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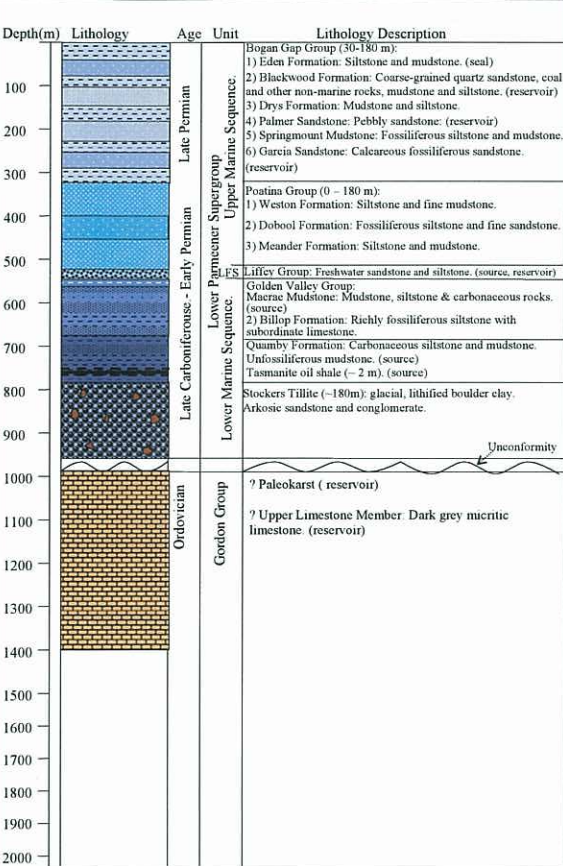
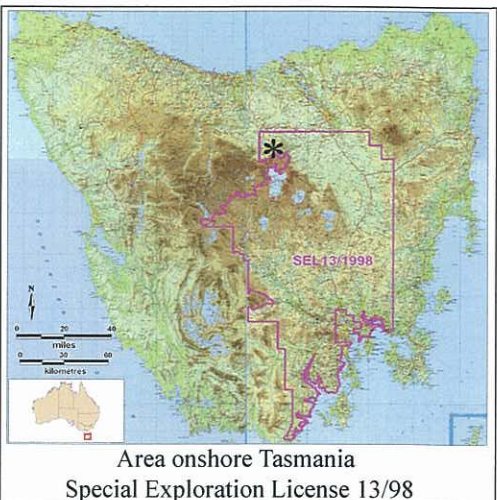
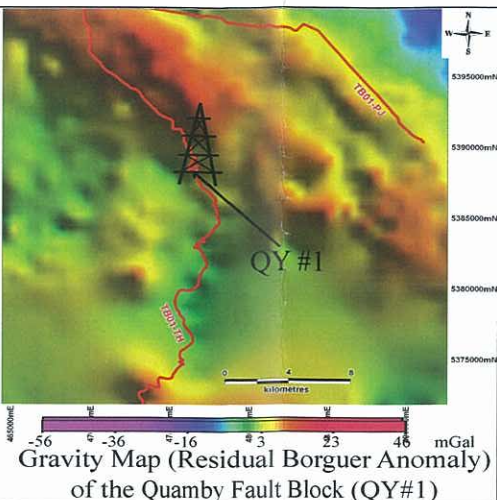
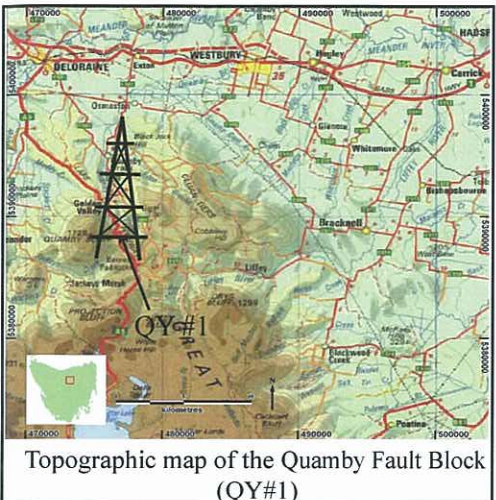
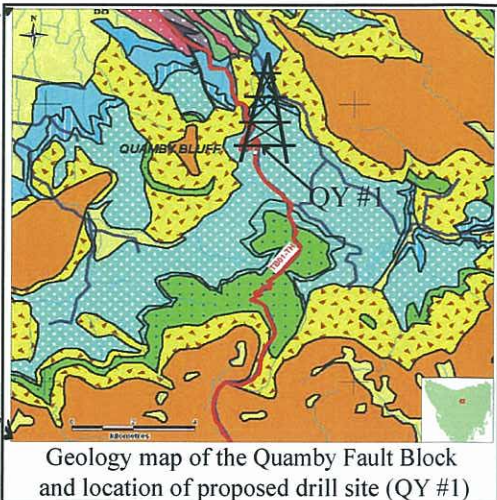
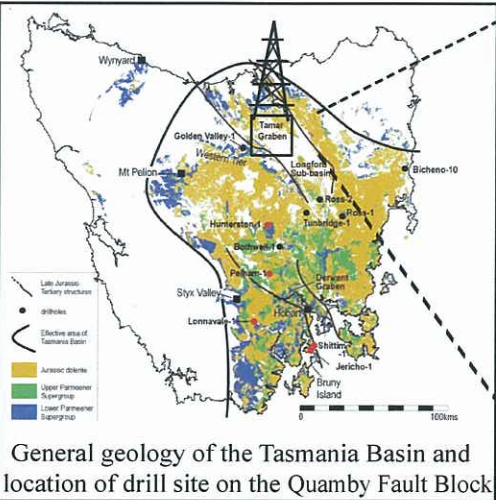
Energy

Great South Land Minerals

Quamby Fault Block

(QY #1) May 2008

Compiled by Dr. Zohreh Amini



Petroleum System Characteristics of the Quamby Fault Block (based on seismic line TB01-TH)

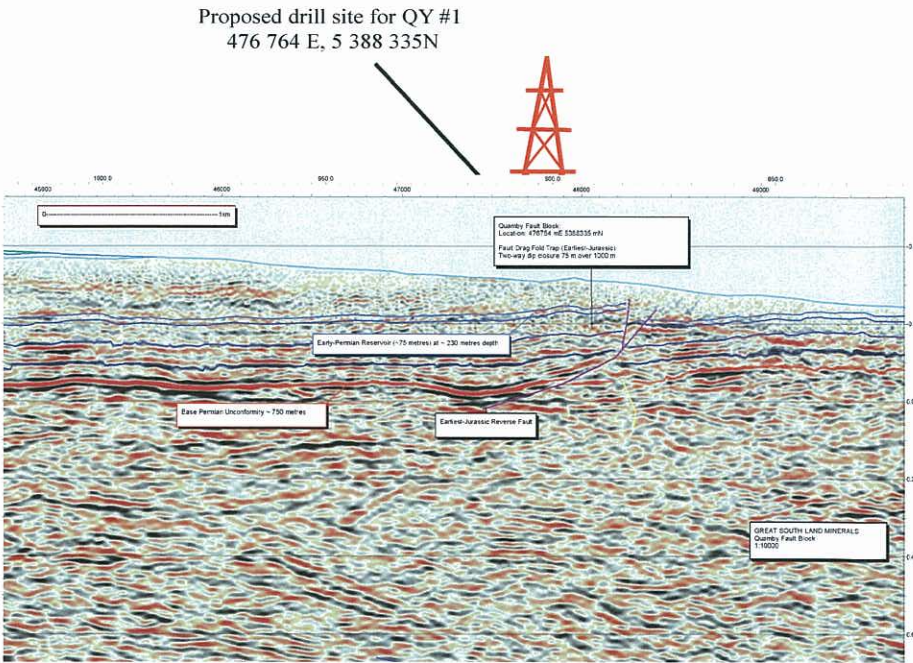
- Target:** Permian reservoirs in Jurassic age fault block.
- Source:** Macrae Mudstone, Quamby Mudstone, Tasmanite oil shale.
- Reservoir:** Blackwood Fm, Palmer Sandstone, Garcia Sandstone, Liffey Group (Permian), Gordon Group (Ordovician).
- Depth to top of reservoir:** Blackwood Fm = ~200 m, Palmer Sandstone = ~120 m, Garcia Sandstone = ~250 m, Liffey Group = ~ 510 m, Gordon Group = ~990 m.
- Thickness of reservoir:** Sandstones in Bogan Gap Group = ~ 20 m in total, Liffey Group = ~ 30 m, Gordon Group = ~ 400 m.
- Seal:** Latest Bogan Gap Group Mudstones
- Trap:** Fault Block
- Risk:** Timing of structuring (Jurassic) is pre-generation and is therefore excellent.

