

EMPIRE

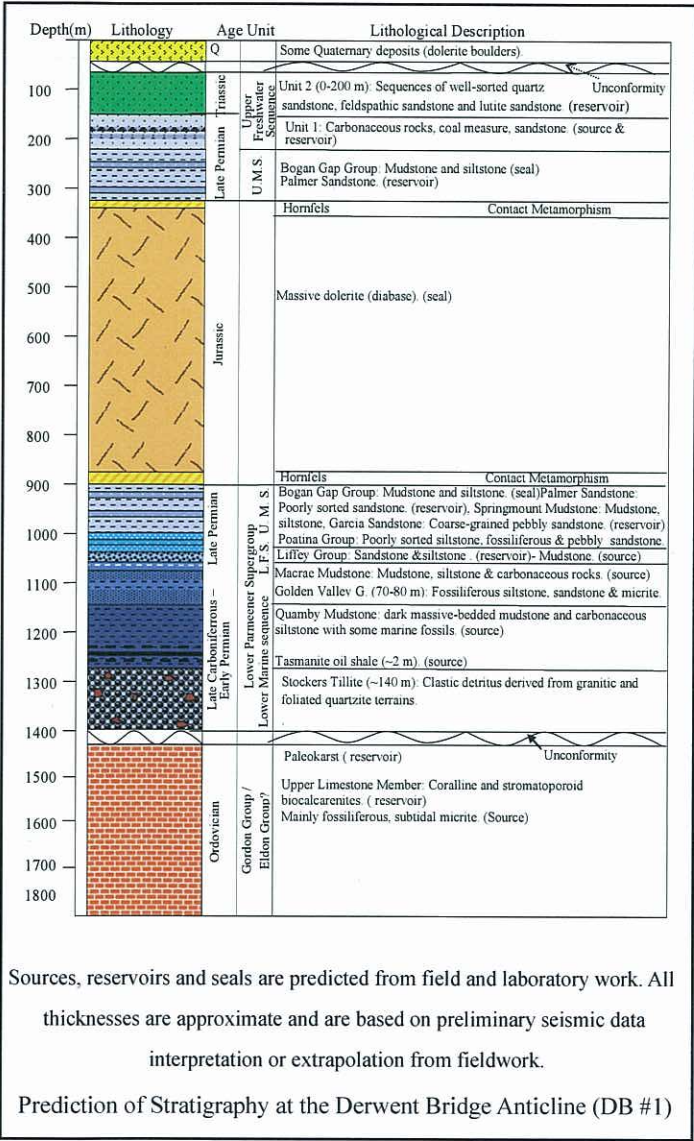
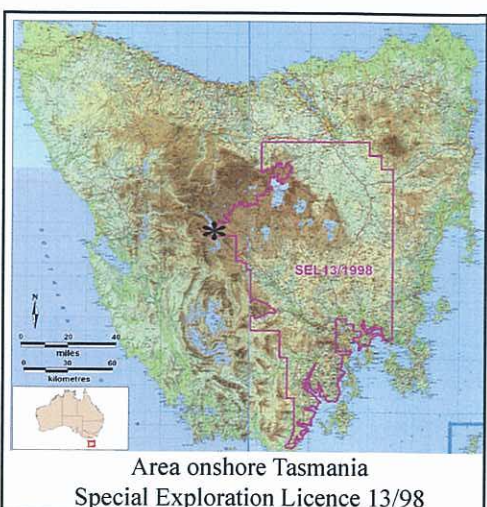
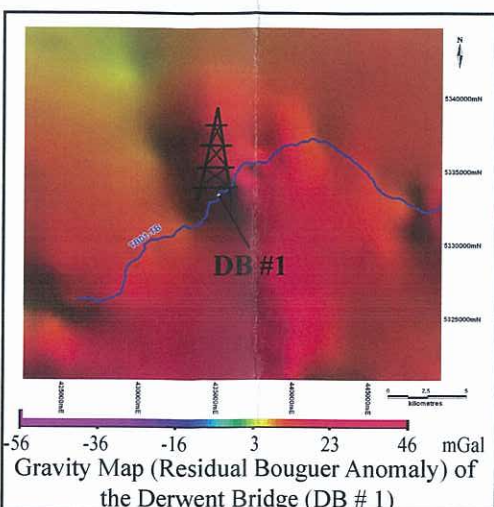
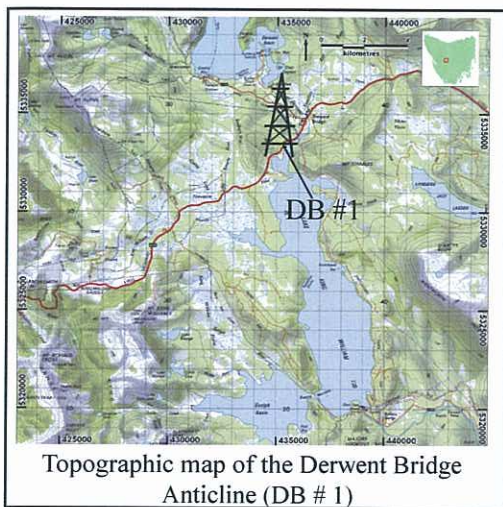
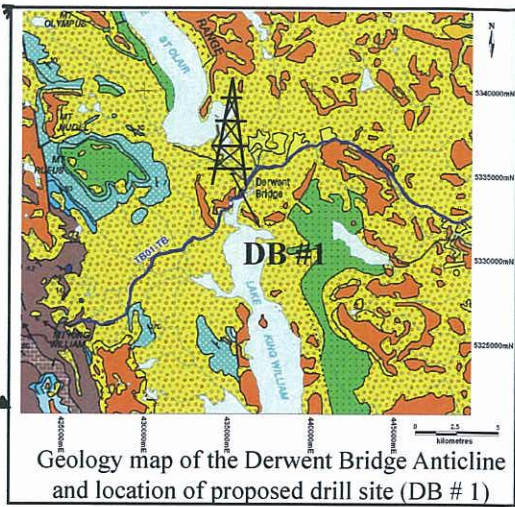
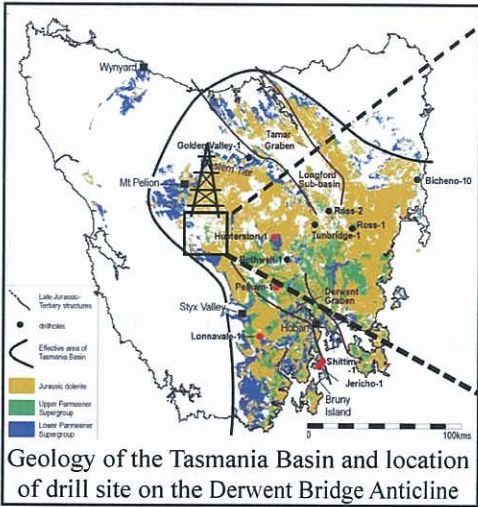
Energy

