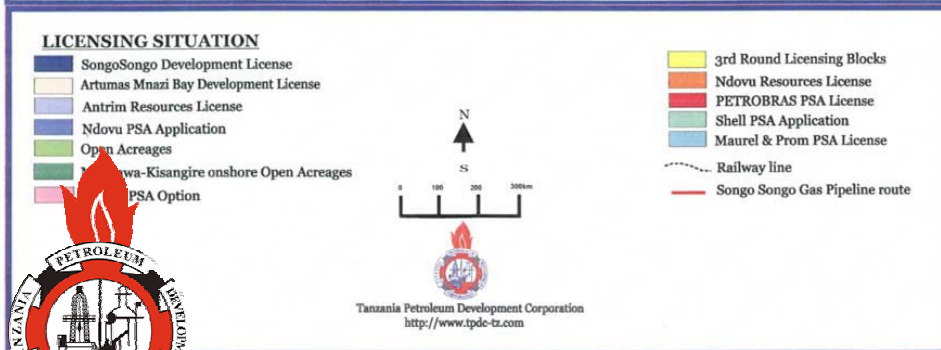
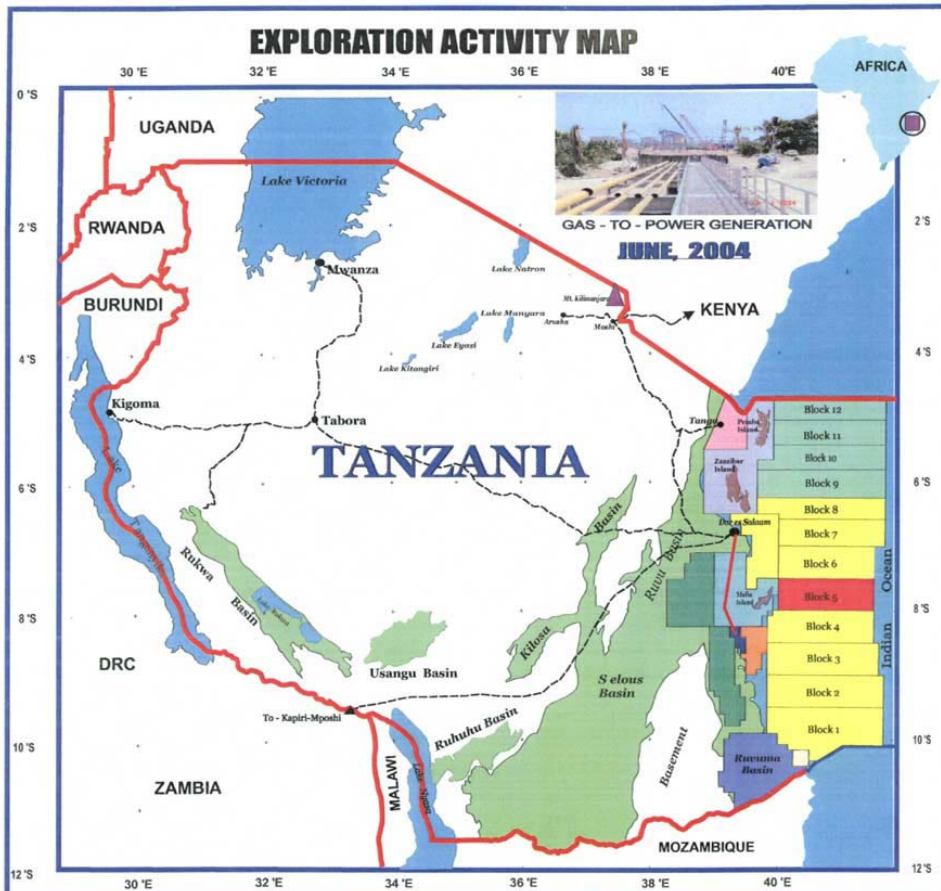
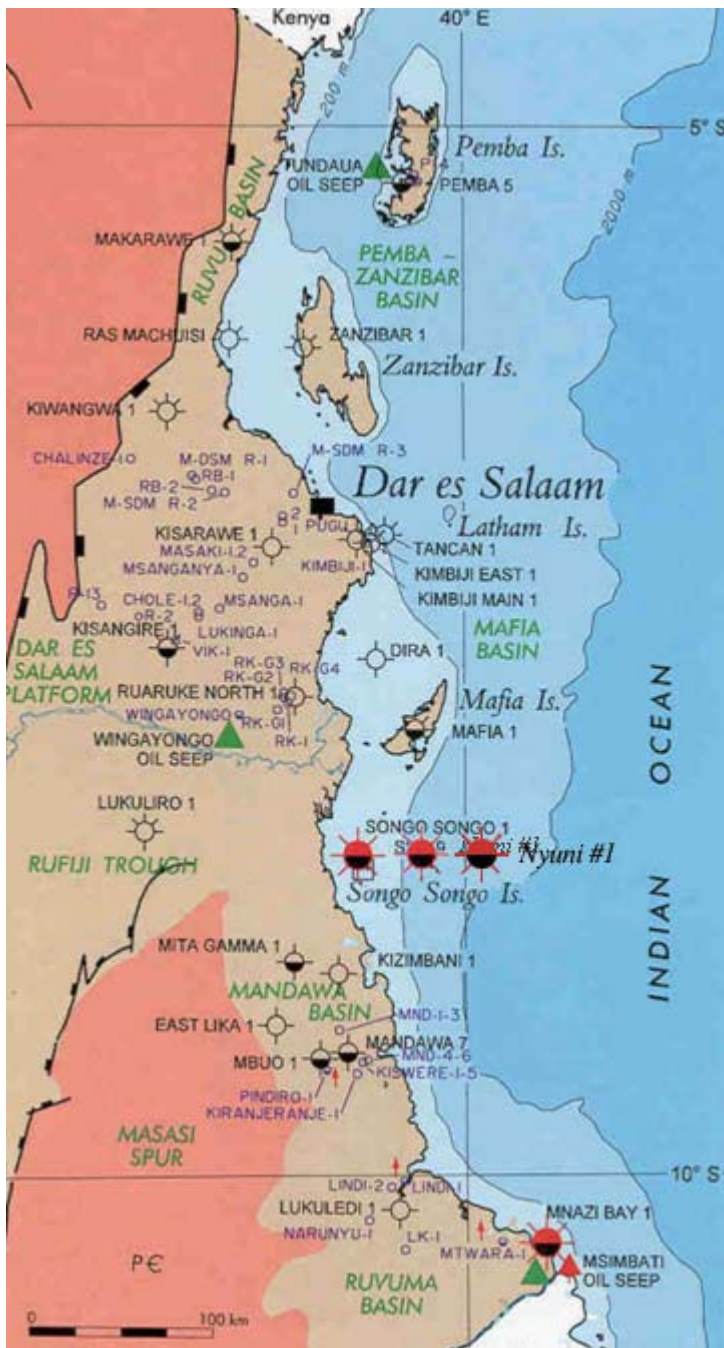


Tanga Block coastal northern Tanzania



Oil soaked sand, Tundaua seep, western Pemba, collected August 2003





Somalia

Mandura Basin oil seeps/shows

Kenya

Mandura Basin oil seeps and shows

Pandangua #1: Oil shows

Cities wells offshore Kenya: Oil shows

Ria Kalui: Tarry bitumens - Permo Triassic / fish beds

Tanzania

Makarawe: Tarry bitumens - Karroo age / Jurassic

Tundaua: Oil seep - Jurassic (not campanian)

Pemba # 5: Oil shows – Jurassic (same as Pemba # 5)

Kiwangwa: Tarry bitumens – Jurassic?