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.

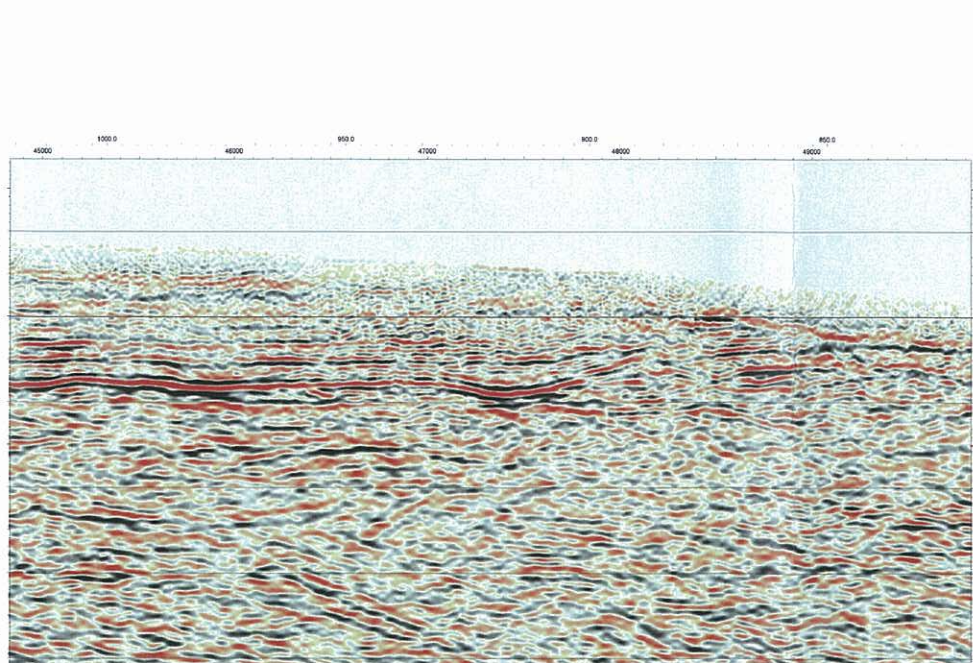
Prediction of Stratigraphy at the Quamby Fault Block (QY #1)

	Permo-Triassic	Ordovician-Devonian	Total
(P90)	2	-	2
(P50)	5	-	5
(P10)	10	-	10

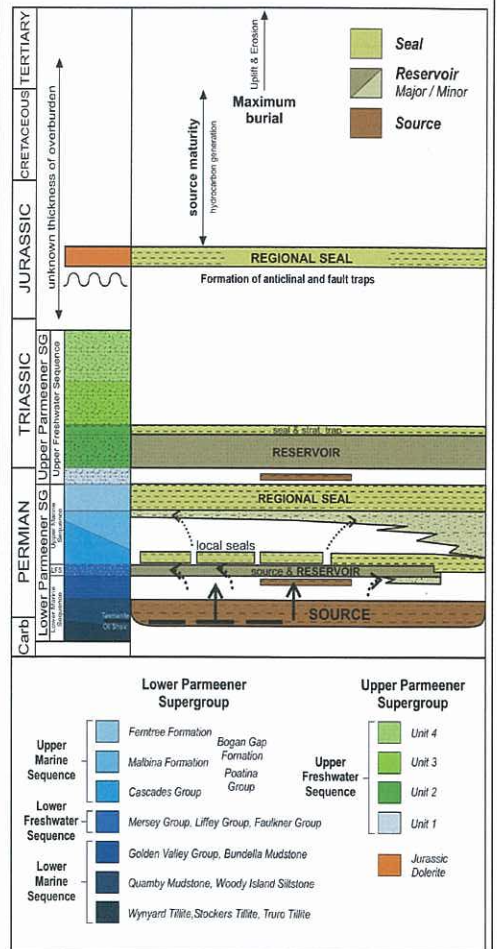
Monte – Carlo simulations of potential, undiscovered petroleum at Quamby #1 in million barrels.



Seismic line TB01-TH with structural and stratigraphic interpretations



Seismic line TB01-TH 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 Fentree Formation and Jurassic dolerite.

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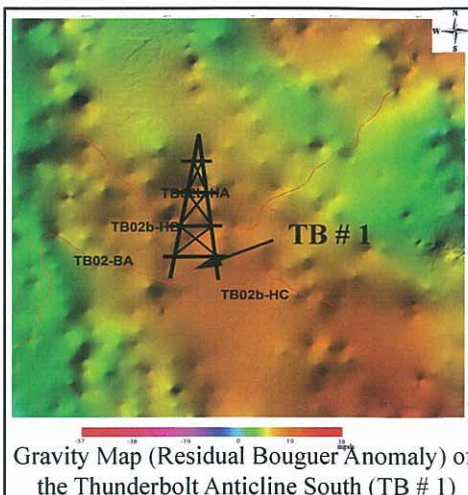
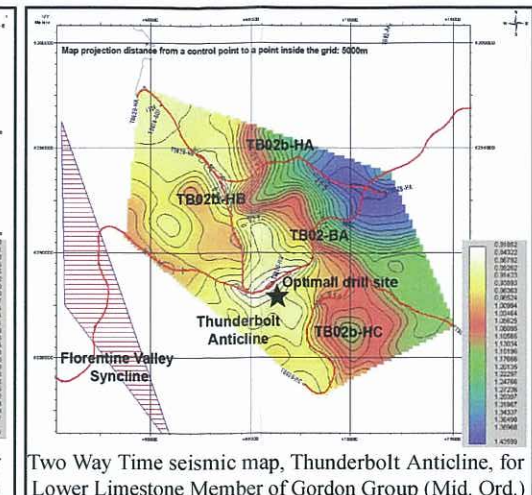
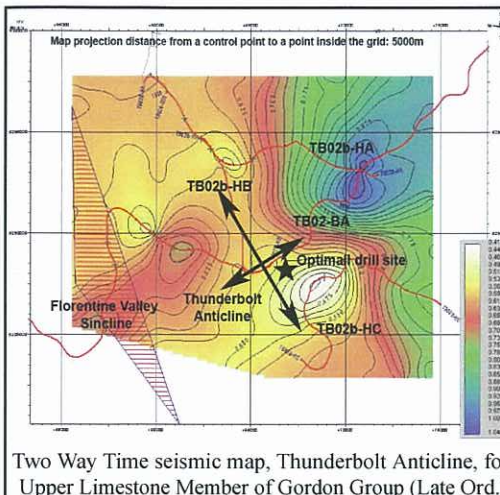
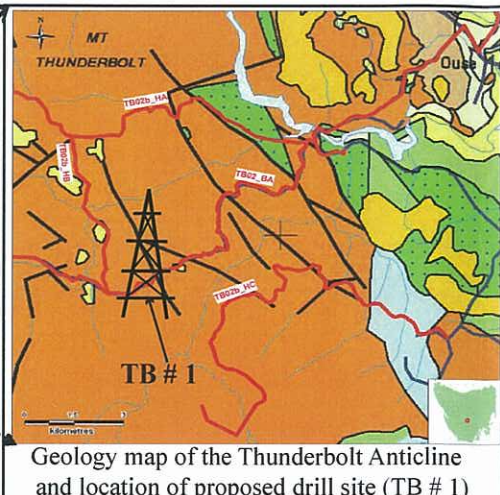
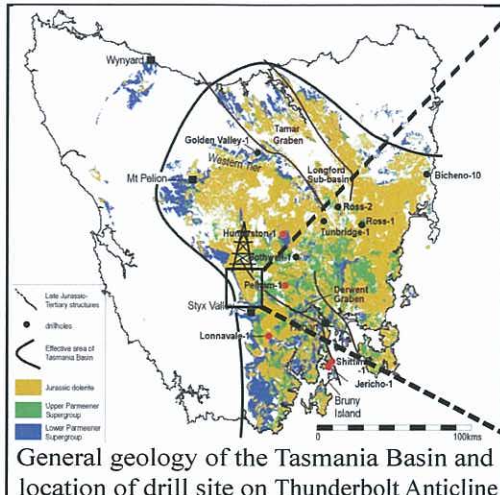
Great South Land Minerals

