



**Essential
Petroleum
Resources
Limited**

PEP 152

ONSHORE OTWAY BASIN, VICTORIA

WELL COMPLETION REPORT

Killarney EPRL 1

July 2004

TABLE OF CONTENTS

1	SUMMARY	1
2	WELL HISTORY	9
2.1	GENERAL DATA	9
2.2	CONTRACTORS	10
3	ENGINEERING DATA	10
3.1	WELL STATUS	10
3.2	OPERATIONAL SUMMARY	10
3.2.1	Logistics and Planning	10
3.2.2	Site Preparation	10
3.2.3	Mobilisation and Pre Spud	11
3.2.4	12 ¼” Hole section	11
3.2.5	9 ⅝” Surface String	11
3.2.6	8 ½” Hole Section	12
3.2.7	Plug and Abandon	12
3.3	DAILY OPERATIONS	13
3.3.1	Daily Drilling Reports	13
3.3.2	Time Performance	13
3.3.3	SURVEYS	15
3.4	BHA AND BIT SUMMARIES	16
3.5	CASING AND CEMENTING SUMMARY	16
3.6	DRILLING FLUIDS	17
4	FORMATION SAMPLING AND TESTING	18
4.1	CUTTINGS	18
4.2	CORES	18
4.3	TESTING	18
4.4	MUD LOGGING	18
4.5	WIRELINING LOGGING	18
4.6	VELOCITY SURVEY	19
4.7	PETROPHYSICAL ANALYSIS	19
5	GEOLOGY	20
5.1	STRATIGRAPHY	20
5.2	LITHOLOGY	21
5.3	RESERVOIR QUALITY AND HYDROCARBON INDICATIONS	25

5.4	CONTRIBUTION TO GEOLOGICAL KNOWLEDGE	25
-----	--------------------------------------	----

FIGURES

1	Killarney EPRL 1 Location Map	3
2	Regional Stratigraphy	4
3	Killarney EPRL 1/Port Fairy 1 Top Waarre Formation Two Way Time	5
4	Composite Seismic Line Port Fairy 1 to Killarney 1	6
5	Amplitudes and thickening in the Flaxman and Waarre intervals	7
6	RMS amplitudes across the base Flaxman / top Waarre interval	8
7	Abandonment schematic	12
8	Killarney EPRL #1 Time - Depth Curve	14

TABLES

1	General Well Data	9
2	List of Contractors	10
3	Completion time summary	15
4	Deviation Surveys	15
5	Bit and BHA Record	16
6	Casing and Cementing Details	16
7	Summary of MDT testing	17
8	Wireline logging	18
9	Stratigraphic Table	19
10	Reservoir Quality and Hydrocarbon Indications	24

APPENDICES

1	Location Survey
2	Daily Drilling Reports
3	Casing and Cement

- 4 Mud Recap
- 5 Cuttings Description
- 6 Synthetic Seismogram
- 7 Petrophysical Report

ENCLOSURES

- 1 Mudlog
- 2 Composite Log
- 3 Wireline Logs

1 SUMMARY

Killarney EPRL 1 was drilled as an exploration well. The well is located approximately 4km northeast of Port Fairy township, and 4 km east of the exploration well Port Fairy – 1 (Figure 1). The primary exploration objectives were to test for gas and light hydrocarbon liquids in sandstones of the Waarre and Flaxman Formations (Figure 2), laterally equivalent to the tight gas zone at Port Fairy 1. Seismic data between Pt Fairy 1 and Killarney EPRL 1 suggested substantial thickening and porosity improvement consistent with the presence of gas-filled Waarre C sands at a top Waarre Fm unconformity. A small closure in the Pebble Point Formation and an unconformity truncating units of the Paaratte Formation were secondary objectives, although the Pember Mudstone required to seal these sands was absent at Port Fairy–1.

Killarney EPRL 1 was sited on a combined stratigraphic and structural trap. An east-west trending anticline is broken into blocks by NW-SE trending faults, and Killarney EPRL 1 was located above a NW-SE trending downthrown fault block on the eastern flank of the Port Fairy structure (Figure 3).

In Port Fairy 1 the Flaxman Formation sand unit was 11 m thick and of very limited permeability due to a high clay and glauconite content. Although good gas shows were recorded while drilling no flow has been sustainable. No formation water has been recovered from this zone and the zone appears to be hydrocarbon saturated. Within the target fault block horizons correlative to the hydrocarbon zone at Port Fairy thicken eastward and contain markedly improved seismic amplitudes (Figure 4).

The Waarre Formation contains potential reservoir sands (Waarre C) in the Port Campbell area but Waarre sand was absent at Port Fairy 1. The package of sediments from the Flaxman to Eumeralla thickens under a local unconformity (Figure 5), off the Port Fairy structure into the Killarney prospect and so development of a Waarre reservoir was considered possible.

A zone of improved reservoir quality as mapped from seismic amplitudes (Figure 6) strikes trends across the northern and eastern flank of the greater Port Fairy structure and is broken up into a series of en-echelon fault blocks by NW-SE trending block faulting.

Killarney EPRL 1 was drilled in June 2004. The precollar hole was drilled by a waterbore rig from Sides Engineering, and the remainder of the hole was drilled by Hunt Drilling Rig 2. The surface basalt was air drilled and the Point Campbell Limestone was mud rotary drilled, and a 13³/₈” conductor was cemented at 45.9 m. 12 ¼” hole was drilled to 258 m and cased with 9⁵/₈” casing. The remainder of the hole to total depth of 1640 m was drilled at 8 ½”. All drilling and casing operations proceeded without significant delays.

In the upper quarter of the well, from the Clifton Formation to the Dilwyn Formation, formation tops were intersected 30-60 m high; elsewhere formation tops were

intersected approximately as prognosed. Porosity was well developed in the sandstones of the Dilwyn and Paaratte Formations and in a single sand in the Skull Creek Mudstone. In the greensands and siltstones/claystones of the Nullawarre Formation, intervals with excellent reservoir qualities are interbedded with tightly-cemented intervals. Porosity in the Flaxman and Waarre Formations was generally poor to moderate. Gas shows were recorded throughout the well, with the maximum readings coming from the base of the Waarre Formation (Unit A). No oil shows were seen. Log evaluations and MDT pressure analysis indicated no evidence of hydrocarbons, and no further testing took place.

Essential Petroleum Resources Limited

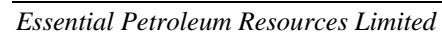


Figure 1: Regional Stratigraphy

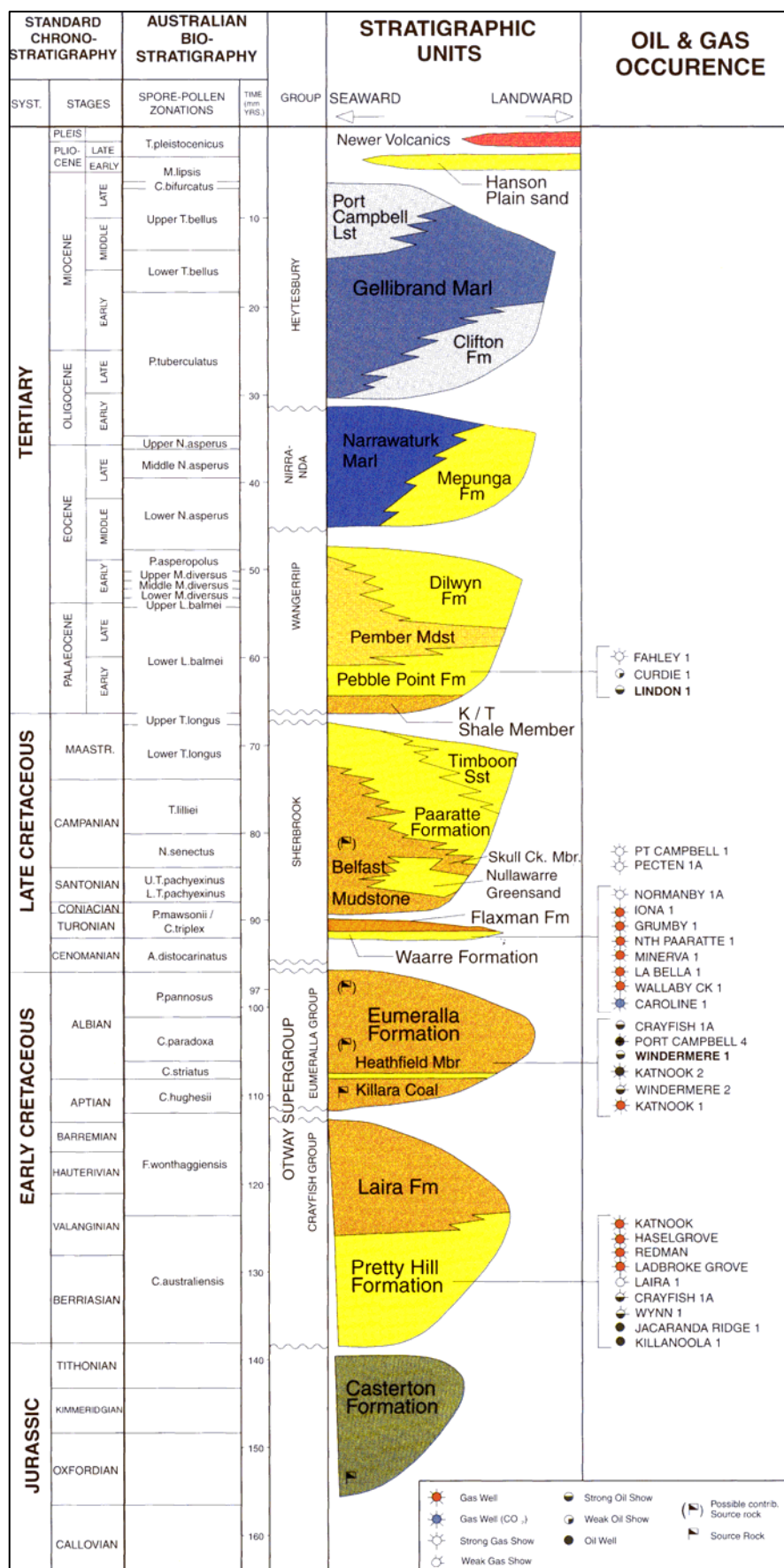


Figure 3: Killarney EPRL 1 and Port Fairy 1 Top Waarre Formation Two Way Time

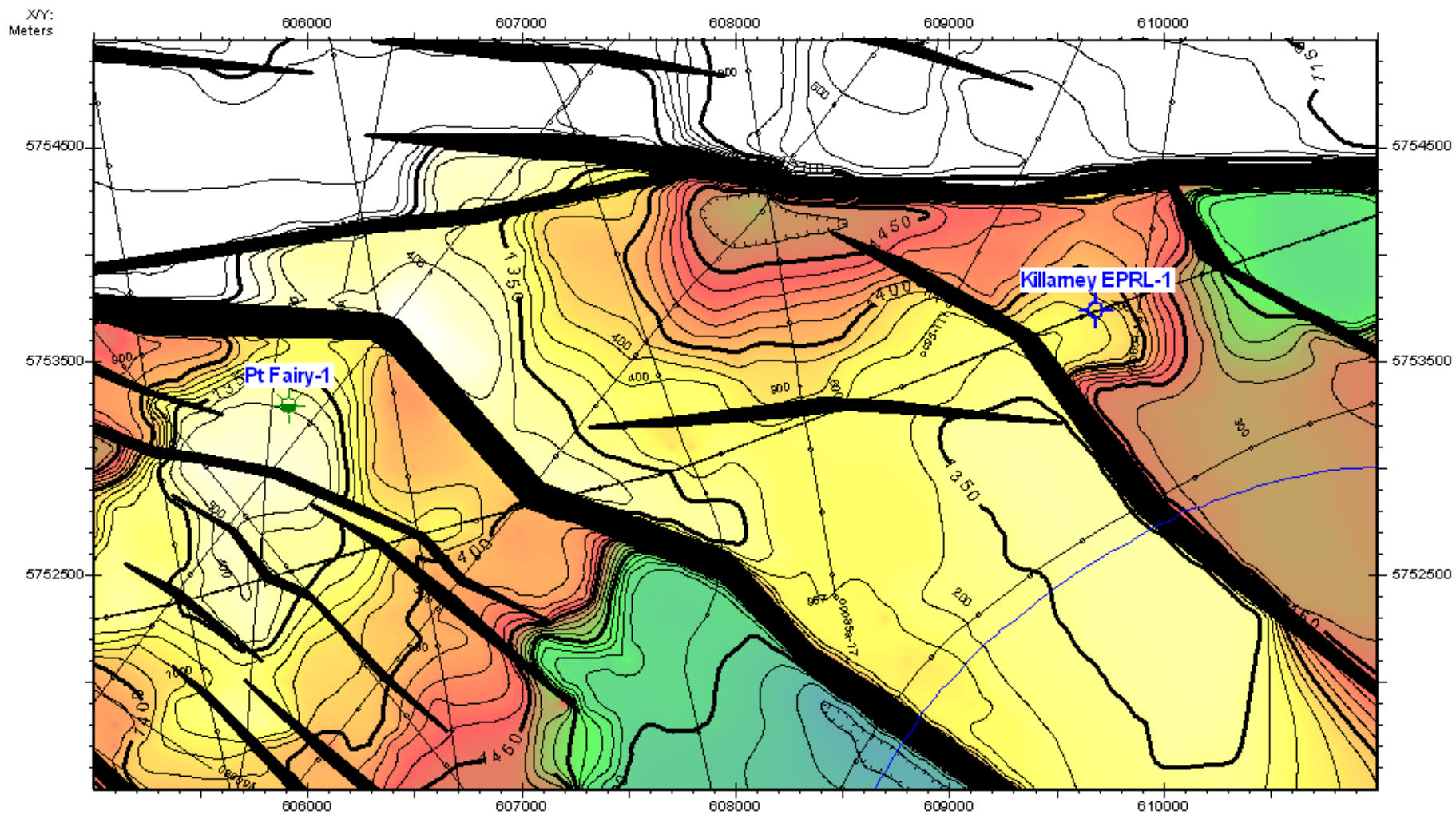


Figure 4: Composite Seismic Line Port Fairy 1 to Killarney 1

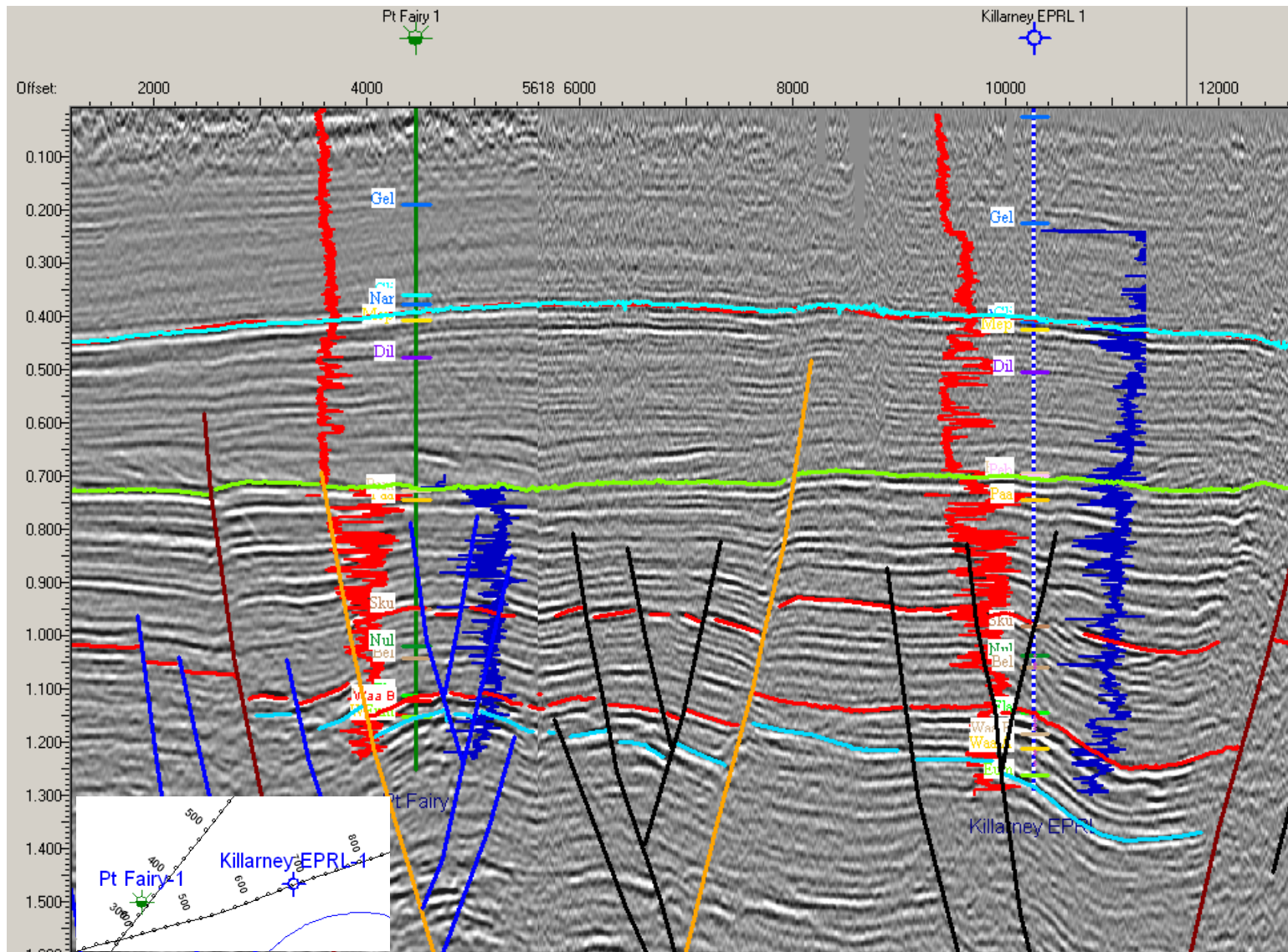


Figure 5: Detail of amplitudes and thickening in the Flaxman and Waarre intervals; the datum is set at a near-base Flaxman reflector.

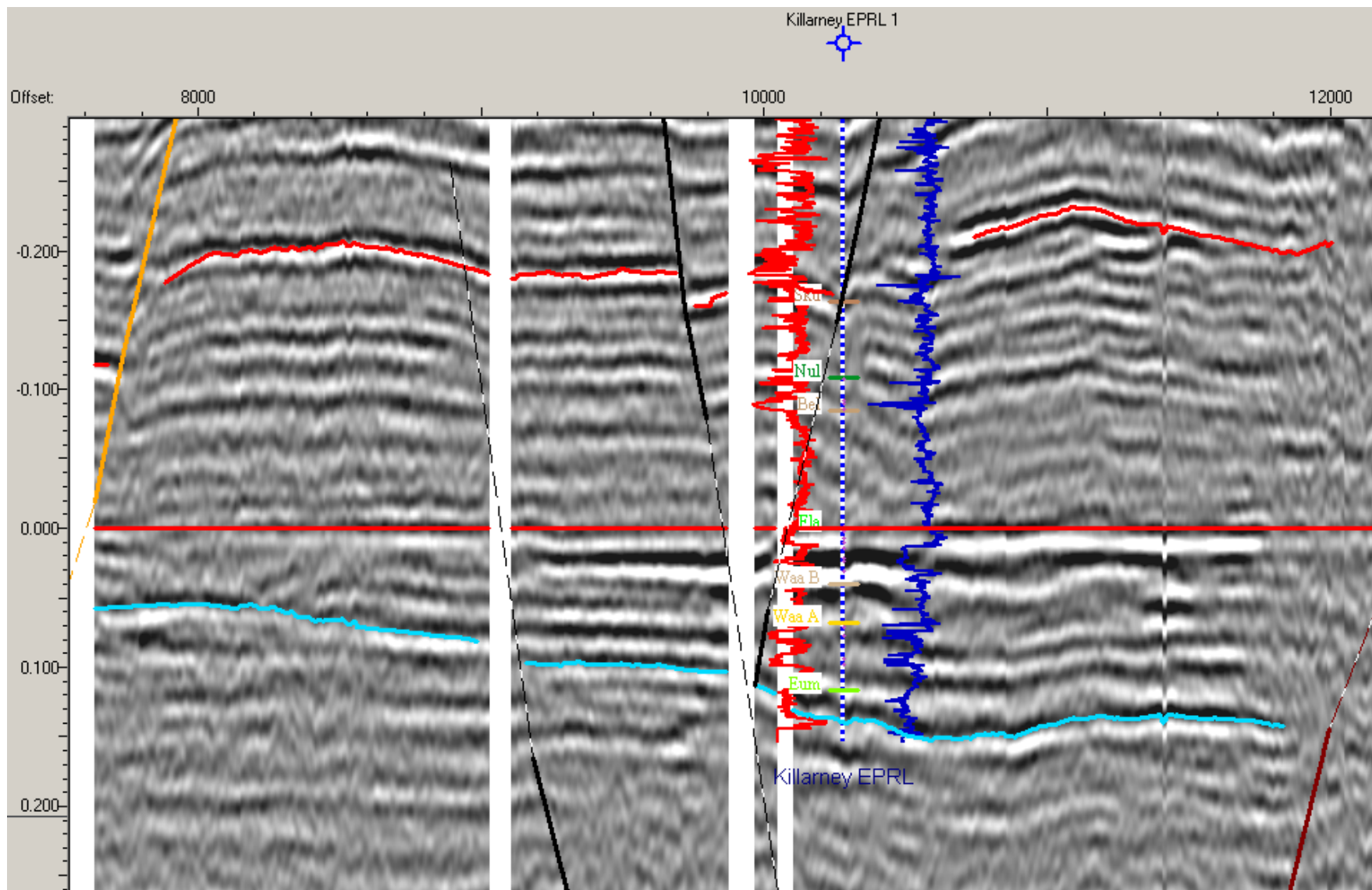
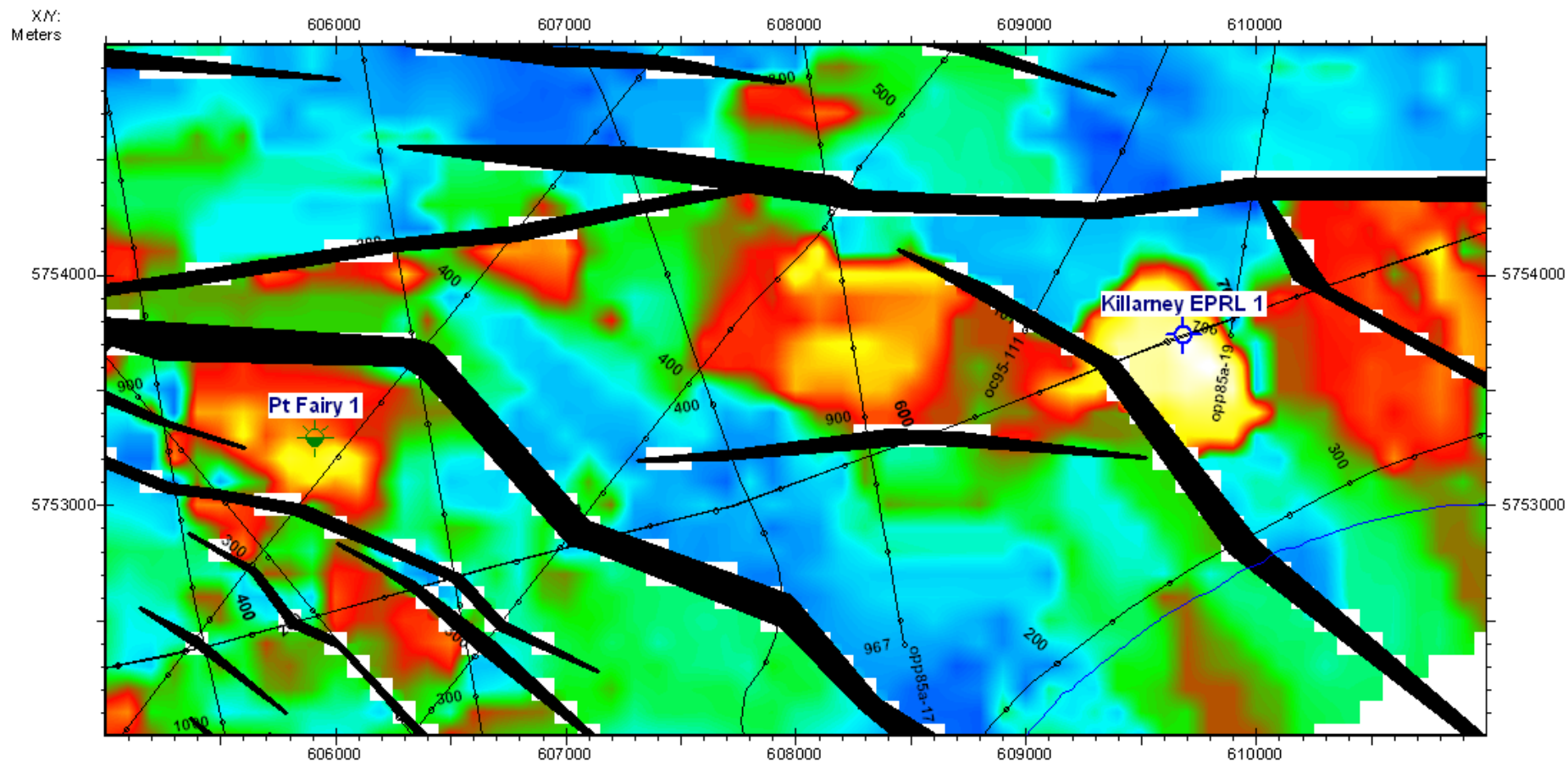


Figure 6: RMS amplitudes in a 50 msec window across the base Flaxman and top Waarre interval.



2 WELL HISTORY

2.1 GENERAL DATA

General well data are given in Table 1, and the location shown in Figures 1 & 3. The surveyor's report is shown in Appendix 1.

Table 1: General Well Data

Well name:	Killarney EPRL 1
Classification:	Exploration
Permit operator:	Essential Petroleum Resources Limited
Well operator:	Essential Petroleum Resources Limited Level 2, 226 Albert Rd South Melbourne, Victoria 3205
Participants:	Essential Petroleum Resources Limited 84.41% Level 2, 226 Albert Road South Melbourne, Victoria 3205 Lakes Oil NL 15.59% Level 11, 500 Collins St Melbourne Victoria 3000
Basin:	Otway Basin, onshore western Victoria
Lease:	PEP 152
Seismic location:	Line OPP85a-16, SP 684.
Coordinates: Datum GDA94	Latitude 38° 21' 22.78", Longitude 142° 15' 24.18" Easting 609,803.3m, Northing 5,753,917.2m, MGA Zone 54
Elevation:	Ground Level (GL): 1.60 metres AHD Rotary Table (RT): 5.49 metres AHD (All depths relate to RT unless otherwise stated)
Property owner:	Paul (Wally) Sheehan
Nearest town:	The coastal township of Port Fairy, approximately 4 km southwest of the well.
Nearest well:	Port Fairy 1.
Measured depth:	1640.8 m (Driller) 1635.1 m (Logger)
Spud date:	12:30:00 on 9/06/2004.
TD reached:	20:30:00 on 17/06/2004.
Days to Drill:	8.3 days
Drill rig released:	22:00 on 20/06/2004
Well status:	Plugged and Abandoned.

2.2 CONTRACTORS

Table 2: List of Contractors

Service	Contractor
Operator	Essential Petroleum Resources Limited
Drilling Manager	Kelly Down Consultants Pty Ltd
Environmental Site Assessment	Enesar Consulting Pty. Ltd.
Precollar Drilling	Sides Engineering
Drilling Rig	Hunt Drilling Rig 2
Location Survey	Vincent Land Surveying
Site Construction	Walter Mellis, Waldoo Pty. Ltd.
Water Well	P. Mahoney, Pt Fairy
Cementing	RMN Drilling Fluids
Mud	RMN Drilling Fluids
Mud Logging	Geoservices
Electric Logging	Schlumberger
Drilling Tools	Hunt Energy
Drill Stem Testing & Coring	DST Australia Pty. Ltd.
Casing	Marubeni
Wellheads	Wood Group
Waste Disposal	Transwest Environmental
Accommodation	Rig camp at Port Fairy 1 location
Communications	South West Communications

3 ENGINEERING DATA

3.1 WELL STATUS

After logging the well was plugged and abandoned on 22/06/04.

3.2 OPERATIONAL SUMMARY

3.2.1 Logistics and Planning

Kelly Down Consultants Pty Ltd managed the drilling on behalf of Essential Petroleum Resources Limited and the PEP152 Joint Venture. Supply and service contractors are listed in Table 2.

3.2.2 Site Preparation

Site construction for Killarney was commenced in May 2004. The drilling site is located between the Moyne River and the wetland Belfast Lough, and was susceptible to flooding from the Moyne River during the approaching wet season.

The lease was stripped of topsoil, which was stockpiled for future rehabilitation of the site and the lease and access road formed with 450mm of compacted pavement material. The lease was fenced and gates installed to prevent dairy cattle straying on to the site. A water well was drilled on site to provide drill water due to local regulations precluding the use of water from the Moyne River a few meters away.

Due to the expected basalt formation close to surface, Sides Engineering were mobilised with a Bourne rig equipped with air compressors and hammers to set the conductor and drill the mousehole and rathole. Progress was slow due to the top 3.7m of formation being unstable and collapsing when trying to drill the underlying basalt. 20" pipe was run to 7.6mRT and drilling continued. Large volumes of water were produced from 23.3mRT, washing out the formation under the Sides rig. The hole was grouted to surface, the rig levelled and hole re-drilled.

Basalt was drilled from 12.2 to 27.3mRT with basalt rubble to 26.4m and limestone to 46.3mRT. 13 ¾" Conductor casing was run and cemented to 45.6mRT. 12 ¼" holes were drilled at an angle to facilitate the running of mousehole and rathole by the Hunt rig.

3.2.3 Mobilisation and Pre Spud

Hunt Rig 2 was mobilised from Eastern Victoria and arrived on site 0600, 8 June 2004. Rig setup continued until 11:30 the following day. A pre-spud safety meeting was held on the rig at 12:00hrs on June 9, 2004.

3.2.4 12 ¼" Hole section

Killarney EPRL 1 was spudded at 12:30 hrs on the June 9, 2004. Cement was tagged at 37m inside the conductor pipe and drilled out. The 12 ¼" hole section was drilled using gel mud at 8.7-9.3 ppg. From 49.5 to 61m drilling took place with reduced parameters to minimise hole washout. After a wiper trip and pipe strap, the hole was deepened to 258m (section TD) to better accommodate the casing.

Surveys were recorded of 0.5" at 49.5m, and 1.25" at 246m. Minor time losses were caused by a leak in the dresser sleeve at 56m, and repairs to the wireline and recovery of the survey tool at 246m.

3.2.5 9 ⅝" Surface String

A string of 9 ⅝" K55 40 ppf BTC casing was run to a shoe depth of 255.8m. The string was cemented to surface with 340 sacks of class A cement (15.6 ppg plus 1% CaCl) and displaced with 62.5 BBL water. Cement returns to surface were noted after 47 bbl displaced. Plugs were bumped with 460 psi and increased to 1500psi to test casing. After waiting on cement for 8 hours, the landing joint was removed, 9.675" Bradenhead installed, and BOPs nipped up and tested successfully at 300 and 2500psi.

Pressure testing of the choke manifold, blind rams and kill line valve to 300psi and 2500psi was successful. The cup tester was picked up and repairs were made to the outer manifold valves and pipe rams.

3.2.6 8 ½" Hole Section

The 8 ½" BHA and PDC bit were made up and run in. Cement was tagged at 236m, and the plug and shoe drilled to 251 m. The hole was displaced to 8.65 ppg PHPA KCl mud. After rig repair in which the BOP pipe rams were stripped and the seals replaced, the casing was successfully pressure-tested to 300psi and 2500psi. 8½" hole was drilled using a polycrystalline diamond compact drill bit to 256m, the rathole cleaned to 258m and new hole drilled to 261 m. A formation integrity test was conducted to 12.5 ppg mud weight equivalent, using 8.5 ppg mud with 175 psi surface pressure (1.5 SG). The hole was drilled ahead to 963 m, with the rate of penetration averaging between 22.5 and 24.2 m/hr. Surveys were recorded at 451 m (1.0°), 607 m (0.5°), and 951 m (2.0°). Below 963 m, the average rate of penetration dropped to between 12.8 and 16.5 m/hr. The hole was drilled ahead to 1321 m, and a survey of 2.0° was recorded at 1206 m. Samples were circulated up at 1065 m. At 1321 m the hole was circulated and a flow check was performed. The drill string was pulled out of the hole for a bit change. Minor tight spots were encountered pulling through the Nullawarre and Dilwyn Formations.

A new tungsten carbide insert tricone bit was fitted to the drill string for control drilling in the target horizons, and the bottom hole assembly was extended with two additional 6¼" drill collars. The new bit was run in and tight spots from 1074m to 1321m washed. The 8½" hole was drilled to TD at 1640 m with rates of penetration averaging 8.8-12.9 m/hr. Samples were circulated up at 1394 m, 1440 m and 1498 m. A wiper trip was run, during which tight spots from 1280 to 1262m were worked and tight spots and laying out two singles of drill pipe. Tight spots were worked from 1017m to 1112m, the drill string run in and fill tagged at 1612m. The hole was washed 28m to bottom and surveyed, the string strapped out and Schlumberger rigged for logging.

