GEOTRACK

ATTACHMENT 3

OF WCR

TARRA-1 (W806)

Telephone:

National (03) 344 7214
International 613 344 7214

Facsimile 613 347 5938

Telex AA35185 UNIMEL

Geotrack International Pty Ltd
PO Box 4120
Melbourne University
Victoria 3052
Australia

Samples to:

Room 225
Earth Sciences Bldg
University of Melbourne
Cnr Swanston and Elgin St
Carlton Victoria 3052
Australia

GEOTRACK

PETROGRAPHY OF NINE CORE AND CUTTINGS SAMPLES FROM THREE GIPPSLAND BASIN WELLS: OMEO-1 TARRA-1 DEVILFISH-1

A report prepared for the Esso Australia Ltd Sydney, Australia

Report prepared by: I.R. Duddy
Petrography by: I.R. Duddy

JUNE 1991

GEOTRACK REPORT #333

REPORT FILED IN OMEO-1 BOX

Telephone 61+3 344 7214
Facsimile 61+3 347 5938
Telex 35185 (UNIMEL)

Geotrack International Pty Ltd
PO Box 4120
Melbourne University
Victoria 3052
Australia

Samples to:
Room 225 Earth Sciences Bldg
University of Melbourne
Cnr Swanston and Elgin St
Carlton Victoria 3052
Australia

PETROGRAPHY OF NINE CORE AND CUTTINGS SAMPLES FROM THREE GIPPSLAND BASIN WELLS:
OMEO-1
TARRA-1
DEVILFISH-1

CONTENTS

GEOTRACK REPORT #333

PETROGRAPHY OF NINE CORE AND CUTTINGS SAMPLES FROM THREE GIPPSLAND BASIN WELLS: OMEO-1 TARRA-1 DEVILFISH-1

EXECUTIVE SUMMARY

1. The detrital mineralogy of the **Golden Beach Group** sample from **Omeo-1**, core 2, differs from **Latrobe Group** samples from **Omeo-1**, core 1, in having a higher abundance of detrital K-feldspar, lithic rock fragments and to a lesser extent, polycrystalline quartz. These differences are most likely the result of differing depositional environments and not significantly different original provenance. The difference in framework mineralogy is considered to be the primary reason that porosity in the Golden Beach Group has been reduced to ~9%, through a higher degree of compaction and significantly greater development of diagenetic kaolinite than observed in the Latrobe Group. Burial depth does not seem to be a major control.

2. The three uppermost Latrobe Group cuttings samples examined from **Devilfish-1** are all very similar in both original detrital constituents and in diagenetic mineralogy. The detrital constituents are dominated by mono-crystalline (?granitic) quartz, with lesser amounts of K-feldspar, ductile lithic fragments and muscovite. The deepest sample examined tends to have a "dirtier appearance", due to a higher abundance of lithic fragments, altered mica's and probably, diagenetic kaolinite.

3. There is no direct evidence for detritus in the **Latrobe or Golden Beach Groups** being sourced from the **Strzelecki Group,** but the abundance of K-feldspar throughout both units, suggests a granitic source terrain, at least in part.

4. Porosity reduction seems to be largely a response to compaction associated with ductile deformation of labile grains, principally fine-grained rock fragments, mica's and K-feldspar, and by precipitation of kaolinite in primary pores. Secondary porosity is often well developed due to partial dissolution of K-feldspar.

5. Two samples from **Tarra-1**, Core 2, are typical of the **Strzelecki Group** sediments found elsewhere in the Gippsland, Otway and Bass Basin's. Permeability reduced by presence of swelling chlorite/smectite grain coatings. Porosity is occluded because of compaction associated with ductile deformation of altered volcanogenic rock fragments and cementation by the zeolite laumontite associated with pervasive albitization of detrital feldspars.

GEOTRACK REPORT #333

Telephone 61+3 344 7214
Facsimile 61+3 347 5938
Telex 35185 (UNIMEL)

Geotrack International Pty Ltd
PO Box 4120
Melbourne University
Victoria 3052
Australia

Samples to:
Room 225 Earth Sciences Bldg
University of Melbourne
Cnr Swanston and Elgin St
Carlton Victoria 3052
Australia

1. Introduction

Brief petrographic descriptions are presented for 9 core and washed cuttings samples from the **Omeo-1, Tarra-4, and Devilfish-1 wells** as detailed in Table 1. The descriptions are aimed specifically at identifying the factors responsible for porosity reduction and any difference in lithology, provenance and diagenesis between the Latrobe and Golden Beach Groups and are not intended to be comprehensive petrographic analyses. Descriptive names such as lithic sandstone and quartz lithic sandstone are *ad hoc* and are intended to convey a visual impression of the relative abundance of the two major detrital grain types identified - namely quartz and rock fragments. **Except where noted, samples were treated with a blue-dyed epoxy to aid in recognition of porosity**. Two photographs, one in plane polarized light and the other in crossed polarized light, are provided for each sample. Magnification has been standardized in these two photographs to give a width across the field of view of 2.20 mm.

2. Petrographic descriptions

GC333-1: Tarra-1, Core 2, 2896.25 mKB, Strzelecki Group

Lithology: Volcanogenic sandstone. Typical Strzelecki Group

Framework: Highly-altered volcanic rock fragments dominant. Albitized volcanic plagioclase, highly altered biotite and minor quartz also present. Well compacted due to squashing of ductile grains.

Cement/Matrix: Chlorite/smectite grain coatings very well developed (Figure 1), laumontite widespread. Carbonate rare.

Porosity: Primary porosity rare, some 2° porosity associated with early diagenetic dissolution of original framework minerals such as plagioclase and K-feldspar.

Conclusion: Porosity occlusion due to compaction > laumontite > chlorite.

