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Energy

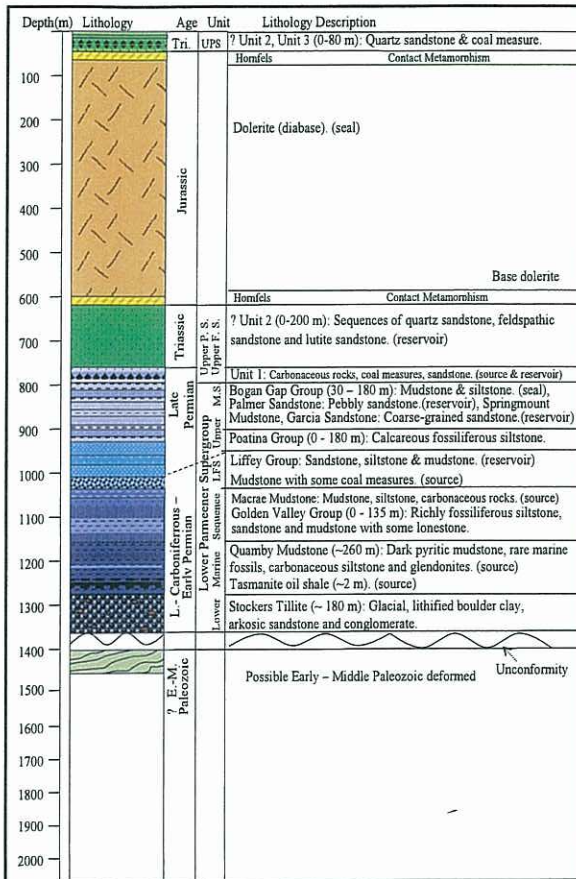
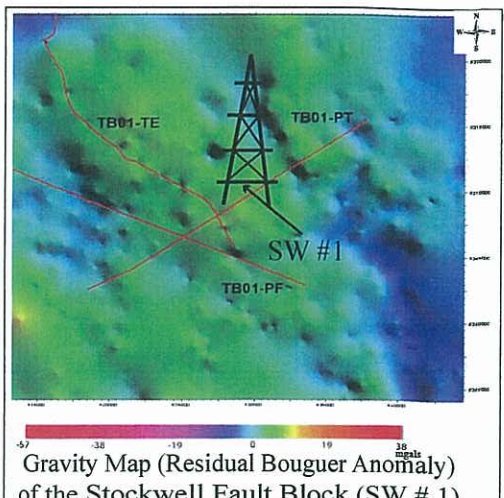
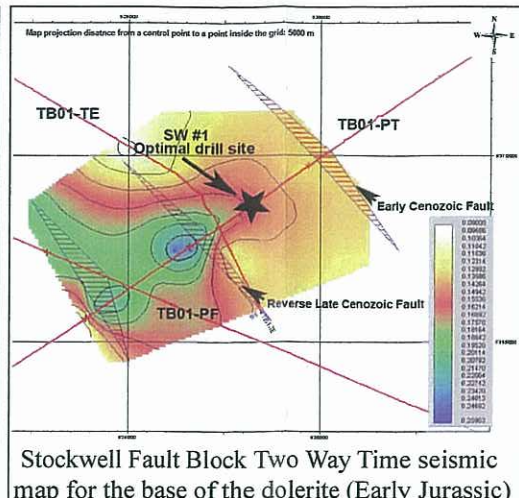
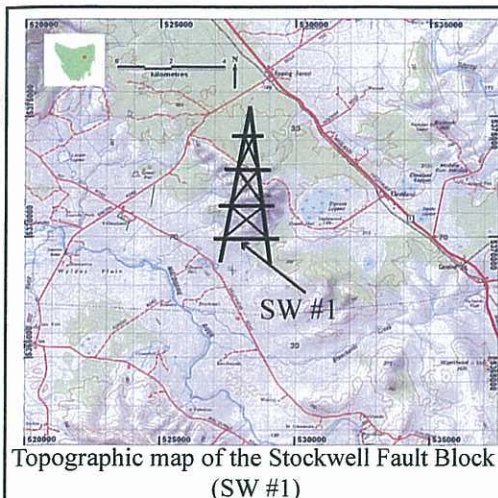
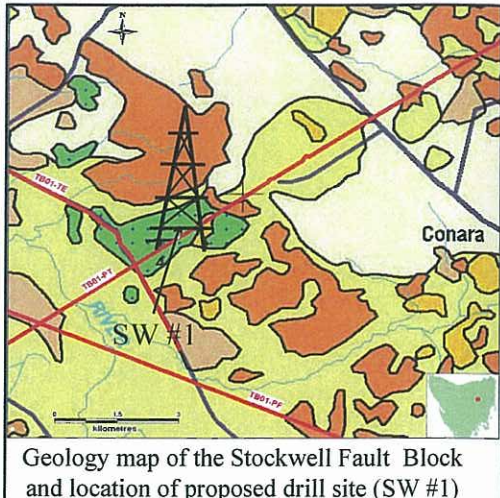
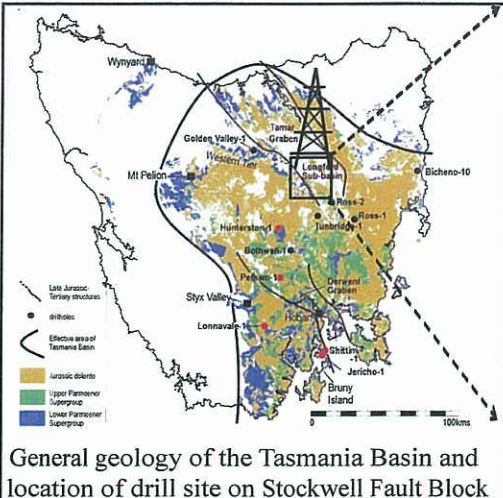
Great South Land Minerals

