



Karoon Gas Pty Ltd

DRILLING PROGRAM
FOR
MEGASCOLIDES 1 RE - ST1

Onshore Gippsland 2006-07



Upstream Petroleum Controlled Document No. 34461-DR-01-0001

Revision 0, 10th October 2006

I: DOCUMENT CONTROL

This is a controlled document. Should the recipient (user) become aware of any changes or corrections that are required please photocopy this page and the relevant page(s) to be changed, note the corrections and deliver them to:

Terry Greaney
Drilling Project Leader
Upstream Petroleum
Level 3, 342 Flinders Street
Melbourne, 3000
Tel: (613) 8625 8544
Fax: (613) 8625 8598
Mob: +61 416 001237

II: DOCUMENT REVISIONS



The Drilling Project Leader Upstream Petroleum is responsible for controlling and ensuring any revision of this document. Responsibility for managing change in this document is detailed within the UP Document and Data Control Procedure (UP/00/SP/DOC/PC01).

This document shall be revised in the following circumstances:

- Following a serious incident or near miss;
- On discovery of a significant new health or safety risk;
- Significant change is required to the drilling program .

REVISION HISTORY

0	10/10/06	First Edition	TG	LB	TG
B	9/10/06	Second Draft	TG		
A	9/10/06	First Draft	TG		
Rev	Date	Description	By	Chkd	App

	<p style="text-align: center;">DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1 KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	---	---

III: **APPROVALS**

This Drilling Program has been reviewed by Upstream Petroleum Pty Ltd and Karoon Gas Pty Ltd and is approved for the drilling of the Megascalides-1 (re-entry & sidetrack).

Approval: Karoon Gas Pty Ltd

NAME	Signature	Date
Lino Barro		
Karoon Gas Engineering Manager		

Approval: Upstream Petroleum Pty Ltd

NAME	Signature	Date
Greg Hogan		
UP Onshore Drilling Manager		
Terry Greaney		
UP Drilling Project Leader		
Phil Harrick		
UP HSEQ & Training Manager		

IV: DISTRIBUTION

Copy #	Location	Recipient
1	Karooon Gas	Engineering Manager
2	Upstream Petroleum	Drilling Project Manager
3	Upstream Petroleum	HSEQ Manager
4	Upstream Petroleum	File Copy
5	Department of Primary Industry	Submission Copy
6	Century Drilling	Operations Manager
7	Century Drilling	HSE Manager
8	Century Drilling	Rig Manager
9	Century Drilling	File – Drilling Contractor
10	Baker Hughes	Duty Mud Logger
11	Halliburton	Staff Engineer (Cementing)
12	Halliburton	Staff Engineer (Drill Bits)
13	TBA	Directional Driller
14	RMN Drill Fluids	Fluid Designer
15	RMN Drill Fluids	Wellsite Mud Engineer
16	Precision Logging	Engineer
17	Corpro	Coring Engineer
18	Pacific Oilfield Resources	DST Engineer
19	Spare	
20	Spare	
21	Spare	
22	Spare	
23	Spare	

V: GLOSSARY

Term	Definition
BOP	Blowout preventer
Drilling Contractor/Service Provider	Any company or individual directly contracted to UP or KAROON for the purposes of conducting an activity or providing a service in connection with the operations referenced in this Operations Plan
JSEA	Job Safety & Environment Analysis
Procedures	Means a safety management plan, standard operating procedures, JSEAs and work instructions prepared by UP, Drilling Contractor/Service Providers necessary to perform the activities required for the Services in a safe and environmentally sound manner and in accordance with all applicable legislation and in conformity with this Program.
PTW	Permit to Work system
Karoon / KGPL	Karoon Gas Pty Ltd
Responsible Person	Person whose role it is to make an aspect of the project happen by organising and directing the various field activities.
Site	The place where a drilling activity is being conducted on a KAROON operated petroleum tenure.
SOP	Standard Operating Procedure
UP	Upstream Petroleum Pty Ltd
Wellsite Representative	UP or KAROON employee or contractor appointed to manage KAROON's day to day activities at and between the well sites.

TABLE OF CONTENTS

I: DOCUMENT CONTROL.....	2
II: DOCUMENT REVISIONS.....	2
III: APPROVALS.....	3
IV: DISTRIBUTION.....	4
V: GLOSSARY.....	5
TABLE OF CONTENTS	6
INTRODUCTION	10
INTRODUCTION	10
1.1 Background	10
1.2 Objective.....	10
1.3 Drilling Program.....	11
1.4 Sub-contractors	12
1.5 Accountability and Responsibility	12
1.6 Project Organisation	13
1.7 Project Data.....	14
1.8 Current Well Status.....	15
1.9 Project Risks.....	16
1.10 Permit to Work System	16
1.11 Driving Risks.....	16
1.12 Travel Management, Landowners & Site Access	16
1.13 Inductions	16
1.14 Pre Tour & Pre Job Meeting.....	16
1.15 Emergency Drills.....	17
1.16 Well Control	17
1.17 Daily Reporting	17
1.18 Daily Meeting	17
1.19 Other HSE Measures.....	17
2 ACTIVITY DESCRIPTION	18
2.1 Rig Inspection	18

2.2	Briefing on Site Hazards	18
2.3	Site Preparation	18
2.4	Pre- Installation of Conductor, Rathole & Mousehole	19
2.5	Rig Mobilisation & Rig Up	19
2.6	Pre-spud Meeting, Hazard Hunt.....	19
2.7	Nipple Up & Testing of BOPs.....	19
2.8	Drill Rathole & Mousehole.....	20
2.9	Drill out Surface Cement Plug.....	20
2.10	Drill out Cement Plug at Casing Shoe.....	21
2.11	Leak off test.	21
2.12	Clean out 8.5" hole.....	21
2.13	Perform Magnetic Multi Shot Survey.....	21
2.14	Set Kick Off Plug.....	22
2.15	Kick off sidetrack.....	22
2.16	Drill to core point.....	22
2.17	Cut Core	22
2.18	Drill to TD.....	23
2.19	Log Well & take Pressures.....	23
2.20	Condition hole for Drillstem Test	23
2.21	Drillstem Test.....	23
2.22	Recover DST Assembly	24
2.23	Condition hole for running casing.....	24
2.24	Run 7" Production Casing.....	24
2.25	Cement Production Casing	25
2.26	Land Casing slips / Suspend Well.....	25
2.27	Release Rig	25
3	SPECIALIST PROGRAMS.....	26
3.1	Mud Program	26
3.2	Drill Bit & Hydraulics Program.....	26
3.3	Directional Program & BHA.....	26
3.4	Surveys.....	27
3.5	Mud Logging & Core Handling	27

3.6	Open Hole Testing.....	28
3.7	Casing Program.....	29
3.8	Cement Program	29
3.8.1	Kick Off Plug.....	29
3.8.2	Cementing Production Casing	29
3.8.3	P & A Plugs	29
3.9	Logging Program	29
3.10	Coring.....	30
3.11	Completion	30
3.12	Abandonment	30
4	EQUIPMENT.....	31
4.1	Drilling Rig	31
4.2	Coring.....	31
4.3	Drillstem Testing.....	31
4.4	Equipment & Services List	31
	APPENDIX 1 – CURRENT WELL STATUS (SUSPENSION REPORT).....	33
	APPENDIX 2 – CURRENT WELL STATUS (WELLHEAD).....	34
	APPENDIX 3 – CURRENT WELL STATUS (SURFACE CASING).....	35
	APPENDIX 4 – CURRENT WELL STATUS (DEVIATION).....	36
	APPENDIX 5 – DRILLING VS TIME CURVE.....	37
	APPENDIX 6 – DIRECTIONAL TRAJECTORY	38
	APPENDIX 7 – GEOLOGICAL PROGNOSIS.....	39
	APPENDIX 8 – RESERVOIR SECTION	40
	APPENDIX 9 – CASING DESIGN.....	41
	APPENDIX 10 – EMERGENCY CONTACTS	42
	Operations Contact Numbers.....	42
	Drilling Operations	42
	Karooon Gas Limited	42
	Government Contact Numbers.....	43
	Contractor Contact Details	44

Emergency Contact Numbers (subject to confirmation)	48
APPENDIX 11 – SUMMARY OF CENTURY STANDARD OPERATING PROCEDURES & HSE SITE MANUAL	53
APPENDIX 12 – CORING PROCEDURES	54
APPENDIX 13 – DRILLSTEM TESTING PROCEDURES	55
APPENDIX 14 – WELLHEAD DIAGRAM	56
APPENDIX 15 – WELLHEAD INSTALLATION PROCEDURES	57
APPENDIX 16 HAZARD AND RISK REGISTER (HRR)	58
APPENDIX 17 CENTURY RIG 11 INVENTORY (SUMMARY)	59
APPENDIX 18 MUD PROPERTIES SUMMARY ORIGINAL WELL	60
APPENDIX 19 DIRECTIONAL PROCEDURES	61
APPENDIX 20 MUD RECOMMENDATIONS	62

INTRODUCTION

PEP 162 and EL 4567 are located within the Western on-shore Gippsland Basin of Victoria and covers 2950 and 820 sq. km. respectively. The permits are 100 km east of Melbourne. Karoon Gas Pty Ltd (Karooon) 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.

Upstream Petroleum Pty Ltd (UP) has been appointed as Karoon's field operation contractor. UP is responsible for the project management of all drilling activity during Karoon's 2006-07 drilling program.

1.1 Background

Megascolides 1 was the first deep, modern exploration well to be drilled (Dec., 2004) in the EL4537 and PEP162 permits targeting lower Strzelecki coal deposits for Coal Bed Methane (CBM) exploration and Crayfish Group equivalent alluvial fan sands (Appendix 8) for conventional oil and gas accumulations that had been interpreted by previous seismic mapping (Blackburn, 2002). The Megascolides 1 well is located 14 km south of Warragul, Victoria on the Northern Terrace of the Narracan Trough, which forms part of the northwestern edge of onshore Gippsland Basin.

