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Routine Core Analysis Well Marlin A24A Offshore Australia

Prepared for
Esso Australia Pty. Ltd.

July 2005

File: PRP-04027

Rock Properties
Core Laboratories
Perth
Australia

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CORE LABORATORIES AUSTRALIA PTY LTD

27th July 2005

Esso Australia Pty. Ltd.

12 Riverside Quay
Southbank
Melbourne, Victoria 3001

Attention : Mr. K. Kuttan

Subject : Routine Core Analysis
Well : Marlin A24A
File : PRP-04027

Dear Sir,

Presented herein is the final report of a routine core analysis study conducted on three cores from the above well that arrived at our laboratory on June 17th 2004.

We appreciate the opportunity to present this service to Esso Australia Pty. Ltd. Please contact us should you require any further information or assistance.

Yours sincerely,

Core Laboratories Australia Pty Ltd

James Brown
Senior Core Analyst

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INTRODUCTION

Thirty fibreglass inner core barrels (containing resinated four inch diameter core) were delivered to Core Laboratories' premises in Kewdale on the 17th June 2004.

Services performed and presented in the report include:

- Total surface core gamma
- CT scans of full diameter core and plugs
- Core photography on slabbed core - white and ultra violet light (large format on a CD-Rom)
- Horizontal permeability, porosity, (at NOBP) and grain density measurements on plugs and plug off-cuts.

The reported data for the above services are presented digitally on a CD-Rom, whilst the digital core photographs and CT scans were presented on separate CD-Roms.

SUMMARY

Porosity and permeability measurements were determined at a net confining stress of 3509psi (core 1 samples), 3526psi (core 2 samples) and 3542psi (core 3 samples).

	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
<u>Core 1: (31 samples)</u>			
<u>Net Confining Pressure of 3509psig.</u>			
Porosity (%)	7.1	17.9	12.0
Permeability, Kinf, (md)	0.037	3030	494
Grain Density (g/cc)	2.60	2.67	2.64
<u>Core 2: (29 samples)</u>			
<u>Net Confining Pressure of 3526psig.</u>			
Porosity (%)	9.9	18.0	13.3
Permeability, Kinf, (md)	6.03	7770	1950
Grain Density (g/cc)	2.23	2.65	2.63
<u>Core 3: (25 samples)</u>			
<u>Net Confining Pressure of 3542psig.</u>			
Porosity (%)	2.0	18.7	14.3
Permeability, Kinf, (md)	0.001	7500	3300
Grain Density (g/cc)	2.23	2.77	2.64

LABORATORY PROCEDURES

Initial Inventory:

After the arrival of the cores on the 17th June 2004, the inner core barrels were unloaded, laid out in order and the barrel depths recorded on an in-house inventory (thirty barrels). The barrels on arrival were approximately in one-metre lengths.

Core Preparation:

Total surface core gamma was run along the cores while still in the inner core barrels. The one metre lengths of core were CT-scanned (looking for bedding dip, fractures and rubble sections) so the cores would be orientated for plugging and slabbing. While been scanned, the outside of the core barrels were marked indicating dip and strike of the bedding. The cores were stored in a freezer unit at two degrees centigrade. Eric Johnstone supervised the plug preparation and slabbing of the core. After sampling, the cores were slabbed and then photographed.

Surface Core Gamma:

The cores were logged while still in the core barrels. A zero base-line was established, and a standard calibration tube logged prior to running the core. During the logging of the cores, one observer verified that each barrel passing the detector was in its correct sequence and orientation, whilst two people loaded and offloaded the barrels. As each barrel cleared the detector it was replaced in sequence on the lay out benches. The preliminary digitised surface gamma trace was sent by e-mail to Esso Australia Pty. Ltd. (Esso) once the core had been run.

