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# Shell makes huge oil discovery offshore Namibia

Event: On 4 February, the Namibian government announced that Shell (45%) and partners, Qatar Energy (45%), Namcor (10%) made a significant light oil discovery. Graff-1 was drilled in 1,900 metres water depth in the country's Orange sub-basin. We understand the well encountered oil in two Cretaceous targets and was drilled to a total depth of 5,376 metres.

No resource estimates were provided but we understand the well met its pre-drill estimate of between 500 million and 1 billion barrels. We assume 700 million barrels is recoverable. It is Namibia's first ever oil discovery and Shell's largest commercial find in Sub-Saharan Africa since Bonga in 1996.

Implications: This is a game changer for Namibia. At our base case of 700 million barrels of oil recoverable, Graff puts the country's liquids reserves ahead of established producers like Gabon and Niger, and even newcomers like Senegal. It ends a streak of dry wells dating back to the discovery of the Kudu gas field in 1974.

Graff is also significant for Shell. It marks a return to frontier exploration in the region after the Tanzania drilling campaign ended in 2016. Graff will more than pay back the US$100 million Shell paid Kosmos Energy to acquire its Africa frontier exploration acreage in 2020. It could also have positive implications for Shell's acreage in the Colorado basin offshore Argentina, believed to be the conjugate for the Orange basin.

Shell operated discoveries in Sub Saharan Africa

Namibia creaming curve
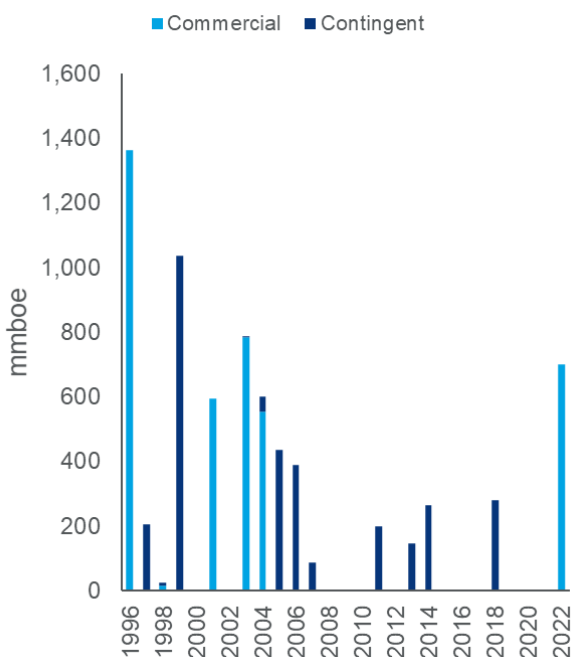
Source: Wood Mackenzie Lens
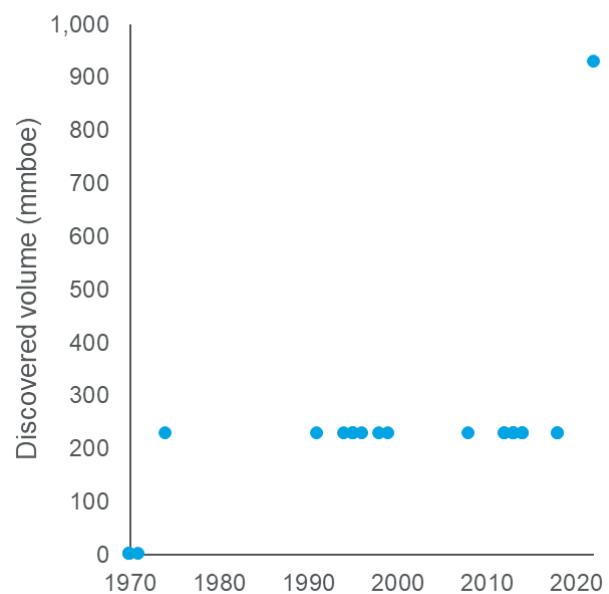
Source: Wood Mackenzie Lens

Further appraisal will de-risk the play. The Orange sub-basin is yet to produce any commercial volumes. We understand the rig will immediately drill a second well to prove up volumes. The results will determine where Namibia sits in Shell's global upstream portfolio. In late 2020, it announced it will focus on nine core positions that demonstrate commodity price resilience and low carbon intensity.

Graff checks many of the advantaged resources boxes and could become a core area for Shell. Namibia's fiscal terms are competitive, with a government share of 57%. Low above-ground risks and a favourable business environment all bode well for a fast-tracked development.