Thunderbolt

Anticline

(TB # 1) May 2008

Compiled by Dr. Zohreh Amiri



Depth (m)	Lithology	Age	Unit	Lithological Description
100		Jurassic	Dolerite	Dolerite (diabase), (seal)
200				
300				
400				
500				
600				
700				
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				

Petroleum System Characteristics for Thunderbolt Anticline (based on seismic line TB02-BA):

Target: Permo- Triassic of Gondwanan system and Gordon Group Upper Limestone Member of Ordovician age

Source: Faulkner Group, Woody Island, Tasmanite oil shale, Upper Limestone Member, Lower Limestone Member

Reservoir: Knocklofty Formation (Triassic), Cygnet Coal Measures, Faulkner Group (Permian), Upper Limestone Members, Lower Limestone Members, (Ordovician)

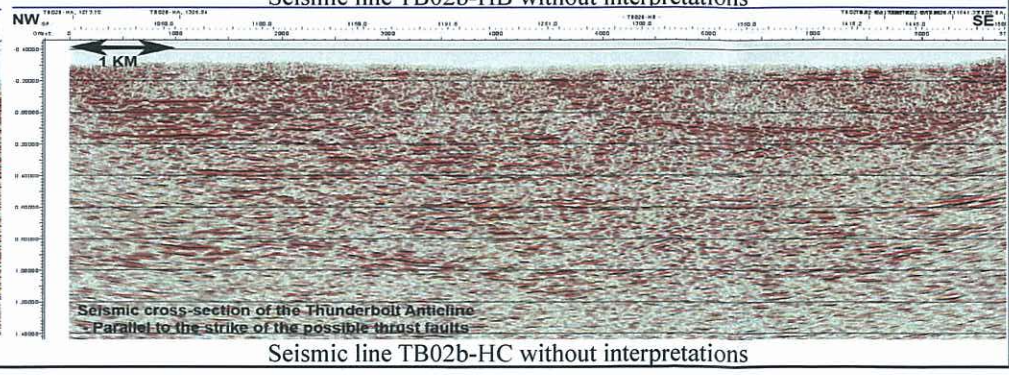
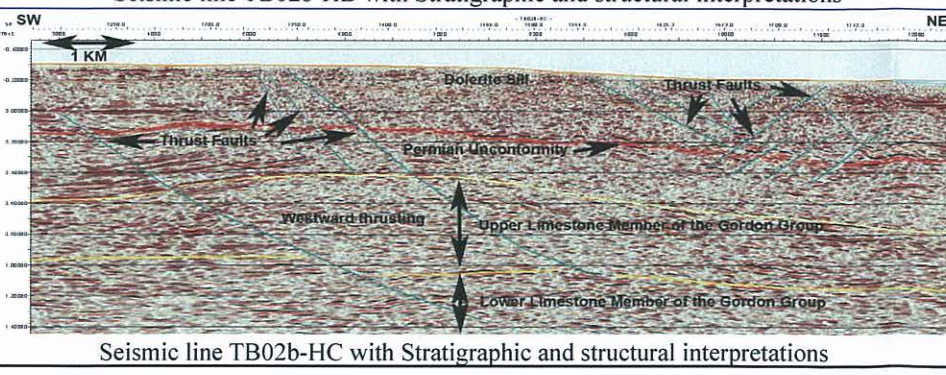
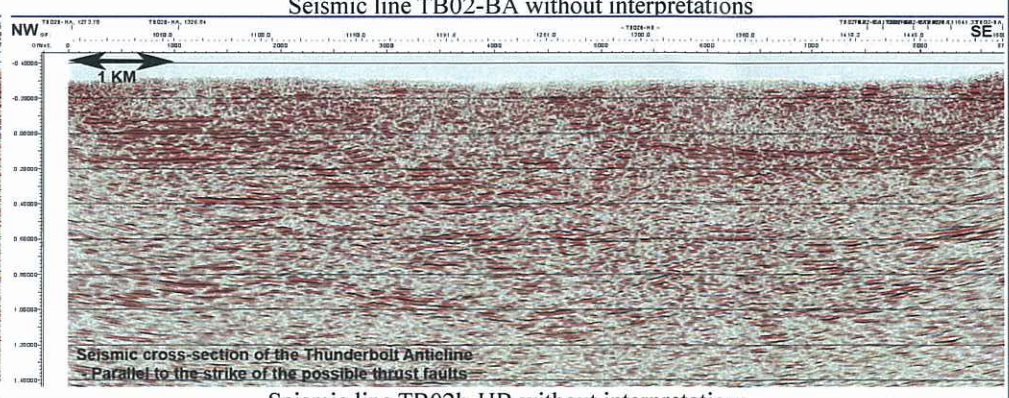
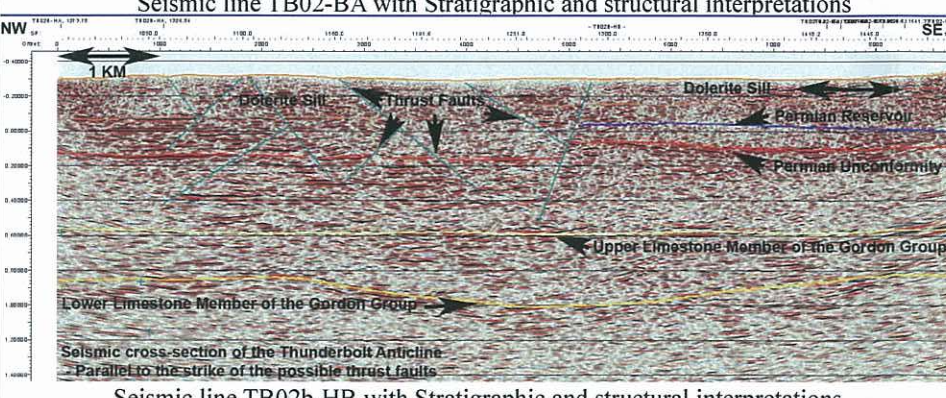
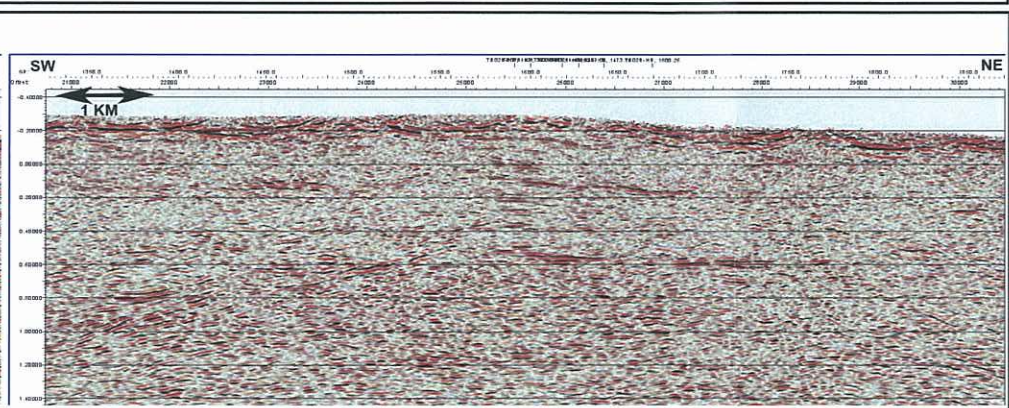
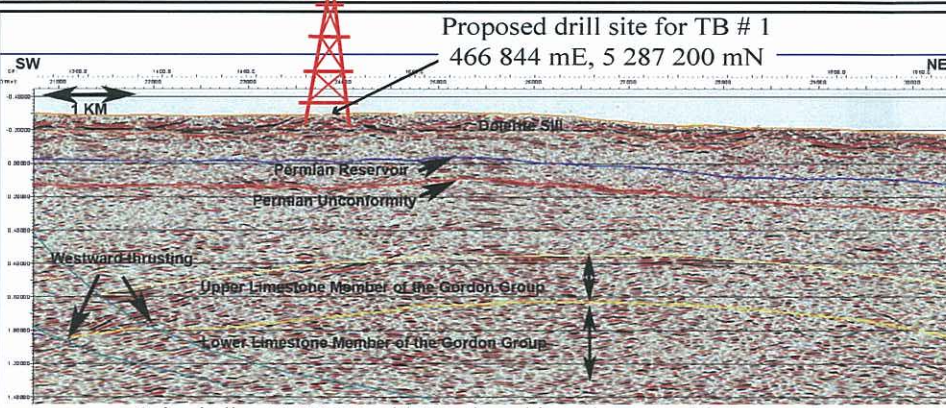
Depth to top of reservoir: Knocklofty Formation, ~500 m, Cygnet Coal Measures, ~750 m, Faulkner Group ~1250 m, Upper Limestone Member ~1800 m, Lower L.M. ~2500 m