Stockwell

Fault Block

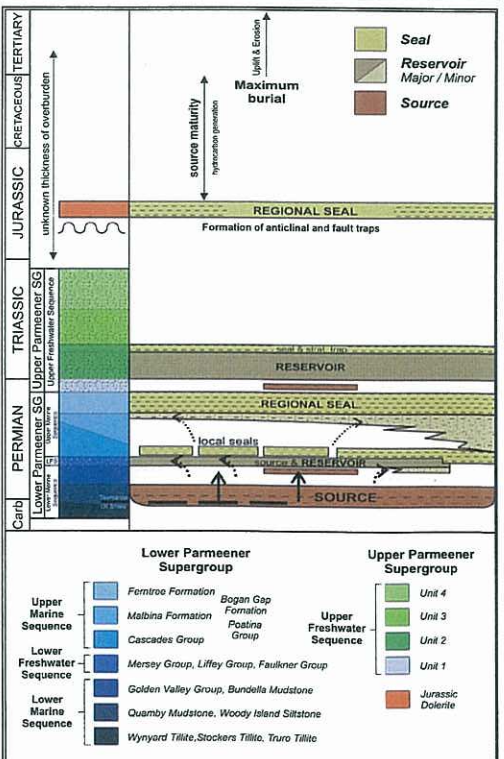
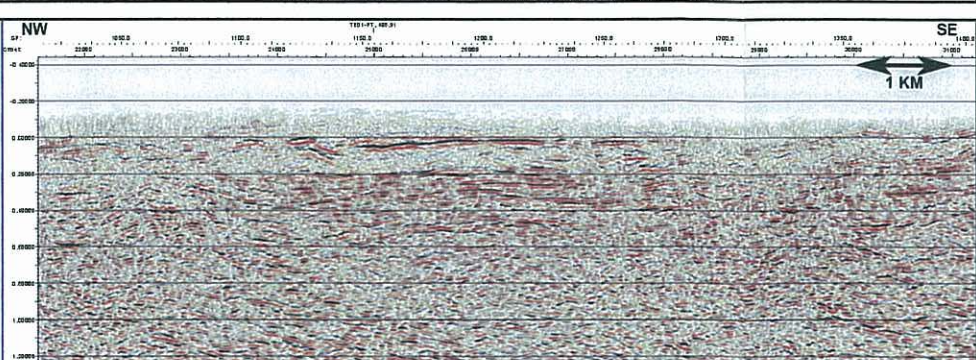
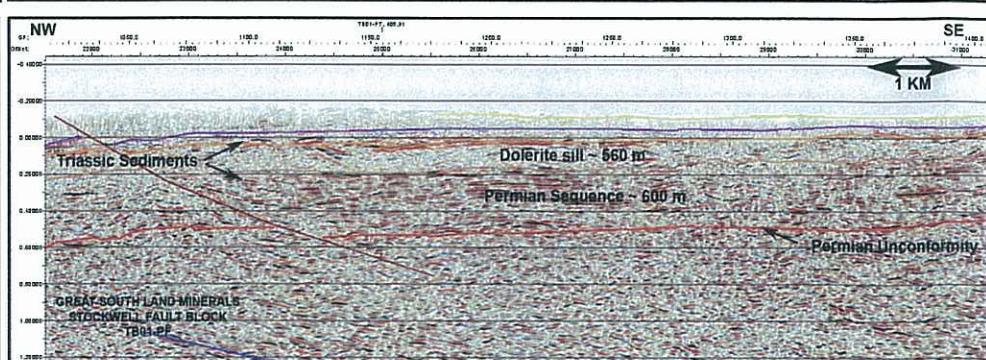
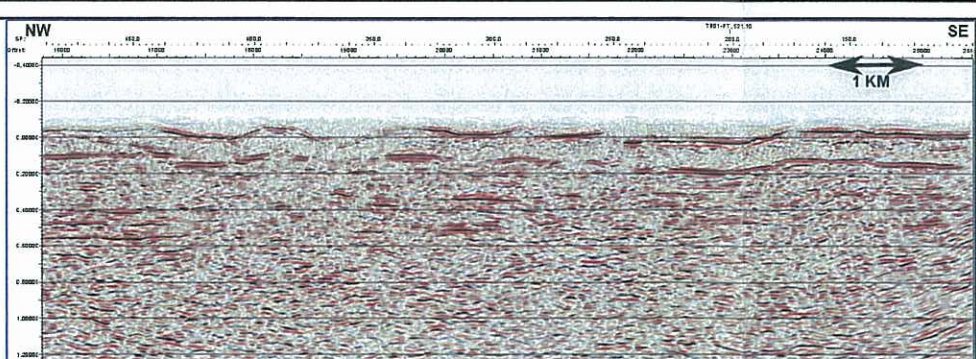
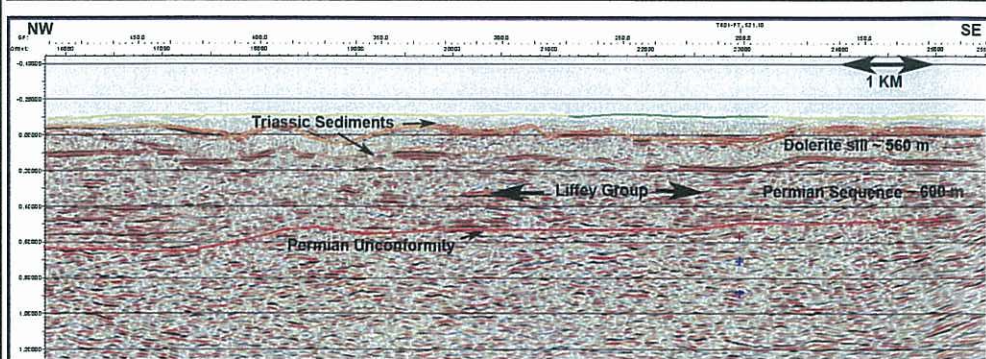
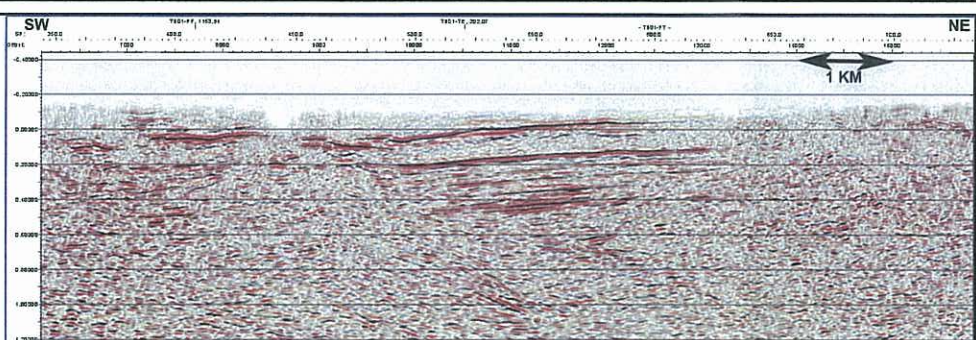
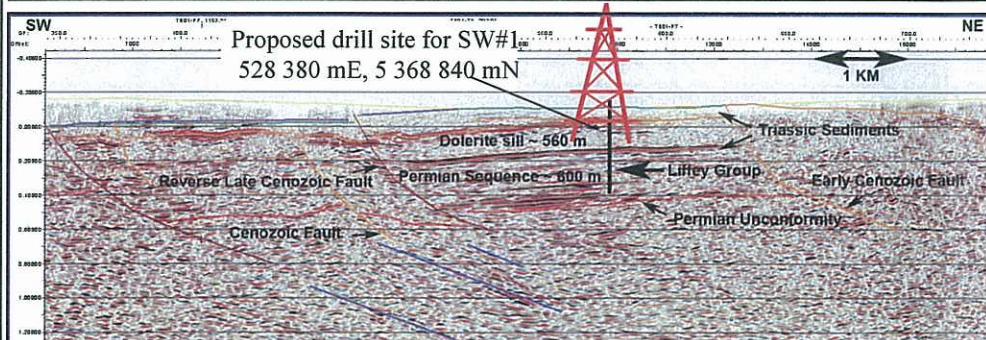
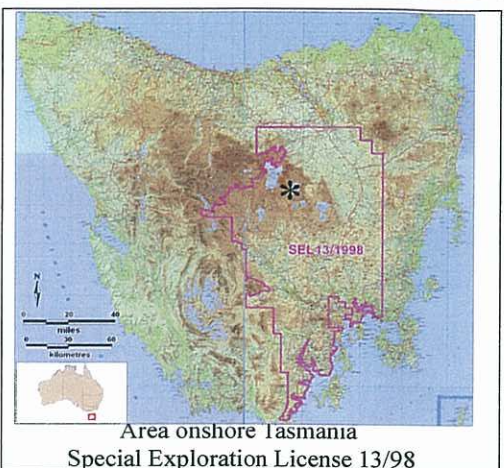
(SW #1) May 2008

Compiled by Dr. Zohreh Amiri



Petroleum System Characteristics of Stockwell Anticline (based on seismic line TB01-PT)

Target: Permo-Triassic Gondwanan system in Fault Block
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 = 610 m, Unit 1 = 760 m, Palmer Sandstone = ~ 810 m, Garcia Sandstone = ~ 890 m, Liffey Group = ~1010 m,
Pay Zone: Unit 2 = ~ 50 m, Palmer Sandstone = ~ ? m, Garcia Sandstone = ~ ? m, Liffey Group = ~ 15 m,
Seal: Jurassic Dolerite, Latest Permian mudstone
Trap: Fault Block
Risk: Timing, maturation and migration in the Mid- Jurassic to the Cretaceous. Traps were formed in the early Cenozoic to the Miocene. Burial in the Cenozoic, plus an elevated geothermal gradient may result in generation of late hydrocarbons.



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 Stockwell Fault Block (SW#1)

	Permo-Triassic	Ordovician-Devonian	Total
(P90)	4	-	4
(P50)	11	-	11
(P10)	25	-	25

Monte - Carlo simulations of potential, undiscovered petroleum at Stockwell in million barrels.

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.

