Karoon Gas
Australia

# *Disclaimer*

"This presentation contains statements that are subject to risk factors associated with oil and gas businesses.

It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to: price fluctuations, actual demand, currency fluctuations, drilling and production results, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates."

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# Karoon Snapshot

- Listed on the ASX on the 8th of June 2004.
- Approximately 93.4 million shares and 7 million options.
- Market Capitalization approximately A$208 million (@A$2.10 share price)
- Cash in the bank after farmout and fundraising is $A45 million.

**Browse Basin Acreage(100%)**

Market capitalization increase has been largely driven by Browse Basin activity since December 2004;

- Acquired WA-314-P and WA-315-P from Liberty Petroleum in November 2004
- Defined risked 30 TCF plus 600mmbls condensate potential in seven large prospects
- 3D & 2D seismic work program nearly completed.
- 3D seismic data is partially interpreted confirming the potential of the prospects.
- 2 wells are planned for the first/second quarter 2007.

**Farmout to Conoco Phillips completed who can earn up to 60% equity**

**Gippsland Basin Acreage(100%)**

- 2004 seismic & drilling had identified an oil zone and gas bearing coals.
- 2005 250 km 2D seismic acquisition and mapping program is complete.
- New drilling program planned to start in November 2006.

  Three drilling operations are planned including a re-entry and possible test of Megascolides-1

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# Key Personnel

**Robert Hosking** Executive Chairman
Founding Director of Karoon Gas with 30 years of commercial experience. Involved in the oil and gas industry for ten years. Founding director of Nexus Energy.

**Mark Smith** Executive Director and Exploration Manager
26 years experience as a geologist and exploration manager in petroleum exploration and development mainly with BHPB in Australia, Southeast Asia and North America.

**Geoff Atkins** Director
34 years experience as a marine engineer including involvement with design and documentation of LNG facilities.

**Stephen Power** Director
20 years as a commercial lawyer providing advice to participants in the resources industry in Australia and overseas.

**Scott Hosking** Company Secretary
Commercial background

**Lino Barro** Engineering Manager
26 years experience in reservoir and development engineering with Delhi, BHPB & Kufpec

**Jorg Bein** Senior Geophysicist
36 years experience as a geophysicist and manager with Exxon and BHPB.

**Michelle Grosser** Geoscientist and IT Manager
9 years experience with a range of resource companies world wide including BHPB, Exxon Mobil and Shell.

**Jim Boyd** Technicl Officer
23 years experience in geoscience, data management and technical software support with a range of resource companies world wide including Shell, BP and BHPB.

**Consultants**

**Ralph Spinks** Drilling Consultant. 30 years in the industry with Philips Petroleum world wide.

Karoon has an extensive network of consultants in a range of disciplines, brought in as required.

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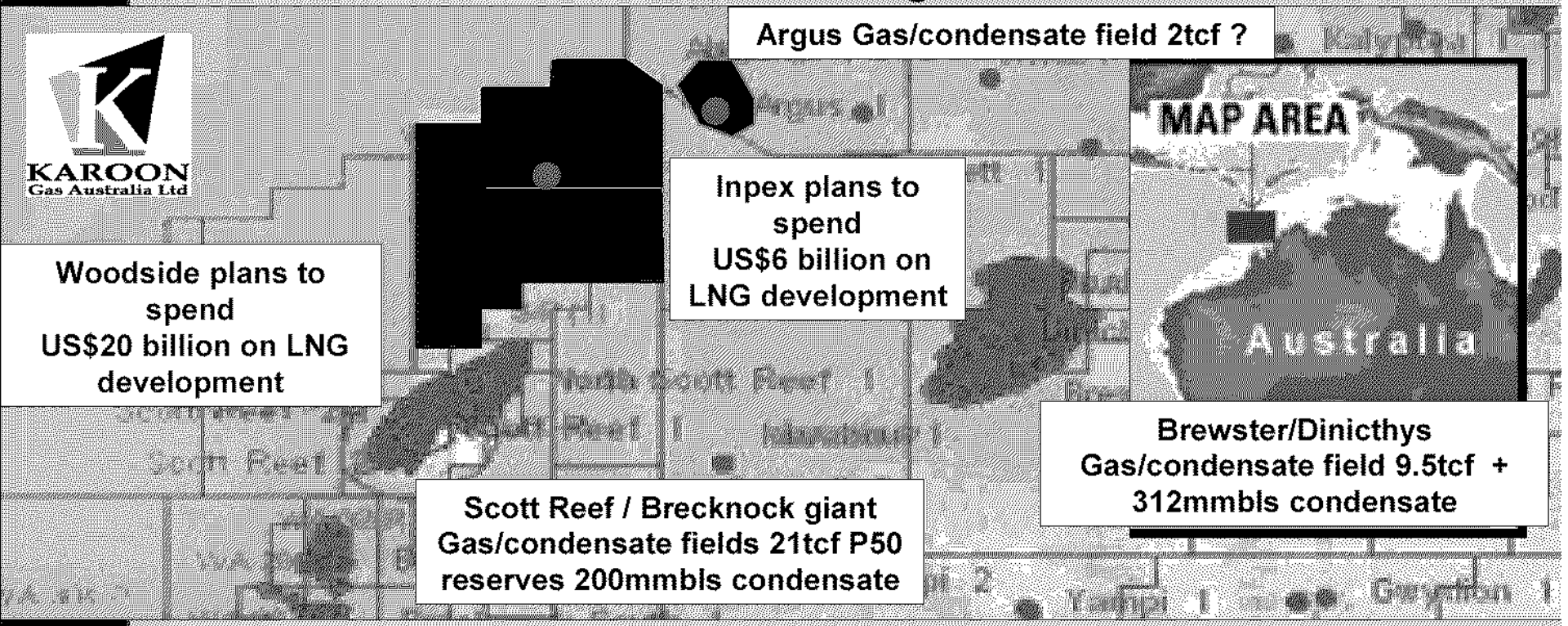
# WA-314-P & WA-315-P Setting




## Political

Karoon's Australian Browse Basin permits are in a politically safe environment administered under a stable and tested legislative system. This equates to low commercial & sovereign risk, critical factors in large development projects.

## Geological

The acreage is immediately on trend with the giant Scott Reef/Brecknock gas fields discovered in the 1970's which are currently being appraised and developed.

The same play type as Scott Reef/Brecknock with seven large structures having been mapped in Karoon's permits immediately to the north of Scott Reef.

# WA-314-P & WA-315-P Farmout

Karoon Gas Australia Ltd has entered into agreements to **farm out up to a 60% interest** in its Browse Basin permits, WA-314-P and WA-315-P, to the **ConocoPhillips** Group subsidiary company, ConocoPhillips SH2 Pty Ltd.

**Acquisition of 51% Interest**

Pursuant to the agreements the parties will enter into a joint operating agreement and separate farmin agreement whereby ConocoPhillips SH2 will acquire a 51% interest in the permits by:

6. **Paying Karoon US$9.6 million** in reimbursement of approximately 80% of the costs incurred in carrying out the second year work programme for the permits. This involved the acquisition, processing and interpretation of seismic surveys completed throughout 2006, comprising approximately 1200 sq kms of 3D Seismic and 800 kms of 2D seismic.

8. **Funding 80% of the costs** of the third year work programme for the permits which will require the drilling **of one exploration well in each permit**, including testing. The cost of the third year work programme which is subject to the 80% funding arrangement is estimated to be between US$60-80 million.

**Option to Increase Interest to 60%**

Pursuant to the agreements, ConocoPhillips SH2 has an option, upon completing its obligations relating to the acquisition of its 51% interest, to acquire a further 9% interest in the permits by **paying 80% of the next US$125 million** of joint venture expenditure.

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# WA-314-P & WA-315-P Farmout

## Impact

**The farmout to Conoco Phillips positions Karoon as highly leveraged small player in the rapidly expanding global LNG business, now having;**

- **A very significant acreage and equity position Australia's prolific Browse Basin.**
- **A joint venture with enormous reserves potential greater than 20TCF and 600mmbls condensate (risked basis).**
- **A partner and operator in Conoco Phillips with extensive expertise in all facets of the global LNG business from exploration to development and marketing.**
- **A partner and operator in Conoco-Phillips with existing infrastructure with the capacity for expansion already set up and operating in Darwin offering a fast tract development option.**

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# WA-314-P & WA-315-P Permit conditions

| Minimum Guaranteed Work Program for each permit WA-314-P and WA-315-P | | | | | |
|---|---|---|---|---|---|
| Term | Permit Year | Permit Year Starts | Permit Year Ends | Minimum Work Requirements | Estimated Expenditure Constant Dollars (indicative A$ only at time of award) |
| Primary Term | First | 12-Nov-01 | 11-Nov-02 | Seismic re-interpretation | 200,000 |
| | Second | 12-Nov-02 | 11-Feb-06 | 400 square km. of new 3D Seismic | 3,400,000 |
| | Third | 12-Feb-06 | 11-Feb-07 | Drill One (1) Well | 16,000,000 |
| Secondary Term | Fourth | 12-Feb-07 | 11-Feb-08 | Geological, geophysical and Geochemical studies | 1,000,000 |
| | Fifth | 12-Feb-08 | 11-Feb-09 | Drill One (1) Well | 16,000,000 |
| | Sixth | 12-Feb-09 | 11-Feb-10 | Drill One (1) Well | 16,000,000 |