Great South Land Minerals

Derwent Bridge Anticline

(DB # 1) May 2008

Compiled by Dr. Zohreh Amini



	Permo-Triassic	Ordovician-Devonian	Total
(P90)	36	-	36
(P50)	87	-	87
(P10)	199	-	199

Monte – Carlo simulations of potential, undiscovered petroleum at Derwent Bridge #1 in million barrels

Petroleum System Characteristics of the Derwent Bridge Anticline (based on seismic line TB01-TB):

Target:

Source:

Reservoir:

Depth to top of reservoir:

Seal:

Trap:

Risk:

Triassic, Permian, Gordon Group Upper Limestone Member of Ordovician

Unit 1, Quamby mudstone (Tasmanite oil shale), Upper Limestone Members

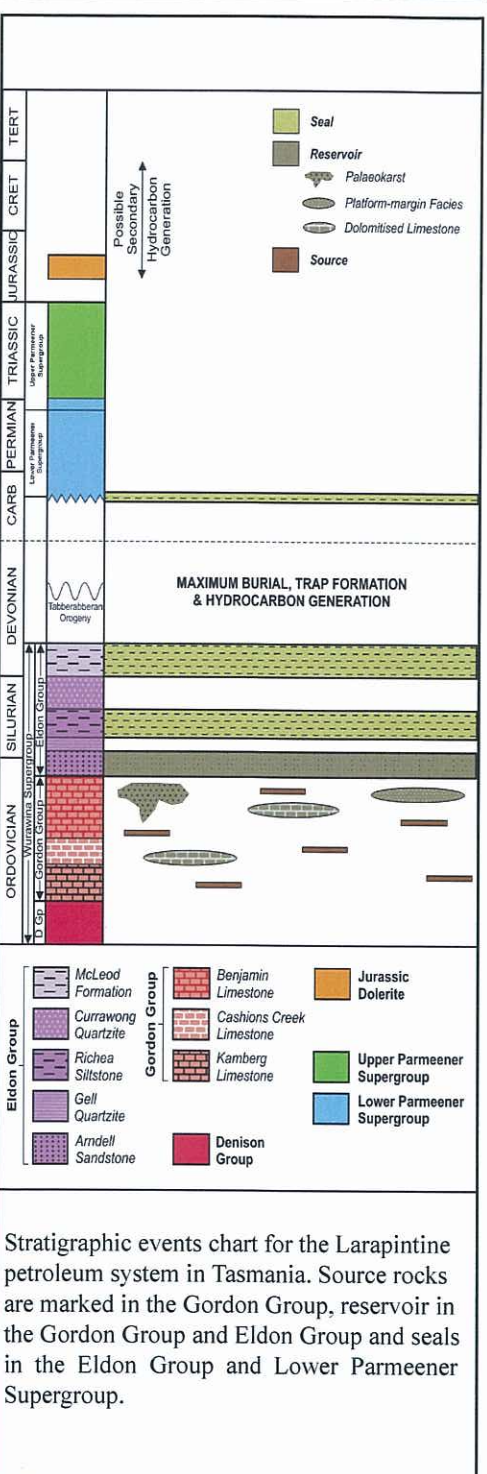
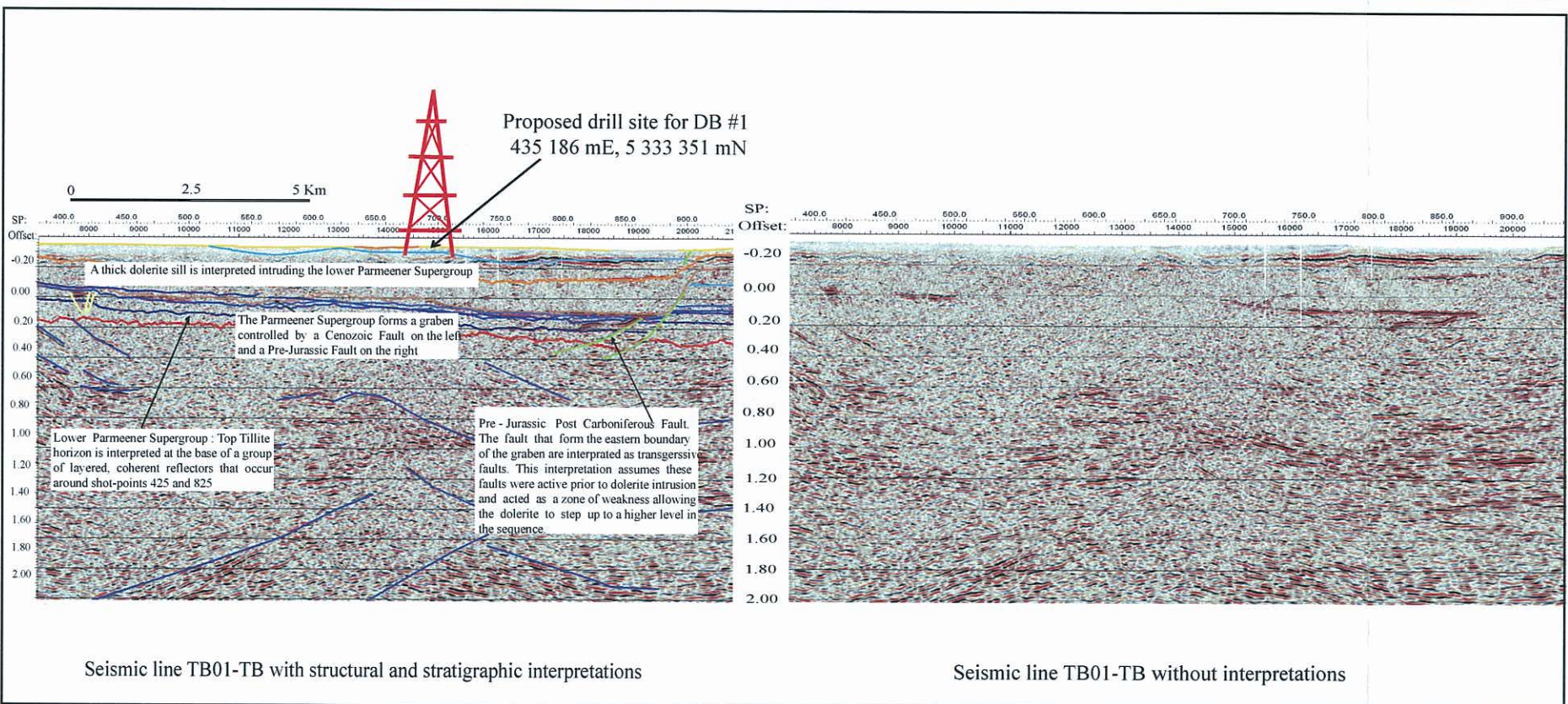
Unit 2, Unit 1, Palmer Sandstone, Garcia sandstone, Liffey Group, Upper Limestone Member (Ordovician).