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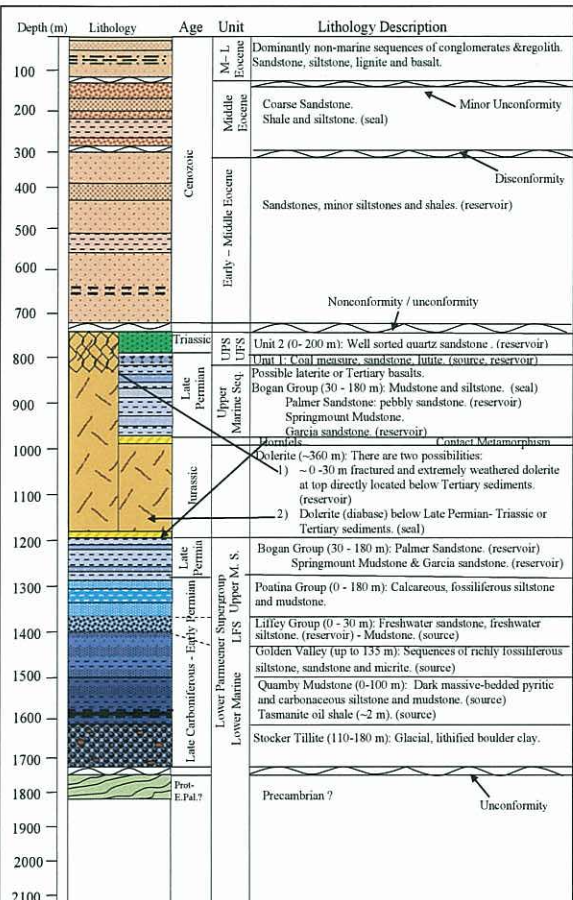
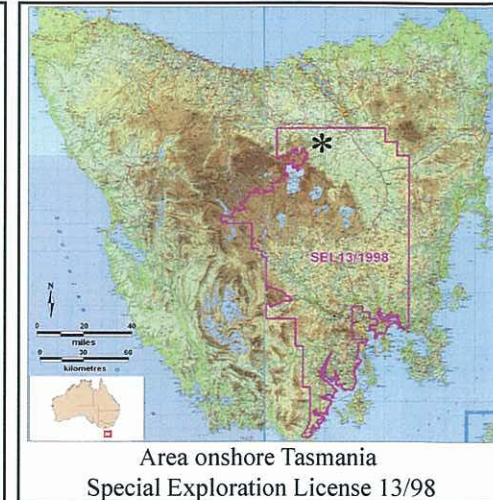
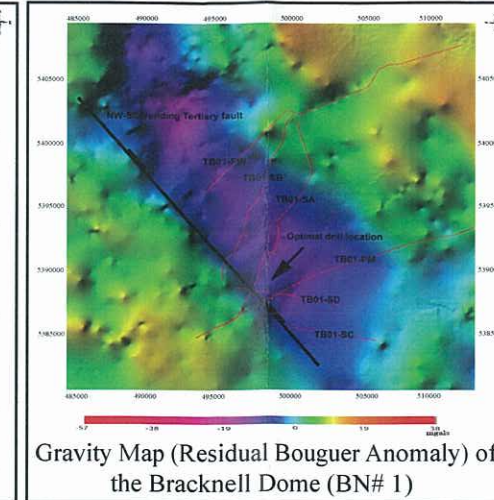
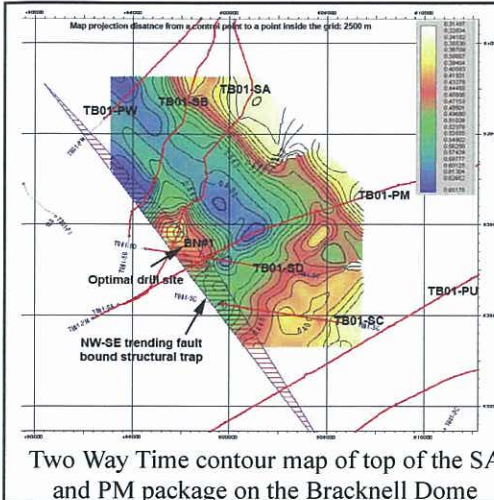
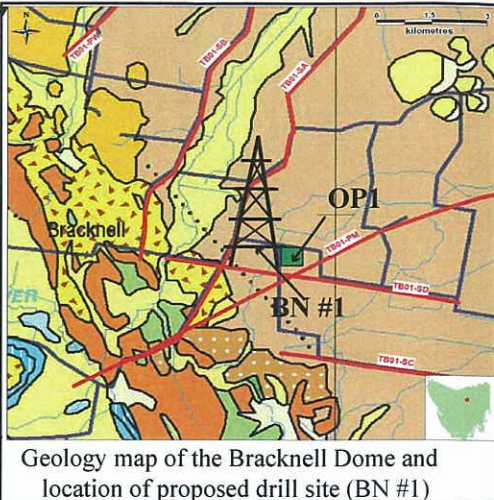
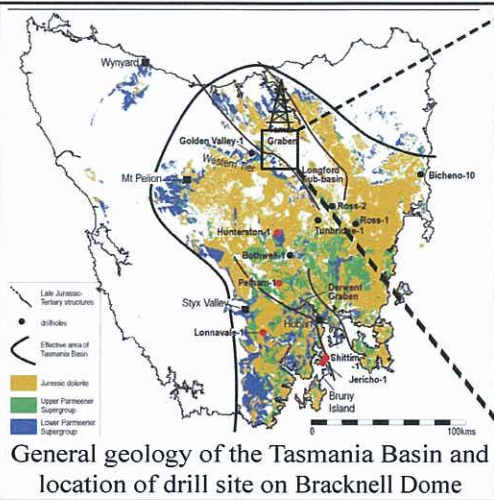
Energy

Great South Land Minerals

Bracknell Dome

BN #1 May 2008

Compiled by Dr. Zohreh Amini



Petroleum System Characteristics of Bracknell Dome (based on seismic line TB01_PM)

Target: Early - Middle Eocene, Triassic, Early to Late Permian.

Source: Unit 1, Liffey Group, Quamby Formation, Tasmanite oil shale.

