

**STANDARD OPERATING PROCEDURE
FOR JOINT OIL SPILL COMBAT
IN THE SOUTH CHINA SEA
INCLUDING BRUNEI BAY FOR
BRUNEI - MALAYSIA**

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SECTION 001

SCOPE AND GEOGRAPHICAL COVERAGE

1. The Standard Operating Procedure (SOP) shall apply to in respect of the control and mitigation of oil spills in or threatening the sea within the geographical limit of the territorial waters and Exclusive Economic Zone of the States of Sabah and Sarawak for Malaysia and Brunei.
2. The geographical limit is showing as on the map of Geographical Coverage of Plan as in **Appendix 1**

Territorial water of Sabah, Sarawak and Brunei from Tg. Simpang Mangayau, Kudat, Sabah on the north until Tg. Datu, Sarawak on the south and onwards to the sea, covers the area of Exclusive Economic Zone.

SECTION 002

RESPONSE AREAS AND DIVISION OF RESPONSIBILITY

1. At the outset, each State should be responsible for oil spills within its own territory.
2. In the event of a major oil spill threatening the region, the State in whose zone of responsibility the spill occurs should assume the lead role, and be initially responsible for all the actions taken related to both tracking the spill and any other necessary response.
3. In the event that the oil spill occurs at the common boundary between the two States, the combating team of either State to arrive first at the scene will take appropriate actions in combatting or controlling the oil spill until assistance arrives.

4. Each State should maintain individual records of action taken and equipment and other resources used to respond to the incident. These records can be utilised in cost accounting purposes and in subsequent analysis of actions taken during the spill incident in order to upgrade the SOP.

SECTION 003

OBJECTIVES

The objectives of the Standard Operating Procedure are:

1. To provide early alert to both States on any major oil spill occurring in or threatening the Sabah, Sarawak and Brunei territorial water and Exclusive Economic Zone.
2. To institute prompt measures to control any major oil spill occurring in or affecting the Sabah, Sarawak and Brunei territorial waters and Exclusive Economic Zone.
3. To facilitate the most affected State to take the leading role to co-ordinate and integrate the actions and efforts of both States and possible two party in combating the oil spills; and
4. To provide easy and ready references on key operational personnel, equipment, and particular procedures to enable speedy movements across States.

SECTION 004

ABBREVIATION

LO	Liaison Officer
NOC	National Operation Centre
OSC	On Scene Coordinator
SOP	Standard Operating Procedure

Technical Expert Group can be established when necessary.

SECTION 005

NATIONAL OPERATION CENTRE (NOC)

Each State shall designate a National Operation Centre. The designated National Operation Centre in each State shall be:

1. Brunei
 - a) Director of Marine
Marine Department
Ministry of Communications
Muara 4053
Brunei Darussalam

Tel : 673-2-772294 (Direct Line)
: 673-2-771347 to 771356 (G/L -office hours)
Fax : 673-2-771357
Tlx : BU 2650

After office hours, contact can be made to Muara Radio Coast Station (24 hrs)

Tel : 673-2-770270/770293

2. **Malaysia**

Office of the Director General of Environment
Department of Environment
Ministry of Science, Technology and the Environment
13th Floor, Wisma Sime Darby
Jalan Raja Laut
50662 KUALA LUMPUR

TEL : 603-2947813 Direct line (COMCEN) - 24 hours
603-2947844 (General line) Office hours

FAX : 603-2931480 Administration office
603-2937655 COMCEN

TELEX : MOSTEC MS 28154 (Office hours)

SECTION 006

DESIGNATION OF LIAISON OFFICER

1. Each State shall designate its Liaison Officer. The Liaison Officer shall be the person responsible for coordinating the flow of information for all activities in the event of a major oil spill occurring when:
 - (a) the spill threatens the waters of a State;
 - (b) the affected State requesting assistance from the other State; and
 - (c) a request is made by either State.
2. The appointed Liaison Officers for each State are as set out in Appendix 2.
3. Functions of Liaison Officers are as set out in Appendix 3.

SECTION 007

REPORTS, ALERTS AND COMMUNICATIONS

1. A State in whose zone a spill or a serious threat occurs shall immediately inform the other State if it appears likely that the spill may affect their waters and shorelines, giving as much detail as possible of the incident. The information to be given is as set out in Appendix 4. The State receiving the message shall acknowledge such receipt at the first instant.
2. The information given to the State shall be updated as frequently as possible, giving also the results of observation and prediction of the spill movement. The flow of such information shall continue until the spill no longer threatens the State concerned.

3. A copy of information is to be extended to the Foreign Mission of the State concerned.

SECTION 008

COMMON COMMUNICATION FACILITY, SYSTEM AND PROCEDURES

1. A portable radio communication system operating on a common frequency shall be maintained for the smooth implementation of the SOP.

2. Each State shall maintain 6 sets of the radio communication equipment to enable quick dissemination of information during time of emergency.

3. The portable radio communication system will be utilized by the Liaison Officers (LO) to establish direct communication between On Scene Coordinator and National Operation Centre (NOC).

4. The equipments to be maintained at the individual State's NOC for deployment during emergency are as follows :

- (a) At NOC 2 sets
- (b) At OSC 2 sets
- (c) At LO 2 sets

5. The communication plan between the LO, OSC and NOC is shown in Appendix 5.

SECTION 009

INTER STATE ASSISTANCE

1. In the event of an incident where the affected State is unable to cope with the situation because of its magnitude, it may seek the assistance of the other State. Assistance includes engagement of specialist personnel, equipment, material and consumable items, vessels, aircraft, and other vehicles.
2. The borrowing State shall be fully responsible for the use and maintenance of the equipment and materials belonging to the other State while in its custody.
3. Personnel, materials, equipment, vessels and vehicles hired by the borrowing State shall be returned, replaced or the cost therefore shall be reimbursed by the borrowing States. The procedures are set out in Appendix 6.

SECTION 010

MOVEMENTS OF PERSONNEL, CRAFT AND EQUIPMENT ACROSS STATES

1. The requesting State shall facilitate entry and exit of personnel, craft and equipment, and expedite all diplomatic, customs and immigration formalities. Details of incoming personnel, craft and equipment such as number, identification, country of origin, proposed routes shall be communicated through the NOC.
2. The requesting State shall provide such personnel, amenity and facility that may be required to sustain a prolonged operation. Guidelines for the cost of personnel are as set out in Appendix 7.
3. The personnel shall come under the operational control of the requesting State and shall abide by any reasonable instructions given.