GC333-2: Tarra-1, Core 2, 2900.5 mKB, Strzelecki Group

Lithology: Volcanogenic sandstone. Typical Strzelecki Group, coarser than 333-1

Framework: Highly-altered volcanic rock fragments dominant. Albitized volcanic plagioclase, highly altered biotite and minor quartz also present. Well compacted due to squashing of ductile grains.

Cement/Matrix: Chlorite/smectite grain coatings very well developed (Figure 2), laumontite widespread. Carbonate rare.

Porosity: Primary porosity rare, some 2° porosity associated with diagenetic dissolution of original framework minerals such as plagioclase and K-feldspar.

Conclusion: Porosity occlusion due to compaction > laumontite > chlorite.

GC333-3: Omeo-1, Core 1, 2349.1 mKB, Latrobe Group

Lithology: Quartz sandstone.
Framework: Range of grain sizes present up to ~1 mm. Dominantly rounded to sub-angular mono-crystalline (?granitic) quartz, some relatively unaltered orthoclase, muscovite and microcline. Unstable lithic grains and polycrystalline quartz of low abundance.
Cement/Matrix: Poorly developed kaolinite may be present as thin grain coatings.
Porosity: 1^o porosity well preserved. Some 2° porosity due to partial dissolution of K-feldspar.
Conclusion: Porosity occlusion due to compaction >>> kaolinite

GC333-4: Omeo-1, Core 1, 2361.3 mKB, Latrobe Group

Lithology: Quartz sandstone.
Framework: Similar to GC333-3 with a range of grain sizes present up to ~1 mm, Mono-crystalline (?granitic) quartz abundant, some relatively unaltered orthoclase, muscovite and microcline. Unstable lithic grains and polycrystalline quartz of low abundance.
Cement/Matrix: Poorly developed kaolinite may be present as thin grain coatings with rare occurrence of small 1^o pores filled with kaolinite.
Porosity: 1^o porosity well preserved. Some 2° porosity due to partial dissolution of K-feldspar.
Conclusion: Porosity occlusion due to compaction >>> kaolinite

GC333-5: Omeo-1, Core 2, 3038 mKB, Golden Beach Group

Lithology: Quartz sandstone.
Framework: Similar mineralogy to GC333-3 with a slightly higher proportion of orthoclase and unstable lithic grains.
Cement/Matrix: Well developed vermiform kaolinite pore fillings. Some isolated ?dolomite rhombs replacing K-feldspar (or precipitated in 2° pores). Diagenetic pyrite common along grain boundaries.
Porosity: 1^o porosity highly degraded by compaction. 2° porosity due to partial dissolution of K-feldspar.
Conclusion: Porosity occlusion due to compaction > kaolinite

GC333-6: Devilfish-1, Cuttings, 1749 mkB,Latrobe Group

Lithology: Quartz sandstone
Framework: Mono-crystalline (?granitic) quartz dominant as free grains (note that this is a cuttings sample and the blue dyed areas do not signify 1^o porosity). Altered K-feldspar and carbonate cemented foraminifera present. Ductile lithic grains uncommon.
Cement/Matrix: Very poorly developed kaolinite may be present as thin grain coatings
Porosity: Lack of composite grains suggests sandstone was originally poorly cemented with high 1^o porosity.
Conclusion: Porosity occlusion probably due to compaction >>> kaolinite.

GC333-7: Devilfish-1, Cuttings, 1872 mkB,Latrobe Group

Lithology: Quartz sandstone
Framework: Very similar to GC333-6. Mono-crystalline (?granitic) quartz dominant as free grains (note that this is a cuttings sample and the blue dyed areas do not signify 1^o porosity). Altered K-feldspar and carbonate cemented foraminifera present. Ductile lithic grains uncommon.
Cement/Matrix: Very poorly developed kaolinite may be present as thin grain coatings
Porosity: Lack of composite grains suggests sandstone was originally poorly cemented with high 1^o porosity.
Conclusion: Porosity occlusion probably due to compaction >>> kaolinite.

GC333-7: Devilfish-1, Cuttings, 1872 mkB,Latrobe Group

Lithology: Quartz sandstone
Framework: Very similar to GC333-6. Mono-crystalline (?granitic) quartz dominant as free grains (note that this is a cuttings sample and the blue dyed areas do not signify 1^o porosity). Altered K-feldspar and carbonate cemented foraminifera present. Ductile lithic grains uncommon.
Cement/Matrix: Very poorly developed kaolinite may be present as thin grain coatings
Porosity: Lack of composite grains suggests sandstone was originally poorly cemented with high 1^o porosity.
Conclusion: Porosity occlusion probably due to compaction >>> kaolinite.

GC333-8: Devilfish-1, Cuttings, 1957 mkB,Latrobe Group

Lithology: Quartz sandstone
Framework: Very similar framework mineralogy to GC333-6 and 7 but finer grained. Mono-crystalline (?granitic) quartz dominant as free grains (note that this is a cuttings sample and the blue dyed areas do not signify 1^o porosity). Partially dissolved K-feldspar and carbonate cemented foraminifera present. Ductile lithic grains uncommon.
Cement/Matrix: Very poorly developed kaolinite may be present as thin grain coatings
Porosity: Lack of composite grains suggests sandstone was originally poorly cemented with high 1^o porosity.
Conclusion: Porosity occlusion probably due to compaction >>> kaolinite.

GC333-9: Devilfish-1, Cuttings, 2004 mkB,Latrobe Group

Lithology: Quartz sandstone
Framework: Similar framework mineralogy to other samples from Devilfish-1 but a generally "dirtier" appearance seems to reflect a slightly higher proportion of micritic carbonate fragments and perhaps diagenetic kaolinite. Mono-crystalline (?granitic) quartz dominant but polycrystalline quartz more obvious. Partially dissolved K-feldspar and carbonate cemented foraminifera present. Ductile lithic grains uncommon.
Cement/Matrix: Very poorly developed kaolinite may be present as thin grain coatings
Porosity: Presence of micritic carbonate may suggest original cementation but lack of composite grains suggests sandstone was originally poorly cemented with high 1^o porosity.
Conclusion: Porosity occlusion probably due to compaction > carbonate > kaolinite.