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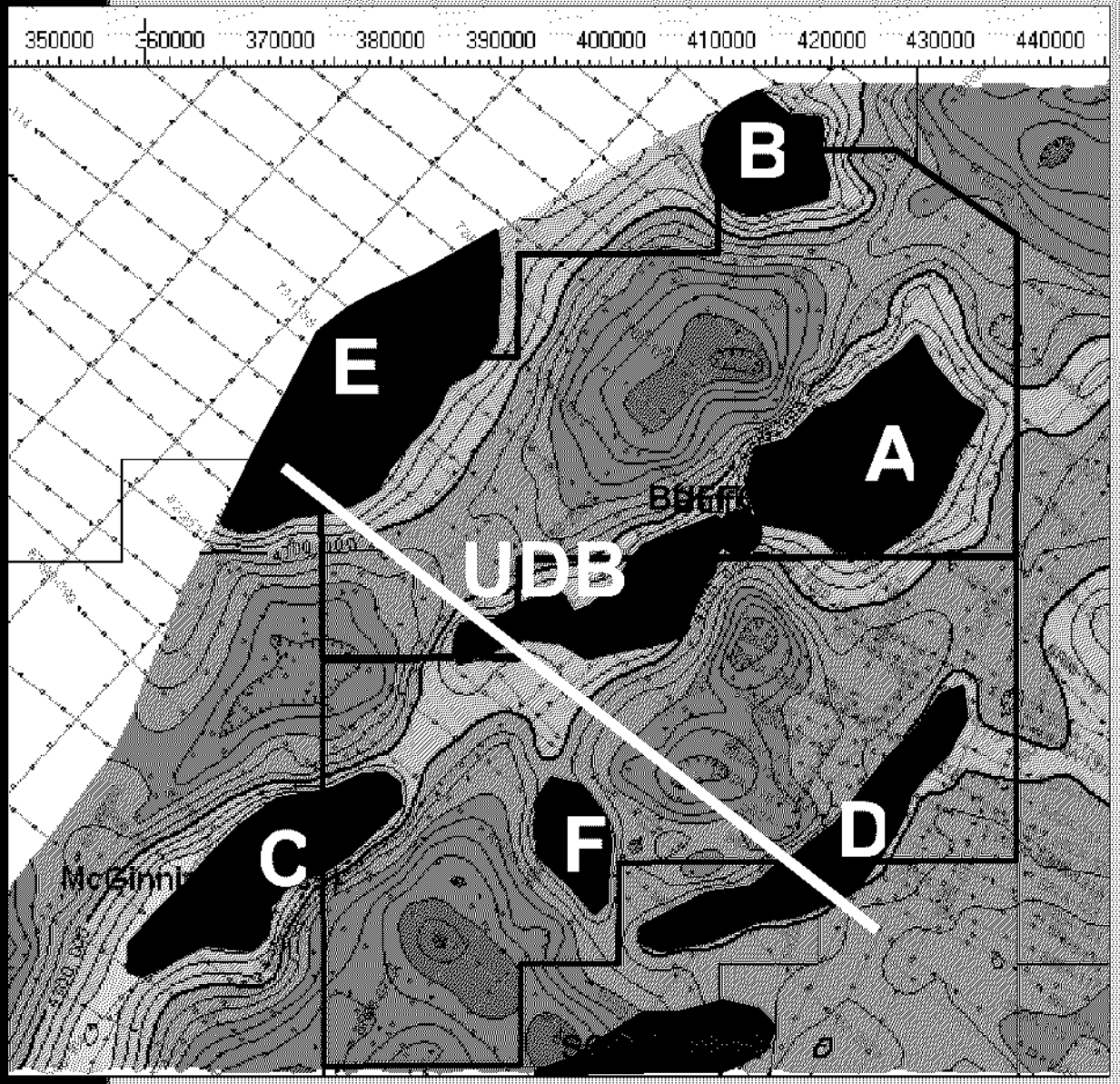
# WA-314-P & WA-315-P 2D mapping results




Seven large high relief prospects with areas ranging from 60 to 350 square km.

The same play type as Scott-Reef immediately to the south.

The map is a composite of the Callovian unconformity (Top reservoir and base seal) and the Base of the Buffon Volcanics (Top reservoir) in an area around the Buffon-1 well.

**100 Square kilometers**

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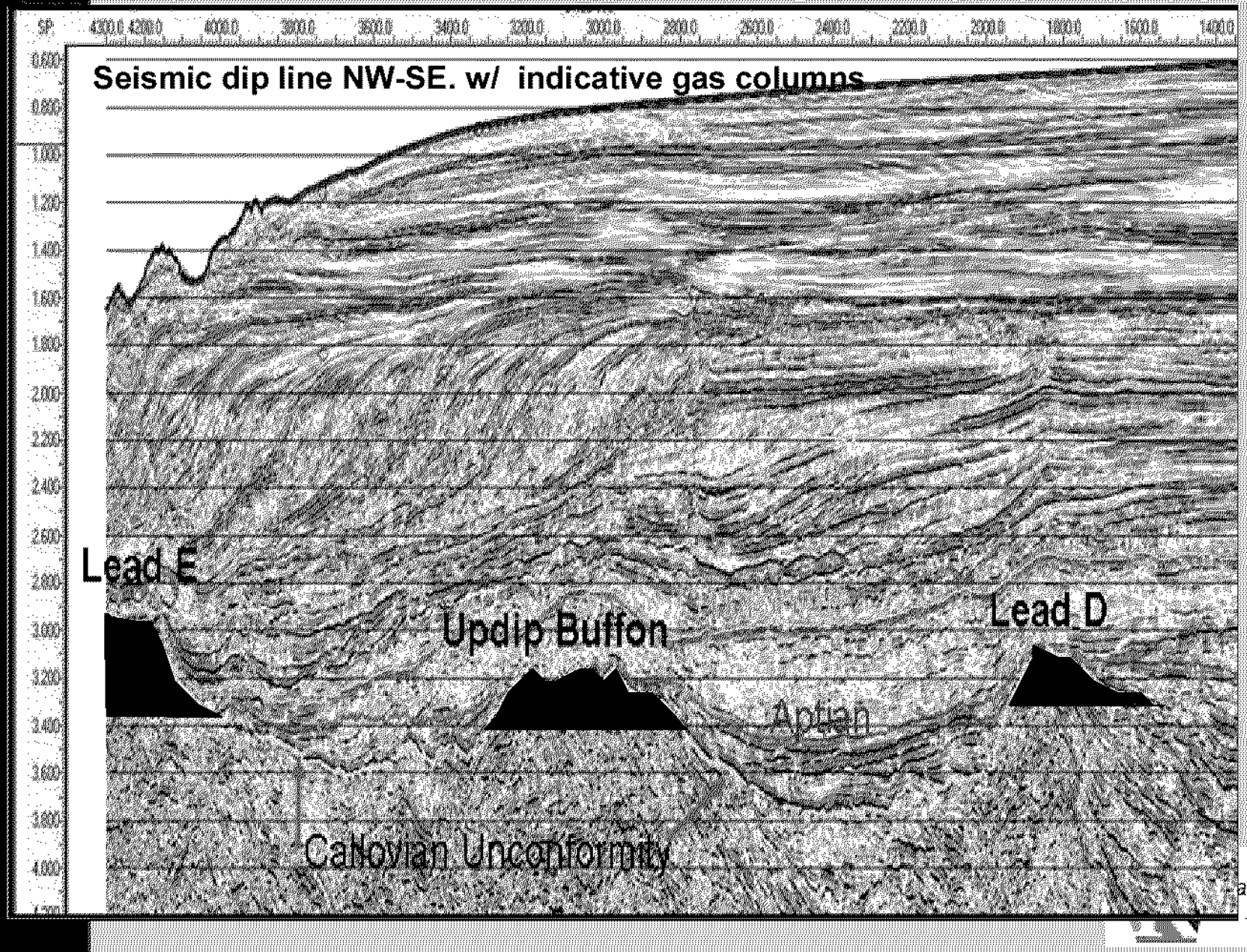
# WA-314-P & WA-315-P

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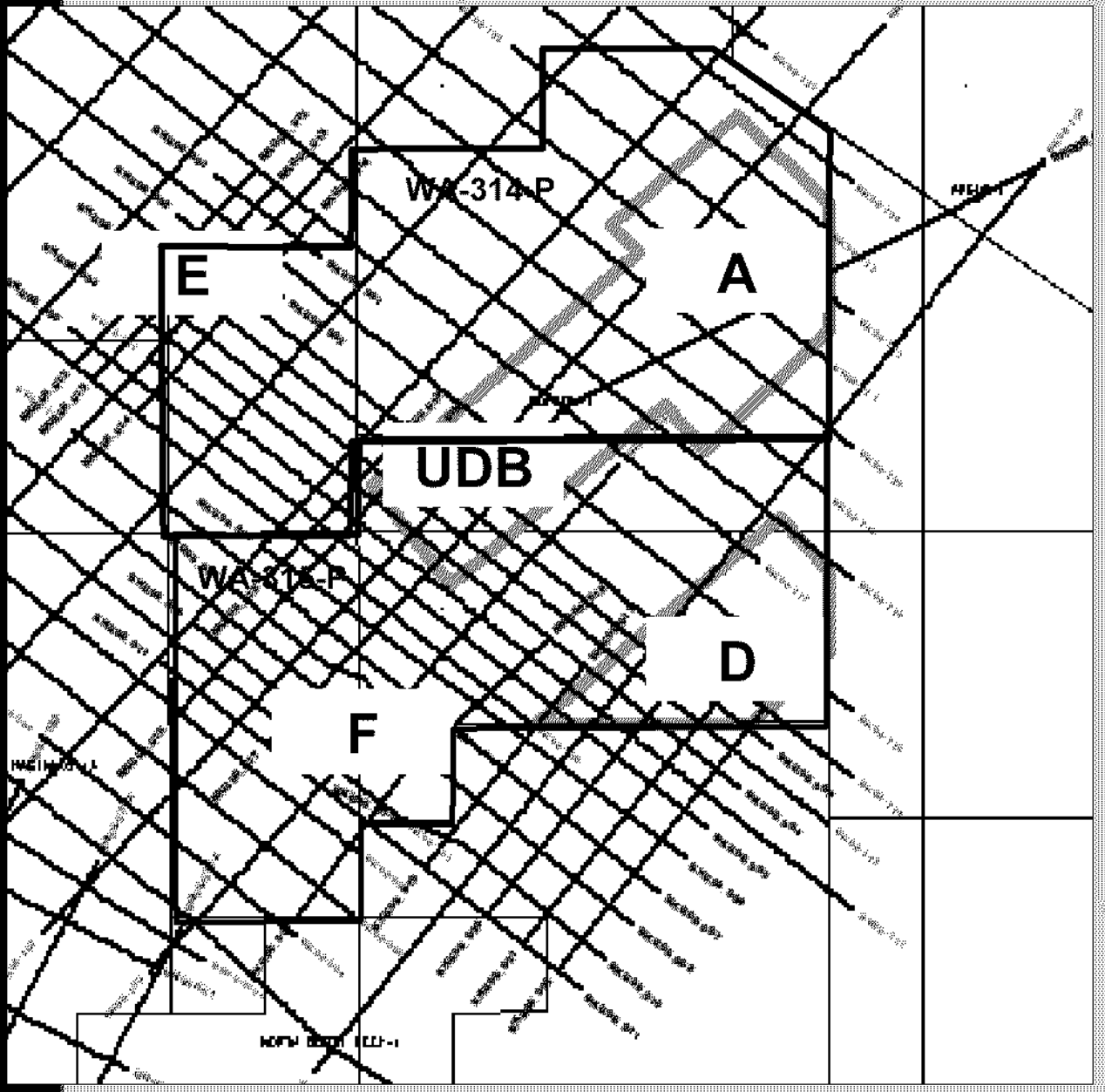
# WA-314-P & WA-315-P – New 2D & 3D Seismic surveys




The seismic program was designed to provide a range of options for the planned 2 well drilling program .

High graded Prospects to date are;

- Prospect-A
- Updip Buffon and
- Prospect-D

Prospect-A UDB, 3D acquisition completed 1st Jan 06 with data still being interpreted.

2D acquisition completed in March with data now being interpreted

Prospect D 3D data acquired in July with processed product expected in October / November.

