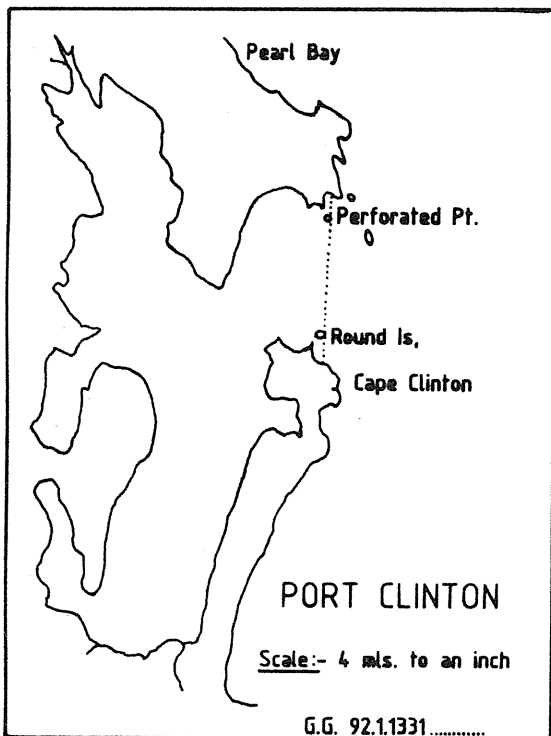
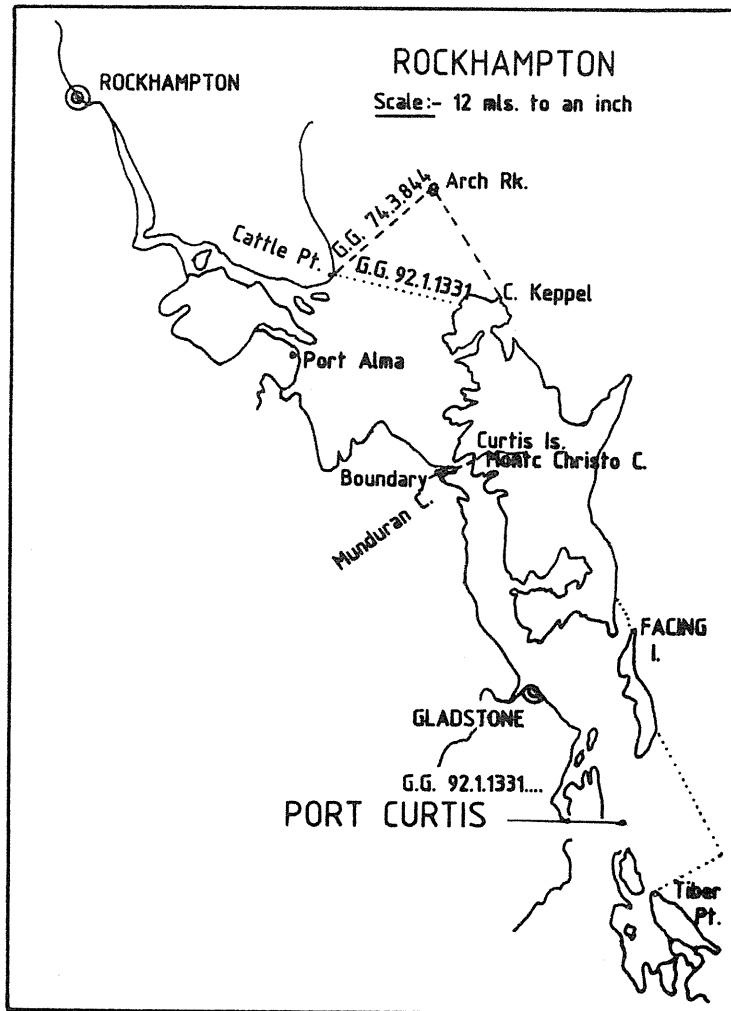
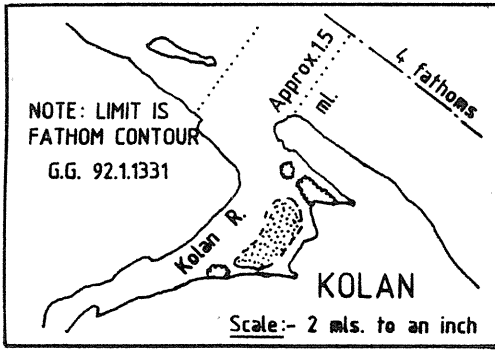
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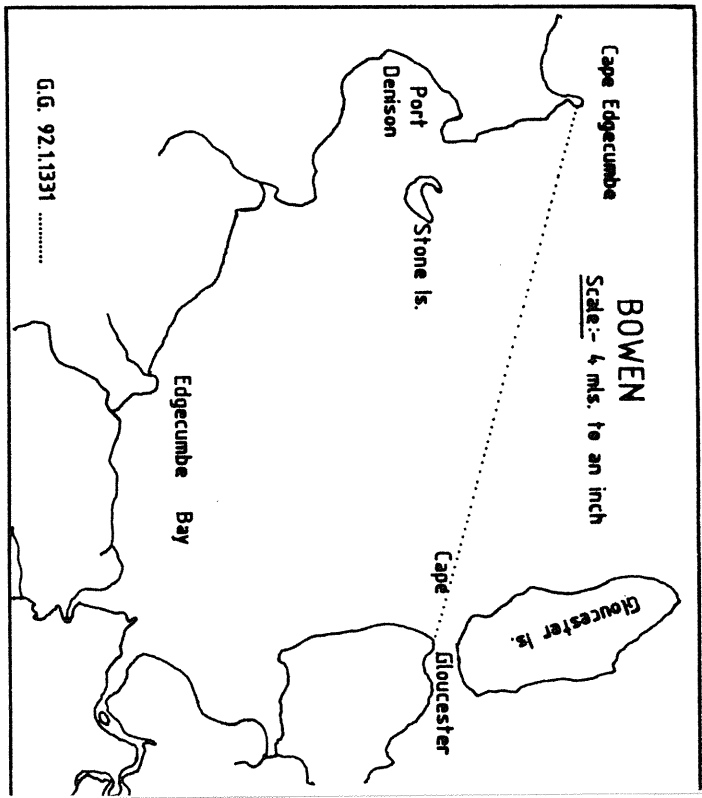
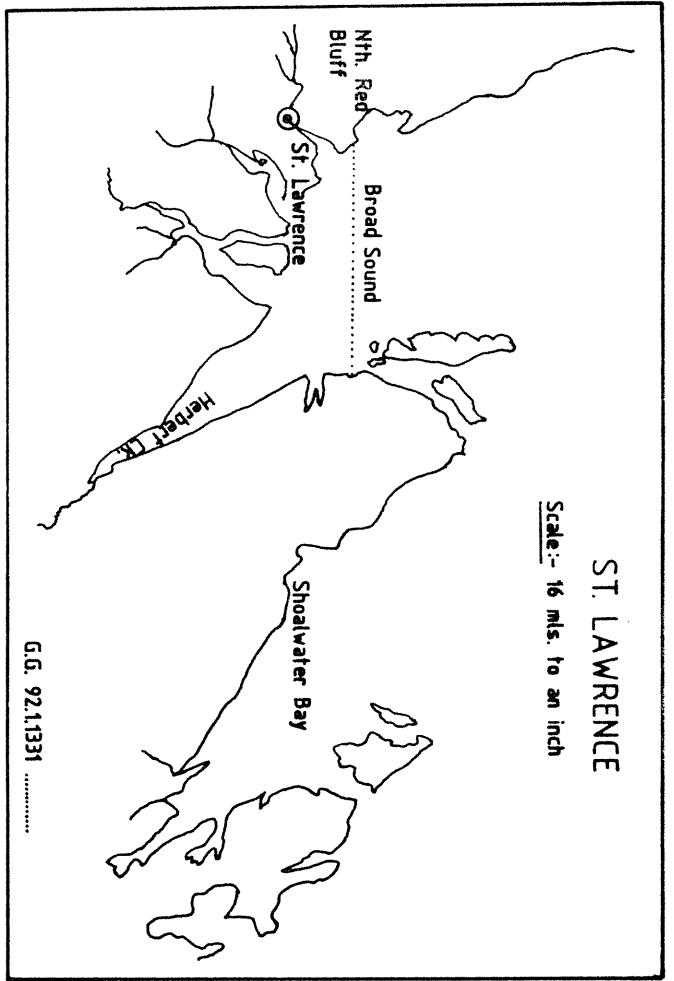
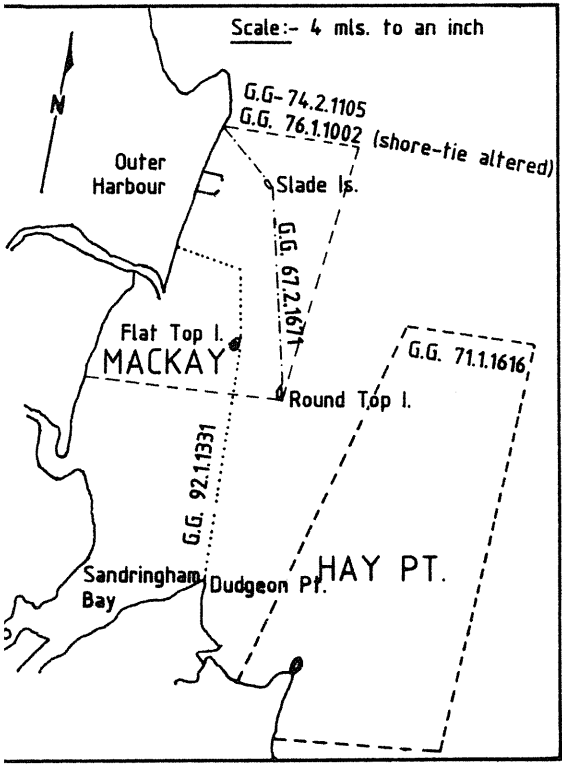