For CBM exploration, the results of the well proved the presence of gas bearing black coal across the Narracan Trough within Wonthaggi Coal Measure (Strzelecki Group) sediments. However, only a total thickness of 15m of black coal in beds less than 0.5m was penetrated. In the one core sample analyzed the gas content was 100SCF per tonne with an approximate gas saturation of 30%. It was therefore considered that a CBM project would be non-commercial at this location and is not the purpose of this re-entry and sidetrack drilling. An oil show was detected in the Crayfish Group however equipment was not available to test the well which was then suspended by setting cement plugs.

The Megascolides 1 well be re entered, sidetracked and a core cut through the Crayfish Group reservoir zone (see Section 1.2). After drilling sufficient rat hole the well will be logged and, if significant hydrocarbon saturations, porosity and permeability are interpreted, the zone will be open hole drillstem tested.

1.2 Objective

The main objective of re entering the well is to fully evaluate the Crayfish Group equivalent quartzose sandstone reservoir encountered in Megascolides-1. This will be achieved by re entering and sidetracking towards a core point just above the reservoir sandstones. Coring will commence approximately 2m above the expected top of the reservoir sandstone. An 18m core will be attempted. Depending on the recovery and lithology of Core#1 a decision will be made whether to run another barrel before drilling to TD. Sufficient rathole will be required to ensure the wireline logging tools are able to

cover the interval of interest. After interpretation of data from the wireline logging, coring and FRT pre tests a decision regarding open hole drillstem testing will be made.

1.3 Drilling Program

Karooon is proposing to re-enter Megascalides 1 during the period November 06 - December 06 using Century Rig 11.

The wells will be drilled using standard onshore drilling operations and procedures, which include:

- § Drilling and coring with a rotary drilling rig using recirculated non-oil-based muds;
- § Wireline logging of the production holes;
- § Openhole Drillstem testing of the prospective oil zone (flow testing)
- § Cementing of the well casing(s) or abandonment if non-commercial;
- § In the event that hydrocarbons are discovered and the discovery appears commercial, the well will be suspended and cased for later assessment of commercial viability through completion and production testing to be carried out after the drilling rig has left.

The operations proposed during Megascalides 1 RE – ST1 can be summarised as follows

- Upgrade drilling site, flare pit, waste fluid sump and access road
- Mobilise drilling rig & camp (camp to separate site) & Rig Up
- Nipple up & test BOPs / Drill rathole & mousehole (if required)
- Drill out surface plug. Pressure test casing
- Drill out shoe cement plug.
- Clean out hole to cement plug at 1740mRT
- Perform multi shot survey.
- Set kick off cement plug
- Sidetrack well with mud motor & single shot surveys
- Rotary drill 8.5" hole to core point at approx 1883m MDRT
- Cut 18m core
- Drill 8.5" hole to TD (approx 1960m MD RT)
- Log well & run FRT pressure survey
- Perform drillstem test (if required)
- Lay out drillpipe & drill collars
- Run and cement 7" casing (or seek approval for Plug and Abandonment)
- Install casing slips, land casing & suspend well
- Release rig

1.4 Sub-contractors

There are over twelve sub-contractors that have been engaged by UP/KAROON to carry out the works described in this plan. They include:

- Drilling Rig - Century Resources
- Rig Camp – Century Resources (subcontracted to ESS)
- Rig Transport – Century Resources
(subcontracted to Roma Transport & Spikin Transport)
- Wireline – Precision Logging (Weatherford)
- Mud logging – Baker Hughes
- Mud – RMN drilling fluids
- Cementing – Halliburton
- Coring – Corpro (Tasman)
- Core Plugs & Core Analysis (ACS Laboratories)
- Drill Stem Test – Pacific Oil Resources
- Separator – Not Planned
- Surface test lines - TBA
- Directional drilling equipment – Hofco
- Directional drilling personnel – Halliburton or Scientific Drilling
- Drilling jars – TBA
- Drilling stabilisers - TBA
- Drill bits – Halliburton (Security DBS) and others
- Lease preparation – Wayne Notman
- Well head – Wood Group.

1.5 Accountability and Responsibility

UP and the Service Providers all have specific accountabilities and/or responsibilities for the drilling. The following UP personnel have a direct accountability and/or responsibility:

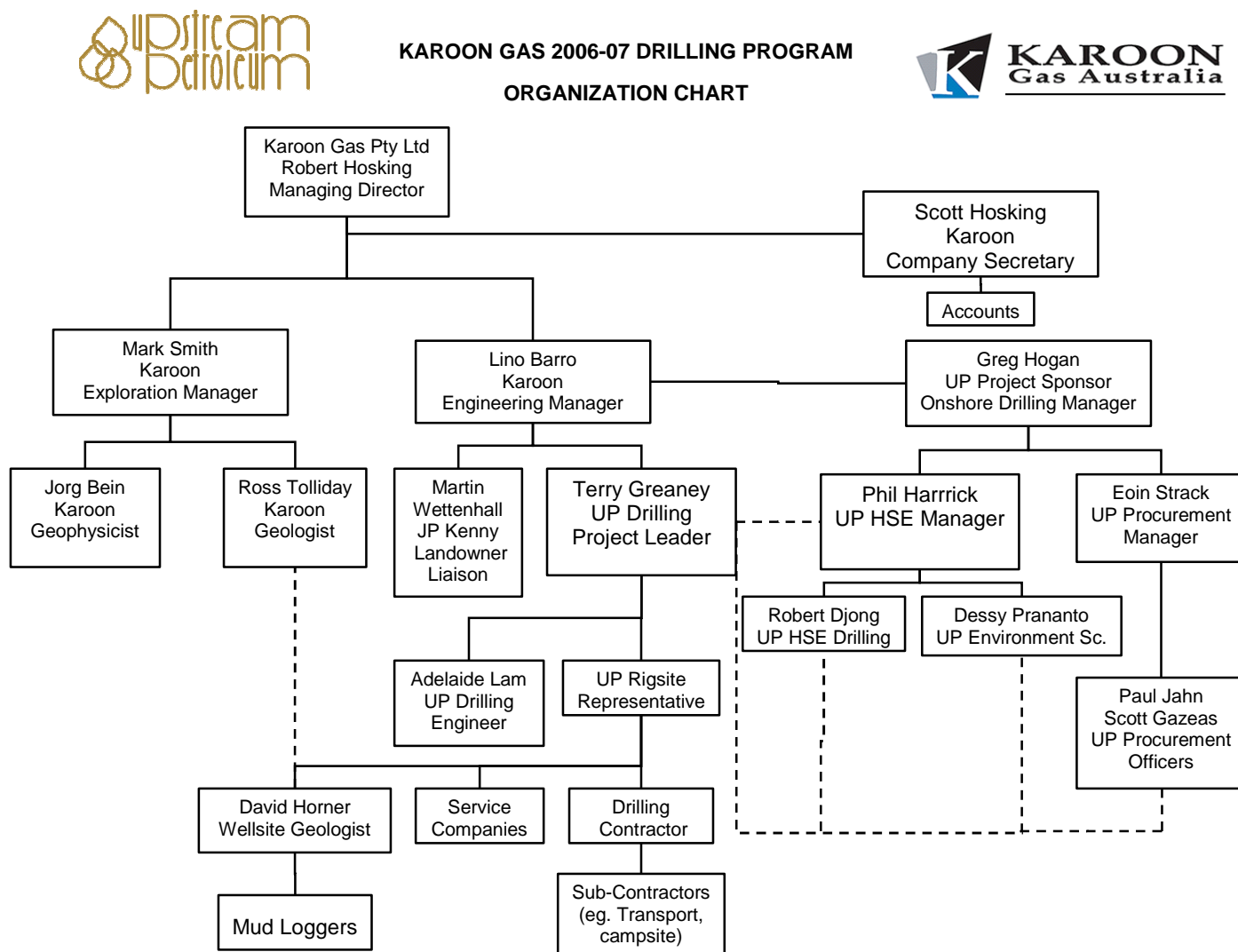
UP Drilling Project Leader– is accountable for the overall safe management of the Karoon Gas 2006-07 Drilling Operation, the technical aspects of the program and for ensuring that appropriate plans are in place for the safe management of the activities during the program.

The **UP Wellsite Representative** is responsible for the technical implementation of the program and implementing this Drilling operation. He reports to the **UP Drilling Project Leader**.

The **Service Providers** have provided UP information on those within their respective organisation who have accountability and/or responsibility for their equipment in relation to the Karoon Gas 2006-07 Drilling Operation. The Drilling Operation site remains under the control of the UP Wellsite Representative, while the respective Contractor and Service Provider equipment remains under their individual control.

1.6 Project Organisation

The KAROON Project Organisation Chart is shown below:



This illustrates the relationships for the project management of the activities.

1.7 Project Data

Name and Address of Operator: Karoon Gas Pty. Ltd.

ACN 056 976 642

Office 7A, 34-38 Lochiel Ave

Mt Martha VIC 3934

Name and Address of Tenement Holder: As above (Karooon Gas Australia Limited through its 100% owned subsidiary Karoon Gas Pty Ltd) hold a 100% registered interest in PEP162/EL4537, within the Western on-shore Gippsland Basin of Victoria.

Well Name: Megascolides-1 Re-entry & Sidetrack

Well type: Appraisal

Position: Onshore

Country: Australia

State: Victoria

Basin: Gippsland Basin, Narracan Trough

Title: PEP162 / EL4537

Property Owner: Wayne Notman

Location: Intersection of Lardner's Track and Hunters Road

Latitude degrees: 38° 13' 52.2" (GDA 94)

Longitude degrees: 145° 52' 55.4" (GDA 94)

MGA (Zone 55) E. 402 155.9 N. 5 767 949.5 (GDA 94)

AMG (Zone 55) E. 402 044.0 N. 5 767765.3

Rig: Century Rig 11

Rig Type: Land Rig Rotary Drive

Drilling Contractor: Century Energy Services Pty. Ltd.