3. Answers to specific questions

1. <u>Did Tarra-1 drill Strzelecki Group?</u>

Two samples from **Tarra-1**, Core 2, are typical of the **Strzelecki Group** sediments found elsewhere in the Gippsland, Otway and Bass Basin's. Permeability reduced by presence of swelling chlorite/smectite grain coatings. Porosity is occluded because of compaction associated with ductile deformation of altered volcanogenic rock fragments and cementation by the zeolite laumontite associated with pervasive albitization of detrital feldspars.

2. **Are there observable lithological, provenance and/or diagenetic differences between the Latrobe and Golden Beach Group samples?**

The detrital mineralogy of the **Golden Beach Group** sample from **Omeo-1**, core 2, differs from **Latrobe Group** samples from **Omeo-1**, core 1, in having a higher abundance of detrital K-feldspar, lithic rock fragments and to a lesser extent, polycrystalline quartz. Diagenetic kaolinite is well developed in the **Golden Beach Group** as a filling for primary pores, and is absent of very poorly developed as thin grain coatings in the **Latrobe Group samples.**

3. **What is the main mechanism of porosity loss in the Golden Beach Group samples in Omeo-1 ? Is it primarily a function of burial depth or provenance?**

The main mechanism for porosity loss in the **Golden Beach Group** is most likely the higher degree of compaction associated with labile constituents and the significantly greater development of diagenetic kaolinite occluding primary pores.

This degree of porosity destruction is most likely the result of differing depositional environments (Beach-barrier as opposed to fluvial) leading to a different detrital mineralogy, and did not result from significantly different original provenance or burial depth.

4. **Is there any evidence for a Strzelecki Group or adjacent granitic source for these sediments. Are there unstable components present, which are affecting porosity, which relate to these source terrains?**

There is no direct evidence for detritus in the **Latrobe or Golden Beach Groups** being sourced from the **Strzelecki Group,** but the abundance of K-feldspar throughout both units, suggests a granitic source terrain, at least in part.

4. Further work

For future work on cuttings, more detailed assessment of diagenetic mineralogy may be possible by preparation of unwashed cuttings rather that the washed and sized cuttings available from Devilfish-1. Consideration should be given to examination of pore mineralogy by Scanning Electron Microscope (SEM).

Table 1: Sample details[1] - Core and Cuttings samples, Gippsland Basin wells (Geotrack Report #333)

Geotrack number	Depth (mKB)	Core number	Porosity %	Permeability (md)	Stratigraphic Age	Lithologic Description
Tarra-1						
333-1	2896.25	2	7 to 13	4	E. Cret Strzelecki	Fine to medium grained sandstone.
333-2	2900.5	2	7 to 13	4	E. Cret Strzelecki	Medium to coarse grained sandstone.
Omeo-1						
333-3	2349.1	1	20.7 to 26	689-6111	Latrobe Group Lower N.asperus	Beach barrier sandstone.
333-4	2361.3	1	20.7 to 26	689-6111	Latrobe Group Lower N.asperus	Beach barrier sandstone.
333-5	3038	2	11.3 to 16.7	3 to 100	Golden Beach Group P.mawsonii	Blocky fluvial sandstone. White clayey matrix
Devilfish-1						
333-6	1749	washed cuttings	-	-	Latrobe Group Tertiary	Sandy interval
333-7	1872	washed cuttings	-	-	Latrobe Group Tertiary	Sandy interval
333-8	1957	washed cuttings	-	-	Latrobe Group Tertiary	Sandy interval
333-9	2004	washed cuttings	-	-	Latrobe Group Tertiary	Sandy interval

1. Details supplied by ESSO.

APPENDIX A

Photomicrographs

PE906410

This is an enclosure indicator page.
The enclosure PE906410 is enclosed within the container PE906409 at this location in this document.

The enclosure PE906410 has the following characteristics:

ITEM_BARCODE = PE906410
CONTAINER_BARCODE = PE906409
NAME = Colour Photomicrographs, Figure 1
BASIN = GIPPSLAND
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = PHOTOMICROGRAPH
DESCRIPTION = Colour Photomicrographs, Figure 1
REMARKS =
DATE_CREATED = 30/06/91
DATE_RECEIVED = 10/10/91
W_NO = W806
WELL_NAME = TARRA-1
CONTRACTOR = GEOTRACK
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

A

B

Figure 1: **GC333-1, Tarra-1, Core 2.** Strzelecki Group Volcanogenic sandstone. Compacted texture due to high proportion of ductile volcanic rocks fragments (VRF's). Diagenetic swelling chlorite/chlorite grain coatings well developed. Feldspars albitized. Laumontite (zeolite) well developed.

A. Plane polarised light   Width of field of view = 2.20 mm

B. Crossed polarised light   Width of field of view = 2.20 mm

PE906411

This is an enclosure indicator page.
The enclosure PE906411 is enclosed within the container PE906409 at this location in this document.