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# WA-314-P & WA-315-P Potential reserves

## Karoon Gas Australia Ltd: Browse Basin Reserves Potential

### Exploration Permits WA-314-P & WA-315-P

**Totals here include extensions outside the permits.**

| Prospect | Water Depth | Prospect Area | Risk Ranking | Gas In Place | | Gas Recoverable | | Condensate | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Most Likely | | High Case | |
| | | | | Most Likely | High Case | Most Likely | High Case | Low Rate | High Rate | Low Rate | High Rate |
| | | | | | | | | 19bbls/ mmscf | 43bbls/ mmscf | 19bbls/m mscf | 43bbls/ mmscf |
| | Metres | Sq Kms | | Tcf | Tcf | Tcf | Tcf | mm bbls | mm bbls | mm bbls | mm bbls |
| Prospect B | 1300 | 43 | Med | 2.52 | 4.25 | 1.89 | 3.19 | 36 | 81 | 61 | 137 |
| Prospect C | 1250 | 127 | High | 7.35 | 12.41 | 5.51 | 9.30 | 105 | 237 | 177 | 400 |
| Prospect E | 1500 | 333 | High | 45.58 | 76.90 | 34.18 | 57.68 | 649 | 1470 | 1096 | 2480 |
| Prospect F | 600 | 53 | Med | 3.90 | 6.58 | 2.93 | 4.94 | 56 | 126 | 94 | 212 |
| Totals | | | | 88.6 | 170.1 | 66.4 | 127.6 | 1262 | 2856 | 2425 | 5485 |
| | Million tonnes LNG equivalent | | | 443 | 850 | 332 | 638 | | | | |

bbls=barrels of oil mmscf=million standard cubic feet Tcf=trillion cubic feet

**Green highlighted area shows the high graded leads.**

**Potential reserve numbers will change as work progresses on the new seismic data interpretations. Early 3D seismic results confirm the magnitude of the potential reserves.**

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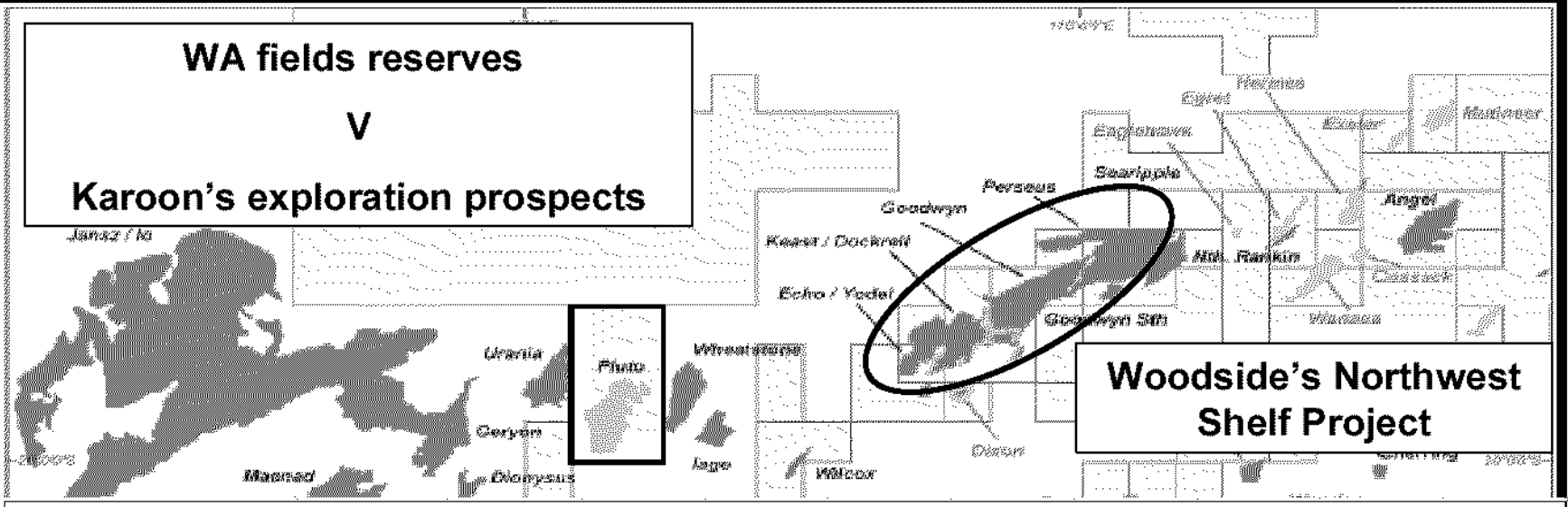
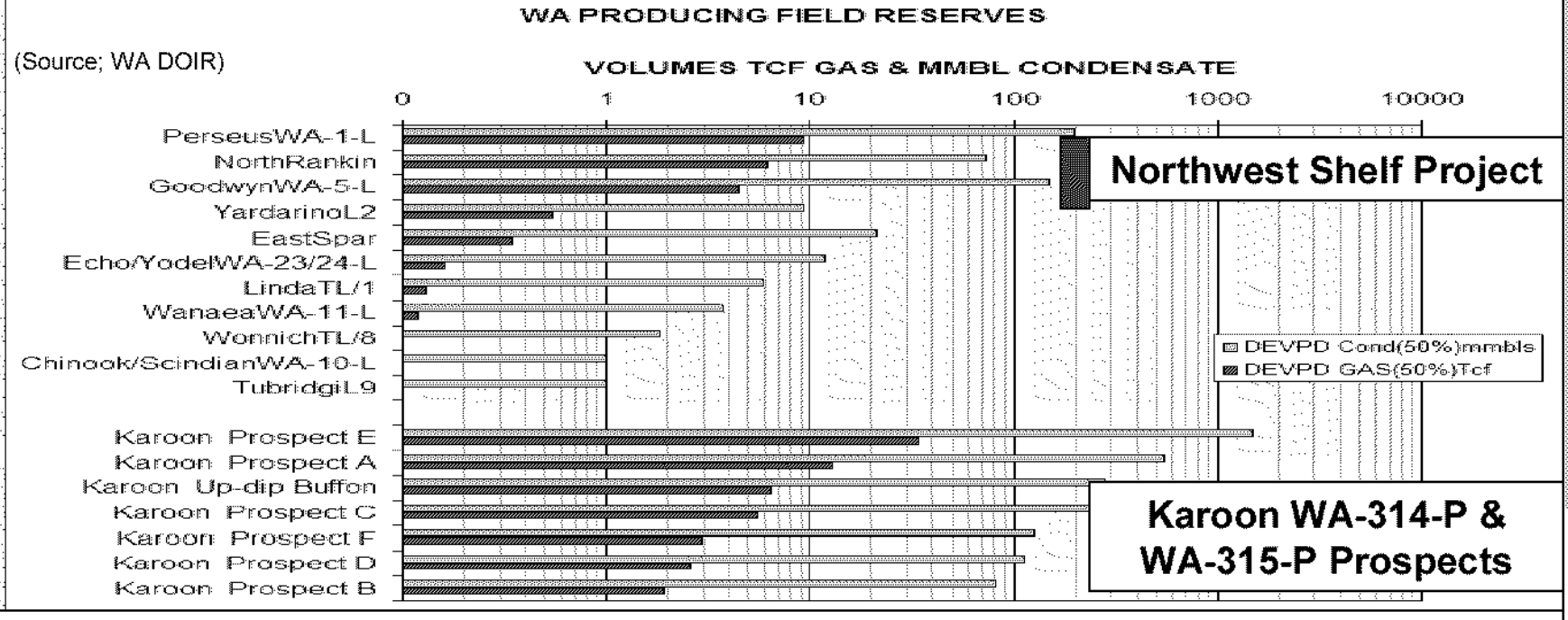
# WA-314-P & WA-315-P Comparisons

