KAROON
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MEGASCOLIDES-2

PEP 162/EL 4537

WELL COMPLETION REPORT

Volume 1: BASIC DATA (GEOLOGY)

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1. CONTRIBUTORS and CONTROLS

Task	Name	Date
Prepared by:	Catherine Tolliday Technical Assistant	
Prepared and Reviewed by	Ross Tolliday Operations Geologist	
Reviewed by:	Jorg Bein Project Geophysicist	
Approved by:	Mark Smith Exploration Manager	

2. WELL DATA

2.1 Well Index Sheet

Well Name:	Megascolides-2
Permit:	PEP 162/ EL 4537
Basin:	Western onshore Gippsland Basin of Victoria, Narracan Trough
Country:	Australia
Interests:	Karoon Gas Australia (100%)
Operator:	Karoon Gas Australia
Well Status:	Plugged and Abandoned
Well Type:	Vertical Exploration
Surface Location:	Latitude: 38 Deg.14 Min. 02.228 Sec. Longitude: 145 Deg. 53 Min. 39.158 Sec. Easting: 403 222.5m Northing: 5 767 649.0m Datum: GDA 94 / MGA Zone 55
Drilling Datum Elevations:	Rotary Table: 5.2m above ground level Ground Level: 151m above mean sea level
Casing depth:	9 5/8" @ 508m
Spud Date:	4th January, 2007 @ 14.00 hrs
Kick off date:	9th January, 2007
Date Reached TD:	31st January, 2007 @ 08.45 hrs
Date Abandoned	1st February, 2007
Rig Released:	1st February, 2007
Total Depth (Driller):	2130m MDRT
Total Depth (Logger):	2132.9m MDRT
Max. Well Inc.	8.5 Degrees
Drilling Contractor:	Century Energy Services Pty Ltd
Rig:	Century Rig 11
Rig Type:	Land Rig Rotary Drive
Well Objectives:	The main objective of drilling Megasolides 2 was to fully evaluate the lateral extent and quality of the Crayfish Group equivalent quartzose sandstone reservoir encountered in Megascolides-1.
Karoon Gas Representatives:	Chris Dann, Bruce Pilat, (Drilling Supervisors), David Horner (Well site Geologist)

2.2 Geological Summary

Megascolides-2 was drilled under permit PEP 162 / EL 4537, located within the Western on-shore Gippsland Basin of Victoria. The permit covers 2950 sq. km. The permits are 100 km east of Melbourne. Karoon Gas Pty Ltd (Karoon) is the operator of permits PEP 162 and EL 4537 holding 100% registered interest. Karoon Gas Pty Ltd is 100% owned by Karoon Gas Australia Ltd.

The well was located to be an appraisal of Megascolides-1 which had significant oil shows when drilled in December, 2004. The well is 1.1km east of Megascolides-1, and predicted to be approximately 240m up dip, at the top Crayfish Group equivalent level.

The main objectives of the well were to:

1) Investigate the significance of the shows observed and interpreted in Megascolides-1 by drilling in an up dip location.
2) Determine the lateral extent and vertical thickness of the sandstone reservoir at top Crayfish Formation equivalent level.
3) To investigate any other potential sandstone reservoirs in the well.
4) Obtain high quality logs in a stable well bore and possibly core the sandstone to fully evaluate for porosity, permeability and oil saturation
5) Test the well in the most appropriate way for its productive capacity if all data collected indicates the well is potentially commercial
6) To integrate all acquired information to aid in the overall management and future relinquishment of the permits

The well was drilled to a total depth of 2130mRT (drillers depth) into metasediments of an indeterminate age. The reservoir sands of the Top Crayfish Equivalent were absent.

There was no coring in Megascolides 2.

At total depth there were three wireline logging runs. Run#1 was the super combo comprising the DLL-MLL-SLL-GR-Sonic-SP-Cal-Neutron Density from 496 to 2132m, with the GR to surface. Run#2 was the HMI Dipmeter logged from 960 to 2132m. Run#3 was a Velocity Check Shot Survey.

There were no significant shows or sandstone reservoirs in the well and Megascolides-2 was subsequently plugged and abandoned.