Zanzibar: Gas shows

Kimbiji East #1: Gas shows

Tancan: Gas shows

Mafia Island: Oil & gas shows

Songo Songo: ca. 1 tcf, Condensate in wells # 1,3,7,9 - Jurassic

Okuza island: Oil shows - Jurassic

Nyuni Island & well: Oil & gas shows - Jurassic

Lipwapwatawre: Oil seep

Mikandani: Oil seep

Kisangire: Oil shows - Jurassic

Wingayongo: Oil seep – Jurassic

Wingayongo #1 & #2 - 30m & 40m of tar sand

Ruhoi River (5km from Wingayongo) - Oil seep

Lukuliro: Gas shows - tars, sands in wells

Mita Gamma: Oil shows

Mandawa: Oil Oils

Mbuo: Oil shows

Pindiro # 1: Wet gas

Lindi #1: Shallow gas blow out

Manzi Bay: Gas reservoir, Ca.1 tcf

Mtwara # 1 Wet gas blowout

Misimbati: Oil and gas seeps

Mozambique

Mocimboa # 1: Oil & gas shows

Ruvuma basin: Oil shows

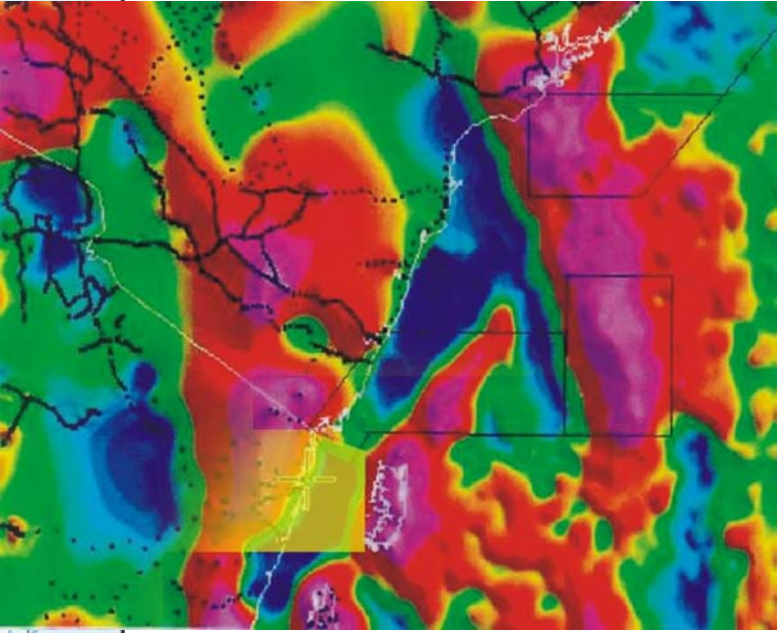
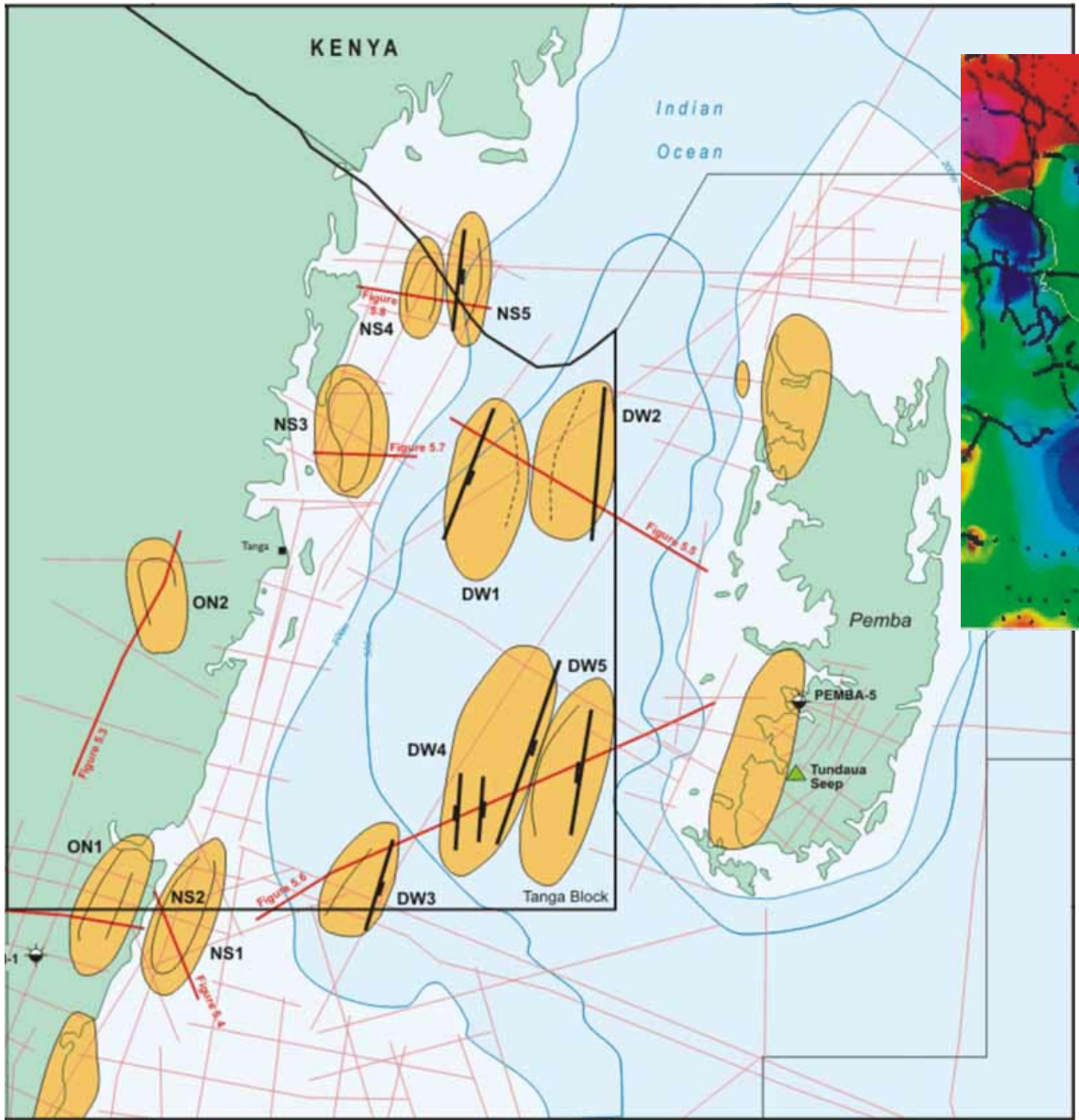
Sunray wells: Oil shows