Thickness of reservoir: Knocklofty Formation, ~220 m, Cygnet Coal Measures, ~60 m, Faulkner Group ~30 m, Upper Limestone Member ~700 m, Lower L.M. ~350 m

Seal: Jurassic Dolerite, Fernree Formation, Anticline

Trap: Source, quality and maturation. Recent work indicates the Gordon Group may be prospective for hydrocarbons. Potential source rocks are also present in Woody Island Siltstone.

Risk:

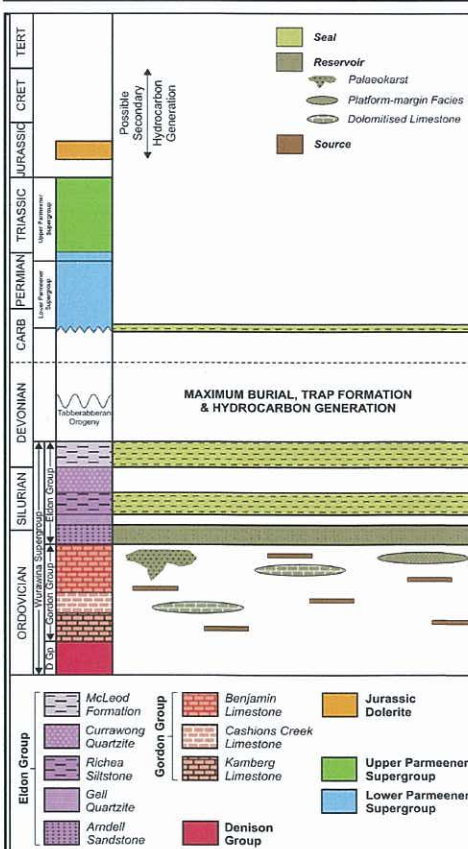
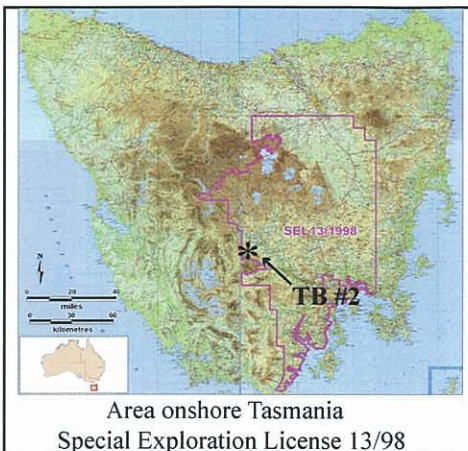


Sources, reservoirs and seals are predicted from field and laboratory work. All thicknesses are approximate and are based on preliminary seismic data interpretation or extrapolation from fieldwork.

Prediction of Stratigraphy at Thunderbolt Anticline (TB # 1)

	Permo-Triassic	Ordovician-Devonian	Total
(P90)	60	56	116
(P50)	126	117	243
(P10)	246	222	468

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



Stratigraphic events chart for the Larapintine petroleum system in Tasmania. Source rocks are marked in the Gordon Group and Eldon Group, reservoir in the Gordon Group and Eldon Group and seal in the Eldon Group and Lower Parmeene Supergroup.

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Great South Land Minerals

Bellevue

Anticline

(BV #1) May 2008

Compiled by Dr. Zohreh Amiri

General geology of the Tasmania Basin and location of drill site on Bellevue Anticline

Geology map of the Bellevue Anticline and location of proposed drill site (BV #1)

Two Way Time seismic map, Bellevue Anticline, for Upper Limestone Member of Gordon Group

Two Way Time seismic map, Bellevue Anticline, for Liffey Group

Gravity Map (Residual Bouguer Anomaly) of the Bellevue Anticline (BV #1).

Depth(m)	Lithology	Age	Unit	Lithological Description
100		Jurassic	Dolerite	Dolerite (diabase), (seal)
200				
300				
400				
500				
600				
700				
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				

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 Bellevue Anticline (BV #1)

	Permo-Triassic	Ordovician-Devonian	Total
(P90)	134	149	283
(P50)	295	325	620
(P10)	599	657	1256

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

Petroleum System Characteristics for Bellevue Anticline (based on seismic line TB02b-BQ):

- Target:** Triassic, Permian, Silurian - Devonian, Ordovician.
- Source:** Unit 1, Liffey Group, Quamby Formation, Tasmanite oil shale, Upper Limestone Member.
- Reservoir:** Unit 2 (Triassic), Unit 1, Palmer & Garcia Sandstone, Liffey Group (Permian), Crotty Quartzite (Sil-Dev.), Gordon Group limestone (Ordovician).
- Depth to top of Reservoir:** Unit 2 = 500 m, Unit 1 = 630 m, Palmer Sandstone = 780 m, Garcia Sandstone = 890 m, Liffey Group = 1100 m, Crotty Quartzite = 2450 m, Upper Limestone Member = 2700 m.
- Pay Zone:** Unit 2 = ~25 m, Unit 1 = ~10 m, Palmer & Garcia Sandstones = ~3 m in total, Liffey Group = ~30 m, Crotty Quartzite = ~20 m, Upper Limestone Member = ~250 m, Lower Limestone Member = ~250 m.
- Seal:** Dolerite, Permian mudstone, Bell Shale, Lords Siltstone.
- Trap:** Anticline.
- Risk:** Reservoir quality, Cenozoic faulting.

Proposed drill site for BV #1D 465 660 mE, 5 338 904 mN

Seismic line TB02b-BQ with Stratigraphic and structural interpretations

Seismic line TB02b-BQ without interpretations

Seismic line TB02b-BQ without interpretations

Seismic line TB02b-BZ with Stratigraphic and structural interpretations

Seismic line TB02b-BZ with Stratigraphic and structural interpretations

Seismic line TB02b-BZ without interpretations

Seismic line TB02b-BZ without interpretations

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Geological cross-section diagram showing stratigraphic units and reservoir/seal/source predictions.