Expected Spud Date: Mid November, 2006.

RT-GL 5.2m (Century 11)

GL-MSL 120m

Kick off point, angle and Az. At 1650mRT, approx.5 degrees maximum angle at azimuth due east of original wellbore

Prognosed Target – Top reservoir at 1884.8m MDRT at point 20m due East (true bearing) of original wellbore

Total Depth Approx. 1960mRT

Target Tolerance Radius of 20m around target

1.8 Current Well Status

Megascolides is a suspended well. There are three cement plugs in the well as shown in Appendix 1. Care should be taken when drilling out the cement plugs in case of a build up of hydrocarbons underneath. Note the cement plug had slumped to 495m RT.

A fresh water mud was used to drill the 8.5" hole section but the current condition of the wellbore is unknown.

A 9-5/8" BTC x 11" 3k bradenhead was installed when the original well was drilled in 2004 and remains in place. Details are shown in Appendix 2.

9-5/8" 36 lb /ft J55 BTC surface casing was run and cemented to 504 m (refer Appendix 3)

Well deviation information is in Appendix 4. Surveys were non-directional.

The Crayfish Group reservoir section is shown in Appendix 7.

The Mud Properties during drilling are in Appendix 18

1.9 Project Risks

The risk assessment for this drilling program was carried out according to UP's Hazard and Risk Management procedure (UP/00/HSEQ/GEN/PC01) which meets the requirements of AS/NZS 4360 Risk Management. Results are in Appendix 16

1.10 Permit to Work System

All operations shall use the Century Drilling Permit to Work system

1.11 Driving Risks

Due to the rural nature of the drilling sites, driving has been identified as a high risk. As a mitigation action for post work fatigue and non-familiarity with the region, a dedicated local driver and bus will be used when practical to transfer drilling & service company personnel between the camp and drill site.

1.12 Travel Management, Landowners & Site Access

For UP & Karoon personnel the UP & Karoon travel management plans must be adhered to.

Contractors and Service Providers' are required to provide evidence to UP that they have assessed the need for a system to be in place for managing employee travel and for managing any employee health issues that may arise from the job.

Prior to the mobilisation of drilling equipment to a site this process will be managed through the Site Visit Request system. After drilling equipment is mobilised the site access process will be managed by the UP wellsite representative and Century's rig manager.

Persons travelling should note that when personnel are mobilised to a non-rig site UP & KAROON are also required to give landowners 24 hr notice of persons accessing the sites.

1.13 Inductions

All site personnel must undergo a site induction. This will consist of a Century or UP site induction at the Karoon wellsite and will be carried out by the UP Wellsite Representative or Century's Rig Manager or a delegate. Visitors to site must undergo a visitor induction.

1.14 Pre Tour & Pre Job Meeting

A Pre-Tour safety and operational briefing will be held prior to each tour (shift change) and shall involve where practical the Rig Manager, the Upstream Rig Representative, tradesmen and service company personnel (such as mud loggers, mud engineers and transport company personnel).

A Pre-Job safety and operational briefing shall occur before each significant task is performed and shall involve all relevant personnel involved or affected by the task. A JSEA shall be performed and documented prior to or during the briefing.

1.15 Emergency Drills

The Upstream / Karoon Wellsite Representative & Century Rig Manager shall be responsible for ensuring emergency response drills are regularly performed. These shall include well control drill, medical response drills, fire drills and other drills. The drills shall cover readiness for the emergency (eg equipment is available, its location is known, emergency equipment is in good working order and personnel are trained in its use).

A list of emergency contacts is in Appendix 10.

1.16 Well Control

Key personnel are required to have a current IWCF or IADC well control certificate.

Pit levels will be monitored at all times (Century & Mud Loggers). Volumes will also be monitored on trips and a trip record kept.

Pump & return rates will be monitored.

A stab valve with appropriate crossover will be available on the rig floor at all times.

1.17 Daily Reporting

A daily drilling report (DDR) and a daily geological report (DGR) will cover the previous 24 hour period to 24:00 hours, with a status report for 06:00 next day. The reports will be faxed or emailed to UP Operations by 07:00 hours each day. An update on depth and operation will also be sent to UP Operations by 16:00 hours each day.

UP will be responsible for timely distribution of these reports to KGPL and the Department of Primary Industries.

1.18 Daily Meeting

The Upstream Drilling Project Leader will coordinate a daily meeting during the week with the rig and with appropriate service providers.

1.19 Other HSE Measures

Other HSE measures are described in 34461-HS-03-0001 Safety Management Plan for Drilling Operations Onshore Gippsland 2006-07 and 34461-HS-04-0001 Environmental Plan for Drilling Operations Onshore Gippsland 2006-07.

2 ACTIVITY DESCRIPTION

2.1 Rig Inspection

This is the first well for Century Rig 11 since February 2006. The rig has been stored in Jackson SW Queensland and major parts of the rig have been undergoing maintenance, upgrade & inspection work in Roma and Brisbane. A detailed rig inspection / acceptance evaluation will be performed prior to commencement of drilling operations. This will comprise:

- a preliminary inspection of the rig at points of origin
- inspection of the rig certification documentation
- a further inspection once the rig is assembled at Megascolides 1
- completion of a “pre-spud” acceptance list
- completion of inspection items classified as “Critical” prior to commencement of drilling operations.
- Preparation of a work schedule by Century Drilling for completion of non-critical inspection items within a timeframe agreed by Upstream & Karoon.

2.2 Briefing on Site Hazards

All personnel are to be briefed on site hazards. A number of hazards were identified with respect to the Megascolides 1 site. These include the presence of existing rathole & mousehole on the lease; a restricted lease size exacerbated by Century Rig 11 having external guylines, rural driving hazards and potential hazards associated with build up of hydrocarbons under the suspension cement plugs.

A Drilling Hazid was completed in September, 2006. Hazards identified are fully detailed in the Karoon SMP & Hazid report (refer Report 34461-HS-03-0001).

2.3 Site Preparation

The Megascolides 1 site was prepared in 2004 for use of Hunt Rig 2. The site has been dormant since the well was suspended and minor restoration work, such as backfilling of the drilling fluid sump & flare pit, has since taken place. Minor works will be required to reinstate and reconfigure the site for Century Rig 11. This will include restoration of the drilling sumps and provision of a flare pit configured to Rig 11, minor increase of lease size to accommodate the Rig 11 guylines, maintenance & upgrade of hardstand areas and provision of a second rig access to improve the safety of transport operations. The existing rathole & mousehole will be backfilled.

2.4 Pre- Installation of Conductor, Rathole & Mousehole

No pre-installation required. Megascalides 1 already has surface casing installed. The rig will also be used to drill / redrill the rathole and mousehole.

2.5 Rig Mobilisation & Rig Up

Early mobilisation of the rig is proposed to allow re-assembly of the rig and completion of rig acceptance inspections.

Century will mobilise the rig using transport contractors experienced in moving rigs. Century and its transport contractors will use a mobilisation plan and consult with local authorities.

Transport and Century personnel are to be adequately briefed prior to mobilisation. Upon arrival, a wellsite induction will be performed. Upstream will have a representative present at Megascalides 1 for the ingress and rig up phase and during any significant inspection & repair activities.

When rigging up personnel are to

- use Century's standard operating procedures (SOP's).
- ensure the rig aligns correctly with the existing surface casing
- consider future placement of service company equipment (eg cement silos, water tanks)

A rig camp will be established at Lardner.

2.6 Pre-spud Meeting, Hazard Hunt

Prior to commencement of drilling operations a pre-spud briefing shall be held.

The rig crew & service company personnel will also perform a Hazard Hunt around the rig and site. Results will be documented and submitted with daily report complete with a risk assessment and a close out plan.

2.7 Nipple Up & Testing of BOPs

Nipple up 11" x 5000 psi BOP and choke manifold (Annular, Pipe Ram, Blind Ram, Drilling Spool, choke & kill lines, choke & kill valves, choke manifold, flare line) onto the 11" 3000 psi casing head. Refer rig inventory in Appendix 17 for details.

Pressure test as follows:

- Pipe & blind rams to a low pressure of 300 psi & high pressure of 2500 psi – 70% of 9-5/8" 36 lb/ft J55 burst (ensure casing head side outlets open when using test plug and open ended drill pipe is used in conjunction with a cup tester).

- Annular BOP to a low pressure of 300 psi & high pressure of 2000 psi (ensure casing head side outlets open when using test plug and open ended drill pipe is used in conjunction with a cup tester)
- Choke & kill lines, choke and kill valves, choke manifold, kelly, upper & lower kelly valves, swivel, safety valve, standpipe & HP hoses to a low pressure of 300 psi & high pressure of 2500 psi

All pressures to be held for 10 minutes. Document test on BOP Test Report to be submitted with or as part of Daily Drilling Report (DDR).

If practical this step may be performed earlier. Testing should, to be the extent possible, be performed off-line on BOP Test Stump (if available).

BOPs are to be retested at intervals not exceeding 14 days or whenever a new wellhead or BOP component is installed.

2.8 Drill Rathole & Mousehole

With water or spud mud as drilling fluid, use Century rathole digger to drill rathole & mousehole using rerun bit or auger. Install socks.

If practical this step may be performed earlier during lump sum rig mobilisation.

2.9 Drill out Surface Cement Plug

Hole Section Risks/Concerns – Remedies

- Gas bubble under Cement Plugs
- Other hazards associated with drill out of plug (misalignment, decomposed drilling mud and contaminants)

Install wear bushing.

