

Songo Songo West Prospect A significant resource opportunity

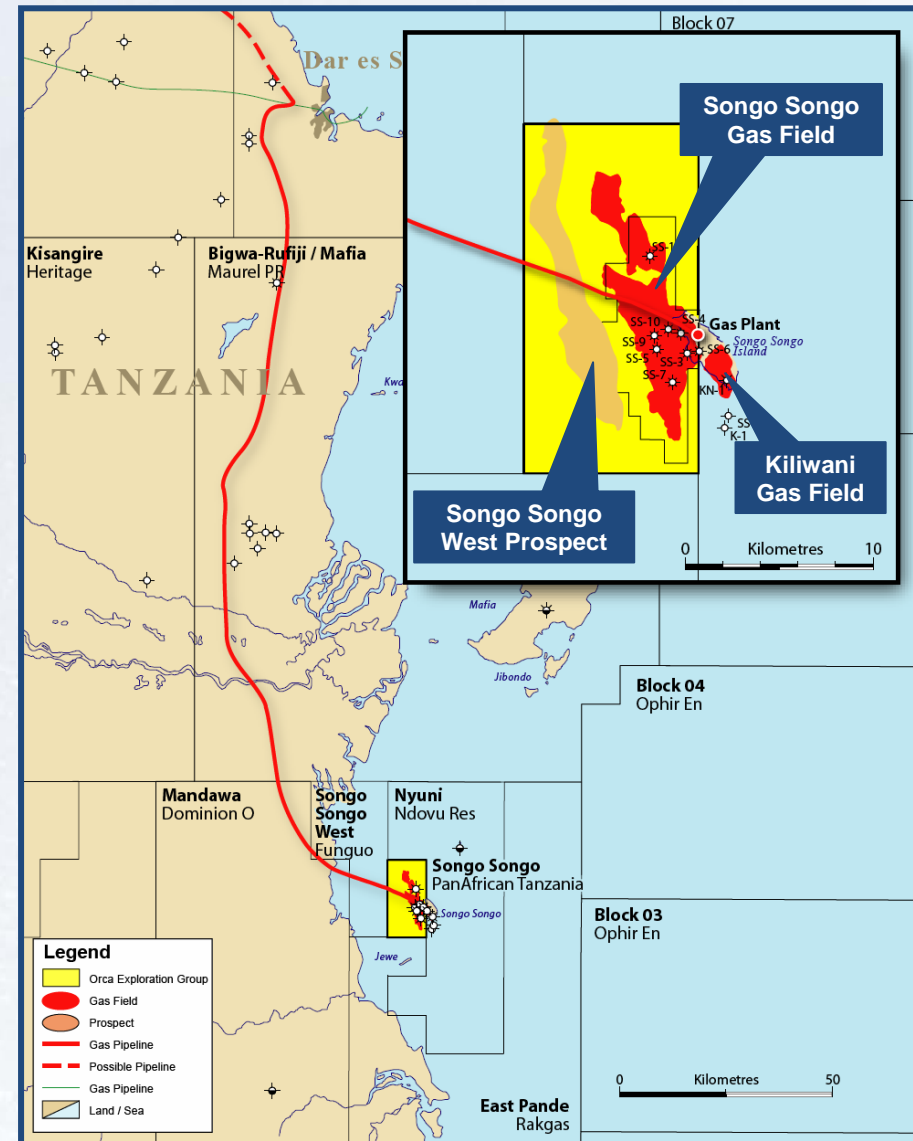
