



KAROON Gas Australia Ltd

MEGASCOLIDES-1 ReEntry-ST1

PEP 162/EL 4537

WELL COMPLETION REPORT

Volume 1: BASIC DATA (GEOLOGY)

**Prepared by:
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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-1 RE-ST1
(Re-entry & Sidetrack of Megascolides-1)

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

Surface Location: Latitude: 38 Deg.13 Min. 52.064 Sec.
Longitude: 145 Deg. 52 Min. 55.443 Sec.
Easting: 402155.9m
Northing: 5 767949.5m
Datum: MGA / GDA 94 Zone 55

Drilling Datum Elevations: Rotary Table: 5.2m above ground level
Ground Level: 120m above mean sea level

Casing Depth: 9 5/8" @ 508mRT

Spud Date: 14th December, 2006 (Re-entered)

Kick Off Date: 19th December, 2006

Date Reached TD: 26th December, 2006 @ 10.45 hrs

Date Suspended: 28th December, 2006

Rig Released: 28th December, 2006

Total Depth (Driller): 1980m MDRT

Total Depth (Logger): 1974.55m MDRT

Max. Well Inc. 4.25 Degrees

Drilling Contractor: Century Energy Services Pty Ltd

Rig: Century Rig 11

Rig Type: Land Rig Rotary Drive

Well Type: Re-entry and Side Track Exploratory / Appraisal

Well Objectives: To cut a core in a sidetracked hole through the Top Crayfish equivalent reservoir zone previously encountered in Megascolides-1. Analyse the core as soon as possible and run wireline logs to decide if well should be tested.

Karoon Gas Representatives: Chris Dann, Brian Holland, Bruce Pilat (Drilling Supervisors), David Horner (Well site Geologist)

2.2 Geological Summary

Megascolides-1 RE_ST1 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, Victoria. 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.

Megascolides-1 RE_ST1 (Re-entry & Sidetrack) commenced at 08:45 hrs on the 14th of December 2006. The main object of the drilling was to re enter the Megascolides-1 well (drilled in December 2004) and fully evaluate the Crayfish Group equivalent quartzose reservoir previously discovered to contain hydrocarbon indications.

After re entry and cleaning out, a cement plug was set and prepared for kicking off. The sidetrack was initiated at 1635m.

At 1881mRT, (prognosed to be approximately 2m above the reservoir), core#1 was cut from 1881 to 1889m. The barrel jammed and core#2 was cut from 1889m to 1895m.

The core can be stratigraphically subdivided into 4 intervals:

1. From 1881 to 1883.4m (2.4m) the interval consists of dark grey to brownish grey claystone with minor inter laminated light to medium grey very fine sandstone.
2. From 1883.4 to 1887.6m (4.2m) the core is light to medium grey to light brown grey, very fine to very coarse sandstone with black, argillaceous coaly stringers.
3. From 1887.6 to 1890.03m (2.43m) the core is light to medium grey to light brown grey, very fine to medium sandstone with minor dark grey to black shale interbeds.
4. From 1890.03 to the base of the core at 1892.61 (2.58m) the interval was massive shale that is very dark grey to black and dark brownish grey, hard and sub fissile.

Details of the core and any associated fluorescence are in Appendix 2.

Coring operations were completed and the well drilled to a total depth of 1980mRT into the weathered volcanics of the Duck Bay Formation.

Two wireline logging runs were conducted at total depth. Run # 1 was the DLL-SLL-MLL-GR-CSS-PDS-CNS-SP-CAL. Run # 2 was the MFT-GR (formation pressure tester). 16 pressure tests were attempted from 1796.7m to 1889.5mRT. There were 11 tight tests and 5 could not achieve a seal.

The well was not tested and subsequently was plugged and abandoned.