**WA fields reserves**

**V**

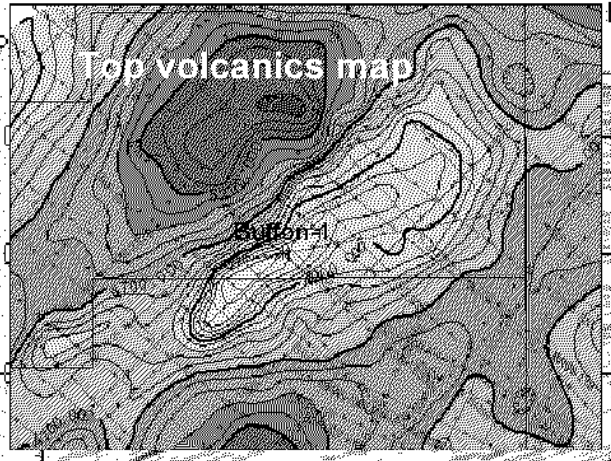
**Karoon's exploration prospects**

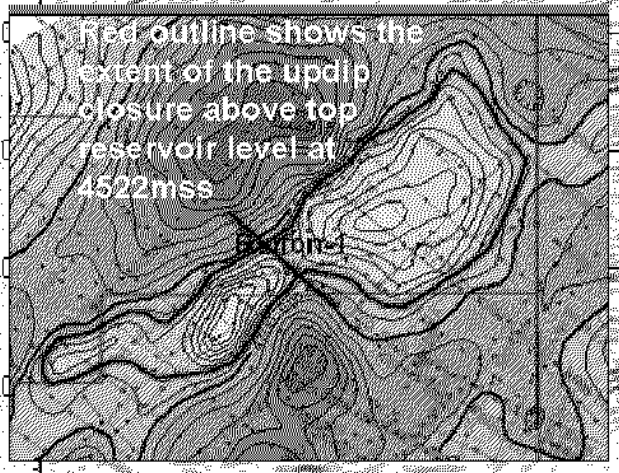


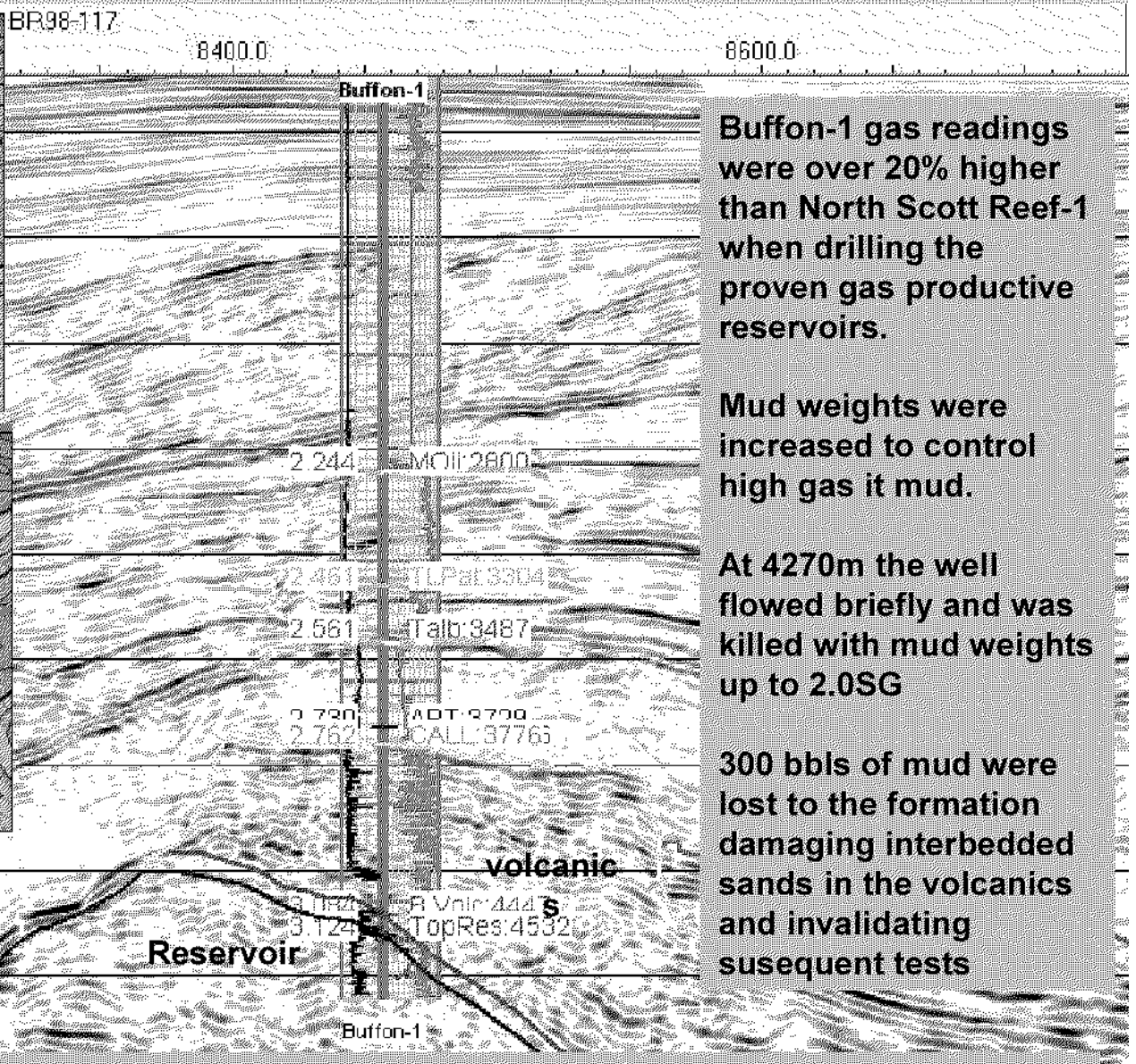




**One or two discoveries in WA-314-P and WA-315-P could result in a resource of similar size to the NWS project.**

# WA-314-P & WA-315-P The Buffon-1 Story




Buffon-1 gas readings were over 20% higher than North Scott Reef-1 when drilling the proven gas productive reservoirs.

Mud weights were increased to control high gas it mud.

At 4270m the well flowed briefly and was killed with mud weights up to 2.0SG

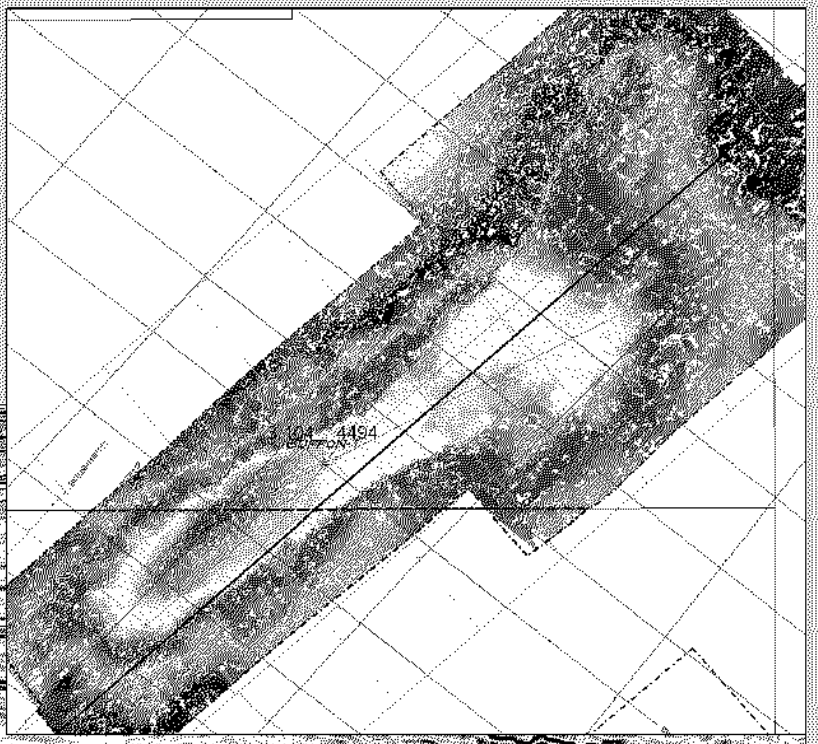
300 bbls of mud were lost to the formation damaging interbedded sands in the volcanics and invalidating susequent tests

There is a strong case that the Buffon-1 wells intersected a large gas accumulation

# WA-314-P & WA-315-P 3D results

Greatly increased resolution at all levels.

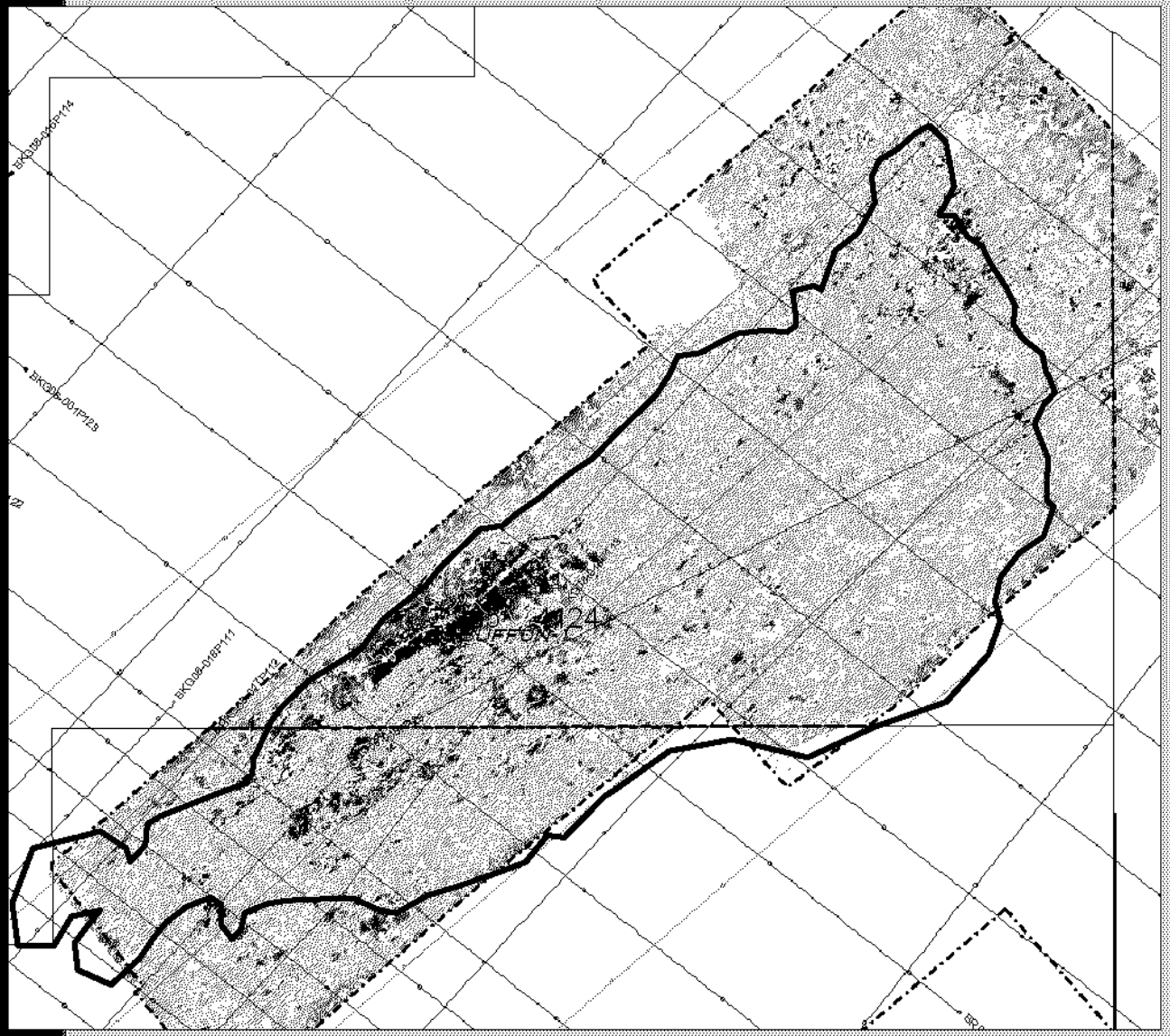
Now able to better differentiate the varying volcanic and Plover reservoir interval relationships across the structures. Reservoir (volume and distribution) was recognized as one of the key risks that the 3D seismic was designed to address.



Top volcanics horizon with underlying variable seismic character provides valuable data to indicate the distribution of reservoir and volcanic intervals within the structure.

Regional seal

# WA-314-P & WA-315-P 3D results




Top Volcanics to Base Volcanics amplitude sum (RMS amplitude sum).

Highly variable seismic character indicates a wide range in expected composition of this interval from thick volcanics as seen in Buffon-1 to, for example, interbedded volcanics and reservoir as seen in theScott Reef field

This is an example of the type of analysis that is used to identify potential drilling sites