Review hazards associated with drill out of plug (misalignment, potential shallow gas kick; decomposed drilling mud and contaminants).

Mix drilling fluid as required (refer section 3 for mud program)

Mud Logging unit to be operational prior to drill out.

Make up BHA with non-ported float (refer section 3 for BHA details).

RIH 8.5" drill bit c/w Non Magnetic Drill Collar and drill out surface cement plug (5 – 55mRT) using 9.9 ppg spud mud as drilling fluid. Monitor returns for metal cuttings

(Note – 9.9 ppg fluid was in the well when TD was reached in 2004. This was partly due to inefficient solids control equipment. No FRT pressures were obtained in 2004. It is expected 9.0 ppg will be adequate to control formation pressures however plugs will be drilled with the higher mud weight before lowering to approximately 9.0 ppg.)

2.10 Drill out Cement Plug at Casing Shoe

Once the surface plug is drilled out RIH to top of cement plug 2 at 495 m RT (NB – plug dropped approx 20m after setting. Casing shoe is at 504m RT)

Tag top of plug. Pull back 10 m off bottom.

Pressure test casing to 2500 psi (70% of 9-5/8” 36 lb /ft J55 burst). Hold for 15 minutes.

Drill out plug 2 from 495 – 540m RT using 9.9 ppg spud mud as drilling fluid.

Note: The mud left in well is believed to be 9.9 ppg.

Note: fluid samples are to be taken if hydrocarbons are recovered below cement plugs.

2.11 Leak off test.

A leak off test will not be performed. During Megascalides 1 the shoe integrity was tested to 750 psi with 8.6 ppg fluid or 17.0 ppg EMW without leak off.

2.12 Clean out 8.5” hole.

Hole Section Risks/Concerns – Remedies

- Deteriorated hole conditions
- Tectonically stressed Coal/Shales – Increase mud weight as required
- Loss of circulation
- Tight hole – Wiper trip as required/Hi-Vis sweeps to clean hole
- Decomposed drill fluids

RIH 8.5” bit on slick BHA with NMDC to top of cement plug 3 at approx 1740m RT.

Wash & ream as necessary with 9.9 ppg mud.

Circulate and condition fluid as required dumping old fluid where necessary.

If possible lower mud weight to 9.0 – 9.2 ppg

Assess whether hole is in adequate condition to support sidetrack operation.

If hole is in very poor condition and can't be re-entered for the sidetrack a program addendum will be issued for kick off at a shallower point.

2.13 Perform Magnetic Multi Shot Survey

Once hole is deemed to be in satisfactory condition drop magnetic multi shot and POH recording survey every third stand (55 m).

2.14 Set Kick Off Plug

RIH Open Ended Drill Pipe with cementing stinger to 1740m and set 100m 16.5+ ppg cement kick off plug from 1640 – 1740mRT. Refer Cement plug Recommendations (Appendix 18) and follow procedures in Cement Program

Note – review formation compressive strength (refer Halliburton bit proposal) in finalising kick off point.

Pull out of hole to 1540mRT (6 stands above plug)

Circulate pipe clean (forward circulation recommended by directional driller (Review this if pipe pulls wet).

POH open ended drill pipe.

Wait on cement 24 hours.

RIH rotary assembly and dress off cement plug. Follow dressing off procedure in Appendix 18.

Once desired plug hardness achieved POH rotary assembly

2.15 Kick off sidetrack

RIH mud motor & 8.5" bit per bit program. Orient for kick off with magnetic single shot survey per instructions of directional driller.

Limit dogleg to less than 3 degrees per 30 metres.

Time drill to build kick off ledge

Drill new hole until kick off established and new formation returns obtained.

POH mud motor

2.16 Drill to core point

RIH rotary assembly & 8.5 "bit per bit program using BHA per directional driller recommendation.

Drill to core point at -1756.3mTVDSS (approx 1882.8mMDRT with Century Rig) or 2m above the reservoir based on correlation with the original well & considering the sidetrack deviation.

POH the rotary BHA

2.17 Cut Core

Make up and RIH 18 metre conventional 6-3/4" x 4" core barrel.

Space out with pup joints and saver subs to maximise core length before connection.

Cut 18 metre core under supervision of core technician (NB 40 ft Kelly. A decision will be made about feasibility of making a connection versus cutting a second core.

POH Core barrel

Recover core in aluminium sleeve

Have ACS technician cut core plugs & despatch immediately to ACS Brisbane.

2.18 Drill to TD

RIH rotary assembly and drill to TD approx 1960mRT.

Ensure adequate rat hole / sump for logging & production casing.

Circulate at TD until hole clean (needs to be cuttings free for logging & DST)

Make wiper trip to casing shoe if necessary prior to circulation.

POH to log.

Recover wear bushing

2.19 Log Well & take Pressures

Rig up Precision Logging

Run 1 – run combination log - Gamma Ray, Deep/Medium/Shallow Resistivity, Density, Neutron and Full Wave Sonic from TD to 50 metres above sidetrack.

Run 2 - FRT - take formation pressures at 10 points selected by wellsite geologist after the first logging run.

2.20 Condition hole for Drillstem Test

If required RIH drilling assembly & circulate and condition hole then POH

2.21 Drillstem Test

An openhole drillstem test will be conducted over the Crayfish (approx 1885 – 1895 m MDRT – to be confirmed after section is drilled)

- RIH POR inflatable drillstem test tools and test the interval from approx 1870 m MDRT to TD (If logs indicate a water contact, a straddle test may be performed on a reduced interval). Strap pipe into hole.
- Inflate packers.
- Open well for 5 minute initial flow on ½" choke
- Shut in for initial build up of 60 minutes.
- Open well for 3 hours final flow on ½" choke
- Shut well in for 3 hours final build up.

- Tools will be opened during daylight hours, where possible at first light.
- A separator will not be used. Where safe liquids will be recovered in a test tank, otherwise fluids will be flared.
- Ensure water cooling sprays are deployed on motor exhausts
- Monitor annulus during DST
- Liaise with local CFA.
- A bottom hole sample will be trapped when tools shut in.
- Downhole pressure gauges are to be run. Surface pressure data also to be recorded.

2.22 Recover DST Assembly

- After final build up unseat packer. Wait for elements to relax.
- drop bar and reverse circulate well to drilling mud. (If gas or gassy liquids were recovered during flow period this will be performed at TD, otherwise POH drillstem to top of fluid recovery prior to dropping bar & reversing
- recover fluid samples every 500 ft when reversing.
- Circulate until well stable then POH test tools.
- Ensure hole topped up at all times
- Monitor well during trip for swabbing.
- Lay out test tools
- Recover bottom hole sample.

2.23 Condition hole for running casing

- RIH drilling assembly
- Wash & ream to bottom
- Circulate hole clean for casing
- POH laying out drillpipe & BHA sideways

2.24 Run 7" Production Casing

RIH casing as follows

- Float Shoe
- 2 jts 7" K55, 26 lb/ft, R3, BTC casing
- Float Collar

- Approx 6jts 7" K55, 26 lb/ft, R3, BTC casing
- Marker joint 7" K55, 26 lb/ft, R3, BTC casing
- Approx 32jts 7" K55, 26 lb/ft, R3, BTC casing
- Marker joint 7" K55, 26 lb/ft, R3, BTC casing
- Approx 120 jts 7" K55, 23 lb/ft, R3, BTC casing
- 2 jts 7" K55, 26 lb/ft, R3, BTC casing
- Landing Joint

Centralisation program to be advised

2.25 Cement Production Casing

Cement 7" casing. Cementing program yet to be confirmed.

Note – if abandonment is required a separate program will be submitted to DPI for approval.

2.26 Land Casing slips / Suspend Well

- Wait on cement 6 hours holding string weight.
- Install 11" x 7" casing slips and land casing in 50,000 lb tension
- Nipple down BOPs
- Dress casing stub (refer Wood Group procedures for required stick up and details of bevel required)
- Install 11" 3000 psi x 7-1/16" 5k tubing spool; 7-1/16" x 2-9/16" 5k adaptor flange, 2-9/16 x 1/2" NPT flange, needle valve, pressure gauge or adaptor plug.

2.27 Release Rig

- Layout Kelly, clean tanks
- Release rig
- Once rig removed, ensure lease cleaned, pits fenced

3 SPECIALIST PROGRAMS

3.1 Mud Program

Hole Section [inches]	Interval [feet – MD]	Mud Weight [lb/gallon]	Type of Drilling Fluid
12-1/4	10 – 508	8.6 – 9.6	Water / Bentonite
8-1/2	508 – 2000	9.4 – 9.9	Water / Native Solids / Polymer
8-1/2 RE / ST1	500 – 2000	~9.0 – 9.4	KCl/Polymer

Further details to be provided later. Refer Appendix 20 for summary of mud proposal.

3.2 Drill Bit & Hydraulics Program

Bit No.	Hole Size (in)	Depth In (m)	Depth Out (m)	Bit type IADC code	Nozzles (1/64")	Pump (gpm)	WOB (1000 lbs.)	Pressure (psi)
1	12-1/4	N/A						
2	8-1/2							
3	8-1/2							
4	8-1/2							
5	8-1/2							

Details will be provided at a later time.

3.3 Directional Program & BHA

Further details will be provided at a later time.

It is proposed to kick off using a Powerdrill mud motor (refer Appendix 19). Once kicked off rotary BHAs are to be run per directional driller's recommendation. A packed BHA, including NMDC, to be run where possible when rotary drilling to maximise ROP.

Jars to be run at all times.

Non-ported float to be run at all times.

Hole Size	Bottom Hole Assembly
12-1/4"	N/A
8-1/2"	TBA

3.4 Surveys

A Magnetic multishot survey to be run prior to kick off.