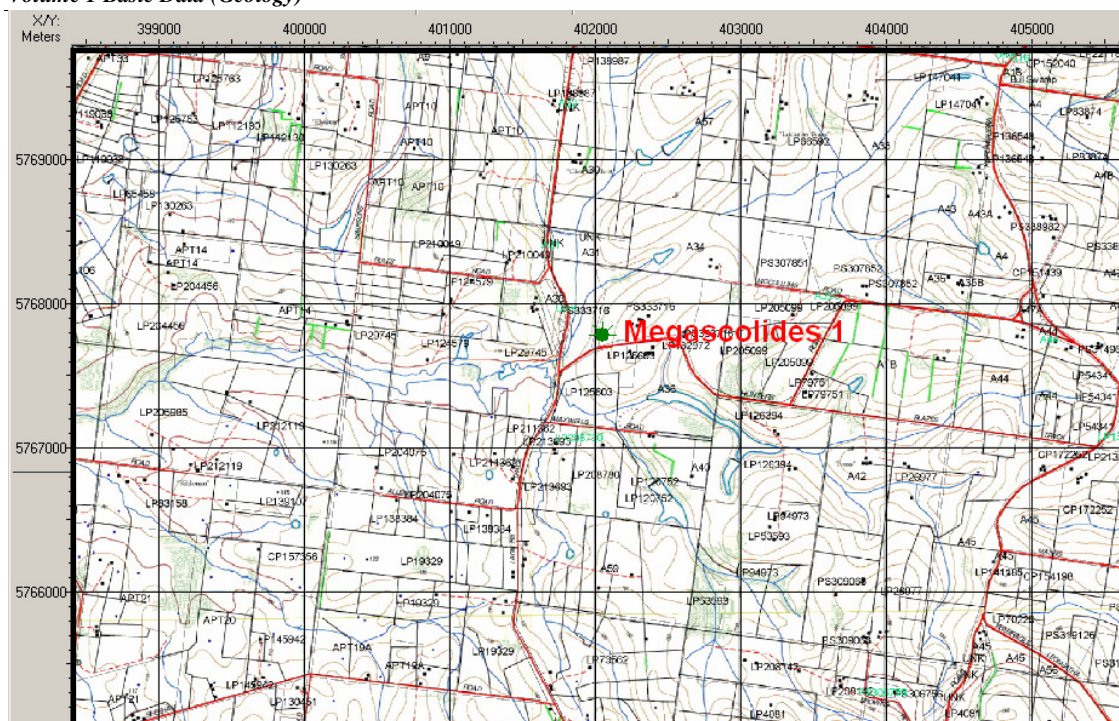


Figure 1 Megascolides-1 Location Map *Megascolides-1 Well Location showing roads (red), streams (blue), farms (bordered in black) and topography (brown).*

2.3 Drilling Summary

The Century Rig 11 arrived on location at the Megascolides-1 drill site for re-entry and sidetracking of the original hole, and commenced drilling out the surface plug at 08:45 hrs, 14th December 2006. A fresh water mud was used to drill out and ream the 9 5/8" cased hole section.

The top cement plug was tagged at 6m and drilled to 41.9m. The casing was then pressure tested to 1400 psi. The drill pipe was washed and reamed to 534 m, i.e. 26m past the original 9 5/8" shoe at 508m in Megascolides-1. A LOT was conducted to 16.8 ppg EMW. The drill string was pulled to change the BHA.

Washing and reaming continued in 8 1/2" open hole from 534m to 557 m, encountering hard spots while drilling the cement plug. Drilling continued from 557m to 619m.

The hole was washed and reamed through stale mud to 1766m, then the well circulated and conditioned with fresh mud at this depth. A hi-vis slug was pumped, the pipe was pulled and a multishot survey was conducted.

Next a cement stinger was run and a 100m long cement kick off plug was placed in the hole from approximately 1620 to 1720m. The stinger was pulled and a new BHA was run to polish the top of the plug. After waiting on the cement, ran in the hole and polished the top of the kick off plug from 1622m to 1635m. Pulled out of the hole and picked up the steering assembly, with the bent sub set to 1.5 deg.

Ran in the hole and commenced sliding to kick off from 1635m MDRT. Continued time drilling to 1659m MDRT with a survey at 1638m MDRT being 3 deg at 70 deg azi. Circulated and POOH to lay out directional assembly.

Ran in the hole with a PDC bit and drilled ahead in 8 1/2" hole with surveys. Drilled to 1850m MDRT before working some tight hole on a connection. The drill string became stuck but it was jarred free, worked the pipe and cleaned the hole. The well was then drilled to core point at 1881mMDRT. The mud was circulated and conditioned by reducing the mud weight to 9 ppg. A wiper trip was performed back to the kick off point and it was OK. POOH to pick up the core barrel and pressure tested the casing to 2500psi.

Made up the core barrel, ran in the hole and cut core#1 from 1881 to 1889m MDRT (cut 8m). The barrel jammed and was pulled. Recovered 6.6m (82.5%) of core. Made up core barrel # 2, ran in the hole and cut core#2 from 1889 to 1895m MDRT. POOH and retrieved the core. Recovery from core#2 (including stump from core#1) was 5m, from 1887.6m to 1892.6, (83.5%).

Picked up a packed drilling assembly and RIH. Reamed out core rat hole from 1881 to 1895m. Drilled ahead to the total depth of 1980m MDRT at 1100hrs on 26/12/06. Pumped a slug, circulated and POOH for logging.