Madagascar

Morondava basin: 7billion bbls oil

Majunga Basin oil Seeps





Reprocessed Tanzanian Seismic

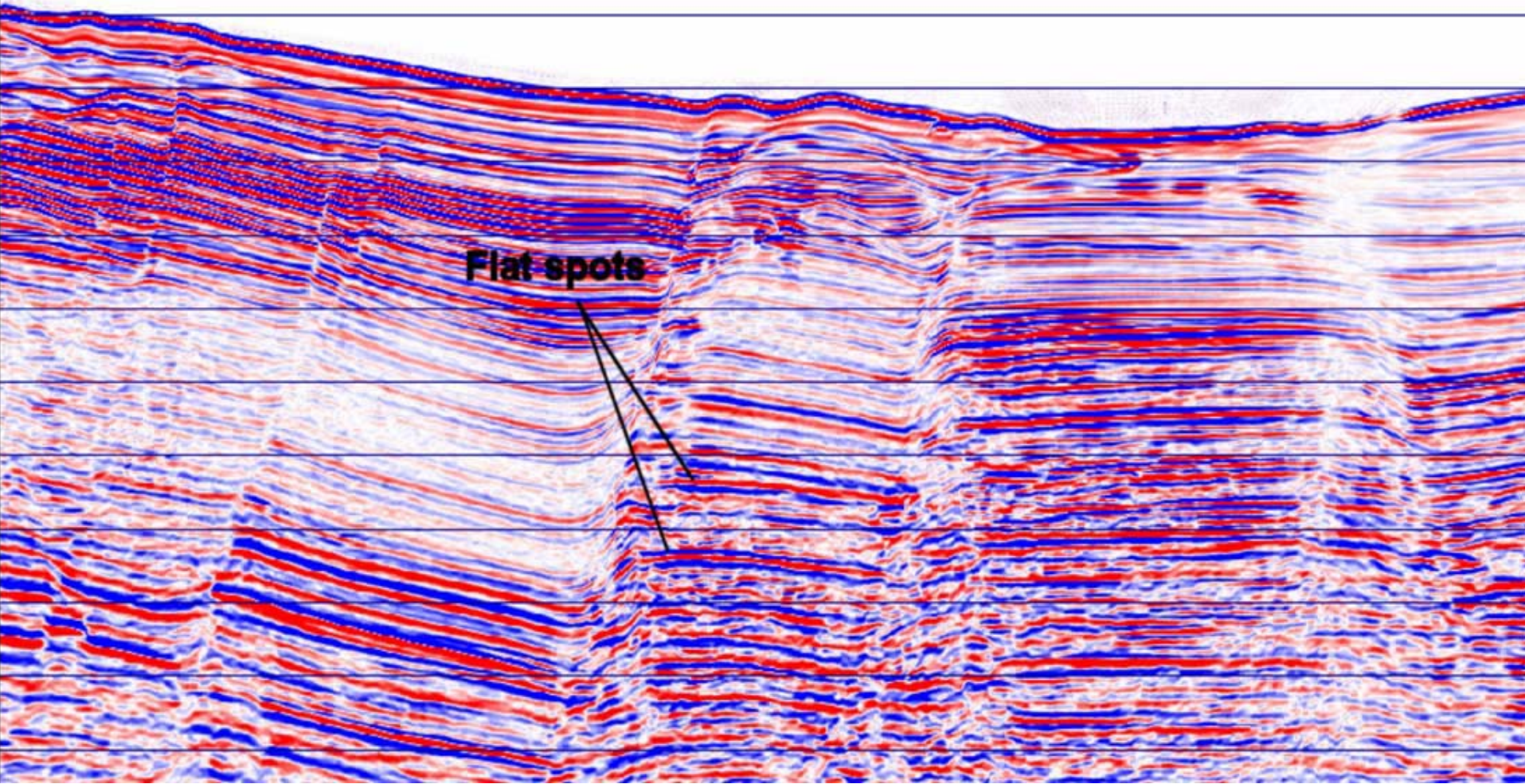
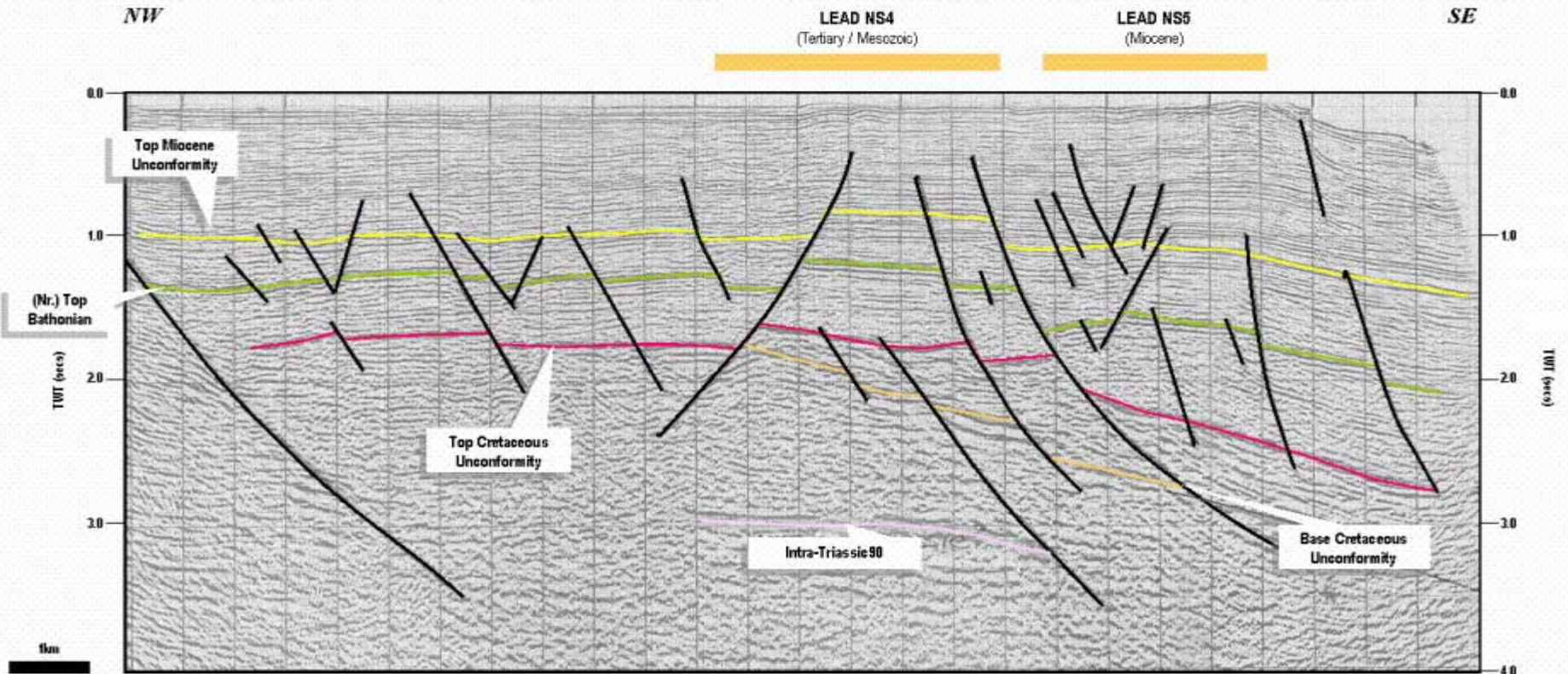
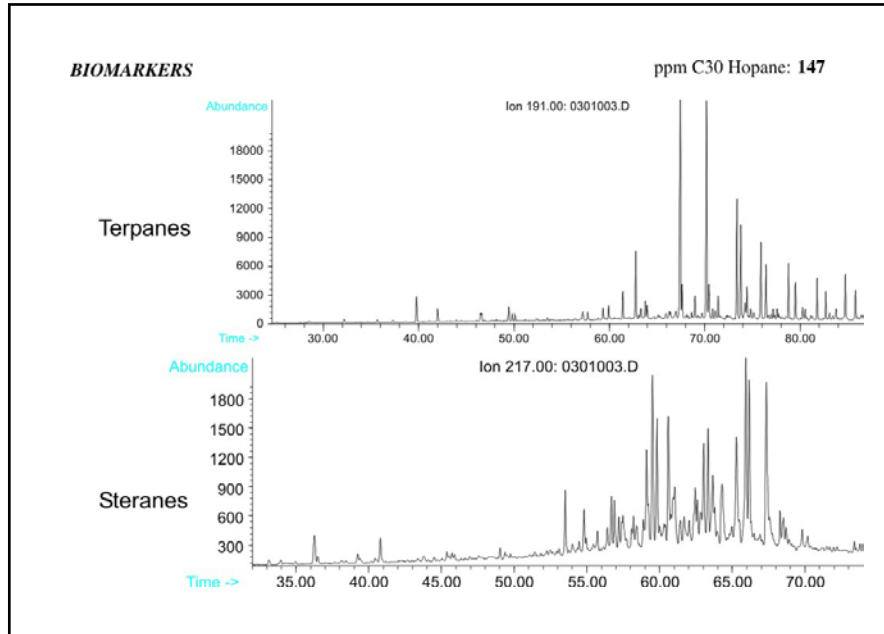