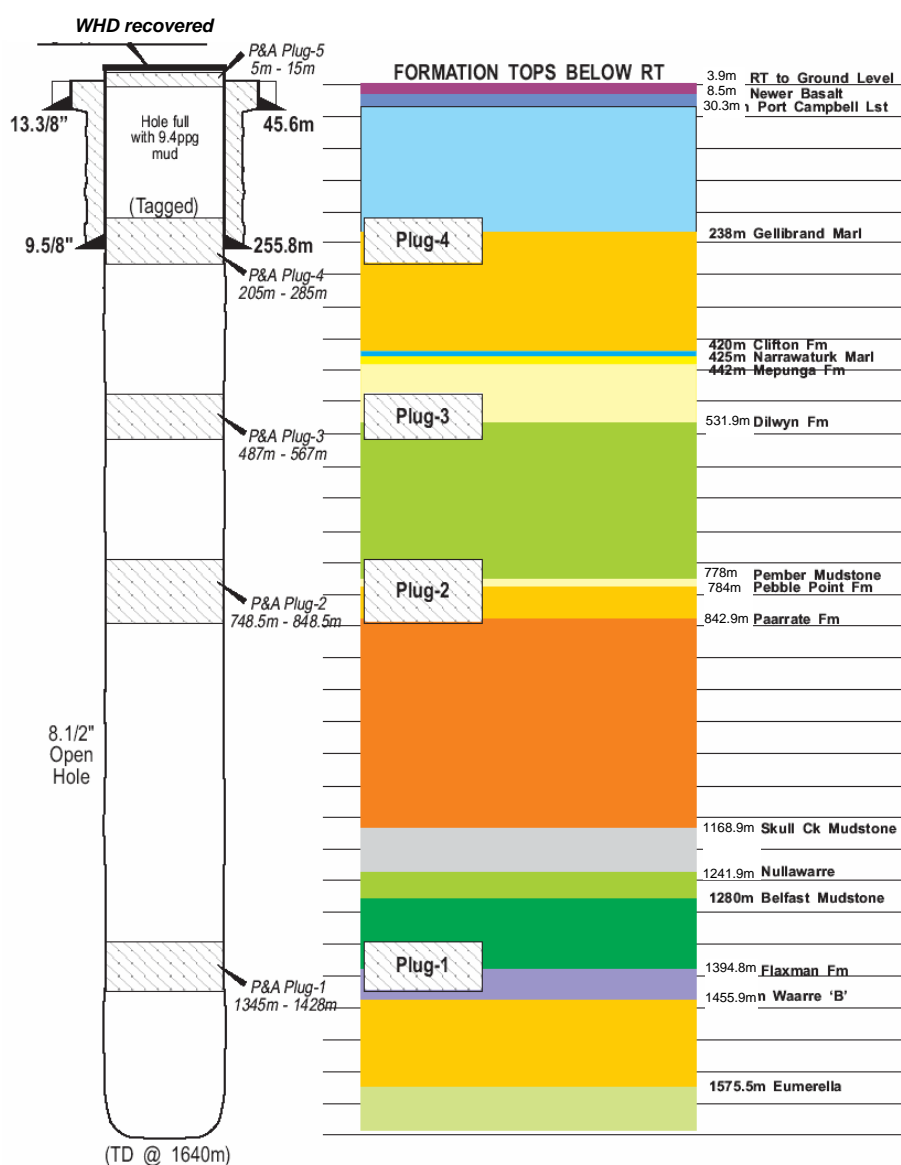
3.2.7 Plug and Abandon

Killarney EPRL 1 was plugged and abandoned. The abandonment schematic is shown in Fig. 7. The drill string was run in open-ended to 1428m. Plugs were set:

- Plug #1 from 1428m to 1345m with 113 sx class A cement.
- Plug #2 from 848.5m to 748.5m with 131 sx class A cement.
- Plug #3 from 567m to 487m with 118 sx class A cement
- Plug #4 from 285m to 205m

After waiting on cement Plug #4 was tagged at 203m. The drill string was pulled out, BOP nipped down and the wellhead recovered. Surface 10m cement plug was set and steel plate and well identification welded on. The rig was released at 22:00 20/06/2004.

Figure 7. Abandonment schematic



3.3 DAILY OPERATIONS

3.3.1 Daily Drilling Reports

The details of the daily activities during rig up and drilling operations for the Killarney EPRL 1 well are presented in the Daily Drilling reports in Appendix 2.

3.3.2 Time Performance

The time – depth curve for Killarney EPRL 1 is presented in Figure 8 and a time breakdown is presented in Table 3. The only delay was caused by the failure of the pipe rams and some choke manifold valves to pressure test on nipple up. Time was spent on repairs before replacement seals were sourced from Adelaide. The 8.5" PDC bit was pulled and changed for a tri-cone bit prior to the target horizons to improve recognition of drilling breaks.

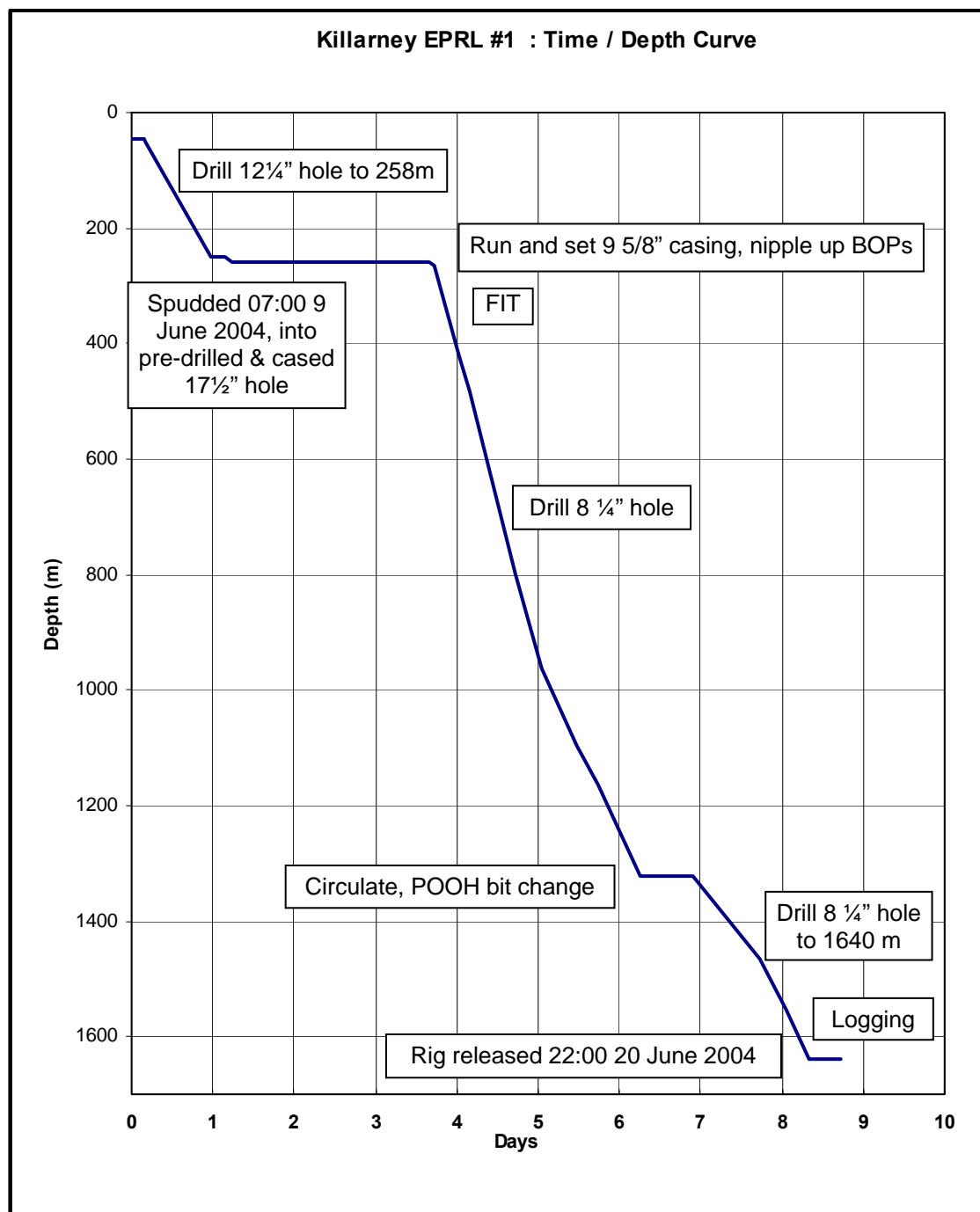


Figure 8: Killarney EPRL #1 Time - Depth Curve

Table 3 Completion time summary.

OPERATION	DAYS	%
Drill Actual	8.25	55.46
Reaming	0.25	0.07
Rig Repairs	0.52	0.15
Logging	0.96	0.27
Condition Mud	0.35	0.10
Circulate Samples	0.06	0.02
Casing & Cementing	0.96	0.27
Tripping for Bit / TD	1.13	0.32
Tripping to Evaluate Well	0.54	0.15
Hole Problems	0	0.00
Deviation Surveys	0.20	0.05
Install BOP / LOT	1.06	0.30
Abandon Well	0.58	0.16
Routine HSE	0.02	0.01
HSE Related Incidents	0	0.00
TOTAL DAYS	14.87	100.00

3.3.3 SURVEYS

Deviation measured in the well did not exceed 2.5°.

Table 4: Deviation Surveys

Depth	Deviation
49.5	0.50°
246	1.25°
451	1.0°
697	0.50°
961	2.0°
1,206	2.0°
1,309	1.25°
1,628	2.50°

3.4 BHA AND BIT SUMMARIES

Table 5: Bit and BHA Record

Bit No	In	mm	Jets	Make	Type	IADC code	In	Out	Made	Hrs	Cond	Reason Pulled
	17 ½	445					3.9	45.9	42			Casing point
	Notes		Pre-collar hole was air hammered to base basalt then mud rotary drilled to section TD									
1rr	12 ¼	311	3 x 18	Varel	M22	117	49.5	258	212.1	23	2-3-WT-A-E-1-NO-TD	Casing point Stabilizer @ 10m + Jars
	BHA		10x 6¼" DC + 4x HWDC									
2rr	8 ½	216	5 x 12	DBS	FS2565		258	1321	1063.0	39.5	1-2-1-A-X-I-N-F	Programmed bit change Stabilizer @ 10m + Jars
	BHA		PDC Bit + F/Sub + 1x 6¼" DC + Stab + 10x 6¼" DC + Jars + 6x 6¼" DC + 6 HWDP = 226.66m									
3	8 ½	216	3 x 13	Varel	CH04MS	417	1321	1640	319	23.1	1-2-WT-G-E-I-NO-TD	TD Stabilizer @ 10m + Jars
	BHA		TCI Bit + F/Sub + 1x 6¼" DC + Stab + 12x 6¼" DC + Jars + 6x 6¼" DC + 6 HWDP = 245.26m									

3.5 CASING AND CEMENTING SUMMARY

The casing and cementing program is summarised in Table 6, and the casing running list and plugging program are presented in Appendix 3.

Table 6: Casing and Cementing Details

Hole Size (in)	Hole Depth (mRT)	Casing Size (in)	Shoe Depth (mRT)	Casing type	Casing Eqpt	Cementing	Comment
17 ½	45.9	13 3/8"	45.6	68 ppf K55 BTC		To surface	
12 ¼	258	9 5/8"	255.8	40 ppf K55 BTC	Float shoe, float collar	To surface with 340 sx Class A at 15.6 ppg plus 1% CaCl. Displaced with 62.5bbl water. Cement returns observed. Plugs bumped with 1500 psi.	FIT: held 12.5 ppg MWE (1.5 SG) with 8.5 ppg (1.02 SG) drilling fluid.

Table 7 Summary of MDT testing.

Test File		Depth (m)	Drawdown Mobility (MD/CP)	Mud Pressure (PSIA)		Last read build-up pressure (PSIA)	Drawdown volume at 1500 psi drawdown, and ccomments
				Before	After		
4	56	1244.13	1.40	2040.45	2040.06	1859.88	1.00 cc Supercharged
5	57	1269.05	20.00	2080.70	2080.36	1839.77	Good Test low mobility
6	58	1271.64	919.16	2084.44	2084.20	1843.11	Good Test
7	59	1278.03	83.18	2094.49	2094.25	1852.27	Good Test low mobility
8	60	1244.04	1.09	2038.07	2037.69	1863.32	0.96cc supercharged
9	63	1393.02	0.28	2280.55	2280.42	1337.26	1.64 cc not stabilizing, client cancelled
10	64	1397.04	0.10	2287.03	2286.82	2187.15	1.31 cc pre test, not stabilizing.
11	65	1405.01	0.45	2299.44	2303.24	1547.86	1.07 cc pretest, tight formation or isolated grain
12	66	1409.84	0.08	2311.06	2310.73	1320.56	0.87 cc pre test tight formation
13	67	1415.05	0.46	2319.10	2318.80	580.48	1.0 cc pre test tight formation
14	68	1426.50	5.81	2337.37	2337.19	588.39	0.92 cc pre test tight formation
15	69	1430.60	0.94	2343.84	2343.63	675.69	0.7 cc pre test tight formation
16	70	1441.01	0.37	2360.48	2360.20	777.59	0.88 cc pre test tight formation
17	72	1504.01	0.11	2463.75	2463.32	1080.71	1.16 cc pre test tight formation
18	73	1513.02	0.21	2478.08	2477.86	966.88	1.2 cc pre test tight formation
19	74	1539.02	0.10	2520.48	2523.11	1476.42	1.17 cc pre test tight formation
20	75	1546.51	0.19	2535.32	2534.89	998.28	1.07 cc pretest tight formation
21	76	1565.50	0.14	2565.97	2565.73	1920.71	1.17 cc pre test tight formation
22	77	1578.02	0.13	2586.20	2585.90	1268.78	1.18 cc pre test tight formation
23	78	1584.98	0.10	2564.21	2597.41	1215.40	1.3 cc pre test tight formation

3.6 DRILLING FLUIDS

Drilling fluid details are summarised in the Operational summaries (Section 3.2). The drilling fluid contractor's mud recap is provided in Appendix 4. Drilling fluid chemistry was effective throughout the well. Table 7 Summary of MDT testing.

4 FORMATION SAMPLING AND TESTING

4.1 CUTTINGS

Cuttings were collected at 10 metre intervals to a depth of 730 mRT, at 3 metre intervals from 730 to 817 mRT, at 6m intervals from 817 to 847 mRT, at 3m intervals from 847 to 858 mRT, at 6m intervals from 858 to 1138 mRT, at 3m intervals from 1138 to 1144 mRT, at 6m intervals from 1144 to 1264 mRT, at 3m intervals from 1264 to 1273 mRT, at 6m intervals from 1273 to 1321 mRT, at 3m intervals from 1321 to TD. Detailed cuttings descriptions are presented in Appendix 5.

4.2 CORES

No sidewall cores or conventional cores were cut.

4.3 TESTING

No testing was carried out. Zones exhibiting log porosity were investigated by MDT pressure testing (see 4.5 Wireline Logging). The results are presented in Enclosure 3, and summarised in Table 7.

4.4 MUD LOGGING

Geoservices provided a skid mounted mudlogging unit. Depth, penetration rate, mud gas, pump rate, and mud volume data as well as mud chromatographic analysis was recorded from 46m RT to total depth. Rate of penetration, weight on bit, total gas and chromatography were recorded and plotted on the Formation Evaluation Log (Mud Log) and are presented in Enclosure 1.

4.5 WIRELINE LOGGING

Wireline logging was carried out using a Schlumberger MAXIS unit. The logging suite consisted of three logging runs. A composite log is provided in Enclosure 2. Individual Logs are presented in Enclosure 3. Details of the log depth intervals for each log run are presented in Table 8.

Run	Depth (mRT)	Log	Top Log Interval	Bottom Log Interval	BHT Deg. C
1	1634	GR	surface	1621.3	63
		SP	250	1609.5	
		HALS	255.8	1629.0	
		PEX	251	1626.5	
		MCFL	255.8	1629.0	
		BHC	210.0	1631.0	
		HNGS	1250	1619.0	
2	1632.4	CSAT	255.5	1632.4	63
3	1632.4	MDT	255.5	1632.4	63

Table 8 Wireline logging.

4.6 VELOCITY SURVEY

A velocity check shot survey was carried out using explosives. A synthetic seismogram was computed from the sonic log and checkshot surveys. The results are shown in Appendix 6 and the logs are presented in Enclosure 3.

4.7 PETROPHYSICAL ANALYSIS

A petrophysical analysis of the wireline logs is presented in Appendix 7, and a summary of the results is given below.

“The purpose of this study was to examine the reservoir characteristics of the sands encountered in the Killarney-1 well. The wireline logs were quantitatively interpreted over the interval 1000m to 1637m to determine shale volume, porosity and water saturation.

Killarney-1 was spudded on 9th June 2004, by Essential Petroleum Pty Ltd and drilled to a total depth of 1604m. No fluorescence associated with sands was recorded throughout the reservoir section and no significant gas shows were recorded. The well was plugged and abandoned on 20th June 2004.

The sands of the Dilwyn Formation (1004.0-1038.7m) are of excellent reservoir quality. A total of 14.4m of net reservoir sand is interpreted with an average porosity of 22.0%. There were no visual or significant gas shows observed during drilling. The sands are interpreted to be water saturated.

The Paarate Formation (1114-1170m) consists of excellent reservoir quality sandstones interbedded with shale. A total of 23.7m of net reservoir sand is interpreted over the gross interval 1114.0-1168.7m, with an average porosity of 22.8%. There were no visual or significant gas shows observed during drilling. The sands are interpreted to be entirely water saturated.

The Skull Creek Mudstone (1170-1242m) is interpreted to consist of shale with some thin cemented sands. The exception is at 1194m where a 0.9m sand is interpreted to have 21.0% porosity and 100% water saturation.

The Nullawaare Formation (1242-1284m) consists of greensand interbedded with minor silt and claystone. The greensand is described as fine to medium grained, green-black glauconite with occasional grey/green aggregates. Poor visual porosity was described in the cuttings. The best sand was intersected over the interval 1242.5-1279.7m and consists of intervals with excellent reservoir properties interbedded with tightly cemented intervals. A total of 14.6m of net sand is interpreted with an average porosity of 17.2%. The section is interpreted to be entirely water saturated.

The Flaxman Formation (1393-1437m) consists of interbedded glauconitic sandstone and claystone. The PEF increases to over 7 indicating the strong presence of glauconite. The sands are described as fine to medium grained with good inferred porosity. A total of 0.3m of net reservoir sand is interpreted over the interval 1402.9-1404.5m, with an average porosity of 13.7%. The target interval was intersected over the interval 1413-1437m. The interval is seen on wireline logs as a very hard zone with a decrease in sonic slowness. The section is described as dark green to black glauconitic sandstone, with a weak silica cement. The PEF is over 10, reflecting the high concentration of glauconite. The section is interpreted to be tight with porosities less than 8%.

The Waarre Formation consists of interbedded claystone and argillaceous sandstone. Sands are interpreted over the intervals 1510-1523m and 1535-1548m, however the neutron/density crossplot indicates that they are argillaceous. A total of 4.7m of net reservoir sand is interpreted over these intervals with an average porosity of 9.3%. The higher resistivities within these sands are a response to the cemented zones. The interval is interpreted to be entirely water saturated.”

5 GEOLOGY

5.1 STRATIGRAPHY

The stratigraphic section penetrated in Killarney EPRL 1 is shown in Table 9 below. Formation tops were picked by reference to Port Fairy No 1.

Table 9 Stratigraphic Table

Stratigraphic Unit		Depth RT (m)	Thickness (m)	Elevation AHD (m)
Alluvium		4.3	3.9	1.2
Newer Basalt		8.5	4.2	-3
Pt Campbell Lst	Heytesbury	30.3	21.8	-24.8
Gellibrand Marl		238	207.7	-232.5
Clifton Fm		420	182.0	-414.5
Narrawaturk Marl	Nirrand a	424.3	4.3	-418.8
Mepunga Fm		442	17.7	-436.5
Dilwyn Fm	Wangerrip	531.9	89.9	-526.4
Pember Mudstone		778	246.1	-772.5
Pebble Pt Formation		784	6.0	-778.5
Paaratte Fm	Sherbrook	842.9	58.9	-837.4
Skull Ck Mbr		1168.9	326.0	-1163.4
Nullawarre Gsnd		1241.9	73.0	-1236.4
Belfast Mdst		1280	38.1	-1274.5
Flaxman Fm		1394.8	114.8	-1389.3
high amplitude seismic event		1414		-1408.5
Waarre Fm (B)		1455.9	61.1	-1450.4
Waarre Fm (A)		1497.7	41.8	1492.2
Eumeralla Fm		1575.5	77.8	-1570.0
TD (wireline)		1634.8		-1629.3

5.2 LITHOLOGY

The full cutting descriptions are provided in Appendix 5 and summarised by interval on the Composite Well Log. Formations encountered in Killarney EPRL 1 are described below.

Newer Basalt and unnamed Quaternary sediments

Fresh Newer Basalt was encountered below 4m of sand at 8.5m. The base of basalt was encountered at 30.3 m. Water influx was noted from 23.3 m.

Heytesbury Group, Late Eocene to Pliocene

Port Campbell Limestone (30.3–238.m)

The upper section of the Port Campbell Limestone consists of a white to very light brown medium grained calcarenite, variably cemented and friable with rare glauconitic bands and rare large quartz grains. The central section is a very light greyish yellow to light grey, very fine grained and very poorly sorted calcarenite which grades to calcisiltite at base of interval. The lowest section is calcisiltite with minor grey clay in irregular patches, abundant coarse fossil fragments, possible bioturbation, patchy calcite cementation. There is decreasing calcarenite towards the base of the interval.

Gellibrand Marl (238 – 420m)

The Gellibrand Marl consists of medium to light grey marl, very soft to friable, sticky in part, becoming more clay-rich towards the base of the interval; occasionally it is very light greenish grey and speckled with dark grey and very dark green glauconite. There are common to abundant dispersed calcarenite grains, and it is very fossiliferous in part.

Clifton Formation (420 – 424.3.3m)

Fine to coarse grained fossiliferous calcarenite: mottled white to yellow, with calcareous cement, rare glauconite, and trace very dull yellow mineral fluorescence. The Clifton Formation becomes greyish brown, finer grained, micritic and clayey toward base of interval. It is thin, but clearly distinguished on logs by the presence of clean limestone at the top.

Nirrandra Group, Middle Eocene to Early Oligocene

Narrawaturk Marl (424.3 – 442m)

Marl, medium greyish brown, poorly sorted, arenaceous, fine grained, micritic and clayey toward base of interval.

Mepunga Formation (442 – 531.9 m)

Sandstone: clear to yellowish brown, very fine to coarse grained, poorly sorted, loose grains with brown variably calcareous matrix adhering in places; in places iron stained or showing pyrite cement. Interbedded with grey to brown siltstone grading to claystone, finely micaceous, soft, with common coarse fossil fragments. The formation top is picked on the first appearance of quartz sand at the top of a 15 m thick coarsening-upwards cycle.

Wangerrip Group, Palaeocene to Middle Eocene

Dilwyn Formation (531.9 – 778m)

Predominant sandstone, interbedded with minor mudstone in successive coarsening-upwards cycles. The sandstone is clear, white, or pale yellow, fine to very coarse grained, moderately sorted, with angular to subangular loose clean grains, and traces of calcite cement, clear quartz overgrowths, and coarse mica. Its visual porosity is predominantly very good. The mudstone is silty and soft, medium greyish brown, finely speckled, with traces of carbonaceous material and mica.

Pember Mudstone (778 – 784m)

The Pember Mudstone consists of medium to dark brown siltstone, clayey, sandy with quartz and lithic grains, and tuffaceous in part. It is soft/dispersive in part, firm to very hard in part, with traces of carbonaceous material and occasional marine fossil material.

Pebble Point Formation (784 – 842.9m)

The upper section of the Pebble Point Formation is predominantly a moderately sorted coarse to very coarse sandstone, clear to light brown, occasionally dark yellowish brown, containing traces of glauconite and pyrite. The sub angular grains are loose with traces of matrix adhering. Visible porosity is poor. In the central section the lithology is similar to the upper section but with silty matrix increasing to form a silty sandstone. The lower mudstone section contains a mottled light to medium brown siltstone which is sandy, clayey, and feldspathic in part, and a mottled red to green glauconitic silty claystone, with glauconite a major component between 829 - 839 m.

Sherbrook Group, Late Cretaceous

Paaratte Formation (842.9 – 1168.9m)

The Paaratte Formation consists of interbedded sands, siltstones and claystones. The top of the formation is picked on the first appearance of sandstone below the characteristic high gamma-ray signature of the lowermost Pebble Point Formation. Sandstone: clear to milky white or light brown to light grey, very fine to very coarse, moderately to well sorted and in places bimodal, subrounded to angular. The grains are quartzose with traces of mica, fine carbonaceous material, coaly plant fragments, and possible pale green aphanitic tuff. Grains may be loose, or in firm to friable aggregates. A silty or in places argillaceous matrix is common, and grains may show slight traces of quartz overgrowths or be bound with quartz or slight calcareous cement. Silty sandstone: light to dark grey, very fine to medium grained, poorly sorted, dense silty clay matrix, finely disseminated mica and carbonaceous material, with pyrite and glauconite in places and some marine fossils. Siltstone: grey, brown or white, sandy in parts. Various intervals contain mica, glauconite, pyrite, possible tuff, fine feldspars, marine fossils and traces of pyritised wood. Claystone: medium grey to greyish brown, blocky, soft to firm, homogeneous, and sandy in parts.

Skull Creek Mudstone (1168.9 – 1241.9 m)

The Skull Creek Mudstone is a silt and claystone dominated sequence with minor sandstone. Silty claystone, (10-80%): medium to dark brownish grey, occasionally greenish grey, blocky, firm to hard, grades to fossiliferous siltstone (10-40%) and sandstone in coarsening upward cycles. At 1193m there is a band of very fine to fine sandstone: loose grains, clear, angular, moderately sorted, argillaceous, quartzose, trace glauconite.

Nullawarre Greensand (1241.9– 1280 m)

In the Nullawarre Greensand, sandstone is interbedded with silty claystone, silty sandstone and siltstone. Sandstone: translucent, greenish grey, well sorted very fine to medium grained, grains are quartzose, with glauconite, grey smoky quartz and lithics. The grains are predominantly loose with traces of an argillaceous and in places calcareous matrix adhering. Siltstone, two types: very light greenish grey, trace very fine glauconite; and greyish brown, trace fine carbonaceous material, grading to silty claystone. Both siltstones are finely sandy, speckled, soft to hard, calcareous in part with traces of marine fossils. Silty claystone: medium to dark greyish brown, fossiliferous, very glauconitic in part, pyritic in part. Sandstones within the Nullawarre Formation appear to be highly cemented however thin intervals with fair porosity remain.

Belfast Mudstone (1280 – 1394.8 m)

The Belfast Mudstone is a homogeneous dark olive grey silty claystone, blocky, traces of fine glauconite and very fine sand grains washing out, micaceous in part, calcareous. The claystone grades to siltstone: medium brownish grey, soft, speckled with traces of glauconite in part. Minor coarsening-upwards sequences are recognisable on the logs.

Flaxman Formation (1394.8 – 1455.9m)

The Flaxman Formation consists of generally glauconite-rich claystone and sandstone, and at the base of the interval a siltstone/silty claystone which is similar to the underlying Waarre Formation (unit B). The base of the Flaxman Formation is not well-defined. A 28-m hard band at 1414 m is prominent on the resistivity and sonic logs. It consists of glauconitic sandstone, greenish black hard peloids, up to 100% glauconite loose in clay but containing 10-20% quartz in parts, in some intervals glauconite and possible chamosite pellets fused into very hard splintery aggregates, in some intervals firmly consolidated with black claystone matrix. The high glauconite content causes a very high response on the PEF log.

The remainder of the Flaxman Formation contains claystone: medium to dark green to greyish green, bluish, reddish brown, very soft, reddish brown mottled in part, and glauconitic claystone: green, firm to hard but dispersive/sticky in drilling mud. At the base of the formation a siltstone, medium grey, greyish green, brown, carbonaceous in part, occasional glauconite laminae, and pyritic silty claystone, pass downwards into the underlying formation.

Waarre Formation (unit B) (1455.9 – 1497.7m)

The Waarre Formation (unit B) is similar to the overlying Flaxman Formation and contains medium grey, greyish green, or brown siltstone, carbonaceous in part, with occasional glauconite laminae, and pyritic silty claystone.

Waarre Formation (Unit A) (1497.7 – 1575.5m)

The Waarre (A) contains poorly sorted very fine to fine sandstone, white to very light grey, very silty in part, abundant white clay matrix with abundant loose grains washing out, interbedded with soft very light grey siltstone and white to pale brown silty claystone, sandy and soft, with trace lithic grains.

The identification of this interval as Waarre (A) is based on a tentative pick of the top Eumarella Formation, and accommodates substantial thickening in the Flaxman to Eumarella Formations (interpreted from seismic sections). An alternative interpretation

would be that the Waarre (A) is absent in this location, and the interval is upper Eumarella Formation.

Eumeralla Formation (1575.5 – 1634.8m (logger) TD)

The upper section of the Eumeralla Formation consists of a greenish well sorted fine to medium quartz litharenite sandstone, subangular, loose, clay matrix washing out at shakers, slightly calcareous in part, with abundant white, light and dark grey, green and red lithics. At the base of the interval the formation is a very light grey siltstone, quartzose, homogeneous, friable blocky, and soft.

Formation	Interval (m RT)	Drill Porosity	Drill HC (maximum)	Petrophysical analysis
Mepunga	490-510	poor to fair	110 ppm	N/a
Dilwyn	534-773	very good	1000 ppm	N/a
Paarrate	853-855	fair	50 ppm	N/a
	870-925	good to very good	180 ppm	N/a
	934-980	trace to poor	180 ppm	N/a
	1004-1039	nil to fair	Nil	SW 95.8% 14.4m@ 22% Øeff
	1023-1040	poor to fair	Nil	N/a
	1114-1169	poor to fair	1560 ppm (C1 1135ppm C2 3ppm C3 0ppm nC4 0ppm iC5 0ppm)	SW 99.1% 23.7m@ 22.8% Øeff
Skull Ck	1193-1194	poor	1100 ppm	SW 100% 0.9m@ 21% Øeff
Nullawarre Greensand	1243-1280	trace to poor	5640 ppm (C1 2042ppm C2 1999ppm C3 28ppm nC4 0ppm iC5 0ppm)	SW 96.3% 14.6m@ 17.2 Øeff
Belfast Mudstone	1280-1394	poor to nil	4900 ppm (C1 1452ppm C2 149ppm C3 17ppm nC4 0ppm iC5 0ppm)	N/a
Flaxman Fm	1403-1405	nil	4600 ppm (C1 1674ppm C2 32ppm C3 10ppm nC4 215ppm iC5 48ppm)	Sw 100% 0.3m@ 13.7% Øeff
Waarre Fm	1510-1547	poor to nil	7720 ppm (C1 3036ppm C2 38ppm C3 0ppm nC4 0ppm iC5 0ppm)	SW 91.2% 4.7m@9.3% Øeff

Table 10: Reservoir Quality and Hydrocarbon Indications

5.3 RESERVOIR QUALITY AND HYDROCARBON INDICATIONS

Some gas was measured in the Heytesbury, Nirranda, and Wangerrip Groups but spikes (in the 100 ppm range) were unrelated to geology. The gas detector's baseline was stabilised at depth 1040 mRT. Minor gas peaks were recorded from 1143m to TD. Widely-separated small peaks were recorded from the Belfast Mudstone and the maximum gas readings came from the base of the Waarre Formation (Unit A). No oil shows were seen.

Porosity was well developed in the sandstones of the Dilwyn and Paaratte Formations and in a single sand in the Skull Creek Mudstone. In the greensands and siltstones/claystones of the Nullawarre Formation, intervals with excellent reservoir qualities are interbedded with tightly-cemented intervals. Porosity in the Flaxman and Waarre Formations was generally poor to moderate.

The observed and interpreted porosity and hydrocarbon indications in individual zones of interest are detailed in Table 10.

5.4 CONTRIBUTION TO GEOLOGICAL KNOWLEDGE

- 1) Intervals of good porosity in the Nullawarre Greensand suggest that this formation has the potential to be a good reservoir elsewhere in the basin..
- 2) Thickening of the potential reservoir section off the Port Fairy structure may be due to thickening in the Waarre Formation Units A and B, rather than the Flaxman Formation as expected. However this correlation has not been confirmed by palynology.
- 3) The strong seismic amplitudes observed in the Flaxman Formation (Fig. 4) were due to the presence of firmly cemented glauconite. Widely-varying seismic amplitudes mapped in the area cannot be considered a reliable indicator of porosity and hydrocarbons.