Sample Preparation:

The cores were individually removed from the chiller unit, using the CT-scanning orientation marks, plugging points were marked on the core barrels. At each location, two horizontal plugs were cut parallel to bedding as indicated by the CT-scans. Routine core analysis plugs were designated Set A and special core analysis plugs were designated Set C. A vertical plug was cut every metre (designated V). An extra five plugs were cut and designated Set B. A window in the fibreglass barrel was cut with the drill bit. Then the 1.5" plug was drilled using a three percent sodium chloride brine. The plug was extracted from the core, wrapped in Saran wrap, placed in a plastic vial and stored in the chiller unit. Initially the samples were trimmed using the brine solution, but it was noted that large grains were been chipped off the edge of the sample. The rest of the samples were then frozen under dry ice. The frozen plugs were trimmed to five centimetres in length using a dry trim saw blade. Three approximately equal off-cuts were obtained. Six samples (13A, 52A, 75A, 102A, 123A and 208A) were chosen for a comparison test on cleaning and drying techniques. The samples were initially cleaned with a chloroform/methanol azeotrope (13:87 by weight). No change in colour was noted indicating there were no liquid hydrocarbons. The samples were dried in a controlled humidity oven. Porosity and permeability (air and Klinkenberg) were measured at the requested NOBP as well as grain density. After analysis the samples were recleaned in hot toluene and dried in a convection oven. Porosity, permeability and grain density were remeasured as previously done. And the results were reported to Esso (data on page 5). It was decided to clean the rest of Set A samples using hot toluene and then drying in a convection oven. One of the plug off-cuts for each sample was prepared in the same manner.

Core Slabbing:

Prior to the core being slabbed, the plug holes were filled with gravel and epoxy grout. The core was frozen under dry ice to help stabilise the core while it was being slabbed. Each section was loaded on to the slab saw and then cut longitudinally into one-third sections in such a manner that the plug holes were not viewed on the slabbed surface of the core.

Core Photography:

After the core had been plugged and slabbed, it was photographed under ultra-violet (UV) and white light. A hardcopy set and a CD-Rom containing the large format images were forwarded under a separate cover.

Grain Volume and Grain Density:

The weight, diameter and length of all plug samples were measured before they were processed through the Ultrapore™ porosimeter to determine grain volume. As a standard quality control measure, a calibration check plug was run after every ten samples. Grain density data was calculated from grain volume and sample weight data. Plug off-cuts were cleaned, dried then weighed. Grain volume was then measured and grain density was calculated. Selected off-cuts were then crushed and their grain density remeasured.

Permeability and Porosity:

The samples were run at various confining stresses (core1-3509psi, core 2-3526psi and core 3-3542psi) while determining porosity and permeability. A standard check plug was run with every set of plug samples. Klinkenberg permeability (K_{inf}) values are obtained directly from the CMS™300, since it operates by unsteady-state principles. Porosity data was obtained by combining pore volumes from the CMS 300 data with grain volumes from the Ultrapore porosimeter.

POROSITY, PERMEABILITY AND GRAIN DENSITY (Overburden)

SAMPLE NUMBER	DEPTH (m)	NOBP PRESSURE			GRAIN DENSITY (g/cc)	NOBP PRESSURE			GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY		PERMEABILITY		POROSITY		
		Kinf (md)	Kair (md)			Kinf (md)	Kair (md)			
				(%)				(%)		

		Cool solvent/ humidity dried				Hot Toluene / Convection oven dried				Confining Stress (psi.)
13A	3160.07	406	488	11.0	2.63	401	479	11.0	2.63	3509
52A	3165.13	16.0	17.5	15.1	2.64	16.4	18.0	15.4	2.65	3509
75A	3168.13	446	629	12.0	2.63	445	631	12.1	2.63	3526
102A	3171.73	1380	1600	13.9	2.63	1370	1600	13.9	2.63	3526
123A	3174.44	282	383	10.8	2.63	285	389	10.9	2.63	3526
208A	3185.53	<0.001	<0.001	-	2.56	0.001	0.003	2.2	2.58	3542

POROSITY, PERMEABILITY AND GRAIN DENSITY (Overburden)