Fig 5.8 - Seismic Line TA91-22N

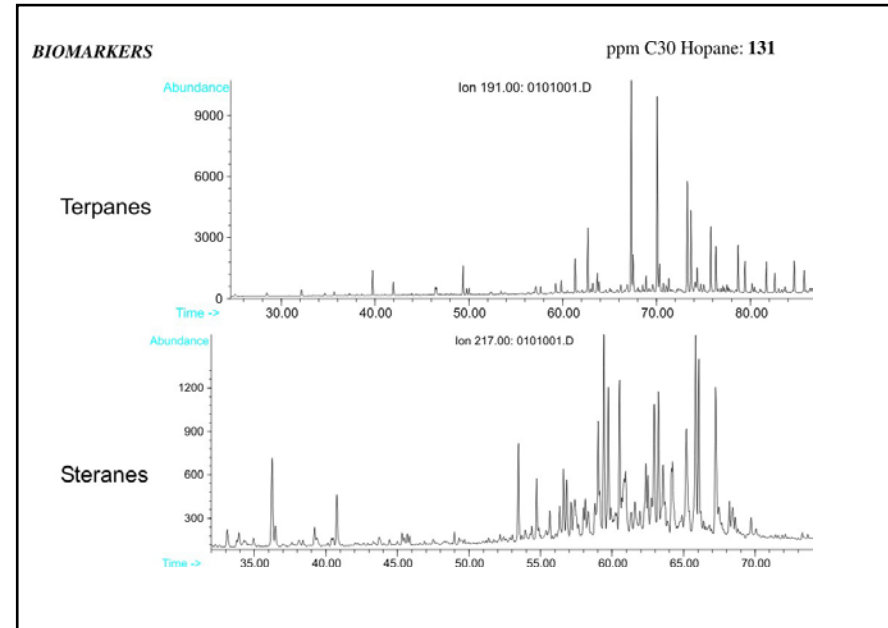


Pemba Well



Jurassic Marine Carbonate Source

Tundaua Seep



Jurassic Marine Carbonate Source

ie, the same source – not Campanian, not Eocene

How much oil, deterministic model

| First pass review of volumetrics, recoverable oil (stacked plays not included) - A starting point | | | | | | | | | | | | |
|---|------------------|-----------------|-----------------|---|----------|-----------|------|------|------------|-----------------|-----------------|----------------------|
| Lead | AREA (sq.km.) | Area (acres) | Net pay (ft) | Conversion Factor | Ø (%) | So (%) | RF | FVF | Bbls/ac/ft | Wedge Factor | Comp- sation | Reserves (MMbbls) |
| NS4 | 51.06 | 12616.93 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 171 |
| NS5 | 70.48 | 17415.61 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 236 |
| NS3 | 117.4 | 29009.54 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 393 |
| DW1 | 171.4 | 42352.94 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 573 |
| DW2 | 160.8 | 39733.68 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 538 |
| ON2 | 85.29 | 21075.16 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 285 |
| DW5 | 182.2 | 45021.62 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 609 |
| DW4 | 251.9 | 62244.49 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 842 |
| DW3 | 94.7 | 23400.37 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 317 |
| NS2 | 118.6 | 29306.06 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 397 |
| ON1 | 108.7 | 26859.77 | 120.00 | 7,758.00 | 0.20 | 0.70 | 0.30 | 1.30 | 250.64 | 0.90 | 0.50 | 364 |
| | | | | | | | | | | | | 4,724 |
| | | Ø | | Porosity well logs Ø 14-31%, 34% in Simba | | | | | | | | |
| | | So | | Oil saturation | | | | | | | | |
| | | RF | | Recovery Factor | | | | | | | | |
| | | FVF | | Formation Volume Factor | | | | | | | | |
| | | Compensation | | Compensation for non log-normal field size a (pessimistic view) | | | | | | | | |



Key Legislation

- ❑ Petroleum (Exploration and Production) Act 1980; www.tpdc-tz.com
- ❑ Income Tax Act 2004; www.tra.go.tz
- ❑ The Model Production Sharing Agreement (MPSA) between the Government, the TPDC and the Oil Company 2004; www.tpdc-tz.com



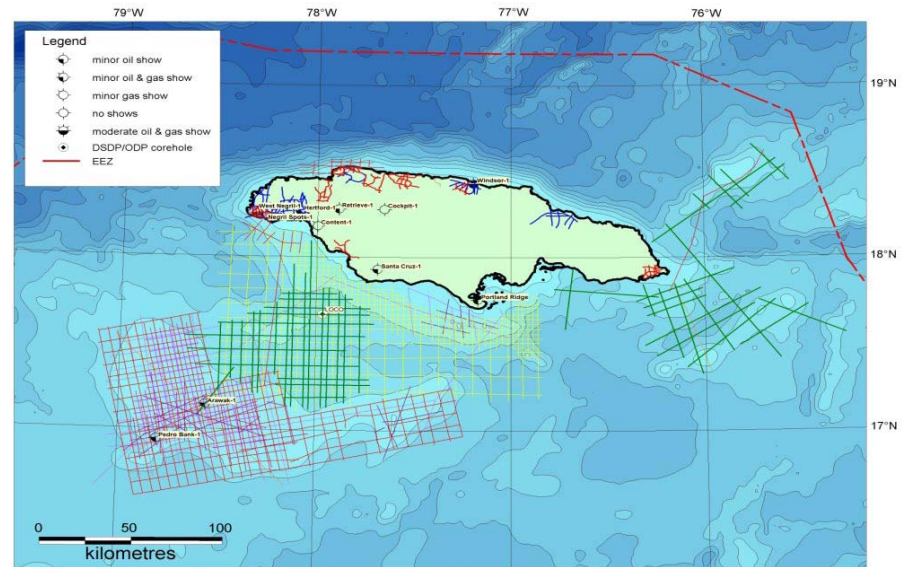
Tanga block geological pluses

- **Thick section with multiple reservoirs and active oil-prone sources and seals**
- **Evidence of multiple substantial structures on multiple horizons**
- **Potential for significant stratigraphic trapping (on trend with Woodside's inner leads in Kenya)**
- **Proven oils (seeps and wells) multiple sources**
- **Quality sands**
- **Basin modelling shows source section remains in oil window**
- **Active migration: leakage thought to be $<$ charge**
- **Biodegradation is not a major issue**
- **Primary Risks:**
 1. **Top and side seal in the youngest tertiary section**
 2. **Possible compartmentalization**