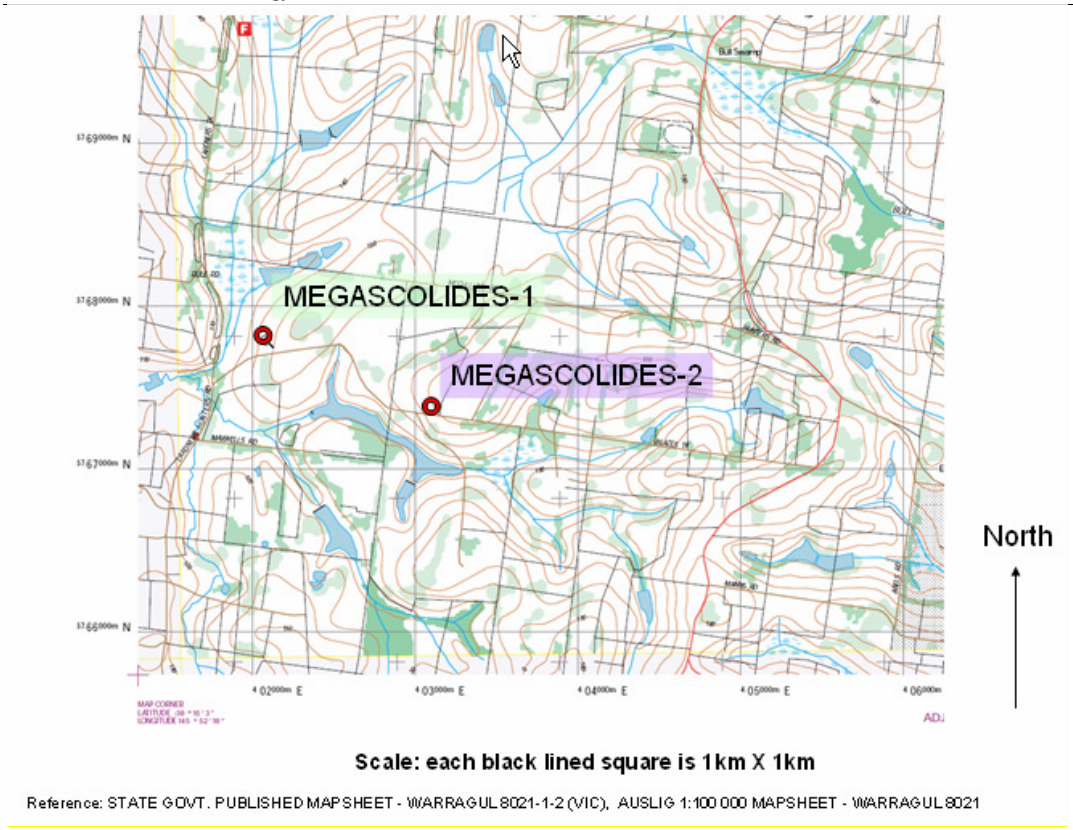

Figure 1 Megascolides-2 Location Map *Megascolides-2 Well Location showing roads (brown), streams (blue), farms (bordered in black) and topography (light brown).*

2.3 Drilling Summary

The Century Rig 11 arrived on location at Megascolides-2 and commenced drilling at 14.00hrs, 4th January 2007. A 12 1/4" (311mm) hole was drilled to 510m. The pipe was POOH and washed back to TD. Then circulated to maintain hole condition while waited on rig equipment to run the 9 5/8" casing.

Rigged up and ran the 9 5/8" casing with the shoe at 506m. Cemented the 9 5/8" casing and conducted a top up cement job. Waited on the cement, slacked off the casing and nippled up the BOPs. Pressure tested the BOPs and casing.

Made up a new 8 ½ " BHA and ran in the hole, tagging the cement at 490m. Drilled the cement, 9 5/8" shoe track and 3m of new hole. Conducted an FIT to 20 ppg EMW. Drilled ahead in 8 1/2" hole to 1421mand pulled out of the hole to change the bit. Rab in the hole with Bit #3 and washed to bottom. Drilled 8 1/2" hole from 1421m to 1578m and changed the bit again. Ran in the hole with bit # 4 and washed to bottom with no fill. Drilled ahead in 8 1/2" hole to 1636m and then worked tight hole. Drilled 8 1/2" hole from 1636m to 1722m and conducted a wiper trip to 1530m.

Ran back in the hole and continued to drill 8 1/2" hole to 1810m. Circulated, dropped a survey and pulled out of the hole for another bit change. Ran in hole with bit #5 and washed from 1784m to bottom. Drilled the 8 1/2" hole to 2018m, circulated a sample, dropped a survey, pumped a slug and POOH. Laid out bit #5 and recovered the survey.

Made up bit #6, RIH, worked tight hole at 1650m, then continued to trip in the hole. Picked up the Kelly and washed to bottom. Drilled ahead to 2065m before changing the bit again. RIH with bit #7. Washed and reamed from 2049m to 2065m. Drilled ahead in 8 1/2" hole to the total depth of 2130m. Reached that total depth at 08:45hrs, 31st January,2007. Circulated bottoms up and conducted a wiper trip to 1250m. Ran back in the hole, circulated and POOH to log.