Unit 2= 50 m, Unit 1 = 150 m, Palmer Sandstone = 230 m and 910 m, Garcia sandstone = 300 m and 950 m, Liffey Group = ~1030 m, Upper Limestone Member = ~ 1420 m.

Jurassic Dolerite, Ferntree Formation

Anticline

This structure is currently poorly defined. If the rocks belong to the Eldon and Gordon Groups, they are prospective for hydrocarbons. Potential source rocks are also present in the Woody Island Siltstone.



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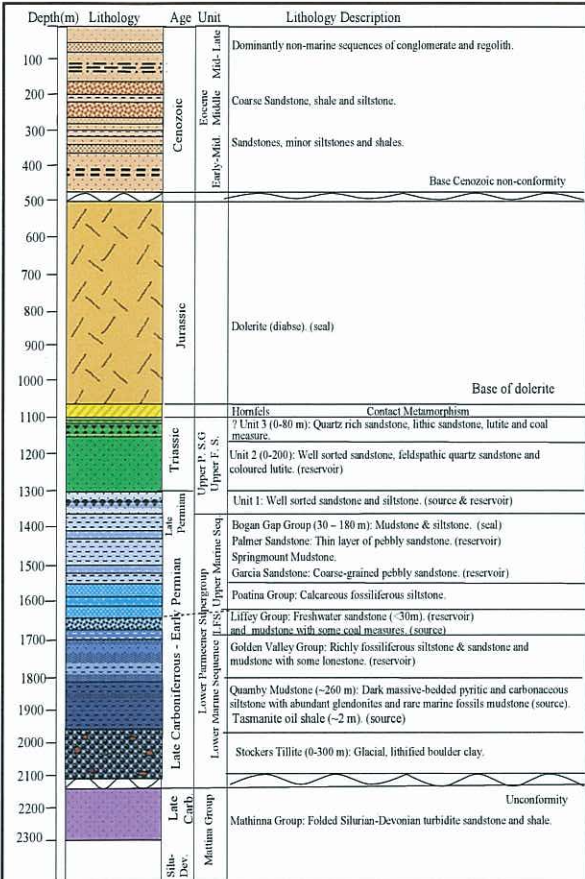
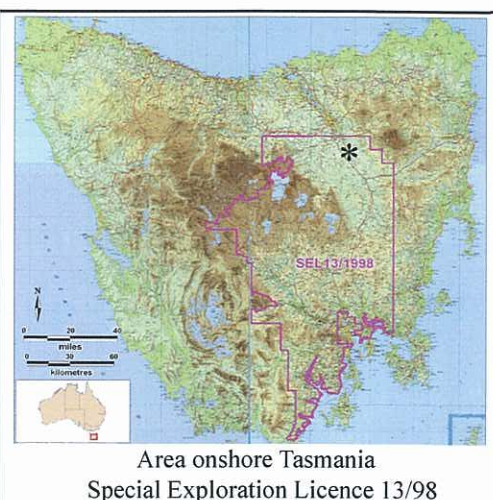
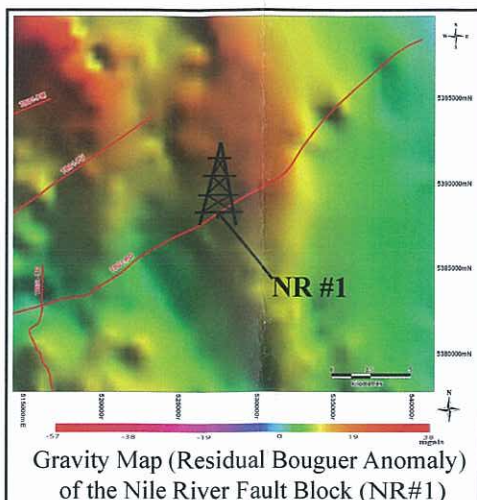
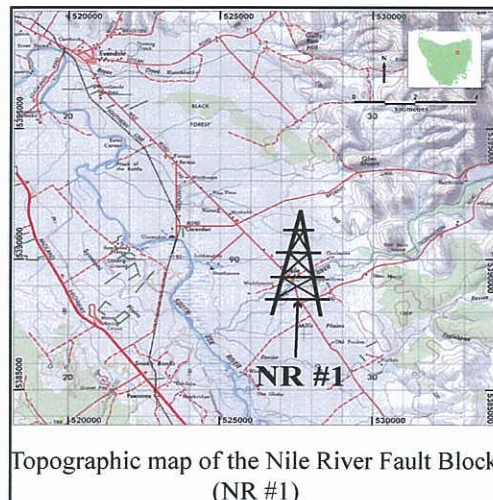
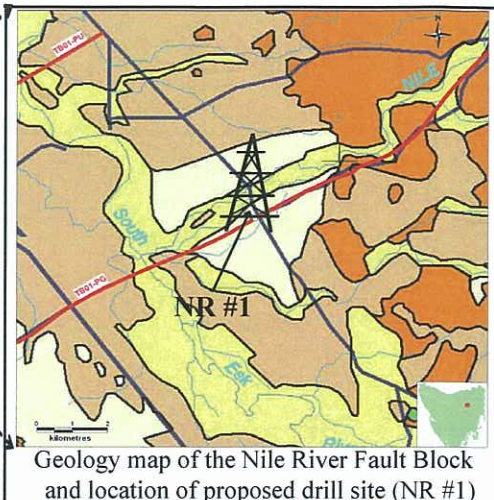
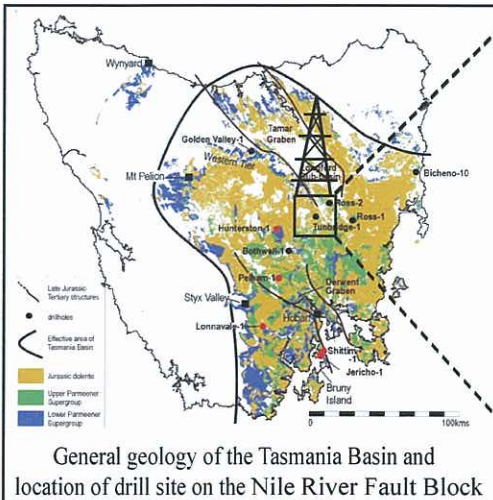
Energy

Great South Land Minerals

Nile River Fault Block

(NR #1) May 2008

Compiled by Dr. Zohreh Amini



Sources, reservoirs and seals are predicted from field and laboratory work. All thicknesses are approximate and are based on preliminary seismic data interpretation or extrapolation from fieldwork.