SAMPLE NUMBER	DEPTH (m)	3509psi.NOBP PRESSURE			GRAIN DENSITY (g/cc)	OFFCUT GRAIN DENSITY (g/cc)	CRUSHED GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY (%)				
		Kinf (md)	Kair (md)					
Core 1								
1A	3158.62	404	505	11.0	2.64	2.64		
3A	3158.83	861	1240	11.8	2.63	2.63		
6A	3159.13	1390	1980	12.8	2.64	2.63		
8A	3159.43	2070	2980	14.7	2.63	2.62		
10A	3159.74	1030	1100	12.4	2.63	2.62	2.63	
13A	3160.07	401	479	11.0	2.63	2.61		
15A	3160.33	841	1220	13.3	2.60	2.59		
17A	3160.63	220	245	12.4	2.63	2.62		
19A	3160.88	601	707	13.0	2.63	2.62		
22A	3161.24	1130	1190	14.2	2.63	2.62		
24A	3161.53	3030	3120	17.9	2.63	2.61	2.61	
26A	3161.83	1940	2100	16.5	2.63	2.62		
29A	3162.12	335	374	13.9	2.63	2.62		
31A	3162.43	100	111	11.1	2.64	2.62		
33A	3162.73	110	123	13.2	2.63	2.62		
36A	3163.03	223	253	11.7	2.62	2.63		
38A	3163.33	36.5	41.2	9.9	2.61	2.60		
40A	3163.63	42.1	47.0	9.2	2.64	2.63		
42A	3163.93	3.10	3.63	8.8	2.64	2.63	2.63	
45A	3164.23	2.44	2.73	7.1	2.64	2.63		
47A	3164.53	1.16	1.43	7.9	2.64	2.63		
49A	3164.83	6.25	7.13	12.9	2.67	2.67		
52A	3165.13	16.4	18.0	15.4	2.65	2.64	2.68	
54A	3165.43	28.5	30.7	15.9	2.65	2.67		
56A	3165.77	9.33	10.3	12.5	2.66	2.64		
59A	3166.03	0.037	0.066	6.0	2.65	2.63		
61A	3166.33	63.7	77.1	11.6	2.63	2.62		
63A	3166.63	69.7	82.8	9.7	2.65	2.65		

POROSITY, PERMEABILITY AND GRAIN DENSITY (Overburden)

SAMPLE NUMBER	DEPTH (m)	3509psi.NOBP PRESSURE			GRAIN DENSITY (g/cc)	OFFCUT GRAIN DENSITY (g/cc)	CRUSHED GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY (%)				
		Kinf (md)	Kair (md)					
65A	3166.93	37.5	46.6	11.4	2.63	2.63		
68A	3167.17	115	152	11.8	2.63	2.63		
70A	3167.51	202	305	12.4	2.64	2.64	2.65	

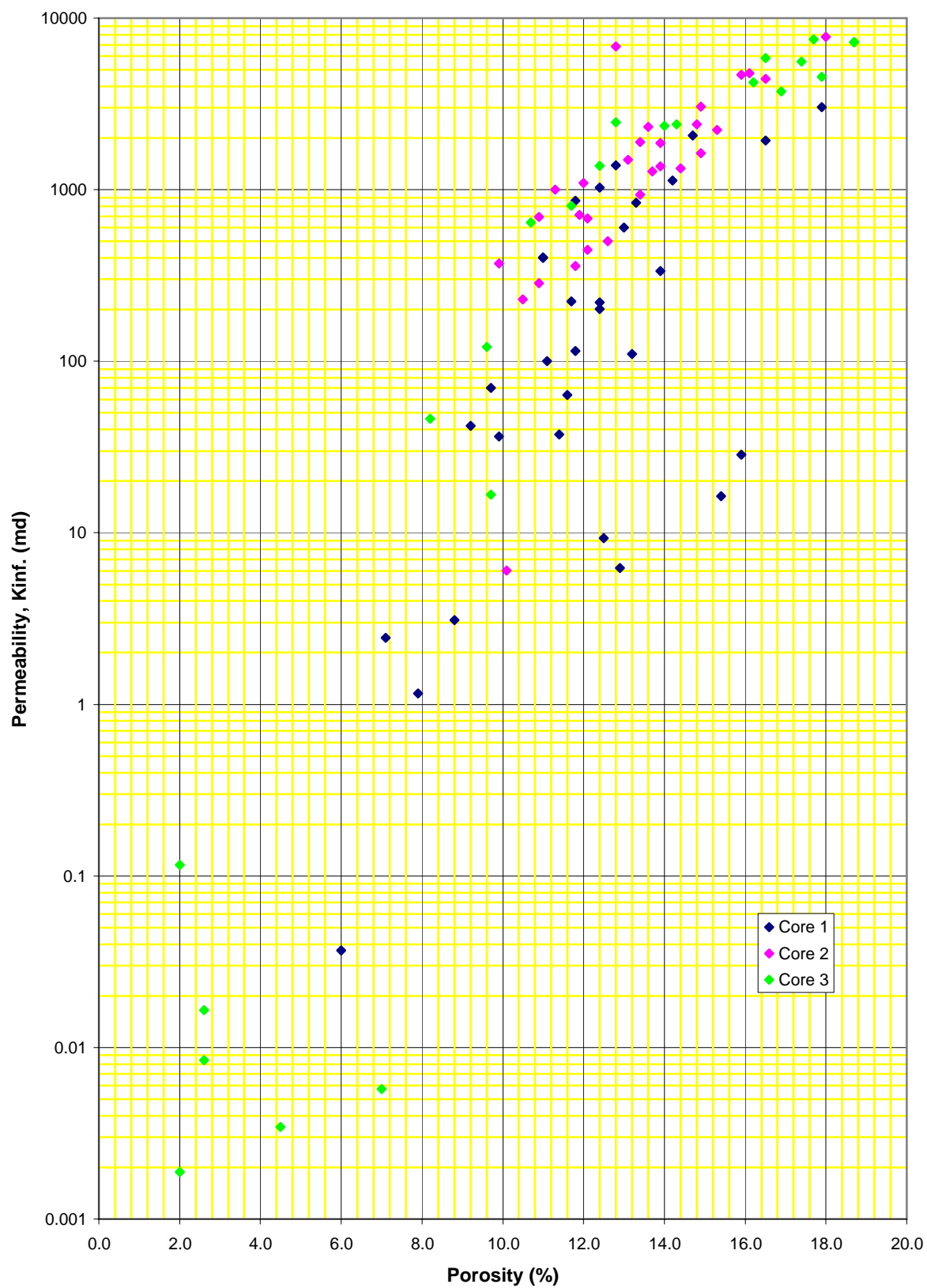
POROSITY, PERMEABILITY AND GRAIN DENSITY (Overburden)