Jamaica 1st Round Summary

- Round opened on January 1st 2005
- 20 Blocks offshore 4 onshore
- Excellent terms
- Data pack to include detailed review available: US\$55K
- Field trip and core store viewing in January 29th 2005
- Discussions with Jamaican government from February
- Round closes 15th July 2005 at 12.00
- Application procedures itemised in handout.
- Application fee US\$1,000
- Awards by October



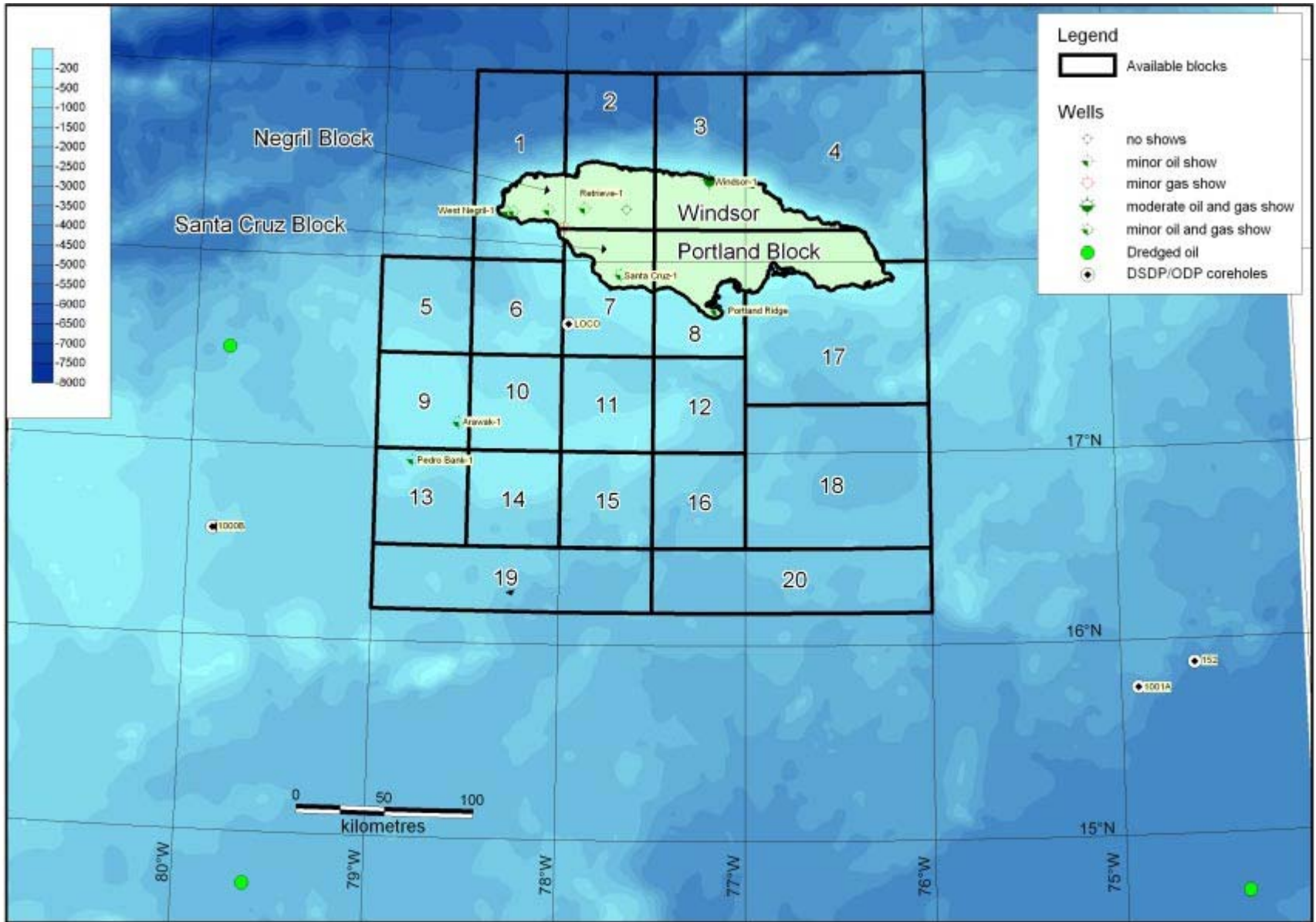
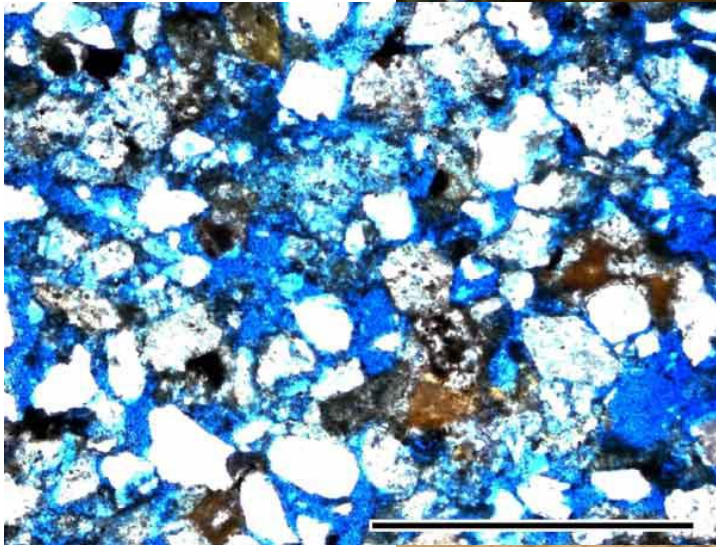