4. In the event that any personnel is injured or become ill, the requesting State will be responsible for all the expenses incurred in the State and any other expenditures involved in the repatriation of the injured personnel.

5. Across-border movement of craft of military origin is as per military standing procedures.

SECTION 011

RESOURCES AVAILABLE

1. Each State shall provide a list of all equipment, craft and support services that can be made available. The list appears as Appendices 8A and 8B. The lists should be updated whenever there is any change.

SECTION 012

COST ANALYSIS/DAILY WORK REPORT FORM

1. The purpose of the form is to record the utilization of equipment in use each day, type of operation, the number of personnel hours worked, hourly rate and total cost during the response operation. The forms will also ensure that the claims against the offending vessels or parties are properly documented and authenticated.

2. The suggested format is shown in the Appendix 9.

SECTION 013

TERMINATION OF RESPONSE OPERATION

Notification of the termination after completion of the response operation in any incident of oil spill is as follows:-

1. If a spill is well within the territory of a State, and it is no longer a threat to the neighbouring State, notification of termination will be done by the NOC of the still affected State; or
2. If a spill incident involves two States, notification of termination will be made only after consultation between the two NOCs.

SECTION 014

REIMBURSEMENT PROCEDURE

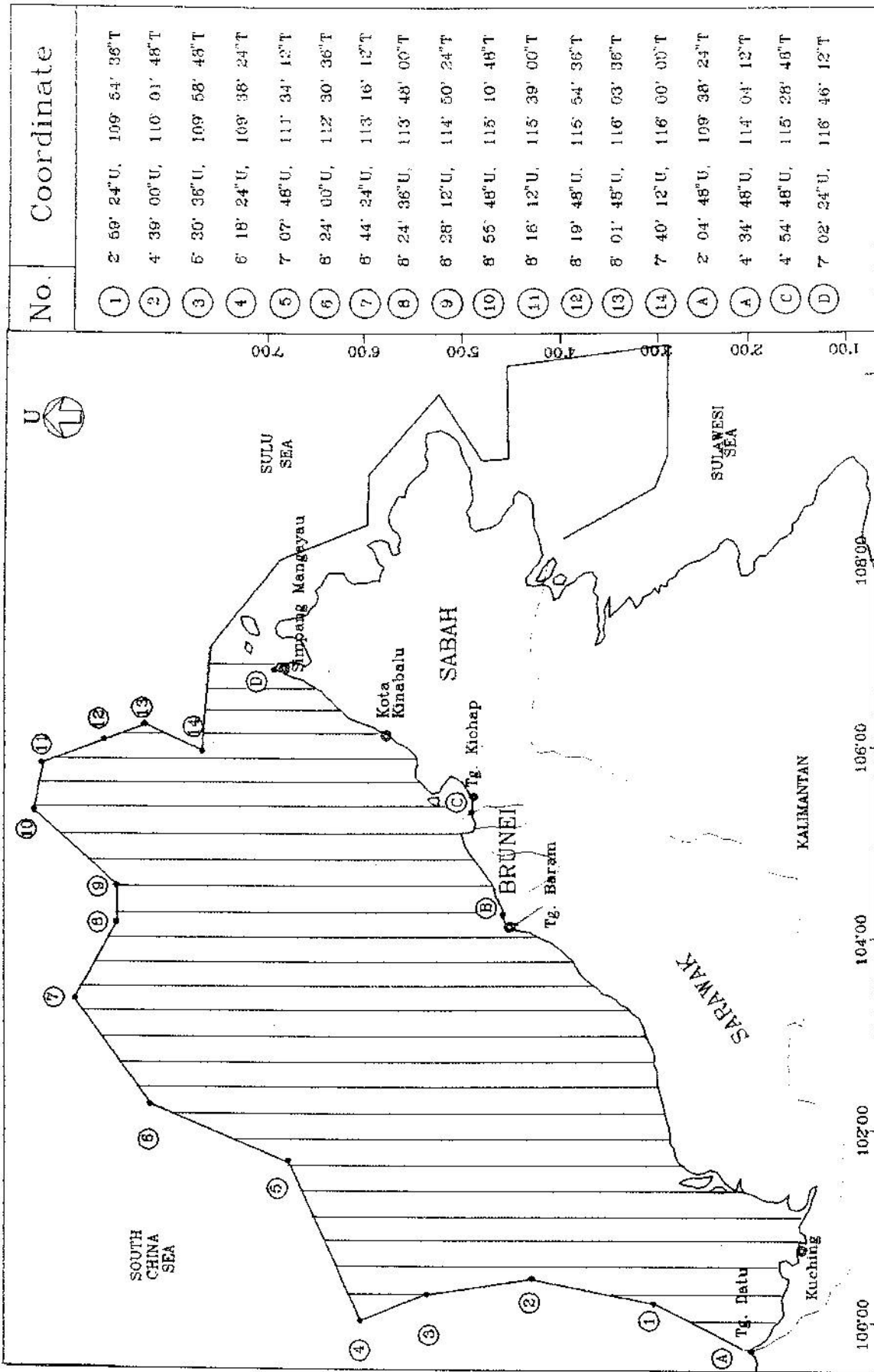
1. The State initiating or coordinating the clean-up operation shall be responsible for all negotiations with regard to claims for assistance rendered by a participating State, and reimburse any dues to the participating State.
2. All claims by the participating State should be submitted to the coordinating State within 3 months from the termination of clean-up operation.
3. Representatives of the participating State seeking reimbursement may be present during negotiations pertaining to such claims.

SECTION 015

REVIEW AND UPDATE OF SOP

The SOP shall be reviewed periodically to incorporate experience gained from regular exercises and operations, and updated when necessary.