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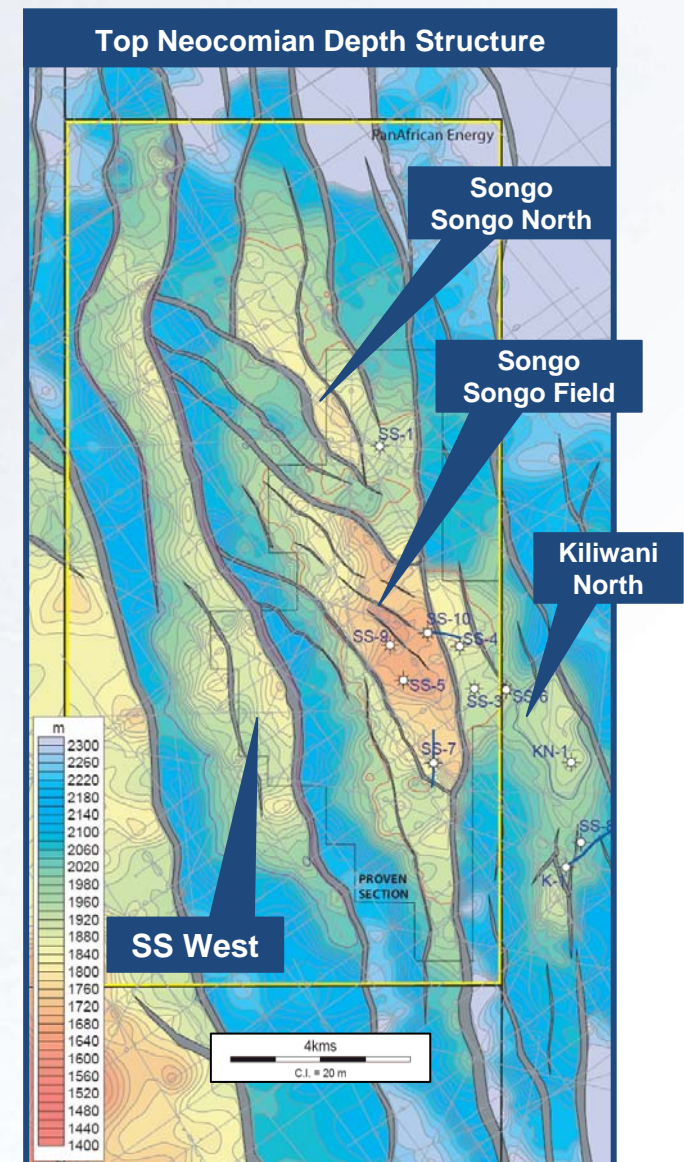
Songo Songo Field development summary