Magnetic single shots to be run during kick off and every 75 metres and at TD while drilling ahead new hole.



An end of well multishot survey is not required

3.5 Mud Logging & Core Handling

The Mudlogging contractor will provide 24 hour cover during drilling with 2 mudlogging data engineers. The usual mudlogging services required include:

- 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
- Core description

The mud loggers will take samples at 5m intervals from the beginning of the sidetrack (or where new hole is penetrated) to Total Depth according to the sampling programme outlined below. The 50 g tray is to be used for onsite sample description then bagged and labeled in small transparent packs for Karoon records. The wellsite geologist is responsible for supervising the mudlogging contractors.

	<p style="text-align: center;">DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1 KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	---	---

Sample Type	Weight	Company	Address for despatch	
Washed and dried sample for "Samplex trays"	50g	Karooon Gas	Premium House, Level 9, 406 Collins St., Melbourne, 3000	
One cloth bag- Washed and dried cuttings	250g	Department of Primary Industries (DPI)	TBA	

Mud loggers will also assist with core recovery, sampling and description.

At the completion of the well, washed and dried samples are to be distributed as per the following table

Core plugs will be immediately taken as follows by an ACS Technician when core is recovered and despatched for immediately analysis to assist in determination of well test and completion programs.

1. Well-site technician to cut selected core plugs as soon as core is retrieved using ACS well-site plug cutting apparatus
2. Plugs required at 3 per metre of selected quality sand (est 15 plugs - 5m at 3/m)
3. Plugs to be packed suitable for air transport & dispatched immediately to ACS Brisbane
4. Plug residual fluids analysis (Dean-Stark)
5. Plug cleaning/drying within 5 hour period
6. Plug porosity and permeability measurements
7. Results reporting by email to Karoon immediately after measurements completed
8. Further analysis over longer time frame if recommended

The core will be despatched to a laboratory for slabbing and further analysis. Karoon are to retain 100% of core.

Sufficient bottles and containers are to be onsite for collection of fluid samples as required during drilling and drillstem testing.

3.6 Open Hole Testing

Testing is planned during the drilling operations after reaching TD and openhole test equipment will be available. The decision to test will depend on shows, log analyses and pressure measurements. The decision will also depend on permeability measurements from plugs cut from the core at the well site and tested in a lab

3.7 Casing Program

Conductor & surface casing are already installed.

String	Hole Size [inches]	Depth: MD [m]	Casing Size [inches]	Casing Weight [lb / ft]	Casing Grade	Casing Connection
Surface	12-1/4	504	9-5/8	36	J-55	BTC
Production (if required)	8-1/2	1960	7	23 & 26	K-55	BTC

3.8 Cement Program

Water sample are to be collected and forwarded to Halliburton for cement testing at least 7 days prior to the job. Refer Appendix 21 for cementing proposal.

3.8.1 Kick Off Plug

A detailed program is to be issued later

3.8.2 Cementing Production Casing

A detailed program is to be issued later

3.8.3 P & A Plugs

Should it be necessary to P& A the well a P&A program will be submitted to the DPI for approval and Halliburton will recommend slurries and a P&A cementing program will be issued by Upstream.

Note: ALL cement formulations and pumping times will be reconfirmed prior to the job.

3.9 Logging Program

A standard suite of wireline logs will be run by Precision Engineering from TD of the 8-1/2" hole covering the reservoir interval, up to at least 50m above the kick off point for the sidetracked hole. A finalised logging programme will be issued after results of the drilling are known

Run 1 The first run by Precision Engineering will consist of a combination of Gamma Ray, Deep/Medium/Shallow Resistivity, Density, Neutron and Full Wave Sonic logs.

Run 2. The next run will be the FRT for taking formation pressures. 10 points will be located and advised as soon as possible after the first logging run. No samples required.

Side wall cores will not be required. Any additional logging runs will be advised.

A velocity / checkshot survey will not be required in the re-entry / sidetrack hole

Logs will be transmitted from the well site in ASCII and PDF form (latter by page) in 1:200 and 1:500 scales.

3.10 Coring

Coring will commence 2 metres above the anticipated reservoir depth based on correlation with the offset well 20m away... The top of the reservoir in Megascalides-1 was at 1883 mMDRT (-1758.3 m SS) / (1883.9 mMDRT with CDL rig). The reservoir is expected at 1884.8mMDRT in the sidetrack hole (assuming a 5 degree kick off). This will be monitored closely and adjusted according to the actual deviation achieved.

The core will be cut, commencing 2m above the reservoir at -1756.3mTVDSS in this well. With respect to the Century drilling rig datum and angle of sidetrack the top reservoir is expected at approximately 1884.8mMDRT in this well and therefore coring will commence by at least 1882.8mMDRT. It is possible hydrocarbons will be encountered higher than expected however it is highly unlikely that coring will commence earlier.

3.11 Completion

A well completion program will be separately submitted if required.

3.12 Abandonment

An abandonment program will be separately submitted if required.

4 EQUIPMENT

4.1 Drilling Rig

Refer Appendix 18 for details of major rig components.

Refer Appendix 11 for details of rig contractor policies and procedures

4.2 Coring

Refer Appendix 12 for details of procedures.

4.3 Drillstem Testing

Refer Appendix 13 for details of procedures

4.4 Equipment & Services List

- Lease Preparation contractor
- Site Surveyors
- Conductor & Cellar / Rathole & Mousehole Installation contractor (if required)
- Drilling rig & camp
 - Rig Mufflers to be specced to meet local noise requirements.
- Open Hole Electric Logging Service (includes FRT; VSP (if required))
- Velocity Survey Contractor (if required)
- Mud Logging Service
- Mud Materials Supply / Mud Engineering
- Coring Service / Equipment
- Core & Fluid Analysis
- Drillstem Test Equipment
- Rig Supervision
- Wellsite Geologist
- Cementing Service. Also use pump truck for pressure testing.
- Transport & Cranes
- Water Supply / Water Haulage
- Wellsite Communications

- Drilling, PDC & Core Bit supply
- Cement & additives
- Casing
- Casing accessories
- Wellhead Supply / Installation
 - Bradenhead
 - Xmas Tree (if required)
 - Wear bushing
- Miscellaneous (thread lubricants)
- Jars, stabilisers,
- Directional tools
- Other drilling & fishing tools
- Rubbish Skips / Waste Disposal / Fluid Disposal
- Acoustic Surveyor (if required)
- Extra Site Office Accommodation
- Machine Shop Service
- Flowback Contractor / Equipment (if required)



DRILLING PROGRAM FOR
MEGASCOLIDES 1 RE-ST1
KAROON GAS 2006-07 DRILLING OPERATION



APPENDIX 1 – CURRENT WELL STATUS (SUSPENSION REPORT)

KAROON GAS AUSTRALIA LIMITED

WELL SUSPENSION REPORT

WELL NAME	Megascoides 1
BLOCK	N/A

HOLE SECTION	HOLE SIZE	CASING SIZE
SURFACE	12-1/4"	9-5/8", 36#, J-55, BTC
INTERMEDIATE	N/A	N/A
PRODUCTION	8-1/2"	

FORMATION TOPS (m RT)

Formation	Top	Formation	Top	Formation	Top	Formation	Top
Thorpdale Volcanics	Surface	Bland Zone	N/P				
Childers Formation	37	Top Main Coals	715				
Strzelecki Formation	61	Crayfish Equivalent	1883				
Top Upper Coals	278	Volcanics	1942				

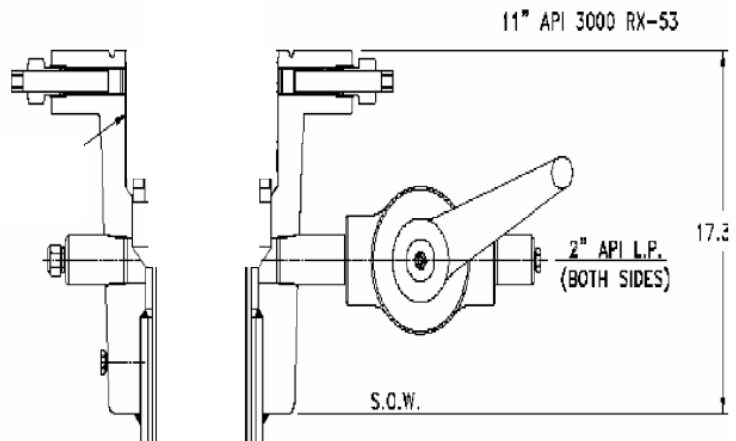
PLUG DETAILS

Plug No	Depth (m RT)	Cement and Additives Used	Wait on Cement Time (hrs)	Depth Tagged (m RT)	Comments
1	5 – 55m	7 bbls of Class A – 15.6ppg slurry – Neat (No additives)	N/A	5m	
2	472 – 522m	22 bbls of Class A – 15.6ppg slurry; w/ 1% CaCl	7 hrs	495.5m	TOC lower than calculated.
3	1740 – 1840m	35 bbls of Class A – 15.6ppg slurry; w/ Halcad 413L, 20 gal/10 bbl; CFR3L 5 gal/10 bbl; HR6L 3 gal/10 bbl	N/A	N/A	

APPENDIX 2 – CURRENT WELL STATUS (WELLHEAD)

- **Well Head:**

Type: The wellhead stack consisted of a 9-5/8" THD Bottom x 11" API 3K Flanged Top Casing Head with 2" LP Outlets



Casing Head, BP, 11" 3k x 9-5/8" BTC with 2 x 2" LPO PSL-1,PR-1,P-U,AA P/N 342164

Bull Plug, 2" x 4" Long, P/N 80-100-002-4X

Nipple 2" x 6" Long, P/N 80-200-200-02

Ball Valve 2" x 3K, P/N 31LH31UNKFHXX

Ring Gasket RX-53 CS,P/N RX-53 CS

16 Studs and Nuts 1-3/8" x 10" Long, P/N SN0138-0010B7

APPENDIX 3 – CURRENT WELL STATUS (SURFACE CASING)