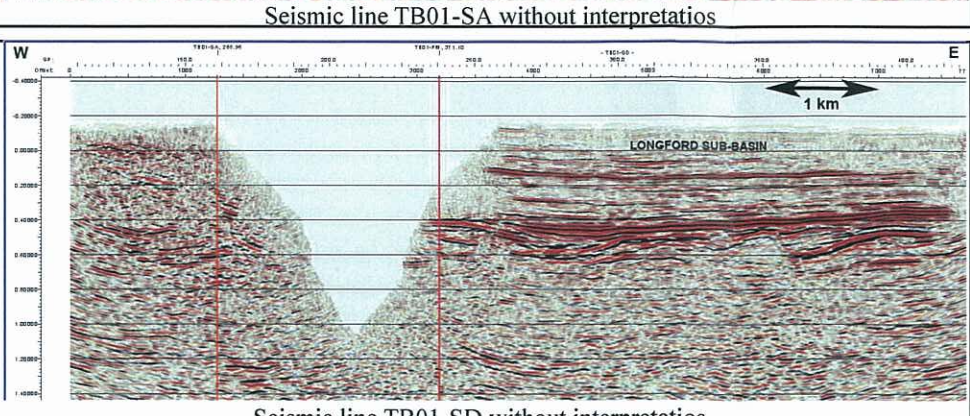
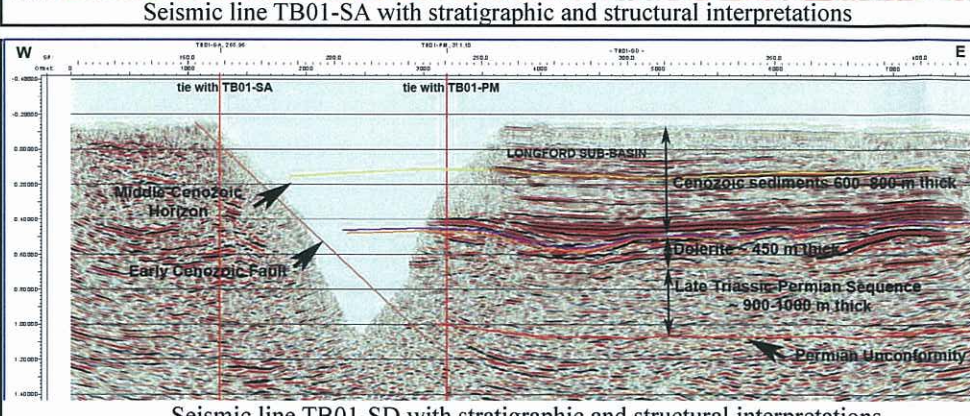
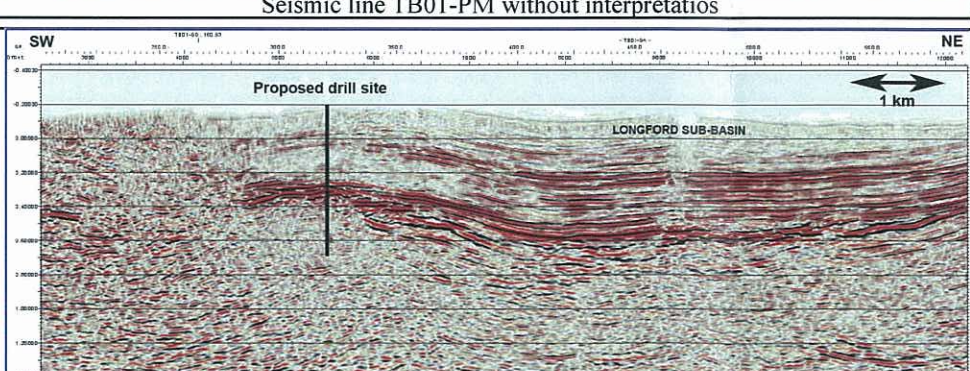
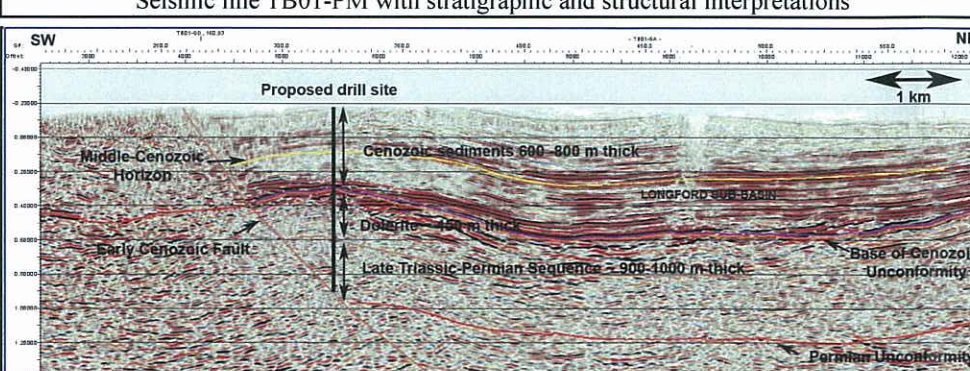
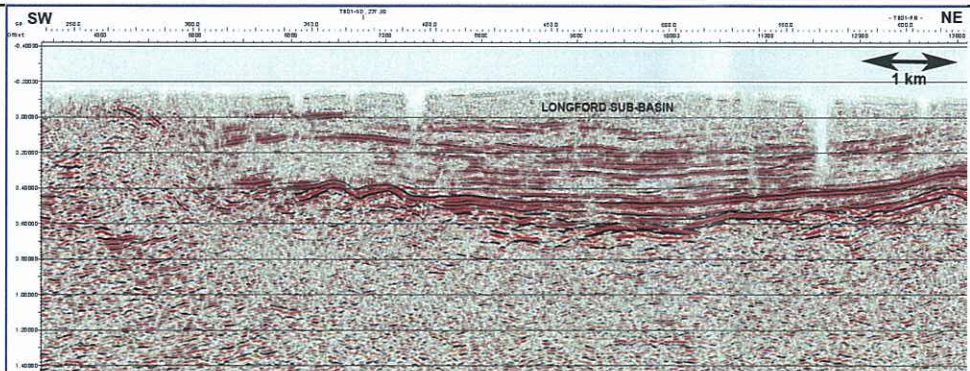
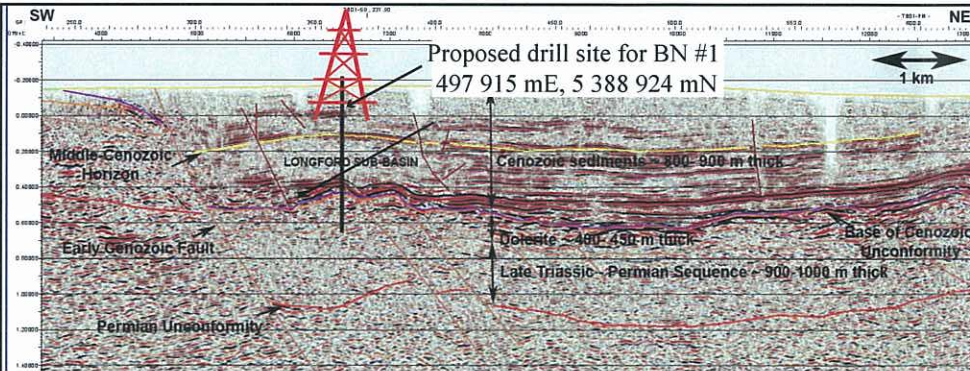
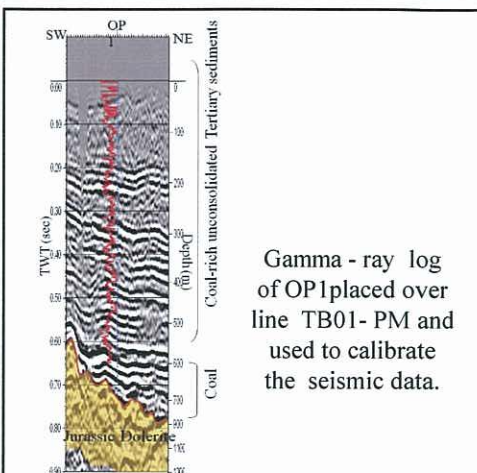
Reservoir: E - M Eocene (Cenozoic), Fractured Dolerite (Jurassic), Unit 2 (Triassic), Unit 1, Palmer and Garcia Sandstone, Liffey Group,(Permian).

Depth to top of Reservoir: Early - Middle Eocene = 300 m, Fractured Dolerite = 740 m, Unit 2 = 740 m, Unit 1 = 790 m, Palmer Sandstone = 830 m or 1210 m, Garcia Sandstone = 950 m or 1280 m, Liffey Group = 1370 m.

Seal: Dolerite, Cenozoic mudstone.

Trap: Dome

Risk: Timing - maturation and migration in 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.

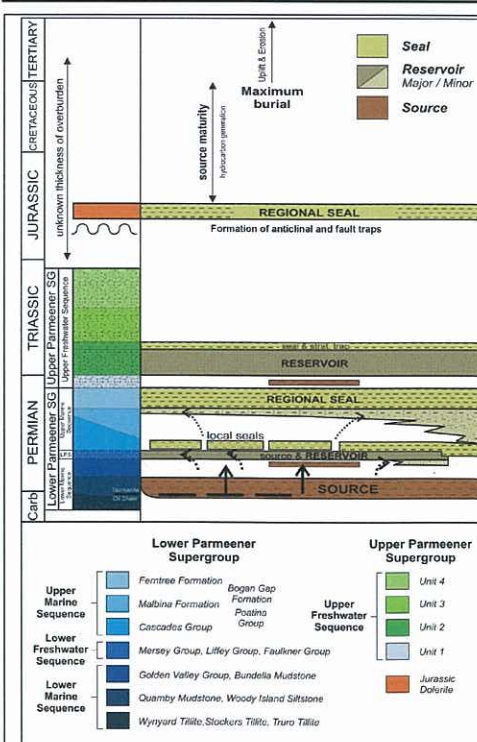


Sources, reservoirs and seals are predicted from field and laboratory work. All thicknesses are approximate and are based on preliminary seismic data interpretation or extrapolation from fieldwork.

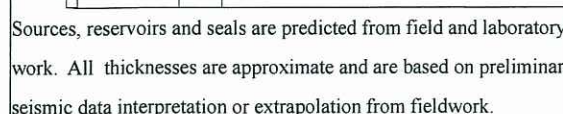
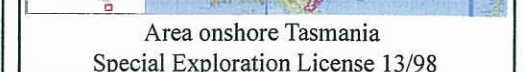
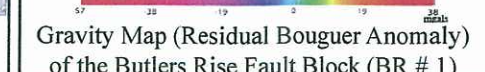
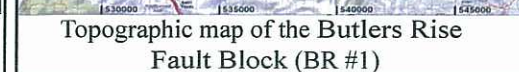
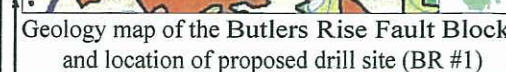
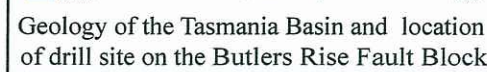
Prediction of Stratigraphy at Bracknell Dome (BN #1)

BN #1			
	Permo-Triassic	Ordovician-Devonian	Total
(P90)	49	-	49
(P50)	100	-	100
(P10)	194	-	194

Monte – Carlo simulations of potential, undiscovered petroleum at Bracknell in million barrels.