Appendix 1: Location Survey

PRINCES HWY

MOYNE RIVER

MOYNE RIVER

VICTORIA GAS WELL LOCATION

REFERENCE MARKS SKETCH PLAN

Well Name : Killarney EPRL 1

AMG Zone 54 on AGD-66
Easting 609 683.13
Northing 5 753 740.28
LATITUDE S 38°21'27.57"
LONGITUDE 142°15'19.33"

MGA Zone 54 on GDA-94
Easting 609 803.3
Northing 5 753 917.2
LATITUDE S 38°21'21.78"
LONGITUDE 142°15'24.18"

Elevation of rotary table 5.49 (AHD)

Ground level 1.60 (AHD)

PM 6
E 610139.99
N 5754436.87
RL 5.808

NOTES: This plan is not to scale.
Distances shown are computed grid distances.
Bearings shown are computed grid bearings.
DATUM: AMG ZONE 54 vide PMs 21 and Tower Hill MWT.
Height datum is to AHD vide PM 6.
Estimated Horizontal error is less than +/-0.20 metre.
Estimated vertical error is less than +/-0.10 metre.
Date of Survey : 23 June 2004.

Gary Vincent

Gary Vincent
Licensed Surveyor
Date 29 July 2004

RM PIPE PLACED
E 609745.04
N 5753939.00
RL 2.59

RM PIPE PLACED
E 609780.19
N 5753864.70
RL 1.59

KILLARNEY EPRL 1
E 609683.13
N 5753740.28
RL 5.49 (ROTARY TABLE)
RL 1.60 (GROUND)

RM PIPE PLACED
E 609862.06
N 5753748.79
RL 1.07

PM 21
E 611884.914
N 5753175.648



VINCENT LAND SURVEYING

482 RAGLAN PARADE, WARRNAMBOOL 3280
PHONE (03) 55 629211

SURVEYORS REF.

441

Appendix 2: Daily Drilling Reports

CONTINUED ..2

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

REPORT No:	1
------------	---

gging up.

STATUS @ 2400 HRS:	1st Crew breaking Tour to continue rigging up.
---------------------------	--

OPS :

EXT 24 HRS : Strap BHA, make up bit and pick up BHA. Conduct rig inspection, hold pre-Spud & Safety meeting.
Drill cement, Spud well and drill ahead in 12.1/4" surface hole; POOH, run 9.5/8" casing and cement.

TRANSPORTATION	PERSONNEL		PROGRAMME COSTS	
1x K&S bed truck w/Howco equip in.	CONTRACTOR	17	DAILY AU \$:	
	OPERATOR	2	CUMULATIVE AU \$:	
	SERVICE CO	3		
			REPORTED TO :	J. Slater
			REPORTED BY :	V. Ozolins
	TOTAL :	22	<i>END OF REPORT</i>	

END OF REPORT



DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE: 9-Jun-04
REPORT No: 2
D.F.S: 0.5
SHOE L.O.T:



WELL NAME:

WELL NAME:		KILLARNEY EPRL-1		STATUS @ 2400 HRS:		Drilling ahead in 12.1/4" hole at 127m at 24m/hr.		FROM		
DEPTH - 2400 HRS:	127	m	FORMATION:	Pt Campbell Lst		RT - GL (m):	3.9 m	0:00		
DEPTH - PREVIOUS:	46	m	HOLE SIZE:	12.1/4"		SHOE DEPTH:	45.6 mRT			
24 HR PROGRESS:	81	m	ACCIDENTS:	Nil		LAST CASING:	13.3/8" Conductor			
SAFETY MEETINGS:	Held Pre-Spud meeting; crews held pre-Tour Safety meetings and 2x JSA's									
MUD PROPERTIES			ADDITIVES			SOLIDS CONTROL			INVENTORY	
DENSITY (ppg)	8.70		84sx Aus-Gel	UNIT	GPM / HRS	UF / OF	BARITE	400 sx		
VISCOSITY	36		1dr Caustic Soda	DESILTER			GEL	42 sx		
pH	8.8			DESANDER	2.0 / 5	11.0 / 8.7	CEMENT	20 tonnes	11:30	
PV / YP	8 / 15			MUDCLEANER			SALT	0 sx	12:00	
GELS 10s/10m	11 / 23			CENTRIFUGE			KCL	500 sx	12:30	
WL API / FC (cc)	-			SHAKER SCREENS:	3x S55		DRILLWATER	100 %	15:30	
SOLIDS %	2.5						DIESEL FUEL	7,100 lts	16:30	
SAND %	Trace								17:00	
CHLORIDES	800						DRILLS / BOPS			18:00
KCL (% WT)	-						LAST BOP DRILL			18:30
MBT (ppb)	18						LAST FIRE DRILL			
Pm Pm/Mf	0 0.1/0.9						LAST ABN.RIG DRILL			
TEMP (degC)	-						LAST BOP TEST			
HOLE VOL (bbls)	47						NEXT BOP TEST			
SURFACE VOL (bbls)	380						DAYS SINCE LAST LTA			
HOLE LOSSES (bbls)	28									
MUD CO	RMN						TIME ANALYSIS			
MUD ENGINEER	N. Kyberd						1. MOVE RIG			
						2. RIG UP			12.5	
						3. DRILLING			7.5	
						4. BIT TRIP				
						5. WIPER TRIP				
						6. SURVEY			0.5	
						7. CIRC / COND				
						8. CHANGE BHA				
						9. CASE & CEMENT				
						10. WELLHEAD				
						11. BOP'S				
						12. L.O.T.				
						13. CORING				
						14. LOGGING				
						15. REAM / WASH				
						16. FISH / STUCK				
						17. LOSS CIRC				
						18. KICK CONTROL				FORMATION TC
						19. SIDETRACK				
						20. REP. SUBSURFACE				OPERATION TC
						21. REP. SURFACE			0.5	
						22. WELL TEST				
						23. W.O. WEATHER				PROGRAM - NE
						24. WAIT - OTHER				
						25. ABANDON / SUSP				TR.
						26. RIG DOWN				TRANSPORT-1
						27. W.O. CEMENT				TRANSPORT-2
						28. DRILL CEMENT			3	TRANSPORT-3
						29. RIG SERVICE				FORKLIFT
						30. SLIP & CUT LINE				WATER HAULER
						TOTAL			24	ROAD WORK

BHA.: 12.1/4" Bit + Float Sub + 1x 8" DC + Stab + 1x 8" DC + X-over + 10x 6.1/2" DC.

BHA WEIGHT : 36,500 lbs (buoyed weight) STRING WT.: 36,500 lbs (buoyed weight)

DP RATING : lbs - 'G' Grade MARGIN : 0 lbs @ 75%

DP RATING : 595,000 lbs - 'S' Grade MARGIN : 446,250 lbs @ 75%

TORQUE ON BTM : Kft.lbs DRAG UP : lbs

TORQUE OFF BTM : Kft.lbs DRAG DOWN : lbs

CONTINUED ..2

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

REPORT No: 2

D.F.S:	0.5
--------	-----

STATUS @ 2400 HRS:	Drilling ahead in 12.1/4" hole at 127m at 24m/hr.
---------------------------	---

OPS :

0600 HRS : Drill ahead in 12.1/4" hole from 127m to 173m at 5-12m/hr (RPM = 100, PP = 850, GPM = 628 at 97%, WOB = 10 -12 klbs)

@ 0600hrs: Making connection at 173m to continue drilling in Pt. Campbell Lst.

EXT 24 HRS : Drill ahead in 12.1/4" surface hole to casing point; wiper trip, circulate & POOH, run 9.5/8" casing and cement with Halliburton. WOCement, cut casing, install WHD and nipple up BOP.

ANSPORTATION	PERSONNEL		PROGRAMME COSTS	
1x K&S truck w/9.5/8" casing in.	CONTRACTOR	19	DAILY AU \$:	\$171,770
1x K&S truck w/CaCl and KCL in.	OPERATOR	2	CUMULATIVE AU \$:	\$339,965
	SERVICE CO	3		
			REPORTED TO :	J. Slater
			REPORTED BY :	V. Ozolins
	TOTAL :	24	END OF REPORT	

END OF REPORT



DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE: 10-Jun-04
REPORT No: 3
D.F.S: 1.5
SHOE L.O.T:



WELL NAME:

WELL NAME:		KILLARNEY EPRL-1		STATUS @ 2400 HRS:		Running 9.5/8" surface casing.		FROM	
DEPTH - 2400 HRS:		258 m		FORMATION:		Gellibrand Marl		RT - GL (m): 3.9 m 0:00	
DEPTH - PREVIOUS:		127 m		HOLE SIZE:		12.1/4"		SHOE DEPTH: 45.6 mRT 12:00	
24 HR PROGRESS:		131 m		ACCIDENTS:		Nil		LAST CASING: 13.3/8" Conductor 12:30	
SAFETY MEETINGS:		Crews held pre-Tour Safety meetings & 2x JSA's, Held Pre-Casing and Pre-Cementing job meetings.							
MUD PROPERTIES		ADDITIVES		SOLIDS CONTROL		INVENTORY		13:00	
DENSITY (ppg)		9.30		UNIT		GPM / HRS		UF / OF	
VISCOSITY		38		DESILTER					
pH		8.5		DESANDER		1.2 / 13		9.9 / 9.1	
PV / YP		10 / 12		MUDCLEANER					
GELS 10s/10m		12 / 28		CENTRIFUGE					
WL API / FC (cc)		-		SHAKER SCREENS:		3x S55			
SOLIDS %		6.8		PUMPS		1		2	
SAND %		Trace		TYPE		TSM-500		DB-550	
CHLORIDES		800		STROKE (")		16		16	
KCL (% WT)		-		LINER (")		5 1/2		5 1/2	
MBT (ppb)		20		SPM		53		53	
Pm Pm/Mf		0 0.05/0.06		PRESSURE		1000 psi			
TEMP (degC)		-		GPM (97% eff)		616			
HOLE VOL (bbls)		108		AV (DP - ft/min)		112			
SURFACE VOL (bbls)		380		AV (DC - ft/min)		132 / 142			
HOLE LOSSES (bbls)		-		SPR					
MUD CO		RMN		SPR PRESS					
MUD ENGINEER		N. Kyberd		DRILLS / BOPS				22:00	
BIT DATA		SURVEYS		TIME ANALYSIS					
BIT No.		1RR		DEPTHS		Inc (deg)		Azimuth	
SIZE (ins)		12.1/4"		MDI (TVD)		49.5		0.50	
TYPE		M22				246		1.25	
IADC CODE									
SERIAL No.		6003062							
NOZZLES		3 x 18							
OUT (m)		258							
IN (m)		45.9							
DRILLED (m)		212.1							
HOURS		23							
CONDITION		2-3-WT-A-E-1-NO-TD							
AVG ROP (m/hr)		9.22							
WOB (x1000 lbs)		5 - 15							
RPM		100 - 120							
JET VEL (ft/sec)		271							
HHP @ BIT (HSI)		2.50							
FORMATION DATA									
TRIP GAS (%)									
CONN.GAS (%)		0							
B.GAS (%)		0							
P.PRESS (ppg)									
ECD (ppg)									
BHA.: running 9.5/8" casing									
BHA WEIGHT :		lbs		STRING WT.:		lbs			
		(buoyed weight)				(buoyed weight)			
DP RATING :		lbs - 'G' Grade		MARGIN :		0 lbs @ 75%			
DP RATING :		595,000 lbs - 'S' Grade		MARGIN :		446,250 lbs @ 75%			
TORQUE ON BTM :		Kft.lbs		DRAG UP :		lbs			
TORQUE OFF BTM :		Kft.lbs		DRAG DOWN :		lbs			
26. RIG DOWN				27. W.O. CEMENT				TRANSPORT-1	
27. W.O. CEMENT				28. DRILL CEMENT				TRANSPORT-2	
28. DRILL CEMENT				29. RIG SERVICE				TRANSPORT-3	
29. RIG SERVICE				30. SLIP & CUT LINE				FORKLIFT	
30. SLIP & CUT LINE				TOTAL		24		WATER HAULER	
ROAD WORK									

CONTINUED ..2

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE:	10-Jun-04
REPORT No:	3
D.F.S:	1.5

KILLARNEY EPRL-1

STATUS @ 2400 HRS:	Running 9.5/8" surface casing.
---------------------------	--------------------------------

[illegible]

OPS :

0600 HRS : Run 9.5/8" casing to 255.8m; circulate and reciprocate casing; hold pre-job SM & Head up Cementers; pump Spacer & p/test lines; drop BP, mix & pump cement (50% xs); drop TP & displace w/water; bump plugs to 1500psi & bleed off @ 0440hrs; WOC. @ 0600hrs: WOC & prep to install WHD & BOP.

EXT 24 HRS : WOCement, cut conductor, back out casing, install WHD and nipple up BOP. Prepare new BHA & mix new mud svstem.

TRANSPORTATION	PERSONNEL		PROGRAMME COSTS	
	CONTRACTOR	19	DAILY AU \$:	
	OPERATOR	2	CUMULATIVE AU \$:	
	SERVICE CO	5		
			REPORTED TO :	J. Slater
			REPORTED BY :	V. Ozolins
	TOTAL :	26	END OF REPORT	

END OF REPORT



DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE: 11-Jun-04
REPORT No: 4
D.F.S: 2.5
SHOE L.O.T:



WELL NAME:

WELL NAME: KILLARNEY EPRL-1		STATUS @ 2400 HRS: Nipple up HCR, spot Catwalks & pipe racks.		FROM	
DEPTH - 2400 HRS: 258 m		FORMATION: Gellibrand Marl		RT - GL (m): 3.9 m	
DEPTH - PREVIOUS: 258 m		HOLE SIZE: 8.1/2"		SHOE DEPTH: 255.8 mRT	
24 HR PROGRESS: 0 m		ACCIDENTS: Nil		LAST CASING: 9.5/8" Surface	
SAFETY MEETINGS: Crews held pre-Tour Safety meetings & 2x JSA's, Held Pre-Casing and Pre-Cementing job meetings.					
MUD PROPERTIES		ADDITIVES		SOLIDS CONTROL	
DENSITY (ppg)	8.60	4sx AMC-Pac R		UNIT	GPM / HRS
VISCOSITY	31	2dr PHPA		DESILTER	UF / OF
pH	8.5	115sx KCl		DESANDER	
PV / YP	5 / 3	1sk Xan-Bore		MUDCLEANER	
GELS 10s/10m	1 / 2			CENTRIFUGE	
WL API / FC (cc)	-			SHAKER SCREENS:	3x S55
SOLIDS %	1.9				
SAND %	-				
CHLORIDES	21,616				
KCL (% WT)	4.00				
MBT (ppb)	-				
Pm Pm/Mf	0 0.05/0.6				
TEMP (degC)	-				
HOLE VOL (bbls)	61				
SURFACE VOL (bbls)	380				
HOLE LOSSES (bbls)	-				
MUD CO	RMN				
MUD ENGINEER	N. Kyberd				
BIT DATA		SURVEYS		DRILLS / BOPS	
BIT No.	1RR	DEPTHS	Inc (deg)	LAST BOP DRILL	
SIZE (ins)	12.1/4"	MDI (TVD)	Azimuth	LAST FIRE DRILL	
TYPE	M22	49.5	0.50	LAST ABN.RIG DRILL	
IADC CODE		246	1.25	LAST BOP TEST	
SERIAL No.	6003062			NEXT BOP TEST	
NOZZLES	3 x 18			DAYS SINCE LAST LTA	
OUT (m)	258			518	
IN (m)	45.9				
DRILLED (m)	212.1				
HOURS	23				
CONDITION	2-3-WT-A-E-1-NO-TD				
AVG ROP (m/hr)	9.22				
WOB (x1000 lbs)	5 - 15				
RPM	100 - 120				
JET VEL (ft/sec)	271				
HHP @ BIT (HSI)	2.50				
		FORMATION DATA		TIME ANALYSIS	
		TRIP GAS (%)		1. MOVE RIG	
		CONN.GAS (%)	0	2. RIG UP	
		B.GAS (%)	0	3. DRILLING	
		P.PRESS (ppg)		4. BIT TRIP	
		ECD (ppg)		5. WIPER TRIP	
				6. SURVEY	
				7. CIRC / COND	
				8. CHANGE BHA	
				9. CASE & CEMENT	
				10. WELLHEAD	
				11. BOP'S	
				12. L.O.T.	
				13. CORING	
				14. LOGGING	
				15. REAM / WASH	
				16. FISH / STUCK	
				17. LOSS CIRC	
				18. KICK CONTROL	
				19. SIDETRACK	
				20. REP. SUBSURFACE	
				21. REP. SURFACE	
				22. WELL TEST	
				23. W.O. WEATHER	
				24. WAIT - OTHER	
				25. ABANDON / SUSP	
				26. RIG DOWN	
				27. W.O. CEMENT	
				28. DRILL CEMENT	
				29. RIG SERVICE	
				30. SLIP & CUT LINE	
				TOTAL	
				24	
				ROAD WORK	

BHA.: 10x 6.1/4" DC + 4x HWDP.

BHA WEIGHT : lbs (buoyed weight) STRING WT.: lbs (buoyed weight)

DP RATING : lbs - 'G' Grade MARGIN : 0 lbs @ 75%

DP RATING : 595,000 lbs - 'S' Grade MARGIN : 446,250 lbs @ 75%

TORQUE ON BTM : Kft.lbs DRAG UP : lbs

TORQUE OFF BTM : Kft.lbs DRAG DOWN : lbs

CONTINUED ..2

RIG : Hunt Energy Rig-2

STATUS @ 2400 HRS:	Nipple up HCR, spot Catwalks & pipe racks.
---------------------------	--

REPORT No: 4

D.F.S:	2.5
--------	-----

D.F.S:	2.5
--------	-----

KII | ARNEY FPRI -1

STATUS @ 2400 HRS:	Nipple up HCR, spot Catwalks & pipe racks.
---------------------------	--

OPS :

EXT 24 HRS : Finish P/testing surface equipment, make up Bit & BHA and RIH to drill out, conduct FIT and drill ahead in 8 1/2" hole.

ANSPORTATION	PERSONNEL		PROGRAMME COSTS	
	CONTRACTOR	19	DAILY AU \$:	
	OPERATOR	2	CUMULATIVE AU \$:	
	SERVICE CO	3		
			REPORTED TO :	J. Slater
			REPORTED BY :	V. Ozolins
	TOTAL :	24	<i>END OF REPORT</i>	

END OF REPORT



DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE: 12-Jun-04
REPORT No: 5
D.F.S: 3.5
SHOE L.O.T:



WELL NAME:

WELL NAME:		KILLARNEY EPRL-1		STATUS @ 2400 HRS:		Repair rig - replace rubbers on 4.1/2" Pipe Rams.		FROM	
DEPTH - 2400 HRS:	258	m	FORMATION:	Gellibrand Marl		RT - GL (m):	3.9 m	0:00	
DEPTH - PREVIOUS:	258	m	HOLE SIZE:	8.1/2"		SHOE DEPTH:	255.8 mRT	3:00	
24 HR PROGRESS:	0	m	ACCIDENTS:	Nil		LAST CASING:	9.5/8" Surface	3:30	
SAFETY MEETINGS:				Crews held pre-Tour Safety meetings & 2x JSA's.					
MUD PROPERTIES		ADDITIVES	SOLIDS CONTROL						
DENSITY (ppg)	8.65	2sx AMC-Pac R	UNIT	GPM / HRS	UF / OF				
VISCOSITY	29	2dr PHPA	DESILTER						
pH	8.5	12sx KCl	DESANDER						
PV / YP	4 / 4		MUDCLEANER						
GELS 10s/10m	1 / 2		CENTRIFUGE						
WL API / FC (cc)	-		SHAKER SCREENS:	3x S55					
SOLIDS %	1.0		PUMPS		1	2			
SAND %	-		TYPE	TSM-500	DB-550				
CHLORIDES	20,000		STROKE (")	16	16				
KCL (% WT)	4.00		LINER (")	5 1/2	5 1/2				
MBT / PHPA (ppb)	- / 0.2		SPM	30	30				
Pm Pm/Mf	0 0.05/0.6		PRESSURE	700					
TEMP (degC)	-		GPM (97% eff)	343					
HOLE VOL (bbls)	61		AV (DP - ft/min)						
SURFACE VOL (bbls)	380		AV (DC - ft/min)						
HOLE LOSSES (bbls)	-		SPR						
MUD CO	RMN		SPR PRESS						
MUD ENGINEER	N. Kyberd								
BIT DATA		SURVEYS		FORMATION DATA					
BIT No.	2RR	DEPTHS	Inc (deg)	Azimuth	TRIP GAS (%)				
SIZE (ins)	8.1/2"	MDI (TVD)			CONN.GAS (%)				
TYPE	FS2565	49.5	0.50	-	B.GAS (%)				
IADC CODE		246	1.25	-	P.PRESS (ppg)				
SERIAL No.	5996742				ECD (ppg)				
NOZZLES	5 x 12								
OUT (m)	-								
IN (m)	258.0								
DRILLED (m)	0.0								
HOURS	-								
CONDITION	In								
AVG ROP (m/hr)									
WOB (x1000 lbs)	5								
RPM	50 - 60								
JET VEL (ft/sec)									
HHP @ BIT (HSI)									
BHA.: PDC Bit + F/Sub + 1x 6.1/4" DC + Stab + 10x 6.1/4" DC + Jars + 6x 6.1/4" DC + 6x HWDP.									
BHA WEIGHT : 50,800 lbs (buoyed weight)				STRING WT.: 51,600 lbs (buoyed weight)					
DP RATING : lbs - 'G' Grade				MARGIN : 0 lbs @ 75%					
DP RATING : 595,000 lbs - 'S' Grade				MARGIN : 446,250 lbs @ 75%					
TORQUE ON BTM : Kft.lbs				DRAG UP : lbs					
TORQUE OFF BTM : Kft.lbs				DRAG DOWN : lbs					
INVENTORY									
BARITE	400	sx							
GEL	42	sx							
CEMENT	5	tonnes							
SALT	0	sx							
KCL	373	sx							
DRILLWATER	100	%							
DIESEL FUEL	12,600	Its							
DRILLS / BOPS									
LAST BOP DRILL						19:30			
LAST FIRE DRILL						21:00			
LAST ABN.RIG DRILL						21:30			
LAST BOP TEST						12-Jun-04			
NEXT BOP TEST						26-Jun-04			
DAYS SINCE LAST LTA						519			
TIME ANALYSIS									
1. MOVE RIG									
2. RIG UP									
3. DRILLING									
4. BIT TRIP						3			
5. WIPER TRIP									
6. SURVEY									
7. CIRC / COND						1.5			
8. CHANGE BHA						2			
9. CASE & CEMENT									
10. WELLHEAD									
11. BOP'S						7			
12. L.O.T.									
13. CORING									
14. LOGGING									
15. REAM / WASH									
16. FISH / STUCK									
17. LOSS CIRC									
18. KICK CONTROL						FORMATION TC			
19. SIDETRACK									
20. REP. SUBSURFACE						OPERATION TC			
21. REP. SURFACE						7			
22. WELL TEST									
23. W.O. WEATHER						PROGRAM - NE			
24. WAIT - OTHER									
25. ABANDON / SUSP						TR.			
26. RIG DOWN						TRANSPORT-1			
27. W.O. CEMENT						TRANSPORT-2			
28. DRILL CEMENT						3.5 TRANSPORT-3			
29. RIG SERVICE						FORKLIFT			
30. SLIP & CUT LINE						WATER HAULER			
TOTAL						24 ROAD WORK			

CONTINUED ..2

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

REPORT No:	5
------------	---

	Pipe Rams.
--	------------

STATUS @ 2400 HRS:	Repair rig - replace rubbers on 4.1/2" Pipe Rams.
---------------------------	---

OPS : _____

0600 HRS : Repair rig - troubleshoot problem with P/Rams and reinstall. P/test Pipe Rams to 300psi low and 2500psi high - okay. Drill out shoe track and clean out rathole. Drill 3m new open hole, circulate to balance MW and conduct FIT to 12.5ppg MWE using 8.5ppg mud and 175psi at surface. Take SCR's and drill ahead.

EXT 24 HRS : *Drill ahead in 8.1/2" hole.*

ANSPORTATION	PERSONNEL		PROGRAMME COSTS	
Vacuum truck for Camp & Rig septic.	CONTRACTOR	19	DAILY AU \$:	
	OPERATOR	2	CUMULATIVE AU \$:	
	SERVICE CO	5		
			REPORTED TO :	J. Slater
			REPORTED BY :	V. Ozolins
	TOTAL :	26	<i>END OF REPORT</i>	

END OF REPORT



DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE: 13-Jun-04
REPORT No: 6
D.F.S: 4.5
SHOE F.I.T: 12.5ppg



WELL NAME:

WELL NAME: KILLARNEY EPRL-1		STATUS @ 2400 HRS: Drilling ahead in 8.1/2" hole at 661m.		FROM	
DEPTH - 2400 HRS: 661 m		FORMATION: Dilwyn Sst		RT - GL (m): 3.9 m 0:00	
DEPTH - PREVIOUS: 258 m		HOLE SIZE: 8.1/2"		SHOE DEPTH: 255.8 mRT 3:00	
24 HR PROGRESS: 403 m		ACCIDENTS: Nil		LAST CASING: 9.5/8" Surface 4:00	
SAFETY MEETINGS: Crews held pre-Tour Safety meetings & 2x JSA's.				INVENTORY 5:00	
MUD PROPERTIES		ADDITIVES			
DENSITY (ppg)	9.20	6sx AMC-Pac R		BARITE 400 sx 5:30	
VISCOSITY	39	3sx AMC-Pac LV		GEL 42 sx 6:00	
pH	8.5	6dr PHPA		CEMENT 5 tonnes 15:00	
PV / YP	10 / 15	60sx KCl		SALT 0 sx 15:30	
GELS 10s/10m	2 / 4	5sx XanVis		KCL 313 sx	
WL API / FC (cc)	7.2	4sx Sod.Sulphite		DRILLWATER 100 %	
SOLIDS %	4.9			DIESEL FUEL 10,000 lts	
SAND %	Tr				
CHLORIDES	21,000			DRILLS / BOPS	
KCL (% WT)	4.00			LAST BOP DRILL 13-Jun-04	
MBT / PHPA (ppb)	- / 0.7			LAST FIRE DRILL	
Pm Pm/Mf	0 0.05/0.7			LAST ABN.RIG DRILL	
TEMP (degC)	98			LAST BOP TEST 12-Jun-04	
HOLE VOL (bbls)	133			NEXT BOP TEST 26-Jun-04	
SURFACE VOL (bbls)	352			DAYS SINCE LAST LTA 520	
HOLE LOSSES (bbls)	141				
MUD CO	RMN			TIME ANALYSIS	
MUD ENGINEER	N. Kyberd			1. MOVE RIG	
				2. RIG UP	
				3. DRILLING 18	
				4. BIT TRIP	
				5. WIPER TRIP	
				6. SURVEY 0.5	
				7. CIRC / COND	
				8. CHANGE BHA	
				9. CASE & CEMENT	
				10. WELLHEAD	
				11. BOP'S 1	
				12. L.O.T. 0.5	
				13. CORING	
				14. LOGGING	
				15. REAM / WASH	
				16. FISH / STUCK	
				17. LOSS CIRC	
				18. KICK CONTROL	
				19. SIDETRACK	
				20. REP. SUBSURFACE	
				21. REP. SURFACE 3	
				22. WELL TEST	
				23. W.O. WEATHER	
				24. WAIT - OTHER	
				25. ABANDON / SUSP	
				26. RIG DOWN	
				27. W.O. CEMENT	
				28. DRILL CEMENT 1	
				29. RIG SERVICE	
				30. SLIP & CUT LINE	
				TOTAL 24	
				ROAD WORK	

BHA.: PDC Bit + F/Sub + 1x 6.1/4" DC + Stab + 10x 6.1/4" DC + Jars + 6x 6.1/4" DC + 6x HWDP = 226.66m.	
BHA WEIGHT : 51,000 lbs (buoyed weight)	
DP RATING : lbs - 'G' Grade	MARGIN : 0 lbs @ 75%
DP RATING : 595,000 lbs - 'S' Grade	MARGIN : 446,250 lbs @ 75%
TORQUE ON BTM : 1,020 ft.lbs	DRAG UP : 2,000 lbs
TORQUE OFF BTM : 340 ft.lbs	DRAG DOWN : 2,000 lbs

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	0
P.PRESS (ppg)	
ECD (ppg)	

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	0
P.PRESS (ppg)	
ECD (ppg)	

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	0
P.PRESS (ppg)	
ECD (ppg)	

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	0
P.PRESS (ppg)	
ECD (ppg)	

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	0
P.PRESS (ppg)	
ECD (ppg)	

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	0
P.PRESS (ppg)	
ECD (ppg)	

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	0
P.PRESS (ppg)	
ECD (ppg)	

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	0
P.PRESS (ppg)	
ECD (ppg)	

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	0
P.PRESS (ppg)	
ECD (ppg)	

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	0
P.PRESS (ppg)	
ECD (ppg)	

PUMPS	
TYPE	TSM-500 DB-550
STROKE (")	16 16
LINER (")	5 1/2 5 1/2
SPM	40 40
PRESSURE	1,200
GPM (97% eff)	455
AV (DP - ft/min)	(Csg) 200, (OH) 222
AV (DC - ft/min)	(OH) 385
SPR (P1 / P2)	35 / 40 29 / 40
SPR PRESS	270 / 400 270 / 400

SURVEYS	
DEPTHS	Inc (deg) Azimuth
MDI (TVD)	
49.5	0.50 -
246	1.25 -
451	1.00 -

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	403.0
HOURS	18
CONDITION	In
AVG ROP (m/hr)	22.39
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

||
||
||

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE:	13-Jun-04
REPORT No:	6
D.F.S:	4.5

KILLARNEY EPRL-1

STATUS @ 2400 HRS:	Drilling ahead in 8.1/2" hole at 661m.
---------------------------	--

[illegible]

OPS : Clifton Fm top @ 418m (39mH); Narrawaturk Marl top @ 440m (37mH); Mepunga Fm top @ 445m (67mH)
Dilwyn Fm top @ 538m (56mH); possible top Pebble Point Fm @ 798m.

0600 HRS : Drill ahead in 8.1/2" hole from 661m to 798m at avg ROP 22.8m/hr and circulate up bottomhole sample at 0600hrs.

EXT 24 HRS : *Drill ahead in 8.1/2" hole and evaluate shows - possible wiper trip.*

TRANSPORTATION	PERSONNEL		PROGRAMME COSTS	
	CONTRACTOR	20	DAILY AU \$:	
	OPERATOR	2	CUMULATIVE AU \$:	
	SERVICE CO	5		
			REPORTED TO :	J. Slater
			REPORTED BY :	V. Ozolins
			END OF REPORT	
	TOTAL :	27		

END OF REPORT



DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE: 14-Jun-04
REPORT No: 7
D.F.S: 5.5
SHOE F.I.T: 12.5ppg

WELL NAME: KILLARNEY EPRL-1 STATUS @ 2400 HRS: Drilling ahead in 8.1/2" hole at 1165m at 20m/hr.

DEPTH - 2400 HRS: 1,098 m
DEPTH - PREVIOUS: 661 m
24 HR PROGRESS: 437 m
SAFETY MEETINGS: Crews held pre-Tour Safety meetings & 2x JSA's.