Geographical Coverage of Plan



NAME AND ADDRESS OF LIAISON OFFICERS

1. Malaysia

Name : Director-General of Environment

Address : Department of Environment
13th Floor, Wisma Sime Darby
Jalan Raja Laut
50662 KUALA LUMPUR

Tel : 603-2947813 Direct Line (COMCEN) - 24 Hours
603-2947844 General Line (Office hours)

Fax : 603-2931480 Administration office
603-2937655 COMCEN

Telex : MOSTEC MA 28154

Name : Director of Marine, Sabah

Address : Maritime Rescue Coordination Centre
Marine Headquarters
P.O. Box No.5
87008 LABUAN
FEDERAL TERRITORY

Tel : 087-412208
087-412537
087-412209

Telefax : 087-410891
087-413515

Telex : MA 80314 MARKIN

2. **Brunei**

Name : Director of Marine

Address : Marine Department
Ministry of Communications
Muara 4053
Brunei Darussalam

Tel : 673-2-772294 (Direct Line)
: 673-2-771347 - 771356 (General Lines - office hours)

Telefax : 673-2-771357

Tlx : BU 2650

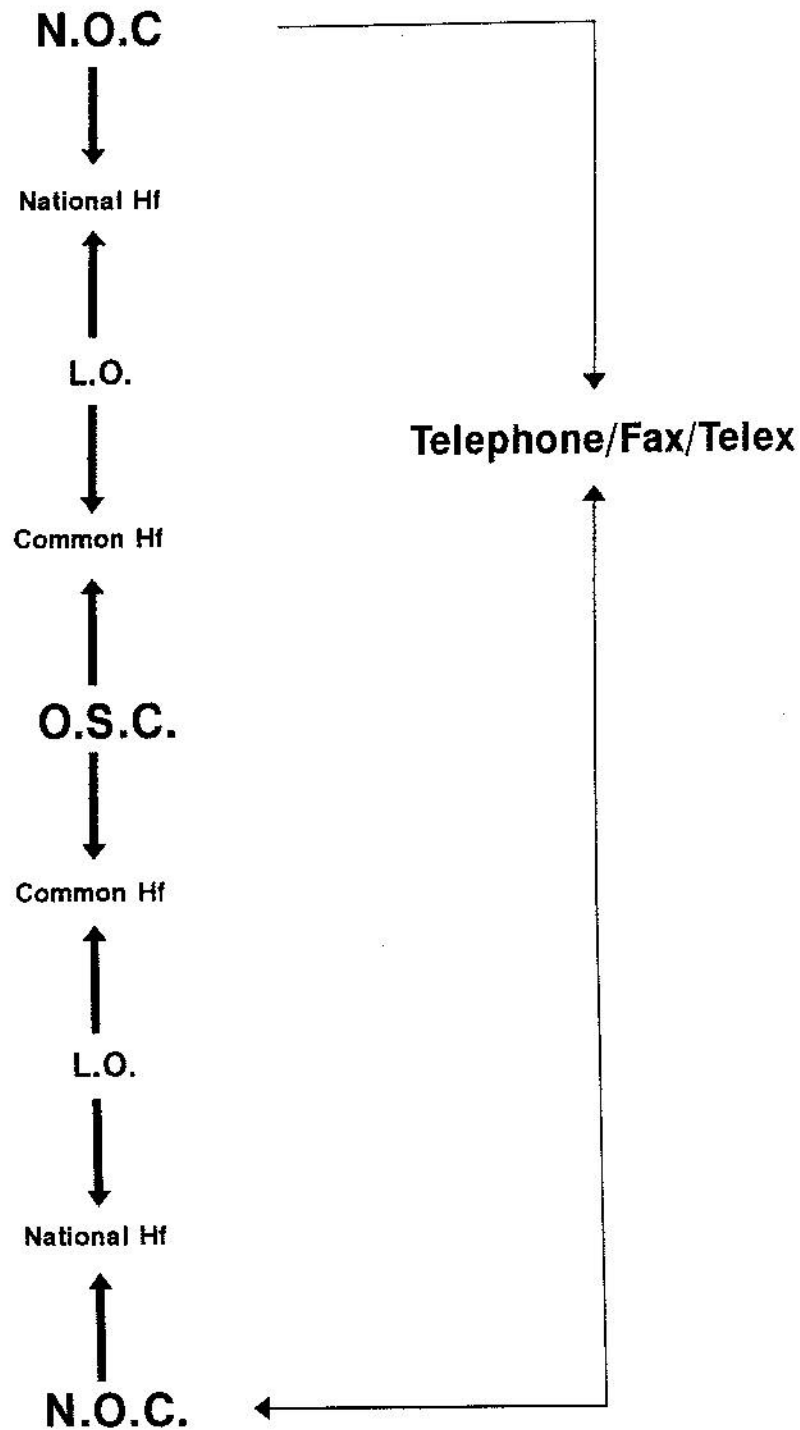
FUNCTIONS OF LIAISON OFFICER

1. To coordinate and expedite exchange of information between NOCs/ROC.
2. To coordinate and expedite movements of personnel and equipment for joint operation amongst member States.
3. To update situation report.

POLLUTION REPORT FORMAT

- 1. Situation Report**
 - a. Position:**
 - b. Date and Time:**
 - c. Quantity:**
 - d. Wind Direction, Speed, Sea Conditions:**
 - e. Direction of Spill:**
 - f. Source (if known):**
 - g. Name of Reporting Vessel:**
 - h. Type of Product (if know):**
 - i. Amount on Board:**
 - j. Any Other Relevant Information:**
- 2. Action Taken**
 - a. (Activation of contingency plan)**
 - b. (Alerting of other States or Organisation)**
- 3. Proposed Actions**
- 4. Request for Deployment of Liaison Officer**
- 5. Assistance Requested**

COMMUNICATION PLAN LO/OSC/NOC



**RETURN, REPLACEMENT OR REIMBURSEMENT OF LABOUR
MATERIALS AND EQUIPMENT**

A. Labour

The borrowing State shall reimburse the participating State for all labour costs incurred from the time any employee is released to the borrowing State until his direct return to the participating State.

B. Consumable Materials

All costs necessarily incurred in complying with any request of a State to borrow consumable materials shall be reimbursed by the borrowing State. Acknowledgement of receipt should be made as soon as possible. The materials shall be replaced at the borrowing State's expense. If the materials cannot be replaced by the borrowing State, reimbursement shall be made for the participating State's replacement costs for the materials.