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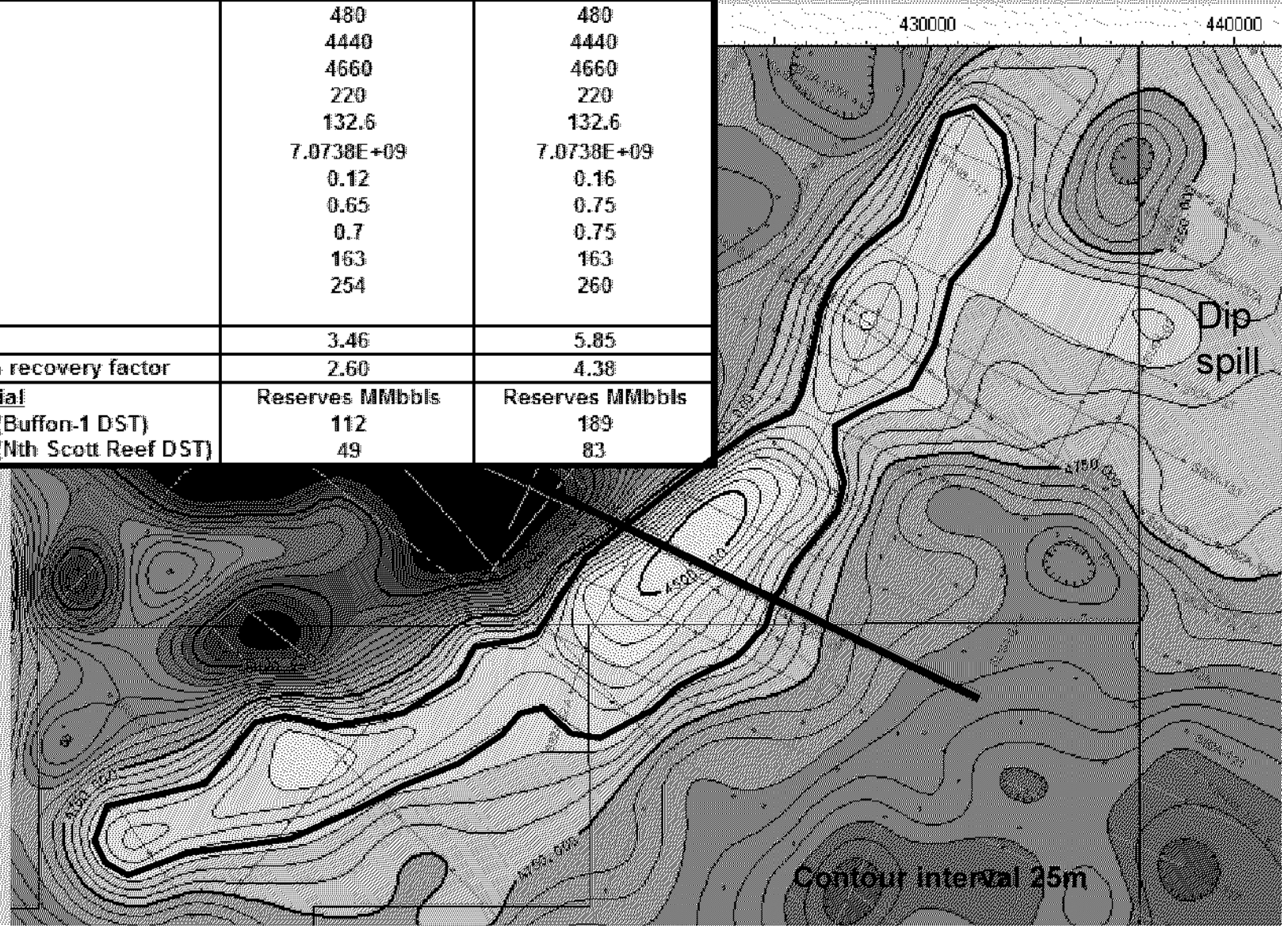
# WA-314-P & WA-315-P Prospect examples

## Potential reserves and input parameters

| Prospect | D | |
|---|---|---|
| Cases | Most likely (P50) | High case (P10) |
| Water depth (m) | 480 | 480 |
| Top depth(mss) | 4440 | 4440 |
| Spill point (mss) | 4660 | 4660 |
| Trap height (m) | 220 | 220 |
| Area (Km sq.) | 132.6 | 132.6 |
| GRV ($m^3$) | 7.0738E+09 | 7.0738E+09 |
| Porosity (ave) | 0.12 | 0.16 |
| Net to Gross | 0.65 | 0.75 |
| Gas saturation | 0.7 | 0.75 |
| Res temp (degC) | 163 | 163 |
| Gas Expansion | 254 | 260 |
| Gas in place TCF | 3.46 | 5.85 |
| Gas reserves @75% recovery factor | 2.60 | 4.38 |
| Condensate potential | Reserves MMbbls | Reserves MMbbls |
| At 43 stbbls/MMscf (Buffon-1 DST) | 112 | 189 |
| At 19 stbbls/MMscf (Nth Scott Reef DST) | 49 | 83 |