SAMPLE NUMBER	DEPTH (m)	3526psi.NOBP PRESSURE			GRAIN DENSITY (g/cc)	OFFCUT GRAIN DENSITY (g/cc)	CRUSHED GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY (%)				
		Kinf (md)	Kair (md)					
Core 2								
72A	3167.83	6.03	7.59	10.1	2.64	2.64		
75A	3168.13	445	631	12.1	2.63	2.63		
77A	3168.43	1090	1560	12.0	2.64	2.63		
79A	3168.72	999	1440	11.3	2.64	2.63	2.64	
82A	3169.04	501	907	12.6	2.63	2.63		
84A	3169.34	230	374	10.5	2.63	2.63		
86A	3169.68	6840	8710	12.8	2.65	2.65		
88A	3169.93	695	1130	10.9	2.63	2.63		
91A	3170.23	4780	6380	16.1	2.63	2.63		
93A	3170.53	1490	1810	13.1	2.64	2.63		
95A	3170.76	936	1160	13.4	2.63	2.62		
98A	3171.14	371	564	9.9	2.63	2.63		
100A	3171.44	3040	4390	14.9	2.63	2.63		
102A	3171.73	1370	1600	13.9	2.63	2.63		
105A	3172.04	360	543	11.8	2.63	2.62		
107A	3172.33	7770	9100	18.0	2.63	2.62		
109A	3172.63	1870	2380	13.9	2.63	2.62	2.63	
111A	3172.93	1280	1630	13.7	2.63	2.62		
114A	3173.24	2230	3480	15.3	2.64	2.63		
116A	3173.54	2410	3490	14.8	2.63	2.62		
118A	3173.83	4670	6750	15.9	2.64	2.62		
121A	3174.13	1900	2740	13.4	2.63	2.63		
123A	3174.44	285	389	10.9	2.63	2.63		
125A	3174.73	1630	1870	14.9	2.63	2.62	2.61	
128A	3175.03	712	848	11.9	2.63	2.62		
130A	3175.33	680	729	12.1	2.64	2.64		

POROSITY, PERMEABILITY AND GRAIN DENSITY (Overburden)

SAMPLE NUMBER	DEPTH (m)	3526psi.NOBP PRESSURE			GRAIN DENSITY (g/cc)	OFFCUT GRAIN DENSITY (g/cc)	CRUSHED GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY (%)				
		Kinf (md)	Kair (md)					
132A	3175.55	1330	1790	14.4	2.63	2.63		
134A	3175.83	2320	3320	13.6	2.64	2.63	2.66	
137A	3176.10	4440	6720	16.5	2.64	2.64		