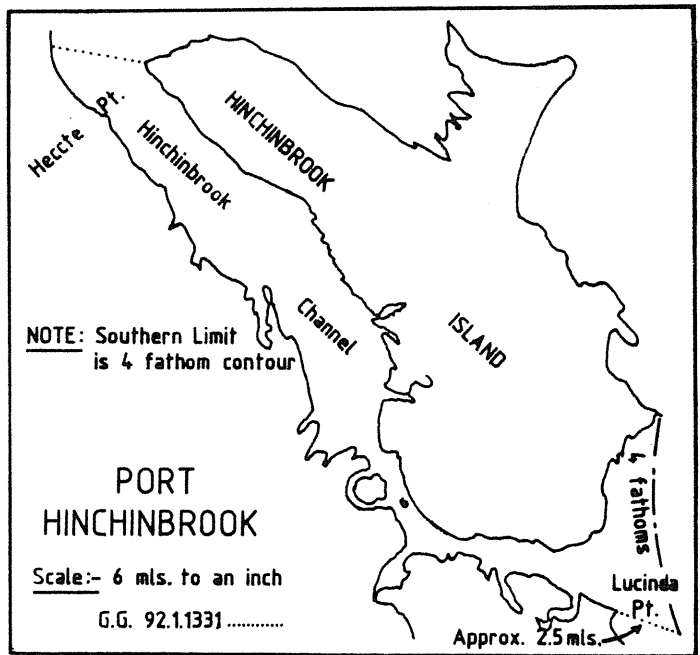
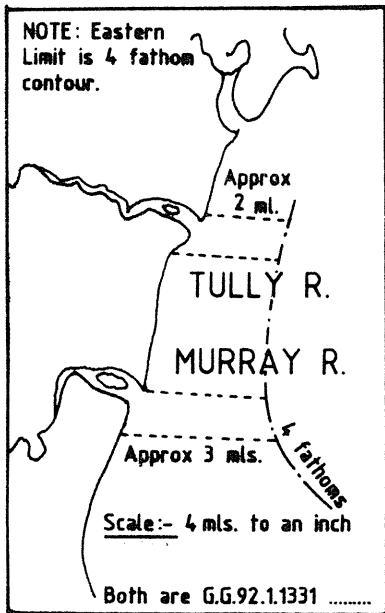
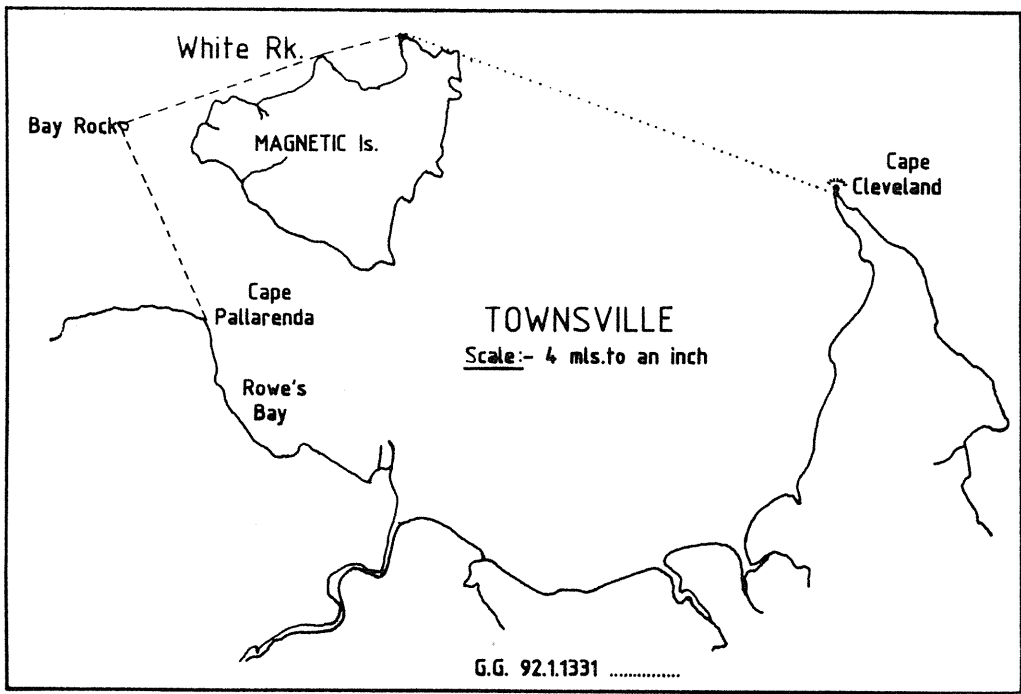
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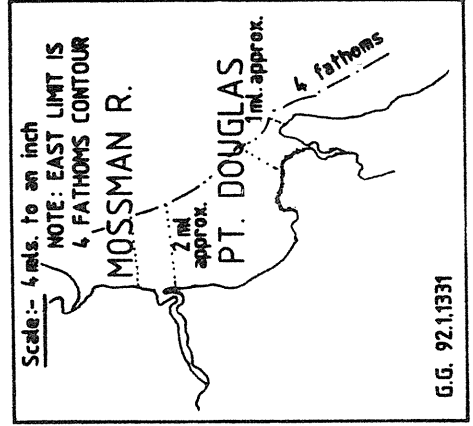
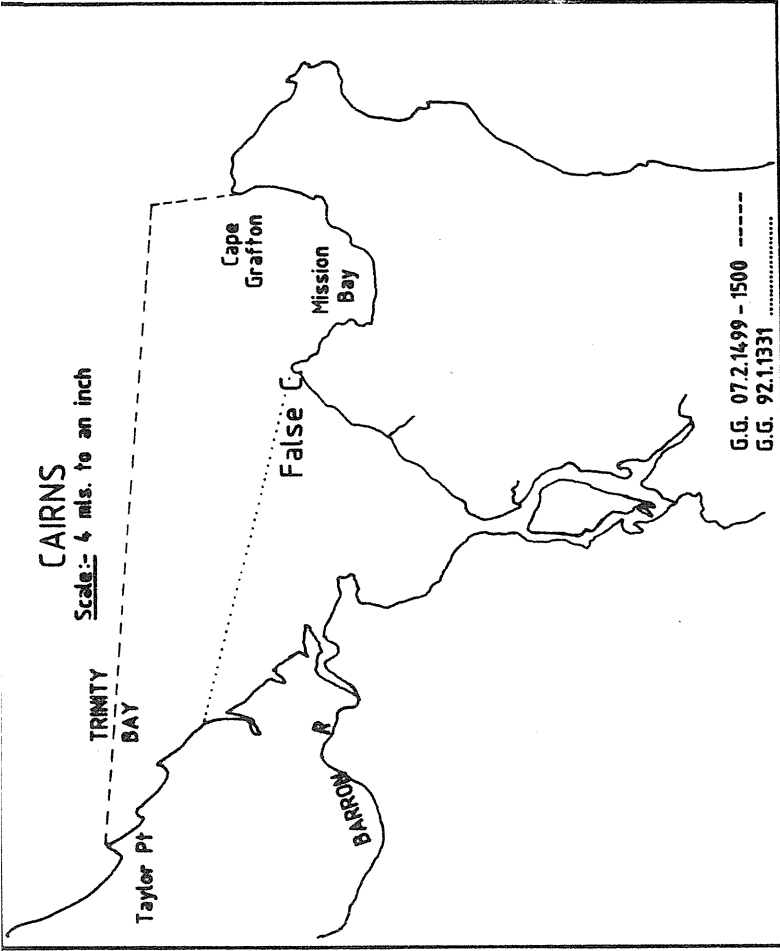
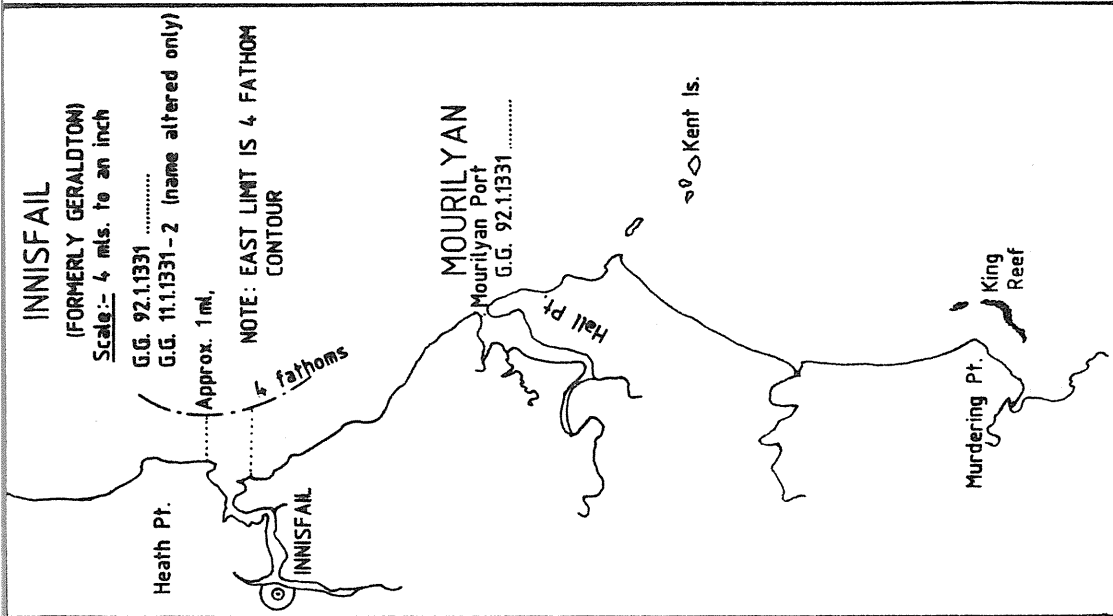
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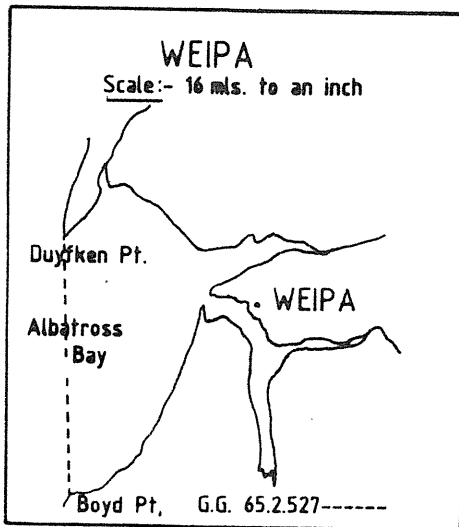
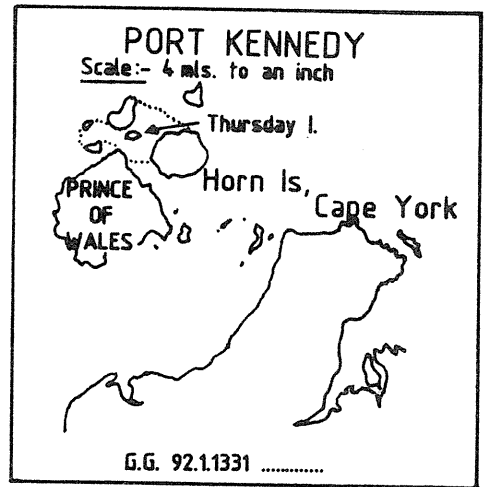
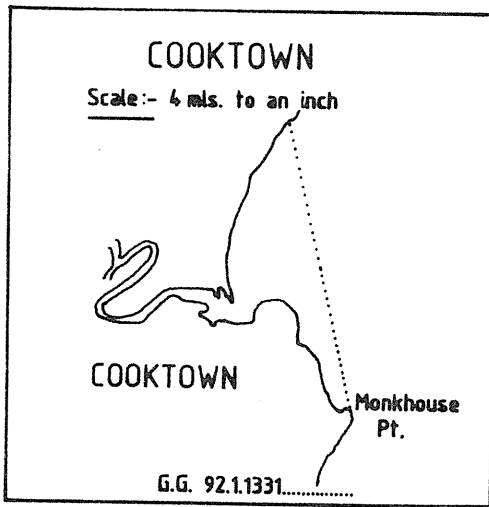
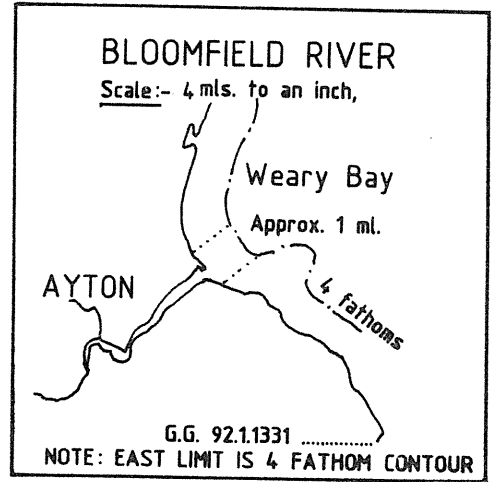
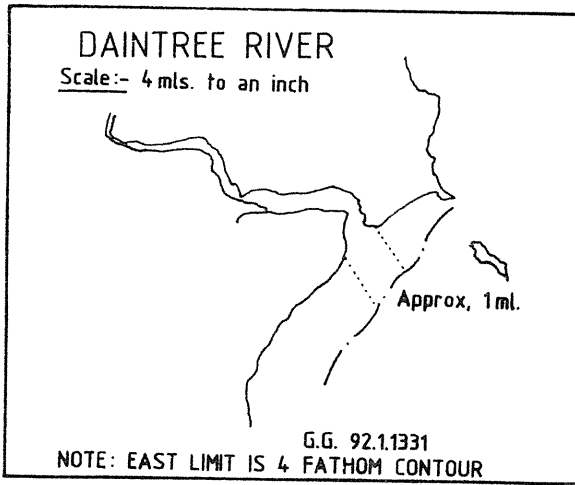






