

Section 5. Inventory of Materials

CONTENTS

5.1	Maureen Platform Inventory	3
5.2	Maureen Drilling Template Inventory	5
5.3	Maureen Loading Column Inventory	5
5.4	Moirra Subsea Facilities Inventory	8
5.5	Maureen Oil Loading Pipeline Inventory	9
5.6	Notes and References	10

List of Tables

Table 5-1	Inventory of Materials – Maureen Platform	3
Table 5-2	Inventory of Materials – Drilling Template	5
Table 5-3	Inventory of Materials – Maureen Loading Column	5
Table 5-4	Inventory of Materials – Moira Subsea Facilities	8
Table 5-5	Inventory of Materials – Oil Loading Pipeline	9

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5.1 Maureen Platform Inventory

Table 5-1 lists the type and quantities of materials that exist on the Maureen Platform. This inventory was compiled independently by Det Norske Veritas (DnV)¹ in 1997². It excludes operating fluids which, at the time of refloat (with the exception of aviation fuel and the diesel that will fuel the power generators and lubricants for the same) will have been removed from the platform.

The Topsides will be cleared of hydrocarbons prior to refloat. The storage tanks will be flushed prior to refloat and residues will be further removed once internal access to the tanks can be gained when the Platform is located in the inshore deep water mooring.

All environmentally related studies use Table 5-1 as a reference source.

Table 5-1 Inventory of Materials – Maureen Platform

Material	Description	Quantity	Notes
Topsides Materials			
Americium	Smoke Detectors	171 No.	Total activity of 823 Mbeq
Asbestos	Gaskets	420 kg	
Cadmium	Cadmium plated bolts, batteries	1155 kg	
Caesium-137	Nucleonic instruments	5 No.	Instruments transferred from Maureen Platform to Synetix Tracerco on 20/10/99 Total activity of 15,355 Mbeq
Chemicals: Potassium hydroxide Lithium hydroxide Sulphuric acid	Batteries Batteries Batteries	1022 kg 83 kg 32 kg	
Copper	Wiring, Electrical Equipment, Piping	455 te	
Corrosion inhibitor	Structural fill system	60 kg	
Fibreglass/Rockwool	Insulation	182 te	
Fire fighting foam		267 kg	
Freons	Refrigerants, HVAC	390 kg	
Lead	Batteries	50 kg	
LSA Scale	Process equipment	50-100 te	
Mercury	Fluorescent light tubes	42 grams	

Continued

Table 5-1 Inventory of Materials – Maureen Platform (continued)

Material	Description	Quantity	Notes
<i>Misc. Construction Materials</i>			
Rubber floor		12 te	Hot dipped
Non slip epoxy surface		12 te	
Floor and roof screed		234 te	
Carpet		5 te	
Ceramic tiling		17te	
Cement		0.5 te	
Galvanised steel sheet		43 te	
Neoprene		1 te	
Silicon		0.75 te	
Miscellaneous Plastic		0.25 te	
Nickel	Piping	31 te	
Nickel	Batteries	1.3 te	
Oily residues	Vessels	50 te	
Plastics	Cable insulation, cable sheathing	198 te	
Plastics	Bulkheads	2.5 te	PVC coating on walls/doors
Steel	Structural steel, piping etc	15,800 te	
Transformer oil ³	Silicone oil	12.1 te	Use of silicone oil not confirmed for all transformers
Wax	Vessels	50 te	
Wax	Pipework	50 te	
Zinc	Paint, galvanised parts	42 te	
Substructure Materials			
Aluminium	Anodes	743 te	
Cadmium	Anodes	370 kg	
Cement	Orecrete (ballast), Grout	8,558 te	
Coal Tar Epoxy	Internal tank coating	27 m ³	
Copper	Anodes	60 kg	
Indium	Anodes	0.16 te	
Iron	Anodes	0.8 te	
Iron Ore	Orecrete (ballast)	42,070 te	
Oily residues incl. wax	Storage tanks	620 te	
Putrescible waste	Marine growth	650 te	Initial estimate subject to further survey
Silicon	Anodes	1.9 te	
Steel	Structural steel, piping, etc.	42,000 te	
Zinc	Anodes	277 te	

5.2 Maureen Drilling Template Inventory

Table 5-2 lists the type and quantities of materials that will be managed during recovery and disposal of the Maureen Drilling Template. This inventory was compiled independently by Offshore Design Engineering Limited (ODE) in 1997⁴.