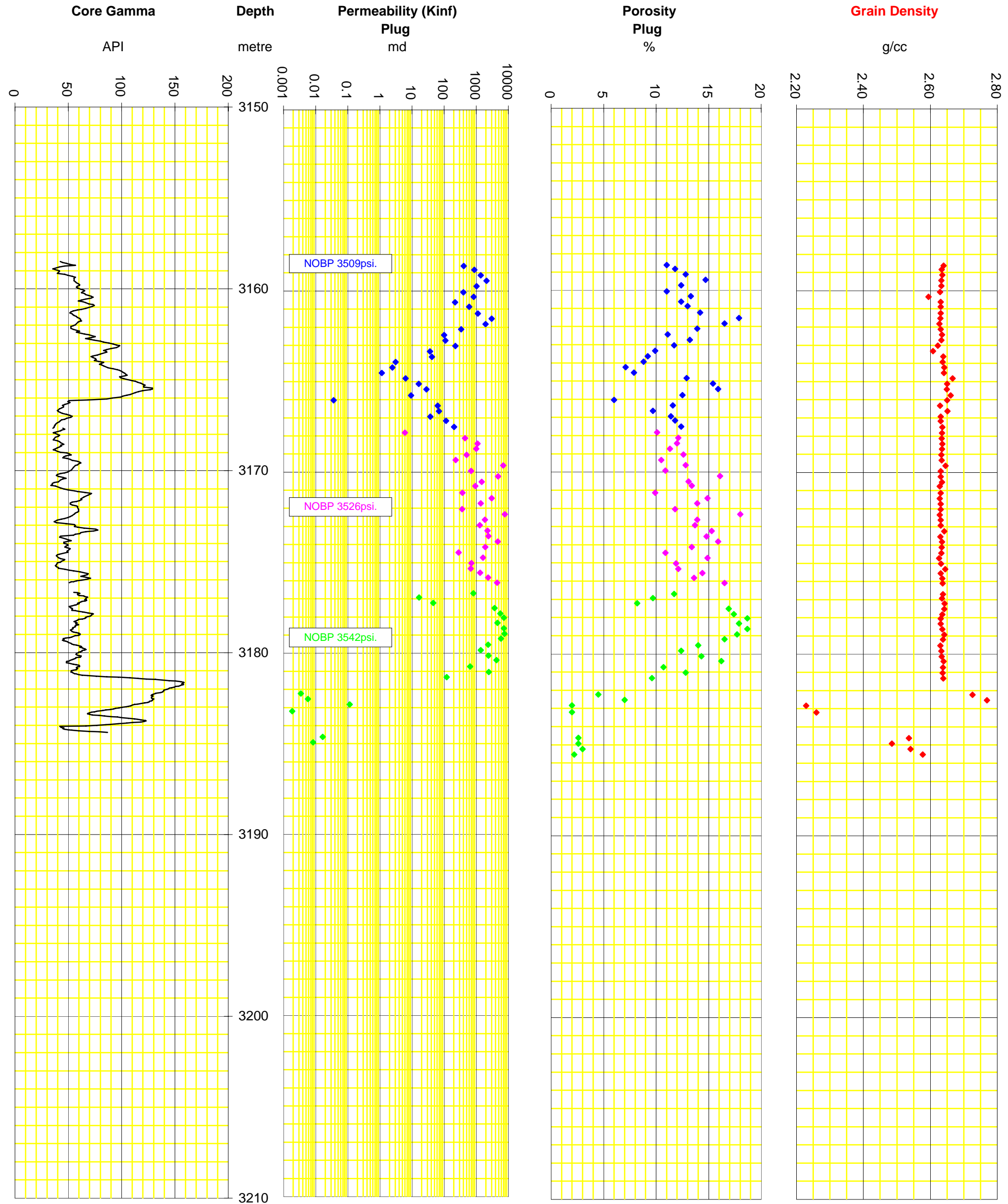
Overburden Porosity vs Permeability





INTEGRATED CORELOG

VERTICAL SCALE
1 : 200



RAW DATA

SAMPLE NUMBER	DEPTH (m)	SAMPLE WEIGHT (g)	SAMPLE GRAIN VOLUME (cc)	SAMPLE PORE VOLUME (cc)	SAMPLE LENGTH (cm)	SAMPLE DIAMETER (cm)	
Core 1							
1A	3158.62	133.102	50.425	6.201	4.93	3.86	NOBP 3509psi.
3A	3158.83	130.818	49.661	6.657	4.93	3.86	
6A	3159.13	129.050	48.948	7.165	4.92	3.86	
8A	3159.43	124.492	47.280	8.170	4.92	3.86	
10A	3159.74	130.673	49.629	7.051	4.92	3.86	
13A	3160.07	131.823	50.142	6.224	4.93	3.86	
15A	3160.33	125.748	48.458	7.431	4.92	3.86	
17A	3160.63	132.651	50.421	7.133	5.04	3.86	
19A	3160.88	129.642	49.283	7.364	5.04	3.85	
22A	3161.24	126.721	48.161	7.982	4.92	3.85	
24A	3161.53	120.528	45.821	10.013	4.91	3.85	
26A	3161.83	122.933	46.794	9.240	4.91	3.85	
29A	3162.12	130.802	49.724	8.002	5.04	3.85	
31A	3162.43	136.656	51.858	6.464	5.05	3.86	
33A	3162.73	132.595	50.361	7.642	5.05	3.86	
36A	3163.03	134.435	51.276	6.821	5.06	3.86	
38A	3163.33	136.094	52.183	5.742	5.05	3.86	
40A	3163.63	140.068	53.070	5.351	5.05	3.86	
42A	3163.93	140.217	53.169	5.137	5.05	3.86	
45A	3164.23	143.650	54.377	4.147	5.06	3.86	
47A	3164.53	141.735	53.677	4.607	5.05	3.86	