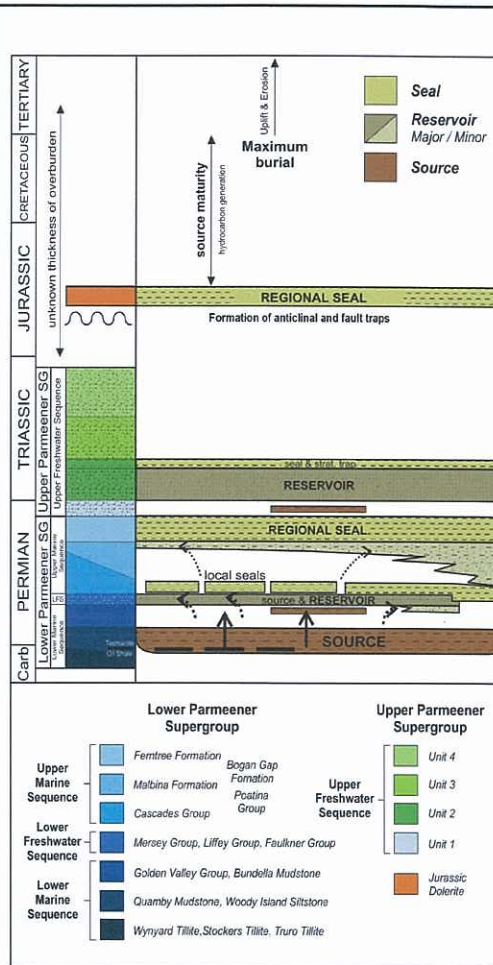
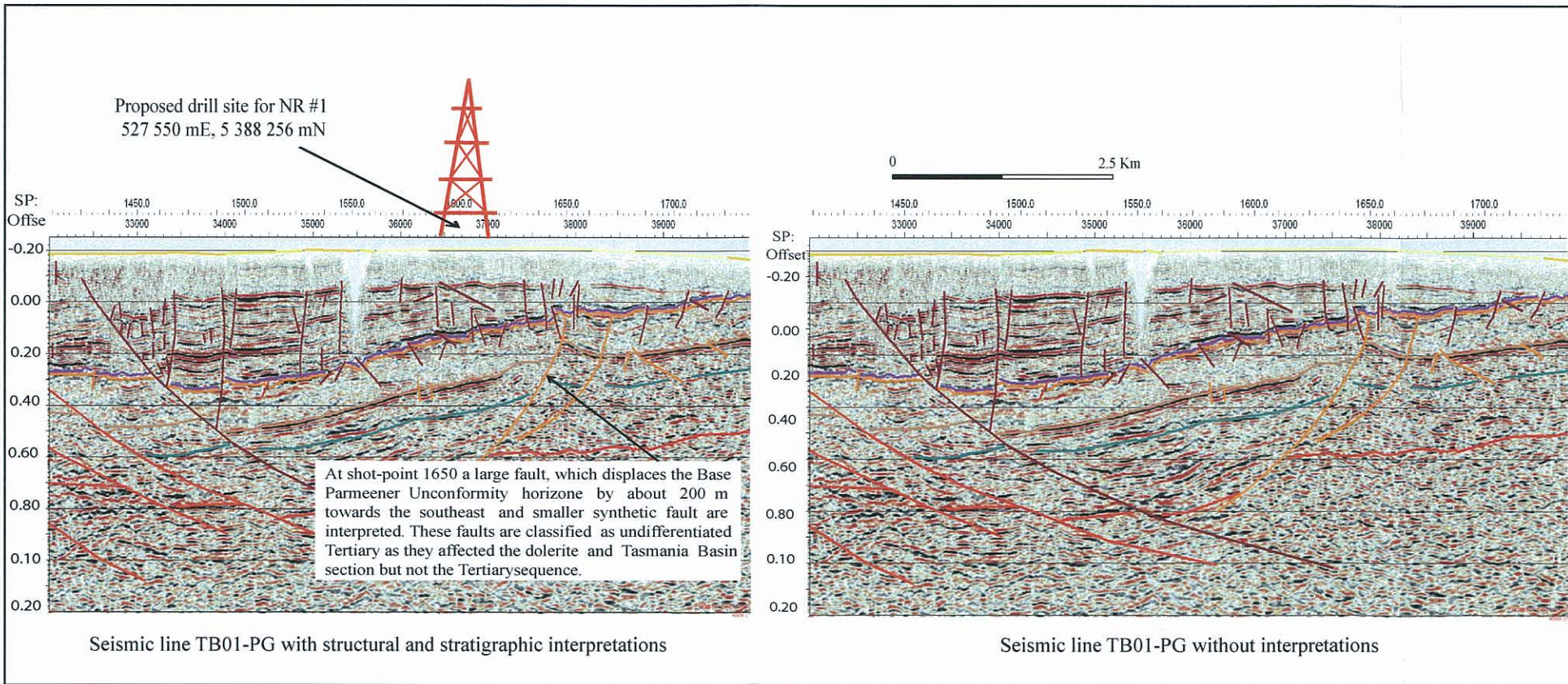
Prediction of Stratigraphy at Nile River Fault Block (NR #1)

	Permo-Triassic	Ordovician-Devonian	Total
(P90)	20	-	20
(P50)	45	-	45
(P10)	92	-	92

Monte – Carlo simulations of potential, undiscovered petroleum at Nile River #1 in million barrels.

Petroleum System Characteristics of the Nile River Anticline (based on seismic line TB01- PG)

- Target:** Triassic, Early to Late Permian.
- Source:** Unit 1, Liffey Group, Quamby Mudstone, Tasmanite oil shale.
- Reservoir:** Unit 2- (Triassic), Unit 1, Palmer Sandstone, Garcia Sandstone, Liffey Group (Permian)
- Depth to top of reservoir:** Unit 2 = ~ 1150 m , Unit 1 = 1300 m, Palmer Sandstone= ~ 1410 m , Garcia Sandstone= ~1500 m , Liffey Group= ~1650 m
- Seal:** Jurassic Dolerite, Latest Permian mudstone
- Trap:** Fault Block
- Risk:** Timing, maturation and migration in the mid Jurassic to Cretaceous. Traps were formed in early Cenozoic. Burial in the Cenozoic, plus an elevated geothermal gradient.



Potential development of the Gondwanan petroleum system in the Tasmania Basin. Major and minor potential source, reservoir and seal facies are indicated, along with timing of trap formation and source maturity. Source rocks are marked in the Woody Island Formation and Liffey Group, reservoir in the Liffey Group, and seals in the Cascade and Fernree Formation and Jurassic dolerite.