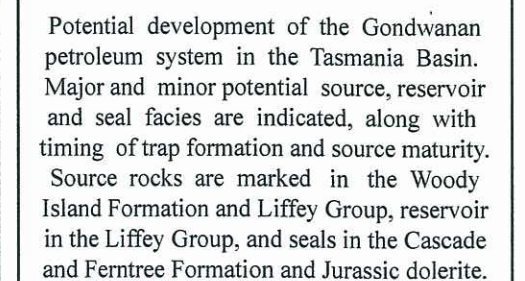
Potential development of the Gondwanan petroleum system in the Tasmania Basin. Major and minor potential source, reservoir and seal facies are indicated, along with timing of trap formation and source maturity. Source rocks are marked in the Woody Island Formation and Liffey Group, reservoir in the Liffey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



	Permo-Triassic	Ordovician-Devonian	Total
(P90)	18	-	18
(P50)	40	-	40
(P10)	79	-	79

Monte – Carlo simulations of potential, undiscovered petroleum at Butlers Rise in million barrels.

Target:	Triassic, Early to Late Permian Fault Block
Source:	Unit 1, Liffey Group, Quamby Formation, Tasmanite oil shale
Reservoir:	Unit 2 (Triassic), Unit 1, Palmer Sandstone, Garcia Sandstone, Liffey Group (Permian)
Depth to reservoir:	Unit 2 = 20 m, Unit 1= 70 m, Palmer Sandstone = 130 m, Garcia Sandstone = 270, Liffey Group = ~ 1010 m
Seal:	Dolerite, latest Bogan Gap group
Trap:	Fault Block
Risk:	Timing - maturation and migration in Mid-Jurassic to the Cretaceous - traps were formed in the early Cenozoic - result in generation of late hydrocarbons.



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Energy

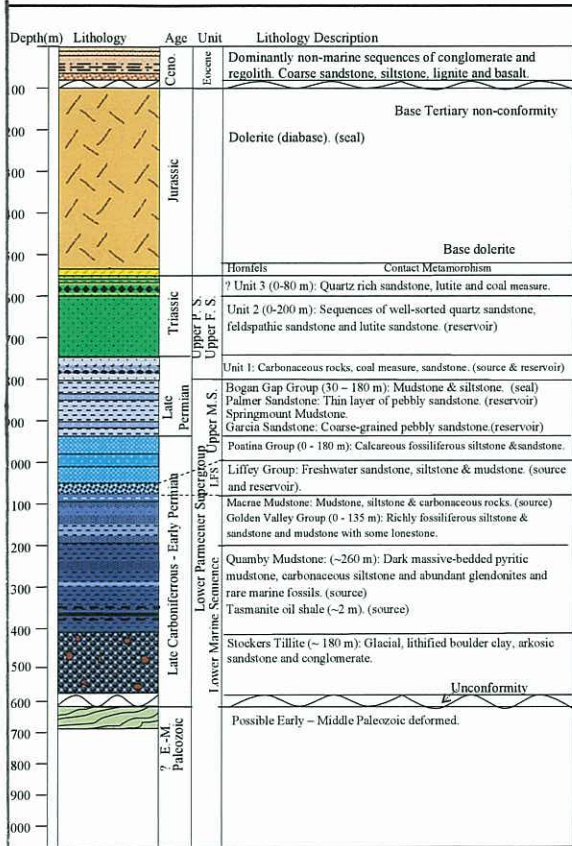
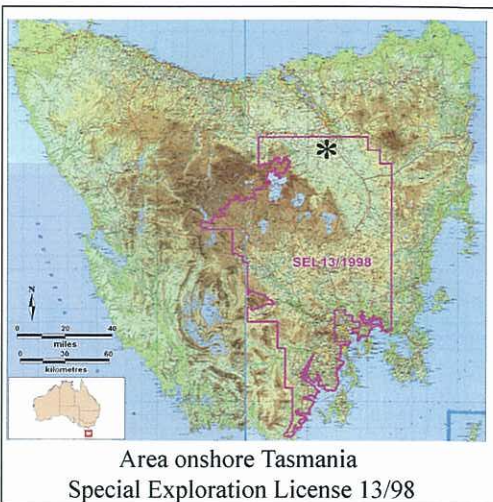
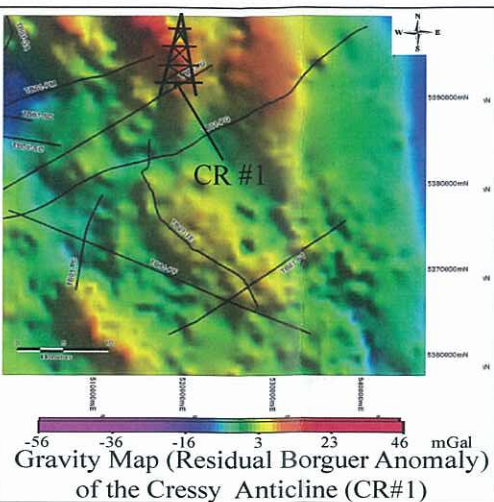
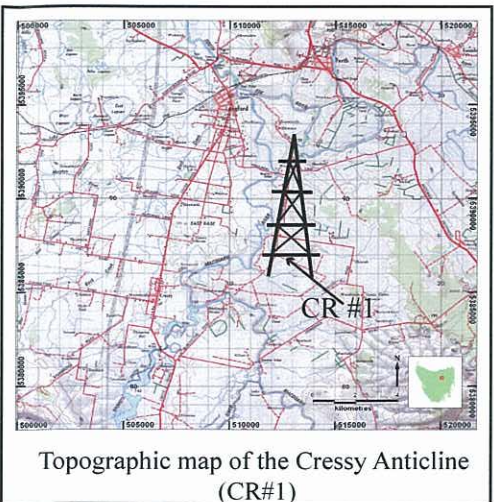
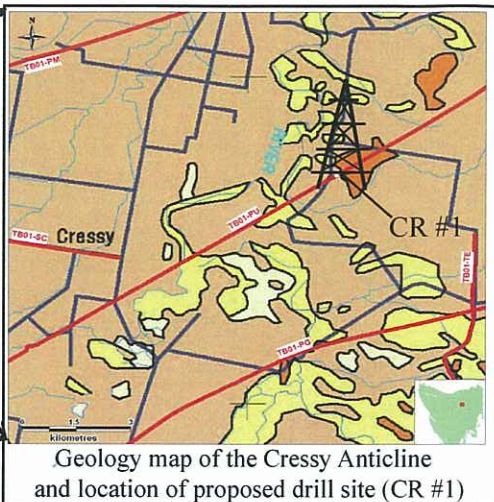
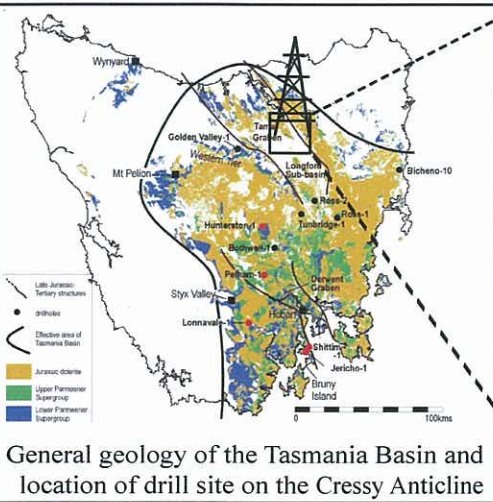
Great South Land Minerals

Cressy

Anticline

(CR #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.