- First developed and largest commercial producing gas field in Tanzania and East Africa
- End 2007 audited 2P gross, life of field reserves 810 Bcf.
- Maximum gas processing capacity 90MMscfd. Six wells on main field capable of delivering in excess of 200 MMscfd.
- The field currently supplies in excess of 50% of electricity generation in Tanzania.
- 24 industrial sites in the Dar es Salaam region currently supplied.
- Developing CNG market.
- Songo Songo West prospect is a low risk, high potential resource, which could underwrite the expansion of the utilisation of gas.

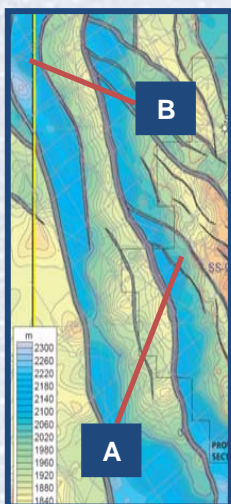
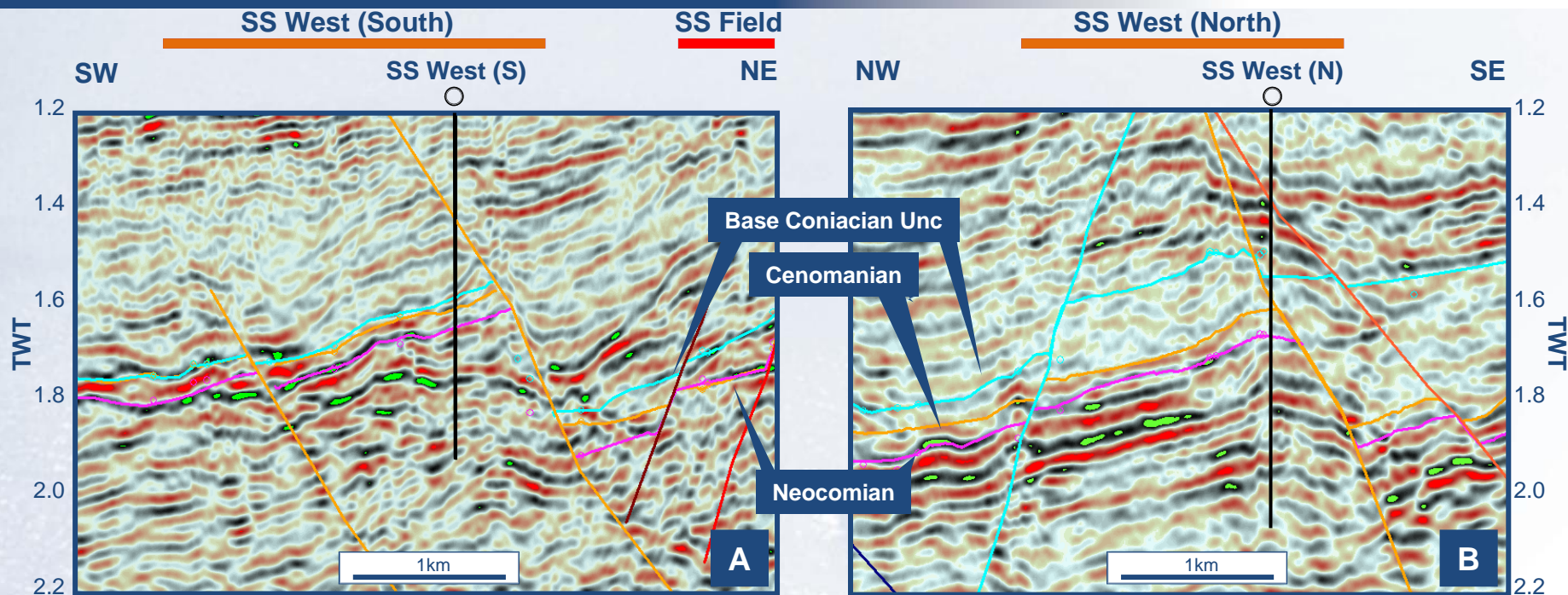


Songo Songo West (SS West) prospect

- SS West prospect is located approximately 2.5km west of the producing Songo Songo field:
 - It is a geologically similar structure to Songo Songo field.
 - It is anticipated to have the same reservoir as Songo Songo field.
 - Located entirely within the Songo Songo licensed acreage (Discovery Blocks).
- The discovery of gas by Aminex in the Kiliwani North field with a GWC ~30m deeper than Songo Songo proves there is significant upside to the resource potential of SS West.



SS West - Structure



- Elongate, N-S trending tilted fault block - extensional horst structure.
- Two structural culminations within the overall prospect.
- Low case (P90) resource model suggests that the two culminations will be joined by a common GWC, that is above the Songo Songo GWC.
- Mid case (P50) resource model GWC is based on the Cenomanian spill to the west.
- Spill for the main Neocomian reservoir is to the west and defines high case (P10) resource model.