## Prospect D

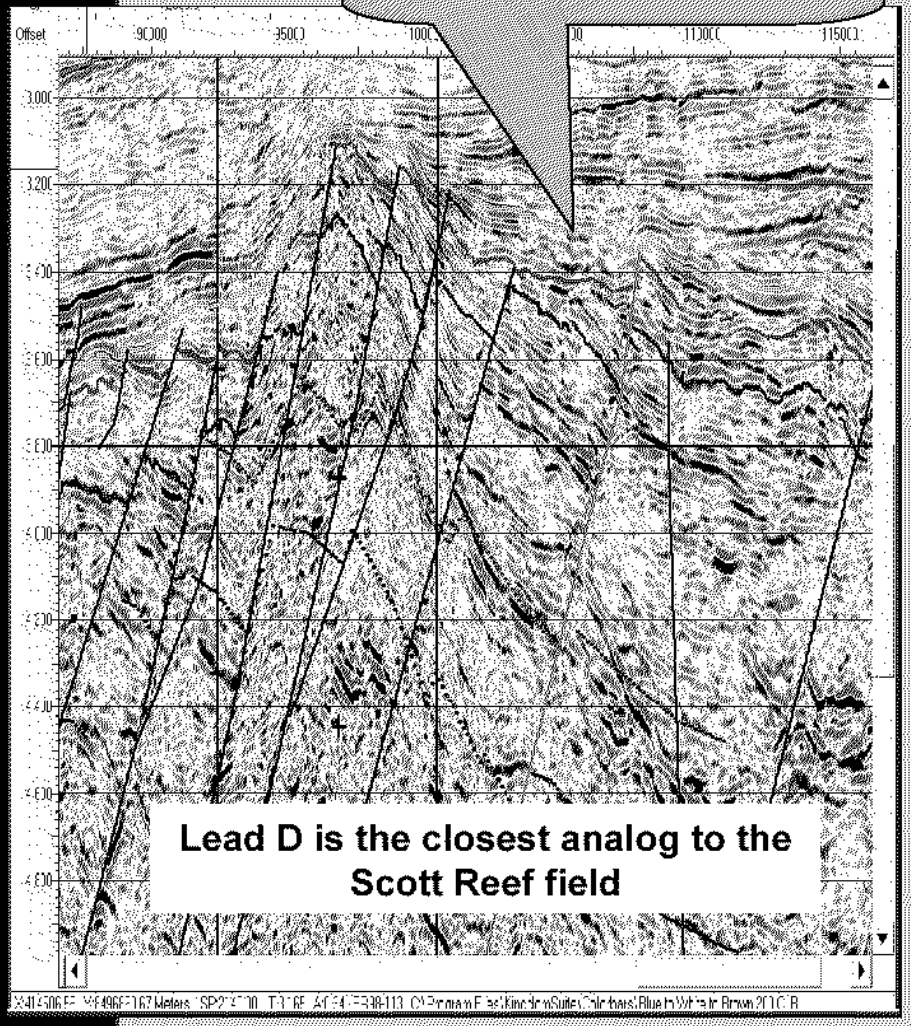


# WA-314-P & WA-315-P

# Prospect examples

## KAROON'S Prospect D

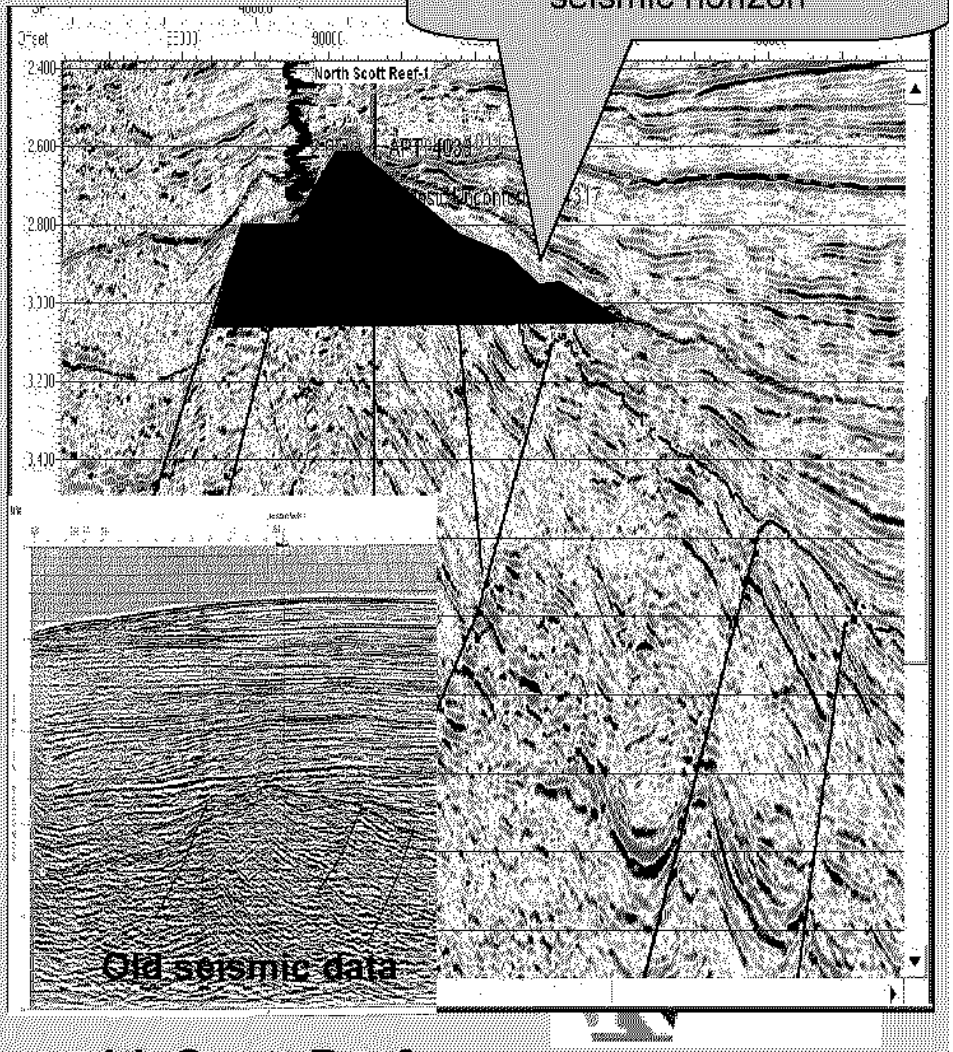
Top Callovian reservoir seismic horizon



Lead D is the closest analog to the Scott Reef field

## SCOTT REEF FIELD
## Nth Scott Reef-1

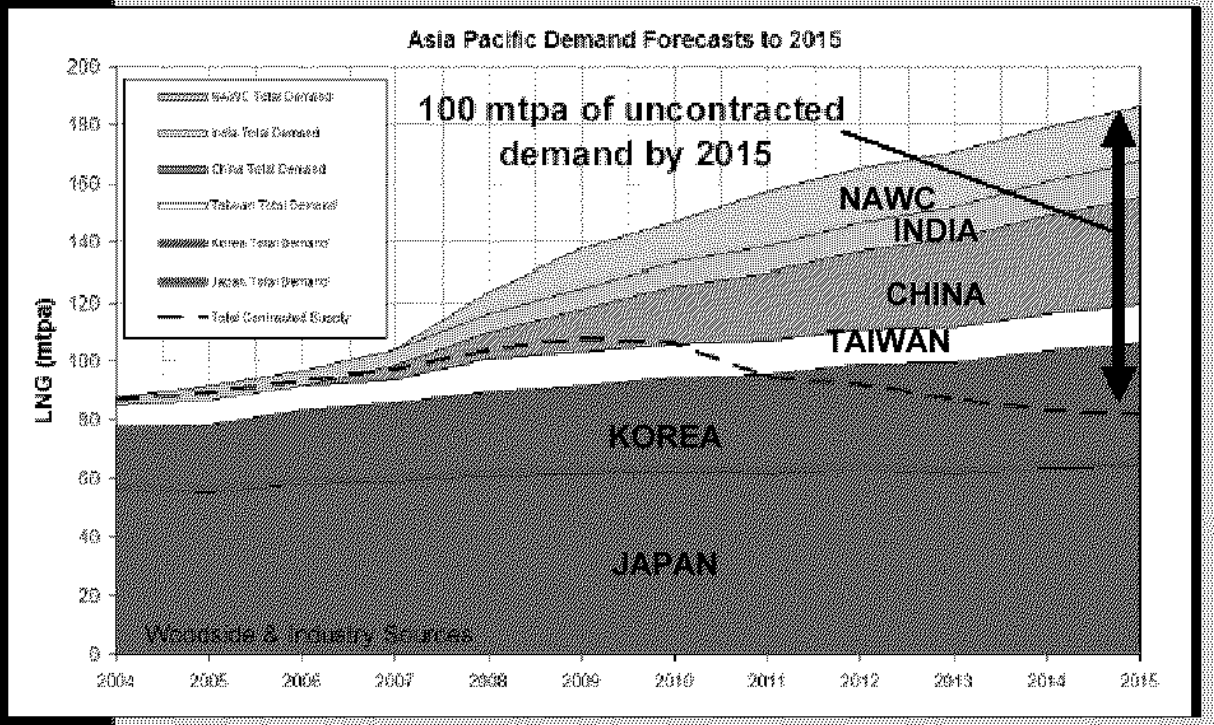
Top Callovian reservoir seismic horizon




## D Prospect mapping and comparison with Scott Reef

# WA-314-P & WA-315-P Supply and demand setting

Worldwide reducing discovery sizes and increasing world demand for oil and gas.




*Source: WA DOIR projections*

**Asian LNG Forecast**

**Companies currently positioned to take advantage of this situation will benefit greatly.**

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# WA-314-P & WA-315-P Analog economic cases

## Conoco-Phillips et. al. Undan-Bayu Gas-Condensate field – Darwin LNG Plant.

Estimated reserve is 3.4 TCF.

An export deal to Japan of 3 mill. tonnes. (150 BCF) per year for 17 years (2.55TCF total) @ $250 USD per tonne. This equates to an annual sales value of approx US$750 mill or AD$1 billion C&F Japan.

This is approx AD$6 billion per TCF C&F Japan (wholesale gas in Australia is currently approx AD$3 billion per TCF) . This gas deal is worth approx AD$17 billion.

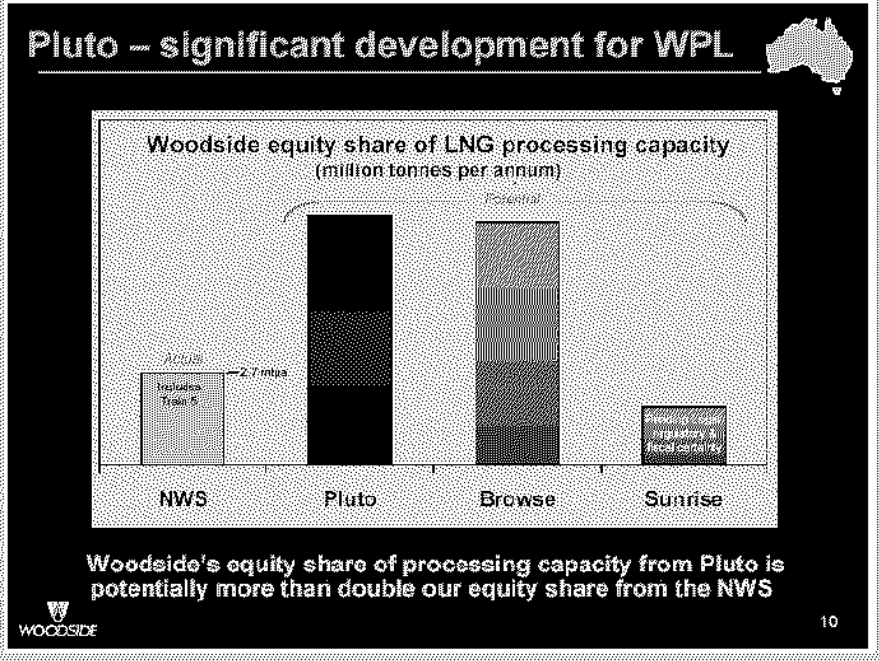
In addition to the sale of LNG, Bayu –Undan is estimated to contain reserves of 400 million barrels of condensate. The condensate sale @AD$50/bbl. is worth approx AD$20 billion.

Flexibility in sales destination suggest the Japanese may be considering trading opportunities in long term contracts and/or spot cargoes.

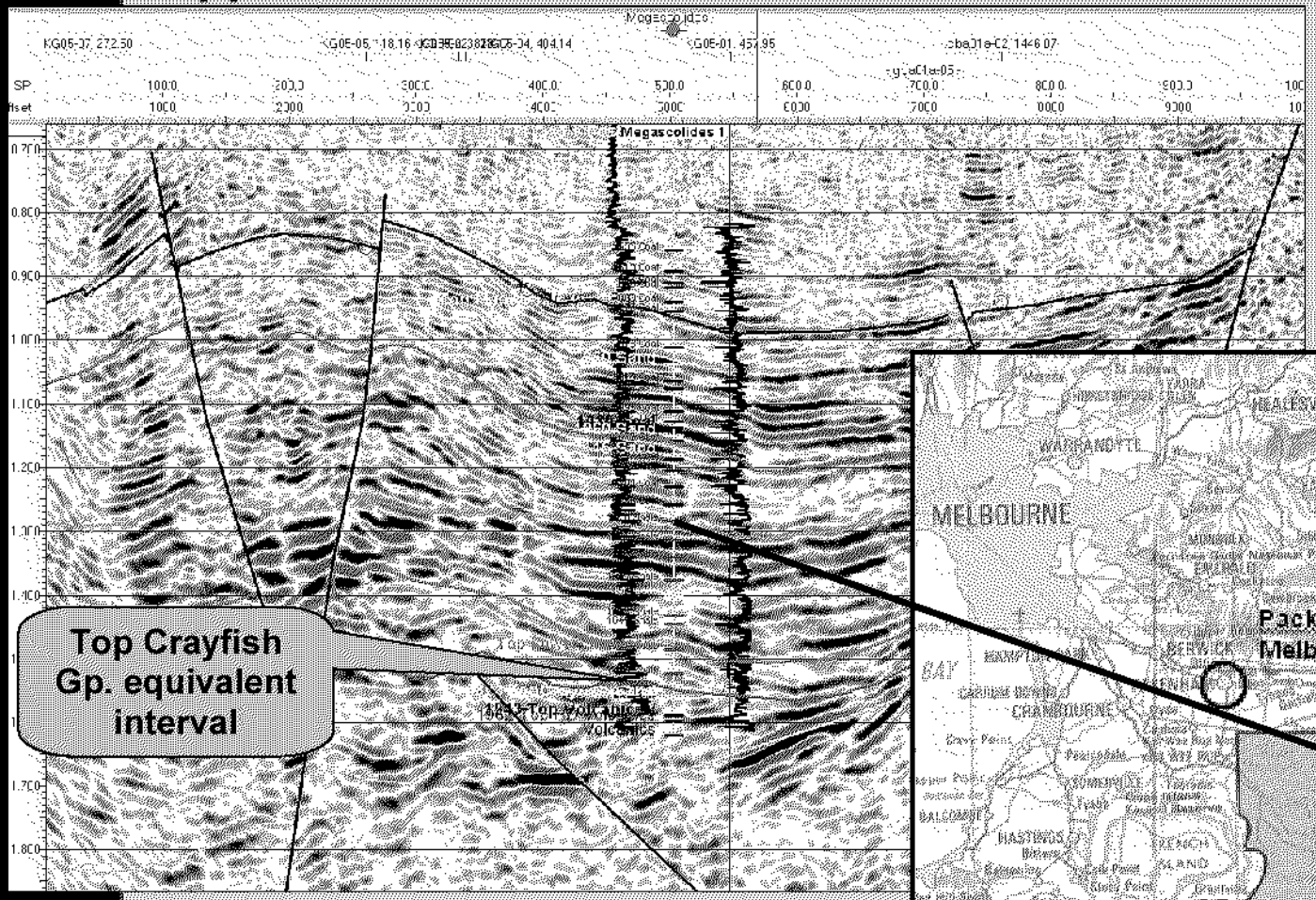
## Woodside Pluto and Browse projects

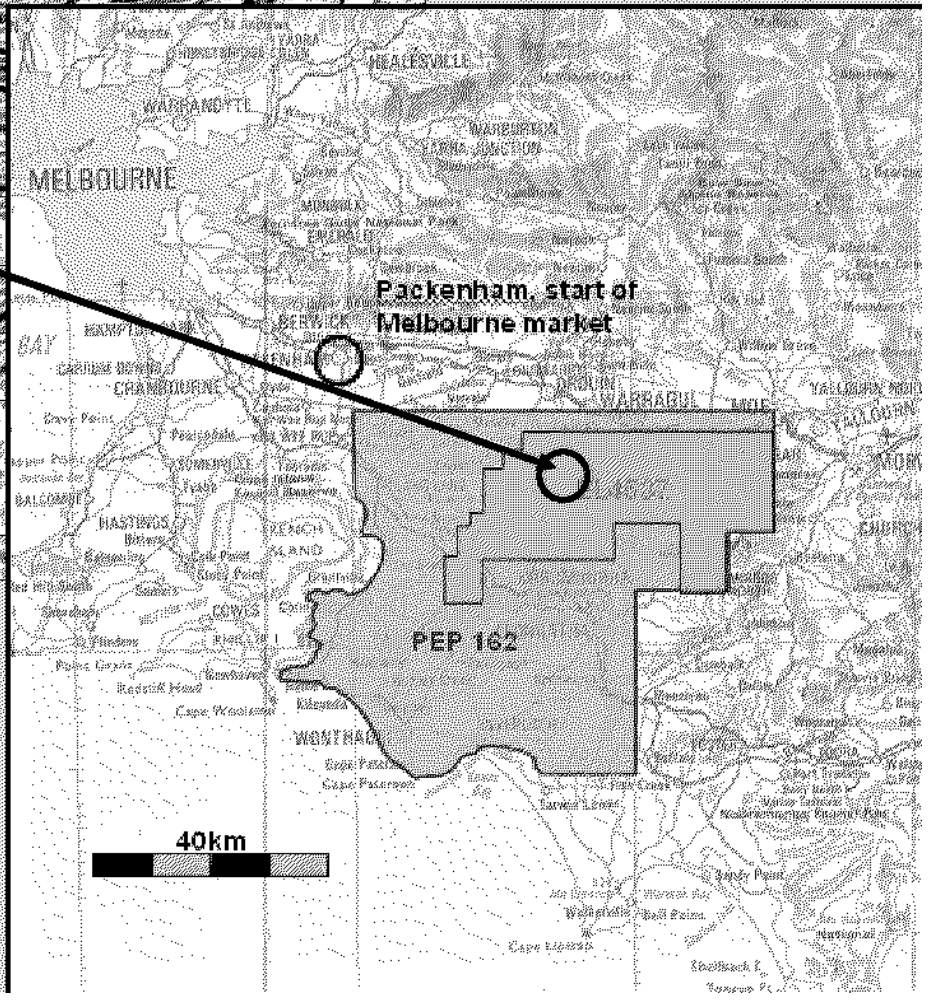
Woodside's 100% share of Pluto and 45% share in their Browse Scott Reef / Brecknock fields dominate Woodside's resource base.