The enclosure PE906411 has the following characteristics:

ITEM_BARCODE =	PE906411
CONTAINER_BARCODE =	PE906409
NAME =	Colour Photomicrographs, Figure 2
BASIN =	GIPPSLAND
PERMIT =	VIC/P17
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Colour Photomicrographs, Figure 2
REMARKS =	
DATE_CREATED =	30/06/91
DATE_RECEIVED =	10/10/91
W_NO =	W806
WELL_NAME =	TARRA-1
CONTRACTOR =	GEOTRACK
CLIENT_OP_CO =	ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

A

B

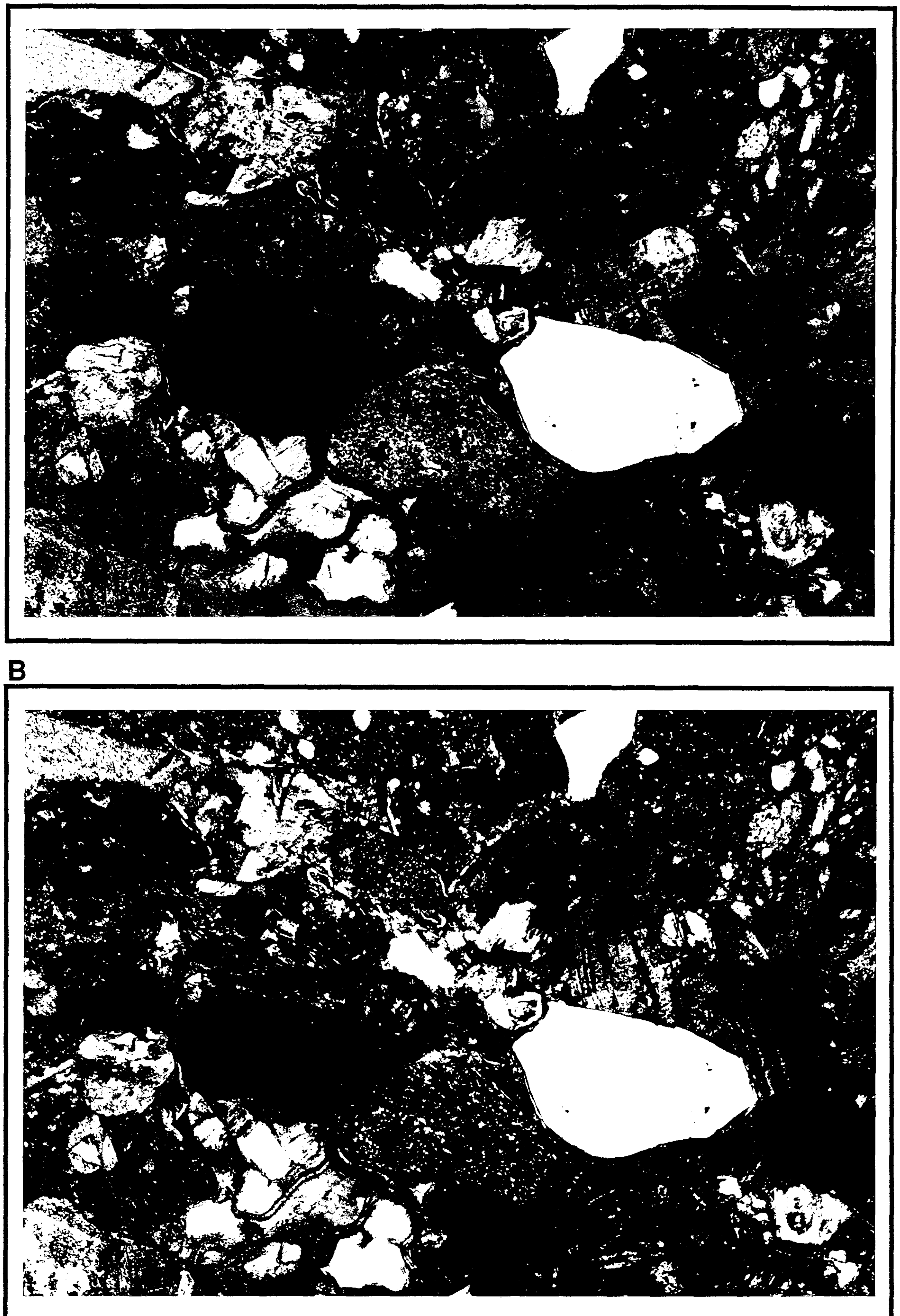


Figure 2: **GC333-2, Tarra-1, Core 2.** Strzelecki Group Volcanogenic sandstone. Similar to GC333-1 but coarser grained. Ductile volcanic rocks fragments (VRF's). Diagenetic swelling chlorite/chlorite grain coatings and laumontite pore filling particularly well developed. Feldspars albitized.

A . Plane polarised light Width of field of view = 2.20 mm

B . Crossed polarised light Width of field of view = 2.20 mm

PE906412

This is an enclosure indicator page.
The enclosure PE906412 is enclosed within the container PE906409 at this location in this document.

The enclosure PE906412 has the following characteristics:

ITEM_BARCODE = PE906412
CONTAINER_BARCODE = PE906409
NAME = Colour Photomicrographs, Figure 3
BASIN = GIPPSLAND
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = PHOTOMICROGRAPH
DESCRIPTION = Colour Photomicrographs, Figure 3
REMARKS =
DATE_CREATED = 30/06/91
DATE_RECEIVED = 10/10/91
W_NO = W806
WELL_NAME = TARRA-1
CONTRACTOR = GEOTRACK
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