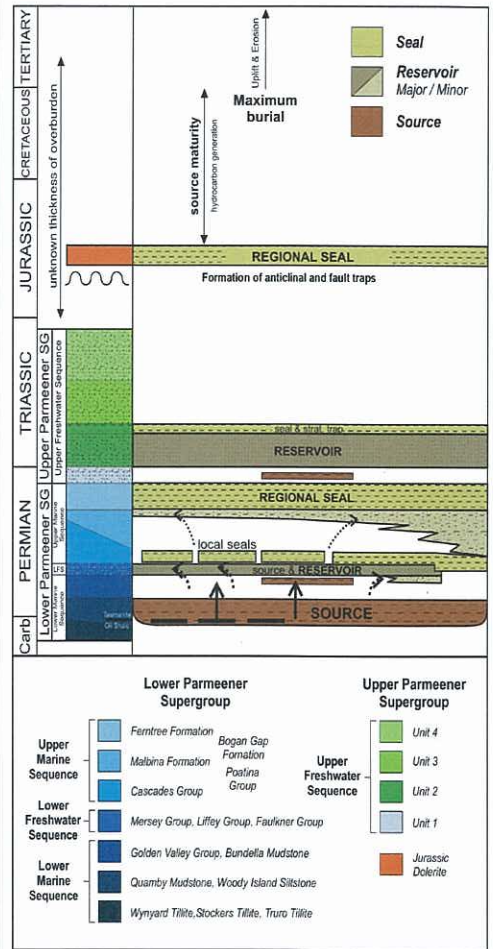
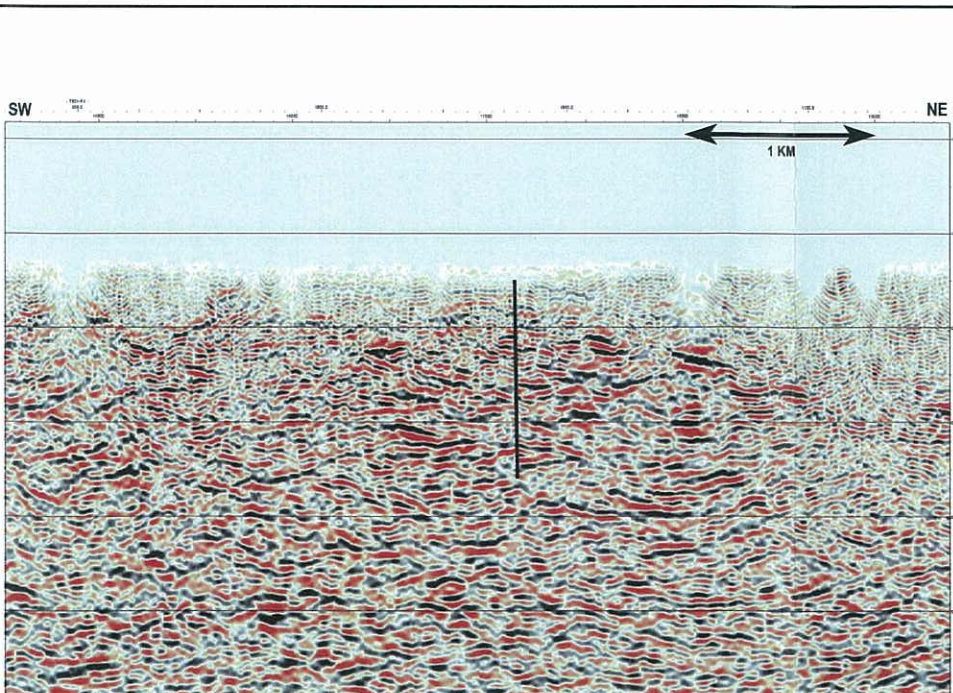
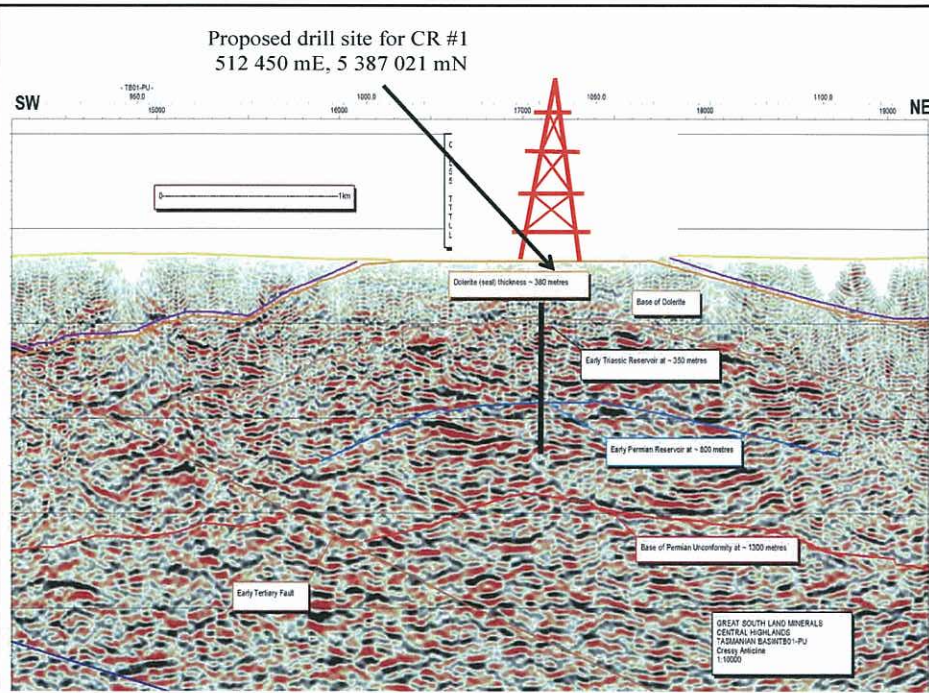
Prediction of Stratigraphy at the Cressy Anticline (CR #1)

	Permo-Triassic	Ordovician-Devonian	Total
(P90)	8	-	8
(P50)	16	-	16
(P10)	29	-	29

Monte - Carlo simulations of potential, undiscovered petroleum at Cressy #1 in million barrels.

Petroleum System Characteristics of the Cressy Anticline (based on seismic line TB01-PU)

- 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 = ~ 600 m, Unit 1 = 750 m, Palmer Sandstone= ~ 830 m, Garcia Sandstone= ~ 900 m, Liffey Group= ~1070 m,
- Seal:** Jurassic Dolerite, Latest Permian mudstone
- Trap:** Anticline
- Risk:** Timing, maturation and migration from Jurassic to Cenozoic. Traps were formed in Cretaceous or earliest Cenozoic. Note major compressional fault does not cut Eocene and younger sediments.



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.