FORMATION: Paarrate Fm
HOLE SIZE: 8.1/2"
ACCIDENTS: Nil

RT - GL (m): 3.9 m
SHOE DEPTH: 255.8 mRT
LAST CASING: 9.5/8" Surface

MUD PROPERTIES		ADDITIVES	SOLIDS CONTROL			INVENTORY	
DENSITY (ppg)	9.20	4sx AMC-Pac R	UNIT	GPM / HRS	UF / OF	BARITE	400 sx
VISCOSITY	40	5sx AMC-Pac LV	DESILTER	1 / 24	11.4 / 9.2	GEL	42 sx
pH	8.5	6dr PHPA	DESANDER			CEMENT	5 tonnes
PV / YP	13 / 16	72sx KCl	MUDCLEANER			SALT	0 sx
GELS 10s/10m	2 / 5	4sx Sod.Sulphite	CENTRIFUGE			KCL	241 sx
WL API / FC (cc)	6.0		SHAKER SCREENS:	1x S84, 2x S55		DRILLWATER	100 %
SOLIDS %	4.9					DIESEL FUEL	9,100 lts
SAND %	Tr						
CHLORIDES	21,000						
KCL (% WT)	4.00						
MBT / PHPA (ppb)	- / 1.0						
Pm Pm/Mf	0 0.05/0.55						
TEMP (degC)	43.4						
HOLE VOL (bbls)	227						
SURFACE VOL (bbls)	360						
HOLE LOSSES (bbls)	123						
MUD CO	RMN						
MUD ENGINEER	N. Kyberd						

PUMPS	1	2
TYPE	TSM-500	DB-550
STROKE (")	16	16
LINER (")	5 1/2	5 1/2
SPM	40	40
PRESSURE	1,500	
GPM (97% eff)	455	
AV (DP - ft/min)	(Csg) 200, (OH) 222	
AV (DC - ft/min)	(OH) 385	
SPR (P1 / P2)	35 / 40	27 / 32
SPR PRESS	320 / 450	300 / 400

DRILLS / BOPS	
LAST BOP DRILL	13-Jun-04
LAST FIRE DRILL	
LAST ABN.RIG DRILL	
LAST BOP TEST	12-Jun-04
NEXT BOP TEST	26-Jun-04
DAYS SINCE LAST LTA	521

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	-
IN (m)	258.0
DRILLED (m)	840.0
HOURS	40.5
CONDITION	In
AVG ROP (m/hr)	20.74
WOB (x1000 lbs)	5 - 8
RPM	100 - 120
JET VEL (ft/sec)	274
HHP @ BIT (HSI)	2.95

SURVEYS		
DEPTHS	Inc (deg)	Azimuth
MDI / (TVD)		
49.5	0.50	-
246	1.25	-
451	1.00	-
697	0.50	
961	2.00	

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	3
P.PRESS (ppg)	
ECD (ppg)	9.6 ppg

BHA.:	PDC Bit + F/Sub + 1x 6.1/4" DC + Stab + 10x 6.1/4" DC + Jars + 6x 6.1/4" DC + 6x HWDP = 226.66m.		
BHA WEIGHT :	51,000 lbs	STRING WT.:	82,000 lbs
	(buoyed weight)		(buoyed weight)
DP RATING :	lbs - 'G' Grade	MARGIN :	0 lbs @ 75%
DP RATING :	595,000 lbs - 'S' Grade	MARGIN :	446,250 lbs @ 75%
TORQUE ON BTM :	3,400 ft.lbs	DRAG UP :	2,000 lbs
TORQUE OFF BTM :	1,020 ft.lbs	DRAG DOWN :	4,000 lbs

22. WELL TEST	
23. W.O. WEATHER	
24. WAIT - OTHER	
25. ABANDON / SUSP	
26. RIG DOWN	
27. W.O. CEMENT	
28. DRILL CEMENT	
29. RIG SERVICE	
30. SLIP & CUT LINE	
TOTAL	24

CONTINUED .../2

DAILY DRILLING REPORT

DATE: 14-Jun-04

RIG : Hunt Energy Riq-2

REPORT No: 7

PERMIT : PEP 152, Otway Basin

D.F.S:	5.5
--------	-----

WELL NAME: KILLARNEY EPRL-1

STATUS @ 2400 HRS:	Drilling ahead in 8.1/2" hole at 1165m at 20m/hr.
---------------------------	---

[illegible]



Essential
Petroleum
Resources
Limited

DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE: 15-Jun-04
REPORT No: 8
D.F.S: 6.5
SHOE F.I.T: 12.5ppg

WELL NAME: KILLARNEY EPRL-1 STATUS @ 2400 HRS: Pulling out of hole for bit change.

DEPTH - 2400 HRS: 1,321 m
DEPTH - PREVIOUS: 1,098 m
24 HR PROGRESS: 223 m
SAFETY MEETINGS: Crews held pre-Tour Safety meetings & 2x JSA's.

FORMATION: Belfast Mudstone
HOLE SIZE: 8.1/2"
ACCIDENTS: Nil

RT - GL (m): 3.9 m
SHOE DEPTH: 255.8 mRT
LAST CASING: 9.5/8" Surface

MUD PROPERTIES		ADDITIVES	SOLIDS CONTROL		
DENSITY (ppg)	9.30	5sx AMC-Pac R	UNIT	GPM / HRS	UF / OF
VISCOSITY	43	5sx AMC-Pac LV	DESILTER	0.6 / 18	11.4 / 9.3
pH	8.5	5dr PHPA	DESANDER		
PV / YP	15 / 19	85sx KCl	MUDCLEANER		
GELS 10s/10m	2 / 6	4sx Sod.Sulphite	CENTRIFUGE		
WL API / FC (cc)	6.2		SHAKER SCREENS:	1x S84, 2x S55	
SOLIDS %	5.6				
SAND %	Tr				
CHLORIDES	21,000				
KCL (% WT)	4.00				
MBT / PHPA (ppb)	- / 1.1				
Pm Pm/Mf	0 0.05/0.55				
TEMP (degC)	44.5				
HOLE VOL (bbls)	275				
SURFACE VOL (bbls)	385				
HOLE LOSSES (bbls)	152				
MUD CO	RMN				
MUD ENGINEER	N. Kyberd				

INVENTORY	
BARITE	400 sx
GEL	42 sx
CEMENT	5 tonnes
SALT	0 sx
KCL	156 sx
DRILLWATER	100 %
DIESEL FUEL	5,050 lts

PUMPS		1	2	DRILLS / BOPS	
TYPE	TSM-500	DB-550		LAST BOP DRILL	13-Jun-04
STROKE (")	16	16		LAST FIRE DRILL	
LINER (")	5 1/2	5 1/2		LAST ABN.RIG DRILL	
SPM	40	40		LAST BOP TEST	12-Jun-04
PRESSURE	1,520			NEXT BOP TEST	26-Jun-04
GPM (97% eff)	448			DAYS SINCE LAST LTA	522
AV (DP - ft/min)	(Csg) 197, (OH) 219				
AV (DC - ft/min)	(OH) 379				
SPR (P1 / P2)	30 / 36	32 / 39			
SPR PRESS	375 / 575	375 / 575			

BIT DATA	
BIT No.	2RR
SIZE (ins)	8.1/2"
TYPE	FS2565
IADC CODE	
SERIAL No.	5996742
NOZZLES	5 x 12
OUT (m)	1,321
IN (m)	258.0
DRILLED (m)	1,063.0
HOURS	57.5
CONDITION	In
AVG ROP (m/hr)	18.49
WOB (x1000 lbs)	8 - 15
RPM	100 - 120
JET VEL (ft/sec)	260
HHP @ BIT (HSL)	2.60

SURVEYS		
DEPTHS	Inc (deg)	Azimuth
MD/ (TVD)		
49.5	0.50	-
246	1.25	-
451	1.00	-
697	0.50	-
961	2.00	-
1,206	2.00	-

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	0
B.GAS (%)	8
P.PRESS (ppg)	
ECD (ppg)	9.6 ppg

TIME ANALYSIS	
1. MOVE RIG	
2. RIG UP	
3. DRILLING	17
4. BIT TRIP	4.5
5. WIPER TRIP	
6. SURVEY	1.5
7. CIRC / COND	1
8. CHANGE BHA	
9. CASE & CEMENT	
10. WELLHEAD	
11. BOP'S	
12. L.O.T.	
13. CORING	
14. LOGGING	
15. REAM / WASH	
16. FISH / STUCK	
17. LOSS CIRC	
18. KICK CONTROL	
19. SIDETRACK	
20. REP. SUBSURFACE	
21. REP. SURFACE	
22. WELL TEST	
23. W.O. WEATHER	
24. WAIT - OTHER	
25. ABANDON / SUSP	
26. RIG DOWN	
27. W.O. CEMENT	
28. DRILL CEMENT	
29. RIG SERVICE	
30. SLIP & CUT LINE	
TOTAL	24

BHA.: PDC Bit + F/Sub + 1x 6.1/4" DC + Stab + 10x 6.1/4" DC + Jars + 6x 6.1/4" DC +
+ 6x HWDP = 226.66m.

BHA WEIGHT :	51,000 lbs	STRING WT.:	90,000 lbs
	(buoyed weight)		(buoyed weight)
DP RATING :	lbs - 'G' Grade	MARGIN :	0 lbs @ 75%
DP RATING :	595,000 lbs - 'S' Grade	MARGIN :	446,250 lbs @ 75%
TORQUE ON BTM :	3,400 ft.lbs	DRAG UP :	2,000 lbs
TORQUE OFF BTM :	1,020 ft.lbs	DRAG DOWN :	4,000 lbs

CONTINUED ../2

DAILY DRILLING REPORT

DATE: 15-Jun-04

RIG : Hunt Energy Rig-2

REPORT No: 8

PERMIT : PEP 152, Otway Basin

D.F.S: 6.5

WELL NAME: KILLARNEY EPRL-1

STATUS @ 2400 HRS:	Pulling out of hole for bit change.
---------------------------	-------------------------------------

[illegible]



DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otago Basin

DATE: 16-Jun-04
REPORT No: 9
D.F.S: 7.5
SHOE F.I.T: 12.5ppg

WELL NAME: KILLARNEY EPRL-1 STATUS @ 2400 HRS: Drilling ahead in 8.1/2" hole at 1418m at avg 11m/hr.

DEPTH - 2400 HRS: 1,418 m
DEPTH - PREVIOUS: 1,321 m
24 HR PROGRESS: 97 m
SAFETY MEETINGS: Crews held pre-Tour Safety meetings & 1x JSA's.

FORMATION: Flaxman Fm
HOLE SIZE: 8.1/2"
ACCIDENTS: Nil

RT - GL (m): 3.9 m
SHOE DEPTH: 255.8 mRT
LAST CASING: 9.5/8" Surface

MUD PROPERTIES		ADDITIVES	SOLIDS CONTROL		
DENSITY (ppg)	9.40	2sx AMC-Pac R	UNIT	GPM / HRS	UF / OF
VISCOSITY	40	1dr PHPA	DESILTER	0.5 / 12	11.4 / 9.3
pH	8.8	5dr Soda Ash	DESANDER		
PV / YP	15 / 14	4sx Sod.Sulphite	MUDCLEANER		
GELS 10s/10m	2 / 4		CENTRIFUGE		
WL API / FC (cc)	6.0		SHAKER SCREENS: 1x S110, 1x S84, 1x S55		
SOLIDS %	6.0				
SAND %	0.25				
CHLORIDES	21,076				
KCL (% WT)	3.90				
MBT / PHPA (ppb)	- / 1.0				
Pm Pm/Mf	0 0.05/0.55				
TEMP (degC)	43.4				
HOLE VOL (bbls)	290				
SURFACE VOL (bbls)	370				
HOLE LOSSES (bbls)	62				
MUD CO	RMN				
MUD ENGINEER	N. Kyberd				

INVENTORY	
BARITE	400 sx
GEL	42 sx
CEMENT	5 tonnes
SALT	0 sx
KCL	156 sx
DRILLWATER	100 %
DIESEL FUEL	12,984 lts

PUMPS	1	2
TYPE	TSM-500	DB-550
STROKE (")	16	16
LINER (")	5 1/2	5 1/2
SPM	60	
PRESSURE		1150
GPM (97% eff)		342
AV (DP - ft/min)	(Csg) 145, (OH) 161	
AV (DC - ft/min)	(OH) 279	
SPR (P1 / P2)	30	30
SPR PRESS	400	400

DRILLS / BOPS	
LAST BOP DRILL	16-Jun-04
LAST FIRE DRILL	
LAST ABN.RIG DRILL	
LAST BOP TEST	12-Jun-04
NEXT BOP TEST	26-Jun-04
DAYS SINCE LAST LTA	523

BIT DATA		
BIT No.	3	2RR
SIZE (ins)	8.1/2"	8.1/2"
TYPE	CH04MS	FS2565
IADC CODE	4-1-7	
SERIAL No.	172489	5996742
NOZZLES	3 x 13	5 x 12
OUT (m)	-	1,321
IN (m)	1,321	258
DRILLED (m)	97.0	1,063
HOURS	10.5	57.5
CONDITION	In	1-2-1-A-X-I-N-F
AVG ROP (m/hr)	9.24	18.49
WOB (x1000 lbs)	20 - 25	8 - 15
RPM	90 - 100	100 - 120
JET VEL (ft/sec)	282	260
HHP @ BIT (HSI)	2.33	2.60

SURVEYS		
DEPTHS	Inc (deg)	Azimuth
MD/ (TVD)		
49.5	0.50	-
246	1.25	-
451	1.00	-
697	0.50	-
961	2.00	-
1,206	2.00	-
1,309	1.25	-

FORMATION DATA	
TRIP GAS (%)	49.00
CONN.GAS (%)	
B.GAS (%)	11.7
P.PRESS (ppg)	
ECD (ppg)	9.65 ppg

TIME ANALYSIS	
1. MOVE RIG	
2. RIG UP	
3. DRILLING	10.5
4. BIT TRIP	8
5. WIPER TRIP	
6. SURVEY	
7. CIRC / COND	0.5
8. CHANGE BHA	1.5
9. CASE & CEMENT	
10. WELLHEAD	
11. BOP'S	
12. L.O.T.	
13. CORING	
14. LOGGING	
15. REAM / WASH	3.5
16. FISH / STUCK	
17. LOSS CIRC	
18. KICK CONTROL	
19. SIDETRACK	
20. REP. SUBSURFACE	
21. REP. SURFACE	
22. WELL TEST	
23. W.O. WEATHER	
24. WAIT - OTHER	
25. ABANDON / SUSP	
26. RIG DOWN	
27. W.O. CEMENT	
28. DRILL CEMENT	
29. RIG SERVICE	
30. SLIP & CUT LINE	
TOTAL	24

BHA.:	TCI Bit + F/Sub + 1x 6.1/4" DC + Stab + 12x 6.1/4" DC + Jars + 6x 6.1/4" DC + 6x HWDP = 245.26m.		
BHA WEIGHT :	55,800 lbs	STRING WT.:	100,000 lbs
	(buoyed weight)		(buoyed weight)
DP RATING :	lbs - 'G' Grade	MARGIN :	0 lbs @ 75%
DP RATING :	595,000 lbs - 'S' Grade	MARGIN :	446,250 lbs @ 75%
TORQUE ON BTM :	n/a ft.lbs	DRAG UP :	6,000 lbs
TORQUE OFF BTM :	n/a ft.lbs	DRAG DOWN :	4,000 lbs

CONTINUED ...2

END OF REPORT



Essential
Petroleum
Resources
Limited

DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE: 17-Jun-04
REPORT No: 10
D.F.S: 8.5
SHOE F.I.T: 12.5ppg

WELL NAME: KILLARNEY EPRL-1 STATUS @ 2400 HRS: On bottom circulating hole clean after wiper trip.

DEPTH - 2400 HRS: 1,640 m
DEPTH - PREVIOUS: 1,418 m
24 HR PROGRESS: 222 m
SAFETY MEETINGS: Crews held pre-Tour Safety meetings & 2x JSA's.

FORMATION: Eumerella Fm
HOLE SIZE: 8.1/2"
ACCIDENTS: Nil

RT - GL (m): 3.9 m
SHOE DEPTH: 255.8 mRT
LAST CASING: 9.5/8" Surface

MUD PROPERTIES		ADDITIVES	SOLIDS CONTROL		
DENSITY (ppg)	9.40	8sx AMC-Pac R	UNIT	GPM / HRS	UF / OF
VISCOSITY	43	1dr PHPA	DESILTER	1.3 / 21	11.4 / 9.3
pH	8.5	5dr Soda Ash	DESANDER		
PV / YP	15 / 16	4sx Sod.Sulphite	MUDCLEANER		
GELS 10s/10m	2 / 5	1sk AMC Biocide G	CENTRIFUGE		
WL API / FC (cc)	6.0	30sx Barite	SHAKER SCREENS: 1x S110, 1x S84, 1x S55		
SOLIDS %	6.3	65sx KCl			
SAND %	0.25				
CHLORIDES	22,000				
KCL (% WT)	4.10				
MBT / PHPA (ppb)	10 / 0.9				
Pm Pm/Mf	0 0.05/0.70				
TEMP (degC)	43.4				
HOLE VOL (bbls)	342				
SURFACE VOL (bbls)	365				
HOLE LOSSES (bbls)	137				
MUD CO	RMN				
MUD ENGINEER	N. Kyberd				

INVENTORY	
BARITE	350 sx
GEL	42 sx
CEMENT	5 tonnes
SALT	0 sx
KCL	91 sx
DRILLWATER	100 %
DIESEL FUEL	10,684 lts

PUMPS		1	2	DRILLS / BOPS	
TYPE	TSM-500	DB-550		LAST BOP DRILL	16-Jun-04
STROKE (")	16	16		LAST FIRE DRILL	
LINER (")	5 1/2	5 1/2		LAST ABN.RIG DRILL	
SPM		58		LAST BOP TEST	12-Jun-04
PRESSURE		1180		NEXT BOP TEST	26-Jun-04
GPM (97% eff)		342		DAYS SINCE LAST LTA	524
AV (DP - ft/min)	(Csg) 145, (OH) 161				
AV (DC - ft/min)	(OH) 279				
SPR (P1 / P2)	28 / 34	30 / 35			
SPR PRESS	400 / 500	400 / 500			

TIME ANALYSIS	
1. MOVE RIG	
2. RIG UP	
3. DRILLING	19.5
4. BIT TRIP	
5. WIPER TRIP	0.5
6. SURVEY	
7. CIRC / COND	2.5
8. CHANGE BHA	
9. CASE & CEMENT	
10. WELLHEAD	
11. BOP'S	
12. L.O.T.	
13. CORING	
14. LOGGING	
15. REAM / WASH	1
16. FISH / STUCK	
17. LOSS CIRC	
18. KICK CONTROL	
19. SIDETRACK	
20. REP. SUBSURFACE	
21. REP. SURFACE	0.5
22. WELL TEST	
23. W.O. WEATHER	
24. WAIT - OTHER	
25. ABANDON / SUSP	
26. RIG DOWN	
27. W.O. CEMENT	
28. DRILL CEMENT	
29. RIG SERVICE	
30. SLIP & CUT LINE	
TOTAL	24

BIT DATA	
BIT No.	3
SIZE (ins)	8.1/2"
TYPE	CH04MS
IADC CODE	4-1-7
SERIAL No.	172489
NOZZLES	3 x 13
OUT (m)	-
IN (m)	1,321
DRILLED (m)	319.0
HOURS	30
CONDITION	In
AVG ROP (m/hr)	10.63
WOB (x1000 lbs)	20 - 25
RPM	100
JET VEL (ft/sec)	282
HHP @ BIT (HSL)	2.33

SURVEYS		
DEPTHS	Inc (deg)	Azimuth
MD/ (TVD)		
49.5	0.50	-
246	1.25	-
451	1.00	-
697	0.50	-
961	2.00	-
1,206	2.00	-
1,309	1.25	-

FORMATION DATA	
TRIP GAS (%)	23.00
CONN.GAS (%)	
B.GAS (%)	11.5 (38.6 max)
P.PRESS (ppg)	
ECD (ppg)	9.65 ppg

BHA.: TCI Bit + F/Sub + 1x 6.1/4" DC + Stab + 12x 6.1/4" DC + Jars + 6x 6.1/4" DC +
+ 6x HWDP = 245.26m.

BHA WEIGHT : 55,800 lbs
(buoyed weight)
DP RATING : lbs - 'G' Grade
DP RATING : 595,000 lbs - 'S' Grade
TORQUE ON BTM : n/a ft.lbs
TORQUE OFF BTM : n/a ft.lbs

STRING WT.: 108,000 lbs
(buoyed weight)
MARGIN : 0 lbs @ 75%
MARGIN : 446,250 lbs @ 75%
DRAG UP : 2,000 lbs
DRAG DOWN : 14,000 lbs

CONTINUED ../2

END OF REPORT



Essential
Petroleum
Resources
Limited

DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE: 18-Jun-04
REPORT No: 11
D.F.S: 9.5
SHOE F.I.T: 12.5ppg

WELL NAME: KILLARNEY EPRL-1 STATUS @ 2400 HRS: Logging w/Schlum e-log #2: CSAT Velocity Surev.

DEPTH - 2400 HRS: 1,640 m
DEPTH - PREVIOUS: 1,640 m
24 HR PROGRESS: 0 m
SAFETY MEETINGS: Crews held pre-Tour Safety meetings & 2x JSA's; 2x E-log Safety Meetings.

FORMATION: Eumerella Fm
HOLE SIZE: 8.1/2"
ACCIDENTS: Nil

RT - GL (m): 3.9 m
SHOE DEPTH: 255.8 mRT
LAST CASING: 9.5/8" Surface

MUD PROPERTIES		ADDITIVES	SOLIDS CONTROL		
DENSITY (ppg)	9.45		UNIT	GPM / HRS	UF / OF
VISCOSITY	43		DESILTER	1.5 / 3	11.4 / 9.3
pH	8.5		DESANDER		
PV / YP	15 / 16		MUDCLEANER		
GELS 10s/10m	2 / 4		CENTRIFUGE		
WL API / FC (cc)	6.0		SHAKER SCREENS: 1x S110, 1x S84, 1x S55		
SOLIDS %	6.6				
SAND %	Trace				
CHLORIDES	22,000				
KCL (% WT)	4.10				
MBT / PHPA (ppb)	10 / 0.9				
Pm Pm/Mf	0 0.05/0.75				
TEMP (degC)	43.4				
HOLE VOL (bbls)	342				
SURFACE VOL (bbls)	359				
HOLE LOSSES (bbls)	6				
MUD CO	RMN				
MUD ENGINEER	N. Kyberd				

INVENTORY	
BARITE	350 sx
GEL	42 sx
CEMENT	5 tonnes
SALT	0 sx
KCL	91 sx
DRILLWATER	100 %
DIESEL FUEL	8,434 lts

PUMPS	1	2
TYPE	TSM-500	DB-550
STROKE (")	16	16
LINER (")	5 1/2	5 1/2
SPM		
PRESSURE		
GPM (97% eff)		
AV (DP - ft/min)		
AV (DC - ft/min)		
SPR (P1 / P2)		
SPR PRESS		

DRILLS / BOPS	
LAST BOP DRILL	16-Jun-04
LAST FIRE DRILL	
LAST ABN.RIG DRILL	
LAST BOP TEST	12-Jun-04
NEXT BOP TEST	26-Jun-04
DAYS SINCE LAST LTA	525

BIT DATA		
BIT No.	3	
SIZE (ins)	8.1/2"	
TYPE	CH04MS	
IADC CODE	4-1-7	
SERIAL No.	172489	
NOZZLES	3 x 13	
OUT (m)	1,640	
IN (m)	1,321	
DRILLED (m)	319.0	
HOURS	30	
CONDITION	1-2-WT-G-E-I-NO-TD	
AVG ROP (m/hr)	10.63	
WOB (x1000 lbs)	20 - 25	
RPM	100	
JET VEL (ft/sec)	282	
HHP @ BIT (HSI)	2.33	

SURVEYS		
DEPTHS	Inc (deg)	Azimuth
MD/ (TVD)		
246	1.25	-
451	1.00	-
697	0.50	-
961	2.00	-
1,206	2.00	-
1,309	1.25	-
1,628	2.50	-

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	
B.GAS (%)	
P.PRESS (ppg)	
ECD (ppg)	

TIME ANALYSIS	
1. MOVE RIG	
2. RIG UP	
3. DRILLING	
4. BIT TRIP	5.5
5. WIPER TRIP	3.5
6. SURVEY	0.5
7. CIRC / COND	1.5
8. CHANGE BHA	0.5
9. CASE & CEMENT	
10. WELLHEAD	
11. BOP'S	
12. L.O.T.	
13. CORING	
14. LOGGING	11
15. REAM / WASH	1.5
16. FISH / STUCK	
17. LOSS CIRC	
18. KICK CONTROL	
19. SIDETRACK	
20. REP. SUBSURFACE	
21. REP. SURFACE	
22. WELL TEST	
23. W.O. WEATHER	
24. WAIT - OTHER	
25. ABANDON / SUSP	
26. RIG DOWN	
27. W.O. CEMENT	
28. DRILL CEMENT	
29. RIG SERVICE	
30. SLIP & CUT LINE	
TOTAL	24

BHA.: TCI Bit + F/Sub + 1x 6.1/4" DC + Stab + 12x 6.1/4" DC + Jars + 6x 6.1/4" DC +
+ 6x HWDP = 245.26m.

BHA WEIGHT :	55,800 lbs	STRING WT.:	108,000 lbs
	(buoyed weight)		(buoyed weight)
DP RATING :	lbs - 'G' Grade	MARGIN :	0 lbs @ 75%
DP RATING :	595,000 lbs - 'S' Grade	MARGIN :	446,250 lbs @ 75%
TORQUE ON BTM :	n/a ft.lbs	DRAG UP :	2,000 lbs
TORQUE OFF BTM :	n/a ft.lbs	DRAG DOWN :	14,000 lbs

CONTINUED ../2

END OF REPORT



Essential
Petroleum
Resources
Limited

DAILY DRILLING REPORT

RIG : Hunt Energy Rig-2
PERMIT : PEP 152, Otway Basin

DATE: 19-Jun-04
REPORT No: 12
D.F.S: 10.5
SHOE F.I.T: 12.5ppg

WELL NAME: KILLARNEY EPRL-1

STATUS @ 2400 HRS: POH to P&A cement plug-2 depth.

DEPTH - 2400 HRS: 1,640 m
DEPTH - PREVIOUS: 1,640 m
24 HR PROGRESS: 0 m
SAFETY MEETINGS: Crews held pre-Tour Safety meetings & 2x JSA's; 1x Cementing Safety Meeting.

FORMATION: Eumerella Fm
HOLE SIZE: 8.1/2"
ACCIDENTS: Nil

RT - GL (m): 3.9 m
SHOE DEPTH: 255.8 mRT
LAST CASING: 9.5/8" Surface

MUD PROPERTIES		ADDITIVES
DENSITY (ppg)	9.50	
VISCOSITY	43	
pH	8.5	
PV / YP	15 / 16	
GELS 10s/10m	2 / 4	
WL API / FC (cc)	6.0	
SOLIDS %	7.0	
SAND %	Trace	
CHLORIDES	22,000	
KCL (% WT)	4.10	
MBT / PHPA (ppb)	10 / 0.9	
Pm Pm/Mf	0 0.05/0.75	
TEMP (degC)	-	
HOLE VOL (bbls)	342	
SURFACE VOL (bbls)	350	
HOLE LOSSES (bbls)	6	
MUD CO	RMN	
MUD ENGINEER	N. Kyberd	

SOLIDS CONTROL		
UNIT	GPM / HRS	UF / OF
DESILTER		
DESANDER		
MUDCLEANER		
CENTRIFUGE		
SHAKER SCREENS: 1x S110, 1x S84, 1x S55		

PUMPS	1	2
TYPE	TSM-500	DB-550
STROKE (")	16	16
LINER (")	5 1/2	5 1/2
SPM		
PRESSURE		
GPM (97% eff)		
AV (DP - ft/min)		
AV (DC - ft/min)		
SPR (P1 / P2)		
SPR PRESS		

INVENTORY	
BARITE	350 sx
GEL	42 sx
CEMENT	5 tonnes
SALT	0 sx
KCL	91 sx
DRILLWATER	100 %
DIESEL FUEL	7,000 lts

DRILLS / BOPS	
LAST BOP DRILL	16-Jun-04
LAST FIRE DRILL	
LAST ABN.RIG DRILL	
LAST BOP TEST	12-Jun-04
NEXT BOP TEST	26-Jun-04
DAYS SINCE LAST LTA	526

BIT DATA	
BIT No.	3
SIZE (ins)	8.1/2"
TYPE	CH04MS
IADC CODE	4-1-7
SERIAL No.	172489
NOZZLES	3 x 13
OUT (m)	1,640
IN (m)	1,321
DRILLED (m)	319.0
HOURS	30
CONDITION	1-2-WT-G-E-I-NO-TD
AVG ROP (m/hr)	10.63
WOB (x1000 lbs)	20 - 25
RPM	100
JET VEL (ft/sec)	282
HHP @ BIT (HSI)	2.33

SURVEYS		
DEPTHS	Inc (deg)	Azimuth
MD/ (TVD)		
246	1.25	-
451	1.00	-
697	0.50	-
961	2.00	-
1,206	2.00	-
1,309	1.25	-
1,628	2.50	-

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	
B.GAS (%)	
P.PRESS (ppg)	
ECD (ppg)	

TIME ANALYSIS	
1. MOVE RIG	
2. RIG UP	
3. DRILLING	
4. BIT TRIP	
5. WIPER TRIP	
6. SURVEY	
7. CIRC / COND	0.5
8. CHANGE BHA	4.5
9. CASE & CEMENT	
10. WELLHEAD	
11. BOP'S	
12. L.O.T.	
13. CORING	
14. LOGGING	12
15. REAM / WASH	
16. FISH / STUCK	
17. LOSS CIRC	
18. KICK CONTROL	
19. SIDETRACK	
20. REP. SUBSURFACE	
21. REP. SURFACE	
22. WELL TEST	
23. W.O. WEATHER	
24. WAIT - OTHER	
25. ABANDON / SUSP	7
26. RIG DOWN	
27. W.O. CEMENT	
28. DRILL CEMENT	
29. RIG SERVICE	
30. SLIP & CUT LINE	
TOTAL	24

BHA.:			
.....			
.....			
.....			
BHA WEIGHT :	lbs	STRING WT.:	lbs
	(buoyed weight)		(buoyed weight)
DP RATING :	lbs - 'G' Grade	MARGIN :	0 lbs @ 75%
DP RATING :	595,000 lbs - 'S' Grade	MARGIN :	446,250 lbs @ 75%
TORQUE ON BTM :	ft.lbs	DRAG UP :	lbs
TORQUE OFF BTM :	ft.lbs	DRAG DOWN :	lbs

CONTINUED ../2

END OF REPORT



RIG : Hunt Energy Rig-2

PERMIT : PEP 152, Otway Basin

DATE: 20-Jun-04

REPORT No: 13

D.F.S:	11.4
--------	------

SHOE F.I.T: 12.5ppg

WELL NAME:

KILLARNEY EPRL-1

STATUS @ 2400 HRS:

Rig released @ 2200hrs - rigging down @ 2400hrs.

DEPTH - 2400 HRS:

4.5 m

FORMATION:

RT - GL (m):

3.9 m

DEPTH - PREVIOUS:

1.640 m

HOLE SIZE:

SHOE DEPTH:

255.8 mRT

24 HR PROGRESS:

-1.636 m

ACCIDENTS:

LAST CASING:

9.5/8" Surface

SAFETY MEETINGS:

Crews held pre-Tour Safety meetings & 2x JSA's; 1x Cementing Safety Meeting.