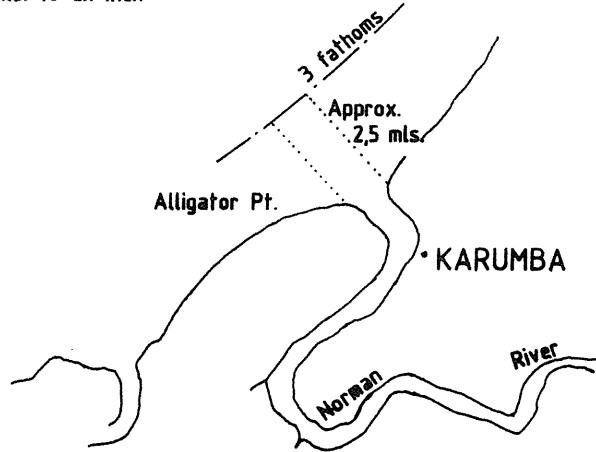






NORMANTON

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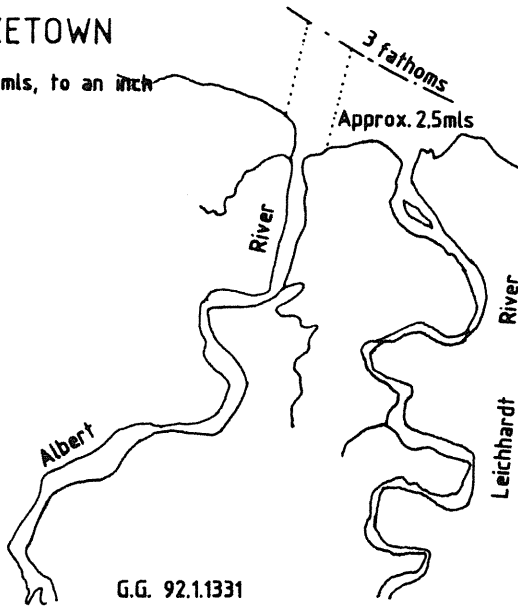


G.G. 92.11331

NOTE: NORTH LIMIT IS 3 FATHOM CONTOUR

BURKETOWN

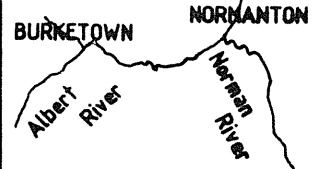
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G.G. 92.11331

NOTE: NORTH LIMIT IS 3 FATHOM CONTOUR FROM HEAD OF ALBERT RIVER.

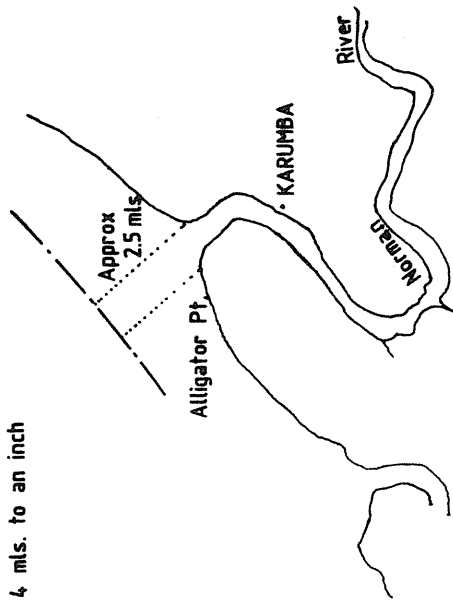
INSET



QUEENSLAND HARBOUR LIMIT CHARTLETS

NORMANTON

Scale:- 4 mls. to an inch

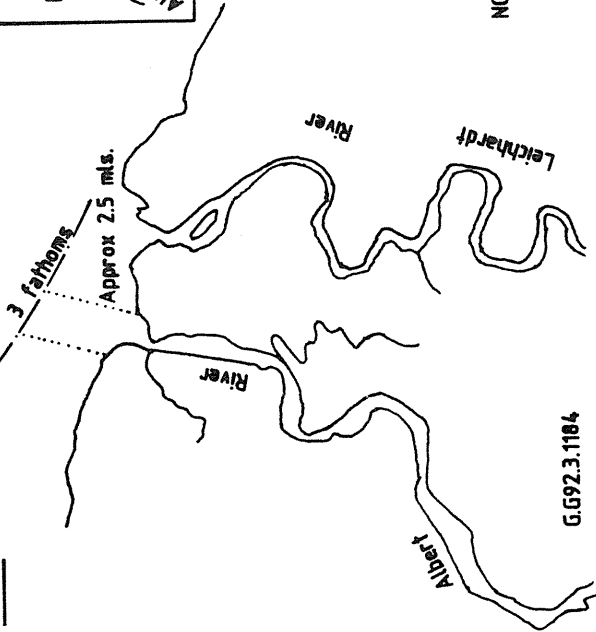


G.G.92.3.1184

NOTE: NORTH LIMIT IS 3 FATHOM CONTOUR

BURKETOWN

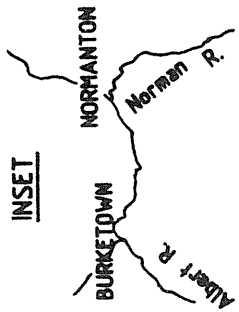
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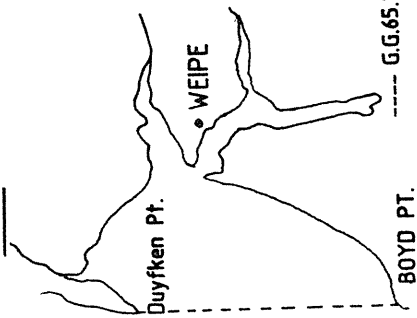
NOTE: NORTH LIMIT IS 3 FATHOM CONTOUR FROM HEAD OF ALBERT RIVER.