Rigged up and ran Precision Engineering wireline logs. There were 3 runs. Run#1 was the DLL-MLL-SLL-GR-Sonic-SP-Cal-Neutron Density. Run#2 was the HMI Dipmeter. Run#3 was a Velocity Check Shot Survey

When completed the logging tools were rigged down. The BHA was laid out and the well prepared for plug and abandonment. Pulled the wear bushing, and then ran in the hole with a cement stinger and set cement plugs. Set cement plug#1 from 1840m to 1740m. Set plug#2 from 450m to 600m. Set the surface cement plug#3 from 55m to 5m. Laid out the remaining drill pipe, nippled down BOP, dumped and cleaned the mud tanks and laid out the kelly.

The rig was released at 1400hrs on the 1st February 2007.

3 SAMPLING

3.1 Ditch Cutting Samples

Ditch cutting samples were collected from the shale shakers at regular intervals in the 12 1/4" and 8 ½" hole sections from 30 mMDRT to the total depth of 2130 mMDRT.

The sample interval is summarised in Table 1

Table-1:Ditch Cuttings Sample Intervals	
Depth Range (mMDRT)	***Sample Interval (m)***
30-510	10
510-2130	5

The ditch cuttings samples were washed & dried, then split into 3 sets. The splits were 250grams, 250grams and 50grams respectively. Their distribution is outlined in Table-2.

The ditch cuttings samples descriptions are presented in Appendix 1 as well as a summary in the Geoservices Mudlogging End of Well Report in Appendix 4.

Table-2: Ditch Cuttings Samples and Distribution			
Description	***Approx. Weight (g)***	***Set No.***	***Recipients***
Cuttings- washed & dried	250	1 (5Boxes)	KAROON GAS Australia
Cuttings-washed & dried	250	2 (5 Boxes)	Department of Primary Industry (DPI)
Cuttings-washed & dried sample for "Samplex trays"	50	3 (2 Boxes)	KAROON GAS Australia

3.2 Coring

No coring was performed.

3.3 Sidewall Cores

No side wall cores were taken in this well

4 LOGGING, SURVEYS and TESTING

4.1 Mudlogging Services

Conventional mudlogging services were provided by Baker Hughes Inteq. MudLogging Services for Megascolides 2 commenced from 30m and continued to the total depth of 2130m. Samples were collected at 10m intervals from 30m to 510m and 5m intervals from 510m to 2130m.

The Mudlogging contractor provided 24 hour cover during drilling with 2 mudlogging data engineers. The mudlogging services included:

- Monitoring of drilling parameters, ROP, WOB, Torque etc.
- Catching of lagged samples, washing and drying including supply of all sample bags.
- Monitoring mud pit levels
- Hydrocarbon gas detection (with a digital data set provided at the end of the well).
- Carbon dioxide and hydrogen sulphide gas monitoring.
- Preparation of a mud log with lithology, gas readings, sample fluorescence, drill rate and other significant drilling parameters

See Table 3

A tray was used for onsite sample description then the 50g sample was placed in "Samplex" trays for Karoon records. The well site geologist was responsible for supervising the mudlogging contractors.

Table-3 Drilling & Geological Parameters Monitored

Drilling Data Provided	Geological Data
Rate of Penetration (ROP) / bit depth / block position	Lag time & depth
Total Depth / True vertical depth	Total Hydrocarbon gas
Weight on hook (Hook load)	Chromatograph analysis (C1-C5)
Weight on bit	Calcimetry measurement
RPM	
Torque	
Pump pressure / casing pressure	
Mud flow (in/out)	
Mud pit volume monitoring	
Bit performance Monitoring	
Tripping data	

Baker Hughes Inteq were responsible for an End of Well Report, including the Formation Evaluation Log (Master Mudlog) and Drilling Data Plot Log. This is included in Appendix 4.

The data is also available digitally in Enclosure 1.

4.2 Wireline Logging Services

A standard suite of wireline logs were run by Precision Engineering from TD of the 8.5" hole covering the reservoir interval and to the casing point. The GR was run to surface.

Run 1: DLL-MLL-SLL-GR-Sonic-SP-Cal-Neutron Density (S-Combo)

Run 2: HMI (Dipmeter)

Run 3: Velocity Check Shot Survey

A summary of the logs recorded is found below in Table 4.