Figure 1.5 Available blocks

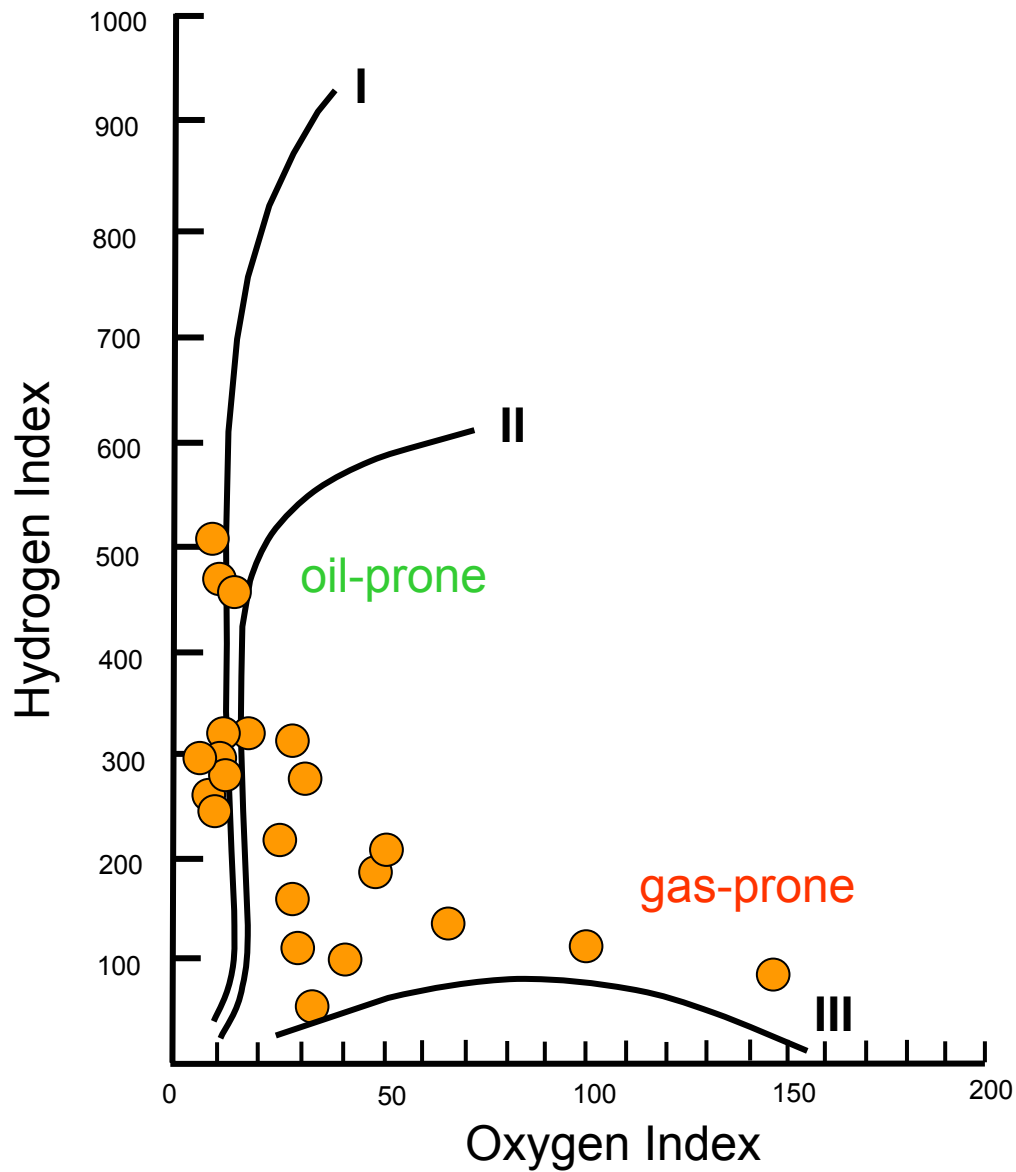


1 mm



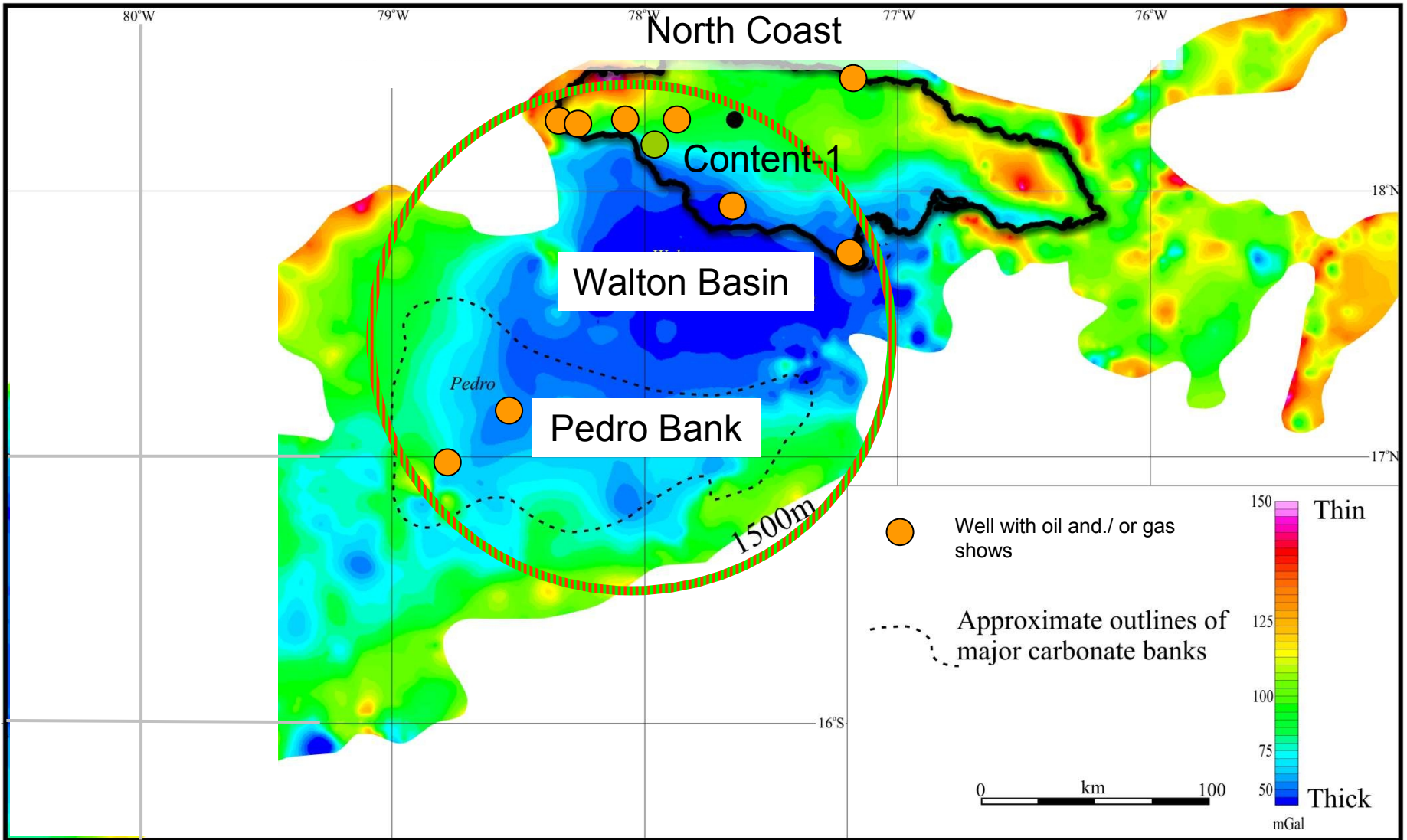
lignite

Guys Hill Formation: paired reservoir and source units.



Content-1: Chapelton Formation source quality.





The Walton Basin outlined using Bouguer gravity.



O.I.L.S.

GEOMARK RESEARCH, INC.