SS West - Geologic model

- **Lower Cretaceous reservoir(s):**

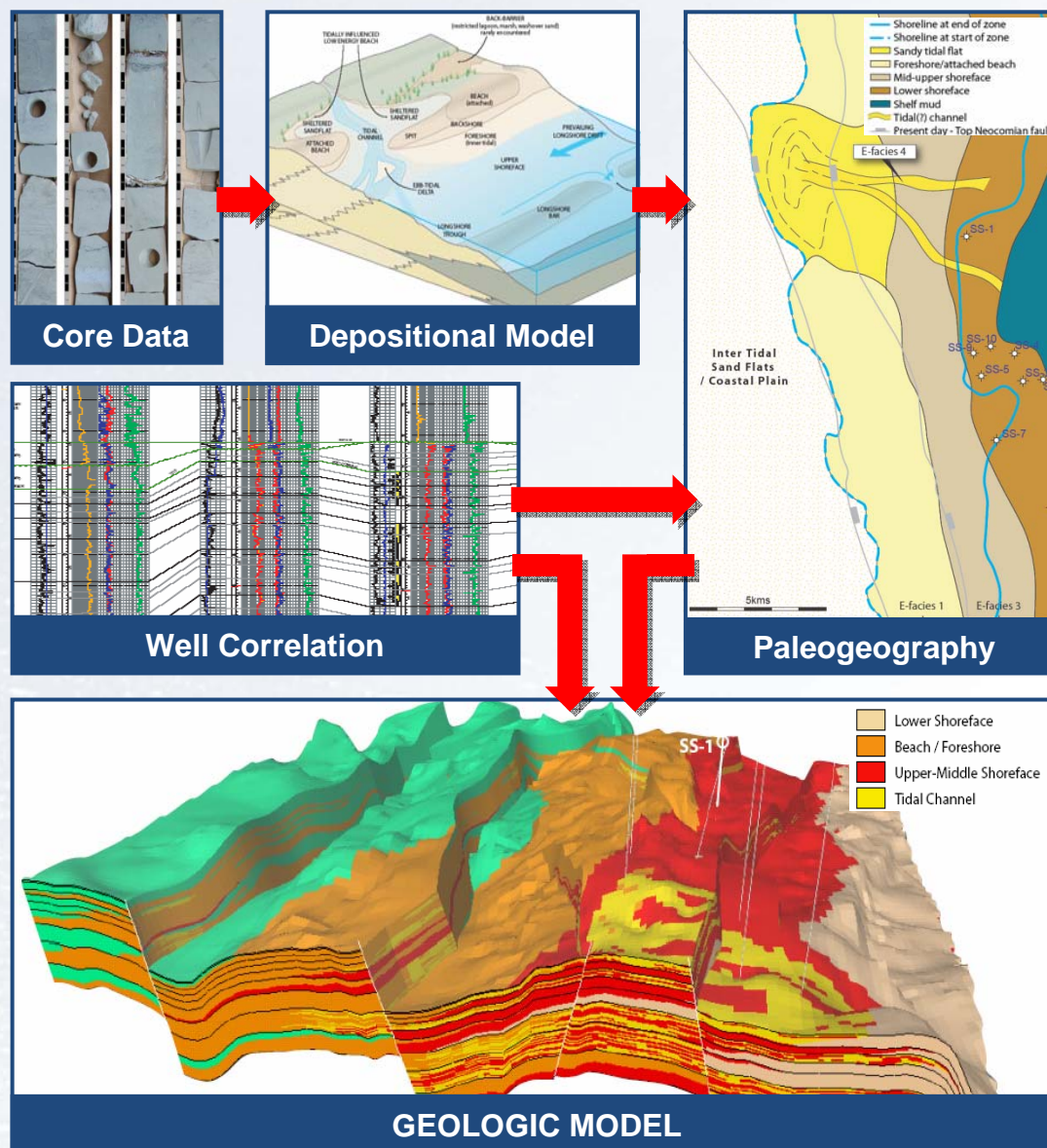
 - Neocomian to Albian primary potential.
 - Cenomanian secondary potential, but distribution poorly understood.