49A	3164.83	135.017	50.630	7.529	5.06	3.86	
52A	3165.13	130.410	49.220	8.988	5.06	3.86	
54A	3165.43	129.743	48.973	9.239	5.06	3.86	
56A	3165.77	135.398	50.891	7.261	5.06	3.86	
59A	3166.03	145.326	54.837	3.511	5.06	3.86	
61A	3166.33	132.944	50.562	6.623	5.05	3.86	
63A	3166.63	138.094	52.090	5.569	5.06	3.86	
65A	3166.93	134.549	51.132	6.600	5.06	3.86	
68A	3167.17	123.857	47.068	6.298	4.65	3.86	
70A	3167.51	133.168	50.515	7.170	5.06	3.86	
Core 2							
72A	3167.83	136.754	51.893	5.803	5.06	3.86	NOBP 3526psi.
75A	3168.13	133.705	50.753	6.863	5.05	3.85	
77A	3168.43	134.596	51.068	6.946	5.06	3.86	
79A	3168.72	134.909	51.195	6.512	5.06	3.86	
82A	3169.04	132.887	50.477	7.298	5.06	3.86	
84A	3169.34	136.111	51.667	6.049	5.05	3.86	
86A	3169.68	133.391	50.432	7.380	5.05	3.86	
88A	3169.93	136.980	52.055	6.370	5.06	3.86	
91A	3170.23	127.735	48.548	9.298	5.06	3.86	
93A	3170.53	133.130	50.520	7.614	5.05	3.86	
95A	3170.76	132.155	50.287	7.765	5.05	3.86	
98A	3171.14	138.269	52.550	5.754	5.06	3.86	
100A	3171.44	129.854	49.407	8.670	5.06	3.86	
102A	3171.73	131.566	49.998	8.043	5.06	3.86	
105A	3172.04	134.593	51.153	6.830	5.06	3.86	
107A	3172.33	123.689	47.059	10.357	5.06	3.85	