A

B

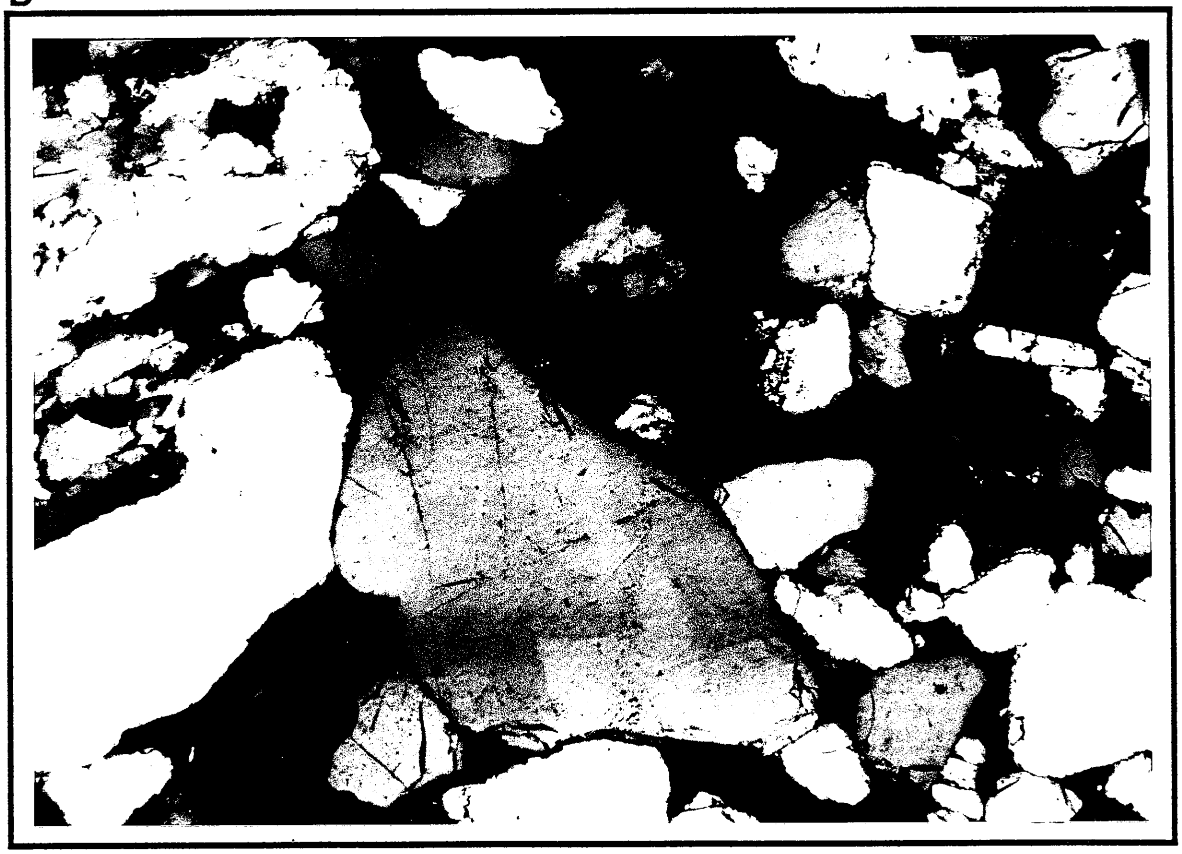


Figure 3: **GC333-3, Omeo-1, Core 1.** Latrobe Group quartz sandstone. Framework dominantly rounded to sub-angular granitic quartz with large variation in grain size, some "fresh" orthoclase and muscovite. Unstable lithic grains and polycrystalline quartz of low abundance. 1° porosity abundant, 2° porosity in K-feldspar.
A. Plane polarised light Width of field of view = 2.20 mm
B. Crossed polarised light Width of field of view = 2.20 mm

PE906413

This is an enclosure indicator page.
The enclosure PE906413 is enclosed within the container PE906409 at this location in this document.

The enclosure PE906413 has the following characteristics:

ITEM_BARCODE =	PE906413
CONTAINER_BARCODE =	PE906409
NAME =	Colour Photomicrographs, Figure 4
BASIN =	GIPPSLAND
PERMIT =	VIC/P17
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Colour Photomicrographs, Figure 4
REMARKS =	
DATE_CREATED =	30/06/91
DATE_RECEIVED =	10/10/91
W_NO =	W806
WELL_NAME =	TARRA-1
CONTRACTOR =	GEOTRACK
CLIENT_OP_CO =	ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

A

B

Figure 4: **GC333-4, Omeo-1, Core 1.** Latrobe Group quartz sandstone. Similar to GC333-3, but coarser grained. Some rare 1° pores with diagenetic kaolinite. Orthoclase and muscovite. Unstable lithic grains and polycrystalline quartz of low abundance. 1° porosity abundant, 2° porosity due to dissolution of K-feldspar.