Woodside's net 10 TCF at Scott Reef/Brecknock has a sales value around AD$60 billion dollars (based on the Conoco-Phillips deal).



# Gippsland Basin PEP162



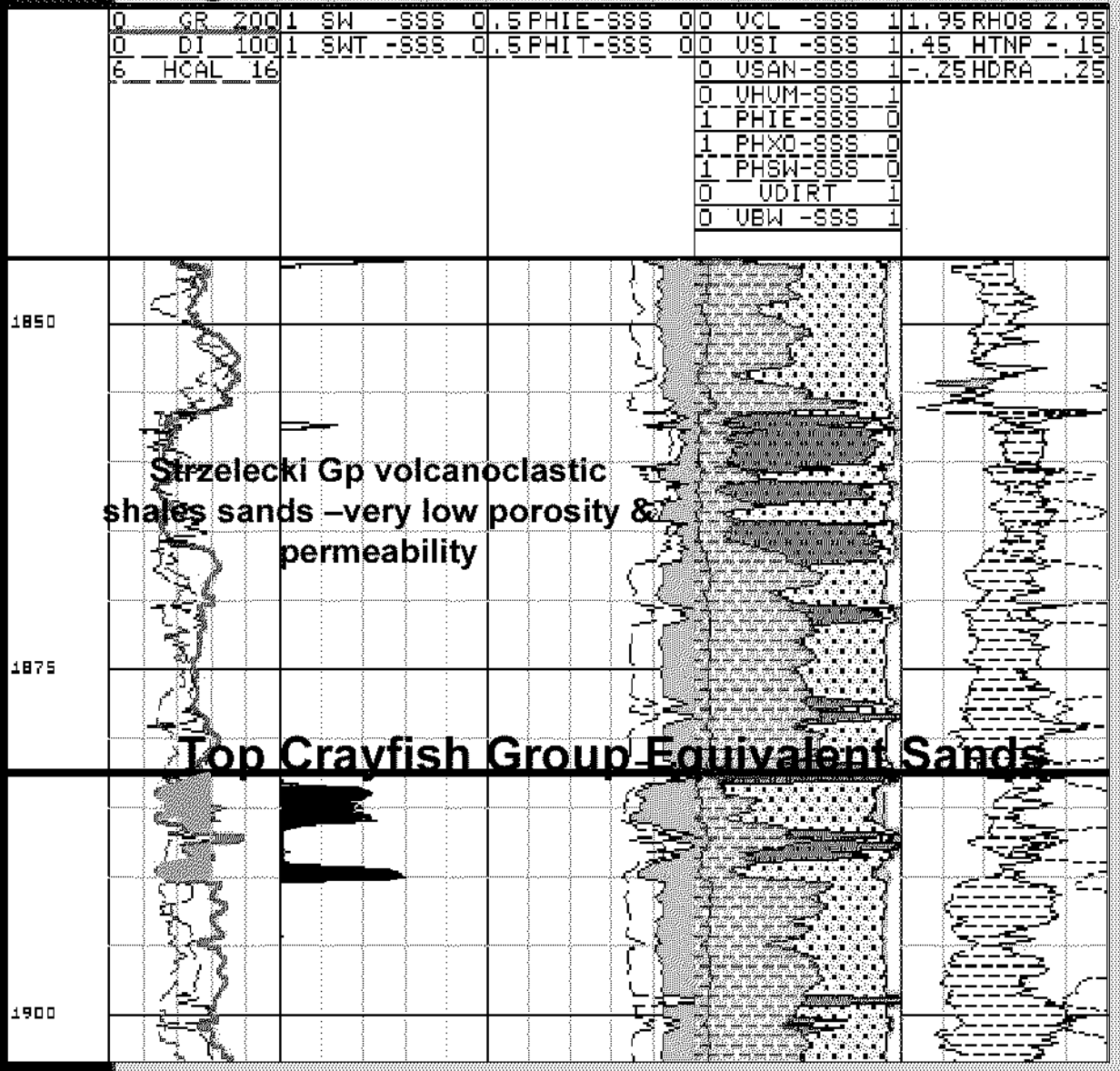




## Megascolides-1 drilling program

- Discovered oil bearing porous and permeable rocks at the Crayfish Gp equivalent level Nov-Dec 2004.
- Proved presence of gas bearing black coal across the Narracan Trough.

# Gippsland Basin PEP162

## Megascolides-1 well results - Oil zone




**Results**

- ❑ good fluorescence and high mud gas readings.
- ❑ Porosity up to 15%, ave13%
- ❑ Permeability 60 md (small core chip)
- ❑ Oil saturations up to 60%
- ❑ 3m - 5m net sand.

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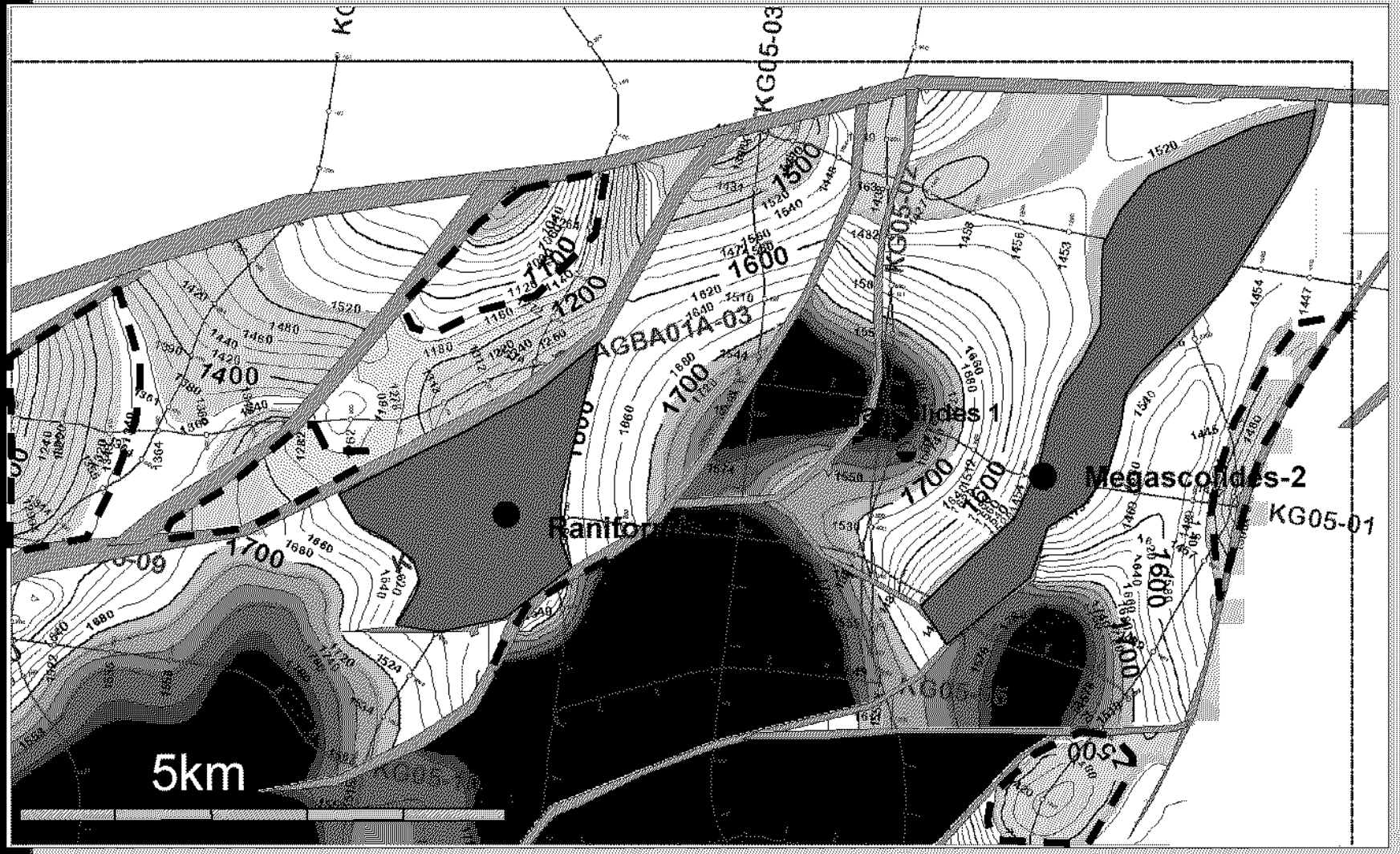
# Gippsland Basin PEP162 Top Crayfish Group equ. leads




Orange areas show structural prospects additional leads in red.

Megascolides-1 sidetrack. If oil is flowed, proving the presence of a working trap, then this would likely prove the presence of a stratigraphic, trap the magnitude of which is unknown.