Casing Running & Cementing Report									
Well Name: Megascolides # 1			County: Gippsland PEP 162			State: Victoria			
Hole Size:	12 1/4 "	Depth:	508'	Date Cemented:	20 th Nov 2004	Mud Weight:	9.6	#/gallon	
Ground Level:	01m AMS	DF:		KB:	4.27m				
<div style="text-align: center;"> Casing as run from bottom to top. Threads Off Measurement.) </div>									
No. of Joints:		Manufacturer--Ltr		Wt./#	Grade	Type Threads	Footage		
	9 5/8		Flo	36	Howco	BTC	0.52		
1	9 5/8	Marubeni	Casin	36	J-55	BTC	11.90		
	9 5/8		Float Collar	36	Howco	BTC	0.37		
40	9 5/8	Casing		36	J-55	BTC	486.58		
1	9 5/8	Landing joint		36	J-55	BTC	4.63		
							TOTAL:	504.00	
Set Casing @:	504M	* KB	Scratchers: Nil						
Total Jts. Run:	41								
Float Collar		* KB	Centralizers:	3 Centralisers were run .On middle of 1 st jt - top of 3rd and Last joint					
Other Equipment: 1 tins HOWCO weld, 3 stop collar.									
Comments:									
Casing drifted-Shoe and Float collar made up with Halliburton Weld-A Filled Casing while running									
Cementing by	Halliburton			Circulated:	30	mins. @	150	psi.	
Started Pumping:	22:50	20/11/2004		Pressure on Plug:	1500		psi.		
Plug Down @	23:48	20/11/04		Bled to:	0 psi.				
Cemented with:									
SAFETY MEETING, PUMP 20 BBLS H ₂ O SPACER, PRESSURE TEST SURFACE LINES TO 13000PSI. MIX ED AND PUMPED 260 sx CLASS "A" 12.5 PPG SLURRY FOLLOWED BY 136 sx CLASS "A" 15.6PPG SLURRY THEN DISPLACED WITH 126 BBLS 9.4ppg MUD ,AND BUMPED THE PLUG WITH 1500 PSI ,HELD . Cement returns to surface - 30% Excess used on this job Volume pumped 97.2bbbs lead and 29bbbs tail slurry									
SURFACE		by temperature survey:		CBL:		Calculated:			
Signature:	Lou DeVattimo			Date:	20/11/2004				
NOTE: ATTACH COPY OF CASING TALLY TO THIS REPORT									

APPENDIX 4 – CURRENT WELL STATUS (DEVIATION)

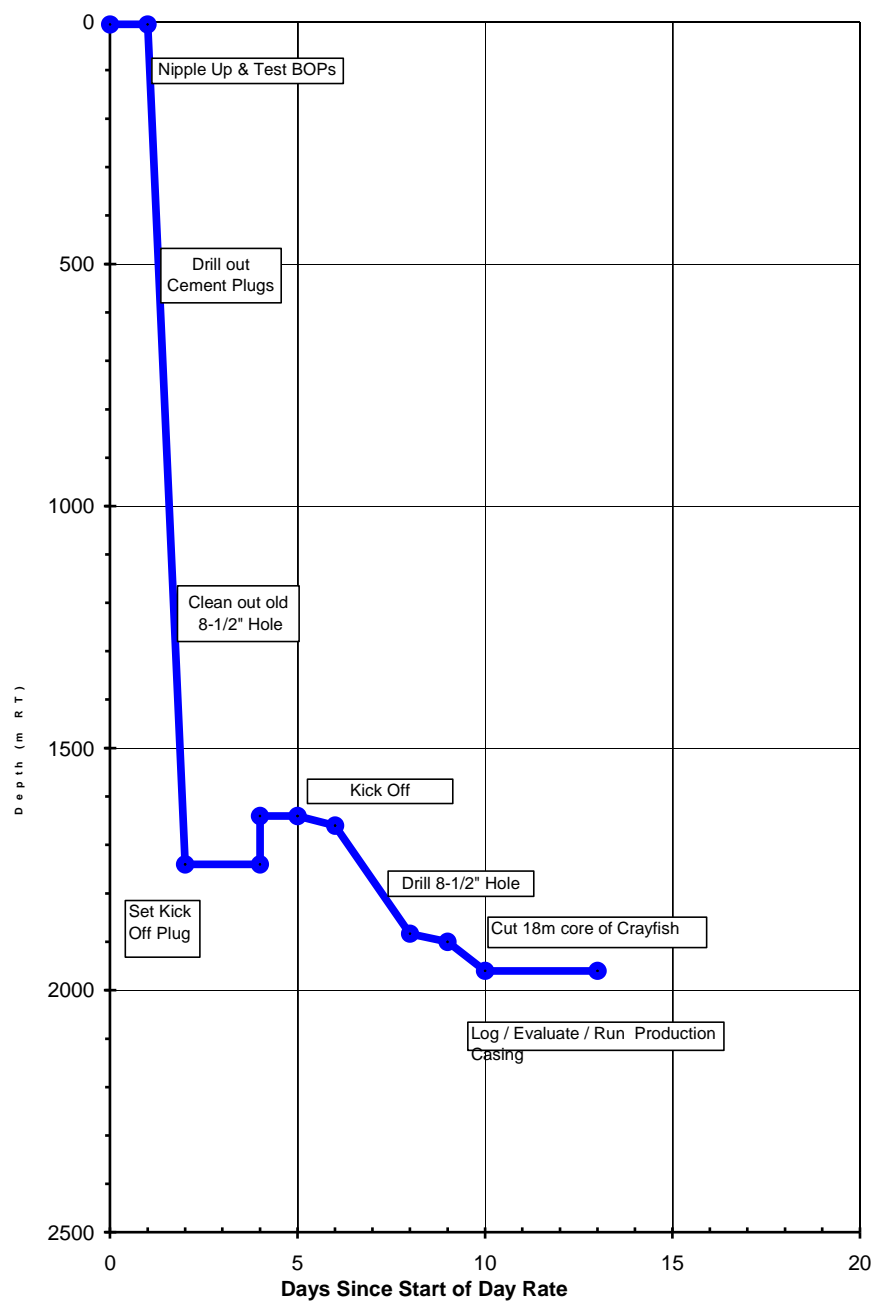
(Direction not measured)

Interval (m) Survey	Inclination Degrees
51m	0.13
161m	0.25
349m	0.75
501m	0.50
660m	1.13
879m	3.00
1001m	2.25
1198m	3.00
1359m	2.00
1530m	3.00
1804m	2.00
1989	1.25