A. Plane polarised light Width of field of view = 2.20 mm

B. Crossed polarised light Width of field of view = 2.20 mm

PE906414

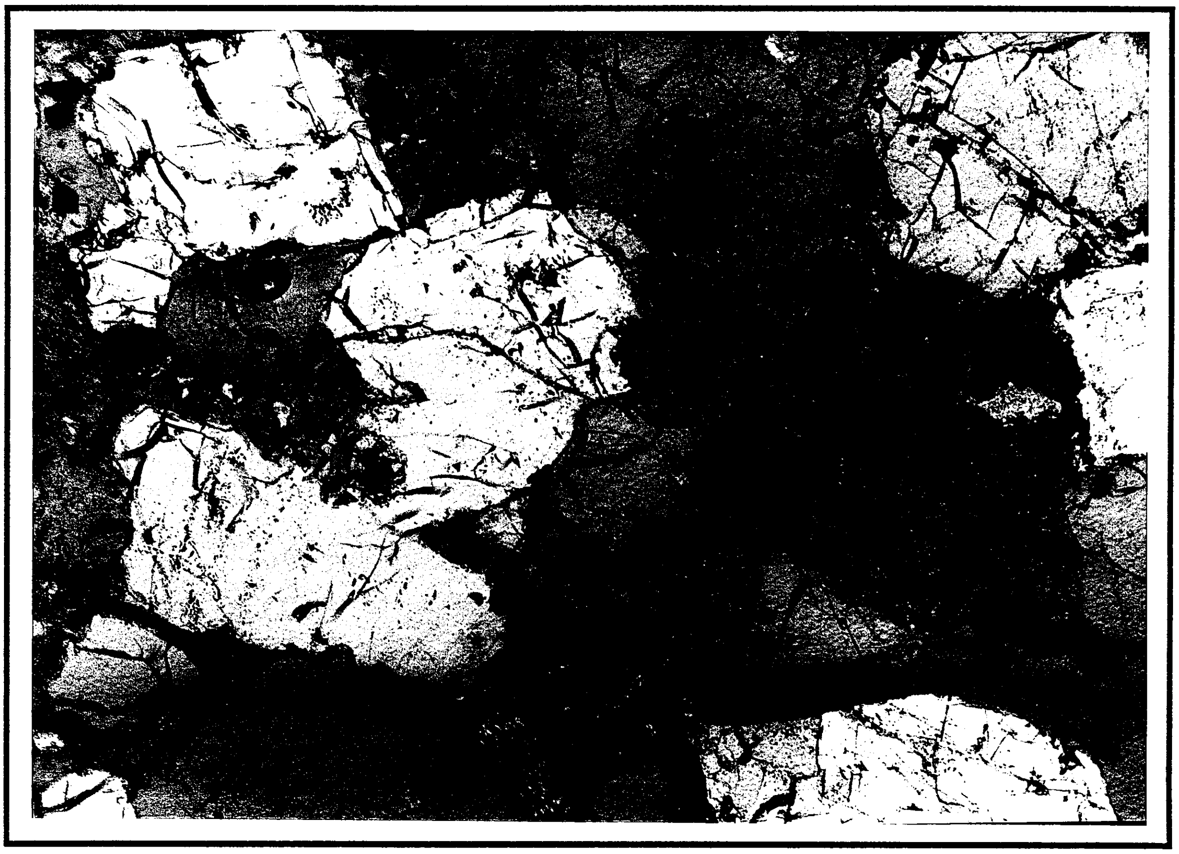
This is an enclosure indicator page.
The enclosure PE906414 is enclosed within the container PE906409 at this location in this document.

The enclosure PE906414 has the following characteristics:

ITEM_BARCODE = PE906414
CONTAINER_BARCODE = PE906409
NAME = Colour Photomicrographs, Figure 5
BASIN = GIPPSLAND
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = PHOTOMICROGRAPH
DESCRIPTION = Colour Photomicrographs, Figure 5
REMARKS =
DATE_CREATED = 30/06/91
DATE_RECEIVED = 10/10/91
W_NO = W806
WELL_NAME = TARRA-1
CONTRACTOR = GEOTRACK
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

A



B

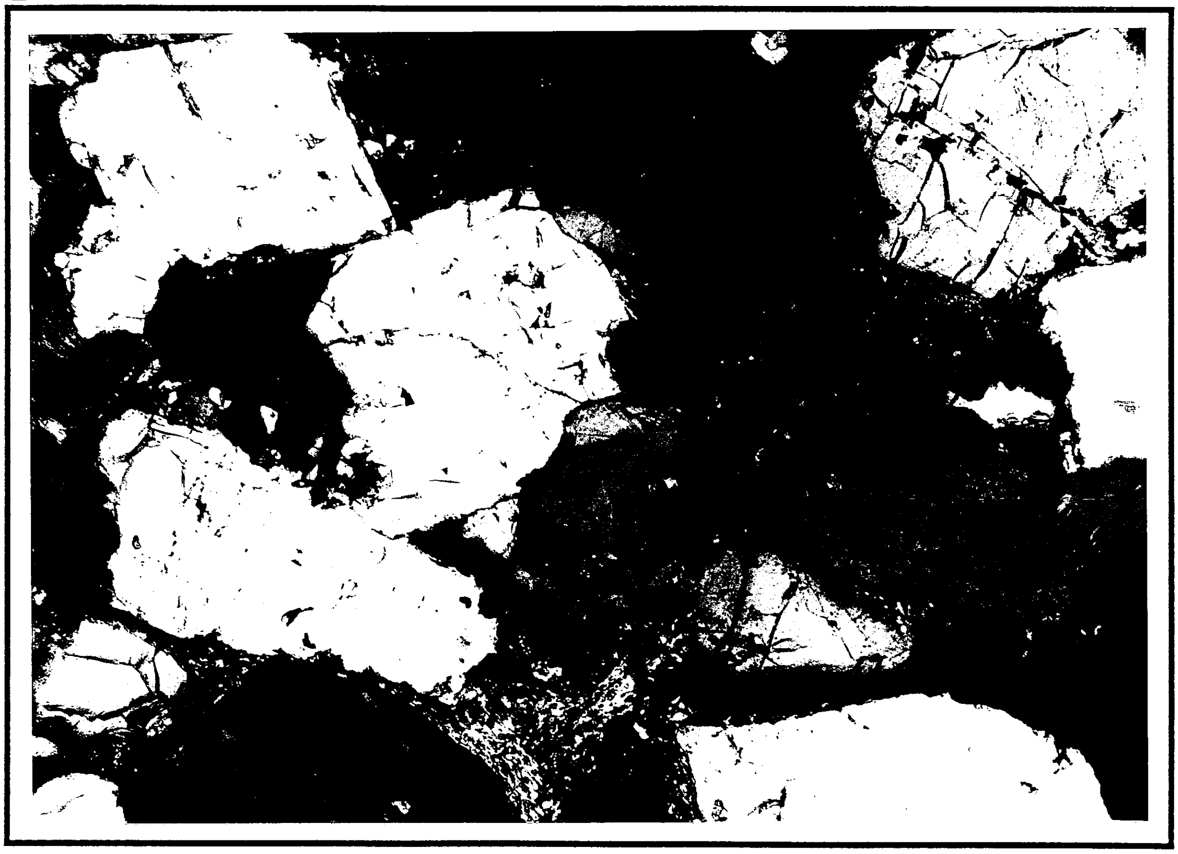


Figure 5: **GC333-5, Omeo-1, Core 2.** Golden Beach Group quartz sandstone. Similar to GC333-3, but with higher proportion of orthoclase and unstable lithic grains. 1° porosity uncommon due to well developed veriform kaolinite pore fillings; 2° porosity due to K-feldspar dissolution. diagentic pyrite common.