- **Reservoir development predicted to be similar to Songo Songo field:**

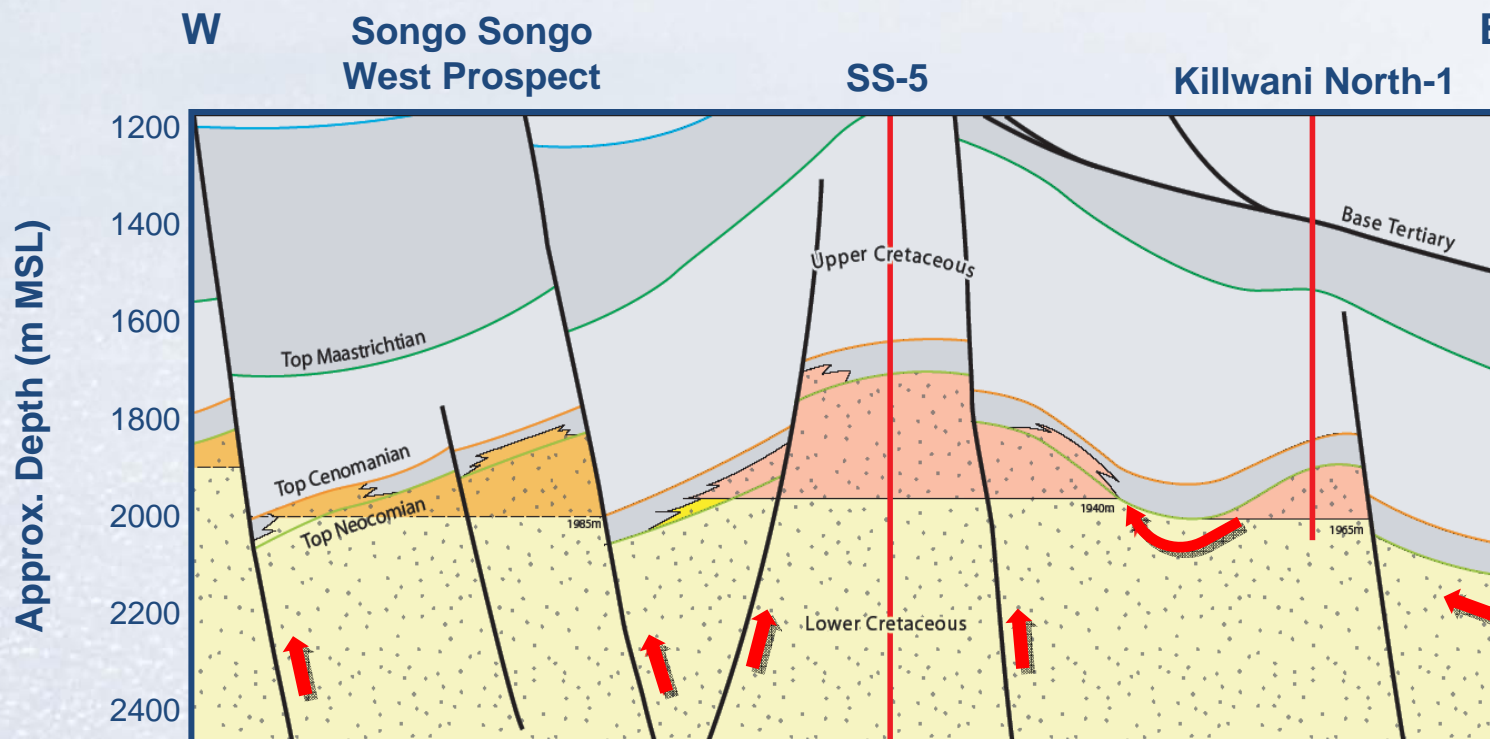
 - Middle & upper shoreface to beach / foreshore environments.

- **Neocomian reservoir >1,200m thick in the 4 Songo wells that have drilled to the Upper Jurassic shales.**

 - High net to gross.
 - Good reservoir quality.



SS West – Charge model



- Primary source rocks for the region include the Permo-Triassic Karoo shales (gas prone) and Jurassic and Lower Cretaceous shales (oil & gas prone).
- Vertical migration directly from sources beneath the Songo Songo regional high most likely gas migration route. Lateral migration from the east also possible.