Rigged and ran Precision Engineering wireline log#1 DLL-SLL-MLL-GR-CSS-PDS-CNS-SP-CML. Then ran log#2 the MFT-GR.

Rigged down the logging tools, laid out BHA and prepared for plug and abandonment. Pulled the wear bushing, and then ran in the hole with a cement stinger to 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, nipped down BOP, dumped and cleaned the mud tanks and laid out the kelly. The rig was released at 1600hrs, 29/12/06 and prepared for the move to Megascolides-2.

3 SAMPLING

3.1 Ditch Cutting Samples

Ditch cutting samples were collected from the shale shakers at regular intervals in the 216mm (8 ½”) hole sections from 1645 mMDRT to the total depth of 1980 mMDRT.

The sample interval is summarised in Table 1

Table-1:Ditch Cuttings Sample Intervals	
<i>Depth Range (mMDRT)</i>	<i>Sample Interval (m)</i>
1645-1980	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 and Show 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			
<i>Description</i>	<i>Approx. Weight (g)</i>	<i>Set No.</i>	<i>Recipients</i>
Cuttings- washed & dried	250	1 (2 Boxes)	KAROON GAS Australia
Cuttings-washed & dried	250	2 (2 Boxes)	Department of Primary Industry (DPI)
Cuttings-washed & dried sample for “Samplex trays”	50	3 (2 Boxes)	KAROON GAS Australia

3.2 Coring

Coring was planned to commence approximately 2 metres above the anticipated reservoir depth based on correlation with the offset well 10m away.

The coring operation commenced at 1881.0mRT with core#1. The barrel became jammed at 1889m and was POOH. 6.6m (82.5%) was recovered. Core#2 was cut from 1889.0m to 1895.0m. 5.5m of core (including the stump from core#1) was recovered (83.5% recovery). The core was recovered in “half moon” aluminium sleeves. An ACS technician cut core plugs onsite and they were dispatched immediately to ACS in Brisbane for analyses. This core analysis data was used in conjunction with the petrophysical Interpretation to make a decision on testing.

A full core description and core log is available in Appendix 2. Routine Core analysis and Petrology is available in Appendix 3.

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 1 RE-ST1 commenced from the start of the original hole to 1635m (Kick off point) and continued to the total depth of 1980m. Samples were collected at 5m intervals from 1640m to 1980m MDRT.

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

The mud loggers took samples at 5m intervals from the beginning of the sidetrack (or where new hole was penetrated) to Total Depth according to the sampling programme. 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.

Mud loggers assisted with core recovery, sampling and description. At the completion of the well, washed and dried samples were distributed as per table 2 in 3.1.

Table-3 Drilling & Geological Parameters Monitored

Drilling Data Provided	Geological Data
Rate of Penetration (ROP) / bit depth / block position	Lag time & depth of cutting samples
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 was 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.

4.3 Wireline Logging Services

A standard suite of wireline logs were run by Precision Engineering from TD of the 8 1/2" hole covering the reservoir interval, up to 50m above the kick off point for the sidetracked hole.

Run 1: The first run by Precision Engineering consisted of a combination of Gamma Ray, Deep/Medium/Shallow Resistivity, Density, Neutron and Full Wave Sonic (DLL-SLL-MLL-GR-CSS-PDS-CNS-SP-Cal).

Run 2: The final run was the compact formation tester (MFT-GR).

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

Table 4 Summary of Wireline Runs					
<i>Run No.</i>	<i>Tool String</i>	<i>Depth Interval (m RT) Main Pass</i>	<i>Depth Interval (m RT) Repeat Pass</i>	<i>Date</i>	<i>Comments</i>
1	DLL-SLL-MLL-GR-CSS-PDS-CNS-SP-Cal. (Super combo)	1585.0 - 1973.7	1870.0-1930.0	27 th December 2006	
2	MFT-GR (Pressure tester)	1796.7-1889.50		27 th December 2006	GR tie in at 1830m and 1900m

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: 14 th to 27 th December, 2006	
Hole and Casing Details	
Ground Level	120.0m above sea level
Hole Size	216 mm (8.1/2")
Total Depth (Driller)	1980 m
Total Depth (Logger)	1974.55m (1 st run)
Casing depth (Driller)	244mm (9 5/8") @ 504m
Casing size and depth (Logger)	Not logged
Mud Data (logging runs)	
Rm @ measured temperature	0.269 ohm-m@ 25.0 degC
Rmf @ measured temperature	0.241 ohm-m@ 25.0 degC
Rmc @ measured temperature	0.296 ohm-m@ 25.0 degC
Rm @ maximum recorded temperature	0.127 ohm-m@ 77.0 degC
Mud Type	KCl Polymer
Mud Weight	9.05 ppg (From Drilling Report 13)
Solids Content	4%
KCl Equiv.	2%
Salinity	12900 mg/l (ppm)
PV	20cp
YP	17lb/100ft ²
Vis	53 sec/qt
PH	9.8
Fluid Loss	6.0 ml/30min
Temperature Data	
Maximum Recorded Temperature	77.0 DegC