EMPIRE

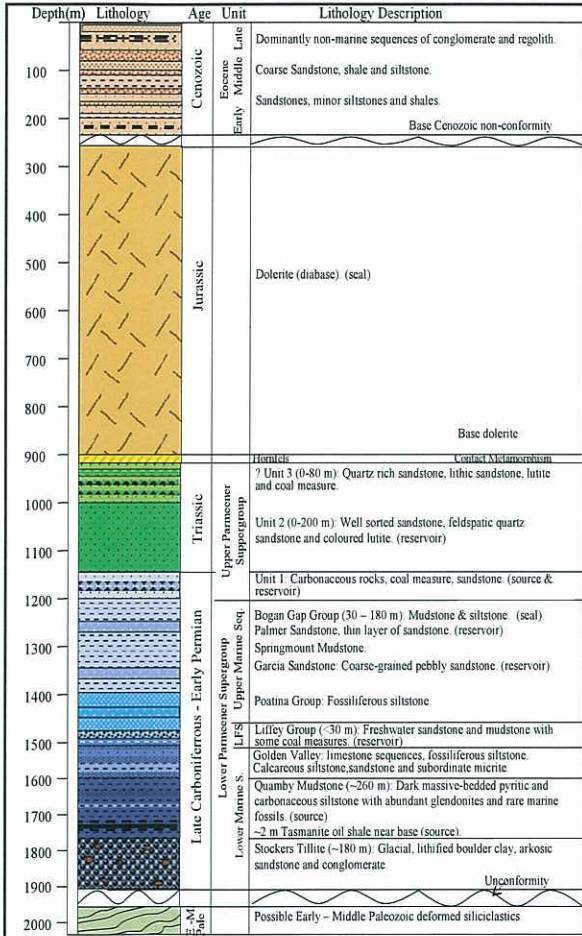
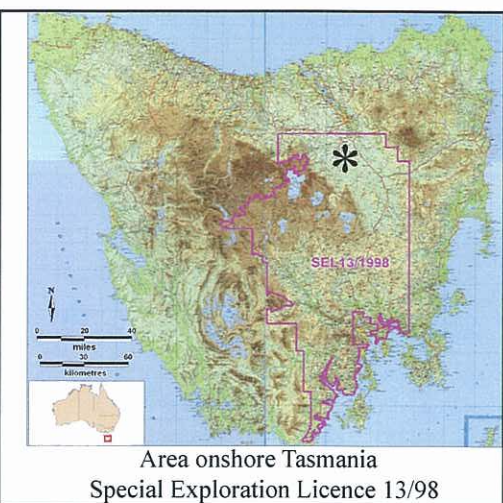
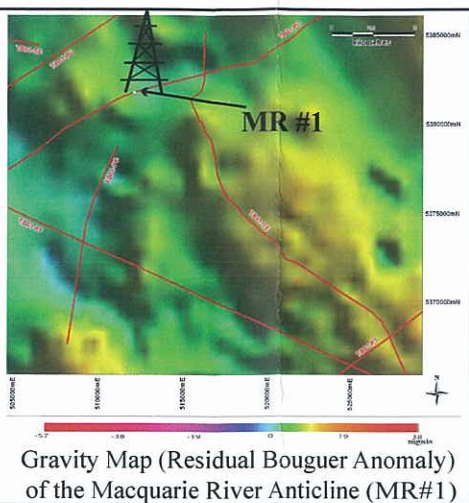
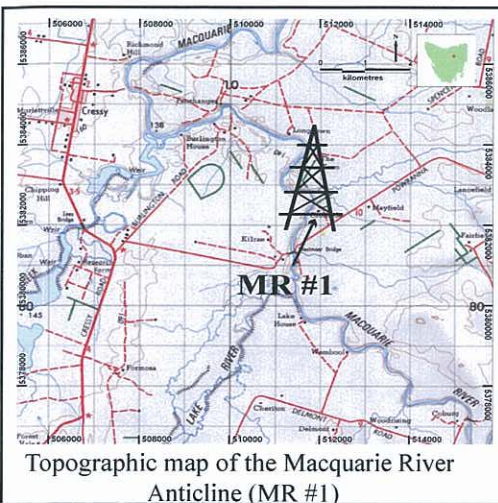
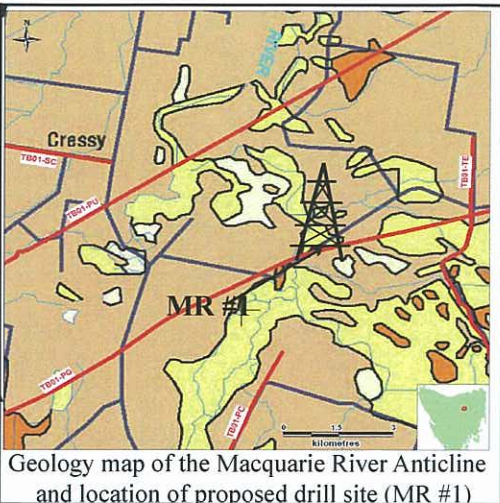
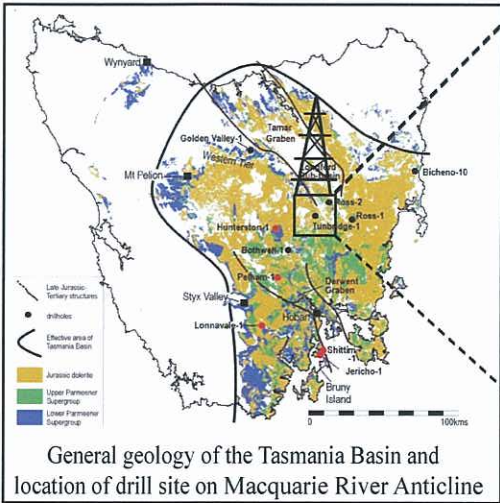
Energy

Great South Land Minerals

Macquarie River Anticline

(MR #1) May 2008

Compiled by Dr. Zohreh Amini



Sources, reservoirs and seals are predicted from field and laboratory work. All thicknesses are approximate and are based on preliminary seismic data interpretation or extrapolation from fieldwork.