LAST CASING:

9.5/8" Surface

IN

INTRODUCTION

TIME ANALYSIS	
1. MOVE RIG	
2. RIG UP	
3. DRILLING	
4. BIT TRIP	
5. WIPER TRIP	
6. SURVEY	
7. CIRC / COND	
8. CHANGE BHA	2
9. CASE & CEMENT	
10. WELLHEAD	1
11. BOP'S	5
12. L.O.T.	
13. CORING	
14. LOGGING	
15. REAM / WASH	
16. FISH / STUCK	
17. LOSS CIRC	
18. KICK CONTROL	
19. SIDETRACK	
20. REP. SUBSURFACE	
21. REP. SURFACE	
22. WELL TEST	
23. W.O. WEATHER	
24. WAIT - OTHER	
25. ABANDON / SUSP	6
26. RIG DOWN	1
27. W.O. CEMENT	7
28. DRILL CEMENT	
29. RIG SERVICE	
30. SLIP & CUT LINE	
TOTAL	22

FORMATION DATA	
TRIP GAS (%)	
CONN.GAS (%)	
B.GAS (%)	
P.PRESS (ppg)	
ECD (ppg)	

BHA:			
BHA WEIGHT :		lbs	STRING WT.:
			lbs
(buoyed weight)		(buoyed weight)	
DP RATING :	lbs - 'G' Grade	MARGIN :	0 lbs @ 75%
DP RATING :	595,000 lbs - 'S' Grade	MARGIN :	446,250 lbs @ 75%
TORQUE ON BTM :	ft.lbs	DRAG UP :	lbs
TORQUE OFF BTM :	ft.lbs	DRAG DOWN :	lbs

END OF REPORT

Appendix 3: Casing and Cement

Essential Petroleum Resources Limited	CASING AND CEMENTING REPORT				FORM CAC-01		
	Well Name: KILLARNEY EPRL-1						
Casing type: <input checked="" type="checkbox"/> Surface casing <input type="checkbox"/> Intermediate Casing <input type="checkbox"/> Production Casing <input type="checkbox"/> Completion tubing							
Originated by: V. Ozolins			Checked by:		Date: 11/06/2004		
Hole Size: 12.25	T.D.: 258m		Date: 11/06/2004	Contractor:	Halliburton		
PRE-FLUSH _____ bbls. @ _____ ppg.			SPACER 20 bbls @ 8.33 ppg.				
Additives: _____							
CEMENT			ADDITIVES				
LEAD SLURRY: _____ sacks class _____			Product % Amount				
Slurry Yield: _____ cu.ft./sack			%BWOC 0 lbs				
Mixwater Req't: _____ gal./sack			%BWOC 0 lbs				
Actual Slurry Pumped: _____ bbls @ _____ ppg			% BWOC 0 lbs				
TAIL SLURRY: 340 sacks class A'			gal/sx 0 gal				
Slurry Yield: 1.21 cu.ft./sack			Calcium Chloride 1 % BWOC 320 lbs				
Mixwater Req't: 5.45 gal./sack			% BWOC 0 lbs				
Actual Slurry Pumped: 78 bbls @ 15.6 ppg			% BWOC 0 lbs				
DISPLACEMENT			NF-6 0.03 gal/bbl 2 gal				
Fluid: Water @ 8.33 ppg							
Theoretical Displ.: 61.2 bbl.			Bumped plug with 460 psi				
Actual Displ. 62.5 bbl @ 6 bpm			Pressure Tested to: 1500 psi				
Displaced via			Bleed back: 0.5 bbls				
ACTIVITY		Time					
Start Running csg.	10-Jun	22:00	Returns to Surface: all bbls mud (no losses) 15.5 bbls cmt.				
Casing on Bottom	11-Jun	2:00	Reciprocate / Rotate Casing: Only during circulation - then chained down casing to avoid floating				
Start Circulation	11-Jun	2:15	Top Up Job run: Yes / No Initially no 5 sx class A'				
Start Pressure test	11-Jun	3:40	Plug Set Make / Type: Halliburton				
Pump Preflush	11-Jun	3:40	Centraliser Placement, type/dth 252m, 237m, 225m, 213m.				
Start Mixing	11-Jun	4:05	Remarks: Good returns throughout job - Geoservices ran Carbide while circulating casing and estimated that hole was 38% over gauge, so cement excess was increased from 30% to 50%. Based on cement returns, hole was actually 27% over gauge.				
Finish Mixing	11-Jun	4:22					
Start Displacing	11-Jun	4:26					
Stop Displ./Bump	11-Jun	4:40					
Press. test	11-Jun	4:42					
No. JOINTS	SIZE OD	WT lb/ft	GRADE	THREAD	MTS	FROM	TO
	Stick Up (Enter as negative number)				-1.53	-1.53	0.00
	Rotary - Top of Bradenhead				3.90	0.00	3.90
1	Bradenhead, Screw-in type c/w 8rd x BTC PxP pup, Wood Group Pressure Control				0.60	3.90	4.50
1	Casing, 9-5/8 36ppf K55 BTC R3 Casing				12.04	4.50	16.54
19	Casing, 9-5/8 40ppf K55 BTC R3 Casing				226.72	16.54	243.26
1	Float Collar, BTC, Halliburton PDC drillable				0.34	243.26	243.60
1	Casing, 9-5/8 40ppf K55 BTC R3 Casing				11.80	243.60	255.40
1	Float Shoe, BTC, Halliburton PDC drillable				0.43	255.40	255.83
Theoretical Buoyed wt of casing (klb):			28.8 Klbs	Bradenhead Height above GL		0.00 m	
Actual wt of casing (last joint run-block wt, klb)			28.8 Klbs	Casing wt just prior to landing csg/		8 Klbs	
Landing WT (after cementing and pressure bleed off)			8 Klbs	setting slips			

Essential Petroleum Resources Limited		CASING RUNNING LIST					FORM CT-CRL KDC-SRF-01		
		WELL NAME:		CASING TYPE:					
		KILLARNEY EPSL-1		Surface					
EPSL REP(S) : V. Ozolins		DEPTH: 257.83		SHOE AT : 255.83		DATE: 10/06/2004			
Joint Number		Depth		CASING			MAKE UP TORQUE		
From	To	From	To	Size	Grade	Weight	Maximum	Minimum	Optimum
1	20	250	4.5	9-5/8"	K55	40			
21	25			9-5/8"	K55	36			
ITEM	ITEM LENGTH	LENGTH RUN	JNT TOP OFF BTM	RUN YES / NO	COMMENTS				
					<i>Fm Tops running in</i> <i>Fm Tops @ Shoe Depth</i>				
			255.83		Shoe depth - Casing setting depth.				
Shoe	0.43	0.43	255.40		Top of Float Shoe, type : Halliburton PDC Drillable				
2	11.80	12.23	243.60						
Float	0.34	12.57	243.26		Top of Float Collar, type : Halliburton PDC Drillable				
1	11.98	24.55	231.28						
3	12.04	36.59	219.24						
4	12.05	48.64	207.19						
5	11.97	60.61	195.22						
6	12.01	72.62	183.21						
7	12.02	84.64	171.19						
8	12.04	96.68	159.15						
9	12.02	108.70	147.13						
10	12.03	120.73	135.10						
11	12.04	132.77	123.06						
12	11.99	144.76	111.07						
13	12.01	156.77	99.06						
14	12.01	168.78	87.05						
15	11.11	179.89	75.94						
16	11.86	191.75	64.08						
17	12.02	203.77	52.06						
18	11.82	215.59	40.24						
19	11.75	227.34	28.49						
20	11.95	239.29	16.54						
21	12.04	251.33	4.50						
22	12.04	263.37	-7.54	No	*Note: After Joint #21, run Landing Joint with 1.53m Stick-up.				
23	12.19	275.56	-19.73	No					
24	12.20	287.76	-31.93	No					
25	11.72	299.48	-43.65	No					
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									

Appendix 4: Mud Recap



DRILLING FLUID SUMMARY

**FOR : ESSENTIAL PETROLEUM
RESOURCES LTD**

WELL : KILLARNEY EPRL # 1

OTWAY BASIN

VICTORIA

Prepared by : Neil Kyberd
Andre Skujins

Date : June 2004

CONTENTS

1. Summary of Operations
2. Observations, Recommendations and Well Analysis
3. Material Costs and Consumption Analysis
4. Mud Materials Reconciliation
5. Fluid Properties Summary
6. Mud Volume Reconciliation
7. Graphs
8. Hole Gauge Evaluation
9. Daily Mud Reports

Operator : Essential Petroleum Resources Ltd
Well : Killarney EPRL # 1
Rig : Hunt Energy # 2
Spud : 9th June 2004



1. SUMMARY OF OPERATIONS

Killarney EPRL # 1 was spudded in at 12:30 hours on the 9th June 2004 utilising Hunt Energy # 2 and reached a total depth of 1640 m on the 17th June 2004.

Make up water had the following properties :

pH	:	8.5
Pf / Mf	:	Tr / 0.35
Chlorides	:	300 mg/l
Hardness	:	Tr

HOLE SIZE	:	12¼"
MUD TYPE	:	Gel Spud Mud
INTERVAL	:	0 - 258 m
CASING	:	9-5/8" @ 256 m

All tanks were filled with water. The Pill tank and trough were isolated and lined up to drill cement from the conductor shoe. Into the suction tank, 180 bbls of 25 ppb Gel-Caustic Spud mud was mixed and allowed to yield. S55 mesh shaker screens were fitted to the single shaker.

The well was spudded and drilling continued (slowly initially) with the thick gel spud mud. Once the 8" collar was below the conductor barrel, the entire mud system was used by gradually blending the spud mud into the remainder of the water filled tanks. This diluted and thinned the mud back, (viscosity of 36 sec/qt and yield point of 8 lb/100ft²) but as drilling continued, native clays started bringing the viscosity back up.

Water was added continuously to maintain volume and control the viscosity and mud weight. From 220 m (top of the Gellibrand marl formation) SAPP was added to the system to aid clay dispersion and prevent mud rings from occurring.

By the time the section TD of 258 m was reached, the mud weight had reached 9.3 ppg and the yield point was 11 lb/100ft².

The hole was circulated clean and the pipe pulled out to run casing.

9-5/8" surface casing was then run in the hole. The casing was circulated to bottom and the hole was circulated clean. The casing was then cemented, with good returns to surface.

HOLE SIZE : 8½" Production hole

Operator : Essential Petroleum Resources Ltd
Well : Killarney EPRL # 1
Rig : Hunt Energy # 2
Spud : 9th June 2004



MUD TYPE : 4% KCl PHPA Polymer
INTERVAL : 258m - 1640 m (TD)

While nipping up BOP's the tanks were dumped, cleaned and refilled with water. The pill tank and trough were isolated for drilling cement. The coarsest shaker screens (S55) used on surface hole were left on the shaker.

Into the remaining tanks 450 bbls of KCL-PHPA fluid was prepared with

- 4% KCL,
- 0.15 ppb PHPA,
- 0.5 ppb Pac-R and
- 0.1 ppb Xanvis.

The system was then continually circulated via the hopper and gun line to shear up the fluid as much as possible before use. This low concentration of polymers was intentionally mixed to prevent major mud loss over the single shaker due to unsheared polymer blinding.

An 8½" bit and BHA was run into the hole and tagged cement at 236 m. The cement was drilled with water via the trough and pill tank and while drilling on the shoe the hole was displaced to the stored KCL-PHPA fluid.

After the F.I.T. was performed, drilling resumed, with a circulation rate of 448 gpm. Further Polymer additions were made, both from premix addition and direct to the system to build up the PHPA concentration and other fluid properties. Once the system was within spec's (i.e. Yield Point > 10 lb/100ft² and Fluid Loss < 8 cc's) and the new polymers sheared, the shaker screens were upgraded to 110 – 84 – 54 mesh which was the finest combination that could be run at this pump rate.

Drilling continued with fluid properties and volume controlled with premix additions. A combination of AMC Pac-R and AMC Pac-L was used to lower the fluid loss and Xan-Bore was required to build the yield point, especially in the earlier stages of the hole. The sand trap was dumped of solids when required, and the Desilter run. Mud loss to various sand formations occurred, but were self-healing.

Drilling continued to 1321 m where the hole was circulated clean and the pipe slugged (with KCL) the pipe was pulled out for a new bit. Minor tight hole patches were noted on the trip out.

A new Bit was run into the hole and washed / reamed through tight hole from 1074 m – 1321 m and drilling resumed.

With fewer losses downhole reducing the need for new volume, the mud weight began rising quite rapidly and at 9.5 ppg a sequence of dumping settling tanks and diluting with new premix was done to maintain the mud weight at no more than 9.5 ppg. Recycled solids free sump water, now rich in KCL and free PHPA was used for premix volume.

Operator : Essential Petroleum Resources Ltd
Well : Killarney EPRL # 1
Rig : Hunt Energy # 2
Spud : 9th June 2004



Rising hardness after the bit change and from the sump water required treatment with Soda Ash.

Drilling continued to a total depth of 1640 m where the hole was circulated clean. The pipe was slugged (Barytes) and a 20 stand wiper trip pulled finding tight hole from 1280 m which required circulation and pumping out. The wiper trip was continued back to the last bit trip depth to find good hole and then running back to bottom tagging fill at 1612 m and washed to bottom at 1640 m. The hole was then circulated clean, the pipe slugged and pulled out of the hole with no further tight hole reported.

Logging tools were made up and run into the hole successfully to bottom and the full logging program completed without hole problems.

Open ended drill-pipe was then run in to bottom and the hole circulated clean. Cement plugs were then set as per the P & A program.

Operator : Essential Petroleum Resources Ltd
Well : Killarney EPRL # 1
Rig : Hunt Energy # 2
Spud : 9th June 2004



2. OBSERVATIONS, RECOMMENDATIONS AND WELL ANALYSIS

Killarney EPRL # 1 was drilled to a total depth of 1640 m for a mud cost of \$18,998.40 or \$11.58 per metre. The well was drilled problem free from a mud viewpoint and hole conditions were good throughout.

Chemical mixing into the pill tank (which doubled as a Premix tank) was poor mainly due to lack of agitation

The rigs solids control equipment worked well. The linear motion shaker worked well as expected, but there being only the one shaker can cause problems, especially with high pump outputs. More pleasing was the performance of the desander and desilter. Both units worked well and put out underflows indicating that the equipment was working fairly optimally. However as both units are run from the one pump there is not enough throughput to run both units at the same time.

12¼" Surface Hole

This section of hole was drilled for a mud cost of \$1084.70, slightly higher than expected. Extra gel was mixed at the start to fill the larger suction tank (180 Bbls) as the spud mud couldn't be mixed into the smaller intermediate tank. SAPP was used to great effect once the problematic Gellibrand Marl formation was intersected and successfully removed the threat of Mud Rings and pack-offs.

8½" Production Hole

This section of hole was drilled for a mud cost of \$17,913.70 or \$12.96 per metre. The main thing to note in this section is the high circulation rate used in conjunction with the PDC bit. The high flow rate prevented finer shaker screens being fitted and toward the lower section of the hole, frequent dumping and dilution was required. However some savings were made by recycling the sump water and re-using the KCL and free PHPA it contained.

The calliper shows washed out areas throughout most of the sandy formations due probably to the high circulation rate. However gauge hole was preserved through the zones of interest presenting good packer seat locations had they been required.

Overall, a change to the mud program is not required, simply because the system worked well and achieved its aims of helping drill the hole quickly, efficiently and without undue amounts of hole problems.

3. INTERVAL COSTS

Product	Interval :		12-1/4" Surface Hole		8-1/2" Intermediate Hole		Total Well Consumption	
	0 - 258 m		258 m - 1640 m		0 - 1640 m (TD)			
	Cost	Unit Size	Used	Cost	%Cost	Used	Cost	%Cost
AMC Biocide G	\$ 210.00	25 lt		\$210.00	1.2%	1	\$210.00	1.1%
AMC Pac L	\$ 148.20	25 kg		\$1,926.60	10.8%	13	\$1,926.60	10.1%
AMC Pac R	\$ 148.20	25 kg		\$4,594.20	25.6%	31	\$4,594.20	24.2%
Aus-Gel 25kg (Aust)	\$ 11.10	25 kg	84	\$932.40	86.0%	84	\$932.40	4.9%
Baryte	\$ 6.30	25 kg		\$189.00	1.1%	30	\$189.00	1.0%
Caustic Soda	\$ 37.30	25 kg	1	\$37.30	3.4%	1	\$37.30	0.2%
PHPA	\$ 105.70	25 kg		\$2,431.10	13.6%	23	\$2,431.10	12.8%
Potassium Chloride (\$ 13.80	25 kg		\$5,644.20	31.5%	409	\$5,644.20	29.7%
SAPP	\$ 57.50	25 kg	2	\$115.00	10.6%	2	\$115.00	0.6%
Soda Ash	\$ 19.50	25 kg		\$195.00	1.1%	10	\$195.00	1.0%
Sodium Sulphite	\$ 32.50	25 kg		\$650.00	3.6%	20	\$650.00	3.4%
Xan-Bore	\$ 345.60	25 kg		\$2,073.60	11.6%	6	\$2,073.60	10.9%
Totals :				\$1,084.70	100.0%		\$17,913.70	100.0%
Cost per Metre :				\$4.20			\$18,998.40	100.0%
							\$11.58	

4. MATERIALS RECONCILIATION

Previous Well : Ex Adelaide Stores
Well : Kilarney # 1
Transferred to : Findra # 1

PRODUCT	UNIT	TOTAL RECEIVED	TOTAL USED	TRANSFER BALANCE
AMC Biocide G	25 lt	8	1	7
AMC Defoamer	25 lt	8		8
AMC Pac - Low	25 kg	20	13	7
AMC Pac - Reg	25 kg	40	31	9
Aus-Gel	25 kg	126	84	42
Barytes	25 kg	320	30	290
Calcium Carbonate (ESS)	25 kg	40		40
Calcium Chloride (ESS)	25 kg	80		80
Caustic Soda	25 kg	18	1	17
Kwikseal Fine	40 lb	21		21
Kwikseal Med	40 lb	28		28
Lime	25 kg	6		6
PHPA	25 kg	72	23	49
Potassium Chloride	25 kg			
Potassium Chloride (ESS)	25 kg	504	409	95
Rod-Free	208 lt	1		1
Salt (ESS)	25 kg	144		144
SAPP	25 kg	20	2	18
Soda Ash	25 kg	35	10	25
Sodium Sulphite	25 kg	42	20	22
Xan-Bore	25 kg	10	6	4

5. FLUID PROPERTIES SUMMARY

Date	Mud Type	Temp.	Depth	Weight	Vis	PV	YP	Gels			Filtrate		Solids					pH	Pm	Pf	Mf	Cl-	Ca++	SO3=	K+	KCl	PHPA
								10 sec	10 min	API	Cake	Solids	Water	Sand	MBT												
9-Jun-04	Spud Mud		0	8.40	60	12	23	11	23			0.4	99.6		25.0	8.8	0.1	0.05	0.90		800	80					
10-Jun-04	Spud Mud		110	8.70	36	8	15	8	18			2.5	97.5	TR	18.0	8.8		0.10	0.90		800	200					
		230	9.10	38	10	11	28			5.4	94.6	tr	22.5	8.5		0.05	0.70		800	220							
	Spud Mud		258	9.30	38	10	12	12	28			6.8	93.2	tr	20.0	8.5		0.05	0.60		800	220					
11-Jun-04	4% KCL-PHPA		258	8.60	31	5	3	1	2			0.7	99.3			8.5		0.05	0.60		20,000	80		21,616	4.0	0.15	
12-Jun-04	4% KCL-PHPA		261	8.65	29	4	4	1	2			1.0	99.0			8.5		0.05	0.60		20,000	80		21,616	4.0	0.20	
13-Jun-04	4% KCL-PHPA	90	440	8.90	45	10	13	2	4	8	1	2.7	97.3	TR	5.0	8.5		0.05	0.60		21,000	120	80		22,156	4.1	0.60
	4% KCL-PHPA	98	661	9.20	39	10	15	2	4	7	1	4.9	95.1	tr	5.0	8.5		0.05	0.70		21,000	120	120		21,616	4.0	0.70
14-Jun-04	4% KCL-PHPA	108	960	9.30	41	14	16	2	5	6.2	1	5.6	94.4	TR	7.5	8.5		0.05	0.60		21,000	280	120		22,156	4.1	1.00
	4% KCL-PHPA	110	1098	9.20	40	13	16	2	5	6.0	1	4.9	95.1	TR	7.5	8.5		0.05	0.55		21,000	280	80		21,616	4.0	1.00
15-Jun-04	4% KCL-PHPA	112	1268	9.30	43	16	19	3	6	6.2	1	5.6	94.4	tr	10.0	8.5		0.05	0.55		21,500	320	120		22,156	4.1	1.10
	4% KCL-PHPA		1321	9.30	43	15	19	2	6	6.2	1	5.6	94.4	tr	10.0	8.5		0.05	0.55		21,000	280	120		21,616	4.0	1.10
16-Jun-04	4% KCL-PHPA	106	1370	9.30	40	14	16	2	5	6.2	1	5.7	94.3	1/4	10.0	8.5		0.05	0.55		19,500	340	80		21,616	4.0	1.10
	4% KCL-PHPA	110	1411	9.40	40	15	14	2	4	6.0	1	6.4	93.6	1/4	10.0	8.8		0.05	0.55		19,000	380	120		21,076	3.9	1.00
17-Jun-04	4% KCL-PHPA	110	1520	9.50	42	16	15	2	4	6.0	1	7.0	93.0	1/2	10.0	8.8		0.10	0.75		21,500	320	80		21,616	4.0	0.95
	4% KCL-PHPA		1640	9.40	43	15	16	2	5	6.0	1	6.3	93.7	1/4	10.0	8.5		0.05	0.70		22,000	360	120		22,156	4.1	0.90
18-Jun-04	4% KCL-PHPA		1640	9.45	43	15	16	2	4	6.0	1	6.6	93.4	tr	10.0	8.5		0.05	0.75		22,000	320	80		22,156	4.1	0.90
19-Jun-04	4% KCL-PHPA		1640	9.50	43	15	16	2	4	6.0	1	7.0	93.0	tr	10.0	8.5		0.05	0.75		22,000	320	80		22,156	4.1	0.90

6. Mud Volume Analysis

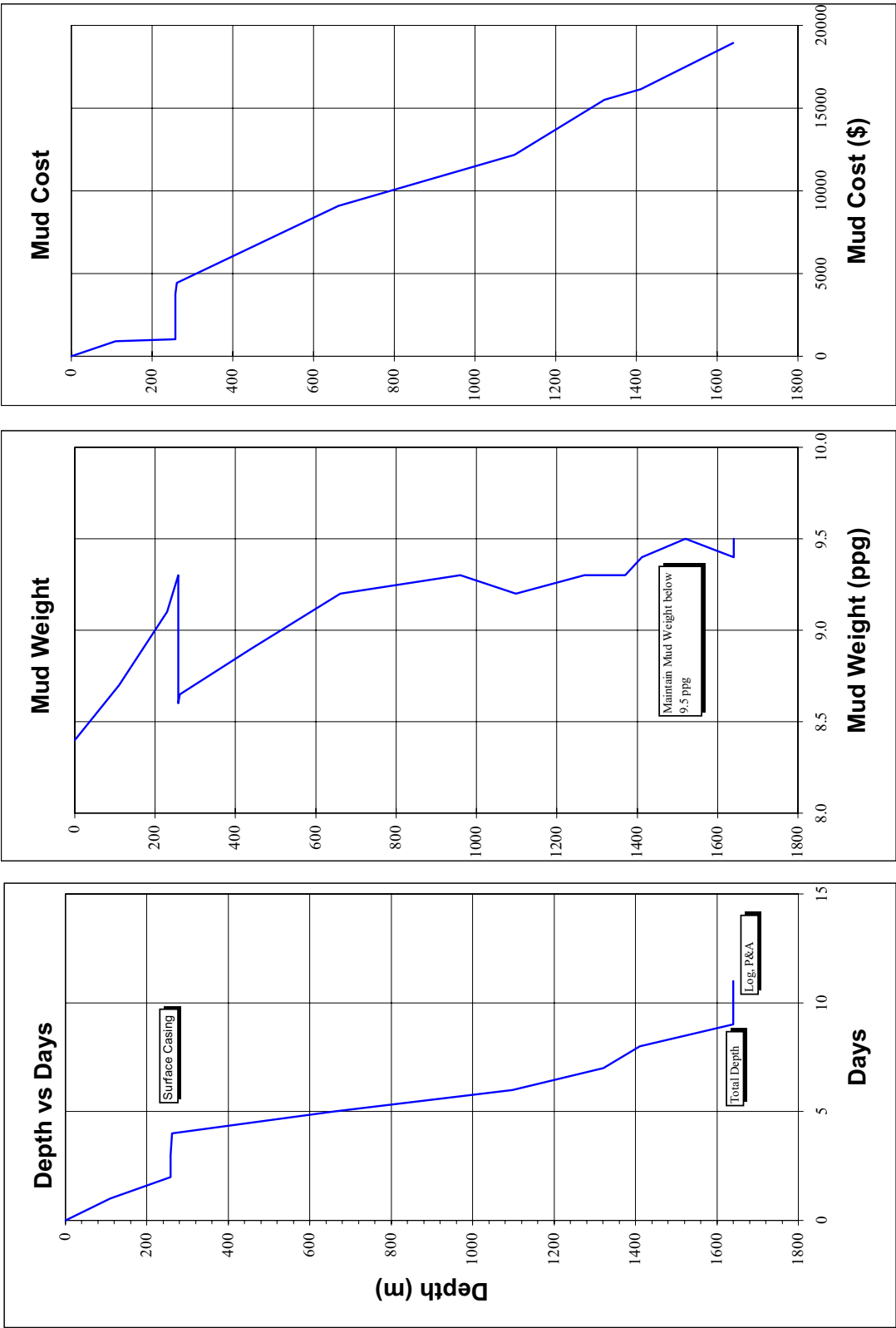
Date	Hole Size	Interval		Fluid Built & Received						Fluid Disposed					Summary			
		From	To	Mud Type	Fresh Premix	Sump Premix	Direct Recirc	Water	Other	De-sander	De-silter	Down-hole	Dumped	Other	Initial	Received	Disposed	Final
9-Jun-04	12-1/4"	0 m	127 m	Spud Mud	180			300		14	0	0		13	0	480	28	452.5
10-Jun-04	12-1/4"	127 m	258 m	Spud Mud				120		22	0	0		62	452.5	120	84	488.2
Sub Total					180	0	0	420	0	37	0	0	0			600	112	
11-Jun-04	8-1/2"	258 m	258 m	KCl PHPA	450					0	0	0				450	0	450
12-Jun-04	8-1/2"	258 m	261 m	KCl PHPA	45					0	0	-6				45	-6	500
13-Jun-04	8-1/2"	261 m	661 m	KCl PHPA	225					0	14	141	55	30	500	225	241	485
14-Jun-04	8-1/2"	661 m	1098 m	KCl PHPA	225					0	34	38	40	10	485	225	123	587
15-Jun-04	8-1/2"	1098 m	1321 m	KCl PHPA	225					0	15	101	25	10	587	225	152	660
16-Jun-04	8-1/2"	1321 m	1418 m	KCl PHPA	45		45			0	9	62		15	660	90	86	664
17-Jun-04	8-1/2"	1418 m	1640 m	KCl PHPA	45		135			0	51	31	45	10	664	180	137	707
18-Jun-04	8-1/2"	1640 m	1640 m	KCl PHPA						0	6	0			707	0	6	701
Sub Total					1260	0	180	0	0	0	130	369	165	75		1440	739	
Well Total					1440	0	180	420	0	37	130	369	165	75		2040	850	

Dilution Factors				
	Interval Length	Dilution Vol	Dilution Factor	
12 1/4" Surface Hole	258 m	420 bbls	1.6 bbls/m	
8 1/2" Mudded Up Hole	1382 m	990 bbls	0.7 bbls/m	

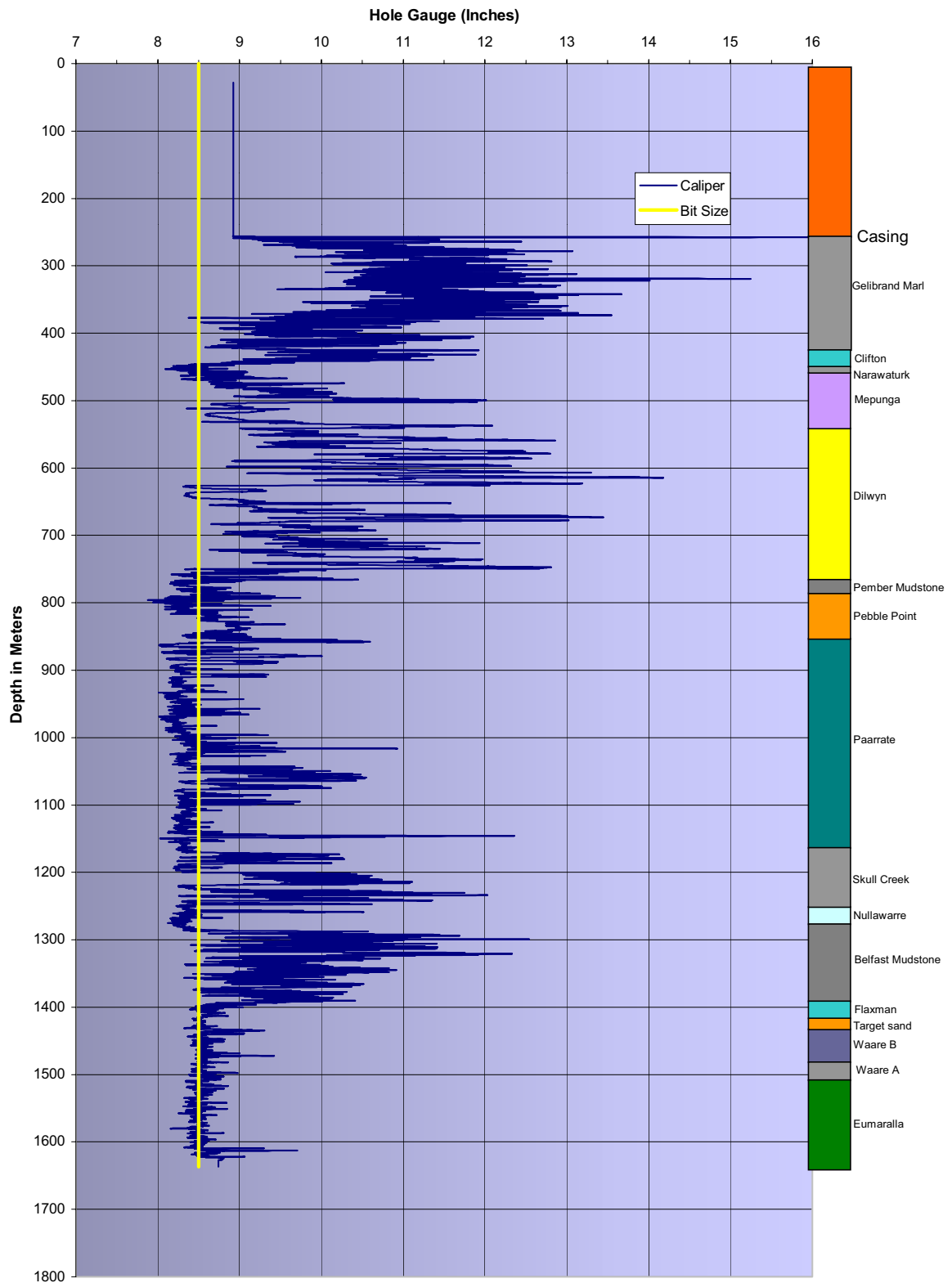


Drilling Fluids

7. Graphs



8. Killarney EPRL # 1 Caliper



9. Daily Drilling Fluid Reports



Report #	1	Date :	9-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	to	127	Metres

is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from the use of same.