A summary of the wireline log prints and formats available from Megascolides-1 RE-ST1 is presented in Table 6 below

Table 6 Available Wireline Log Prints			
<i>Run Number</i>	<i>Log Print</i>	<i>Scale</i>	<i>Depth Interval (mMDRT)</i>
1	DLL-SLL-MLL-GR-CSS-PDS-CNS-SP-Cal. (Super combo)	1:200	1585.0-1973.7
1	DLL-SLL-MLL-GR-CSS-PDS-CNS-SP-Cal. (Super combo)	1:500	1585.0-1973.7
1	MSS-MDL-MMR (Dual Laterolog-microlaterolog-sonic)	1:200	1585.0-1973.7
1	MSS-MDL-MMR (Dual Laterolog-microlaterolog-sonic)	1:500	1585.0-1973.7
1	MDN-MPD (compensated neutron-photodensity)	1:200	1585.0-1973.7
1	MDN-MPD (compensated neutron-photodensity)	1:500	1585.0-1973.7
2	MFT-GR (Formation Tester)	1:200	1796.7-1889.5
1	Temperature Log	1:200	1585.0-1973.7

4.5 Wireline Testing Summary

An MFT pressure testing log run was made on 27th December, 2006.

Sixteen (16) depths were tested from 1796.7m to 1889.5m. Eleven (11) depths resulted in tight tests with the seal being lost on two and no seal could be obtained at 5 of the depths. No good tests were achieved.

Table 7 Summary of MFT tests									
Test	Depth	P hyd before	P d/down	P form	D/down	Rate	P hyd after	DD	Remarks
No.					Vol			Mobility	
	(m)	(psi)	(psi)		cc	cc/s	(psi)	mD/cP	
1	1796.7	2776.5	n/a	n/a	5	0.50	2776.3	n/a	TIGHT TEST
2	1798.0	2778.4	n/a	n/a	5	0.50	2778.3	n/a	TIGHT TEST
3	1806.5	2791.4	n/a	n/a	5	0.50	2791.2	n/a	TIGHT TEST
4	1831.2	2828.9	n/a	n/a	5	0.50	2828.7	n/a	TIGHT TEST
5	1833.0	2831.6	n/a	n/a	5	0.50	2831.4	n/a	TIGHT TEST
6	1882.5	2906.6	n/a	n/a	5	0.50	2906.4	n/a	TIGHT TEST
7	1883.6	2908.2	n/a	n/a	5	0.50	2908.2	n/a	NO SEAT
8	1883.8	2908.6	n/a	n/a	5	0.50	2908.6	n/a	NO SEAT
9	1884.5	2909.6	n/a	n/a	5	0.50	2909.6	n/a	TIGHT TEST
10	1884.6	2909.8	n/a	n/a	5	0.50	2909.8	n/a	NO SEAT
11	1885.3	2910.8	n/a	n/a	5	0.50	2910.9	n/a	TIGHT TEST – LOST SEAL
12	1886.0	2911.8	n/a	n/a	5	0.50	2911.6	n/a	TIGHT TEST – LOST SEAL
13	1886.2	2912.3	n/a	n/a	5	0.25	2912.3	n/a	NO SEAT
14	1888.0	2914.9	n/a	n/a	5	0.25	2914.8	n/a	TIGHT TEST
15	1889.3	2916.9	n/a	n/a	5	0.25	2916.7	n/a	TIGHT TEST
16	1889.5	2917.2	n/a	n/a	5	0.25	2917.2	n/a	NO SEAT

Basic Data regarding the MFT run can be found on the basic wireline logs.

5 BIOSTRATIGRAPHIC DATA

5.1 Palynological Data

No new palynological analysis was done, however a re interpretation of pre existing slides was done and the results are in the Interpretative Well Completion Report; Volume 2.

APPENDIX-1

DITCH CUTTINGS
&
SHOW DESCRIPTIONS

APPENDIX-2
CORE DESCRIPTIONS
&
CORE LOG

APPENDIX-3

ROUTINE CORE ANALYSES
&
PETROLOGY

APPENDIX-4
GEOSERVICES MUDLOGGING
END OF WELL REPORT

ENCLOSURE-1

CD containing Digital Data