APPENDIX 5 – DRILLING VS TIME CURVE

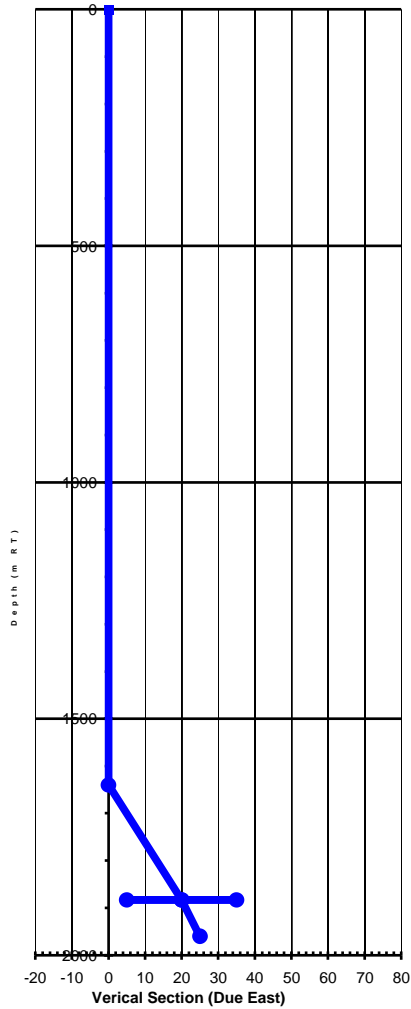
Megascolides-1 RE- ST1

Predicted Time vs. Depth Curve

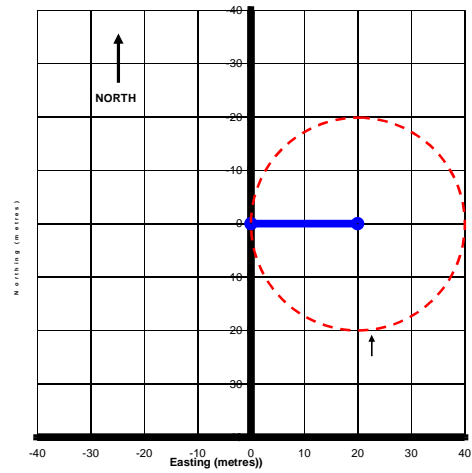




APPENDIX 6 – DIRECTIONAL TRAJECTORY

Megascolides-1 RE- ST1
Directional Curve - Vertical Section



Megascolides-1 RE- ST1
Directional Curve - Plan View

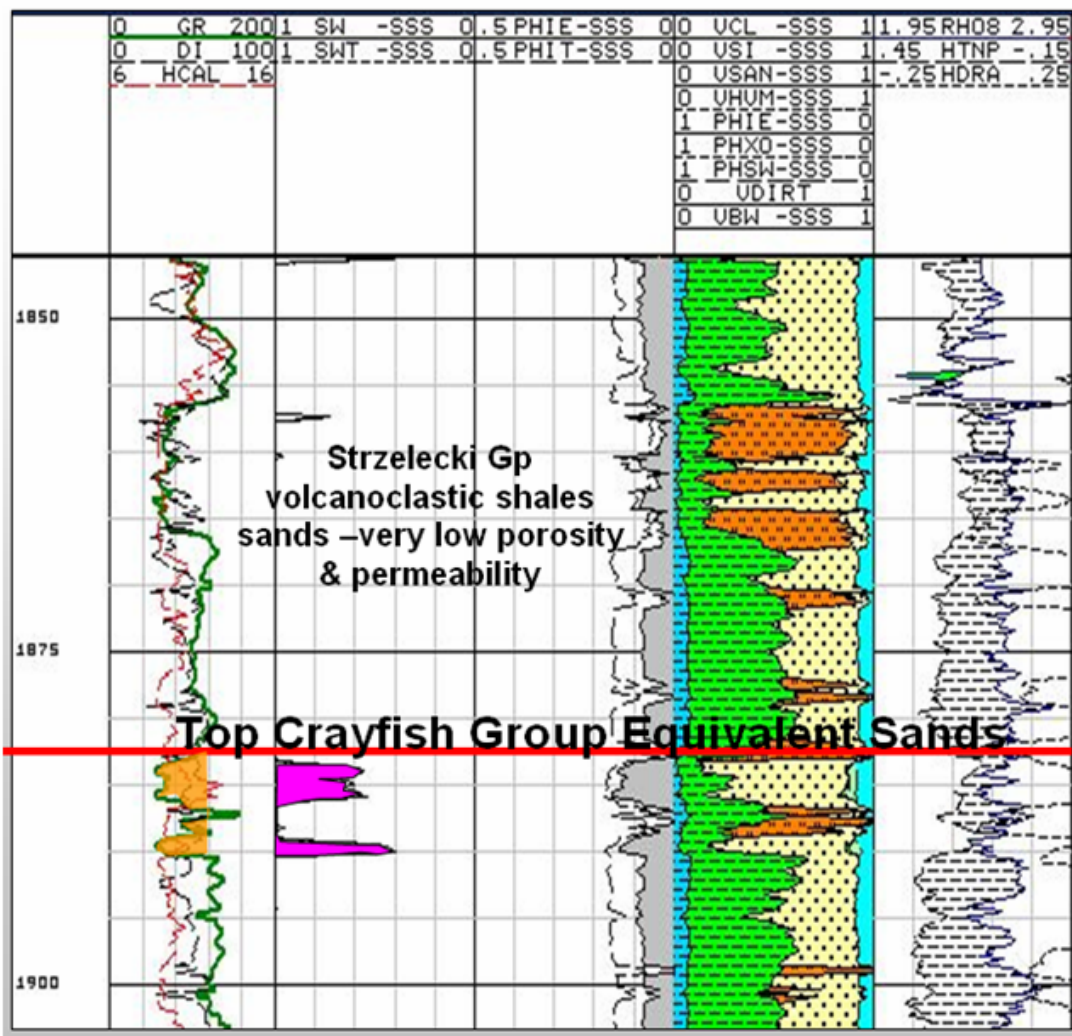




	<p style="text-align: center;">DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1 KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	---	---

APPENDIX 7 – GEOLOGICAL PROGNOSIS

Formation /unit	Seismic Horizon	Age	TWT sec (Seismic)	Megascolides-1 wireline log pick (mRT)	Megascolides-1 wireline log pick (mTVD SS)	Megascolides-1 Re-entry & ST Prognosed Tops (est mMDRT)
Thorpdale Volcanics	Surface	Early to Late Oligocene		4.3 (Hunt Rig RT)	+120 ab MSL	5.2 (Century Rig RT)
Barracouta Formation (Childers Formation)	No Pick	Oligocene (?)		38	+86.3 ab MSL	38.9
Wonthaggi Formation (Strzelecki Group)	No Pick	Cretaceous		61	+63.3 ab MSLI	61.9
Intra Strz Sands (Progrades ?)	PURPLE		0.923	824	-699.7	824.9
"1200" Unit	GREEN		1.154	1202	-1077.7	1202.9
"1500" Unit	ORANGE		1.297	1502	-1377.7	1502.9
"1800" Unit	KHAKI		1.462	1808	-1683.7	1809.5
Rintoul Creek (Reservoir Target)	DARK GREEN (Rintouls is below or equiv to top Crayfish equivalent)		1.548	1883	-1758.7	1884.8
Crayfish Group	No Pick			1890	-1765.7m	1891.8
Weathered Duck Bay Volcanics	No Pick			1942	-1817.7	1943.8
Duck Bay Volcanics (Approx. Total Depth)	No Pick			1962	-1837.7	1963.8

APPENDIX 8 – RESERVOIR SECTION



	<p style="text-align: center;">DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1 KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	---	---

APPENDIX 9 – CASING DESIGN

Collapse 10 ppg fluid

Doesn't include triaxial correction for collapse

Surface Casing – Burst based on 20ppg leak off at SC shoe (1706 psi) or
BHP less gas gradient ($10 \times 2000 / .3048 \times 0.052$ less $0.1 \times 1500 / .3048 = \text{xxxx}$ psi)

Surface Casing (Required SF – Collapse 1.0; Burst 1.2; Tensile 1.6)



Depth (mKB)	Size	Weight /Grade	Collapse (psi)			Burst (psi)			Tensile (lb)		
			Load	Rated	SF	Load	Rated	SF	Load	Rated	SF
0	9-5/8	36#, K55, BTC	0	2020	Infinite	2754	3520	1.28*	59055	564000	9
500m			853	2020	2.3	2919	3520	1.21*	0	564000	Infinite
					OK			OK*			OK

* Greater than this if based on leak off gradient.

7" 23 / 26# Production Casing (Required SF – Collapse 1.1 ; Burst 1.25; Tensile 1.6)

Depth	Size	Weight /Grade	Collapse			Burst			Tensile		
			Load	Rated	SF	Load	Rated	SF	Load	Rated	SF
0	7"	23#, K55, BTC	0	3270	Infinite	3412	4360	1.28	155840	366000	2.35
1500	7"	23#, K55, BTC	2560	3270	1.28	3412	4360	1.28	42650	360000	8.4
1500	7"	26#, K55, BTC	2560	4330	1.28*	3412	4980	1.46	42650	415000	9.7
2000	7"	26#, K55, BTC	3412	4330	1.27*	3412	4980	1.46	0	415000	Infinite
					OK			OK			OK

* Not designed for triaxial loading hence increased SF.

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1 KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	---	---

APPENDIX 10 – EMERGENCY CONTACTS

Operations Contact Numbers

Most communication from the rig should be directed through UP's Melbourne office:

Telephone: (03) 86258400
Facsimile: (03) 86258598 (9th floor)
(03) 96209938 (Reception)
Email: melbourne@upstreampetroleum.com.au

After hours communications may be directed to nominated personnel:

Drilling Operations

Drilling Project Leader: Terry Greaney

Telephone: (03) 8625 8544
Facsimile: (03) 86258598
Mobile: 0416 001 237
Email: terry.greaney@bigpond.com
terrygreaney@upstreampetroleum.com.au

Drilling Manager: Greg Hogan

Telephone: (08) 8932 5777
Facsimile: (03) 8932 5744
Mobile: 0412 194398
Email: greghogan@upstreampetroleum.com.au



Drilling Supervisors:

Mobile: TBA
Facsimile TBA
Email: TBA

Karoon Gas Limited

Managing Director: Bob Hosking

Telephone: 03 59741044
Facsimile: 03 59741644
Mobile: 0414 667 844
Email: rhosking@karoongas.com.au

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	--	---

Karoon Melbourne Office

Engineering Manager: Lino Barro

Telephone: 03 9642 4925

Facsimile: 03 9640 0406

Mobile: 0418 173 504

Email: lbarro@karoongas.com.au

Exploration Manager: Mark Smith

Telephone: 03 9642 0421

Facsimile: 03 9640 0406

Mobile: 0425 827 931

Email: msmith@karoongas.com.au

Project Geologist: Ross Tolliday

Telephone: 03 9642 4736

Facsimile: 03 9640 0406

Mobile: 0405 325 271

Email: rtolliday@karoongas.com.au

Government Contact Numbers

Victorian Department Primary Industry:

Minerals & Petroleum Division,

Address: 1 Spring St Melbourne

Secretary: 136186 or 03 5332 5000 (front desk)

Contact: Mr Terry McKinley

Position: Manager Petroleum Regulations

Telephone: 03 96584414



Mobile: TBA

Facsimile: 03 96584499

Email: terry.mckinley@dpi.vic.gov.au

Contact: Dr Kourosh Mehin

Position: Principal Petroleum Resources Advisor

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	--	---

Telephone: 03 96584416
 Mobile: TBA
 Facsimile: 03 96584499
 Email: kourosh.mehin@dpi.vic.gov.au



Contact: Mr. Bala Balendran
 Position: Pipeline & Facilities Advisor
 Telephone: 03 96584413
 Mobile: 0408 578 077
 Facsimile: 03 96584499
 Email: bala.balendran@dpi.vic.gov.au

Contact: Mr. David Wong
 Position: Principal Petroleum Operations Advisor
 Telephone: 03 96584415
 Mobile: TBA
 Facsimile: 03 96584499
 Email: david.wong@dpi.vic.gov.au

Contact: Ms Michelle Hendricks
 Position: Principal Environment Advisor
 Telephone: 03 96584419
 Mobile: 0428 398 676
 Facsimile: 03 96584499
 Email: michelle.hendricks@dpi.vic.gov.au

Contractor Contact Details

Drilling Contractor: Century Drilling Limited
 Phone: (07) 3879 3333
 Fax: (08) 3879 3322
 Attn: Shaun Clark (General Manager)
 Mobile: 0439 911 193
 Email: sclark@centurydrilling.com.au
 Attn: Darren Thompson (Operations Manager)

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1 KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	---	---