Eni's recent Baleine discovery in Cote d'Ivoire is being developed with a view to being net-zero. Similar measures could be required at Graff to placate investor concerns in the face of the energy transition.
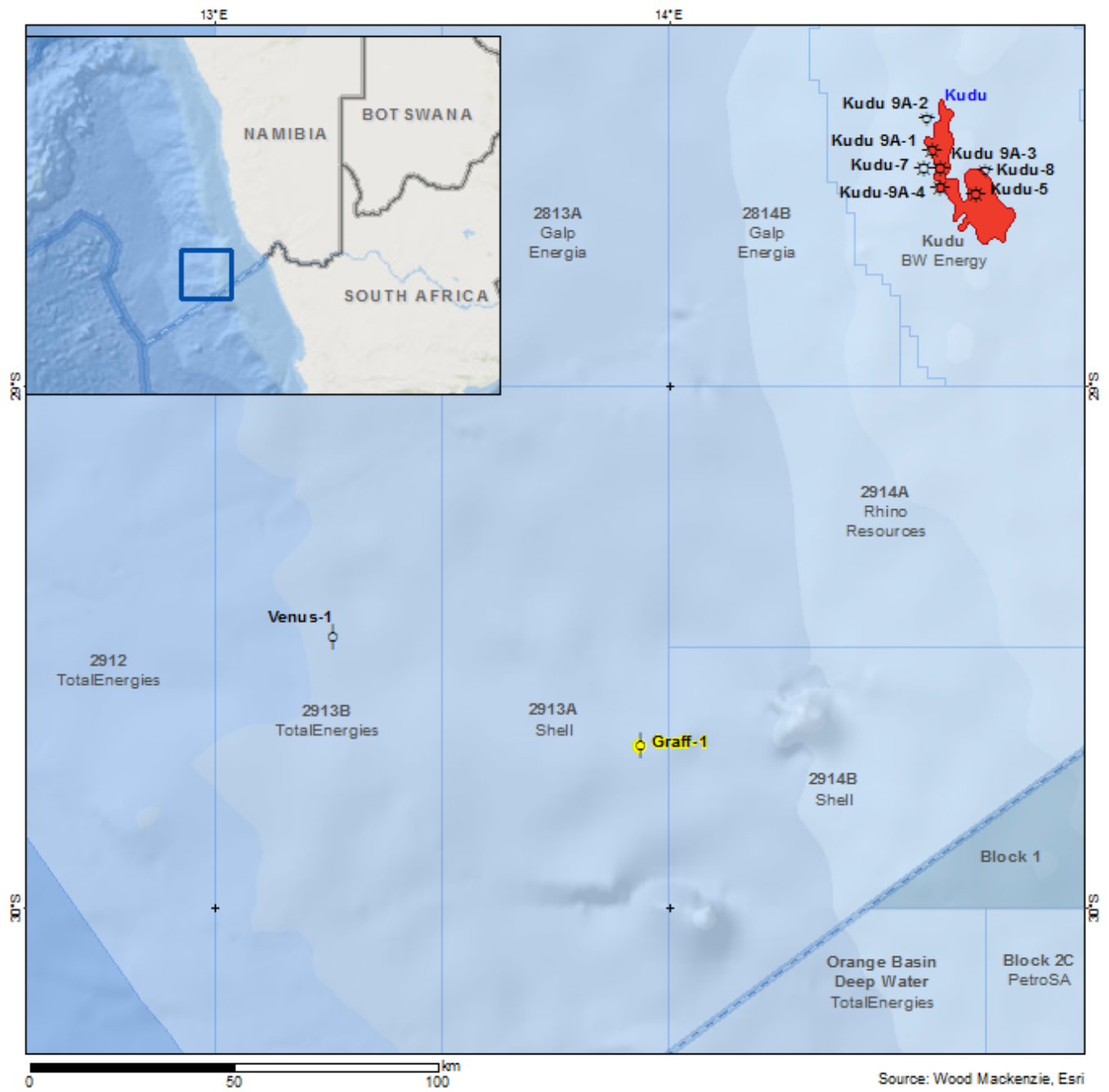
How attractive could a development be?

Our preliminary model values the discovery at US$2.8 billion (NPV10, Jan 2022, US$50/bbl long-term). A rate of return of 23% is on par with the global average (23%) in our deepwater pre-FID dataset. Resources of this scale could support a project producing 190,000 b/d at peak. We assume first oil in 2027, with over 35 production wells and a leased FPSO. We estimate total investment will be over US$12 billion - higher than Namibia's GDP in 2020 (US$10.7 billion). The field could bring in over US$1.5 billion annually in taxes and royalty at peak production to the government.

But the development will come with its own set of challenges not least due to the reservoir depth. Shell's deepwater experience in the US Gulf of Mexico and Brazil will be put to the test in a country that has yet to see any oil and gas developments.

Graff has set the benchmark in Namibia's Orange sub-basin. A find of similar size at TotalEnergies' Venus prospect 70 kilometres away will establish Namibia as a new exploration hotspot and could see it follow Uganda to become the world's next oil producer.

Graff map

Source: Wood Mackenzie, Esri

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