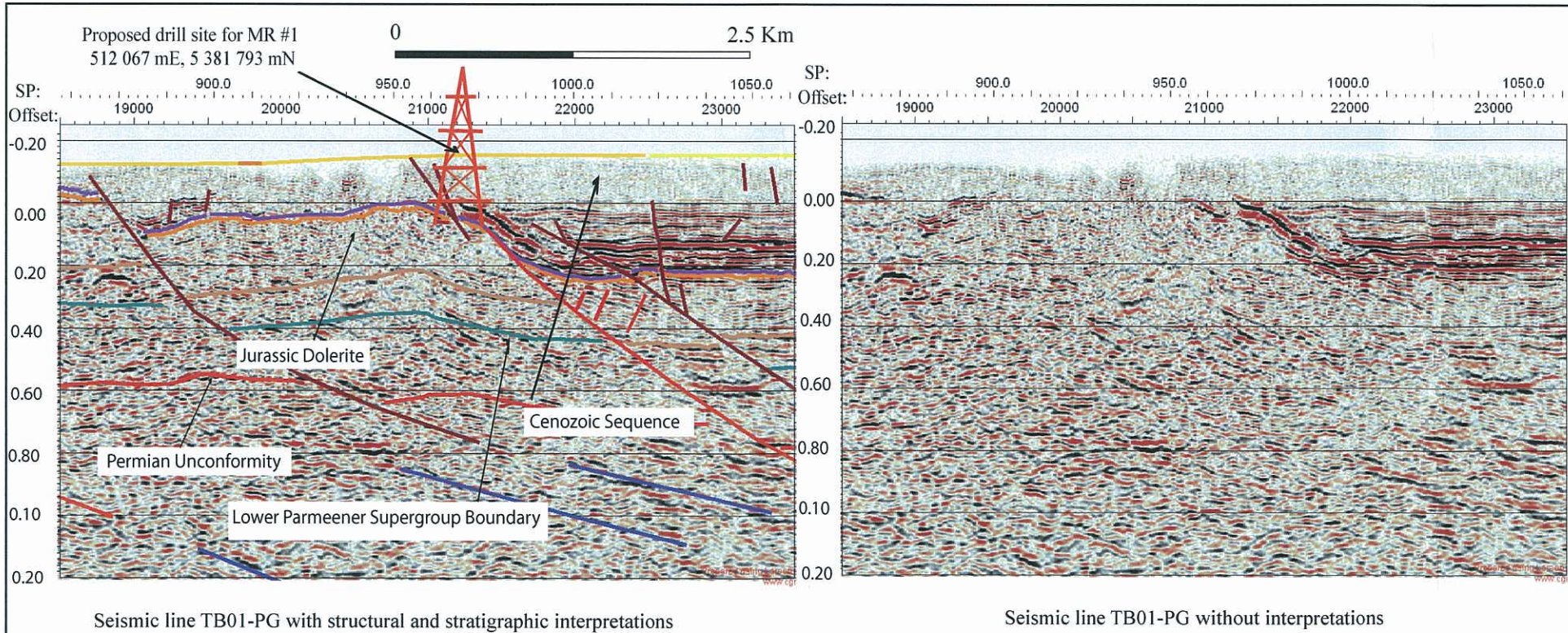
Prediction of Stratigraphy at Macquarie River Anticline (MR #1)

	Permo-Triassic	Ordovician-Devonian	Total
(P90)	5	-	5
(P50)	12	-	12
(P10)	24	-	24

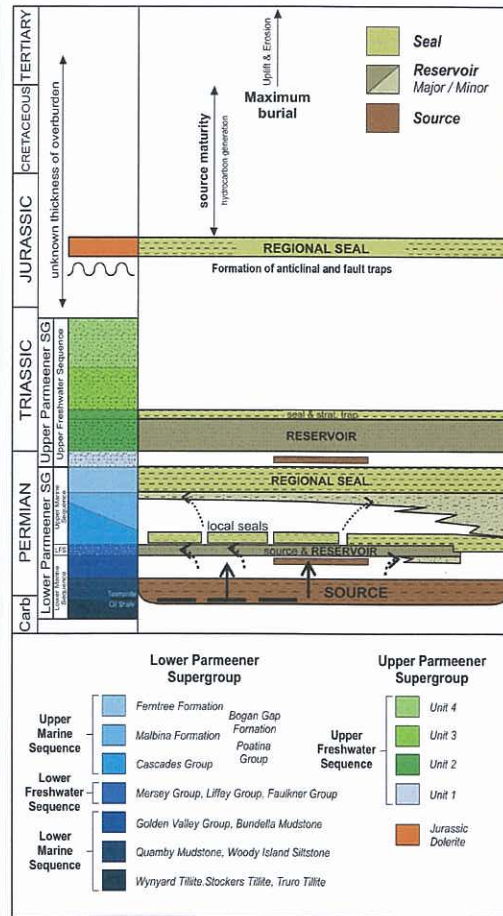
Monte – Carlo simulations of potential, undiscovered petroleum at Macquarie River #1 in million barrels.

Petroleum System Characteristics of the Macquarie River Anticline (based on seismic line TB01- PG)

- Target:** Triassic, Early to Late Permian
- Source:** Unit 1, Quamby Mudstone, Tasmanite oil shale
- Reservoir:** Unit 2 (Triassic), Unit 1, Palmer Sandstone, Garcia Sandstone, Liffey Group (Permian)
- Depth to top of reservoir:** Unit 2 = ~1000 m, Unit 1 = ~1050, Palmer Sandstone= ~1250 m, Garcia Sandstone= ~1350 m, Liffey Group= ~1480 m
- Seal:** Jurassic Dolerite, Bogan Gap Group Mudstone
- Trap:** Anticline
- Risk:** Timing, maturation and migration in the mid Jurassic to Cretaceous. Traps were formed in early Cenozoic. Burial in the Cenozoic, plus an elevated geothermal gradient.



Seismic line TB01-PG without interpretations



Potential development of the Gondwanan petroleum system in the Tasmania Basin. Major and minor potential source, reservoir and seal facies are indicated, along with timing of trap formation and source maturity. Source rocks are marked in the Woody Island Formation and Liffey Group, reservoir in the Liffey Group, and seals in the Cascade and Ferntree Formation and Jurassic dolerite.