C. Equipment

1. Equipment hired shall be returned in clean, operational condition when no longer required for the intended purpose.
2. The participating State shall put the borrowing State on notice by telex of any shortage, damage or defect in returned equipment as soon as possible. Any claim by the participating State for such shortage, damage or defect shall be supported by an independent surveyor's report if such a report is requested by the borrowing State.

3. Equipment lost, destroyed or worn out while in the custody of the borrowing State shall be replaced at no cost to the participating State by equipment of the same or equivalent manufacture, model and specification or, at the option of the participating State for the replacement cost for such equipment including, but not limited to, the purchase price, freight, landing and clearance charges, customs duties, sales, turnover, excise or taxes, and any other costs or expenses incurred by the participating State's warehouse or other storage facility.

4. The participating State shall be compensated for each item of equipment hired by a daily rental charge payable for each day or part thereof during which time any such item is on hire to the borrowing State.

D. Craft

1. Surface craft, fixed-wing aircraft and helicopters will be under the control of the participating State. The daily rental will be at the rate set out by the participating State.

GUIDELINES FOR THE COST OF PERSONNEL

(i) ALLOWANCE

Per diem _____.

(ii) TRAVEL

In accordance with the participating State's normal practice for the level of personnel involved.

(iii) FOOD AND ACCOMMODATION

To be provided by the requesting State at the level of entitlement of such personnel.

(iv) INTERNAL TRANSPORTATION

To be provided by the requesting State from time of arrival to time of departure.

MALAYSIA

(A) LIST OF ANTI-POLLUTION EQUIPMENT

PELABUHAN KELANG, SELANGOR

**1. Department of Environment, Ministry of Science,
Technology and the Environment/ Marine Department, Port Kelang**

- 250 Oil Boom RFD
- 2 Skimmer Cyclonet 100
- 1 Large 48.4m Workboat 'Lang Tiram' fitted with cyclonet, spray fire fighting equipment
- | | |
|--------------------------|-----------|
| Cargo tank capacity | 500m. ton |
| Dispersant tank capacity | 10m. ton |
| Foam tank capacity | 10m. ton |
| Max. speed | 10 knots |
- 3 Tugboats (fitted with fire fighting equipment)
- | | |
|--------------------------|----------|
| Dispersant tank capacity | 1 m. ton |
| Foam tank capacity | 5m. ton |
| Max. speed | 12 knots |
- 3 Oil Barges (DOE 1, DOE 2 and DOE 3)
Storage capacity 200m. ton each

- 1 Fast patrol craft (Lang Rajawali)
Telecommunication equipment
(HF, VHF, walkie talkies)

2. BP INSTALLATION

- 400 Ft. Whittaker Expandioil boom
- 1 Megator Beta Mark II skimmer, c/w 3 Vacuflex
hose and coupling (for pond use only)
- 1 Megator twin pumpset dispersant spraying

3. SHELL INSTALLATION

- 1 Set Biggs wall oil dispersant equipment
- 10 Drums SHELL Dispersant (2000 litres)

4. CALTEX

- 5 CP 3 Knapsack sprayer (capacity 20 litres)
- 4 Drums BP 1100 x (615 litres) dispersant

5. ESSO BULK PLANT

- 1200 Ft. American optimax booms
- 2 Units Slurp oil recovery skimmers

1 Set	Portable diesel engine driven pump (capacity 100 IGPM)
2 Sets	Simplite diaphragm pumpset coupled to Petter engine and c/w 71 ft. suction hose
3 Units	'P.B.' brass knapsack sprayer (capacity 4 IG)
12 Pcs.	Life jackets
1 Lot	Nylon rope
4 Sets	Walkie-talkie
230 IG	Corexit 8667 (5 x 46 IG drums)
230 IG	Corexit 9517 (5 x 46 IG drums)
24 IG	Corexit OC-5 (5 x 4 IG drums)

6. PENANG PORT COMMISSION

- 2 46 ft. Workboat equipped for dispersant spraying.

7. CALTEX PRAI TERMINAL

- | | |
|----------|--|
| 1200 Ft. | Slicker MK 9 boom |
| 1 | Komara mini skimmer |
| 1 | Rotary Petter Diesel - driven pump, for coupling spray boom launcher |
| 10 | CP3 knapsack sprayer (capacity 20 litres) |

- 1 38 ft. long mooring launch with spray boom for dispersant
- 2 Fibreglass workboats with outboard motor
- 10 Life jackets
- 2 Elevated steel tank (fixed) for slop oil (capacity 1599 Bbls)
- 8 Drums Corexit 8667 (1672 litres)

8. SHELL BAGAN LUAR, BUTTERWORTH

- 1 Set Set Biggs wall oil dispersion equipment
- 2 Knapsack sprayer
- 20 Drums SHELL dispersant (4000 litres)
- 6 Pcs. Sea sentinel boom
- 2 Pcs. Shore guardian boom
- 1 Pcs. Vikoma water pump
- 2 Pcs. PB 4500 boom inflator
- 7 Pcs. Boom inter-connectors
- 4 Pcs. Towing mooring bridles
- 1 Pcs. Komara skimmer
- 1 Pcs. Vikoma power-vac

- 1 Pcs. Floating Storage tank
- 1 Pcs. Vikoma fast tank
- 1 Pcs. Jetty side storage tank
- 4 Pcs. Sorbent pads, boom and rolls

9. SHELL JELUTONG DEPOT

- 4 Drums SHELL Dispersant (4 x D.200 litres)

10. ESSO BAGAN LUAR, BUTTERWORTH - BULK PLANT

- 1200 Ft. American optimax oil containment boom
- 1 Unit Slurp oil recovery skimmers
- 1 Set Simplite diaphragm pumpsets couple to petter driven engine c/w 71 ft. long suction hose
- 1 Set Portable pump diesel-driven engine (capacity 100 IGPM)
- 110 Pcs. CONWED oil absorbent (size 0.45m. x 0.45m. per piece)
- 4 Units 'PB' Brass knapsack sprayer (capacity 4 IG)
- 8 Pcs. Life jackets
- 1 Unit Collapsible containers (capacity 250 IG)
- 1 Unit Trailer for transportation of equipment