Report #	2	Date :	10-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	127	to	258 Metres

OPERATOR	Essential Petroleum Resource Ltd	CONTRACTOR	Hunt Energy	
REPORT FOR	Vilnis Ozlins	REPORT FOR	Dave Hair	
WELL NAME AND No	Kilarney EPRL# 1	FIELD	LOCATION	STATE
		PEP 152	Otway Basin	Victoria

DRILLING ASSEMBLY		JET SIZE			CASING		MUD VOLUME (BBL)		CIRCULATION DATA							
BIT SIZE	TYPE	16	16	16	SURFACE	ft	HOLE	PITS	PUMP SIZE			CIRCULATION				
12.25	Var-N22				SET @	M	108	380	5.5	X	6	Inches	PRESS (PSI)	1000	psi	
DRILL PIPE SIZE	TYPE	Length			INT.	ft	TOTAL CIRCULATING VOL.		PUMP MODEL		ASSUMED EFF		BOTTOMS			
4.5	#		143	Mtrs	SET @	M	488		Emsco DB550		95 %		UP (min) 6 min			
DRILL PIPE SIZE	TYPE	Length			PROD. or	ft	IN STORAGE		BBL/STK		STK / MIN		TOTAL CIRC.			
	HW			Mtrs	LNR Set @	M			0.1404		110		TIME (min) 33 min			
DRILL COLLAR SIZE (")		Length			MUD TYPE					BBL/MIN		GAL / MIN		ANN VEL.	DP	116
6.25	8.00	93	22	Mtrs	Spud Mud					14.67		616			DCs	136 175

[illegible]

FLOWLINE TEMPERATURE	⁰ C ⁰ F			OBSERVATIONS					
WEIGHT	ppg / SG	9.10	1.092	9.30	1.116	Drilled ahead through mud making clays, adding water for new volume and viscosity control. Some losses from screen blinding due to clays sticking to the shaker screens. From 220m added SAPP as required to aid clay dispersion and prevent mud Ring formation.			
FUNNEL VISCOSITY (sec/qt) API @	⁰ C	38		38					
PLASTIC VISCOSITY cP @	⁰ C	10		10					
YIELD POINT (lb/100ft²)		10		12					
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		11 28		12 28					
FILTRATE API (cc's/30 min)									
HPHT FILTRATE (cc's/30 min) @	⁰ F								
CAKE THICKNESS API : HPHT (32nd in)									
SOLIDS CONTENT (% by Volume)		5.4		6.8					
LIQUID CONTENT (% bv Volume) OIL/WATER			94.6		93.2				

SAND CONTENT (% by Vol.)	tr	tr	<u>OPERATIONS SUMMARY</u> Drill ahead with surveys to 251m Circulate hole clean, POOH wiper trip to surface. RIH to bottom Drill ahead to Casing TD at 258m Circulate hole clean, POOH to run casing. Rig up and run 9 5/8" casing.
METHYLENE BLUE CAPACITY (ppb equiv.)	22.5	20.0	
pH	8.5	8.5	
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf/ Mf)	0.05	0.70	
CHLORIDE (mg/L)	800	800	
TOTAL HARDNESS AS CALCIUM (mg/L)	220	220	
SULPHITE (mg/L)			
K+ (mg/L)			
KCl (% by Wt.)			
PHPA (ppb)			

Mud Accounting (bbls)						Solids Control Equipment								
FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY			Type	Hrs		Cones	Hrs		Size	Hrs
Premix (drill water)		Desander	22	INITIAL VOLUME	452	Centrifuge	Nil		Desander	2	13	Shaker #1	3x55	13
Premix (recirc from sump)		Desilter				Degasser	P-B		Desilter	7		Shaker #2	n/a	
Drill Water	120	Downhole	0	+ FLUID RECEIVED	120									
Direct Recirc Sump		Dumped		-FLUID LOST	84									
Other (eg Diesel)		Other	62	+ FLUID IN STORAGE										
TOTAL RECEIVED	120	TOTAL LOST	84	FINAL VOLUME	488									
						Desander		9.9		1.20				
						Desilter			0					

Product	Price	Start	Received	Used	Close	Cost	Solids Analysis			Bit Hydraulics & Pressure Data	
SAPP	\$ 57.50	20		2	18	\$ 115.00		PPB	%	Jet Velocity	335
							High Grav solids			Impact force	994
							Total LGS	61.7	6.8	HHP	337
							Bentonite	20.0	2.2	HSI	2.9
							Drilled Solids	41.7	4.6	Bit Press Loss	937
							Salt			CSG Seat Frac Press	
							n @ 17:00 Hrs	0.54		Equiv. Mud Wt.	
							K @ 17:00 Hrs	0.76		ECD	
										Max Pressure @ Shoe :	
							DAILY COST			CUMULATIVE COST	
							\$115.00			\$1,034.30	
RMN ENGINEER	Neil Kyberd			CITY	Adelaide Office		TELEPHONE			08 8338 7266	



Report #	3	Date :	11-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	258	to	258 Metres

OPERATOR	Essential Petroleum Resource Ltd	CONTRACTOR	Hunt Energy	
REPORT FOR	Vilnis Ozlins	REPORT FOR	Dave Hair	
WELL NAME AND No	Kilarney EPRL# 1	FIELD PEP 152	LOCATION Otway Basin	STATE Victoria

DRILLING ASSEMBLY		JET SIZE			CASING		MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE	TYPE				SURFACE	ft	HOLE	PITS	PUMP SIZE		CIRCULATION PRESS (PSI)			
8.5					SET @	M	48		5.5	X 6	Inches		psi	
DRILL PIPE SIZE	TYPE	Length			INT.	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)			
4.5	#	165	Mtrs		SET @	M	48		Emasco DB550	95 %		min		
DRILL PIPE SIZE	TYPE	Length			PROD. or	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC. TIME (min)			
	HW		Mtrs		LNR Set @	M			0.1404			min		
DRILL COLLAR SIZE (")		Length			MUD TYPE				BBL/MIN	GAL / MIN	ANN VEL.	DP		
6.25		93	Mtrs		4% KCL-PHPA							DCs		

[illegible]

FLOWLINE TEMPERATURE	⁰ C / ⁰ F				<u>OBSERVATIONS</u> Dumped and cleaned all tanks. Prepared 450bbbls of KCL-PHPA fluid with: 4% KCl, 0.15 ppb PHPA, 0.5ppb PAC-R and 0.1 ppb Xanvis. Circulating all tanks via gun lines and hopper to aid in shearing the new fluid. Once the New fluid has sheared and the shaker can handle the fluid further PHPA and Yield Point building polymers will be added.
WEIGHT	ppg / SG		8.60	1.032	
FUNNEL VISCOSITY (sec/qt) API @	⁰ C		31		
PLASTIC VISCOSITY cP @	⁰ C		5		
YIELD POINT (lb/100ft ²)			3		
GEL STRENGTHS (lb/100ft ²) 10 sec/10 min			1	2	
FILTRATE API (cc's/30 min)					
HPHT FILTRATE (cc's/30 min) @	⁰ F				
CAKE THICKNESS API : HPHT (32nd in)					
SOLIDS CONTENT (% by Volume)			1.9		
LIQUID CONTENT (% bv Volume) OIL/WATER				98.1	

SAND CONTENT (% by Vol.)			<u>OPERATIONS SUMMARY</u> Continued Running 9 5/8" casing Circulate casing. Cement casing with cement returned to surface. Nipple up BOP's
METHYLENE BLUE CAPACITY (ppb equiv.)			
pH		8.5	
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf/ Mf)		0.05 0.60	
CHLORIDE (mg/L)			
TOTAL HARDNESS AS CALCIUM (mg/L)		80	
SULPHITE (mg/L)			
K+ (mg/L)		21,616	
KCl (% by Wt.)		4.0	
PHPA (ppb)		0.15	

Mud Accounting (bbls)						Solids Control Equipment							
FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY		Type	Hrs		Cones	Hrs		Size	Hrs
Premix (drill water)	450	Desander		INITIAL VOLUME		Centrifuge	Nil		Desander	2		Shaker #1	3x55
Premix (recirc from sump)		Desilter				Degasser	P-B		Desilter	7		Shaker #2	n/a
Drill Water		Downhole	402	+ FLUID RECEIVED	450								
Direct Recirc Sump		Dumped		-FLUID LOST	402								
Other (eg Diesel)		Other		+ FLUID IN STORAGE									
								Overflow (ppg)		Underflow (ppg)		Output (Gal/Min.)	
TOTAL RECEIVED	450	TOTAL LOST	402	FINAL VOLUME	48	Desander			0				
						Desilter			0				

Product	Price	Start	Received	Used	Close	Cost	Solids Analysis			Bit Hydraulics & Pressure Data	
AMC Pac - Reg	\$ 148.20	40		4	36	\$ 592.80		PPB	%	Jet Velocity	
PHPA	\$ 105.70	72		2	70	\$ 211.40	High Grav solids			Impact force	
Potassium Chloride	\$ 13.80			115	-115	\$ 1,587.00	Total LGS	17.1	1.9	HHP	
Xan-Bore	\$ 345.60	10		1	9	\$ 345.60	Bentonite			HSI	
							Drilled Solids	17.1	1.9	Bit Press Loss	
							Salt			CSG Seat Frac Press	
							n @ 21:00 Hrs	0.70		Equiv. Mud Wt.	
							K @ 21:00 Hrs	0.10		ECD	
										Max Pressure @ Shoe :	
							DAILY COST			CUMULATIVE COST	
							\$2,736.80			\$3,771.10	
RMN ENGINEER	Neil Kyberd	CITY			Adelaide Office			TELEPHONE			08 8338 7266



Report #	4	Date :	12-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	258	to	261 Metres

OPERATOR	Essential Petroleum Resource Ltd	CONTRACTOR	Hunt Energy	
REPORT FOR	Vilnis Ozlins	REPORT FOR	Dave Hair	
WELL NAME AND No	Kilarney EPRL# 1	FIELD	LOCATION	STATE
		PEP 152	Otway Basin	Victoria

DRILLING ASSEMBLY			JET SIZE			CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE	TYPE		12	12	12	9 5/8" SURFACE SET @	839 ft	HOLE	PITS	PUMP SIZE		CIRCULATION		
8.5	FS 2565		12	12		256 M		54	402	5.5	X 6	Inches	PRESS (PSI)	psi
DRILL PIPE SIZE	TYPE	Length				INT.	ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS		
4.5	#	168	Mtrs			SET @	M	500		Emasco DB550	95 %	UP (min)		
DRILL PIPE SIZE	TYPE	Length				PROD. or LNR Set @	ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC.		
	HW		Mtrs				M	44		0.1404		TIME (min)		
DRILL COLLAR SIZE (")		Length				MUD TYPE				BBL/MIN	GAL / MIN	ANN VEL.	DP	
6.25		93	Mtrs			4% KCL-PHPA				(ft/min)			DCs	


[illegible]

FLOWLINE TEMPERATURE	⁰ C	⁰ F				OBSERVATIONS
WEIGHT	ppg / SG			8.65	1.038	Continued mixing stored KCL-PHPA volume with hopper and gun lines.
FUNNEL VISCOSITY (sec/qt) API @		⁰ C			29	
PLASTIC VISCOSITY cP @		⁰ C			4	Drilled out the cement with water via shakers - trough - Pill tank.
YIELD POINT (lb/100ft ²)					4	Displaced the hole to KCL - PHPA while drilling through the casing shoe.
GEL STRENGTHS (lb/100ft ²) 10 sec/10 min					12	Built 45 bbls new Premix for volume and Yield Point / PHPA building,
FILTRATE API (cc's/30 min)						to be bled in when circulation resumes.
HPHT FILTRATE (cc's/30 min) @		⁰ F				
CAKE THICKNESS API : HPHT (32nd in)						
SOLIDS CONTENT (% by Volume)					1.0	
LIQUID CONTENT (% bv Volume) OIL/WATER					99.0	

SAND CONTENT (% by Vol.)			<u>OPERATIONS SUMMARY</u> Continue Nipple up BOP's and pressure test. RIH and tag cement at 236m. Drill cement and shoe track Displace hole to stored KCL-PHPA fluid. Perform FIT.
METHYLENE BLUE CAPACITY (ppb equiv.)			
pH		8.5	
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf/ Mf)		0.05 0.60	
CHLORIDE (mg/L)		20,000	
TOTAL HARDNESS AS CALCIUM (mg/L)		80	
SULPHITE (mg/L)			
K+ (mg/L)		21,616	
KCl (% by Wt.)		4.0	
PHPA (ppb)		0.2	

Mud Accounting (bbls)						Solids Control Equipment								
FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY			Type	Hrs		Cones	Hrs		Size	Hrs
Premix (drill water)	45	Desander		INITIAL VOLUME	450	Centrifuge	Nil		Desander	2		Shaker #1	3x55	2
Premix (recirc from sump)		Desilter				Degasser	P-B		Desilter	7		Shaker #2	n/a	
Drill Water		Downhole	-6	+ FLUID RECEIVED	45									
Direct Recirc Sump		Dumped		-FLUID LOST	-6									
Other (eg Diesel)		Other		+ FLUID IN STORAGE	44									
TOTAL RECEIVED	45	TOTAL LOST	-6	FINAL VOLUME	544									
						Desander		0						
						Desilter			0					

Product	Price	Start	Received	Used	Close	Cost	Solids Analysis			Bit Hydraulics & Pressure Data	
AMC Pac - Reg	\$ 148.20	36		2	34	\$ 296.40		PPB	%	Jet Velocity	
PHPA	\$ 105.70	70		2	68	\$ 211.40	High Grav solids			Impact force	
Potassium Chloride	\$ 13.80	389		12	377	\$ 165.60	Total LGS	9.2	1.0	HHP	
							Bentonite			HSI	
							Drilled Solids	9.2	1.0	Bit Press Loss	
							Salt			CSG Seat Frac Press	
							n @ 24:00 Hrs	0.58		Equiv. Mud Wt.	
							K @ 24:00 Hrs	0.21		ECD	
										Max Pressure @ Shoe :	
							DAILY COST			CUMULATIVE COST	
							\$673.40			\$4,444.50	
RMN ENGINEER	Neil Kyberd			CITY	Adelaide Office		TELEPHONE			08 8338 7266	



DRILLING FLUID

REPORT

Report #	5	Date :	13-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	261	to	661 Metres

OPERATOR					Essential Petroleum Recource Ltd					CONTRACTOR					Hunt Energy																								
REPORT FOR					Vilnis Ozlins					REPORT FOR					Noel Mills																								
WELL NAME AND No					Kilarney EPRL# 1					FIELD					PEP 152					LOCATION					Otway Basin					STATE					Victoria				

DRILLING ASSEMBLY				JET SIZE				CASING				MUD VOLUME (BBL)				CIRCULATION DATA																					
BIT SIZE		TYPE		12		12		12		9 5/8" SURFACE SET @		839 ft		256 M		HOLE		PITS		PUMP SIZE				CIRCULATION PRESS (PSI)				1200 psi									
8.5		FS 2565														133		352		5.5 X 6 Inches																	
DRILL PIPE SIZE		TYPE		Length		434		Mtrs		INT. SET @		ft		M		TOTAL CIRCULATING VOL.				PUMP MODEL				ASSUMED EFF				BOTTOMS UP (min)				10 min					
4.5		#														485				Emsco DB550				95 %													
DRILL PIPE SIZE		TYPE		Length		55		Mtrs		PROD. or LNR Set @		ft		M		IN STORAGE				BBL/STK				STK / MIN				TOTAL CIRC. TIME (min)				45 min					
4.5		HW																		0.1404				80													
DRILL COLLAR SIZE (")		Length		172		Mtrs				MUD TYPE		4% KCL-PHPA								BBL/MIN				GAL / MIN				ANN VEL. (ft/min)				DP		211			
6.25																				10.67				448								331					

MUD PROPERTIES										MUD PROPERTY SPECIFICATIONS																																							
SAMPLE FROM					Pit					Pit					Mud Weight					8.8 - 9.4					API Filtrate					6 - 10					HPHT Filtrate														
TIME SAMPLE TAKEN					14:00					24:00					Plastic Vis					min					Yield Point					12 - 25					pH					8.0 - 9.5									
DEPTH (ft) - (m)					Metres					440					661					KCl					4%					PHPA					1.00 ppb					Sulphites					80 - 120				
FLOWLINE TEMPERATURE					° C / ° F					90					98					<div>OBSERVATIONS</div> Building PHPA levels and Yield Point with Pac-R & Xan-Vis Mud weight increasing with solids, Unable to upgrade shaker screens due to Pump rate. Running De-Silter and dumping sand trap on surveys. Sodium Sulphite for corrosion control.																													
WEIGHT					ppg / SG					8.90					1.068															9.20					1.104														
FUNNEL VISCOSITY (sec/qt) API @					° C					45					39																																		
PLASTIC VISCOSITY cP @					° C					10					10																																		
YIELD POINT (lb/100ft²)										13					15																																		
GEL STRENGTHS (lb/100ft²) 10 sec/10 min										2.4					2.4																																		
FILTRATE API (cc's/30 min)										7.8					7.2																																		
HPHT FILTRATE (cc's/30 min) @					° F																																												
CAKE THICKNESS API : HPHT (32nd in)										1					1																																		
SOLIDS CONTENT (% by Volume)										2.7					4.9																																		
LIQUID CONTENT (% by Volume) OIL/WATER										97.3					95.1																																		
SAND CONTENT (% by Vol.)					TR					tr					<div>OPERATIONS SUMMARY</div> Perform FIT Drill ahead with surveys to 661m																																		
METHYLENE BLUE CAPACITY (ppb equiv.)																																																	
pH					8.5					8.5																																							
ALKALINITY MUD (Pm)																																																	
ALKALINITY FILTRATE (Pf / Mf)					0.05					0.60															0.05					0.70																			
CHLORIDE (mg/L)					21,000					21,000																																							
TOTAL HARDNESS AS CALCIUM (mg/L)					120					120																																							
SULPHITE (mg/L)																																																	
K+ (mg/L)					22,156					21,616																																							
KCl (% by Wt.)					4.1					4.0																																							
PHPA (ppb)					0.6					0.7																																							

Mud Accounting (bbls)										Solids Control Equipment																																																																					
FLUID BUILT & RECEIVED					FLUID DISPOSED					SUMMARY					Type					Hrs					Cones					Hrs					Size					Hrs																																							
Premix (drill water)					225					Desander										INITIAL VOLUME					500					Centrifuge					Nil										Desander					2										Shaker #1					3x55					18									
Premix (recirc from sump)										Desilter					14															Degasser					P-B										Desilter					8					10										Shaker #2					n/a									
Drill Water										Downhole					141					+ FLUID RECEIVED					225																																																						
Direct Recirc Sump										Dumped					55					-FLUID LOST					241																																																						
Other (eg Diesel)										Other					30					+ FLUID IN STORAGE																																																											
TOTAL RECEIVED					225					TOTAL LOST					241					FINAL VOLUME					485					Desander										0										Output (Gal/Min.)					1.00																								
Desilter																																																																															

Product		Price		Start		Received		Used		Close		Cost		Solids Analysis				Bit Hydraulics & Pressure Data					
AMC Pac - Low		\$ 148.20		20				3		17		\$ 444.60				PPB		%		Jet Velocity		260	
AMC Pac - Reg		\$ 148.20		34				6		28		\$ 889.20		High Grav solids						Impact force		555	
PHPA		\$ 105.70		68				6		62		\$ 634.20		Total LGS		44.5		4.9		HHP		146	
Potassium Chloride		\$ 13.80		377				60		317		\$ 828.00		Bentonite						HSI		2.6	
Sodium Sulphite		\$ 32.50		42				4		38		\$ 130.00		Drilled Solids		44.5		4.9		Bit Press Loss		558	
Xan-Bore		\$ 345.60		9				5		4		\$ 1,728.00		Salt						CSG Seat Frac Press			
														n @ 24:00 Hrs		0.49				Equiv. Mud Wt.			
														K @ 24:00 Hrs		1.21				ECD			
																				Max Pressure @ Shoe :			
				</																			



Report #	6	Date :	14-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	661	to	1098 Metres

OPERATOR	Essential Petroleum Resource Ltd	CONTRACTOR	Hunt Energy	
REPORT FOR	Vilnis Ozlins	REPORT FOR	Noel Mills	
WELL NAME AND No	Kilarney EPRL# 1	FIELD	LOCATION	STATE
		PEP 152	Otway Basin	Victoria

DRILLING ASSEMBLY			JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA						
BIT SIZE	TYPE		12	12	12	9 5/8"	SURFACE	839	ft	HOLE	PITS	PUMP SIZE			CIRCULATION PRESS (PSI)		
8.5	FS 2565		12	12			SET @	256	M	227	360	5.5	X	6	Inches	1500	psi
DRILL PIPE SIZE	TYPE	Length					INT.		ft	TOTAL CIRCULATING VOL.		PUMP MODEL	ASSUMED EFF	BOTTOMS UP (min)			
4.5	#		871			Mtrs	SET @		M	587		Emasco DB550	95	%	18 min		
DRILL PIPE SIZE	TYPE	Length					PROD. or		ft	IN STORAGE		BBL/STK	STK / MIN	TOTAL CIRC. TIME (min)			
4.5	HW		55			Mtrs	LNR Set @		M			0.1404	80	55 min			
DRILL COLLAR SIZE (")		Length				MUD TYPE				BBL/MIN		GAL / MIN		ANN VEL.	DP	211	
6.25			172			4% KCL-PHPA				10.67		448		(ft/min)	DCs	331	


MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS				
SAMPLE FROM	Pit	Pit	Mud Weight	8.8 - 9.4	API Filtrate	6 - 10	HPHT Filtrate
TIME SAMPLE TAKEN	14:00	24:00	Plastic Vis	min	Yield Point	12 - 25	pH
DEPTH (ft) - (m)	Metres		KCl	4%	PHPA	1.00 ppb	Sulphites
	960	1,098					80 - 120

FLOWLINE TEMPERATURE	⁰ C	⁰ F	108		110	OBSERVATIONS		
WEIGHT	ppg	/ SG	9.30	1.116	9.20		1.104	Maintaining Volume and Properties with premix additions.
FUNNEL VISCOSITY (sec/qt) API @		⁰ C	41		40			Upgraded 1 shaker screen to S84 mesh.
PLASTIC VISCOSITY cP @		⁰ C	14		13			Sodium Sulphite for corrosion control.
YIELD POINT (lb/100ft ²)			16		16			Mus losses to sandstone formations, self healing.
GEL STRENGTHS (lb/100ft ²) 10 sec/10 min			2.5		2.5			Dumped sand trap on surveys.
FILTRATE API (cc's/30 min)			6.2		6.0			
HPHT FILTRATE (cc's/30 min) @		⁰ F						
CAKE THICKNESS API : HPHT (32nd in)			1		1			
SOLIDS CONTENT (% by Volume)			5.6		4.9			
LIQUID CONTENT (% bv Volume) OIL/WATER				94.4		95.1		

SAND CONTENT (% by Vol.)	TR	TR	<u>OPERATIONS SUMMARY</u> Drill ahead from 661m to 1098m with surveys Circulated samples as required.
METHYLENE BLUE CAPACITY (ppb equiv.)			
pH	8.5	8.5	
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf/ Mf)	0.05 : 0.60	0.05 : 0.55	
CHLORIDE (mg/L)	21,000	21,000	
TOTAL HARDNESS AS CALCIUM (mg/L)	280	280	
SULPHITE (mg/L)	120	80	
K+ (mg/L)	22,156	21,616	
KCl (% by Wt.)	4.1	4.0	
PHPA (ppb)	1	1	

Mud Accounting (bbls)						Solids Control Equipment								
FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY			Type	Hrs		Cones	Hrs		Size	Hrs
Premix (drill water)	225	Desander		INITIAL VOLUME	485	Centrifuge	Nil		Desander	2		Shaker #1	84,54,54	24
Premix (recirc from sump)		Desilter	34			Degasser	P-B		Desilter	8	24	Shaker #2	n/a	
Drill Water		Downhole	38	+ FLUID RECEIVED	225									
Direct Recirc Sump		Dumped	40	-FLUID LOST	123									
Other (eg Diesel)		Other	10	+ FLUID IN STORAGE										
TOTAL RECEIVED	225	TOTAL LOST	123	FINAL VOLUME	587	Desander			0		1.00			
						Desilter	9.2		11.4					

Product	Price	Start	Received	Used	Close	Cost	Solids Analysis			Bit Hydraulics & Pressure Data	
AMC Pac - Low	\$ 148.20	17		5	12	\$ 741.00		PPB	%	Jet Velocity	260
AMC Pac - Reg	\$ 148.20	28		4	24	\$ 592.80	High Grav solids			Impact force	555
PHPA	\$ 105.70	62		6	56	\$ 634.20	Total LGS	44.5	4.9	HHP	146
Potassium Chloride	\$ 13.80	317		72	245	\$ 993.60	Bentonite			HSI	2.6
Sodium Sulphite	\$ 32.50	38		4	34	\$ 130.00	Drilled Solids	44.5	4.9	Bit Press Loss	558
							Salt			CSG Seat Frac Press	
							n @ 24:00 Hrs	0.53		Equiv. Mud Wt.	
							K @ 24:00 Hrs	1.04		ECD	
										Max Pressure @ Shoe :	
							DAILY COST			CUMULATIVE COST	
							\$3,091.60			\$12,190.10	
RMN ENGINEER	Neil Kyberd			CITY	Adelaide Office		TELEPHONE			08 8338 7266	



DRILLING FLUID

REPORT

Report #	7	Date :	15-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	1098	to	1321 Metres


OPERATOR					Essential Petroleum Recource Ltd					CONTRACTOR					Hunt Energy																								
REPORT FOR					Vilnis Ozlins					REPORT FOR					Noel Mills																								
WELL NAME AND No					Kilarney EPRL# 1					FIELD					PEP 152					LOCATION					Otway Basin					STATE					Victoria				

DRILLING ASSEMBLY				JET SIZE				CASING				MUD VOLUME (BBL)				CIRCULATION DATA																							
BIT SIZE		TYPE		12		12		12		9 5/8"		SURFACE		839		ft		HOLE		PITS		PUMP SIZE						CIRCULATION											
8.5		FS 2565		12		12		12		9 5/8"		SET @		256		M		275		385		5.5 X 6 Inches						PRESS (PSI)						1500		psi			
DRILL PIPE		TYPE		Length		12		12		12		INT.		ft		TOTAL CIRCULATING VOL.		PUMP MODEL						ASSUMED EFF						BOTTOMS									
SIZE 4.5		#		1094		Mtrs		12		12		SET @		M		660		Emsco DB550						95 %						UP (min)						22		min	
DRILL PIPE		TYPE		Length		12		12		12		PROD. or		ft		IN STORAGE		BBL/STK						STK / MIN						TOTAL CIRC.									
SIZE 4.5		HW		55		Mtrs		12		12		LNR Set @		M				0.1404						80						TIME (min)						62		min	
DRILL COLLAR SIZE (")		Length		172		Mtrs		12		12		MUD TYPE		4% KCL-PHPA				BBL/MIN						GAL / MIN						ANN VEL.						211			
6.25																		10.67						448						(ft/min)						DCs		331	

MUD PROPERTIES										MUD PROPERTY SPECIFICATIONS																																							
SAMPLE FROM					Pit					Pit					Mud Weight					8.8 - 9.4					API Filtrate					6 - 10					HPHT Filtrate														
TIME SAMPLE TAKEN					15:00					21:00					Plastic Vis					min					Yield Point					12 - 25					pH					8.0 - 9.5									
DEPTH (ft) - (m)					Metres					1,268					1,321					KCl					4%					PHPA					1.00 ppb					Sulphites					80 - 120				
FLOWLINE TEMPERATURE					° C					° F					112																																		
WEIGHT					ppg / SG					9.30					1.116					9.30					1.116																								
FUNNEL VISCOSITY (sec/qt) API @					° C					43					43																																		
PLASTIC VISCOSITY cP @					° C					16					15																																		
YIELD POINT (lb/100ft²)										19					19																																		
GEL STRENGTHS (lb/100ft²) 10 sec/10 min										3½					2½																																		
FILTRATE API (cc's/30 min)										6.2					6.2																																		
HPHT FILTRATE (cc's/30 min) @					° F																																												
CAKE THICKNESS API : HPHT (32nd in)										1					1																																		
SOLIDS CONTENT (% by Volume)										5.6					5.6																																		
LIQUID CONTENT (% by Volume) OIL/WATER										94.4					94.4																																		
SAND CONTENT (% by Vol.)										tr					tr																																		
METHYLENE BLUE CAPACITY (ppb equiv.)																																																	
pH										8.5					8.5																																		
ALKALINITY MUD (Pm)																																																	
ALKALINITY FILTRATE (Pf / Mf)										0.05					0.55					0.05					0.55																								
CHLORIDE (mg/L)										21,500					21,000																																		
TOTAL HARDNESS AS CALCIUM (mg/L)										320					280																																		
SULPHITE (mg/L)										120					120																																		
K+ (mg/L)										22,156					21,616																																		
KCl (% by Wt.)										4.1					4.0																																		
PHPA (ppb)										1.1					1.1																																		

Mud Accounting (bbls)										Solids Control Equipment																																																																					
FLUID BUILT & RECEIVED					FLUID DISPOSED					SUMMARY					Type					Hrs					Cones					Hrs					Size					Hrs																																							
Premix (drill water)					225					Desander										INITIAL VOLUME					587					Centrifuge					Nil										Desander					2										Shaker #1					84,54,54					18									
Premix (recirc from sump)										Desilter					15																				Degasser					P-B										Desilter					8					18					Shaker #2					n/a									
Drill Water										Downhole					101					+ FLUID RECEIVED					225																																																						
Direct Recirc Sump										Dumped					25					-FLUID LOST					152																																																						
Other (eg Diesel)										Other					10					+ FLUID IN STORAGE																																																											
TOTAL RECEIVED					225					TOTAL LOST					152					FINAL VOLUME					660					Desander															0										0.60																								
Desilter																																																																															

Product		Price		Start		Received		Used		Close		Cost		Solids Analysis				Bit Hydraulics & Pressure Data							
AMC Pac - Low		\$ 148.20		12				5		7		\$ 741.00				PPB		%		Jet Velocity				260	
AMC Pac - Reg		\$ 148.20		24				5		19		\$ 741.00		High Grav solids						Impact force				561	
PHPA		\$ 105.70		56				5		51		\$ 528.50		Total LGS		51.0		5.6		HHP				147	
Potassium Chloride		\$ 13.80		245				85		160		\$ 1,173.00		Bentonite						HSI				2.6	
Sodium Sulphite		\$ 32.50		34				4		30		\$ 130.00		Drilled Solids		51.0		5.6		Bit Press Loss				564	
														Salt						CSG Seat Frac Press					
														n @ 21:00 Hrs		0.53				Equiv. Mud Wt.					
														K @ 21:00 Hrs		1.27				ECD					
																				Max Pressure @ Shoe :					
		</																							



DRILLING FLUID

REPORT

Report #	8	Date :	16-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	1321	to	1418 Metres

OPERATOR					Essential Petroleum Recource Ltd					CONTRACTOR					Hunt Energy																								
REPORT FOR					Vilnis Ozlins					REPORT FOR					Noel Mills																								
WELL NAME AND No					Kilarney EPRL# 1					FIELD					PEP 152					LOCATION					Otway Basin					STATE					Victoria				

DRILLING ASSEMBLY				JET SIZE				CASING				MUD VOLUME (BBL)				CIRCULATION DATA																					
BIT SIZE		TYPE		13		13		13		9 5/8" SURFACE SET @		839 ft		256 M		HOLE		PITS		PUMP SIZE				CIRCULATION PRESS (PSI)				1150 psi									
8.5		CHO4MS														294		370		5.5 X 6 Inches																	
DRILL PIPE SIZE		TYPE		Length						INT. SET @		ft		M		TOTAL CIRCULATING VOL.				PUMP MODEL				ASSUMED EFF				BOTTOMS UP (min)				32 min					
4.5		#		1173		Mtrs										664				Emsco DB550				95 %													
DRILL PIPE SIZE		TYPE		Length						PROD. or LNR Set @		ft		M		IN STORAGE				BBL/STK				STK / MIN				TOTAL CIRC. TIME (min)				83 min					
4.5		HW		55		Mtrs														0.1404				60													
DRILL COLLAR SIZE (")				Length						MUD TYPE										BBL/MIN				GAL / MIN				ANN VEL. (ft/min)				DP		158			
6.25				191		Mtrs				4% KCL-PHPA										8.00				336								DCs		248			

MUD PROPERTIES										MUD PROPERTY SPECIFICATIONS																																							
SAMPLE FROM					Pit					Pit					Mud Weight					8.8 - 9.4					API Filtrate					6 - 10					HPHT Filtrate														
TIME SAMPLE TAKEN					15:00					23:15					Plastic Vis					min					Yield Point					12 - 25					pH					8.0 - 9.5									
DEPTH (ft) - (m)					Metres					1,370					1,411					KCl					4%					PHPA					1.00 ppb					Sulphites					80 - 120				
FLOWLINE TEMPERATURE					° C / ° F					106					110					<div>OBSERVATIONS</div> <p>Lost approx 50 bbls during the trip</p> <p>Maintaining Volume and Properties with premix additions.</p> <p>Sodium Sulphite for corrosion control.</p> <p>Soda Ash for treating rising hardness.</p> <p>Upgraded shaker screens to S110/S84/S54 mesh</p>																													
WEIGHT					ppg / SG					9.30					1.116															9.40					1.128														
FUNNEL VISCOSITY (sec/qt) API @					° C					40					40																																		
PLASTIC VISCOSITY cP @					° C					14					15																																		
YIELD POINT (lb/100ft ²)										16					14																																		
GEL STRENGTHS (lb/100ft ²) 10 sec/10 min										2.5					2.4																																		
FILTRATE API (cc's/30 min)										6.2					6.0																																		
HPHT FILTRATE (cc's/30 min) @					° F																																												
CAKE THICKNESS API : HPHT (32nd in)										1					1																																		
SOLIDS CONTENT (% by Volume)										5.7					6.4																																		
LIQUID CONTENT (% by Volume) OIL/WATER										94.3					93.6																																		
SAND CONTENT (% by Vol.)										0.25					0.25					<div>OPERATIONS SUMMARY</div> <p>RIH with new bit and BHA.</p> <p>Wash and ream through tight hole from 1074m to 1321m</p> <p>Drill ahead , circulating samples as required.</p>																													
METHYLENE BLUE CAPACITY (ppb equiv.)																																																	
pH										8.5					8.8																																		
ALKALINITY MUD (Pm)																																																	
ALKALINITY FILTRATE (Pf / Mf)										0.05					0.55															0.05					0.55														
CHLORIDE (mg/L)										19,500					19,000																																		
TOTAL HARDNESS AS CALCIUM (mg/L)										340					380																																		
SULPHITE (mg/L)										80					120																																		
K+ (mg/L)										21,616					21,076																																		
KCl (% by Wt.)										4.0					3.9																																		
PHPA (ppb)										1.1					1																																		

Mud Accounting (bbls)										Solids Control Equipment																																																																
FLUID BUILT & RECEIVED					FLUID DISPOSED					SUMMARY					Type					Hrs					Cones					Hrs					Size					Hrs																																		
Premix (drill water)					45					Desander										INITIAL VOLUME					660					Centrifuge					Nil										Desander					2										Shaker #1					110,84,54					16				
Premix (recirc from sump)										Desilter					9					+ FLUID RECEIVED					90					Degasser					P-B										Desilter					8					12					Shaker #2					n/a									
Drill Water										Downhole					62										-FLUID LOST					86																																												
Direct Recirc Sump					45					Dumped										+ FLUID IN STORAGE																																																						
Other (eg Diesel)										Other					15																																																											
TOTAL RECEIVED					90					TOTAL LOST					86					FINAL VOLUME					664					Desander										0																																		
																														Desilter					9.3					11.4					0.50																													

Product		Price		Start		Received		Used		Close		Cost		Solids Analysis				Bit Hydraulics & Pressure Data									
AMC Pac - Reg		\$ 148.20		19				2		17		\$ 296.40				PPB		%		Jet Velocity				277			
PHPA		\$ 105.70		51				1		50		\$ 105.70		High Grav solids						Impact force				453			
Soda Ash		\$ 19.50		35				5		30		\$ 97.50		Total LGS		58.5		6.4		HHP				127			
Sodium Sulphite		\$ 32.50		30				4		26		\$ 130.00		Bentonite						HSI				2.2			
														Drilled Solids		58.5		6.4		Bit Press Loss				647			
														Salt						CSG Seat Frac Press							
														n @ 23:15 Hrs		0.60				Equiv. Mud Wt.							
														K @ 23:15 Hrs		0.68				ECD							
																				Max Pressure @ Shoe :							



Report #	9	Date :	17-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	1418	to	1640 Metres

OPERATOR	Essential Petroleum Resource Ltd	CONTRACTOR	Hunt Energy	
REPORT FOR	Vilnis Ozlins	REPORT FOR	Noel Mills	
WELL NAME AND No	Kilarney EPRL# 1	FIELD PEP 152	LOCATION Otway Basin	STATE Victoria

DRILLING ASSEMBLY			JET SIZE			CASING			MUD VOLUME (BBL)		CIRCULATION DATA						
BIT SIZE	TYPE		13	13	13	9 5/8"	SURFACE	839	ft	HOLE	PITS	PUMP SIZE			CIRCULATION PRESS (PSI)		
8.5	CHO4MS						SET @	256	M	342	365	5.5	X	6	Inches	1185	psi
DRILL PIPE SIZE	TYPE	Length					INT.		ft	TOTAL CIRCULATING VOL.		PUMP MODEL		ASSUMED EFF		BOTTOMS UP (min)	
4.5	#		1395 Mtrs				SET @		M	707		Emasco DB550		95 %		39 min	
DRILL PIPE SIZE	TYPE	Length					PROD. or LNR Set @		ft	IN STORAGE		BBL/STK		STK / MIN		TOTAL CIRC. TIME (min)	
4.5	HW		55 Mtrs						M			0.1404		58		91 min	
DRILL COLLAR SIZE (")		Length				MUD TYPE						BBL/MIN		GAL / MIN		ANN VEL.	DP
6.25			191 Mtrs			4% KCL-PHPA						7.74		325		(ft/min)	DCs
																	240

MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS			
SAMPLE FROM	Pit	Pit	Mud Weight 8.8 - 9.4	API Filtrate 6 - 10	HPHT Filtrate	
TIME SAMPLE TAKEN	14:00	24:00	Plastic Vis min	Yield Point 12 - 25	pH	8.0 - 9.5
DEPTH (ft) - (m)			KCl 4%	PHPA 1.00 ppb	Sulphites	80 - 120
Metres	1.520	1.640				

FLOWLINE TEMPERATURE	⁰ C ⁰ F	110				OBSERVATIONS
WEIGHT	ppg / SG	9.50	1.140	9.40	1.128	Continuing increasing mud weight (max 9.5ppg) due to V.fine solids and the inability to upgrade shaker screens any further without mud loss at the shaker.
FUNNEL VISCOSITY (sec/qt) API @	⁰ C	42		43		Dump and dilute to maintain mud weight at or below 9.5ppg
PLASTIC VISCOSITY cP @	⁰ C	16		15		Using recycled sump water for premix volume.
YIELD POINT (lb/100ft²)		15		16		Treating sump water premixes with biocide.
GEL STRENGTHS (lb/100ft²) 10 sec/10 min		2 4		2 5		Continual Hardness increases requiring Soda Ash.
FILTRATE API (cc's/30 min)		6.0		6.0		
HPHT FILTRATE (cc's/30 min) @	⁰ F					
CAKE THICKNESS API : HPHT (32nd in)		1		1		
SOLIDS CONTENT (% by Volume)		7.0		6.3		
LIQUID CONTENT (% bv Volume) OIL/WATER			93.0		93.7	

SAND CONTENT (% by Vol.)	0.50	0.25	<u>OPERATIONS SUMMARY</u> Drill ahead from 1321m to TD at 1640m Circulate hole clean Slug pipe with Barytes and POOH, 20 std wiper trip. work through tight hole. circulate and work through tight hole from 1280m.
METHYLENE BLUE CAPACITY (ppb equiv.)	10.0	10.0	
pH	8.8	8.5	
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf/ Mf)	0.10	0.05	
CHLORIDE (mg/L)	21,500	22,000	
TOTAL HARDNESS AS CALCIUM (mg/L)	320	360	
SULPHITE (mg/L)	80	120	
K+ (mg/L)	21,616	22,156	
KCl (% by Wt.)	4.0	4.1	
PHPA (ppb)	0.95	0.9	

Mud Accounting (bbls)						Solids Control Equipment								
FLUID BUILT & RECEIVED		FLUID DISPOSED		SUMMARY			Type	Hrs		Cones	Hrs		Size	Hrs
Premix (drill water)	45	Desander		INITIAL VOLUME	664	Centrifuge	Nil		Desander	2		Shaker #1	110,84,54	24
Premix (recirc from sump)		Desilter	51			Degasser	P-B		Desilter	8	21	Shaker #2	n/a	
Drill Water		Downhole	31	+ FLUID RECEIVED	180									
Direct Recirc Sump	135	Dumped	45	-FLUID LOST	137									
Other (eg Diesel)		Other	10	+ FLUID IN STORAGE										
TOTAL RECEIVED	180	TOTAL LOST	137	FINAL VOLUME	707	Desander			0		1.70			
						Desilter	9.3		11.4					

[illegible][illegible]



Report #	10	Date :	18-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	1640	to	1640 Metres

is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from the use of same.