INSET



WEIPE

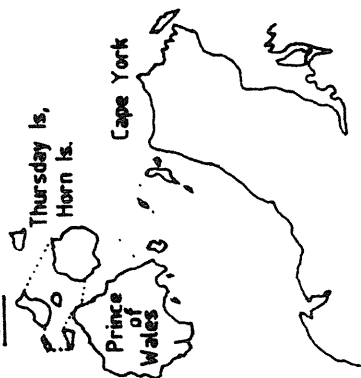
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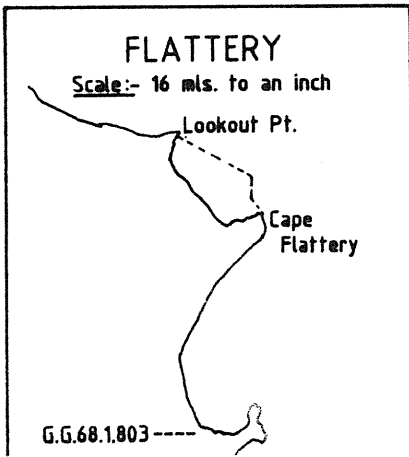
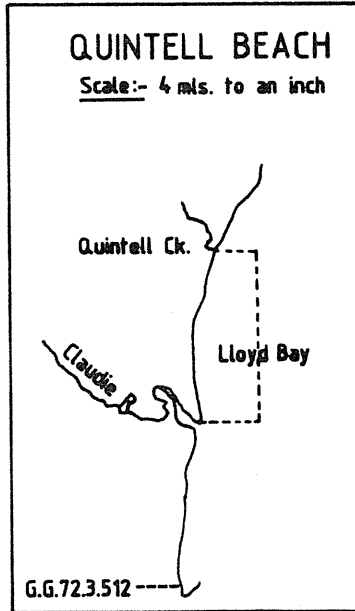
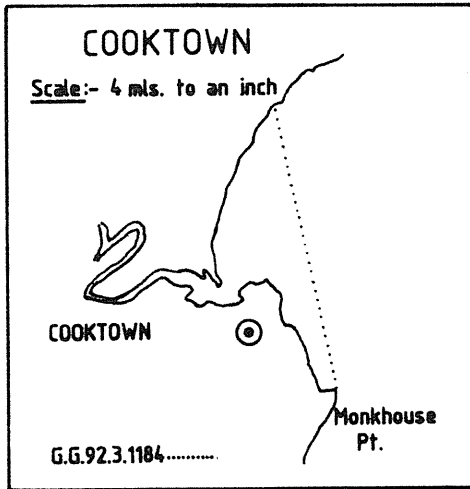
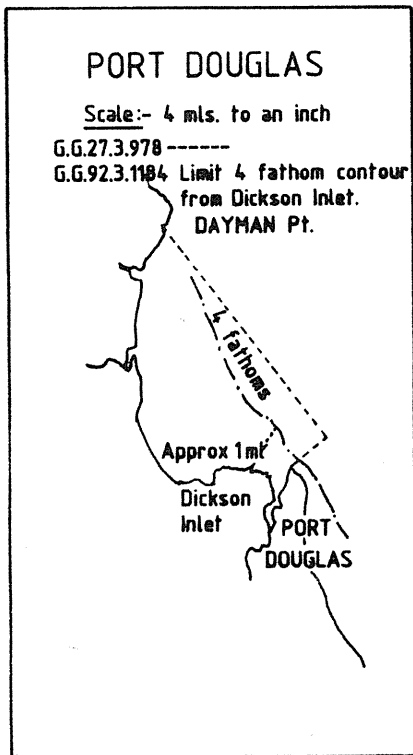
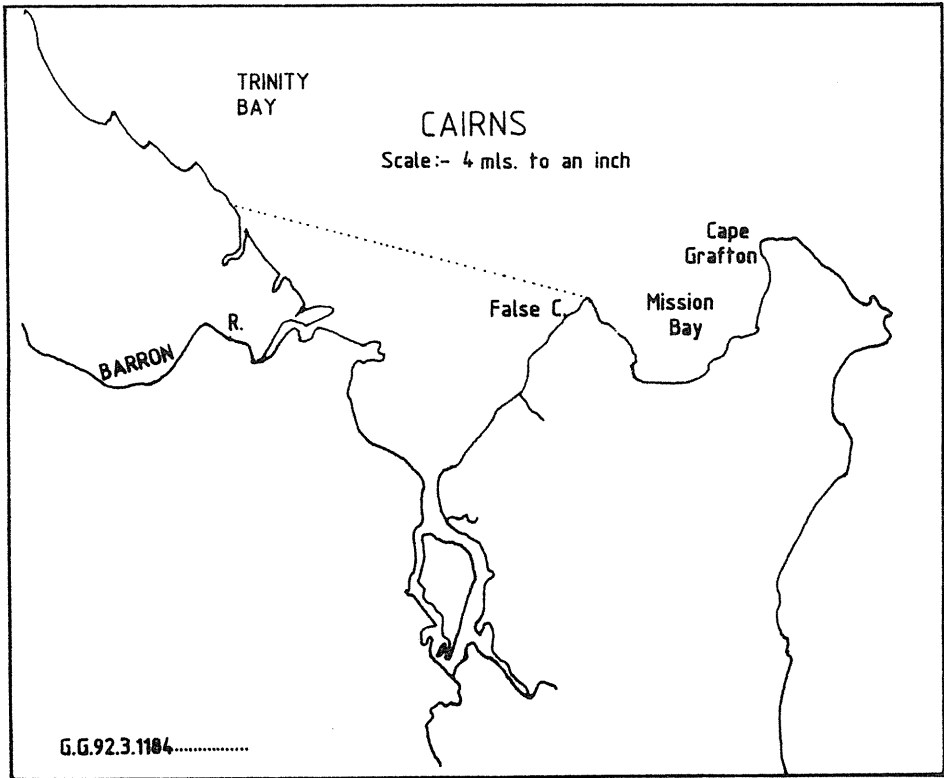
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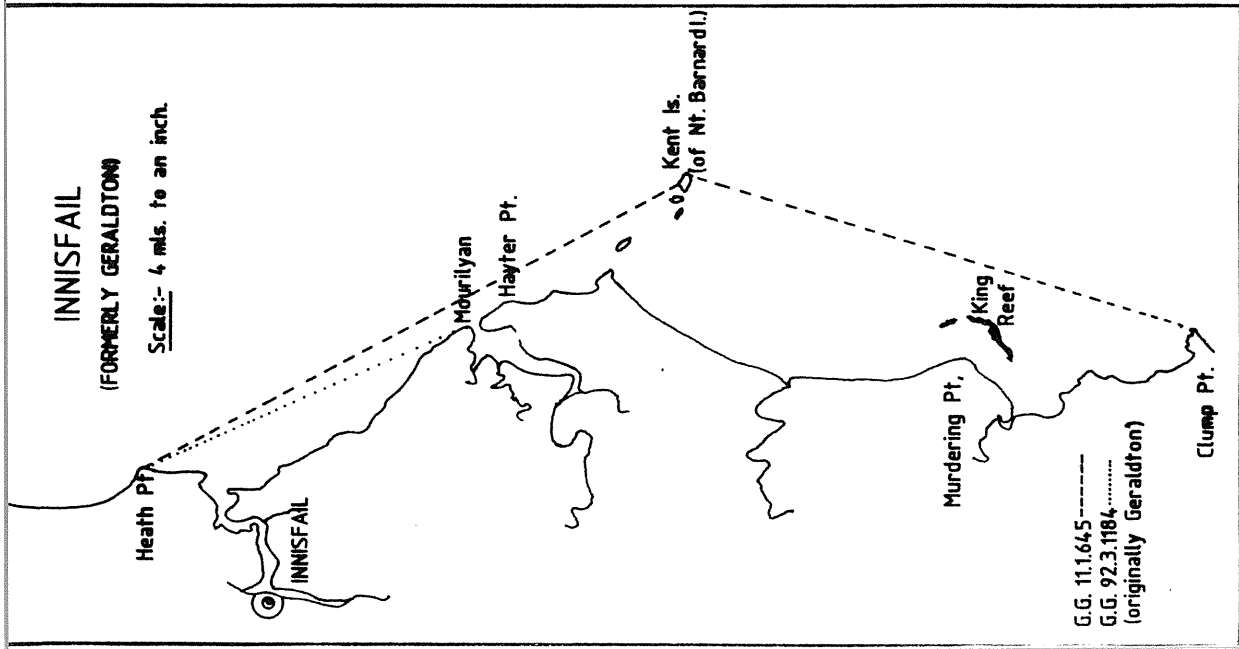
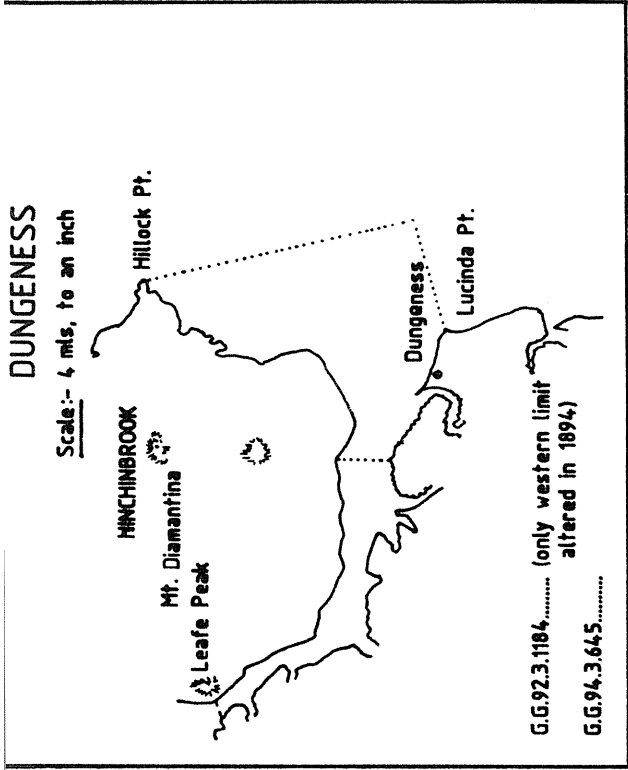
PORT KENNEDY