48 IG Corexit OC-5 (12 x 4 IG drums)

736 IG Corexit 9517 (16 x 46 IG drums)

11. MOBIL LUMUT, PERAK

1 Launch complete with Warren Spring dispersant equipment

12. SHELL INSTALLATION BATU UNDAK LUMUT, PERAK

1 Set Biggs wall oil dispersant equipment

1 Knapsack sprayer

13 Drums SHELL dispersant (2600 litres)

1 Motorised boat

13. CALTEX DEPOT, IPOH

3 Bales Absorbent Booms

10 Bales Absorbent Rolls

10 Bales Absorbent Pads

14. ESSO BULK PLANT, IPOH

4 Lengths CONWED sorbent booms (dimension 8" x 120")

370 Pcs. CONWED absorbent (3" x 26" per strip)

110 Pcs.	CONWED oil absorbent (size 0.45m. x 0.45m. per piece)
1 Unit	Portable pump, diesel engine-driven (capacity)
2 Units	'PB' brass knapsack sprayer (capacity 20 litres)
92 IG	Corexit 9517 (2 x 46 IG drums)
8 IG	Corexit OC-5 (5 x 4 IG drums)

KUALA TERENGGANU

15. CALTEX DEPOT

4	CP3 knapsack sprayer (20 litres)
4 Drums	BP 1100 x (200 litres)
1	Boat 12 feet
1	Boat 16 feet
15	Bales Absorbent Booms
30	Bales Absorbent Pads

16. SHELL DEPOT

1 Set	Biggs wall oil dispersant equipment
3	Knapsack sprayer

26 Drums SHELL dispersant (5200 litres)

17. PETRONAS REFINERY KERTEH, TERENGGANU

120 M.	Troilboom
300 Ft.	Sobar boom
1 Set	Marine spray booms (approximately 20 ft. in both side of vessels)
2000 lit.	On board of tug-boat
3000 lit.	Onshore - Oil Spill Store (15x20 lit.drums)
1 Unit	Beach cleaner
1 Unit	Slop barge (capacity 1000 barrels)
2 Units	Oil spill craft/trailer
1 Unit	Self-priming diaphragm pump (VARISCO)
1 Unit	Trailer tank (capacity 600 gal.)
12 Units	Knapsack sprayer
2 Units	Tools (equipment) box trailer
20 Carboys	Corexit 7664
15 Carboys	Corexit 8667
4 Drums	Inipol eap 22

Clean-up equipment and tools Protective Clothings

12 Units Life jackets (foam type)

3 Pcs. First aid boxes

200 Pcs. Sorbent pads

6 Bags Rags

4 Sets Tool boxes

a). OIL SPILL NO.1 (PORTABLE CONTAINER)

4 Pcs. Spades

12 Pcs. Shovels

4 Pcs. Pitchfork

13 Pcs. Rake

12 Pcs. Deck Brushe

12 Pcs. Wire buckets scoop

4 Pcs. Shoe handle wire brushe

4 Bags Rag

40 Pcs. Plastic Pail

8 Pcs. Heavy garbage plastic container

30 Pairs Rubber boot

4 Pcs. Water bucket

11 Pcs. Hose

b). OIL SPILL STORE NO. (PORTABLE CONTAINER)

2 Sets Life raft for 5 persons (recovered from Puteri and Permaisuri)

20 Units Seats for oil spill craft (detachable)

4 Pcs. Oars for detachable craft

1 Units Vikoma Komara 12K Mark 2 Skimmer

2 Units Drums for sludges Spares for trollboon's side fitting (JIB)

8 Pcs. Rubber squeegees

6 Units Wheelbarrow

1 Unit Vikoma vikovic beach cleaner (suction recovery unit)

1 Unit Varisco diaphragm pump

c). WORKSHOP POWER PLANT

4 Pcs. Knapsack sprayer

2 Units Outboard motor

18 Carboys Corexit 7764

13 Carboys Corexit 8667

200 Pcs.	Sorbent pads
60 Pcs.	Rubber glove
11 Pcs	Garden towel
4 Sets	Rubber hose
2 Units	Petrol tank
2 Units	Fire extinguisher
3 Sets	Tool box
6 Units	Oil funnel
3 Sets	Nylon ropes
6 Units	Steel wire brush
3 Sets	First aid box
1 Unit	Grease gun
2 Units	Life jackets
2 Units	Hand pump
10 Units	Cooler boxes

18. ESSO MALAYSIA

AVAILABILITY OF CHEMICAL DISPERSANT (COREXIT 9517/9527) ON PLATFORM

PLATFORM	QUANTITY (44 GAL. DRUMS)
TAPIS A	6
TAPIS B	6
TAPIS C	4
TAPIS D	4
TAPIS PUMPING PLATFORM	4
IRONG BARAT A	5
SEMANGKOK A	5
SEMANGKOK B	TO ORDER
PULAI A	4
PULAI B	-
BEKOK A	5
BEKOK B	-
BEKOK C	5
TIONG A	6

TIONG B	4
KEPONG A	8
TINGGI A	4

NOTE: COREXIT 9517 & 9527 HAVE SIMILAR PROPERTIES

AVAILABILITY OF CHEMICAL DISPERSANTS
(COREXIT 9517/9527) AT TBSB & ON SUPPLY VESSELS

LOCATION	QUANTITY
TBSB	100 Drums (44 gal. cap.)min
Supply vessel (7 off)	1000 litres per vessel

TCOT/PBSB OIL SPILL EQUIPMENT

	Quantity
Onboard PBSB chartered tug sea carrier	
1. Permanent sobar boom (approximately) 2 ft. high and suitable for containment in 1 ft. to 2 ft. waves	1,500 ft
2. Vikoma Komara 12K Mark 2 skimmer (capable of operating in 2 ft. waves with recovery rate of 12 tonnes/hour)	1 set
3. Rolls of absorbant material	4 ea

- | | |
|--|-----------------|
| 4. Marine spray booms (approximately 20 ft. in length on both sides of vessel) | 1 set |
| 5. Shell LTX oil slick dispersant | about 2,500 lit |

Stored at PPSB

6. Vikoma Vikovac Beach Cleaner (self contained portable sunction recovery unit which can recover 90 galls. of medium viscosity mousse per minute)

Onboard TCOT - chartered tug "Osam Leopard"

- | | |
|---|---------|
| 7. Marine dispersant spray booms | 1 set |
| 8. Corexit 9527 | 5 drums |
| 9. Vikoma Komara miniskimmer c/w power pack | 1 set |
| 10. Vikoma coastal boom | 450 m |