Oil Information Library System

9748 Whitham Drive Houston, Texas 77095 Tel (281) 556-9333 Fax (281) 556-2987 info@geomarkresearch.com www.EFDbase.com

GEOCHEMICAL SUMMARY SHEET

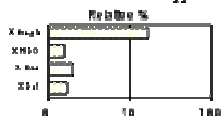
Country: Jamaica Depth (ft): 2250 Basin: Age: Cretaceous Well: Hartford #1

12-Jan-04 Sample ID: XJM0002 Lab: LOMG:

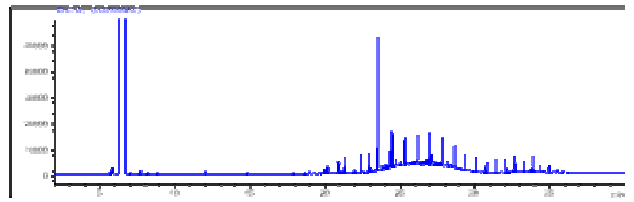
Content #1

BULK PROPERTIES

API Gravity: % S: ppm V: ppm N: C15+ Composition: % Sat: 12.0 % Aro: 16.1 % NSO: 10.0 % APh: 61.9 Sst/Aro = 0.75 n-Paraffin/Naphthene = 0.33

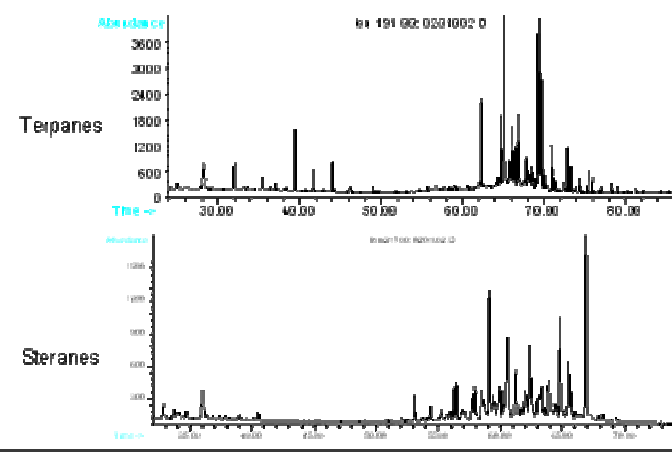


Stable Carbon Isotope Composition: C15+ Saturated: -26.62 C15+ Aromatic: -24.06 Custom Al Variable: 1.29



WHOLE CRUDE GAS CHROMATOGRAPHY: Br/Ac = 2.71, Pr/Ac C17 = 5.67, Ph/Ac C18 = 1.44, n-C27/Ac C17 = 0.63, CPI = 1.354

BIOMARKERS



OilMod Ratios: C19/C23 = 0.10, C22/C21 = 0.49, C24/C23 = 0.35, C26/C25 = 0.39, Tm/C23 = 0.12, C27V/C27 = 0.01, C28H = 0.21, C29H = 0.60, C30EH = 0.25, OLH = 1.42, C31RH = 0.24, OA/C31R = 0.10, C33S/C34S = 0.62, Stn/Trp = 0.90, Rmt/Rst = 0.97, % C27 = 1.16, % C28 = 33.0, % C29 = 55.4, C29 20S/R = 0.54, C27 Tr/Bn = 0.04, C28 Tr/Bn = 0.08, DIBH = 0.08, TA53(CR) = 0.07

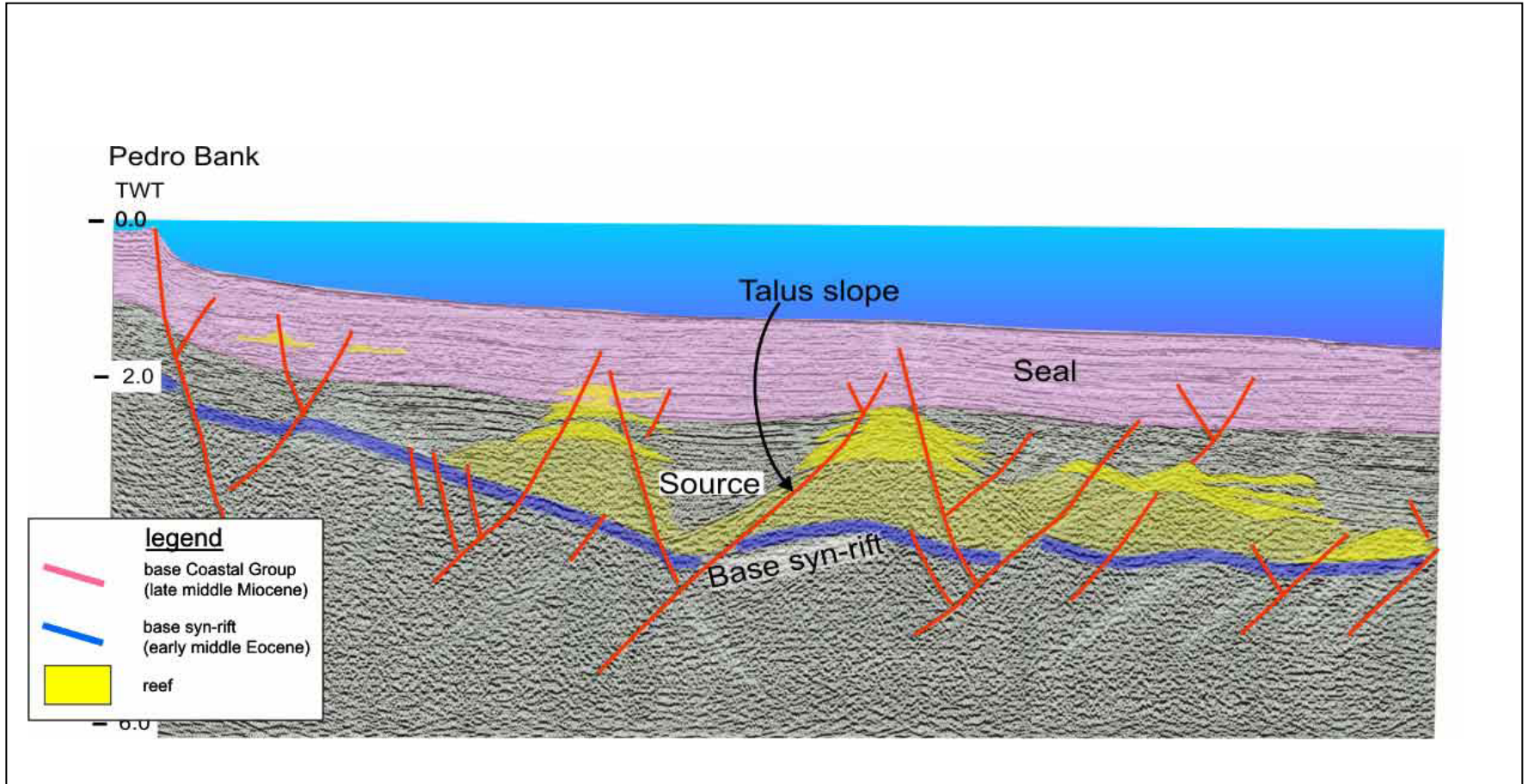
Projected Source Rock Type: Degree of Biodegradation

Oil Family # 1

Eocene Pro-Delta Source.