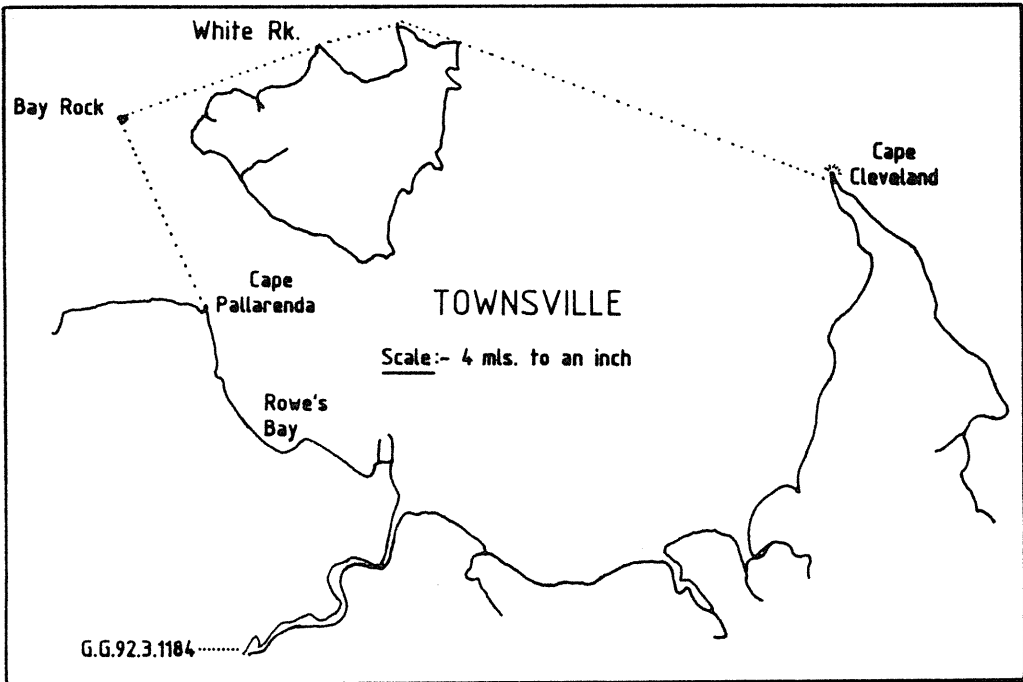
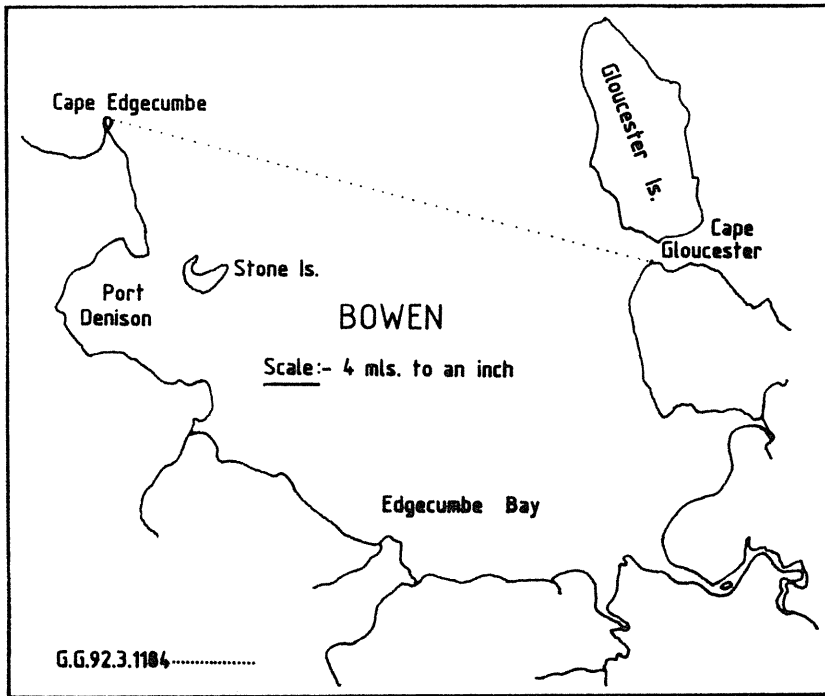
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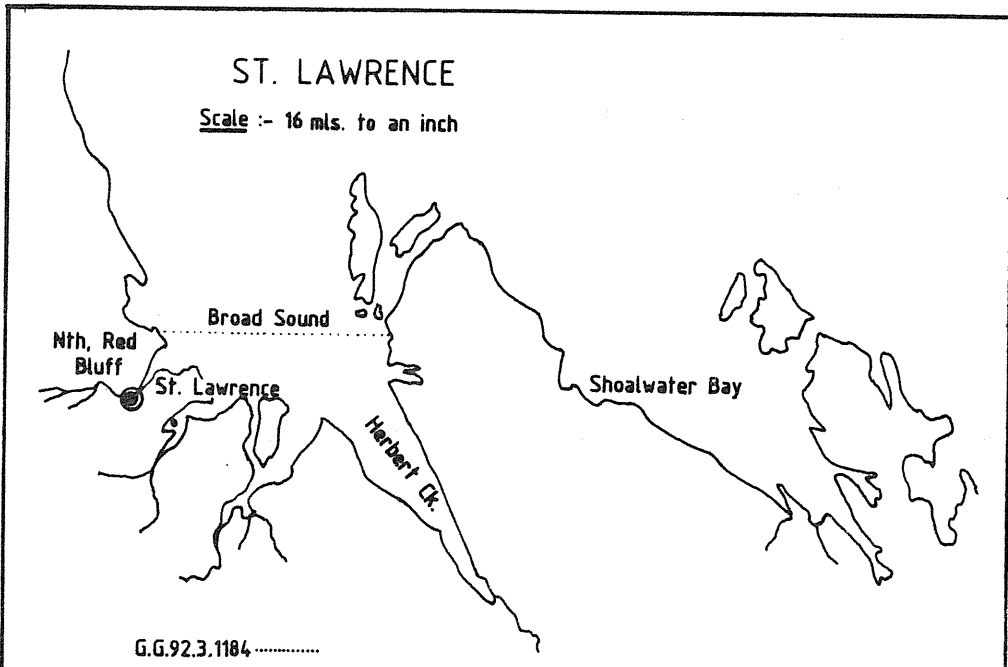
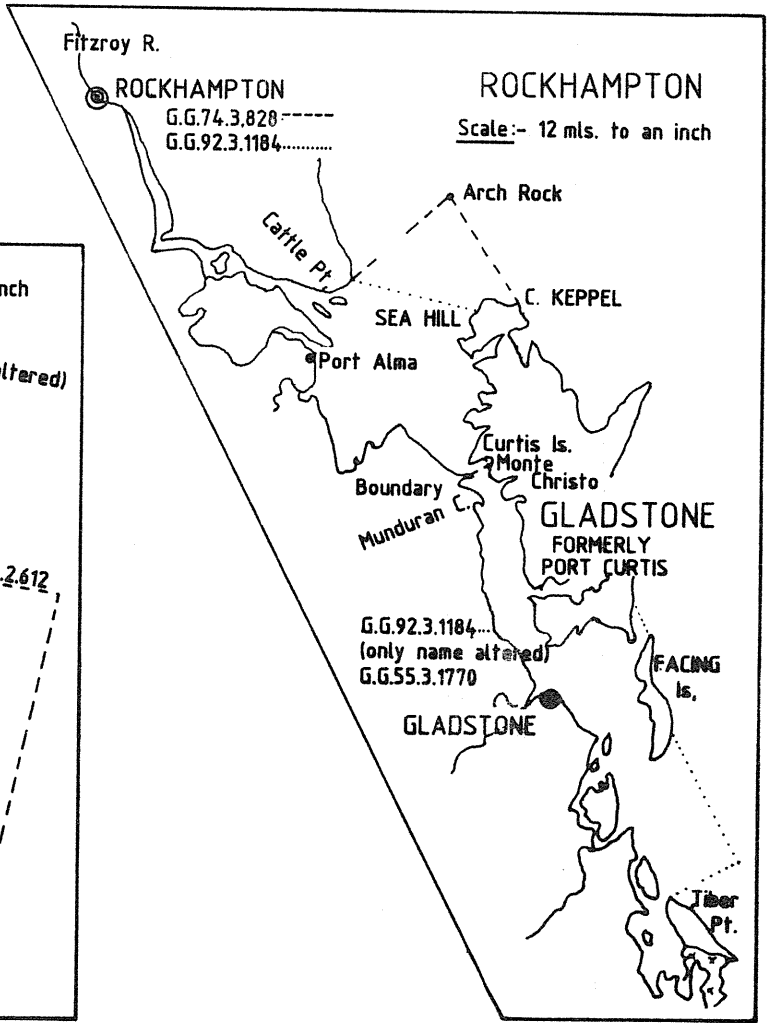
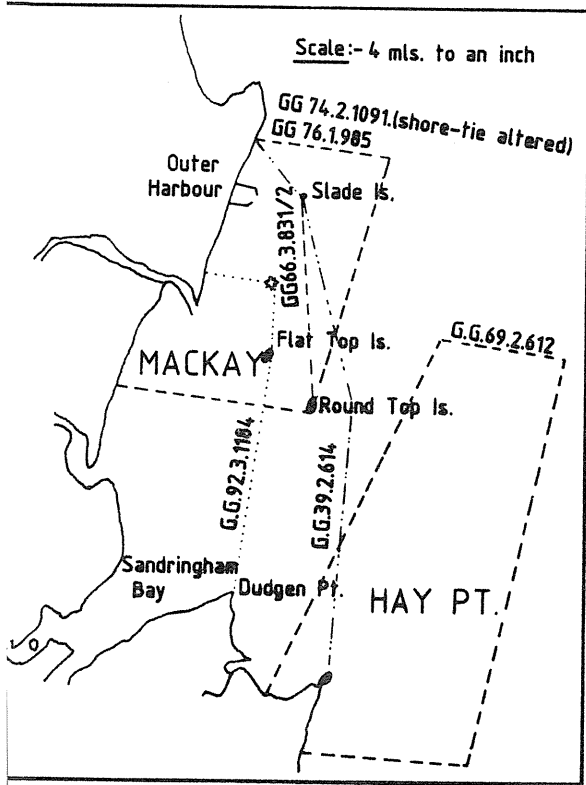