Great South Land Minerals

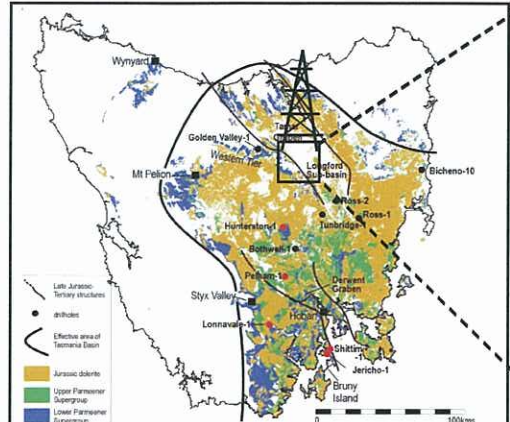


Hummocky Hills

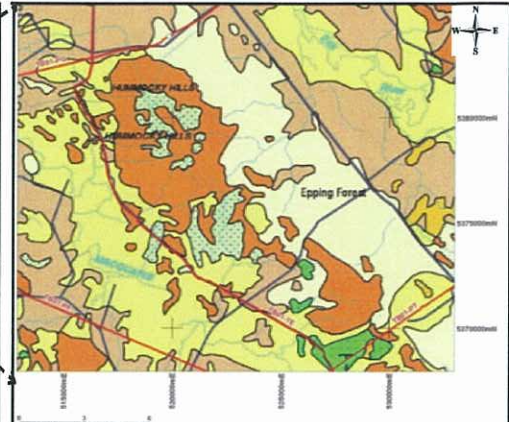
Fault Block

(HH #1) May 2008

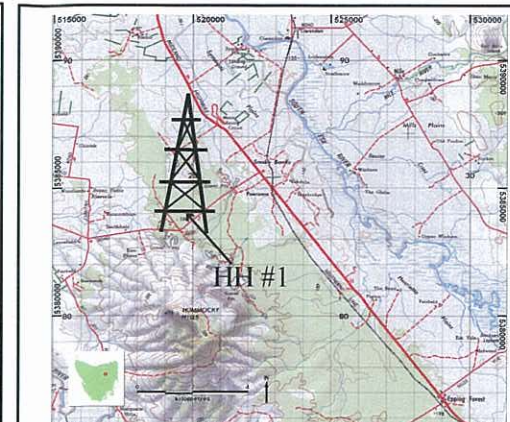
Compiled by Dr. Zohreh Amini



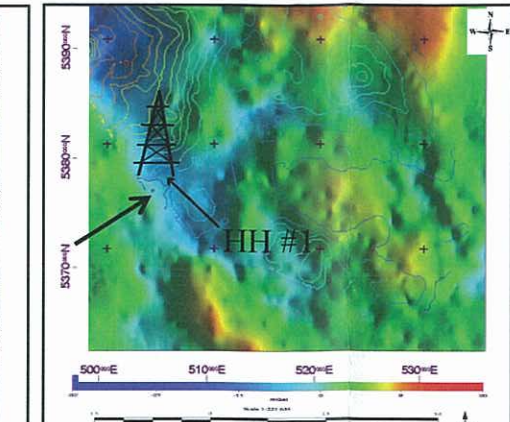
Geology of the Tasmania Basin and location of drill site on Hummocky Hills Fault Block.



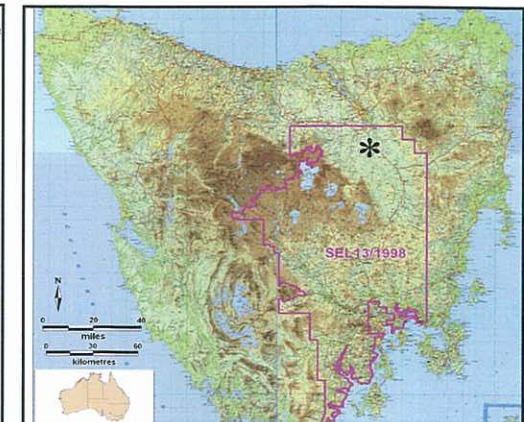
Geology map of the Hummocky Hills Fault Block and location of proposed drill site.



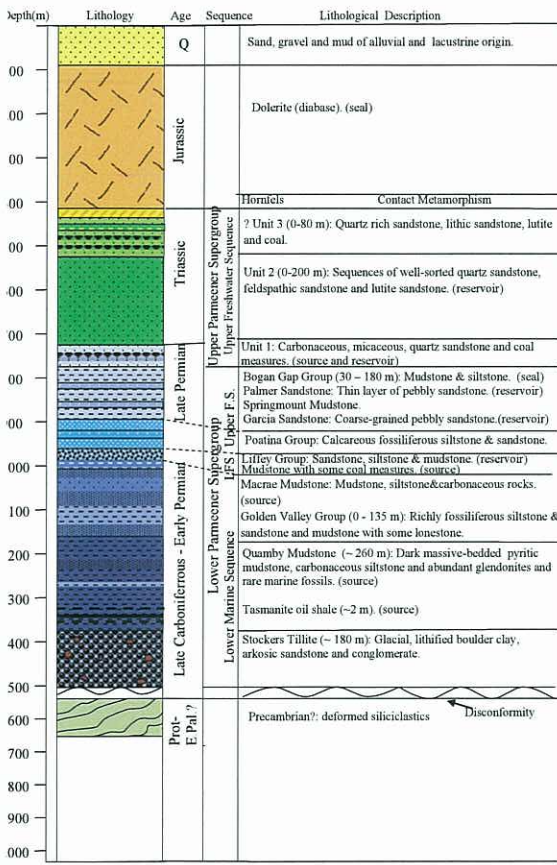
Topographic map of the Hummocky Hills Fault Block (HH#1)



Gravity Map (Residual Bouguer Anomaly) of the Hummocky Hills Fault Block (HH#1)



Area onshore Tasmania
Special Exploration License 13/98



sources, reservoirs and seals are predicted from field and laboratory work. All thicknesses are approximate and are based on preliminary seismic data interpretation or extrapolation from fieldwork.