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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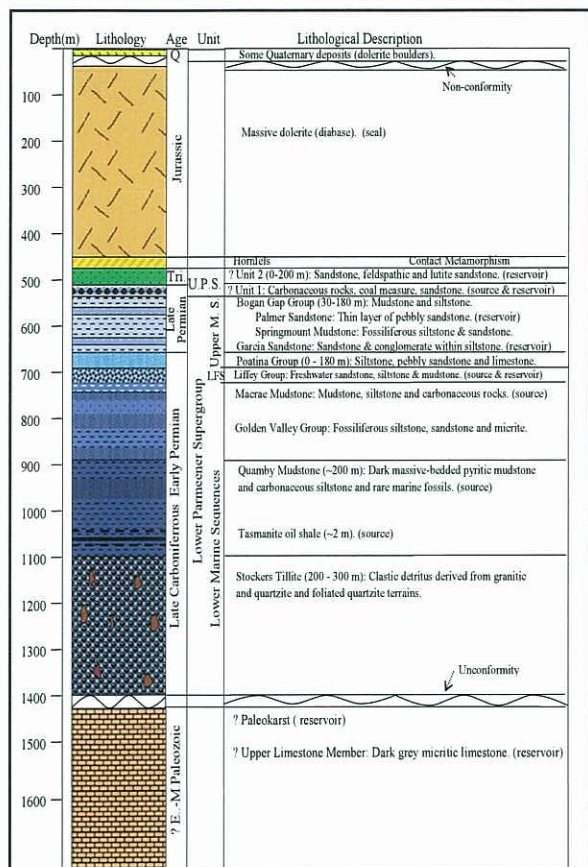
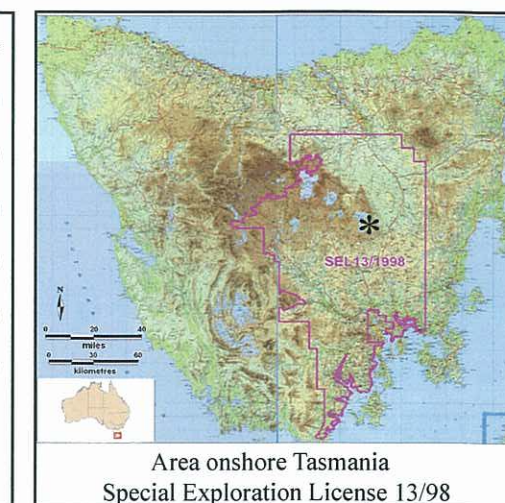
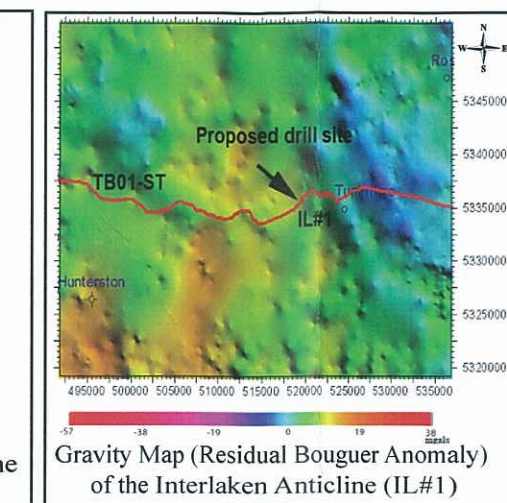
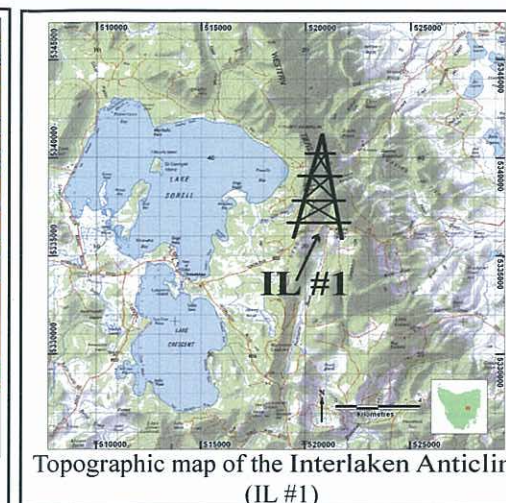
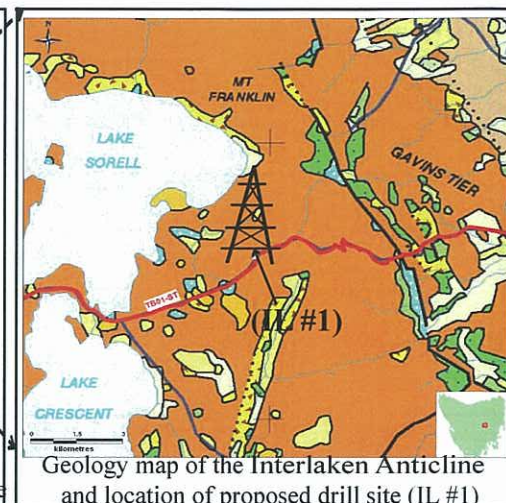
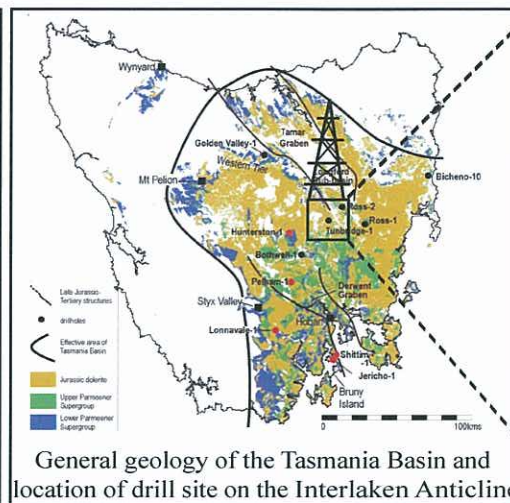
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Great South Land Minerals

Interlaken Anticline

(IL #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 Interlaken Anticline (IL #1)

	Permo-Triassic	Ordovician-Devonian	Total
(P90)	21	-	21
(P50)	45	-	45
(P10)	92	-	92

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

Petroleum System Characteristics of the Interlaken Anticline (based on seismic line TB01-ST)

Target:

Source:

Reservoir:

Depth to top of reservoir:

Pay zone:

Seal:

Trap:

Risk:

Triassic, Early to Late Permian

Unit 1, Macrae Mudstone, Quamby Mudstone, Tasmanite oil shale

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

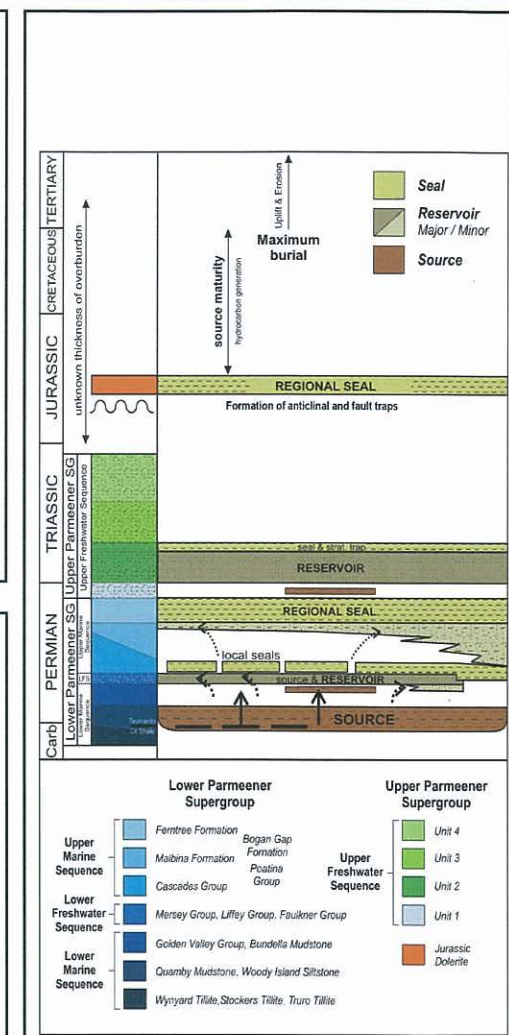
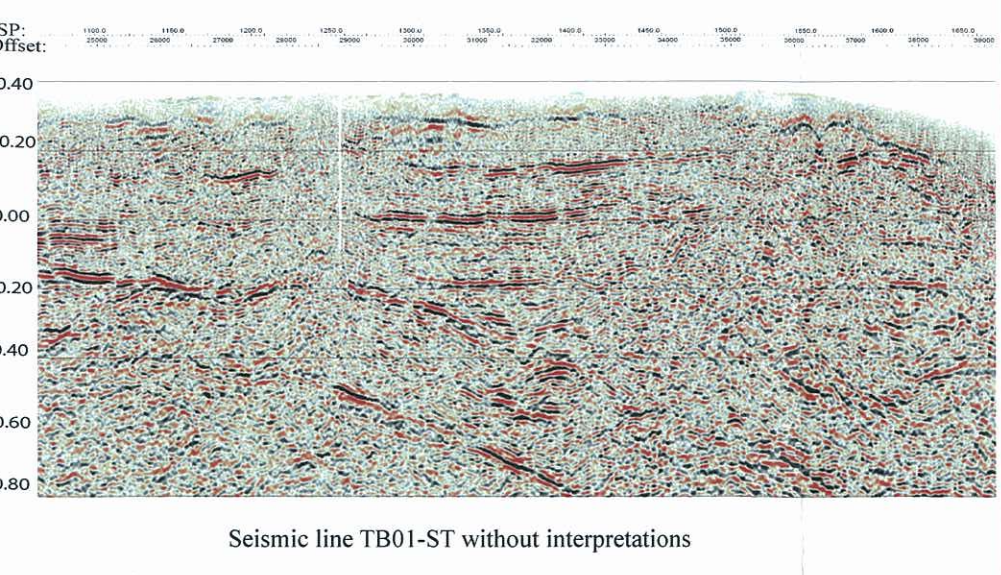
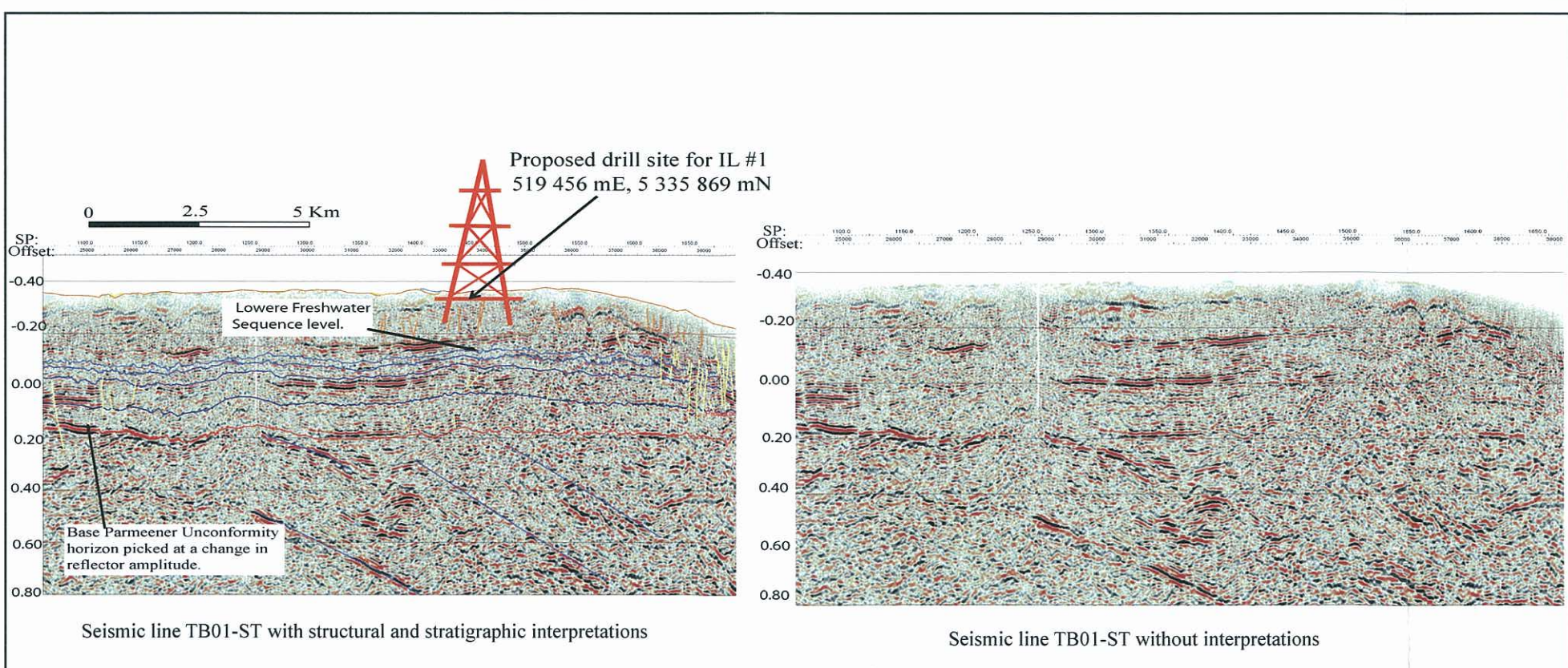
Unit 2 = 480 m, Unit 1 = 510 m, Palmer Sandstone = ~560 m, Garcia Sandstone= ~ 630 m, Liffey Group = ~ 700 m,

100 m

Jurassic Dolerite, Latest Permian mudstone

Anticline

Timing - maturation and migration in Mid-Jurassic to the Cretaceous - traps were formed in the early Cenozoic, plus an elevated geothermal gradient may result in generation of late hydrocarbons.



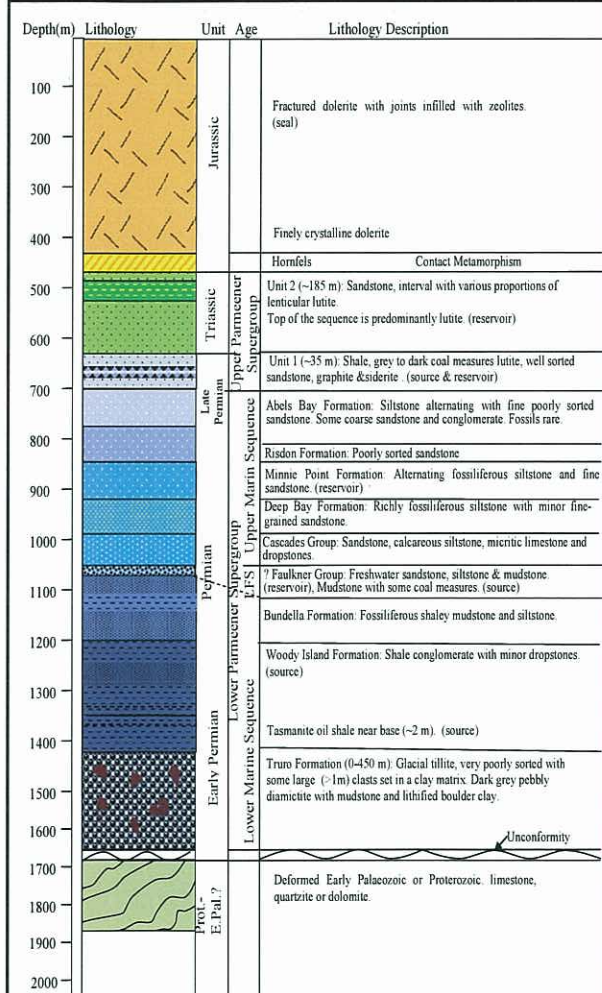
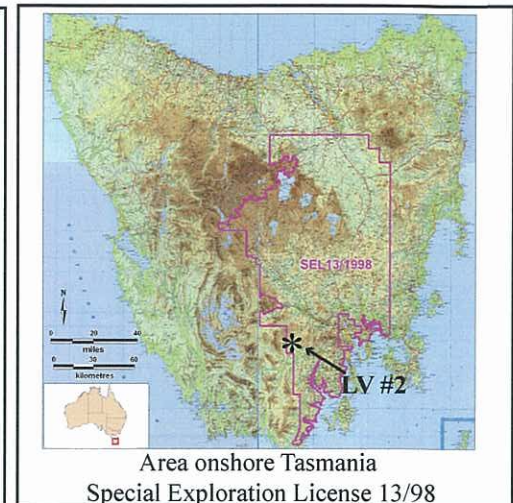
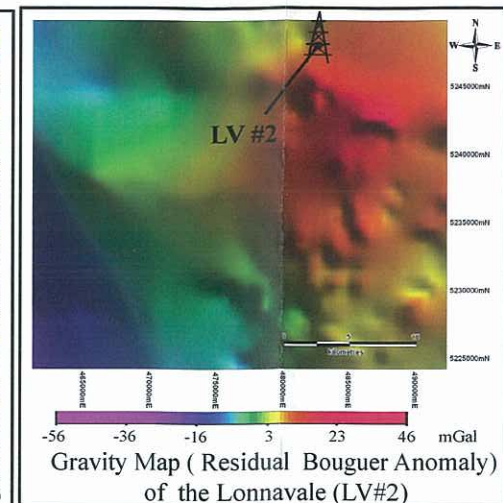
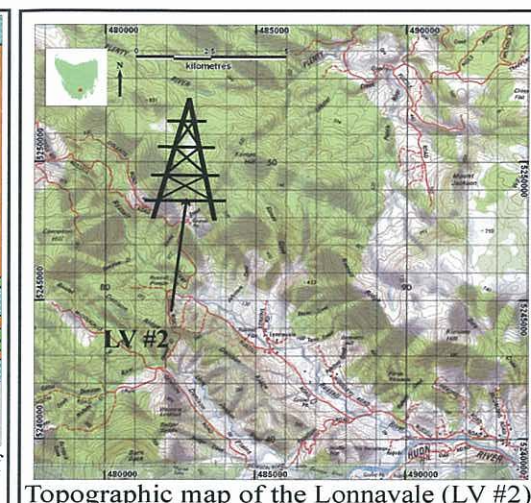
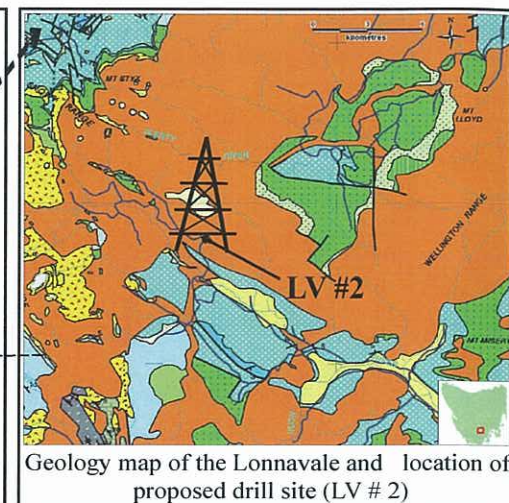
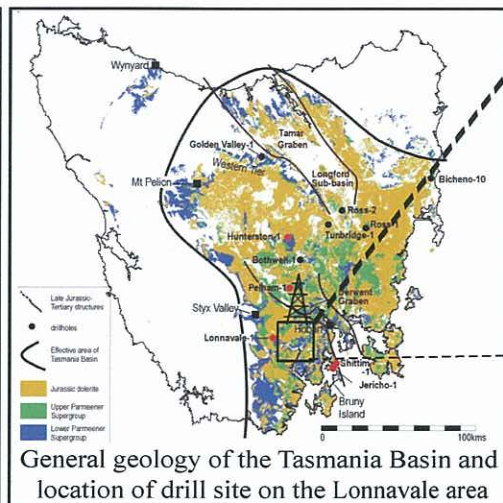
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Great South Land Minerals