Stored at TCOT

- | | |
|--|----------|
| 11. Oil spill dispersant sprayers for SN-61 helicopters simplex model 2200,300 gallons capacity complete with motor and remote control | 2 sets |
| 12. Knapsack sprayers | 12 ea |
| 13. Oil spill dispersant | |
| Corexit 7664 | 15 drums |
| Corexit 9527 | 20 drums |
| Corexit OC-5 | 5 drums |

14. Absorbent Material :-

Mini magnet oil recovery system	3 ea
Sorbent pads 3M	20 packs

15. Oil boom, Esso East, American Marine Inc. 200 ft.

16. Cleanup Equipment Tools:-

Shovel square point c/w handle	12 ea
Shovel round point c/w handle	12 ea
Rake, long handle	12 ea
Fork, long handle	12 ea
Bucket, heavy duty type plastic	24 ea
Garbage cans, heavy duty with lid and handle	24 ea
Pump, hand for transfer of liquid from drums to smaller container	2 ea
Funnel 6" - 8" diameter into 3/4" diameter	1 ea
Clear plastic hose 3/4" diameter 20m. length	1 ea
Clear plastic hose 1' diameter 20m. length	1 ea
Small hose clip for 3/4" - 1' hose	2 ea
Funnels 6" - 8" diameter 20m. length	1 do

Tool box, small, with padlock, containing an assortment of commonly used tools: Adjustable spanners, screw drivers, hammers, knife hacksaw, chisels, wrenches, wire cutter etc. 1 ea

17. Protective Clothing Etc.:-

Vest, Life Billy Pugh Model WV0100	12 ea
Rubber boots, 6 each; 12 each medium; 6 each small	24 ea
Rubber gloves	24 ea
Disposal protective clothing extra large	1 doz.

Disposal protective clothing large	1 doz.
Disposal protective clothing medium	1 doz.
Disposal protective clothing small	1 doz.
Megaphone, electrical fire chief model	3 ea

TCOT CONTRACT EQUIPMENT AND MANPOWER

Equipment

1	Road Tanker
1	Vacuum Truck
1	8 - Ton Truck
1	Back - Hoe

Personal

Drivers, craftman and general workers up to 60 men have been available call-out basis.

Equipment and services contract No. 5518 between EPMI and

Abdullah Mohd. Enterprise Sdn. Bhd.
473-D, Tingkat 3, Jalan Kamaruddin
Kuala Trengganu

Additional equipment and man power available from sub-contractors

19. SHELL TANJUNG GELANG INSTALLATION (KUANTAN, PAHANG)

2 Sets	Biggs Wall oil dispersant equipment
39 Drums	SHELL Dispersant (7800 litres)
2	Knapsack sprayer
6 Pcs.	Sea Sentinal boom
2 Pcs.	Shore Guardian Boom
1 Pcs.	Vikoma water pump
2 Pcs.	PB 4500boom inflator
7 Pcs.	Boom inter-connectors
4 Pcs.	Towing Mooring Bridles
1 Pcs.	Komara Skimmer
1 Pcs.	Vikoma Power-Vac
1 Pcs.	Floating Storage
1 Pcs.	Vikoma Fast Tank
1 Pcs.	Jetty Side Storage Tank
4 Pcs.	Sorbent Pads, Boom and Rolls

KOTA BHARU KELANTAN

20. SHELL DEPOT KOTA BHARU, KELANTAN

1 Drums SHELL Dispersant (1800 litres)

JOHOR BAHRU, JOHOR

21. DEPARTMENT OF ENVIRONMENT

MINISTRY OF SCIENCE, TECHNOLOGY AND THE ENVIRONMENT

250M.
2 Oil Boom RFD 30A
Skimmer Cyclonet 100

1 Large 48.8 m. Workboat fitted with Cyclonet, Spray, Boom and Fighting Equipment
Cargo Tank Capacity 500m. ton
Dispersant Tank 10m. ton
Foam Tank 10m. ton
Max. Speed 10 knots

1 Tugboat
Dispersant Tank 1m. ton
Foam Tank 5m. ton
Max. Speed 12 knots

3 Oil Barges "DOE 4, DOE 5, DOE 6,
(storage capacity 200m. ton each)

Telecommunication Equipment
(HF, VHF, Walkie Talkie)

BATU PAHAT, JOHOR

22. SHELL DEPOT BATU PAHAT, JOHOR

- | | |
|---------|-------------------------------------|
| 1 Set | Biggs Wall Oil Dispersant Equipment |
| 7 Drums | SHELL Dispersant (1400 litres) |

23. SHELL INSTALLATION (PASIR GUDANG, JOHOR)

- | | |
|---------|-------------------------------------|
| 2 Sets | Biggs Wall Oil Dispersant Equipment |
| 2 Pcs. | Knapsack Sprayer |
| 9 Drums | SHELL Dispersant (1800 litres) |
| 6 Pcs. | Sea Sentinal Boom |
| 2 Pcs. | Shore Guardian Boom |
| 1 Pcs. | Vikoma Water Pump |
| 2 Pcs. | PB 4500 Boom Inflator |
| 7 Pcs. | Boom Inter Connectors |
| 4 Pcs. | Towing Mooring Bridles |
| 1 Pcs. | Komara Skimmer |
| 1 Pcs. | Vikoma Power-Vac |
| 1 Pcs. | Floating Storage Tank |

1 Pcs.	Vikoma Fast Tank
1 Pcs.	Jetty Side Storage Tank
4 Pcs.	Sorbent Pads, Boom and Rolls

PORT DICKSON, NEGERI SEMBILAN

24.SHELL REFINERY PORT DICKSON

450 m.	Bennet 36" Boom (1500 ft.)
450 m.	Optimax 19" Boom (1500 ft.)
1	SHELL Spiltrol Oil Skimmer (jointly owned by ESSO and SHELL)
1	Dracone Storage Container (capacity 2000 IG)
1	Manual Semi Rotary Pump with rubber hose (for transferring dispersant from drum to knapsack sprayer)
2	Portable Petrol-Driven Coventry Climax Fire Pump
2	Berthing Launches with sprayer (capacity 2 IG)
12 Set	Biggs Wall Sprayer (only small portable)
2	Warren Spring Mini Sprayer c/w hose adapter and spray nozzle (Petter diesel-driver)
Some	Small Pump

