Block Overview

2

Block Data - Block A and Block B: North Sea

Location	Under 120m of seawater in the North Sea (shallow water)
Size of oil discovery	70,000,000 barrels (bbls)
Recovery factor (natural pressure)	28%
Recovery factor (with water injection from sea)	66%

Pros	Cons
• Less expensive than deep water drilling • No risk of hurricanes	• More expensive than desert drilling • Not the largest discovery • Risk of increased taxation by new government - may reduce profit

Block Data - Block C and Block D: Middle East

Location	An area of desert in the Middle East
Size of oil discovery	40,000,000 barrels (bbls)
Potential	Seismic analysis shows there may be a much bigger oil field deeper down
Recovery factor (natural pressure)	28%
Recovery factor (with water injection from river)	45%
Recovery factor (with water injection from sea)	70%

Pros	Cons
• Cheapest to develop • Another large reservoir may exist deeper below this discovery (size unknown) **Info:** If you choose to explore the second discovery: ◦ you will lose production for one year ◦ you will need to spend more money drilling ◦ the second reservoir may not exist	• Smallest discovery • Political instability may mean shutting down production to evacuate workers

Block Data - Block E and Block F: West Africa (Offshore)

Location	Under 1,800m of seawater off the coast of West Africa (deep water)
Size of oil discovery	90,000,000 barrels (bbls)
Recovery factor (natural pressure)	30%
Recovery factor (with sea water injection)	70%

Pros	Cons
• The largest discovery	• Technically very complex • Significantly more investment required

Block Data

4a

Block Data - Block A and Block B: North Sea

Options

There are four options for developing your production facilities.

	Option 1	Option 2	Option 3	Option 4
Facilities	Build a new platform		'Tie in' production by laying oil pipes to an existing field 35km away	
Recover oil	Using reservoir's natural pressure	Using water injection	Using reservoir's natural pressure	By laying water and oil pipes to 'tie in' to existing field's water injection facility
Produce no oil	x	x	Year 1	Year 1
Produce oil at lower recovery rate	Years 1 – 10	Year 1	Years 2–10	x
Produce oil at higher recovery rate	x	Years 2–10	x	Years 2–10

Costs

You can use this table to work out the costs attached to the option you chose.

Item	Cost (in million USD)	Option 1	Option 2	Option 3	Option 4
Production facilities					
Drilling	50	Y	Y	Y	Y
Production well equipment	75	Y	Y	Y	Y
New process facilities	2,000	Y	Y	N	N
Tie-in to existing process facilities (pipe material and laying)	105	N	N	Y	Y
Water injection facilities					
Drilling	50	N	Y	N	Y
Injection well equipment	25	N	Y	N	Y
New water injection facilities	500	N	Y	N	N
Tie-in to existing water injection facilities (pipe material and laying)	105	N	N	N	Y
Operating costs					
Cost per year (tie-in)	2	N	N	Y	Y
Cost per year (new facilities)	10	Y	Y	N	N

Block Data

4b

Block Data - Block C and Block D: Middle East

Options

There are four options for developing your production facilities.

	Option 1	Option 2	Option 3	Option 4
Facilities	Build a new processing unit			
Recover oil	Using only the natural pressure in the reservoir	Using water injection from a river 35km away (cheaper but may not be able to produce water all year)	Using water injection from the Mediterranean sea, 105km away (more expensive but a reliable water source all year round)	
Drill deeper wells	x	x	x	Lay additional oil and water pipes to find out if there's a much larger field deeper down
Produce oil at lower recovery rate	Years 1-10	Year 1	Year 1	Year 1
Produce oil at higher recovery rate	x	Years 2–10	Years 2–10	Years 2–10
Produce extra oil from a second oil field	x	x	x	Possibly

Costs

You can use this table to work out the costs attached to the option you chose.

Item	Cost (in million USD)	Option 1	Option 2	Option 3	Option 4
Production facilities					
Drilling	5	Y	Y	Y	Y
Drilling (Option 4 - deeper wells)	5	N	N	N	Y
Production well equipment	25	Y	Y	Y	Y
New process facilities	500	Y	Y	Y	Y
Water injection facilities					
Drilling	5	N	Y	Y	Y
Drilling (Option 4 - deeper wells)	5	N	N	N	Y
Injection well equipment	25	N	Y	Y	Y
New water injection facilities (river)	250	N	Y	N	N
New water injection facilities (sea)	500	N	N	Y	Y
Operating costs					
Cost per year	10	Y	Y	Y	Y

Block Overview

4c

Block Data - Block E and Block F: West Africa (Offshore)

Options

There are four options for developing your production facilities.

	Option 1	Option 2	Option 3	Option 4
Facilities	Build a new floating production, storage and offloading ship (FPSO)		'Tie in' production by laying oil pipes to an existing field 35km away	
Recover oil	Using reservoir's natural pressure	Using water injection	Using reservoir's natural pressure	By laying water and or pipes to 'tie in' to existing field's water injection facility
Produce no oil	x	x	Year 1	Year 1
Produce oil at lower recovery rate	Years 1 – 10	Year 1	Years 2–10	x
Produce oil at higher recovery rate	x	Years 2–10	x	Years 2–10

Costs

You can use this table to work out the costs attached to the option you chose.

Item	Cost (in million USD)	Option 1	Option 2	Option 3	Option 4
Production facilities					
Drilling	200	Y	Y	Y	Y
Production well equipment	150	Y	Y	Y	Y
New process facilities	2,200	Y	Y	N	N
Tie-in to existing process facilities (pipe material and laying)	682	N	N	Y	Y
Water injection facilities					
Drilling	50	N	Y	N	Y
Injection well equipment	25	N	Y	N	Y
New water injection facilities	550	N	Y	N	N
Tie-in to existing water injection facilities (pipe material and laying)	682	N	N	N	Y
Operating costs					
Cost per year (tie-in)	2	N	N	Y	Y
Cost per year (new facilities)	10	Y	Y	N	N