Lonnavale

LV # 2 May 2008

Compiled by Dr. Zohreh Amini

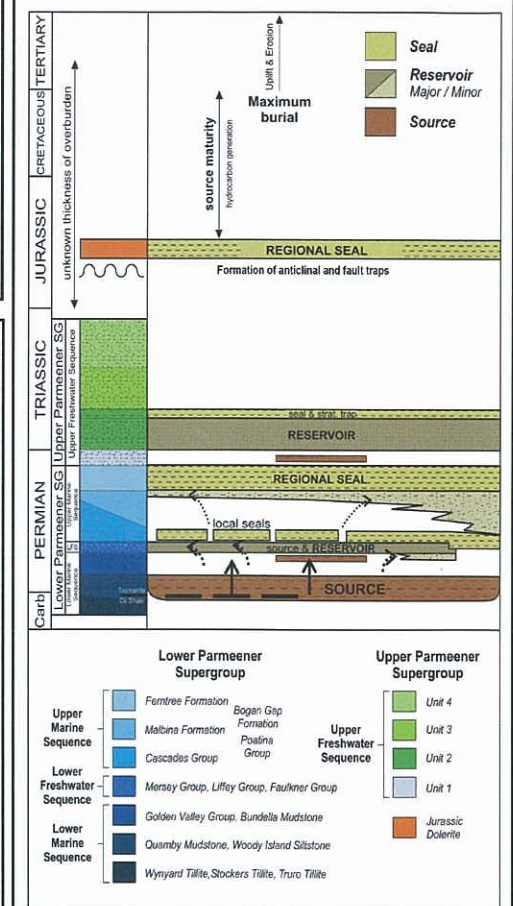
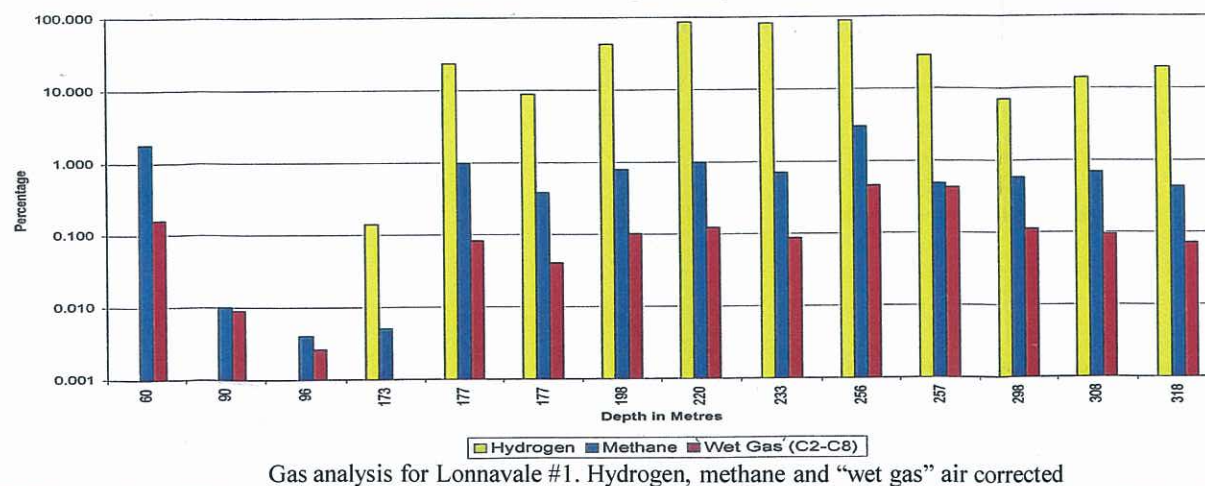
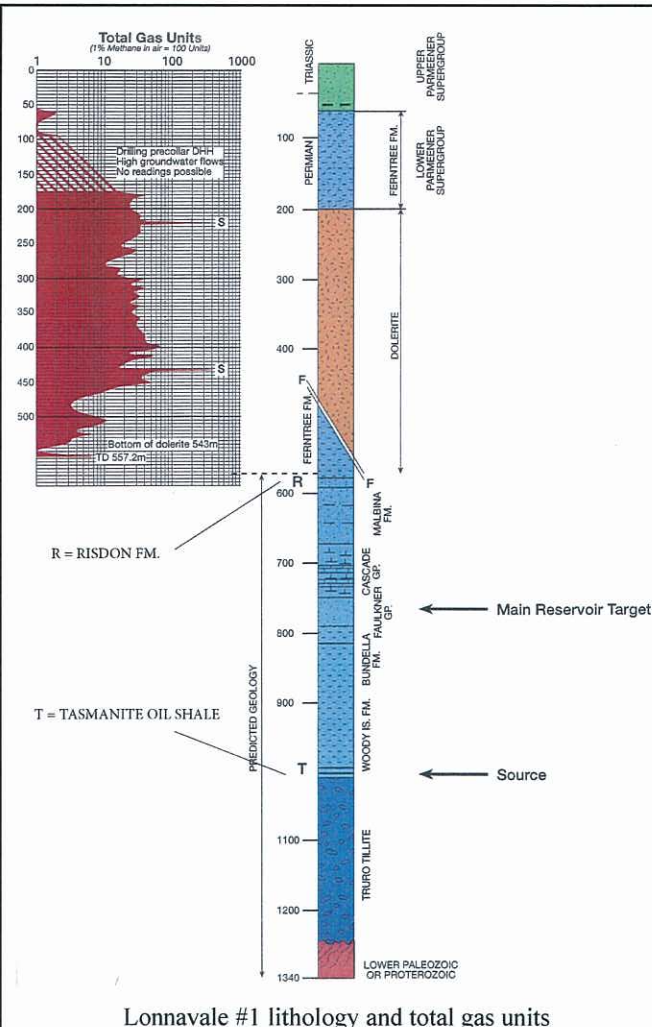


Sources, reservoirs and seals are predicted from field and laboratory work. All thicknesses are approximate and are based on preliminary seismic data interpretation or extrapolation from fieldwork.