10	Spraygen Hand Spring Pump
1	Diaphragm Air Driven Pump Sandpiper 3"
2	Hand Trolleys
8	Wooden Surface Breaker Boards (5 ft. x 4 Ft.)
1	Vacuum Truck
269 Drums	SHELL Dispersant (53600 litres)
46 Lit.	SHELL Header

25. ESSO REFINERY PORT DICKSON, NEGERI SEMBILAN

4	Slurpoil Recovery Skimmer
2	Hale Pumps for Dispersant
1	Slurp Pump
1	Corexit Educator Pump
1	Set Dispersant Spray Booms
2	Set Dispersant Spray Booms as spare w/o nozzles
7	Back Sprayers
2685IG	Corexit 7664
225 IG	Corexit 8666
3x5 Drums	Corexit OC-5 Oil Collector

120lb	3M Sorbent
2000lb	Straw
30	Life Jackets
1 Unit	Vacuum Truck
2 Unit	Megaphone
1	Master/5 Slaves Walkie Talkie
2	Sets Generators
4	Unit Flood Light (24 V)
1	Spiltrol Harbour Oil Skimmer (jointly owned by ESSO and SHELL)
2000 lbs	3M Sorbent Sheet Straw
4	3M Sorbent Sheet Straw
1	Komara Mini Skimmer

KUCHING SARAWAK

26. ESSO BULK PLANT (KUCHING, SARAWAK)

1 Unit	Portable Pump Diesel Engine-Driven (capacity 100 IGPM)
2 Units	P.B. Brass Knapsack Sprayer (capacity 4 IG)
5 Pcs.	Life Jackets
92 IG	Corexit 9517 (2 x 46 IG drums)

8 IG

Corexit 9517 (2 x 46 IG pails)

27. SHELL INSTALLATION (KUCHING, SARAWAK)

1 Set	Biggs Wall Oil Dispersant Equipment
2 Pcs.	Knapsack Sprayer
6 Drums	SHELL Dispersant (1200 litres)
6 Pcs.	Sea Sentinel Boom
2 Pcs.	Shore Guardian Boom
1 Pcs.	Vikoma Water Pump
2 Pcs.	PB 4500 Boom Inflator
7 Pcs.	Boom Inter- Connectors
4 Pcs.	Towing Mooring Bridles
1 Pcs.	Komara Skimmer
1 Pcs.	Vikoma Power-Vac
1 Pcs.	Floating Storage Tank
1 Pcs.	Vikoma Fast Tank
1 Pcs.	Jetty Side Storage Tank
4 Pcs.	Sorbent Pads, Boom and Rolls

28. SHELL INSTALLATION (SIBU, SARAWAK)

1 Set	Biggs Wall Oil Dispersant Equipment
1 Pcs.	Knapsack Sprayer
7 Drums	SHELL Dispersant (1 400 litres)
6 Pcs.	Sea Sentinal Boom
2 Pcs.	Shore Guardian Boom
1 Pcs.	Vikoma Water Pump
2 Pcs.	PB 4500 Boom Inflator
7 Pcs.	Boom Inter- Connectors
4 Pcs.	Towing Mooring Bridles
1 Pcs.	Komara Skimmer
1 Pcs.	Floating Storage Tank
1 Pcs.	Vikoma Fast Tank
1 Pcs.	Jetty Side Storage Tank
1 Pcs.	Sorbent Pads, Boom and Rolls

29. SHELL INSTALLATION (BINTULU, SARAWAK)

1 Set	Knapsack Sprayer
10 Drums	SHELL Dispersant (2000 litres)

30. SARAWAK SHELL BHD. (LUTONG MIRI, SARAWAK)

2 Units	Vacuum Truck
2 Units	Slurp Skimmer
3 Sets	Troilsweep Single Ship System Power Pack and GT-185 Skimmer
120 m.	Troilsweep 750 (Bantam)
120 m.	Troilsweep 1100
240 m.	Troilboom 1500 (Giant)
2 Units	Trellcone Floating Containers (50 cu. m. each)
2 Sets	Miri WSL Dispersant & Header Sprayer
2 Sets	Harrier Deep Sea Module Sprayer
20 Drums	Dispersant - SHELL Dispersant Concentration
16 Drums	Dispersant - SHELL LTX

31. ESSO BULK PLANT (SIBU, SARAWAK)

1 Unit	Portable Pump Diesel Engine-Driven (capacity 100 IGPM)
1 Unit	P.B. Brass Knapsack Sprayer (capacity 4 IG)
4 Lgt	CONWED Sorbent Booms (Dimension 8" x 120")
5 Pcs.	Life Jackets
46 IG	Corexit 9517 (1 x 46 IG drums)

KOTA KINABALU

32. ESSO SEPANGAR BAY TERMINAL, KOTA KINABALU

1 Unit	Portable Pump Diesel Engine-Driven (capacity 100 IGPM)
2 Unit	P.B. Brass Knapsack Sprayer (capacity 4 IG)
110pcs	CONWED Oil Absorbent (size 0.45m. x 0.45m. per piece)
5 Pcs.	Life Jackets
92 IG	Corexit 9517 (2 x 46 IG drums)
92 IG	Corexit 9527 (2 x 46 IG drums)
8 IG	Corexit OC-5 (2 x 4 IG pails)

33. SHELL INSTALLATION

1 Set	Biggs Wall Oil Dispersant Equipment
2 Pcs.	Knapsack Sprayer
8 Drums	SHELL Dispersant (1600 litres)
6 Pcs.	Sea Sentinel Boom
2 Pcs.	Shore Guardian Boom
1 Pcs.	Vikoma Water Pump
2 Pcs.	PB 4500 Boom Inflator
7 Pcs.	Boom Inter- Connectors

2 Pcs.	PB 4500 Boom Inflator
7 Pcs.	Boom Inter- Connectors
4 Pcs.	Towing Mooring Bridles
1 Pcs.	Komara Skimmer
1 Pcs.	Vikoma Power-Vac
1 Pcs.	Floating Storage Tank
1 Pcs.	Vikoma Fast Tank
1 Pcs.	Jetty Side Storage Tank
4 Pcs.	Sorbent Pads, Boom and Rolls