Mobile: TBA
Email: dthompson@centurydrilling.com.au
Attn: Ben Prain (HSE Manager)
Mobile: 0428 786 098
Email: bprain@centurydrilling.com.au



Wireline Logging Precision Logging
Phone: (07) 3482 9900
Fax: (07)
Attn: Matt Barnes
Mobile: 0417 646 754
Email: matt.barnes@ap.weatherford.com

Mud Logging Services: **Baker Hughes Inteq**
Phone: (08) 9217 7185
Fax: (08) 9217 7101
Attn: Eddie Bamborough
Mobile: 0408 484 088
Email: edward.bamborough@inteq.com

Cementing Services: **Halliburton**
Phone: (03) 9581 7511
Fax: (03) 9581 7599
Attn: Lucien Bianchi
Mobile: 0414 811 226
Email: Lucien.bianchi@halliburton.com

Coring Services: **Corpro (Tasman)**
Phone: (08) 9379 2100
Fax: (08)
Attn: Dave Whitby
Mobile: 0415 987 630
Email: dw@corpro-group.com

Core Evaluation: ACS Laboratories

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1 KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	---	---

Phone: (07) 3357 1133
Fax: (07) 3357 1100
Attn: Kevin Flynn
Mobile: TBA
Email: k.flynn@acslabs.com.au

Directional Drilling Services: **Scientific Drilling Inc**

Phone: (03) 5144 4066
Fax: (03) 5144 4966
Attn: Simon Garantini
Mobile: 0419 890 229
Email: simon@scientificdrilling.com.au

Directional Drilling Services: **Halliburton**



Phone: (08) 6424 4676
Fax: (08)
Attn: Stewart Swick
Mobile: 0416 168 035
Email: stewart.swick@halliburton.com

Directional Drilling Equipment: **Hofco**

Phone: (07) 5527 2939
Fax: (07) 5527 3342
Attn: Kerstine Plummer
Mobile: 0412 377 881
Email: Kerstine@hofco.com.au
Attn: Ian Hofmeier
Mobile: 0438 677 888
Email: ian@hofco.com.au

Drillstem Test Services: **Pacific Oilfield Resources**

Phone: (08) 8272 1928
Fax: (08) 8272 1922
Attn: Chris Riggs
Mobile: 0427 219 228

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1 KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	---	---



Satellite: 0420 105 929
Email: chrisriggs@por.com.au

Drill Bits: **Halliburton (Security DBS)**
Phone: (03) 9581 7534
Fax: (03) 9581 7599
Attn: Errol Smeaton
Mobile: 0414 909 647
Email: errol.smeaton@halliburton.com

Mud / Mud Engineering RMN Drilling Fluids
Phone: (08) 8338 7266
Fax: (08) 8338 7266
Attn: Andre Skujins
Mobile: TBA
Email: Andres@iimetro.com.au
Attn: Nick Santarelli
Phone: (08) 8359 6611
Fax: (08) 8349 6764
Mobile: TBA
Email: nsantarelli@imdex.com.au

Test Support Services: **SGS Expertest**
Phone: (08) 8359 4277
Fax: (08) 8359 4622
Attn: Jason Gale
Mobile: 0419 034 349
Email: jason.gale@sgs.com

Transport Services: **Spikin Transport**
Phone: (03) 5561 6111
Fax: (03)
Attn: Ian Spikin
Mobile: TBA
Email: TBA

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1 KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	---	---

Transport Services: Roma Transport

Phone: (07) 4622 5222
Fax: (07) 4622 4822
Attn: Charlie Burke
Mobile: 0427 773 655
Email: admin@romatransport.net.au

Wellhead Services: Wood Group

Phone: (07) 3889 7782
Fax: (07) 3889 7787
Attn: John Dean
Mobile: 0419 775 125
Email: john.dean@woodgroup.com

Civil Works Wayne Notman

Phone: (03) 5626 1333
Mobile: 0417 599 478
Attn: Wayne Notman

Emergency Contact Numbers (subject to confirmation)

Warrigal

HOSPITAL



West Gippsland Hospital
Landsborough St., Warragul.3820
PHONE:(03)5623 0611

POISON

Poisons Information Centre
Royal Children's Hospital
Phone; 13 1126

POLICE

Neerim South Police Station
Sgt.Neil Paterson,
Main Street, Neerim South, 3831

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	--	---

Phone; (03) 5628 1303

Trafalgar Police Station
Senior Constables, Miles & Robinson
27 Contingent St., Trafalgar, 3824
Phone; (03)5633 1188
Fax; (03)5633 2166

Warragul Police Station
35 Palmerston St., Warragul, 3820
Phone: (03) 5623 2328
EMERGENCY; 000
Fax; (03) 5623 4276

POWER TXU

Power & Street Lighting failure
(Anytime Day or Night) 13 1799
Email: Eeinfo@tua.com.au
Web: <http://www.easternenergy.com.au>

RED CROSS

Warragul Red Cross Unit
Elizabeth Leonne, Sect.,
PO Box 944, Warragul, 3820
Phone: (03) 5626 1529
EMERGENCY; (03) 9685 9903



Yarragon & District Red Cross Unit
Evelyn Bastin Sect.,
4 Loch St., Yarragon, 3823
Phone:(03) 5634 2201

STATE EMERGENCY SERVICES

State Emergency Service, Warragul Unit
Colin Shiels, Controller
PO Box 4, Warragul, 3820
Phone: (03) 51
EMERGENCY;(03) 5622 3281
Fax: (03) 5623 6487
Email: warragul@ses.vic.gov.au

WATER

Gippsland Water,Emergencies

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>	
---	--	---

Phone;1800 057 057

South East Water

PO Box 1382, Moorabbin, 3189

Phone: 131 694 or (03) 9552 3000

Fax: (03) 9552 3001

Emergency/After Hours: 132 812 Email: info@sewl.com.au

Web: <http://www.sewl.com.au>

FIRE

Allambee Rural Fire Brigade

Mr. Cliff Smith, Captain

455 Mirboo Nth Yarragon Rd, Mirboo North, 3871

Phone: (03) 5668 7215 (Home)

Fax: (03) 5668 7215

(03) 56 687256 (Fire Only)

Country Fire Authority

Region 9 Headquarters

24 Normanby St., Warragul,3820

David Sherry, Operations Manager

Phone;(03)5231 180

Information, Phone;131599

Fax;(03) 5623 6061

Darnum-Ellinbank Fire Brigade

Kevin Tyrell, Captain

Cloverlea, Via Darnum 3822

Phone;(03) 5627 8390(Home)

Fire Brigade; (03)5627 8357

Lardner Fire Brigade

Evan Manintveld

RMB 2325 Hamilton Rd.,

Warragul South 3820

Phone; (03) 5626 1220(home)

Emergency; (03) 5626 1361

Neerim South Fire Brigade



Brian Barwick, Captain

12 Eton Crt., Neerim South 3831

Phone;(03)5628 1506

Fire; (03) 5628 1377

Nilma North Fire Brigade

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--

Ted Osler, Captain
RMB 5797 ,Station St., Buln Buln 3821
Phone; (03) 5626 8348
Fire; (03)5626 8395

Noojee Rural Fire Brigade
Dawn Thomas, Captain
Phone;(03) 5628 9598
Fire; (03) 5628 9580

Trafalgar Fire Brigade
Murray Turner, Rural Captain
Lochs Creek rd., Trafalgar, 3824
Phone; (03)5633 1795
Fire; (03) 5633 2550

Trafalgar Urban Fire Brigade
Danny Mynard, Urban Captain
6 Wellington St., Trafalgar, 3824
Phone: (03)5633 2354
Fire; (03) 5633 2550



Trida Fire Brigade
Laurie Barrand, Captain
PO Box 1063, Warragul 3820
Phone; (03)5626 2811
Fire; 5626 4242

Warragul Fire Brigade
Mark Gallagher, Captain
78 Smith St., Warragul,3820
Phone;(03) 5622 3229
Fire;(03) 5623 2000
Email; wglcfa@dcsi.net.au

West Gippsland Group of Fire Brigades
lot 8, loch crescent, Noojee 3833
Phone;(03) 5627 5626



Yarragon Fire Brigade
Bill Heard, Sect.
20 Burnett St., Yarragon 3823
Phone; 5634 2505
Mobile; 0419 331 399

Baw Baw Shire Council



	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1 KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	---	---	--

Civic Place, Warragul
24 hour service, 56 242411
Incorporating Drouin, Warragul & Trafalgar services



PO Box 304
Warragul, Victoria 3820
Tel: 03 5624 2411
Fax: 03 5622 3654
Email: bawbaw@bawbawshire.vic.gov.au
Web: www.bawbawshire.vic.gov.au

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--



APPENDIX 11 – SUMMARY OF CENTURY STANDARD OPERATING PROCEDURES & HSE SITE MANUAL

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--



APPENDIX 12 – CORING PROCEDURES

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--



APPENDIX 13 – DRILLSTEM TESTING PROCEDURES

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--



APPENDIX 14 – WELLHEAD DIAGRAM

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--



APPENDIX 15 – WELLHEAD INSTALLATION PROCEDURES

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--



APPENDIX 16 HAZARD AND RISK REGISTER (HRR)

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--



APPENDIX 17 CENTURY RIG 11 INVENTORY (SUMMARY)

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--



APPENDIX 18 MUD PROPERTIES SUMMARY ORIGINAL WELL

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--

APPENDIX 19 DIRECTIONAL PROCEDURES

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--

APPENDIX 20 MUD RECOMMENDATIONS

	<p>DRILLING PROGRAM FOR MEGASCOLIDES 1 RE-ST1</p> <p>KAROON GAS 2006-07 DRILLING OPERATION</p>		
---	--	---	--

APPENDIX 21 CEMENT RECOMMENDATIONS