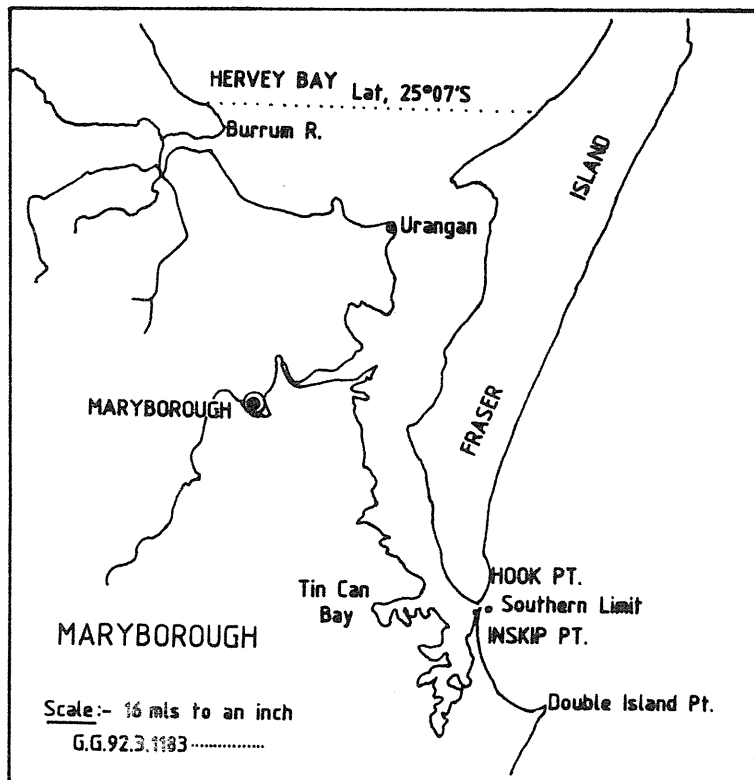
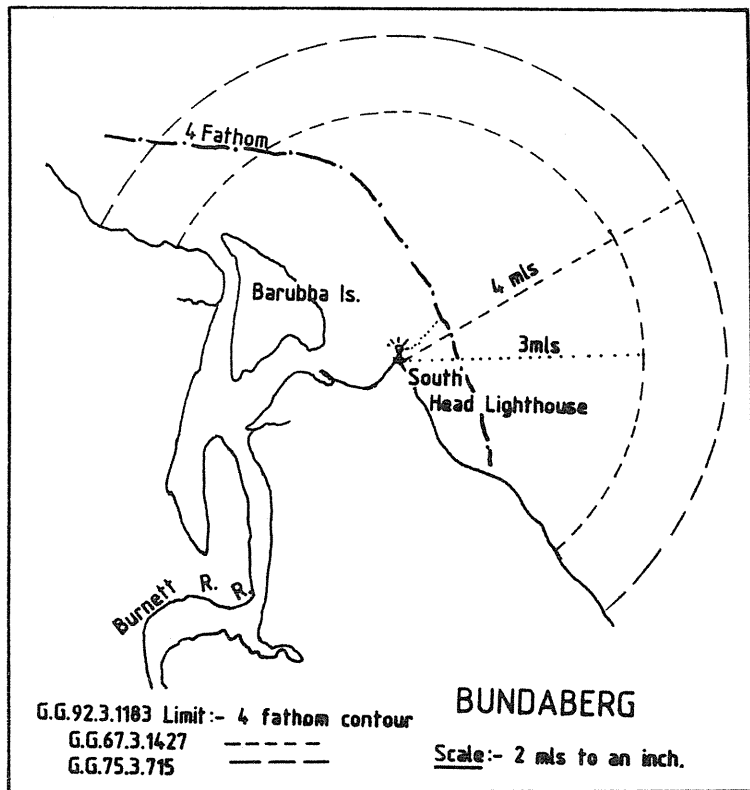
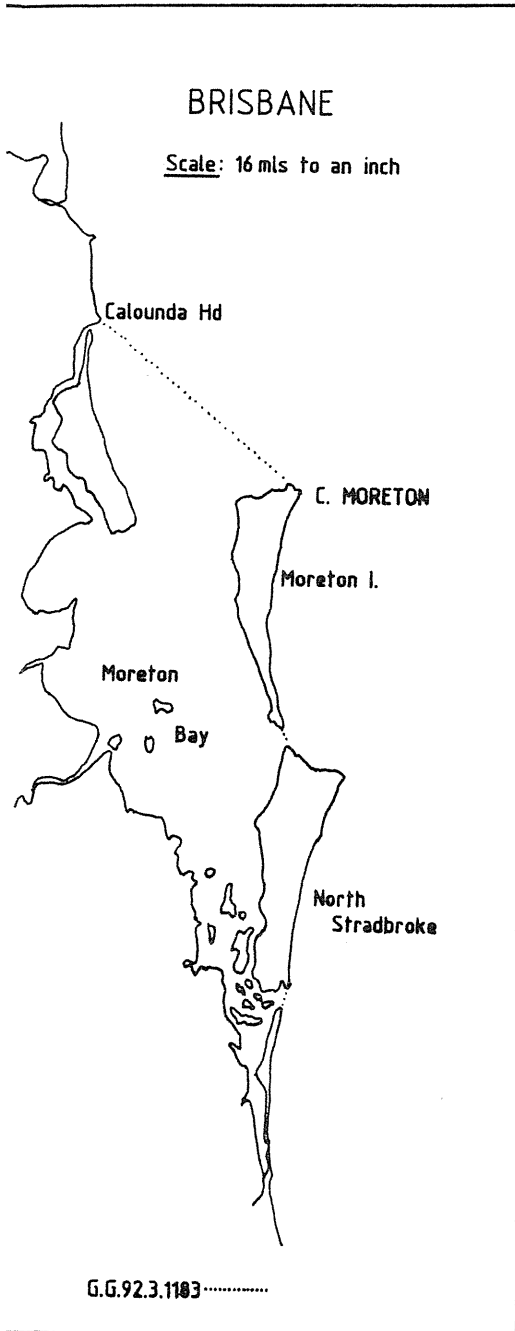
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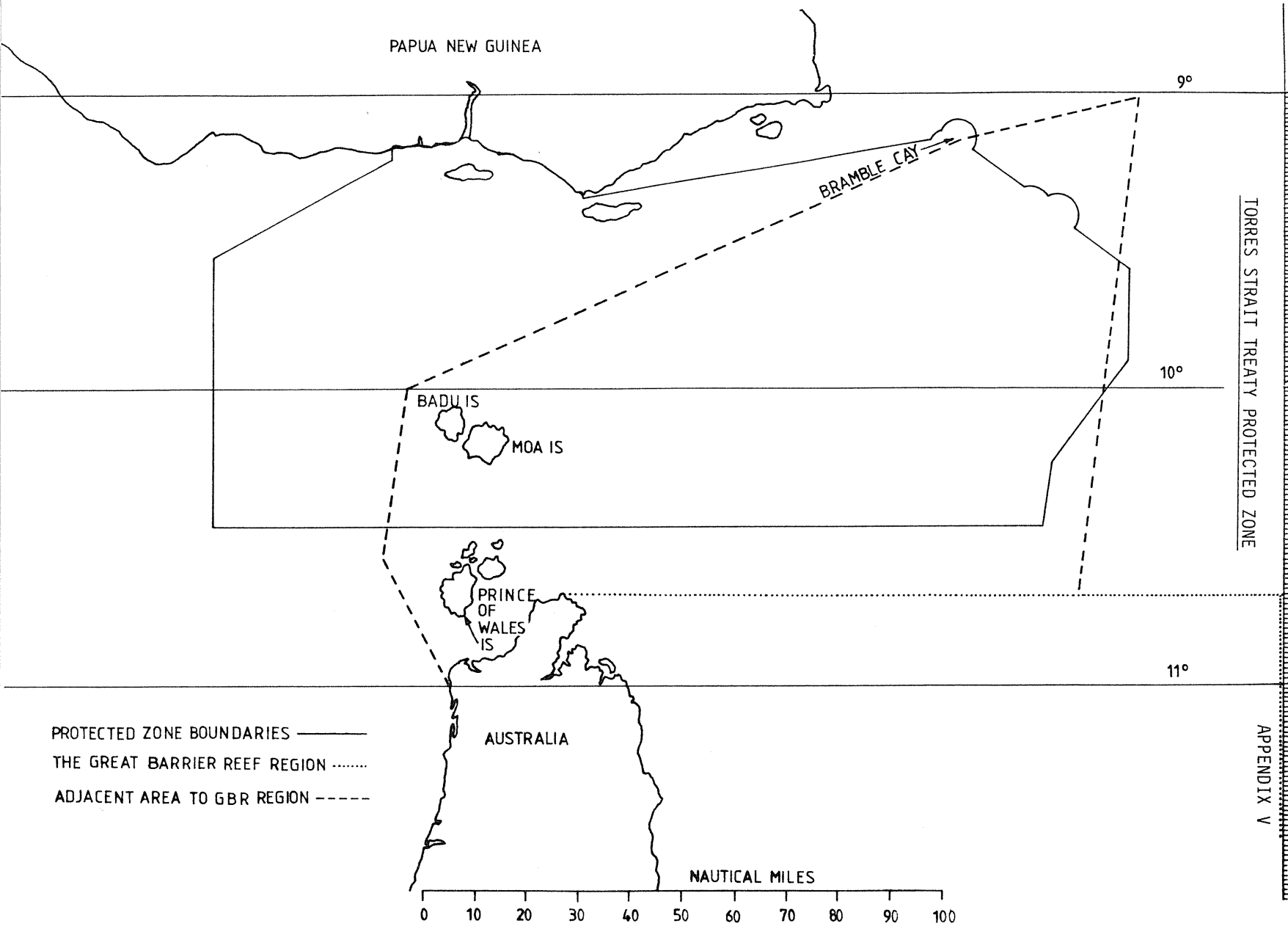