36. ESSO BULK PLANT (SANDAKAN, SABAH)

2 Units	P.B. Brass Knapsack Sprayer (capacity 4 IG)
5 Pcs.	Life Jackets
5 Unit	Walkie-Talkies
92 IG	Corexit 9517 (2 x 46 IG drums)
8 IG	Corexit OC-5 (2 x 4 IG pails)

37. SHELL DEPOT (SANDAKAN, SABAH)

1 Set	Biggs Wall Oil Dispersant Equipment
4 Drums	SHELL Dispersant (800 litres)

6 Pcs.	Sea Sentinel Boom
2 Pcs.	Shore Guardian Boom
1 Pcs.	Vikoma Water Pump
2 Pcs.	PB 4500 Boom Inflator
7 Pcs.	Boom Inter- Connectors
4 Pcs.	Towing Mooring Bridles
1 Pcs.	Komara Skimmer
1 Pcs.	Floating Storage Tank
1 Pcs.	Vikoma Fast Tank
4 Pcs.	Sorbent Pads, Boom and Rolls

38. SHELL DEPOT (LABUAN, SABAH)

1 Unit	Vacuum Truck
1 Sets	Troilsweep Single Ship System Power Pack and GT-185 Skimmer
120 m.	Troilsweep 750 (Bantam)
120 m.	Troilsweep 1100
240 m.	Troilboom 1500 (Giant)
2 Units	Trellcone Floating Containers(50 cu.m. capacity)
2 Sets	Harrier Deep Sea Module Mark

100 Drums Dispersant - SHELL Dispersant Concentrate

39. SHELL INSTALLATION (LABUAN, SABAH)

1 Set	Biggs Wall Oil Dispersant Equipment
1 Pcs.	Knapsack Sprayer
10 Drums	SHELL Dispersant (2000 litres)
6 Pcs.	Sea Sentinel Boom
2 Pcs.	Shore Guardian Boom
1 Pcs.	Vikoma Water Pump
2 Pcs.	PB 4500 Boom Inflator
7 Pcs.	Boom Inter- Connectors
4 Pcs.	Towing Mooring Bridles
1 Pcs.	Komara Skimmer
1 Pcs.	Floating Storage Tank
1 Pcs.	Vikoma Fast Tank
1 Pcs.	Jetty Side Storage Tank
4 Pcs.	Sorbent Pads, Boom and Rolls

40. SHELL INSTALLATION (LAHAT DATU, SABAH)

1 Pcs.	Knapsack Sprayer
10 Drums	SHELL Dispersant (2000 litres)

LABUAN SABAH

41. MARINE DEPARTMENT SABAH

	Qty
1. Vessel (Harbour tug - Milk Tolong)	1
- fitted with communication equipment (VHF) and fire-fighting equipment.	
- storage tank capacity foam = 5,455 litre	
2. Oil Boom	255 m
Troil boom 1100	
3. Oil Skimmer	1
GT-185	

BRUNEI

MARINE OIL SPILL EQUIPMENT

ITEM	NUMBER/SIZE	BSP HOLDER DEPARTMENT
Booms		
Troilboom (fence type)	720m	Marine
Inshore booms	120m	Marine
Seashore booms	450m	Marine
Skimmers		
Pharos GT-185 (Weir type)	5	Marine
Barges		
Oil Collection Barge	200m ³	
Dispersant		
Rotortech TC-3 Helicopter bucket	2 x 200 gallons	Aviation
Shell dispersant VDC	60m ³ (300 drums)	Supplies
Boat spray arms	3 sets	Marine
Dispersant pumps	4	Marine

LAND OIL SPILL EQUIPMENT

ITEM	NUMBER/SIZE	BSP HOLDER DEPARTMENT
Absorbents		
Seaclean Sorbent	7 drums	Landfield Production
Absorbent Granules	68 bags	Landfield Production
Sorbent Booms	120 mm	Landfield Production
Sorbent Pillows	100 pcs.	Landfield Production
Sorbent Sweep	90 x 0.5 m	Landfield Production
Others		
Shell Herder5	6 drums	Landfield Production
Booms	60 m	Landfield Production
Vacuum Skimmer	1 units	Landfield Production
Vacuum pumps (390 gal/min)	3 units	Landfield Production
Fast tank	1 unit	Landfield Production
Vacuum trucks	1 x 6 m ³	Supplies

- * Means of Transportation - Supplies Department
 - For boats - up to 12 hrs depending on tide at river mouth
 - No dedicated transportation specific for oil spill, but operational transportation can be utilised

- * Reception of waste oil - Reception points at 4 production platforms AMPP-8, FAPP-2, CPPP-1, MGPP-1.

List of Oil Spill Combatting Equipment to be supplied under OSPAR Project

	Amount
1. Oil Boom	
RO-BOOM 1500	200m x 4
	170m x 2
	100m x 1
	50m x 2
	30m x 2
2. Accessories for oil boom	
Ro-Boom 1500	
200m winder tarpolin cover	7 units
Service container	2 units
Towing equipment	4 sets

Double tow bar	8 units
1 ton anchor	7 units
Anchoring system	8 units
Power pack 10kw	2 units

**POLLUTION CONTROL TEAM
DAILY WORK REPORT**

DATE :

PLACE :

WEATHER :

WORK PERIOD :

HOURS WORKED : A.M. P.M. OVERTIME
(list all personnel, use reverse side if required)

SUPERVISOR :

TOTAL MAN HOURS :

CONTRACTOR (S) ON SITE :

RENTAL EQUIPMENT ON SITE ;

DAILY PERFORMANCE CHECK-OFF LIST

Contractor : _____

Supervisor : _____

Date : _____

Job Description : _____

Materials Utilized : _____

Equipment :

a. _____ e. _____

b. _____ f. _____

c. _____ g. _____

d. _____ h. _____

Number of men on JOB: _____

Daily Operations Commence : _____

Hour Secured : _____

Number of Disposal Loads : _____

Submitted : _____

On-Scene Coordinator/Representative

Equipment :

a. _____ e. _____

b. _____ f. _____

c. _____ g. _____

d. _____ h. _____

Number of men on JOB: _____

Daily Operations Commence : _____

Hour Secured : _____

Number of Disposal Loads : _____

Submitted : _____

On-Scene Coordinator/Representative