EMPIRE

Energy

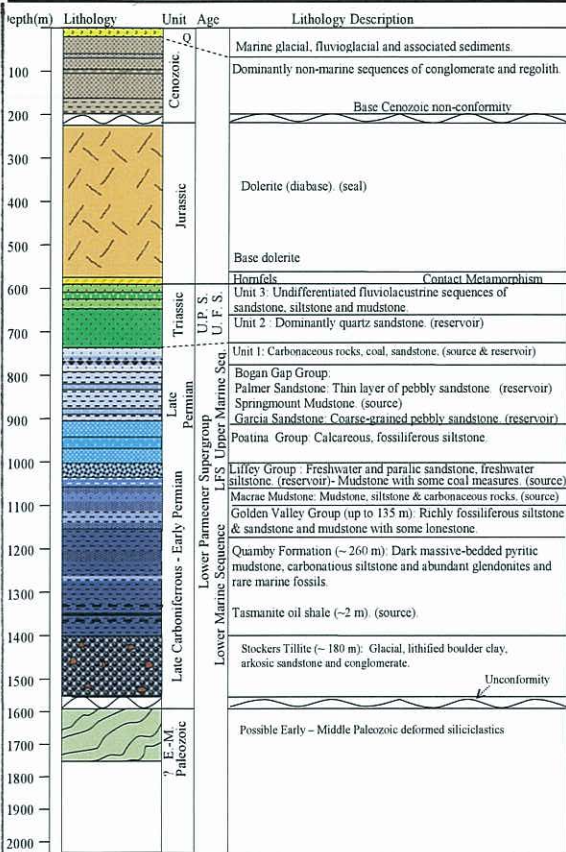
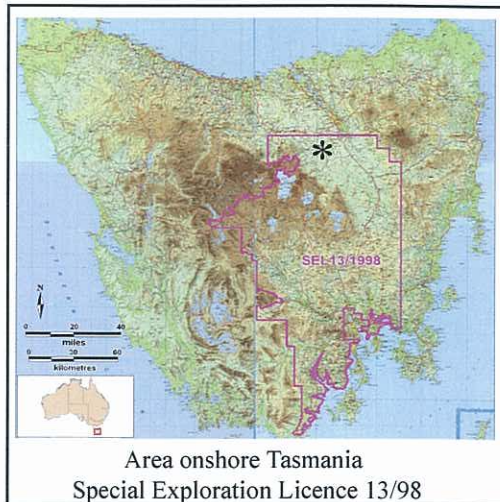
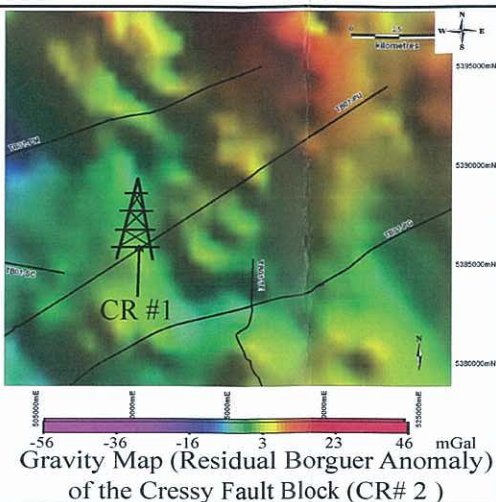
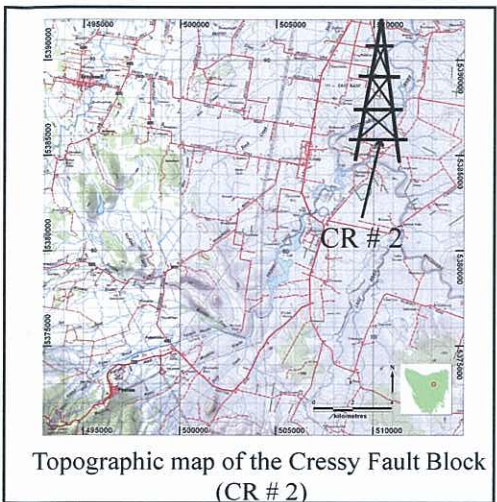
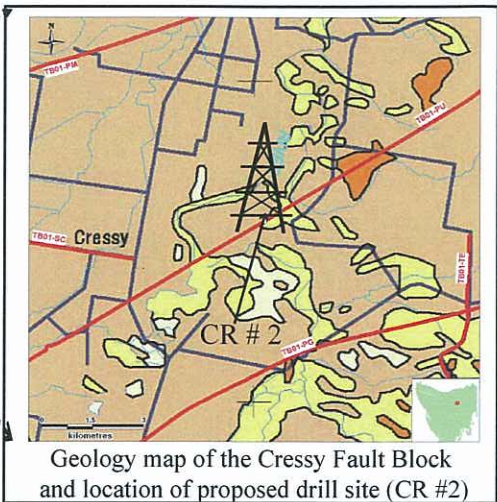
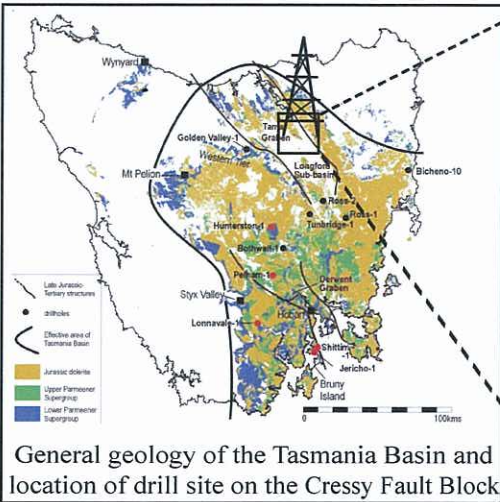
Great South Land Minerals

Cressy

Fault Bolck

(CR # 2) 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.

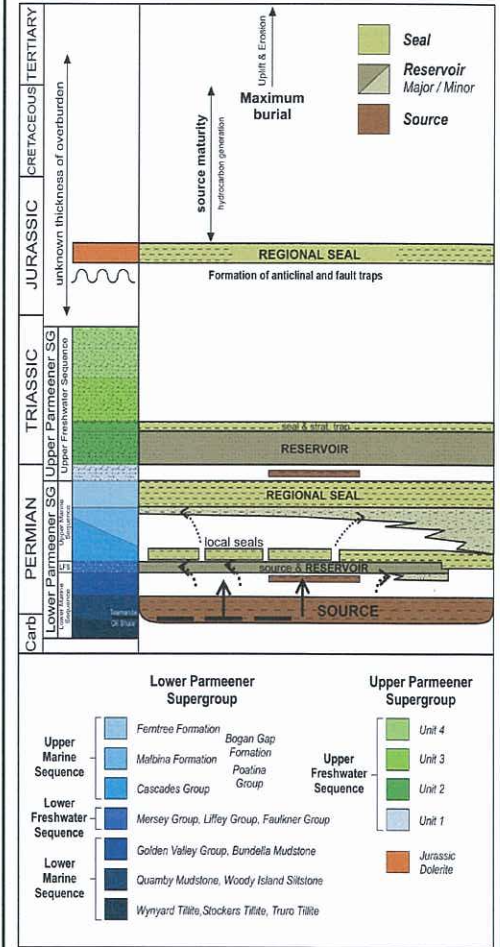
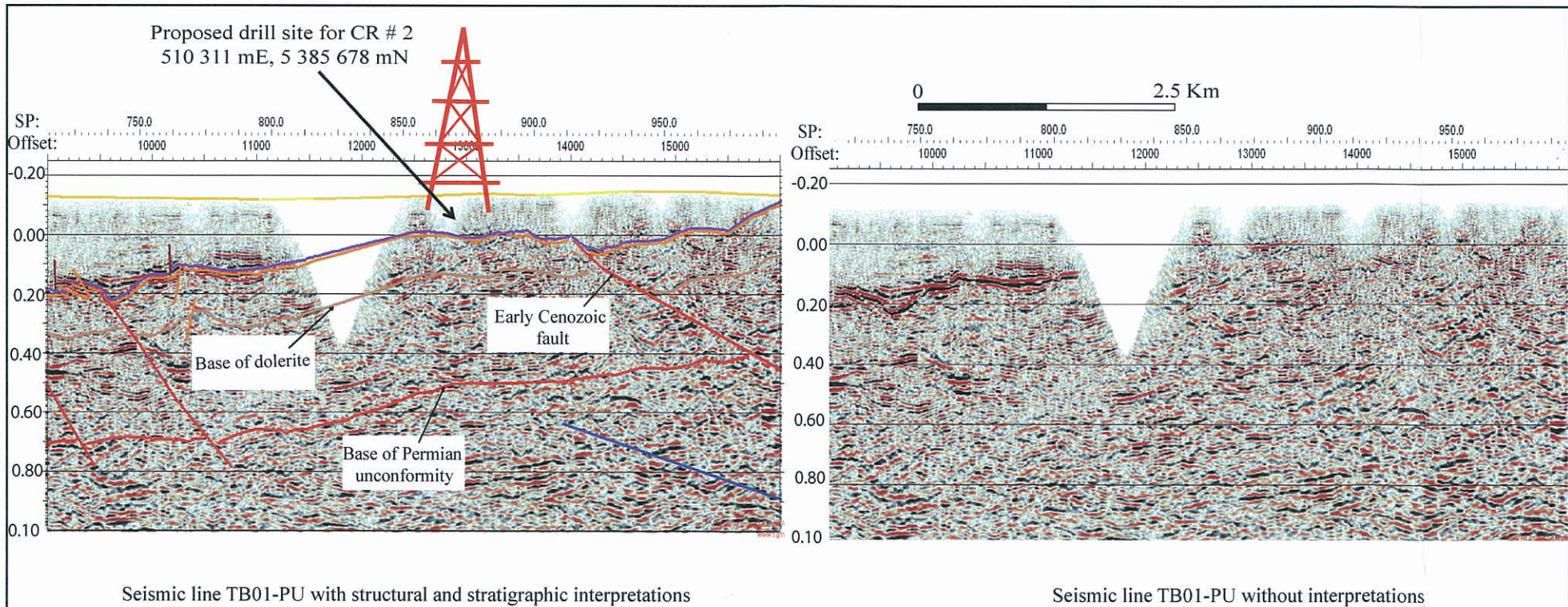
Prediction of Stratigraphy at the Cressy Fault Block (CR # 2)

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

Monte – Carlo simulations of potential, undiscovered petroleum at Cressy #2 in million barrels.