Report #	11	Date :	19-Jun-2004
Rig No	2	Spud :	9-Jun-2004
Depth	1640	to	1640 Metres

is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from the use of same.

Appendix 5: Cuttings Description

<div>  <div> Essential Petroleum Resources Limited </div> </div> <div> Killarney EPRL 1 Cuttings Descriptions </div>									
Depth		Killarney EPRL 1							SAMPLE DESCRIPTIONS
From	To	Sst	Slt	Clyst	Lst	Marl	Co	Vis Por	Description and shows:
3.9	7.9	100							SANDSTONE: unconsolidated becoming firm toward the base
7.9	26.9								BASALT: fractured, water influx from 23.3m.
26.9	29.9								BASALTIC RUBBLE:
29.9	45.9				100				CALCARENITE: light brown, friable
45.9	50				100				CALCARENITE: as above. Sample contaminated with 80% cement
50	60				100			g	CALCARENITE: white to very light brown, very fine to medium grained, slight calcite cement, friable, fossiliferous with shelly fragments and foraminifera, trace fine lithic, carbonaceous, and glauconite grains.
60	70				100			f	CALCARENITE: as above, very fine to fine grained becoming moderately sorted with slight silty clay matrix, common glauconite grains, very coarse, well rounded, trace crystalline pyrite.
70	80				100			p	CALCARENITE: light grey to light greyish brown, very fine to fine grained, poorly sorted, grades to calcisiltite.
80	90				100			t	CALCARENITE: very light grey, very fine grained, bimodal grain size - coarse size forams in very sand to silt size matrix.
90	100				100			t	CALCARENITE: as above
100	110				100			t	CALCARENITE: as above, trace glauconite, rare very coarse subrounded polished quartz grains.
110	120				100			n	CALCARENITE: as above, silty, calcareous cement and micritic matrix. Fossiliferous
120	130				100			n	CALCARENITE: very light grey, very fine grained, grades to CALCISILTITE: light grey, fossiliferous, soft.
130	140				100				CALCARENITE: grades to CALCISILTITE as above, trace pyrite, patchy clear calcite cementation
140	150				100				CALCARENITE: very light greyish yellow to light grey, very fine grained, very poorly sorted, grades to CALCISILTITE: minor grey clay in irregular patches ?bioturbated, abundantly fossiliferous. Coarse fossil fragments - byozoans, forams, echinoderm spines.
150	160				100				CALCARENITE: very light grey to light yellowish grey, patchy, very fine grained, grades to CALCISILTITE. Light grey, soft, abundant coarse fossil fragments.
160	170				100				CALCARENITE: as above

170	180				100				CALCARENITE: light grey to light yellowish grey, very fine to coarse grained, with abundant coarse fossil material, micritic matrix and patchy calcite cement
180	190				100				CALCARENITE: as above
190	200				100				CALCARENITE: as above commonly yellowish grey, fossil fragments in micritic matrix.
200	210				100				CALCARENITE: as above, medium to very fine grained, micritic in part, abundant fossils
210	220				100				CALCARENITE: as above,
220	230				90	10			CALCARENITE: as above, grades to MARL: light grey, very soft sticky dispersive in mud
230	240				30	70			MARL: very light to light grey, fossiliferous, soft sticky, trace pyrite.
240	250				20	80			MARL as above
250	260					100			MARL: as above
260	270					100			MARL: as above
270	280				10	90			MARL: very light grey, soft sticky, abundant fine to medium dispersed calcarenite grains predominantly fossil material, and and calcareous silt, grades to calcisiltite.
280	290					100			MARL: as above
290	300					100			MARL: as above
300	310				10	90			MARL: very light grey, soft sticky, abundant fine to medium dispersed calcarenite grains, predominantly fossil material.
310	320				20	80			MARL: very light grey, soft sticky, grades to calcisiltite, abundant fine to medium dispersed calcarenite grains, predominantly fossil material.
320	330				20	80			MARL: very light grey, soft, sticky to friable, common fossil fragments, grades to silty CALCARENITE.
330	340				10	90			MARL: as above
340	350					100			MARL: as above
350	360				10	90			MARL: as above
360	370				10	90			MARL: very light grey, speckled dark grey, abundant calcareous silt and sand as above, trace glauconite.
370	380				30	70			MARL: very light grey to very light greyish green, dispersed glauconite in part, grades to CALCILUTITE.
380	390				10	90			MARL: as above abundant calcareous silt and sand, grades to silty sandy calcilutite.
390	400				20	80			MARL: as above very light grey grades to CALCILUTITE
400	410				10	90			MARL: as above abundant coarse fossil material.
410	420				90	10		f	CALCARENITE: mottled white to yellow, fine to coarse grained, calcareous cement, rare trace glauconite, fossiliferous, trace very dull yellow mineral fluorescence.

420	430				90	10		p	CALCARENITE: mottled off-white to medium greyish brown, light brown, very fine to medium grained, soft, abundant micrite and clay matrix,
430	440				80	20			CALCARENITE: as above, abundant silt/clay/micrite matrix, grades to MARL:
440	450	10	30		10	50		p	SANDSTONE: clear to yellowish brown, fine to coarse grained, poorly sorted, predominantly loose grains with brown matrix adhering. SILTSTONE: medium grey to medium brown, finely micaceous, soft. CALCARENITE: as above, abundant silt/clay/micrite matrix, grades to MARL:
450	460	80	20					f	SANDSTONE: light to dark yellowish brown, very fine to coarse grained, angular to subangular, polished, poorly sorted, iron stained and with trace brown matrix adhering, trace black spherical grains ?chamosite, calcareous cemented silty matrix. SILTSTONE: as above. Common coarse fossil fragments
460	470	90	10					f	SANDSTONE: light to dark yellowish brown, predominantly loose as above, occasionally mottled white with calcareous cemented silty matrix,
470	480	100	trace					g	SANDSTONE: predominantly as above, occasionally clear, white, grey, fine to very coarse grained, subangular to angular with irregular grain shapes, inclusions, predominantly clean, trace silty matrix washing out. Trace lithic grains,
480	490	90	10					g	SANDSTONE: as above, trace coarse mica, trace pyrite cement. SILTSTONE: light to dark grey, light to dark brown, blocky, micaceous in part, occasionally with coarse quartz grains.
490	500	100						g	SANDSTONE: clear to white, yellow, fine to coarse grained, moderately to poorly sorted, slight silty matrix and clear calcareous cement, occasionally patchy pyrite cement, trace mica.
500	510	20	80					p	SILTSTONE: medium to dark greyish brown, soft, sickly, clayey, micromicaceous
510	520	10	90					p	SILTSTONE: as above SANDSTONE: becoming very fine grained.
520	530	10	90					n	SILTSTONE: as above
530	540	30	70					f	SANDSTONE: clear to milky, fine to medium grained, moderately sorted, angular to subangular, loose clean grains. SILTSTONE: as above
540	550	100						g	SANDSTONE: clear to milky, fine to very coarse grained, moderately sorted, angular to subangular to rare very well rounded, loose clean grains, trace smoky quartz. No shows.
550	560	100						vg	SANDSTONE: as above
560	570	100						vg	SANDSTONE: as above, predominantly medium to very coarse grained, loose clean quartz grains, subangular to subrounded. No shows
570	580	100						vg	SANDSTONE: as above

580	590	100						vg	SANDSTONE: clear, milky, fine to very coarse predominantly coarse, moderately sorted, subangular, predominantly loose, trace calcite cement, occasional trace clear quartz overgrowths, trace coarse mica. no shows
590	600	100						vg	SANDSTONE: as above
600	610	100						vg	SANDSTONE: as above
690	620	100						vg	SANDSTONE: as above becoming very coarse grained. No shows
620	630	70	30					f	SILTSTONE: medium greyish brown, finely speckled, trace carbonaceous material, soft.
630	640	90	10					g	SANDSTONE: as above fine to coarse grained. SILTSTONE: as above, soft, clayey.
640	650	70	30					g	SANDSTONE: as above becomin finer grained, SILTSTONE: as above.
650	660	20	80					g	SILTSTONE: medium greyish brown, soft, amorphous, very finely micaceous.
660	670	100						vg	SANDSTONE: as above coarse to very coarse grained loose. No shows
670	680	100	t					vg	SANDSTONE: clear to white, very pale yellow, medium to very coarse grained, well sorted, subangular, clean, SILTSTONE: pale green/white trace, mottled,
680	690	100						vg	SANDSTONE: as above
690	700	100						vg	SANDSTONE: as above
700	710	100						vg	SANDSTONE: becoming fine to predominantly medium, occasionally coarse grained as above SILTSTONE: pale green as above.
710	720	100						vg	SANDSTONE: as above, medium to very coarse grained, trace large mica flakes. no shows.
720	730	100						vg	SANDSTONE: as above, occasionally yellowish brown.
730	733	100						vg	
733	736	100						vg	SANDSTONE: as above, trace SILTSTONE: mottled, white -brown.
736	739	100						vg	SANDSTONE: as above
739	742	95	5					vg	SANDSTONE: as above, SILTSTONE: pale green, and mottled brown as above
742	745	100						vg	SANDSTONE: as above
745	748	100						vg	SANDSTONE: clear to white, medium to coarse, well sorted, clean, trace large mica flakes.
748	751	95	5					vg	SANDSTONE: as above, SILTSTONE: pale green, and mottled brown as above
751	754	100	t					vg	SANDSTONE: medium to very coarse, well sorted, subangular, predominantly loose clean grains, slight silica cement.
754	757	100						vg	SANDSTONE: as above
757	760	100						vg	SANDSTONE: as above, silica cement increasing
760	763	100						vg	SANDSTONE: as above trace lithic grains, trace pyrite.

763	766	90	10					g	SANDSTONE: as above, becoming light brown in part, with silty matrix adhering. SILTSTONE: trace pale green as above, predominantly medium greyish brown to medium brown, sandy with medium quartz grains, micromicaceous, trace fine carbonaceous material
766	769	100	t					vg	SANDSTONE: as above SILTSTONE as above
769	772	100						vg	SANDSTONE: clean coarse grained as above.
772	775	40	40	20					SILTSTONE: medium to dark brown occasionally light brown mottled, clayey, sandy with quartz and lithic grains, soft/dispersive, grades to SILTY CLAYSTONE, SANDSTONE: as above, trace pale green siltstone as above.
775	778	30	40	30					SILTSTONE: as above, trace carbonaceous material, occasional marine fossil material.
778	781	20	40	40					SILTY CLAYSTONE: dark brown, firm to very hard in part, in part sandy & dispersive, grades to SILTSTONE. SANDSTONE: as loose grains, clear to white, light brown. In part washing out of sandy silty claystone.
781	784	30	40	30					SILTSTONE: as above grades to SILTY CLAYSTONE:, medium to light brown, occasionally as dark brown, occasionally very hard. SANDSTONE as above no shows
784	787	60	40						SANDSTONE: as above grades to very hard cemented SILTSTONE: light brown, sandy, trace glauconite.
787	790	90	10					g	SANDSTONE: predominantly clear to light brown, occasionally dark yellowish brown, coarse to very coarse grained, moderately sorted, sub angular, loose grains, trace matrix adhering, trace glauconite, trace pyrite.
790	793	100						g	SANDSTONE: predominantly clear to light brown, occasionally dark yellowish brown, medium to very coarse grained, moderately sorted, sub angular, loose grains, common greyish green lithic grains, trace glauconite, trace pyrite. no shows
793	796	100						g	SANDSTONE: predominantly clear to light brown, occasionally dark yellowish brown, medium to very coarse grained, moderately sorted, sub angular, loose grains, common greyish green lithic grains, trace glauconite, trace pyrite. no shows
796	799	70	30					f	CBU @ 798m SANDSTONE: predominantly clear to light brown, occasionally dark yellowish brown, medium to very coarse grained, moderately sorted, sub angular, loose grains, common greyish green lithic grains. visible porosity poor due to silty matrix. no shows. SILTSTONE: mottled light to medium brown, sandy, clayey, feldspathic in part, trace glauconite.
799	802	90	10					f	SANDSTONE: light greyish yellow, medium to very coarse, moderately to poorly sorted, predominantly angular, moderate argillaceous matrix washing out, micromicaceous, trace glauconite, trace pyrite
802	805	100						f	SANDSTONE: as above glauconite in pellet and nodules becoming more

									common, common stained quartz and lithic grains.
805	808	90	10					f	SANDSTONE: as above SILTSTONE: as above and light grey.n/s
808	811	90	10					f	
811	814	90	10					p	SANDSTONE: as above SILTSTONE as above
814	817	70	30					p	SILTSTONE: medium greyish brown, micromicaceous, carbonaceous in part, trace irregular glauconite pellets. SANDSTONE: as above becoming silty.
817	823	30	30	40				n	SILTY CLAYSTONE: dark brown, soft, sandy, speckled/ mottled with light brown clay, grades to SILTSTONE. SANDSTONE: as loose grains, clear to white, light brown. In part washing out of sandy silty claystone.
823	829	20	40	40				n	SILTY CLAYSTONE: as above
829	835	20	40	40					SILTY CLAYSTONE: reddish brown, sandy/pelletal with abundant coarse & very coarse glauconite pellets, grades to SILTSTONE.
835	841	10	30	60					SILTY GLAUCONITIC CLAYSTONE: mottled reddish brown to green, abundant very coarse glauconite nodules, trace pyrite, silty grades to SILTSTONE. SANDSTONE: loose grains as above
841	847	20	50	30				p	SILTSTONE: dark to medium greyish brown, sandy, friable, micromicaceous, common glauconite as black grains. SANDSTONE: light brown, medium to coarse grained, loose, visible porosity fair
847	850	30	60	10				f	SILTSTONE: dark to medium greyish brown, sandy, friable, micromicaceous, common glauconite as black grains
850	853	100						vg	SANDSTONE: white to yellowish brown, medium to very coarse grained, moderately sorted, clean, visible porosity very good, no shows.
853	856	80	20					f	SILTSTONE: as above SANDSTONE: as above
856	857.5								CBU @ 857.5 no shows, description in interval below
856	862	70	30					f	SANDSTONE: light brown, fine to very coarse, poorly sorted, angular, silty matrix washing out. SILTSTONE: dark grey to dark brown, firm, friable, sandy, pyritic in part, feldspathic. Trace TUFF? Pale green, aphanitic, fine feldspars, splintery,
862	868	60	40						Sst & Siltst as above trace hi-temp volcanic quartz.
868	874	100						vg	SANDSTONE: clear to white, medium to very coarse grained, angular, moderately sorted, clean, loose, quartzose with slight trace quartz overgrowths, trace mica, visible porosity very good, no shows
874	880	100						vg	SANDSTONE: whit to clear, clean as above trace TUFF: as above
880	886	100						vg	SANDSTONE: as above
886	892	100						vg	SANDSTONE: as above
892	898	100						vg	SANDSTONE: as above

898	904	100						vg	SANDSTONE: as above becoming fine to coarse
904	910	100						vg	SANDSTONE: as above
910	916	90	10					g	SANDSTONE: as above SILTSTONE: mottled greyish brown, yellowish brown, sandy, feldspathic, with fine carbonaceous laminae, occasionally dense pyrite aggregates.
916	922	95	5					vg	Sst and Siltst as above
922	928	100						vg	SANDSTONE: clear, milky white, loose grains, medium to coarse grained, well sorted, subangular to angular,
928	934	30	20	50				g	SILTY CLAYSTONE: medium grey to medium greyish brown, amorphous, very soft, micaceous in part, grades to SILTSTONE.
934	940	80	20					p	SANDSTONE: light greyish brown, fine to coarse, moderately sorted, subrounded, friable aggregates with moderate silica cement, trace mica and fine carbonaceous material. ?interlaminated with SILTSTONE: light grey, speckled, micaceous, siliceous, sandy, firm to hard, pyritic in part. marine fossils and pyritised wood.
940	946	70	30					p	SANDSTONE: as above, commonly loose, and also as aggregates with dense pyrite cement. SILTSTONE: as above
946	952	60	40					t	SILTY SANDSTONE: light grey, very fine to medium grained, poorly sorted, dense silty clay matrix, finely disseminated mica and carbonaceous material, grades to SILTSTONE, mottled greyish brown, white, grey, variably calcareous. Common loose quartz grains.
952	958	70	30					t	SILTY SANDSTONE grades to SILTSTONE as above
958	964	60	30	10				t	SILTY SANDSTONE grades to SILTSTONE as above, and to CLAYSTONE: medium grey, blocky firm
964	970	100	t					p	SANDSTONE: clear to milky, pale yellow, fine to coarse grained, moderately sorted, subangular, predominantly loose grains with variable silty micaceous matrix, slightly calcareous, occasional well cemented aggregates. Trace Tuff ? Pale green aphanitic.
970	976	60	40					t	SANDSTONE: Silty as above, very fine to medium grained, poorly sorted, siliceous and calcareous cement, trace pyrite, grades to SANDY SILTSTONE, greyish brown, calcareous, fossiliferous,
976	982	40	40	20					SILTY CLAYSTONE: medium greyish brown, firm, blocky, grades to SANDY SILTSTONE and SILTY SANDSTONE: greyish brown, very fine to coarse grained, very poorly sorted, very finely carbonaceous, trace pyrite, calcareous, fossiliferous.
982	988	80	20						SANDSTONE: light greyish brown, fine to coarse, moderately sorted, subrounded, friable aggregates with occasional dense pyrite cement. SILTSTONE: light brown, soft,. Trace TUFF, pale green, aphanitic, splintery.

988	994	10	60	30					SANDY SILTSTONE: medium grey, soft, finely sandy, grades to sandy CKAYSTONE and ARG. SANDSTONE.fossiliferous
994	1000	30	40	30					as above fossiliferous
1000	1006	10	70	20					SANDY SILTSTONE: medium grey, soft, finely sandy, grades to sandy CLAYSTONE and ARG. SANDSTONE. Fossiliferous, common nodular pyrite aggregates. Trace glauconite
1006	1012	40	50	10					SANDY SILTSTONE as above, medium to dark, very soft - pulped by bit to very hard cemented dolomitic in part. sandy, common pyrite and heavy trace glauconite. Marine fossils.
1012	1018	40	40	20					SANDY SILTSTONE: as above
1018	1024	50	40	10				n	SILTY SANDSTONE: light grey, very fine to medium grained, poorly sorted, dense silty clay matrix, finely disseminated mica and carbonaceous material, grades to SILTSTONE, mottled greyish brown, white, grey, variably calcareous. Common loose quartz grains. trace pyrite
1024	1030	100						f	SANDSTONE: very light brown, very fine to coarse grained, quartzose, moderately well sorted fine grained aggregates, bimodal, firm to friable aggregates with quartz and slight calcareous cement.
1030	1036	60	10	30					SANDSTONE: very light brown, very fine grain aggregates and loose coarse grains, bimodal, quartzose, friable.
1036	1042	80	20					p	SANDSTONE: as above silty matrix increasing SILTSTONE: brownish to white mottled, trace mica and carbonaceous matter, friable.
1042	1048	70	30					p	SANDSTONE: light brown, very fine to coarse grained, poorly sorted, silty and calcareous matrix,
1048	1054	30	20	50				n	SILTY CLAYSTONE: medium greyish brown, blocky, soft, homogeneous, grades to SILTSTONE. trace TUFF as above. Common loose fossil material.
1054	1060	10	60	30				n	SILTSTONE: medium greyish brown, mottled with patchy greyish yellow clay, sandy, clayey, glauconitic grades to claystone and sandstone.
1060	1066	70	20	10				p	CBU at 1065.5m SANDSTONE: light greyish brown, speckled, very fine grained to coarse, silty clay matrix in part. friable, calcareous and occasional pyritic cement. Firm to friable aggregates, micaceous visible porosity poor, grades to Siltstone and Claystone. No show
1066	1072	50	50						SANDSTONE: in part clear clean quartz grains, in part very fine silty cemented aggregates, grades to SANDY SILTSTONE, light to dark brown, grey, off white, mottled green, Firm, pyritic, glauconitic in part.
1072	1078	60	20	20					SANDSTONE, brown, mottled, very fine to coarse glauconitic in part, very argillaceous, poorly sorted, trace lithic and greyish green tuffaceous grains, grades to siltstone and sandy silty claystone
1078	1084	70	20	10					SANDSTONE: as above abundant silty clay matrix washing out, common marine fossils. No show.

1084	1090	90	10						SILTY SANDSTONE: greyish brown, mottled, pulped by bit, fine to coarse quartz and lithic grains washing out of dense silty clay matrix, common pyrite aggregates.
1090	1096	40	20	40					SILTY SANDSTONE as above grades to SANY CLAYSTONE light to dark grey, fossiliferous
1096	1102	40	20	40					as above, mottled, micaceous, glauconitic in part.
1102	1108	20	60	20					SANDY CLAYSTONE: light greyish brown, mottled, speckled white, disaggregated by the bit, pyritic, sticky, fossiliferous: grades to SILTSTONE: light brownish grey, soft, sticky, sandy, marine fossils. Pyrite nodules.
1108	1114	10	20	70					SILTY CLAYSTONE: medium greyish brown, sticky, sandy with rare discrete medium quartz grains, grades to SILTSTONE and SILTY SANDSTONE.
1114	1120	20	50	30					SILTSTONE: medium grey to greyish brown, yellowish grey, finely speckled with fine carbonaceous material, finely sandy, grades to SILTY SANDSTONE and SILTY CLAYSTONE.
1120	1126	50	30	20				p	SANDSTONE: light brown to medium grey, fine to medium grained, moderately sorted, argillaceous, trace calcareous cement, trace coally plant fragments. Grades to SANDY SILTSTONE and to SILTY CLAYSTONE.
1126	1132	60	20	20				p	SILTY SANDSTONE: light brown to medium grey, fine to medium grained, moderately sorted, argillaceous, trace calcareous cement, trace large coally plant fragments. Grades to SANDY SILTSTONE and to SILTY CLAYSTONE.
1132	1138	50	30	20				p	SILTY SANDSTONE: as above trace coally material. SILTSTONE medium greyish brown occasionally mottled white and greenish grey, occasionally with dense pyrite aggregates.
1138	1141	60	30	10				f	SANDSTONE: as loose grains, clear to milky, light grey, fine to medium grained, moderately sorted, subangular, argillaceous matrix washing out. Inferred porosity poor to fair. SILTSTONE, speckled grey, mottled greenish white, occasionally black/carbonaceous.
1141	1144	70	20	10				f	as above. Trace coally material
1144	1150	70	20	10				f	SANDSTONE: very light grey to light brown, very fine to medium grained, clean in part, argillaceous in part. Marine fossils fragments.
1150	1156	30	50	20				p	SANDY SILTSTONE: medium grey to greyish brown, soft, micaceous, trace fine carbonaceous material, grades to argillaceous SANDSTONE, and to silty sandy CLAYSTONE.
1156	1162	40	40	20				n	SANDSTONE: light brown, very fine to fine grained, poorly sorted, calcareous cement and argillaceous matrix washing out, occasionally with dense pyrite cement, grades to SANDY SILTSTONE and SILTY CLAYSTONE
1162	1168	40	30	30					as above, common marine fossils
1168	1174	10	10	80					SILTY CLAYSTONE: medium to dark brownish grey, blocky, firm to hard, trace

								TUFF, pale greyish green, translucent, aphanitic with trace feldspar.
1174	1180	10	10	80				SILTY CLAYSTONE: as above, occasionally greenish grey, fossiliferous, SANDSTONE: loose fine to medium grains, quartz, fossil fragments, glauconite
1180	1186	20	10	70				SILTY CLAYSTONE: dark brownish grey as above with fine quartz sand inclusions and very fine laminae
1186	1192	50	30	20			p	SANDSTONE: as loose grains, clear, very fine to fine angular grains, moderately sorted, quartzose, trace glauconite, SILTY CLAYSTONE as above, grades to SANDY SILTSTONE
1192	1201	40	30	30				SILTY SANDSTONE with dense silty clay matrix grades to SILTY CLAYSTONE as above, trace large pyrite aggregates,
1201	1204	10	40	50				SILTY CLAYSTONE as above trace marine fossils
1204	1210	10	30	60				SILTY CLAYSTONE: as above grades to SILTSTONE, loose quartz grains washing out
1210	1216	70	20	10			p	SANDSTONE: as above grey, very fine to medium occasionally with coarse grains, loose, clay matrix washing out.
1216	1222	30	40	30				SILTY CLAYSTONE grades to SILTY SANDSTONE and SILTSTONE, common marine fossils
1222	1228	10	20	70				as above, common marine fossil fragments.
1228	1234	30	30	40				as above
1234	1240	80	10	10			p-f.	SANDSTONE: translucent, very fine to medium grained, well sorted, angular, quartzose, loose grains with trace silica cement adhering, visible porosity poor to fair.
1240	1246	70	20	10				SANDSTONE: loose grains, fine to medium, quartz and glauconite, CLAYSTONE: as above and dark greenish black, firm.
1246	1252	80	20				p	SANDSTONE: translucent, greenish grey, very fine to medium grained, well sorted, argillaceous matrix, quartzose, common glauconite and grey smoky quartz, predominantly loose grains with trace matrix adhering, slightly calcareous. SILTSTONE, light grey to greyish brown, greenish grey in part, speckled, soft to hard, sandy, calcareous in part. trace marine fossils.
1252	1258	90	10				p	SANDSTONE: as above, light greyish green, very fine to medium grained, moderately sorted, angular, trace calcareous cement, trace lithic grains and very fine glauconite. Predominantly loose grains, occasionally very hard silty and cemented aggregates, occasional very glauconitic aggregates, inferred porosity poor
1258	1264	10	80	10			p	SILTSTONE: two types, very light greenish grey, very soft pulpy, trace very fine glauconite; greyish brown, trace fine carbonaceous material, grades to silty claystone, both types finely sandy,
1264	1267	70	20	10			t	SANDSTONE: as above, SILTSTONE as above and off-white to yellowish grey, soft sticky, grades to SILTY CLAYSTONE

1267	1270	70	20	10				t	SANDSTONE: logged as rock flour, white to greenish grey, fine grained, quartzose, glauconitic in part, dense calcareous cement pulped by PDC bit. SILTSTONE greyish to greenish brown, occasionally greenish black, glauconitic in part, grades to CLAYSTONE.
1270	1273	60	20	20					SANDSTONE: greenish grey to very black, commonly rendered white as rock flour. fine to medium grained, poorly sorted, dense calcareous cement, abundantly glauconitic in part. SILTSTONE: light to dark grey, greenish grey, mottled in part, very calcareous.
1273	1279	60	20	20				p	SANDSTONE: light greyish brown, very fine to fine grained, slight calcareous cement, trace glauconite and lithic grains, abundant argillaceous matrix washing out, interbedded with SILTSTONE: medium to dark greyish brown, glauconitic in part, pyritic in part. fossiliferous
1279	1285	70	10	20				n	SILTY SANDSTONE: dark greyish brown, as above becoming very fine grained, dense argillaceous matrix, grades to SILTSTONE and SILTY CLAYSTONE.
1285	1291	10	70	20					SILTY SANDSTONE: as above grades to SILTSTONE: medium brownish grey, soft, homogeneous, clayey and SILTY CLAYSTONE.
1291	1297	10	20	70					SILTY CLAYSTONE: dark olive grey, blocky, homogeneous, trace fine glauconite and very fine sand grains washing out, calcareous. Grades to SILTSTONE
1297	1303	10	20	70					SILTY CLAYSTONE: as above fossiliferous, SILTSTONE: light grey to dark greyish brown, sandy in part, calcareous, speckled with trace glauconite in part, trace mica. Fine quartz sand ?washing out
1303	1309	5	45	50					as above
1309	1315		50	50					SILTY CLAYSTONE: dark olive grey, blocky, firm to soft, micaceous in part, very finely sandy in part, calcareous, grades to SILTSTONE.
1315	1321		30	70					SILTY CLAYSTONE: as above
1321	1324	10	20	70					SILTY CLAYSTONE: medium olive grey, blocky, soft, trace large pyrite nodules, SANDSTONE: as loose grains, fine to medium grained. Common marine fossil fragments.
1324	1327	10	20	70					SILTY CLAYSTONE: as above, common glauconite grains, greenish black, fine grained irregular shaped, hard, washing out. Variably silty, grades to SILTSTONE:
1327	1330	5		95					SILTY CLAYSTONE: medium to dark greyish brown, soft, homogeneous, fossiliferous
1330	1333			100					SILTY CLAYSTONE: as above, soft, occasionally firm to hard, slightly calcareous, rare glauconite.
1333	1336		20	80					SILTY CLAYSTONE: as above grades to SILTSTONE, trace loose quartz grains washing out. Occasionally speckled with glauconite grains.
1336	1339	5	30	65					SILTY CLAYSTONE greyish brown to greenish grey, grading to SILTSTONE as

									above becoming increasingly glauconitic. Quartz grains washing out.
1339	1342	10	10	80					GLAUCONITIC SANDSTONE: as loose grains, fine grained, quartz and glauconite grains, as thin laminae in SILTY CLAYSTONE: as above becoming predominantly greenish grey.
1342	1345	10	20	70	t				as above, trace LIMESTONE: reddish brown, hard, splintery.
1345	1345	20	30	50					GLAUCONITIC SANDSTONE: as loose grains, fine grained, quartz and glauconite grains, as thin laminae in SILTY CLAYSTONE: very calcareous grades to SILTSTONE.
1345	1348	30	20	50				t	GLAUCONITIC SANDSTONE: as loose grains, very fine to fine grained,
1348	1351	10	10	60					
1351	1354	10		90					SILTY CLAYSTONE: medium grey, greyish to dark greenish grey, speckled black with fine glauconite. Grades to trace Glauconite Sandstone: as loose grains, possibly occurring as very fine laminae.
1354	1357	10		90					as above quartz decreasing, glauconite as inclusions in mudstone and as discrete grains.
1357	1360	40		60					GLAUCONITE SANDSTONE, greenish black, fine grained, glauconite predominant, well sorted, lamiated with and grains washing out of SILTY CLAYSTONE: medium grey to brownish and greenish grey, glauconitic in part.
1360	1363	20		80					as above
1363	1366	20		80					SILTY CLAYSTONE: greenish grey, glauconitic, soft amorphous, Laminations of GLAUCONITIC SANDSTONE (30% quartz) fine grained, predominantly loose glauconite, greenish black, quartz is yellow brown and green stained. Trace pyrite.
1366	1369	50		50					as above, quartz sand is 30% of greensand, SILTY CLAYSTONE: medium greyish green, calcareous in part, in part reddish brown, siliceous, very hard.
1369	1372	10		90					as above, trace quartzose very fine well sorted sandstone laminae, hard silica cement.
1372	1375	40		60					GLAUCONITE SANDSTONE, greenish black, fine to medium grained, glauconite predominant, quartz honey-yellow coloured in part, 30% of sand, variable argillaceous matrix and occasional well cemented aggregates, loose grains washing out of SILTY CLAYSTONE: medium grey to brownish and greenish grey, glauconitic in part.
1375	1378	50		50					GLAUCONITE SANDSTONE: very fine to fine grained, quartz 40% of sand component, SILTY CLAYSTONE: medium grey, soft amorphous, predominately non-glauconitic, ?interlaminated greensand and claytone.
1378	1381	50		50					as above common very coarse well rounded quartz grains, fine quartz component of greensand is 20%, commonly honey-yellow coloured quartz.