Table 5-2 Inventory of Materials – Drilling Template

Item	Material	Quantity	Comment
Drilling Template			
Foundation Piles	Steel	4 No.	Cut below seabed
Docking Piles	Steel	2 No.	Cut below seabed
Tubular Lattice	Steel	490 te	
Anodes	Al, Zn	5 te	Estimated
Earthing Straps	Copper	50.0 kg	Estimated
Mooring Piles	Steel	4 No.	Located at 1900m from platform. Cut below seabed

5.3 Maureen Loading Column Inventory

Table 5-3 lists the type and quantity of materials that exist on the Maureen Loading Column. This inventory was compiled independently by ODE in 1997⁴.

Table 5-3 Inventory of Materials – Maureen Loading Column

Item	Material	Quantity	Comment
Maureen Loading Column Base			
Crude Oil Pipeline	Steel	64.3 te	
Pipe supports	Steel	17.8 te	
Base Structure	Reinforced concrete	3889.4 te	
Anodes	Al/Zn	7.3 te	
Earthing Strap	Copper	35.0 kg	
Ballasting fittings	Steel	3.7 te	
Latching Posts	Steel	51.9 te	
Hydraulic equipment	Stainless steel	62.0 te	
Concrete ballast	Concrete	Approx 450 te	
Articulated Joint			
Cardan joint	Steel	462.0 te	
Torsional seals	Elastomer/steel	184.0 te	
Electrical strap	Copper	10.0 kg	

Table 5-3 Inventory of Materials – Maureen Loading Column

Item	Material	Quantity	Comment
Connection plate	Steel	624.0 te	
Mechanical equipment	Steel	147.0 te	
Hydraulic fluid	Magnus A75	100 litres	
Cathodic protection	Al/Zn	177.0 te	
Hydraulic piping	Stainless steel	895.0 kg	
Cableway	Copper/Steel	50.0 kg	
Maureen Loading Column (On upper Seating Joint)			
Upper seating structure	Steel	71.0 te	
Cathodic protection	Al/Zn	9.7 te	
Hydraulic piping	Stainless steel	630.0 kg	
Hydraulic fluid	Magnus A75	25.0 litres	
Electric cableway for echo-sounder	Copper cable	64.0 kg	
Crude oil piping fitting	Steel	10.6 te	
Cathodic protection earth straps	Copper	5.0 kg	
Maureen Loading Column (In concrete shaft)			
Concrete	Concrete	2,160 te	
Prestress	Steel	74.6 te	50 mm dia tendons
Reinforcement	Steel	150.0 te	Based on 150 kg/m ³
Holding down bolts	Steel	9.5 te	
Coffer dam	Steel	103.0 te	
External piping	Steel	21.0 te	
External piping support	Steel	9.4 te	
External piping cathodic protection	Steel	5.2 te	
Inside piping from 74,65 to top	Steel	10.4 te	
Inside piping supports	Steel	3.2 te	
External/Hydraulic piping	Stainless steel	6.5 te	
Internal/Hydraulic piping from 68,200	Stainless steel	2.3 te	
Ballasting piping and supports	Steel	33.8 te	
Inside column access	Steel	16.4 te	
Launching & towing equipments	Steel	11.3 te	
Fenders	Rubber	59.1 te	
Electrical equipments	Copper/Steel	1.4 te	
Lubricant	UNIS HP 46	100 litres	
Hydraulic fluid		200 litres	