A. Plane polarised light — Width of field of view = 2.20 mm

B. Crossed polarised light — Width of field of view = 2.20 mm

PE906415

This is an enclosure indicator page.
The enclosure PE906415 is enclosed within the container PE906409 at this location in this document.

The enclosure PE906415 has the following characteristics:

ITEM_BARCODE = PE906415
CONTAINER_BARCODE = PE906409
NAME = Colour Photomicrographs, Figure 6
BASIN = GIPPSLAND
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = PHOTOMICROGRAPH
DESCRIPTION = Colour Photomicrographs, Figure 6
REMARKS =
DATE_CREATED = 30/06/91
DATE_RECEIVED = 10/10/91
W_NO = W806
WELL_NAME = TARRA-1
CONTRACTOR = GEOTRACK
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

A

B

Figure 6: **GC333-6, Devilfish-1, cuttings.** Latrobe Group quartz sandstone. Free granitic quartz dominant, some sericitized K-feldspar (note the blue dye does not indicate 1° porosity in this cuttings sample). Calcite cemented foraminifera present. Diagenetic kaolonite very rare.

A. Plane polarised light — Width of field of view = 2.20 mm

B. Crossed polarised light — Width of field of view = 2.20 mm

PE906416

This is an enclosure indicator page.
The enclosure PE906416 is enclosed within the container PE906409 at this location in this document.

The enclosure PE906416 has the following characteristics:

ITEM_BARCODE = PE906416
CONTAINER_BARCODE = PE906409
NAME = Colour Photomicrographs, Figure 7
BASIN = GIPPSLAND
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = PHOTOMICROGRAPH
DESCRIPTION = Colour Photomicrographs, Figure 7
REMARKS =
DATE_CREATED = 30/06/91
DATE_RECEIVED = 10/10/91
W_NO = W806
WELL_NAME = TARRA-1
CONTRACTOR = GEOTRACK
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

A

B

Figure 7: **GC333-7, Devilfish-1, cuttings.** Latrobe Group quartz sandstone. Very similar to GC333-6. Calcite cemented foraminifera in photo. Diagenetic kaolonite very rare.

A . Plane polarised light Width of field of view = 2.20 mm
B . Crossed polarised light Width of field of view = 2.20 mm

PE906417

This is an enclosure indicator page.
The enclosure PE906417 is enclosed within the container PE906409 at this location in this document.

The enclosure PE906417 has the following characteristics:

ITEM_BARCODE =	PE906417
CONTAINER_BARCODE =	PE906409
NAME =	Colour Photomicrographs, Figure 8
BASIN =	GIPPSLAND
PERMIT =	VIC/P17
TYPE =	WELL
SUBTYPE =	PHOTOMICROGRAPH
DESCRIPTION =	Colour Photomicrographs, Figure 8
REMARKS =	
DATE_CREATED =	30/06/91
DATE_RECEIVED =	10/10/91
W_NO =	W806
WELL_NAME =	TARRA-1
CONTRACTOR =	GEOTRACK
CLIENT_OP_CO =	ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

A

B

Figure 8: **GC333-8, Devilfish-1, cuttings.** Latrobe Group quartz sandstone. Finer grained than GC333-6 & 7 but similar framework mineralogy. Partially dissolved K-feldspar 2° porosity more common (in photo). Diagenetic kaolonite very rare.
A. Plane polarised light Width of field of view = 2.20 mm
B. Crossed polarised light Width of field of view = 2.20 mm

PE906418

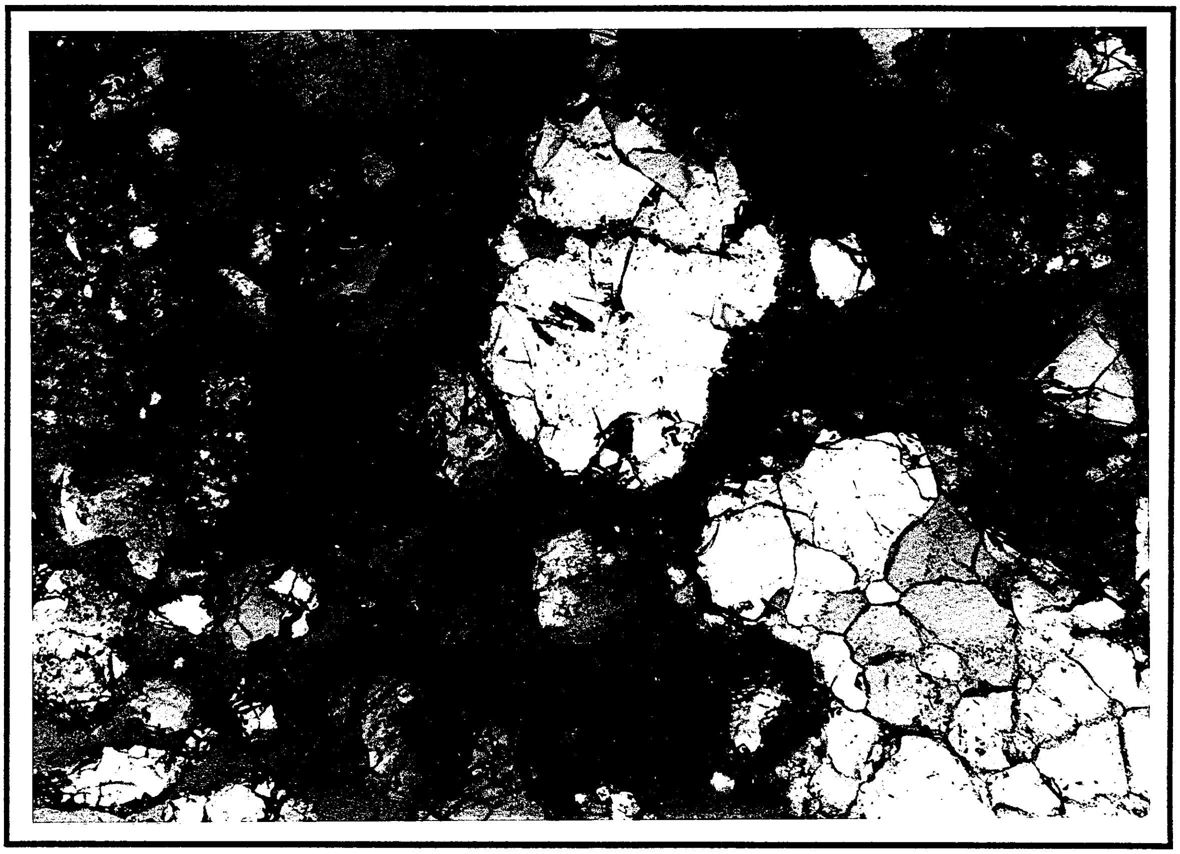
This is an enclosure indicator page.
The enclosure PE906418 is enclosed within the container PE906409 at this location in this document.