1381	1384	30		70					as above, CLAYSTONE, medium grey, amorphous, soft, trace marine fossils.
1384	1387	30		70					as above CLAYSTONE pelloidial with firm irregular aggregates, glauconitic and non-glauconitic
1387	1390	20		80					CLAYSTONE: medium grey, smooth, soft to firm, dark greenish grey, minor glauconite,
1390	1393	40		60					CLAYSTONE: medium to dark green to greyish green, bluish-greenish grey, very soft, GLAUCONITE SANDSTONE: 20% quartz, loose. CBU: greenish and reddish brown mottled claystone no shows.
1393	1396	70		30					CLAYSTONE: as above Pelloidial SANDSTONE: greyish green, irregular glauconitic and ? Non glauconitic peloids. CBU at 1396 m: greenish and reddish brown mottled claystone no shows.
1396	1399	70		30					GLAUCONITIC PELLOIDAL CLAYSTONE: Greenish black, grades to GLAUCONITIC SANDSTONE
1399	1402	40		60					GLAUCONITE SANDSTONE: as above dense argillaceous matrix grades to SILTY GLAUCONITIC CLAYSTONE
1402	1405	70		30				n	GLAUCONITE SANDSTONE: Greenish black, 100% irregular glauconite material
1405	1408	50	30	20				n	GLAUCONITE SANDSTONE: Greenish black, 100% irregular glauconite material washing out and interbedded with SILTSTONE: light grey, pyritic and CLAYSTONE: as above.
1408	1411	90		10				p-f.	GLAUCONITE SANDSTONE: greenish black hard peloids, irregular to predominantly rounded, 10% quartz, commonly loose occasional friable aggregates. Trace clay matrix washing out. Inferred porosity ? Fair.
1411	1414	100		t				p	GLAUCONITE SANDSTONE, greenish black peloids, irregular to spherical, occasionally Iron stained. 10% quartz, commonly loose, common friable/argillaceous to totally fused hard aggregates with very hard silica cement. Trace CHERT ?Silcrete: dark brown, siliceous, aphanitic. Trace loose very coarse quartz grains with green inclusions.
1414	1417	90		10				t	GLAUCONITE SANDSTONE, greenish black to brown peloids, irregular to spherical, occasionally Iron stained. 10% quartz, commonly loose, common friable/argillaceous to totally fused hard aggregates with very hard silica cement.
1417	1420	100		t				n	GLAUCONITE SANDSTONE, greenish black to brown peloids, irregular to spherical, occasionally Iron stained. 10% quartz, common totally fused hard aggregates with very hard silica cement.
1420	1423	90		10				n	as above, quartz is 10% of sand component,
1423	1426	100						t	as above, firm to friable occasionally very hard aggregates, quartz 10%,
1426	1429	90		10				n	as above, firm to friable occasionally very hard aggregates, quartz 20%, hard argillaceous matrix in part. Trace CHERT as above. CLAYSTONE: as above. Trace green-stained very coarse quartz grains.

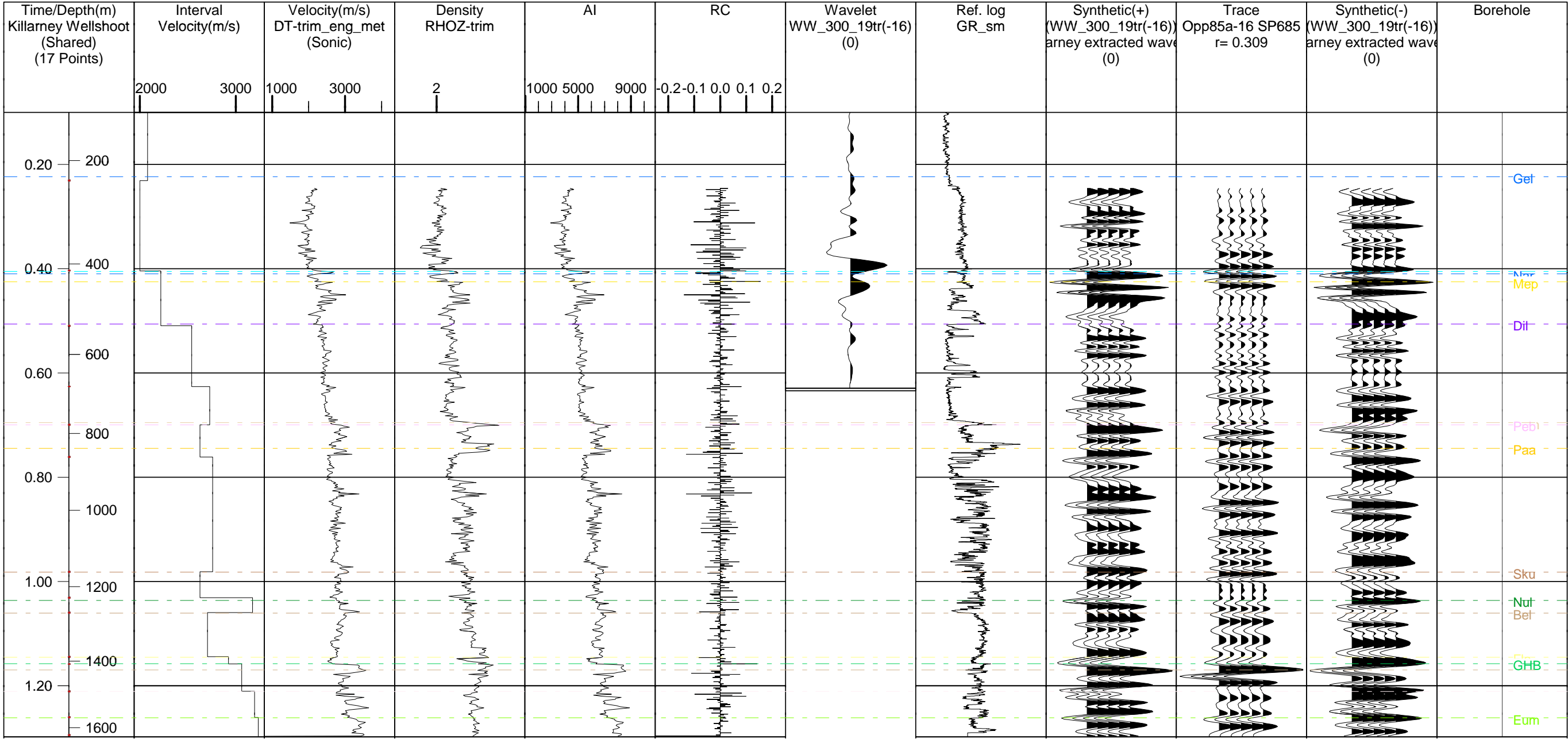
1429	1432	90		10					GLAUCONITE SANDSTONE: black to dark brown ? Chamositic, very hard, silicified, angular broken aggregates
1432	1435								
1435	1438	90		10				?tr	GLAUCONITIC CLAYSTONE: green, firm to hard but dispersive/sticky in drilling mud, grades to GLAUCONITIC SANDSTONE: greenish black, loose to firmly consolidated with black matrix,
1438	1441	50		50					CBU at 1440m GLAUCONITIC CLAYSTONE and GLAUCONITIC SANDSTONE as above. Very soft dispersive. No shows.
1441	1444	80		20					GLAUCONITE SANDSTONE: greenish black as above in green clay matrix. Trace fractured dolomite veins.
1444	1447								SANDY SILTSTONE: medium greyish brown, trace glauconite, very fine to fine grained, poorly sorted,
1447	1450								
1450	1453	40	40	20					GLAUCONITIC SANDSTONE: as above, 40% quartz, very fine grain to fine grained. common spherical pyrite aggregates, grades to SILTY SANDSTONE and CLAYSTONE.
1453	1456	10	40	50					SILTY CLAYSTONE: medium greyish brown, soft to firm, homogeneous, common pyrite aggregates grades to SILTSTONE. SANDSTONE as loose grains.
1456	1459	20	50	30					SILTSTONE: medium grey, greyish green, very finely sandy, trace glauconite, soft, in part hard calcareous grades to SILTY CLAYSTONE and to ARG SANDSTONE.
1459	1462	30	40	30					as above
1462	1465	10	60	30					SILTSTONE: medium grey, greyish green, brown, carbonaceous in part, occasional glauconite laminae, grades to SILTY CLAYSTONE, pyritic.
1465	1468	10	20	70					SILTY CLAYSTONE: medium grey to greyish brown, soft to firm, homogeneous, grades to SILTSTONE.
1468	1474		90	10					SANDY SILTSTONE:
1474	1477	40	20	40				trace	GLAUCONITIC SANDSTONE: 30% quartz, very fine to fine grained, argillaceous matrix, loose grains and fine silica cemented aggregates washing out, trace pyrite, visible porosity tmo shows
1477	1480								
1480	1483	30	50	20					SILTSTONE: greyish brown, sandy, grades to sandstone, very calcareous, soft to firm
1483	1486								
1486	1489	30	40	30					ARGILLACEOUS SANDSTONE grey to greyish green, very fine grained, glauconitic, calcareous, pyritic, grades silty claystone and siltstone
1489	1492								
1492	1495	20		80					SILTY CLAYSTONE: as above. SANDSTONE: as loose grains, very fine to fine, washing out of dense silty clay matrix.

1495	1498	60		40					
1498	1501	40		60					SANDSTONE: light grey, silty, very fine to medium grained, common lithic grains, grades to SANDY CLAYSTONE. Common loose glauconite grains. Trace Carbonaceous material. Trace pyrite.
1501	1504	60		40					as above
1504	1507	80		20				t.	SANDSTONE: light grey to light greenish grey, very fine to fine grained, quartzose with common lithic grains, silty, poorly sorted, very calcareous and with white clay matrix. Trace visible porosity.
1507	1510	80	10	10				t-n	SANDSTONE: as above very calcareous, moderately sorted. Trace CARBONACEOUS SILTSTONE: brown, friable.
1510	1513	70	20	10				t-n	SANDSTONE: very light grey to greenish grey, quartzose with minor lithic grains, very fine to fine grained, poorly sorted, very calcareous in part, visible porosity trace to nil, grades to SILTY CLAYSTONE: white to pale brown, sandy, soft, sandy with trace lithic grains.
1513	1516	50	10	40					
1516	1519	60	10	30				n	as above, sandstone with very calcareous cement.
1519	1522	60	10	30					
1522	1525	30	10	60					SANDY CLAYSTONE: off white to pale brown, silty grades to SANDSTONE: greyish green, very fine grained, and SILTSTONE: white, even textured, quartzose, blocky, very soft.
1525	1528	30	10	60					
1528	1531	60	10	30					
1531	1537	80	10	10					SILTY SANDSTONE: white to greyish green, very fine to medium grained, poorly sorted, grades to SILTSTONE as above . CLAYSTONE: light grey, greyish green, smooth, subfissile.
1537	1540	90		10				p	SANDSTONE: as loose grains, green to grey, very fine to fine grained, moderate to well sorted, angular, common lithic grains, white clay matrix washing out.
1540	1543	90		10				p	SANDSTONE: as loose grains, green to grey, very fine to fine grained, moderate to well sorted, angular, common lithic grains, white clay matrix washing out, very calcareous
1543	1546	70	20	10				t	SANDSTONE: as above, very fine grained, very calcareous. Visual porosity very poor Trace Carbonaceous SILTSTONE:
1546	1549	20	20	60					CLAYSTONE: very light grey, light greenish to brownish grey,
1549	1552	50	20	30					SANDY CLAYSTONE, SANDSTONE AND SILTSTONE: pale brown, homogeneous, as above, trace coal
1552	1555	60	30	10					
1555	1558	20	40	40				p	SANDSTONE: as loose grains, very light grey, to greyish green, very fine to fine grained, SILTSTONE: very light grey, greyish green and brick-red lithic grains,


									visible porosity poor. Trace COAL:
1558	1561	20	40	40				p	as above
1561	1564	40	20	40					SILTY SANDSTONE: white, very fine to fine grained, poorly sorted, abundant white clay matrix, grades to SILTSTONE as above and SANDY CLAYSTONE: 1563: spot sample, SILTY SANDSTONE 60%, nil visible porosity, no shows.
1564	1567	30	40	30					SANDY SILTSTONE grades to sandy claystone and silty sandstone.
1567	1570	70		30					as above becoming predominantly loose SANDSTONE with abundant white clay washing out.
1570	1573	100							SANDSTONE: as loose grains, light grey, clear white, pale green, fine grained, abundant multicoloured lithic grains, well sorted, subangular, predominantly loose, trace quartz cement, clay matrix washing out at shakers. poor inferred porosity, no shows.
1573	1576	100							SANDSTONE: as loose grains, light grey, clear white, pale green, fine grained, abundant multicoloured lithic grains, well sorted, subangular, predominantly loose, trace quartz cement, clay matrix washing out at shakers. poor inferred porosity, no shows.
1576	1579	100							Sst as above
1579	1582	100							Sst as above
1582	1585	100							SANDSTONE: as loose grains, light grey, clear white, pale green, fine grained, abundant multicoloured lithic grains, well sorted, subangular to subrounded, predominantly loose, occasional aggregates with dense calcite cement, trace quartz cement, clay matrix washing out at shakers. poor inferred porosity, no shows.
1585	1588	100							SANDSTONE: as loose grains, light grey, clear white, pale green, abundant multicoloured lithic grains, moderately well sorted, subangular to subrounded, predominantly loose, occasional aggregates with dense calcite cement, trace quartz cement, clay matrix washing out at shakers. poor inferred porosity, no shows.
1588	1591	100						fair	SANDSTONE: as loose grains, light grey, clear white, pale green, abundant multicoloured lithic grains, moderately well sorted, subangular to subrounded, predominantly loose, occasional aggregates with dense calcite cement, trace quartz cement, clay matrix washing out at shakers. poor inferred porosity, no shows.
1591	1594	100							SANDSTONE: as above abundant light to dark grey lithic grains, also pale green, bluish green, brick-red
1594	1597	100							sst as above
1597	1600	100							as above
1600	1603	100							as above
1603	1606	100							as above

1606	1609	60	40					t.	SANDSTONE, quartz lithic arenite. fine to medium grained, well sorted, subangular, loose with clay matrix washing out at shakers, slightly calcareous in part, abundant white grey, green red lithics. Inferred porosity poor. SILTSTONE very light grey, quartzose, homogeneous, blocky, soft.
1609	1612	80	20						as above
1612	1615	80	20					p	SANDSTONE: / loose grains and calcareous aggregates, trace pyrite.
1615	1618	90	10					p	SANDSTONE: green, light grey, very fine to fine grained, moderate sorted, silty, abundantly lithic, slightly calcareous, clay matrix washing out.
1618	1621	90	10						
1621	1624	100						p	SANDSTONE: as above
1624	1627	100							
1627	1630	90	10						
1630	1633	90	10					t.	SANDSTONE: grades to SILTSTONE: as above
1633	1636								
1636	1639	100						t.	SANDSTONE: as above calcareous cement
1639	1642	100							SANDSTONE: grey and green, as above, predominantly composed of grey cherty lithic grains and quartz 40%, well sorted, slight matrix washing out.

Appendix 6: Synthetic Seismogram



FORMATION	DEPTH (KB)	DEPTH (TVDSeis)	AVG VEL	TIME TO TOP	TIME		THICKNESS		INT VEL	THICKNESS
Gel	238.0	232.5	2079.4	0.22363	0.18156	2004.8	0.182.0			
Cli	420.0	414.5	2046.0	0.40519	0.00451	2217.2	5.0			
Nar	425.0	419.5	2047.9	0.40970	0.01533	2217.2	17.0			
Mep	442.0	436.5	2054.0	0.42504	0.08118	2217.2	90.0			
Dil	532.0	526.5	2080.2	0.50622	0.18899	2603.3	246.0			
Pem	778.0	772.5	2222.4	0.69521	0.00403	2727.4	5.5			
Peb	783.5	778.0	2225.3	0.69925	0.04532	2626.0	59.5			
Paa	843.0	837.5	2249.7	0.74456	0.23724	2748.3	326.0			
Skul	1169.0	1163.5	2370.2	0.98180	0.05450	2679.0	73.0			
Nul	1242.0	1236.5	2386.4	1.03630	0.02409	3155.0	38.0			
Bel	1280.0	1274.5	2403.9	1.06039	0.08494	2707.9	115.0			
Fla	1395.0	1389.5	2426.4	1.14532	0.01231	2924.0	18.0			
GHB	1413.0	1407.5	2431.7	1.15764	0.01211	3057.3	18.5			
	1431.5	1426.0	2438.2	1.16975	0.04112	3063.9	63.0			
	1494.5	1489.0	2459.4	1.21086	0.04112	3063.9	63.0			
	1575.0	1569.5	2488.9	1.26123	0.05037	3196.3	80.5			



Essential
Petroleum
Resources
Limited

Essential Petroleum Resources Limited

Project: PEP152

Killarney EPRL 1

Wavelet generated from OPP85a-16 SP 675-695. 0.5 - 1.2 seconds TWT

Appendix 7: Petrophysical Report

Killarney-1 Petrophysical Analysis

Summary

The purpose of this study was to examine the reservoir characteristics of the sands encountered in the Killarney-1 well. The wireline logs were quantitatively interpreted over the interval 1000m to 1637m to determine shale volume, porosity and water saturation.

Killarney-1 was spudded on 9th June 2004, by Essential Petroleum Pty Ltd and drilled to a total depth of 1604m. No fluorescence associated with sands was recorded throughout the reservoir section and no significant gas shows were recorded. The well was plugged and abandoned on 20th June 2004.

The sands of the Dilwyn Formation (1004.0-1038.7m) are of excellent reservoir quality. A total of 14.4m of net reservoir sand is interpreted with an average porosity of 22.0%. There were no visual or significant gas shows observed during drilling. The sands are interpreted to be water saturated.

The Paarate Formation (1114-1170m) consists of excellent reservoir quality sandstones interbedded with shale. A total of 23.7m of net reservoir sand is interpreted over the gross interval 1114.0-1168.7m, with an average porosity of 22.8%. There were no visual or significant gas shows observed during drilling. The sands are interpreted to be entirely water saturated.

The Skull Creek Mudstone (1170-1242m) is interpreted to consist of shale with some thin cemented sands. The exception is at 1194m where a 0.9m sand is interpreted to have 21.0% porosity and 100% water saturation.

The Nullawaare Formation (1242-1284m) consists of greensand interbedded with minor silt and claystone. The greensand is described as fine to medium grained, green-black glauconite with occasional grey/green aggregates. Poor visual porosity was described in the cuttings. The best sand was intersected over the interval 1242.5-1279.7m and consists of intervals with excellent reservoir properties interbedded with tightly cemented intervals. A total of 14.6m of net sand is interpreted with an average porosity of 17.2%. The section is interpreted to be entirely water saturated.

The Flaxman Formation (1393-1437m) consists of interbedded glauconitic sandstone and claystone. The PEF increases to over 7 indicating the strong presence of glauconite. The sands are described as fine to medium grained with good inferred porosity. A total of 0.3m of net reservoir sand is interpreted over the interval 1402.9-1404.5m, with an average porosity of 13.7%. The target interval was intersected over the interval 1413-1437m. The interval is seen on wireline logs as a very hard zone with a decrease in sonic slowness. The section is described as dark green to black glauconitic sandstone, with a weak silica cement. The PEF is over 10, reflecting the high concentration of glauconite. The section is interpreted to be tight with porosities less than 8%.

The Waarre Formation consists of interbedded claystone and argillaceous sandstone. Sands are interpreted over the intervals 1510-1523m and 1535-1548m, however the neutron/density crossplot indicates that they are argillaceous. A total of 4.7m of net reservoir sand is interpreted over these intervals with an average porosity of 9.3%. The higher resistivities within these sands are a response to the cemented zones. The interval is interpreted to be entirely water saturated.

Anne Locke

Consultant Petrophysicist

September 2004

Introduction	<p>A request was made by Essential Energy Resources Ltd to determine the porosity and water saturation of the sands encountered in the Killarney-1 well. The wireline logs were analysed for these properties over the interval 1000-1637m.</p> <p>Killarney-1, operated by Essential Petroleum, was spudded on 9 June 2004. It was drilled vertically to a total depth of 1640m and plugged and abandoned. The interpreted section was drilled with an 8-1/2" bit and a KCl-PHPA mud system. A maximum bottom hole temperature of 63°C at 1640m was measured during the final logging operations</p> <p>The well did not encounter any significant hydrocarbon shows while drilling.</p>
Available Data	<p>The digital data-set was provided in LAS format by Essential Petroleum Resources. Both sonic and neutron/density logs were provided for the porosity determination. A list of the wireline logs run in the well is given as Table 1.</p> <p>No conventional cores were cut in the Killarney-1 well.</p>
Hole Conditions	<p>Hole conditions through the interpreted interval are good with mudcake buildup across permeable sands.</p>
Interpretation Model	<p>Based on the description of well cuttings, it has been assumed that the section of interest consists of quartzose sandstone with glauconite and shale. The volume of shale was calculated using the gamma ray log. A comparison was made with the shale volume determined from the neutron/density logs to confirm the consistency of the measurements.</p> <p>Porosity was primarily calculated from the neutron-density logs. The Raymer-Hunt-Gardner equation was used to calculate porosity from the sonic log and used in zones with bad hole conditions.</p> <p>Water saturation, S_w, was calculated using the Juhasz equation.</p>
Input Parameters	<p>A summary of the parameters used for this interpretation is given in Table 2. In the absence of special core analysis data a cementation exponent, m, of 2.00 was assumed with the coefficient, a, set to 1.00. A saturation exponent, n, of 2.00 was also used to calculate water saturation.</p>
Water Salinity	<p>The formation water salinity over the top interval is relatively fresh as shown by the large positive SP deflection of +25mV. A Pickett Plot over the interval 1003-3142m (Figure 1) indicates an R_w of 0.26 ohmm at 43°C, which equates to a formation water salinity of 16,000 ppm NaCl equivalent.</p> <p>The formation water salinity becomes more saline with depth as evidenced by the reduction of the positive SP reflection to +13 mV. Figure 2 is a Pickett Plot within the Paarate Formation (1114-1169m) and indicates an R_w of 0.15 ohmm at 46°C. This equates to a water salinity of 28,000 ppm NaCl equivalent.</p> <p>Figure 3 is a Pickett Plot within the Nullawaare Formation (1242-1280m) and indicates an R_w of 0.11 ohmm at 51°C. This equates to a formation water salinity of 38,000 ppm NaCl equivalent. The further increase in formation water salinity is reflected by the +5 mV SP deflection</p>
Reservoir Determination	<p>For the purposes of this study a porosity cutoff of 8% and a V_{sh} cutoff of 50% were used to determine net reservoir. A summary of the results is given as Table 3. Permeability information would be needed to further refine appropriate cutoffs.</p>
Discussion of Interpretation	<p>The purpose of this study is to interpret the porosity and saturation of sands in the Killarney-1 well over the interval 1000-1640m. The primary objective of the well was</p>

Results

the hard zone within the Flaxman Formation intersected at 1413m.

The sands within the Dilwyn Formation (1004.0-1038.7m) are of excellent reservoir quality. A total of 14.4m of net reservoir sand is interpreted with an average porosity of 22.0%. There were no visual or significant gas shows observed during drilling. The sands are interpreted to be water saturated.

The Paarate Formation (1114-1170m) consists of excellent reservoir quality sandstones interbedded with shale. The sands are described as clean, fine to medium grained and quartzose. A total of 23.7m of net reservoir sand is interpreted over the gross interval 1114.0-1168.7m, with an average porosity of 22.8%. There were no visual or significant gas shows observed during drilling. The sands are interpreted to be entirely water saturated.

The Skull Creek Mudstone (1170-1242m) is interpreted to consist of shale with some thin cemented sands. The exception is at 1194m where a 0.9m sand is interpreted to have 21.0% porosity and 100% water saturation.

The Nullawaare Formation (1242-1284m) consists of greensand interbedded with minor silt and claystone. The greensand is described as fine to medium grained, green-black glauconite with occasional grey/green aggregates. Poor visual porosity was described in the cuttings. The best sand was intersected over the interval 1242.5-1279.7m and consists of intervals with excellent reservoir properties interbedded with tightly cemented intervals. A total of 14.6m of net sand is interpreted with an average porosity of 17.2%. The section is interpreted to be entirely water saturated.

The Belfast Formation (1284-1393m) consists mainly of claystone with some minor siltstone. Below 1340m minor quantities of glauconitic sandstone with poor visual porosity were recovered in the cuttings. Below 1370m the PEF increases to over 5, reflecting the increase in glauconite in the section.

The Flaxman Formation (1393-1437m) consists of interbedded glauconitic sandstone and claystone. The PEF increases to over 7 indicating the strong presence of glauconite. The sands are described as fine to medium grained with good inferred porosity. A total of 0.3m of net reservoir sand is interpreted over the interval 1402.9-1404.5m, with an average porosity of 13.7%. The target interval was intersected over the interval 1413-1437m. The interval is seen on wireline logs as a very hard zone with a decrease in sonic slowness. The section is described as dark green to black glauconitic sandstone, with a weak silica cement. The PEF is over 10, reflecting the high concentration of glauconite. The section is interpreted to be tight with porosities less than 8%.

The Waarre Formation consists of interbedded claystone and argillaceous sandstone. The sandstones are described as white-clear, dark green and black, very fine to fine grained with poor to occasionally fair visual porosity. The PEF has decreased to between 3-3.5, indicating a decrease in the amount of glauconite. Sands are interpreted over the intervals 1510-1523m and 1535-1548m, however the neutron/density crossplot indicates that they are argillaceous. A total of 4.7m of net reservoir sand is interpreted over these intervals with an average porosity of 9.3%. The higher resistivities within these sands are a response to the cemented zones. The interval is interpreted to be entirely water saturated.

The Eumeralla Formation (1569-TD) consists of massive quartz litharenites, which are described in cuttings as fine to medium grained, clear, translucent, light green, yellow and red, with a grey silty matrix. The neutron/density logs indicate an argillaceous sandstone. The higher resistivities are again associated with cemented zones and the interval is again interpreted to be water saturated.

Table 1 : Wireline Logs Run (Schlumberger)

Date	Hole Size (inches)	Interval (mRT)	Logs Run	Comments
18/6/04	8-½	1632.4 - 255.5	HALS/BHC/PEX/HNGS	Run OK GR to surface
n/a	8-½	n/a	MDT/GR	n/a

Table 2 : Input Parameters

Interval (mRT)	1000-1170	1170-1242	1242-1284	1284-1413	1413-1437	1437-1569	1569-1637
GRmin (api)	30	30	30	30	30	30	30
GTmax (api)	115	115	115	120	110	110	125
DTsh (usec/ft)	110	110	105	110	90	105	93
DTma (usec/ft)	55.5	55.5	55.5	55.5	55.5	55.5	55.5
RHOsh (g/cc)	2.35	2.25	2.35	2.42	2.45	2.35	2.35
NPHIsh (lst)	0.40	0.42	0.41	0.45	0.58	0.35	0.30
Rsh (ohmm)	3	3	3	3	3	2.5	3.5

Table 3 : Reservoir Summary

Killarney-1				
Interval (mRT)	Thickness (m)	Average Porosity (%)	Average Shale Volume (%)	Average Sw (%)
1004.0 - 1038.7	14.4	22.0	27.4	95.8
1114.0 - 1168.7	23.7	22.8	29.6	99.1
1193.4 - 1194.4	0.91	21.0	33.8	100.0
1242.5 - 1279.7	14.6	17.2	30.2	96.3
1402.9 - 1404.5	0.30	13.7	49.8	100.0
1509.5 - 1547.2	4.71	9.3	44.4	91.2

Note: Cutoffs used: Vsh <= 50% and Porosity >=8%.

Figure 1 : Pickett Plot 1003-1039m

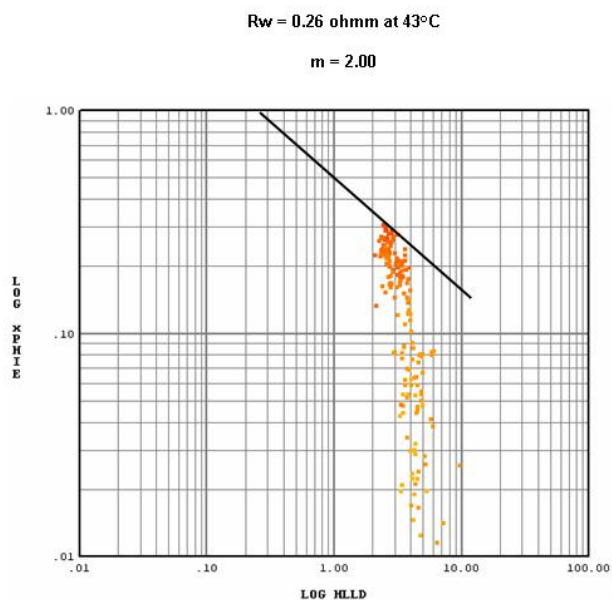


Figure 2 : Pickett Plot 1114-1169m

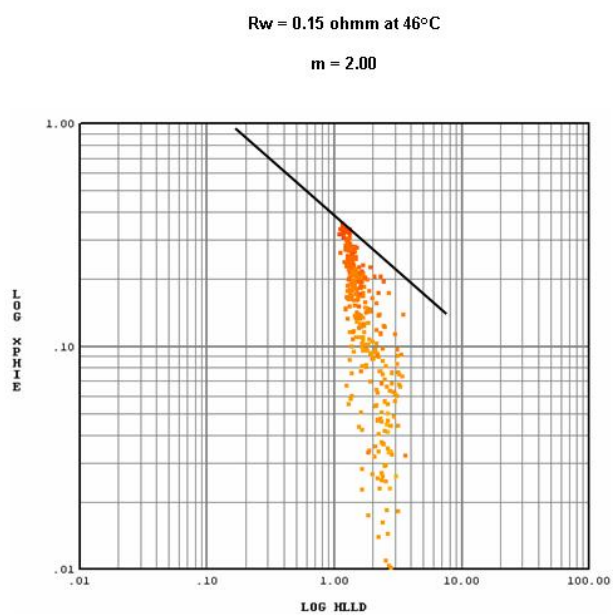
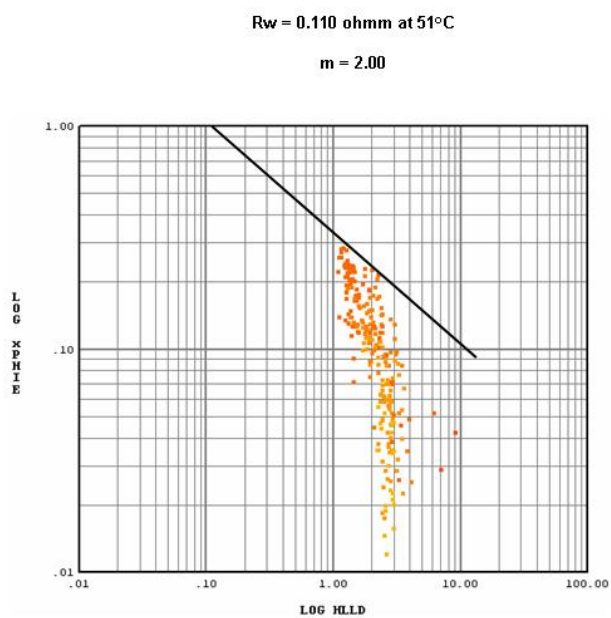


Figure 3 : Pickett Plot 1242-1280m



Enclosure 1 Mudlog

Enclosure 2 Composite Log

Enclosure 3 Wireline Logs