Prediction of Stratigraphy at Lonnavale (LV # 2)

Petroleum System Characteristics of the Lonnavale #2 (based on stratigraphy prediction):

- Target:** Triassic, Early to Late Permian.
- Source:** Unit 1, Faulkner Group, Woody Island Formation, Tasmanite oil shale.
- Reservoir:** Unit 2 (Triassic), Unit 1, Minie Point Formation, Faulkner Group (Permian).
- Depth to top of Reservoir:** Unit 2 = 470 m, Unit 1 = 630 m, Minie Point Formation = 830 m, Faulkner Group = 1050 m.
- Seal:** Dolerite



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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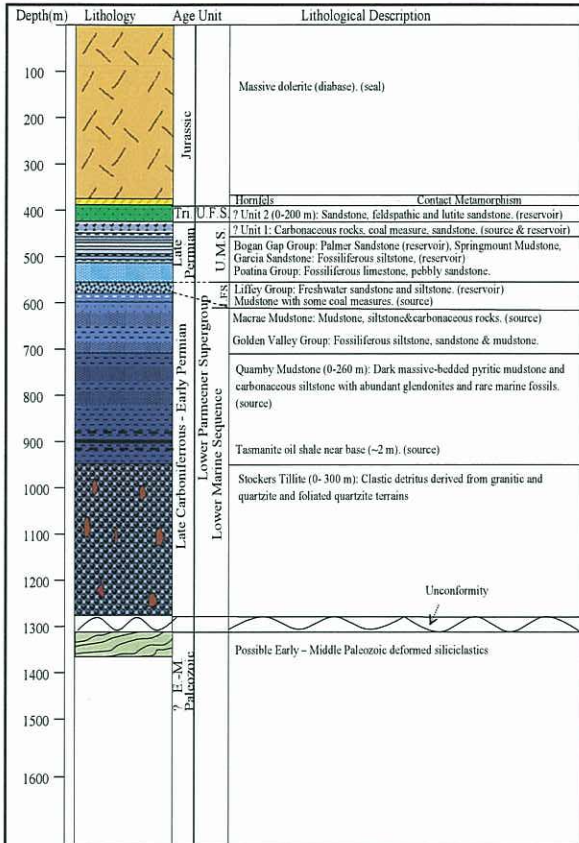
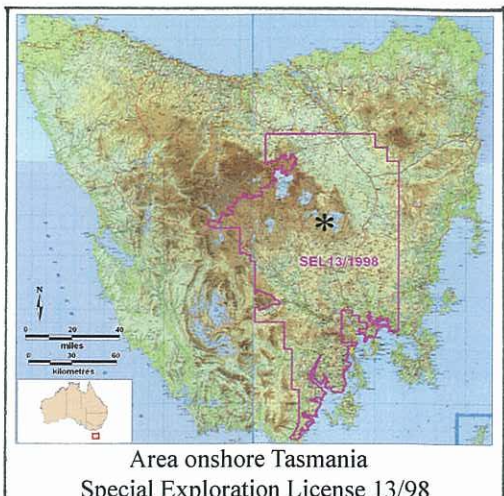
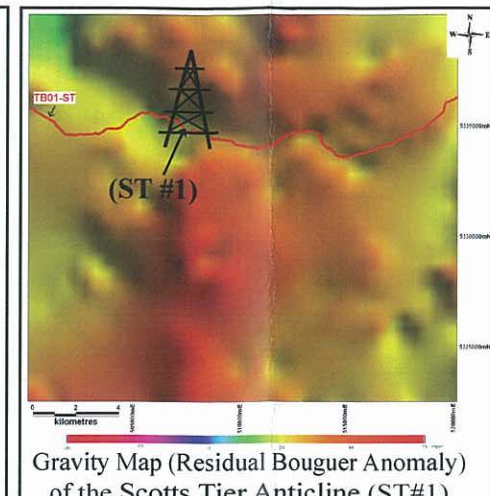
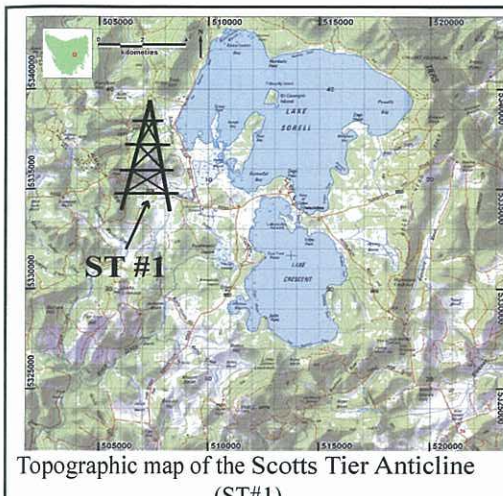
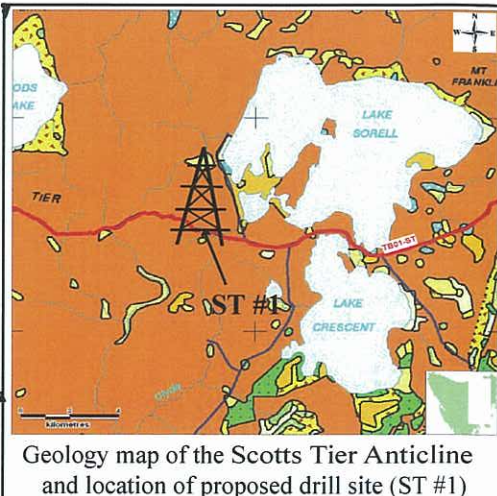
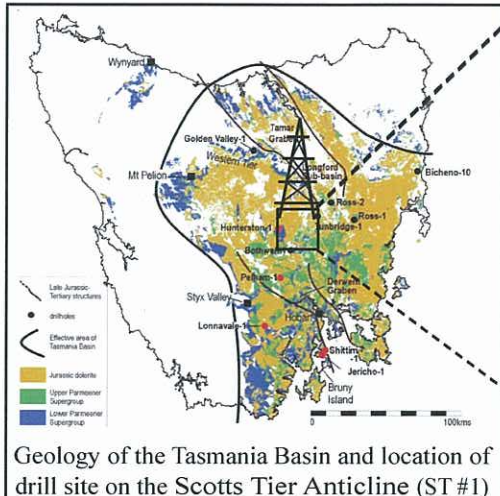
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Great South Land Minerals

Scotts Tier Anticline

(ST #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 Scotts Tier Anticline (ST #1)

ST #1			
	Permo-Triassic	Ordovician-Devonian	Total
(P90)	4	-	4
(P50)	8	-	8
(P10)	15	-	15

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

Petroleum System Characteristics of the Scotts Tier Anticline (based on seismic line TB01-ST)

Target:

Source:

Reservoir:

Depth to top of reservoir:

Seal:

Trap:

Risk:

Early to Late Permian in Anticline

Liffey Group, Macrae Mudstone, Quamby Mudstone, Tasmanite oil shale

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

Unit 2 = 400, Unit 1 = 430 m, Palmer Sandstone = ~450 m, Garcia Sandstone= ~ 500 m, Liffey Group = ~ 550 m.

Jurassic Dolerite, Latest Permian mudstone

Anticline

Although timing of structuring (Jurassic) is pre-generation and therefore excellent, integrity of trap may have been compromised by Cenozoic

Seismic line TB01-ST with structural and stratigraphic interpretations

Seismic line TB01-ST without interpretations

Geological cross-section showing source, reservoir, and seal facies, along with timing of trap formation and source maturity.

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.