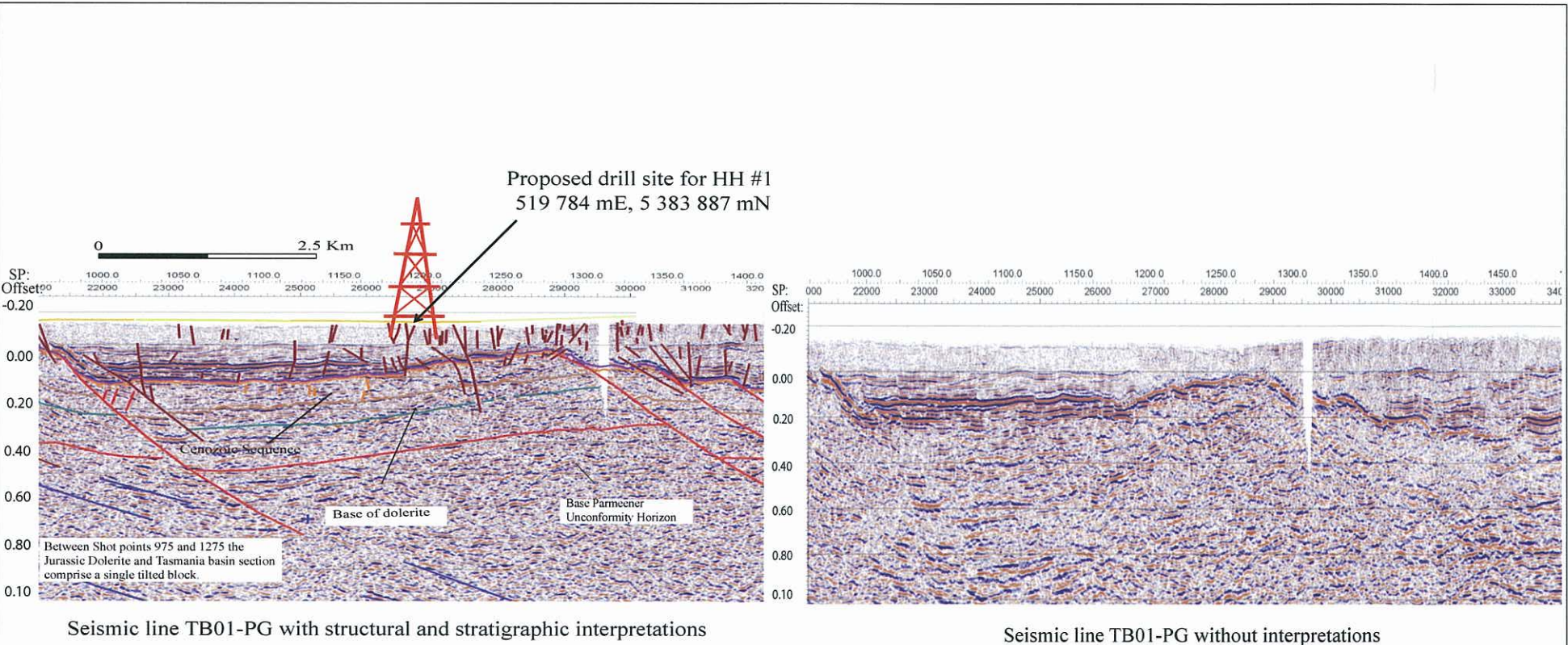
Prediction of Stratigraphy at Hummocky Hills Fault Block (HH #1).

	Permo-Triassic	Ordovician-Devonian	Total
(P90)	8	-	8
(P50)	16	-	16
(P10)	30	-	30

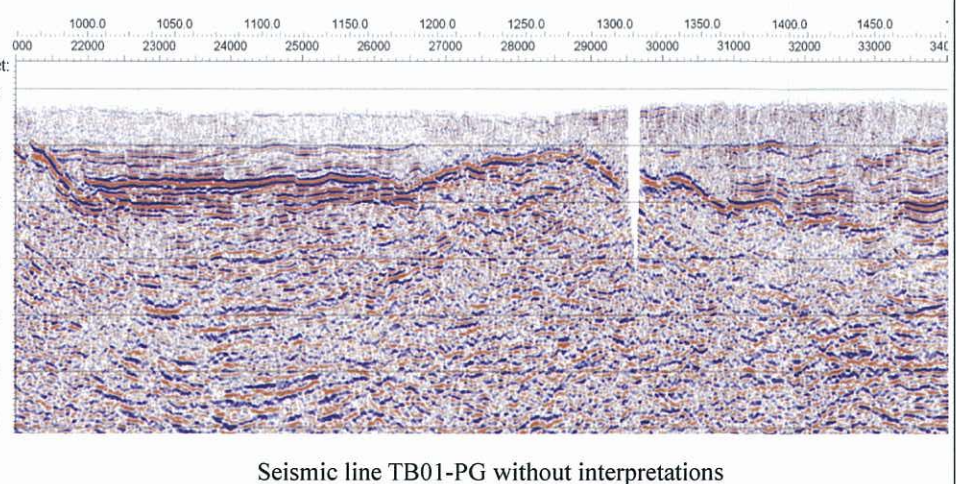
Monte – Carlo simulations of potential, undiscovered petroleum at Hummocky Hills # 1 in million barrels.

Petroleum System Characteristics of the Hummocky Hills Half Graben (based on seismic line TB01- PG)

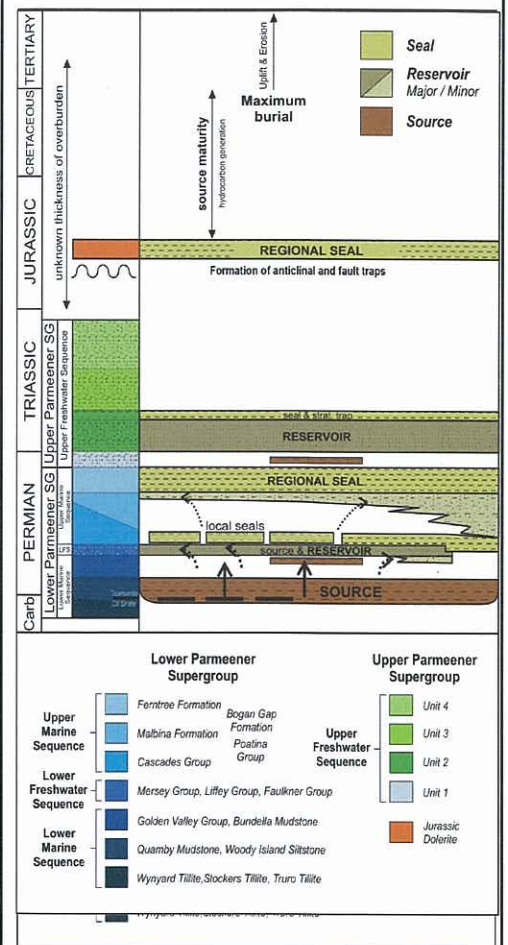
- Target:** Triassic, Early to Late Permian
- Source:** Unit 1, Liffey Group, Macrae Mudstone, Quamby Mudstone, Tasmanite Oil Shale
- Reservoir:** Unit 2 (Triassic), unit 1, Palmer Sandstone, Garcia Sandstone, Liffey Group (Permian)
- Depth to top of reservoir:** Unit 2 = 510 m, Unit 1 ~710 m, Palmer Sandstone~ 810 m, Garcia Sandstone~ 860 m, Liffey Group~960 m.
- Seal:** Jurassic Dolerite
- Trap:** Half Graben
- Risk:** Timing, maturation and migration in the Mid-Jurassic to the Cretaceous - traps were formed in the early Cenozoic. Burial in the Cenozoic, plus an elevated geothermal gradient may result in generation of late hydrocarbons.



Seismic line TB01-PG with structural and stratigraphic interpretations



Seismic line TB01-PG without interpretations



Potential development of the Gondwanan petroleum system in the Tasmania Basin. Major and minor potential source, reservoir and seal facies are indicated, along with timing of trap formation and source maturity. Source rocks are marked in the Woody Island Formation and Liffey Group, reservoir in the Liffey Group, and seals in the Cascade and Ferntree Formation and Jurassic dolerite.