Petroleum System Characteristics of the Cressy Fault Block (based on seismic line TB01-PU)

- 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 = ~ 630 m, Unit 1 = 740 m, Palmer Sandstone= ~ 820 m, Garcia Sandstone= ~ 890 m, Liffey Group= ~1000 m,
- Seal:** Jurassic Dolerite, Latest Permian mudstone
- Trap:** Fault Block
- Risk:** Timing, maturation and migration from Jurassic to Tertiary. Traps were formed in Cretaceous or earliest Cenozoic. Note major compressional fault does not cut Eocene and younger sediments.



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.

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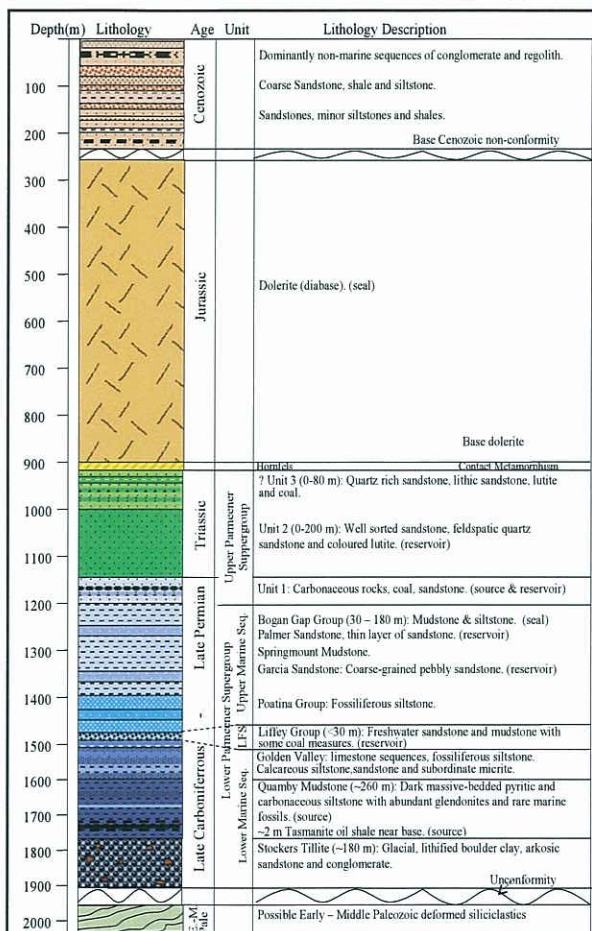
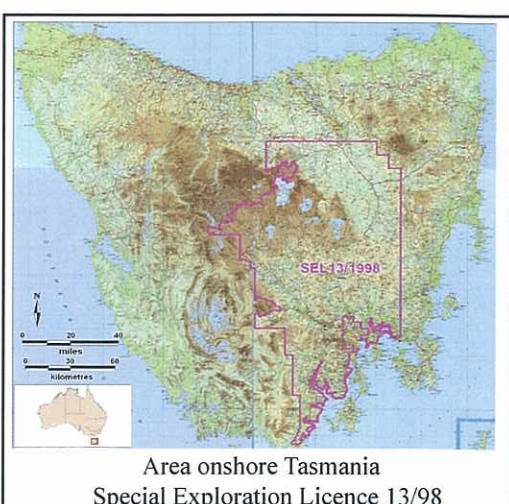
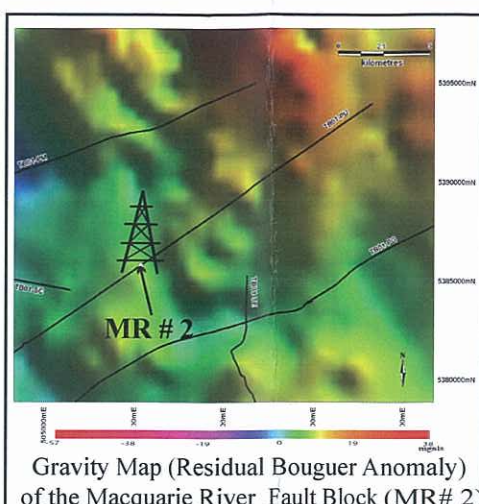
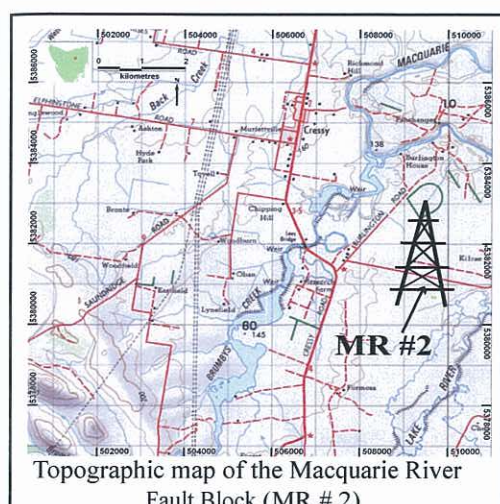
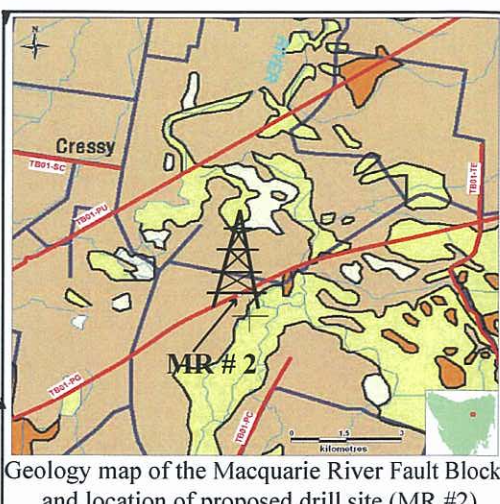
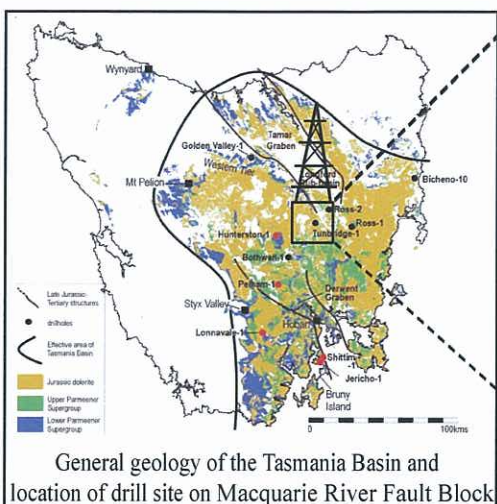
Energy

Great South Land Minerals

Macquarie River Fault Block

(MR # 2) 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 Fault Block (MR # 2)

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

Monte - Carlo simulations of potential, undiscovered petroleum at Macquarie River #2 in million barrels

Petroleum System Characteristics of the Macquarie Fault Block (based on seismic line TB01- PG)

Target:

Source:

Reservoir:

Depth to top of reservoir:

Seal:

Trap:

Risk:

Triassic, Early to Late Permian

Unit 1, Quamby Mudstone, Tasmanite oil shale

Unit 2 (Triassic), Unit 1, Palmer Sandstone, Garcia Sandstone, Liffey Group (Permian)

Unit 2 = ~1000 m, Unit 1 = ~1050, Palmer Sandstone= ~1250 m, Garcia Sandstone= ~1350 m, Liffey Group= ~1480 m

Jurassic Dolerite, Bogan Gap Group Mudstone

Fault Block

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 with structural and stratigraphic interpretations

Seismic line TB01-PG without interpretations

Geological cross-section showing Tertiary, Jurassic, Triassic, Permian, and Carboniferous layers with various formations and units.

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.