Table 4 Summary of Wireline Runs

Run No.	*Tool String*	*Depth Interval (m RT) Main Pass*	*Depth Interval (m RT) Repeat Pass*	*Date*	*Comments*
1	DLL-MLL-SLL-GR-Sonic-SP-Cal-Neutron Density	496.7-2132.0 (GR, Casing Shoe to surface)	2030-2090m	1st February 2007	GR to surface (10m)
2	HMI (High Resolution Micro Imager - Imaged Dip Log)	960-2132m		1st February 2007	
3	Velocity Check Shot Survey	15m to 2130m	15m to 2130m	1st February 2007	

Hole and casing details, mud properties and temperature data relevant to the evaluation of the wireline logs in the well are presented in Table 5

Table 5 Hole and Casing details, Mud and Temperature Data	
Date: 4th January to 1st February 2007	
Hole and Casing Details	
Ground Level	151.0m above sea level
Hole Size	216 mm (8.5 in)
Total Depth (Driller)	2130 m
Total Depth (Logger)	2132.85m (1st run)
Casing size and depth (Driller)	244mm (9.625 in) @ 506m
Casing size and depth (Logger)	244mm (9.625 in) @ 506.7m
Mud Data (logging runs)	
Rm @ measured temperature	0.249 ohm-m@ 25.0 degC
Rmf @ measured temperature	0.211 ohm-m@ 25.0 degC
Rmc @ measured temperature	0.286 ohm-m@ 25.0 degC
Rm @ maximum recorded temperature	0.107 ohm-m@ 87.0 degC
Mud Type	KCl/ Polymer/ PHPA
Mud Weight	9.45 ppg (from drilling report 34)
Solids Content	7.4%
KCl equivalent	1.8%
Salinity	11,500 mg/l (ppm)
PV	19cp
YP	31lb/100ft2
Vis	63 sec/qt
PH	9.8
Fluid Loss	5.6 ml/30min
Temperature Data	
Maximum Recorded Temperature	87.0 DegC

A summary of the wireline log prints and formats available from Megascolides-2 is presented in Table 6 below

Table 6 Available Wireline Log Prints

Run Number	*Log Print*	*Scale*	*Depth Interval (mMDRT*
1	DLL-MLL-SLL-GR-Sonic-SP-Cal-Neutron Density (Super combo)	1:200	10-2132.0m
1	DLL-MLL-SLL-GR-Sonic-SP-Cal-Neutron Density (Super combo)	1:500	10-2132.0m
1	MDN-MPD (Compensated Neutron-Photo Density)	1:200	496.7-2132.0m
1	MDN-MPD (Compensated Neutron-Photo Density)	1:500	496.7-2132.0m
1	MSS-MDL-MMR (Dual Laterlog-MicroLaterlog-Sonic)	1:200	496.7-2132.0m (GR to Surface)
1	MSS-MDL-MMR (Dual Laterlog-MicroLaterlog-Sonic)	1:500	496.7-2132.0m (GR to Surface)
1	Temperature Log	1:200	506-2132.0m
1	Full Wave Form Sonic (3' and 4 ')	1:200	496.7-2132.0m
1	Full Wave Form Sonic (5' and 6 ')	1:200	496.7-2132.0m
2	HMI Dipmeter	1:200	960-2132m

4.3 Testing Summary

No wireline tests or DSTS were performed

5 BIOSTRATIGRAPHIC DATA

5.1 Palynology

Palynological analyses was performed on twenty-one cutting samples from 35m to 2130m in Megascolides-2.

Overall, an average of 16 grams of the cuttings were processed to give mostly high organic yields containing moderate to high concentrations of palynomorphs. Preservation of the palynomorphs is fair to good at the top of the succession, but subsequently declines with depth and becomes extremely poor below 2000m.

A basic report is contained in Appendix-2.

A complete interpretative report is contained in “Volume 2 Well Completion Report-Interpretative Data”

6 GEOCHEMICAL DATA

6.1 Geochemistry

Geotech of Perth performed basic geochemical analysis of cuttings samples from Megascolides-2. Twenty Three (23) samples were screened by performing TOC content. Nineteen (19) were then deemed suitable for rock-eval pyrolysis.

Vitrinite Reflectance analysis indicating the maturity of the samples was performed on 19 samples

A full set of basic data is in Appendix 3.

Any interpretation of the data will be found in “Volume 2 Well Completion Report-Interpretative Data”

APPENDIX-1

DITCH CUTTINGS
&
SHOW DESCRIPTIONS

APPENDIX-2

BASIC

PALYNOLOGY REPORT

APPENDIX-3

BASIC

GEOCHEMISTRY REPORT

APPENDIX-4

GEOSERVICES MUDLOGGING

END OF WELL REPORT

APPENDIX-5

VELOCITY SURVEY

REPORT

ENCLOSURE-1

CD containing Digital Data