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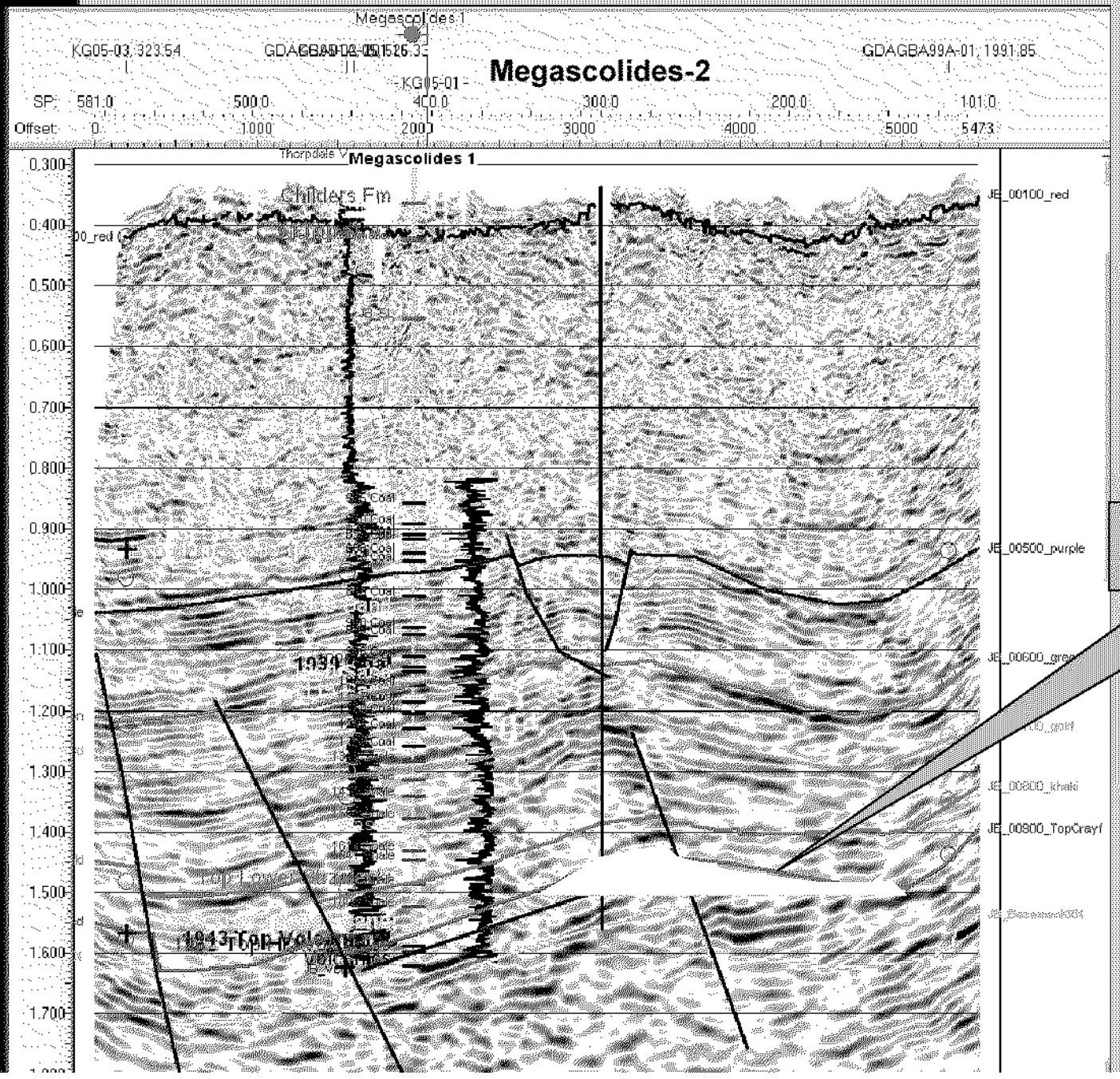
# Gippsland Basin PEP162 Megascolides-2 location




**Top Crayfish Gp. equ. reservoir target**

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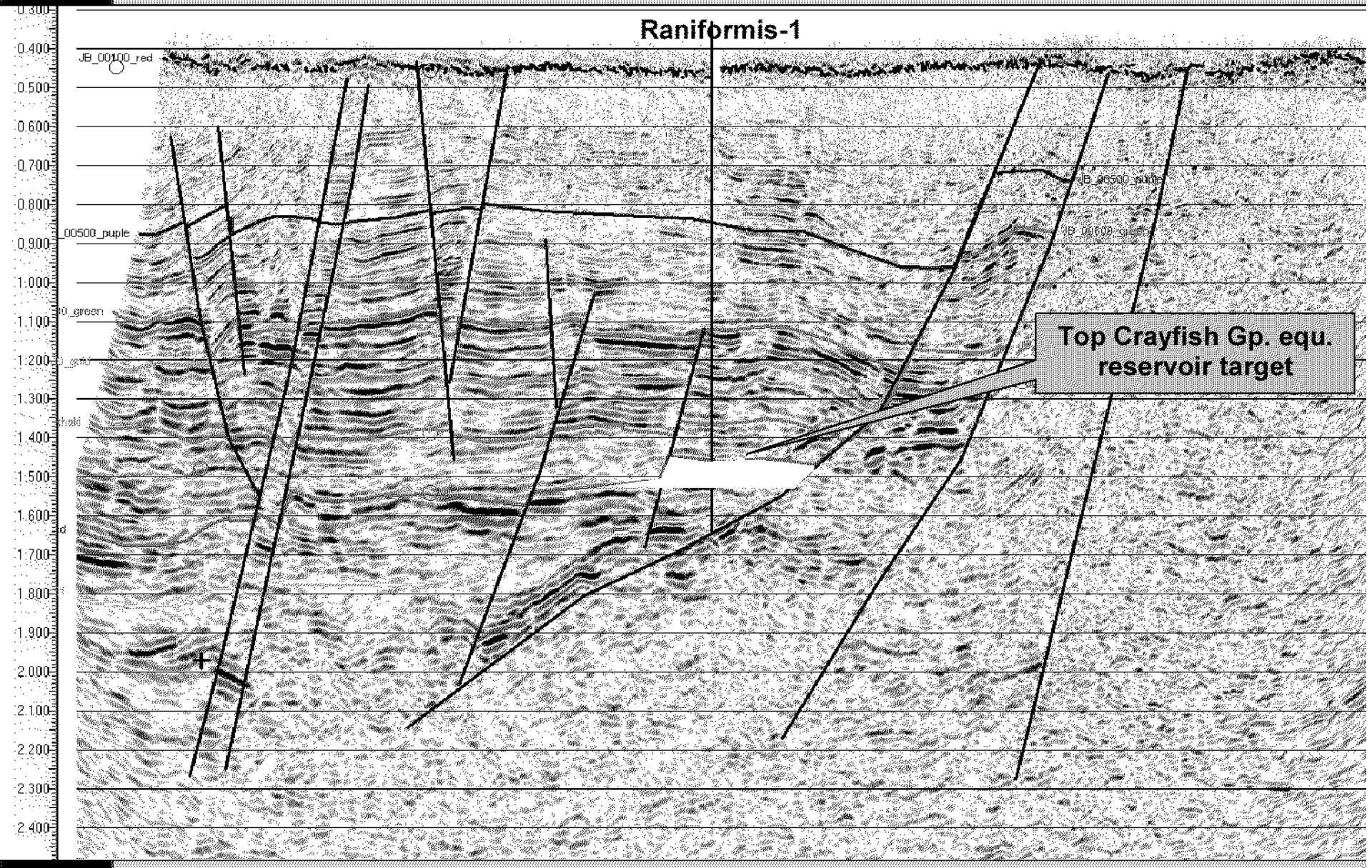
# Gippsland Basin PEP162 Raniformis-1 location



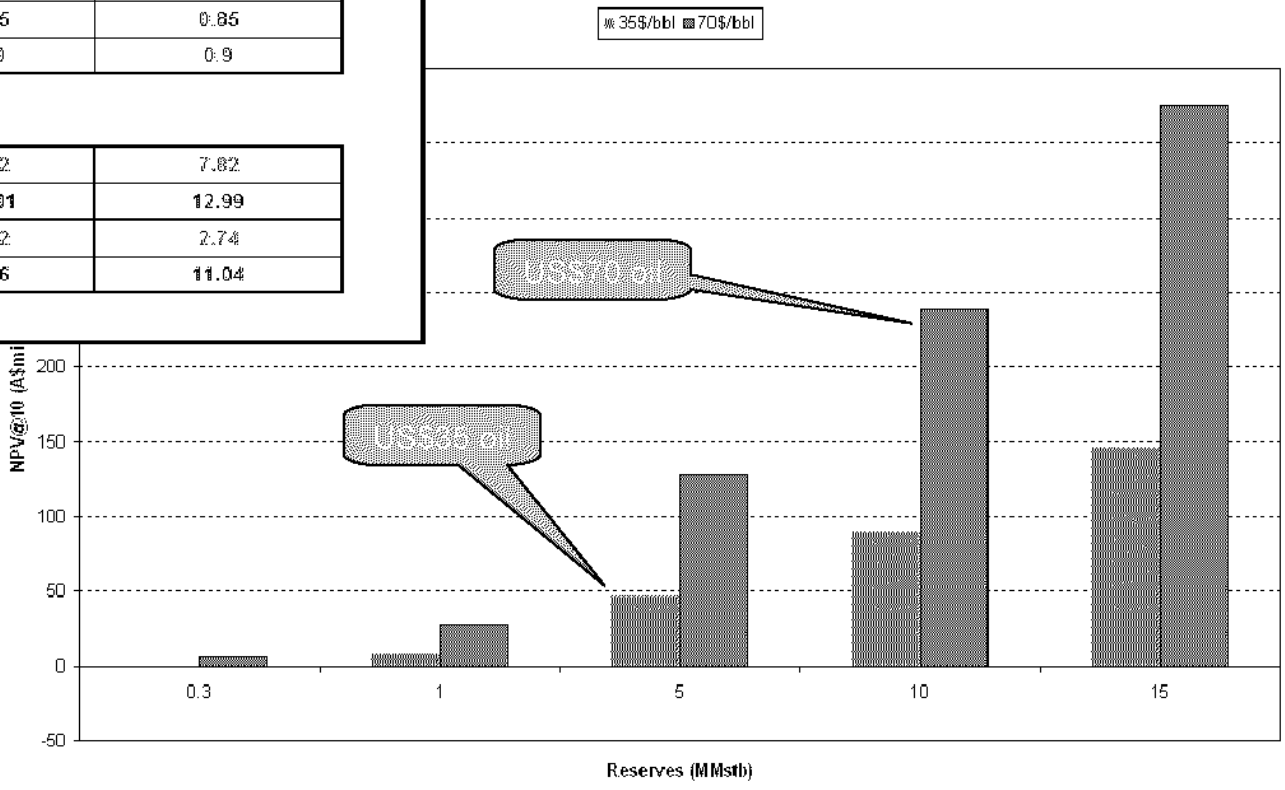
# Gippsland Basin PEP162 Potential Reserves and Value

## PEP 162 VOLUMETRICS

| Prospect | Raniformis | Megascolides |
|---|---|---|
| **Reserves estimate variables** | | |
| Interval | TC | TC |
| Area (sq. km.) | 4.50 | 5.31 |
| No. Reservoir-seal pairs | 1 | 1 |
| Ave. reservoir net thickness (m) | 4 | 4 |
| Ave. porosity | 0.13 | 0.13 |
| Oil saturation | 0.6 | 0.6 |
| Gas saturation | 0.85 | 0.85 |
| Oil Bo | 1.2 | 1.2 |
| Gas FVF | 174 | 174 |
| Oil recover factor | 0.35 | 0.35 |
| Gas recovery factor | 0.85 | 0.85 |
| Fill factor estimate | 0.9 | 0.9 |
| **Volumetrics (oil or gas)** | | |
| Oil in place (mmbls) | 6.62 | 7.82 |
| Gas in place (bcf) | 11.01 | 12.99 |
| Oil reserves (mmbls) | 2.32 | 2.74 |
| Gas reserves (bcf) | 9.36 | 11.04 |

**Karoon's Gippsland program could provide an excellent strategic fit with the Browse Basin operations, where early cash flow would support Browse Basin exploration.**

Economics determined for a single stand alone development



# Gippsland Basin PEP162 Drilling program

Century Rig 11 being set up.

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