The enclosure PE906418 has the following characteristics:

ITEM_BARCODE = PE906418
CONTAINER_BARCODE = PE906409
NAME = Colour Photomicrographs, Figure 9
BASIN = GIPPSLAND
PERMIT = VIC/P17
TYPE = WELL
SUBTYPE = PHOTOMICROGRAPH
DESCRIPTION = Colour Photomicrographs, Figure 9
REMARKS =
DATE_CREATED = 30/06/91
DATE_RECEIVED = 10/10/91
W_NO = W806
WELL_NAME = TARRA-1
CONTRACTOR = GEOTRACK
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

A



B

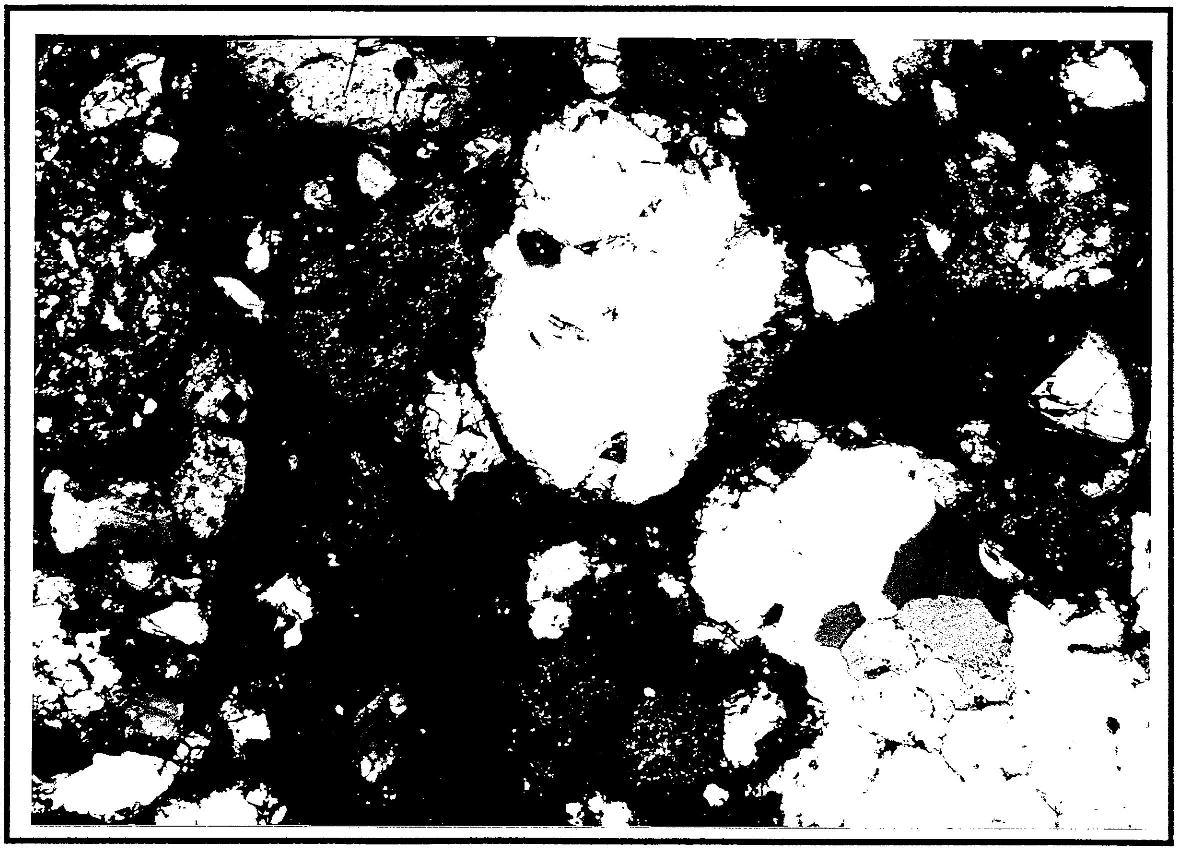


Figure 9: **GC333-9, Devilfish-1, cuttings.** Latrobe Group quartz-lithic sandstone. Similar framework mineralogy to other Devilfish-1 samples, but higher proportion of polycrystalline quartz and lithic fragments. Micritic carbonate ?cement. Diagenetic kaolonite may be present.
A. Plane polarised light Width of field of view = 2.20 mm
B. Crossed polarised light Width of field of view = 2.20 mm