Sefel/PCIA line 9025: interpreted ca. 750 metres water depth



Malampaya Lookalikes

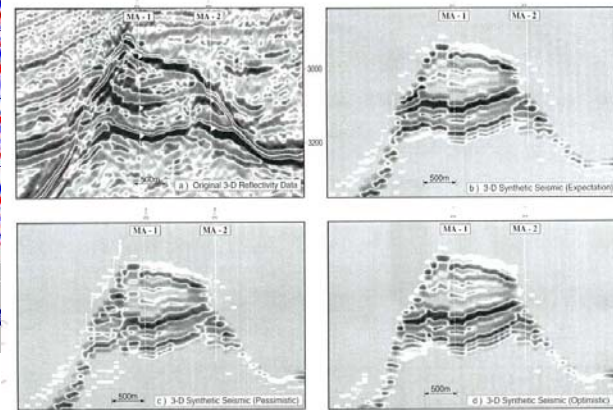
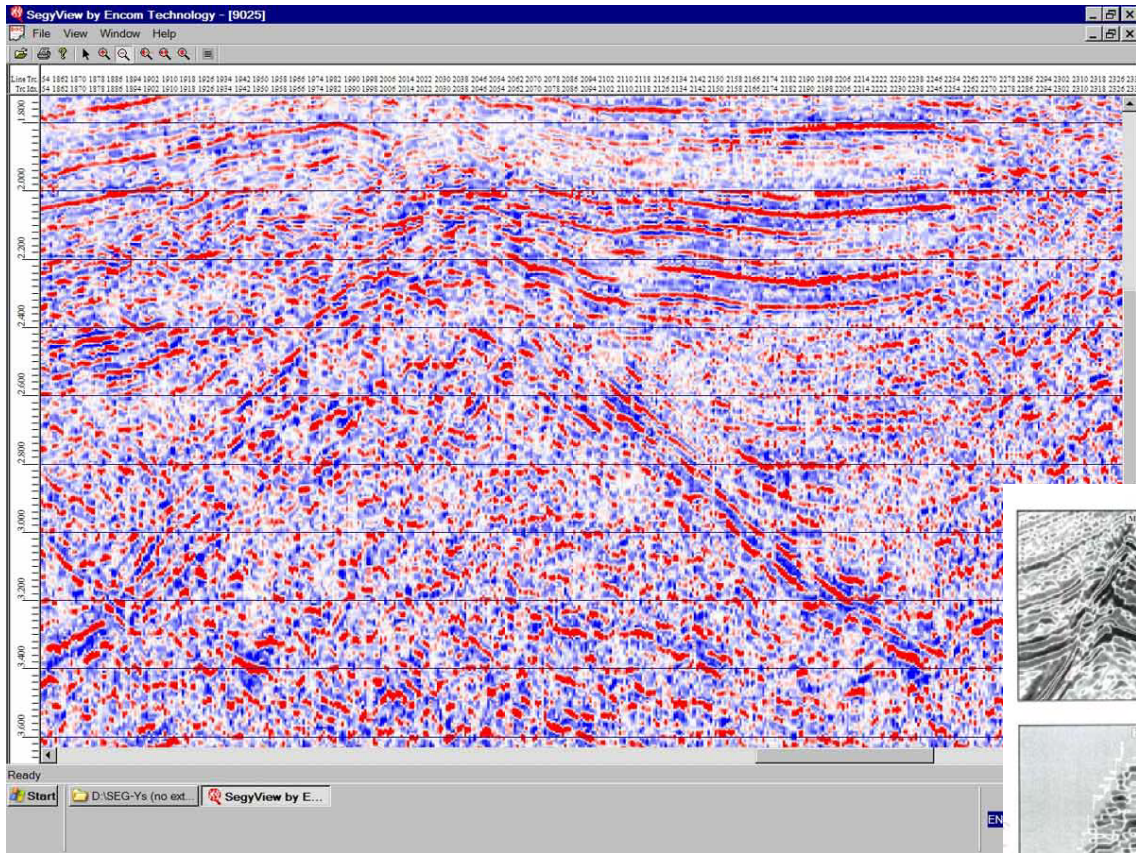
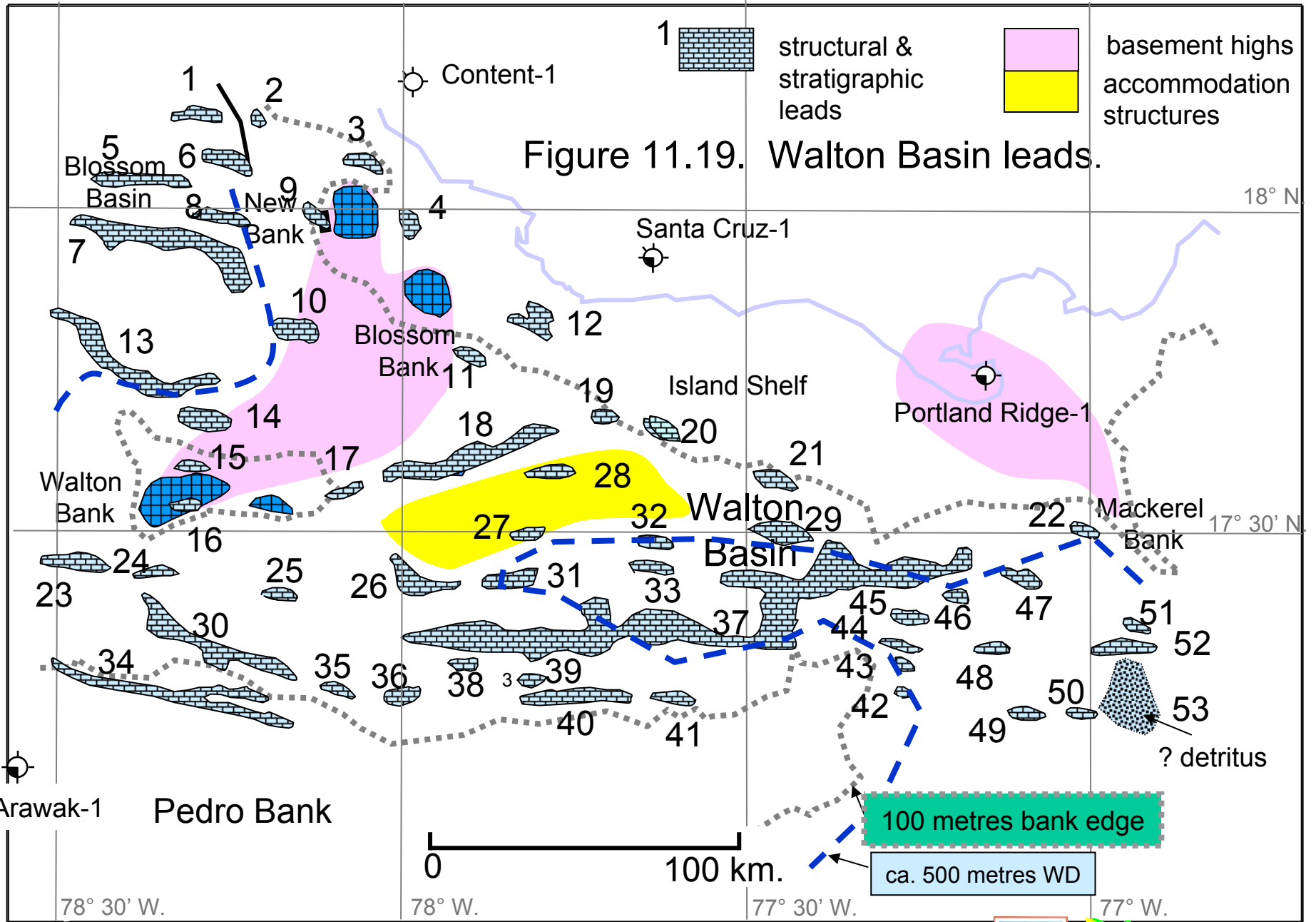
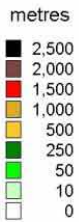


Figure 12—Three-dimensional synthetic seismic derived from three scenarios made with NeXTGeo™ and Meis™. For comparison, the same cross section from the poststack depth migrated reflectivity data set is shown (a). Note that the original seismic and the synthetic seismic have a different lateral resolution constrained by the cell size in the reservoir model (25 × 25 m in original seismic vs. 85 × 85 m in synthetic seismic). Only the Nido Limestone interval is shown on the synthetic seismic sections. For reference, wells MA-1 and MA-2 are indicated in all sections.



53 leads with a potential of 10.6 TCF or 2.2 BBL Oil





water depth (metres)