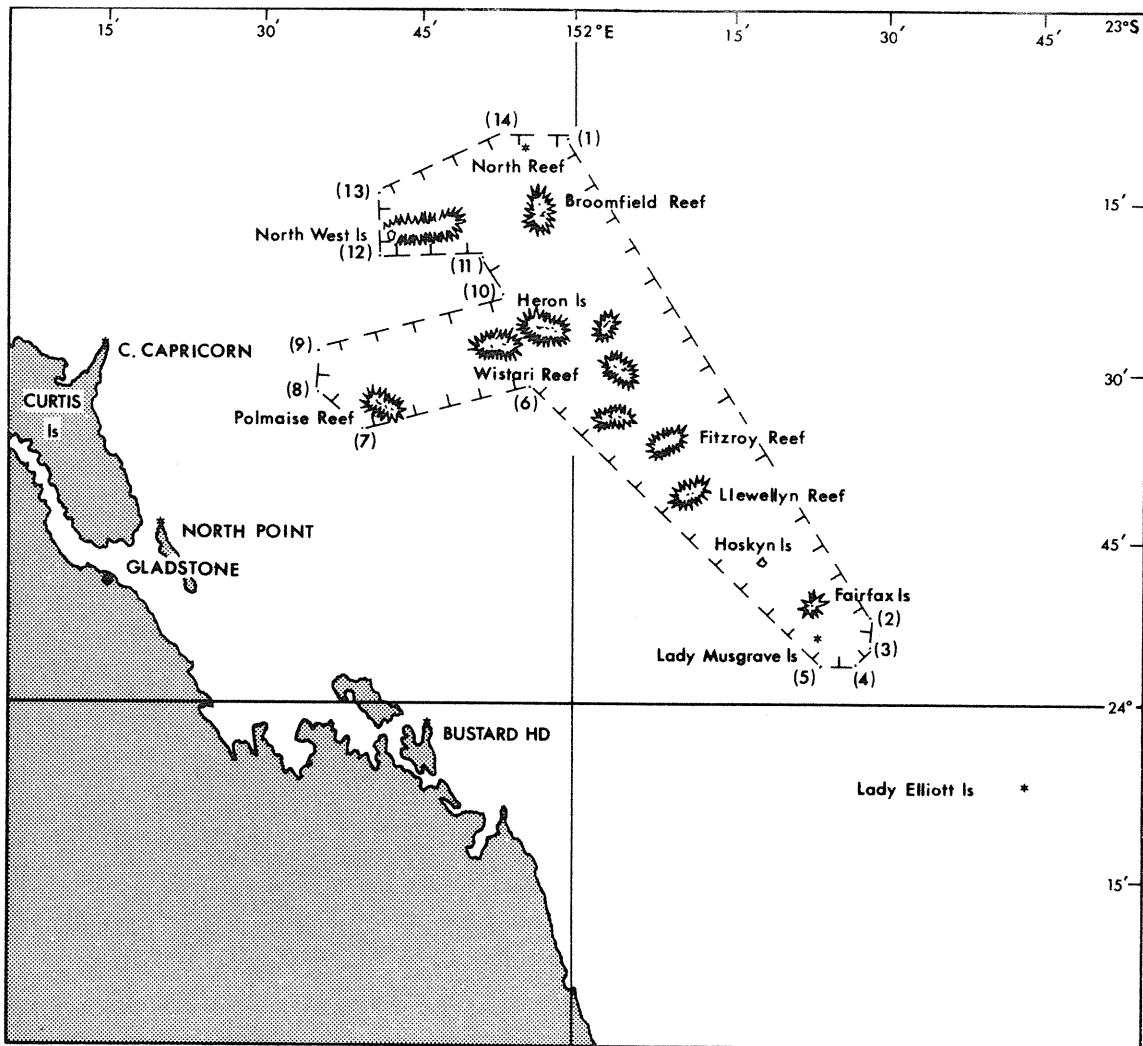












SCALE 1 : 1 000 000

IN THE CAPRICORNIA SECTION OF THE GREAT BARRIER REEF

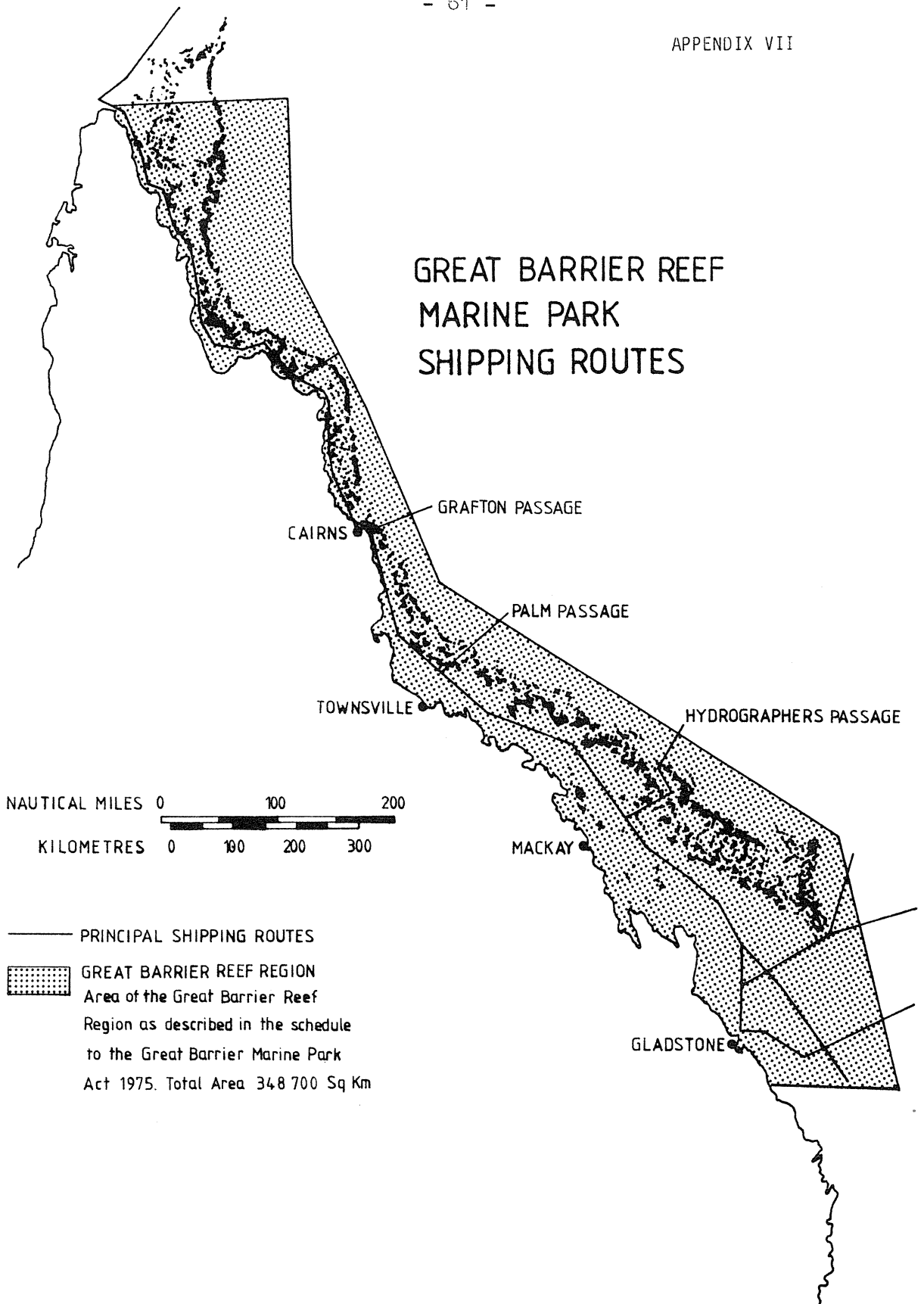
Description of the area to be avoided.

In order to avoid the risk of pollution and damage to the environment in the Capricornia Section of the Great Barrier Reef Marine Park, all ships in excess of 500 tons gross tonnage should avoid the area which is bounded by a line connecting the following points:

(1)	23°10'S	151°56'E
(2)	23°53'S	152°28'E
(3)	23°55'S	152°28'E
(4)	23°57'S	152°26'E
(5)	23°57'S	152°24'E
(6)	23°32'S	151°55'E
(7)	23°36'S	151°39'E
(8)	23°33'S	151°35'E
(9)	23°30'S	151°35'E
(10)	23°25'S	151°53'E
(11)	23°20'S	151°50'E
(12)	23°20'S	151°40'E
(13)	23°15'S	151°40'E
(14)	23°10'S	151°52'E

Thence to the point of commencement.

GREAT BARRIER REEF MARINE PARK SHIPPING ROUTES



RESPONSIBILITIES OF KEY PERSONNEL IN OIL SPILL RESPONSE OPERATIONS

(a) On Scene Co-ordinator

Specific responsibilities of the OSC include:

- (1) Determine spill characteristics, i.e.,
 - . oil type, quantity and location
 - . probable direction and rate of movement of oil.
- (2) Assess impact of spill on human activities and environment and determine priorities for protection.
- (3) Determine level of response necessary.
- (4) Determine location of advance operations centre and scale of support staff.
- (5) Determine extent to which assistance of associated departments and resources are required.
- (6) Initiate and direct combat measures, clean-up, disposal, event documentation and accounting activities.
- (7) Ensure timely release of information through the Media Liaison Officer.
- (8) Determine the degree of hazard, and assess if crowd control support is necessary.
- (9) Decide when to terminate clean-up operations.
- (10) Ensure clean-up and return of equipment.
- (11) Participate in debriefing session.

(b) Deputy On Scene Co-ordinators

Responsibilities of deputy OSCs include:

- (1) Provide advice and recommendation to the OSC on response strategies within the specified area.
- (2) Translate policy and directives of OSC into effective clean-up and disposal programmes.
- (3) Advise OSC on progress of clean-up operation and make recommendations on developments as they occur.
- (4) Maintain effective use of clean-up personnel and equipment.
- (5) Ensure safety of personnel is paramount at all times.

- (6) Ensure adequate data is provided to administrative support staff for documentation.
- (7) Participate in debriefing session.
- (8) Carry out other duties as directed by OSC.
- (c) Scientific Support Co-ordinator

Responsibilities of the SSC include:

Pre-incident

1. Maintain current lists of scientific and environmental authorities who could provide technical assistance during clean-up operations.
2. Maintain support programs e.g. OSSM and lists of research projects helpful in spill situations
3. Provide input to training exercises conducted within REEFPLAN Area.

On Scene

4. Determine environmental priorities.
5. Co-ordinate input from various scientific and environmental groups and provide objective advice to the OSC.
6. Make arrangements through the OSC for research/observation teams at spill site.
7. Co-ordinate monitoring studies to reduce duplication of effort.

Post Incident

8. Participate in debriefing session.
9. Assist with environmental monitoring studies at spill site and disposal site.

(d) Administrative Support Co-ordinator

Responsibilities of the ASC will include:

1. (a) accounting of all equipment, personnel and fuel used in the combat action
- (b) examining all accounting forms
- (c) recording rates of equipment hire and length of hire
- (d) preparing hire agreements or charter parties as necessary
- (e) compiling daily expenditure summaries.

2. (a) recording requests for equipment and manpower
- (b) recording details of equipment and personnel employed, specific charges in clean-up operation, and quantities of expendable items deployed.
3. (a) providing manpower and equipment management
- (b) ensuring adequate first aid service
- (c) providing berthing, messing, sanitary and accommodation facilities.