Table 5-3 Inventory of Materials – Maureen Loading Column

Item	Material	Quantity	Comment
Haematite		1,000 te	
Maureen Loading Column (Steel shaft 101m to 112.8m)			
Structure	Steel	81.6 te	
C.O. piping 101 m to 111.9 m	Steel	3.9 te	
Hydraulic system 101 m to 112.8 m	Steel	1.3 te	
Ballast system 101 m to 109 m	Steel	3.7 te	
Access & platform 101 m to 112.8 m	Steel	5.6 te	
Launching & towing equipment	Steel	1.5 te	
Electrical equipment	Steel	180.0 kg	
Identification signs	Steel	2.0 kg	
Maureen Loading Column (Rotating Head)			
Lattice structure	Steel	153.0 te	
Walk ways	Steel	19.0 te	
Helicopter winch deck	Steel	23.0 te	
Navigational aids	Steel	-	
Offloading boom	Steel	34.0 te	
Crude oil pipework	Steel	101.0 te	
Hydraulic pipework	Stainless steel	-	
Swivel	Steel	6.0 te	
Offloading hose	Elastomer/Steel	9.0 te	
Lubrication oil	ESSO UNIS HP 45	100 litres	

5.4 Moira Subsea Facilities Inventory

Table 5-4 lists the type and quantities of materials which form part of the Moira Subsea Facilities. This inventory was compiled by ODE in 1997⁴.

Table 5-4 Inventory of Materials – Moira Subsea Facilities

Item	Material	Quantity	Comment
Pipelines			
6" Line	Steel	532 te	Epoxy coated 10,103 m
6" Spool Pieces	Steel	3.0 te	Includes fittings
6" ESD Valve	Steel	1 No.	
6" Ball Valve	Steel	1 No.	
5" Flexible Tie-in Spool	Steel	2 m	Spool/riser
4" Flexible Tie-in Spool	Steel	30 m	Pipeline/wellhead
Anodes	Al, Zn, In	4.0 te	Galvalum III
2" Line	API 5L	130 te	Epoxy Coated 10,103m
2" Spool Pieces	API 5L	1.0 te	With fittings
2" 'Smart' Valve	Steel	1 No.	
2" Ball Valve	Steel	1 No.	
2" Tie-in spool	Steel	2 m	Spool/riser
2" Flexible Tie-in spool	Steel	40 m	Pipeline/wellhead
Concrete Mattresses	Concrete	18	Pipeline cover
Control Umbilical			
Umbilical	Polyethylene	172.0 te	11 km overall length
	Steel Armour Wire		
	Copper Cable		
	Stainless Steel		
	Hydraulic Fluid	3,900 l	HW 540
Production Tree and Wellhead			
Christmas tree	Steel	22.5 te	
Wellhead Assembly	Steel	10 te	
Wellhead Protection Structure			
Tubular Framework	Steel	79.2 e	

5.5 Maureen Oil Loading Pipeline Inventory

Table 5-5 lists the type and quantities of materials that comprise the Maureen Loading Oil Pipeline. This inventory was compiled by ODE in 1997⁴.

Table 5-5 Inventory of Materials – Oil Loading Pipeline

Item	Material	Quantity	Comment
Steel	API 5L-X52	658 te	
Weight Coating	Concrete	308 m ³	
Anodes	Al, Zn	3.2 te	
Continuity Cable	Copper	10.0 kg	Estimated
Hot Mastic at Pipe Joints	Tarmac Roadstone Type D2/S	17.5 m ³	

5.6 Notes and References

The notes below provide additional reference information relevant to this section. A Glossary of terms and abbreviations is also included within Appendix A, and a complete list of supporting study reports is contained within Section 17.

- ¹ Det Norske Veritas (DnV)
<http://www.DnV.com/>
- ² Platform Material Inventory Dossier, 97-3657, 1997, DnV
- ³ Phillips Petroleum Company United Kingdom Limited are aware of the possibility of PCB contamination in transformer oils (or in silicon if the transformer oil has been replaced by silicone during the life of the transformer). Transformer disposal will be as appropriate.
- ⁴ Study into Decommissioning of Peripheral Equipment, 1997, ODE