SS West – Recoverable resource estimates

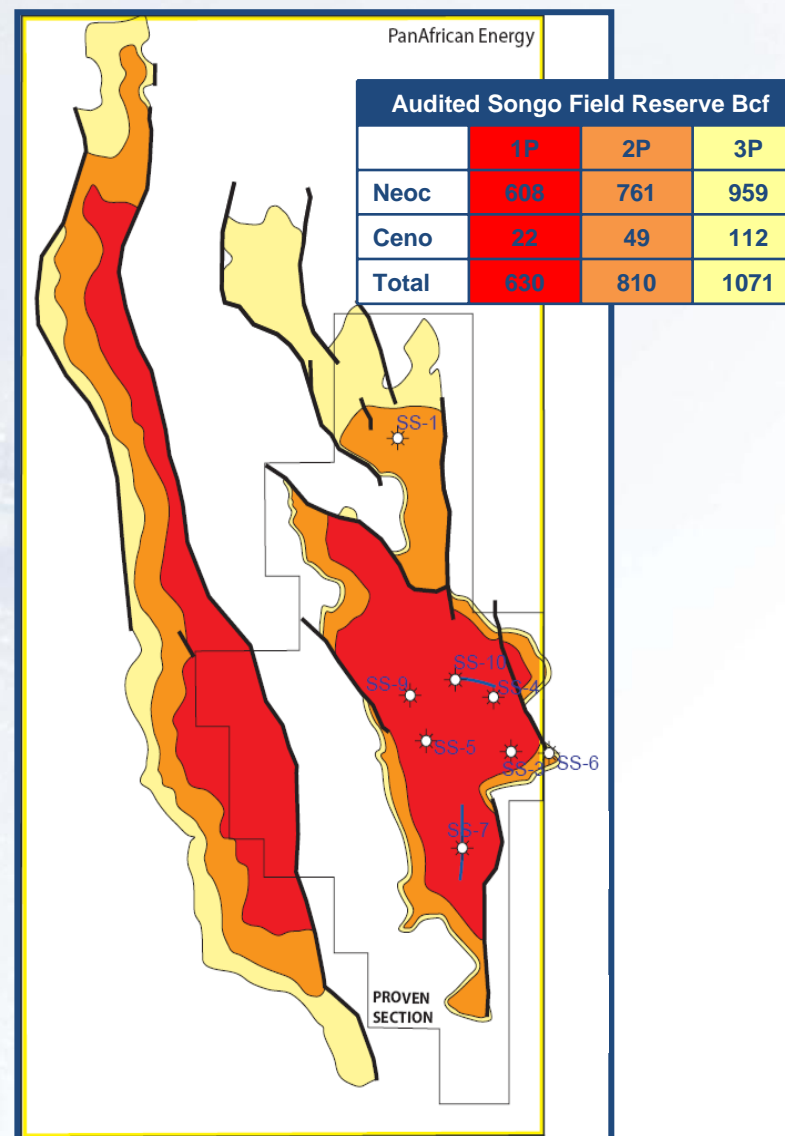
■ Audited resources, September 2008.

SSW Recoverable resource Bcf				
	P90	P50	Mean	P10
Neoc	170	418	505	1028
Ceno	9	32	46	118
Total	179	450	551	1146

- Geological chance of success is 52% (1:2) for the Neocomian & 35% (1:3) for the Cenomanian.
- Resources are dominated by the good quality Neocomian reservoir.

■ Orca Management resource estimate:

SSW Recoverable resource Bcf				
	P90	P50	Mean	P10
Neoc	255	477	537	892
Ceno	-	69	72	-
Total	255	546	609	892