POLLUTION EQUIPMENT REGISTER - QUEENSLAND

Port	Equipment	Classification	Quantity	Store	Operator (T=Trained) (G=General)	Owners	Officer	Work Phone	Home Phone	Telex
Brisbane	Boom	Gamlen	600 m	Cairns Cross Dock	1T	Port of Brisbane Authority	C. Tucker	07 2289748	07 3762657	42780
	Boom	Troilboom Giant	One	Cannon Hill		Transport Aust	K. Dwyer	07 2278601	07 3003995	40760
	Boom	Maximax	100 m	Cannon Hill		Transport Aust	K. Dwyer	07 2278601	07 3003995	40760
	Boom	Skimmex Sh'Line Barrier	300 m	Cannon Hill		Transport Aust	K. Dwyer	07 2278601	07 3003995	40760
	Boom	Hoyle Minipak 5	40 m	-		Transport Aust	R. Worrall	07 3913934	07 2454007	42780
	Boat	Triton Catamaran	One	Cairns Cross Dock	Yes	Transport Aust	R. Worrall	07 3913934	07 2454007	42780
	Dispersant	BP-AB	100 tonnes	Cannon Hill	2T	Transport Aust	D. Owens	07 2531658	07 3512147	40226
	Disp Rig	DOT/WSL	Eight	Cannon Hill	2T	Transport Aust	D. Owens	07 2531658	07 3512147	40226
	Disp Rig	Simplex 6810 Helicopter	One	Cannon Hill	Yes	Transport Aust	K. Dwyer	07 2278601	07 3003995	40760
	Oil Transport	Transpac Container	Five	Cannon Hill		Transport Aust	D. Owens	07 2531658	07 3512147	40226
	Skimmer	Marco Class 1 Orv	One	Cairns Cross Dock	1T	Transport Aust	C. Tucker	07 2289748	07 3762657	42780

Port	Equipment	Classification	Quantity	Store	Operator (T=Trained) (G=General)	Owners	Officer	Work Phone	Home Phone	Telex
	Skimmer	Slickbar Manta Ray	One	Pinkenba Base	1T	Dept of Harbours & Marine	K. Dwyer	07 2278601	07 3003945	40760
	Skimmer	Slickbar Manta Ray	One	Pinkenba Base	1T	Dept of Harbours & Marine	K. Dwyer	07 2278601	07 3003995	40760
	Skimmer	Lockheed Mini-Cleansweep	One	Pinkenba Base	1T	Dept of Harbours & Marine	K. Dwyer	07 2278601	07 3003995	40760
	Skimmer	Terling GT 185	One	Cannon Hill		Transport Aust	K. Dwyer	07 2278601	07 3003995	40760
	Skimmer	Slickbar Manta Ray	One	Cairns Cross Dock		Port of Brisbane Authority	C. Tucker	07 2289748	07 3762657	42780
Bundaberg	Boom	Gamlen	80 m	Wharf	1T	Bundaberg Harbour Board	D. Antrobus	071 712247	071 792314	
Gladstone	Boom	Gamlen	300 m	Qld Aluminium Wharf	2T	Gladstone Harbour Board	N. Bowley	079 761333	079 791947	49480
	Boom	Polutek	300 m	Auckland Point		Gladstone Harbour Board	N. Bowley	079 761333	079 791947	49480
	Skimmer	Lockheed Cleansweep	One	Auckland Point	1T	Gladstone Harbour Board	N. Bowley	079 761333	079 791947	49480

Port	Equipment	Classification	Quantity	Store	Operator (T=Trained) (G=General)	Owners	Officer	Work Phone	Home Phone	Telex
	Skimmer	Omi Model 6D	One			Transport Aust	N. Bowley	079 761333	079 791947	49480
Mackay	Boom	Gamlen	300 m	Inner Pier	1T	Mackay Harbour Board	A. Anderson	079 551155	079 551446	46373
	Skimmer	Lockheed Mini-Cleansweep	One	Inner Pier	1T	Mackay Harbour Board	A. Anderson	079 551155	079 551446	46373
Townsville	Boom	Gamlen	300 m	7th Ave	1T	Townsville Harbour Board	W. Service	077 721011	077 722508	47334
	Boom	Polutek Trawlboom	One	Bulk Sugar Term. W'house	Yes	Transport Aust	M. Lutze	077 715135	077 751805	47124
	Boom	GP800	300 m	7th Ave	1G	Transport Aust	W. Service	077 721011	077 7225088	47334
	Boat	Chiton Catamaran	One	Berth 4	Yes	Transport Aust	W. Service	077 721011	077 7225088	47334
	Skimmer	Lockheed Cleansweep	One	Berth 6	1T	Townsville Harbour Board	W. Service	077 721011	077 7225088	47334
	Skimmer	Terling GT 185	One	Bulk Sugar Term. W'house	Yes	Transport Aust	M. Lutze	077 715135	077 751805	47124
Airns	Boom	Verstech 12/18 Zoom	300 m	Hartley Street	Yes	Transport Aust	P. Patteson	070 512824	070 533034	48041

Port	Equipment	Classification	Quantity	Store	Operator (T=Trained) (G=General)	Owners	Officer	Work Phone	Home Phone	Telex
	Boom	GP800	300 m		1G	Transport Aust	P. Patteson	070 512824	070 533034	48041
	Dispersant	BP A-B	100 tonnes	Hartley Street	1T	Transport Aust	P. Patteson	070 512824	070 533034	48041
	Disp Rig	DOT/WSL	Eight	Hartley Street	2T	Transport Aust	P. Patteson	070 512824	070 533034	48041
	Skimmer	Lockheed Mini- Cleansweep	One	No. 2 Wharf	1T	Cairns Port Authority	G. Kizilas	070 513555	070 531235	4825
	Skimmer	Komara 12K MK3	One			Transport Aust	P. Patteson	070 512824	070 533034	48041

POLREP FORMAT

The format of a marine pollution report is set out below:

Contents of Message

Message Precedence	URGENT for oil pollution reports ORDINARY for other pollution reports
Date Time Group	Date and time message sent (GMT)
From	Identity of surveillance unit
To	COASTWATCH CANBERRA
Message Type	POLREP

Report Details

(AA)	Nature and extent of pollution
(BA)	Position of pollution in latitude/longitude
(EA)	Identity of pollution source if known
(EB)	Estimated course and speed of any craft involved
(EC)	Point of discharge from vessel
(ED)	Weather and sea conditions
(EE)	Appearance and condition of sea surface in vicinity (eg. trace of colour in slick, other slicks observed or clean surface except for reported slick, some floating timber etc.)
(EF)	Whether sample taken and if so position relative to polluting vessel when appropriate (eg. in wake approximately 2 minutes after passage)
(EG)	Identity and position of vessels in close vicinity if pollution source unknown
(EH)	Any other relevant information
(FA)	Photographs taken yes/no
(GA)	Destination and ETA of reporting unit.

End of Message

Note: Amplifying reports, unless otherwise specified, should be telexed to:

Federal Sea Safety and Surveillance Centre
Department of Transport
Telex: 62349

APPENDIX XI

APPROXIMATE THICKNESS OF OIL ON THE SEA SURFACE

ACCORDING TO APPEARANCE

APPEARANCE	APPROXIMATE THICKNESS * (microns)	APPROXIMATE QUANTITY IN ONE km ² (litres) (metric tonnes)
Barely visible under most favourable light	0.05	55
Visible as silvery sheen on calm water	0.1	110
First trace of colour	0.15	176
Bright bands of colour rainbow	0.3	351
Dull colours on calm water	1.0	1,168
Yellowish brown slick barely discernible from aircraft	10.0	9
Light brown or black, easily seen from aircraft	100	90
Thick dark brown, black, or orange emulsions	1,000	900
Near the source of a large spill	10,000	9,000

* Approximate value assuming 30⁰ API gravity oil

PROCEDURES FOR COLLECTION OF OIL SAMPLES

If considered necessary, the authority having prime responsibility may request that samples of the pollutant be taken. To enable meaningful sample analysis, the following procedures should be observed:

- (a) Samples should be taken with the minimum of delay to reduce the effects of weathering.
- (b) Every effort should be made to obtain an uncontaminated sample.
- (c) Samples of a minimum of 20 millilitres of pollutant are required for analysis. The samples must be placed in glass containers with stoppers firmly fixed by wire or twine. Plastic or metal bottles should not be used.

* Indicate type of lid acceptable

- (d) The containers should be clearly numbered and labelled. The label should specify:
 - (i) date and time of sampling;
 - (ii) sampling location, including a detailed geographical description and relationship to source;
 - (iii) direction of movement of oil slick; and
 - (iv) name and signature of the sampler.

A copy of each label should be kept and another should accompany the request for analysis along with any information which may be of use to the analyst. The latter should include:

- (i) an estimated time of weathering before sampling; and
 - (ii) details of known or suspected contamination of sampled oil.
- (e) The samples, once properly sealed, should be carefully packed in a crush-resistant container. The package, clearly labelled fragile, should be forwarded by hand, by registered or certified mail or by air to:

The Director
Australian Government Analytical Laboratory
Regional Laboratory (NSW)
Customs House
Circular Quay
SYDNEY NSW 2000

- (f) In instances where transport to the Sydney Laboratory is impracticable, the samples may be delivered to:

The Director
Government Chemical Laboratory
William Street
Brisbane

The Director of the Government Chemical Laboratory can be contacted by

Telephone: (07) 224 5505

SITREP FORMAT

The format of an oil pollution situation report is set out below:

Precedence: as appropriate
Date Time Group: Six figure group to indicate GMT message sent
From: originator of report
To: as appropriate

Incident title

SITREP number

1. Summary of events since last SITREP or all events and identification of source if new incident.
2. Expected developments.
3. Areas threatened.
4. Planned course of action.
5. Details of any assistance required.
6. Other pertinent information.

The last SITREP in a series covering a particular incident should contain the words FINAL SITREP.

LOCATION OF SUPPORT FACILITIES

(RESERVED)

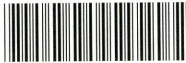
Information on location of airstrips, boat ramps and other facilities to be provided by GBRMPA, National Parks and Wildlife Service and DPI (Fisheries)

POLLUTION INCIDENT COMBAT REPORT

Each Pollution Incident Combat Report should address the following points:

1. Date
2. Location
3. Name of Ship and Nationality
4. Port of Registry and Official Number
5. Master's name
6. Type of oil and quantity
7. Cause of oil spill
8. Detailed description of combat operations including weather conditions and movement of oil
9. Stockpile equipment utilised
10. Stockpile dispersant material expended
11. Other materials or equipment used
12. Assistance from other Government bodies or industry
13. Intended clean-up cost recovery action
14. Comments and recommendations.
15. Disposal requirements for recovered oil
16. Beaufort scale upper limit of effectiveness
17. Environmentally significant (Yes/No)

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R E E F P L A N
O I L S P I L L
C O N T I N G E N C Y P L A N
F O R T H E G R E A T
B A R R I E R R E E F

Rec'd 8/27

1243

<i>Shelton</i>	<i>18/1/90</i>
<i>P.D. Houghton</i>	<i>21/5/90</i>
<i>Deb Laverdy</i>	<i>17/5/94</i>

GBRMPA
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