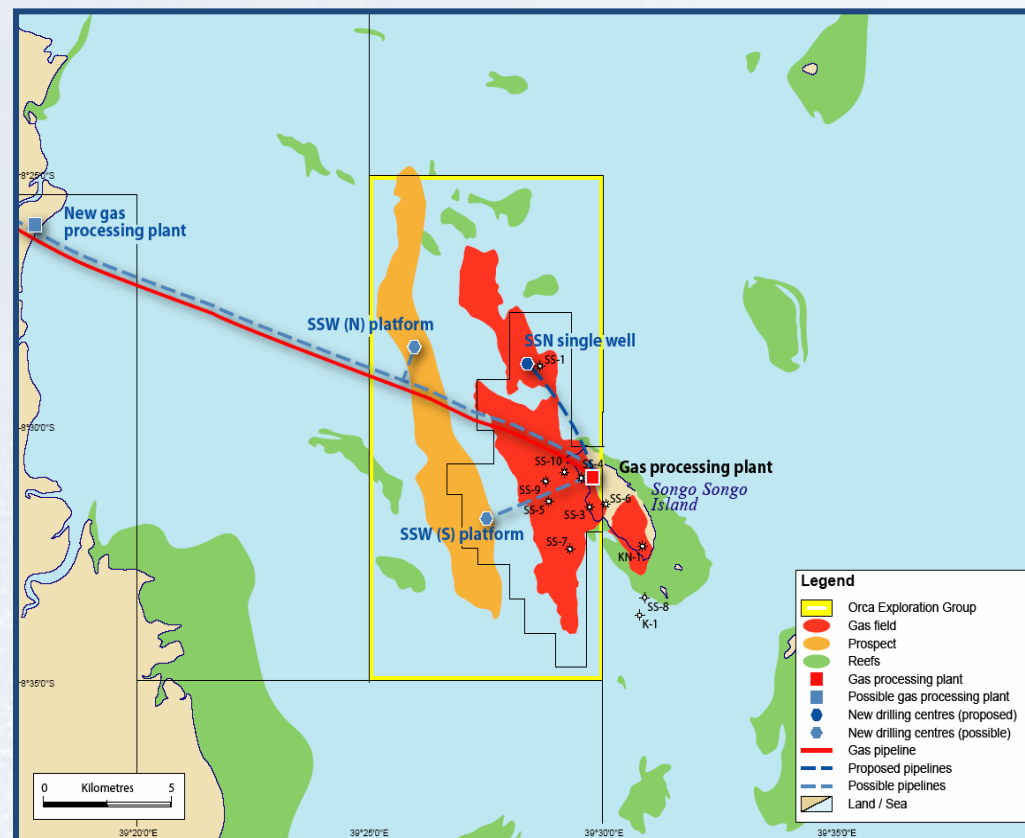


SS West – Conceptual development scenario

- Drill southern location first.
 - If successful, integrate with existing Songo Songo field facilities for a long term well test.
- Appraise structure in the north.
 - Prove aerial extent of reservoir and closure.
 - Improve reserve evaluation.

Development via:

- Two unmanned, wellhead platforms.
- A new gathering manifold just upstream of the current SSI gas processing facilities
- A new offshore pipeline from Songo Songo Island to shore.
- Processing of gas onshore.
- Transportation to Dar es Salaam via a new onshore pipeline.
- Further trunk lines to more distant markets & connection to low pressure ring main from the Dar es Salaam end of the pipeline.



SS West - Drilling Objectives

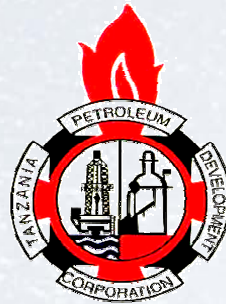
- Songo Songo West is located in Jack-up territory: water depths 18 - 35m.
- Tanzania is a remote location in which to conduct drilling operations.
- Current global financial crisis means rigs are less utilised and day-rates are declining.
- Rig availability will be a key focus for well planning.
- Actively engage with other operators in East Africa to understand their intent to drill in shallow water and encourage a jack-up rig share:
 - Reduce mob. and de-mob costs.
 - Reduce shared service costs.



Acknowledgements

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- Tanzania Ministry of Energy and Minerals (MEM)
- Tanzania Electricity Supply Company (TANESCO)
- Tanzania Energy, Water and Utilities Regulatory Authority (EWURA)



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