RAW DATA

SAMPLE NUMBER	DEPTH (m)	SAMPLE WEIGHT (g)	SAMPLE GRAIN VOLUME (cc)	SAMPLE PORE VOLUME (cc)	SAMPLE LENGTH (cm)	SAMPLE DIAMETER (cm)	
109A	3172.63	130.976	49.779	8.049	5.06	3.85	
111A	3172.93	131.029	49.808	7.882	5.06	3.85	
114A	3173.24	128.481	48.639	8.769	5.06	3.85	
116A	3173.54	128.978	49.045	8.545	5.06	3.86	
118A	3173.83	126.799	48.113	9.115	5.06	3.85	
121A	3174.13	131.441	49.896	7.752	5.06	3.86	
123A	3174.44	136.549	51.854	6.316	5.06	3.86	
125A	3174.73	130.201	49.582	8.662	5.06	3.86	
128A	3175.03	134.636	51.157	6.895	5.06	3.86	
130A	3175.33	135.271	51.166	7.062	5.06	3.86	
132A	3175.55	131.005	49.798	8.408	5.06	3.86	
134A	3175.83	132.410	50.223	7.933	5.07	3.87	
137A	3176.10	127.716	48.440	9.566	5.06	3.86	
Core 3							
139A	3176.70	134.009	50.796	6.747	5.06	3.86	NOBP 3542psi.
141A	3176.93	137.243	52.081	5.588	5.05	3.86	
144A	3177.22	142.022	53.733	4.772	5.06	3.86	
146A	3177.51	127.712	48.339	9.850	5.06	3.86	
148A	3177.81	126.275	47.909	10.109	5.06	3.86	
151A	3178.04	123.589	46.971	10.807	5.06	3.86	
153A	3178.33	124.896	47.473	10.359	5.06	3.86	
155A	3178.63	123.823	46.972	10.787	5.06	3.86	
157A	3178.93	125.578	47.540	10.216	5.06	3.86	
160A	3179.19	127.441	48.307	9.531	5.06	3.86	
162A	3179.53	132.074	50.209	8.152	5.06	3.86	
164A	3179.83	134.520	51.093	7.213	5.06	3.87	
167A	3180.14	131.243	49.820	8.289	5.06	3.86	
169A	3180.39	127.832	48.418	9.357	5.06	3.86	
171A	3180.74	135.456	51.344	6.182	5.05	3.86	
174A	3181.04	133.983	50.813	7.469	5.06	3.86	
176A	3181.33	138.521	52.493	5.564	5.05	3.87	
178A	3181.63						No Sample
180A	3181.93						No Sample
183A	3182.23	152.774	56.034	2.634	5.05	3.86	
185A	3182.53	151.034	54.550	4.087	5.06	3.86	
187A	3182.83	127.908	57.392	1.183	5.06	3.87	
190A	3183.21	129.789	57.420	1.159	5.06	3.85	
192A	3183.52						No Sample
194A	3183.82						No Sample
197A	3184.06						No Sample
199A	3184.32						No Sample
201A	3184.62	144.644	57.041	1.550	5.06	3.85	
203A	3184.93	141.813	57.061	1.550	5.06	3.85	
206A	3185.23	143.972	56.663	1.780	5.06	3.85	
208A	3185.53	148.463	57.618	1.309	5.06	3.86	

SAMPLE LIST

CLIENT : ESSO AUSTRALIA PTY LTD.

WELL : Marlin A24A

PLUG SIZE: 1.5" Diameter

FILE : PRP-04027

FLUID: 3% KCl brine

SAMPLE NO.	DEPTH (m)	PLUG DESIGNATION	PLUG GRADE	COMMENTS
001	3158.62	A	3	Chipped edge
002	3158.66	C	4	
003	3158.83	A	2	
004	3158.91	C	4	
005	3159.00	V	3	
006	3159.13	A	2	Vug on side
007	3159.17	C	4	Chipped edge
008	3159.43	A	4	Vug on side
009	3169.47	C	3	
010	3159.74	A	2	
011	3159.78	C	2	
012	3160.00	V	5	Short plug, large vug on side
013	3160.07	A	2	
014	3160.11	C	2	
015	3160.33	A	3	Vug on side
016	3160.37	C	2	
017	3160.63	A	3	Chipped edge
018	3160.67	C	2	
019	3160.88	A	3	Chipped edge
020	3160.92	C	4	Chipped edge
021	3161.00	V	3	Short plug
022	3161.24	A	2	Chipped
023	3161.28	C	4	Chipped edge
024	3161.53	A	3	Chipped edge
025	3161.57	C	3	Chipped edge
026	3161.83	A	3	
027	3161.87	C	3	
028	3162.00	V	3	Short plug
029	3162.12	A	2	
030	3162.16	C	2	
031	3162.43	A	2	
032	3162.47	C	2	
033	3162.73	A	2	
034	3162.78	C	2	
035	3163.00	V	3	
036	3163.03	A	2	
037	3163.07	C	1	
038	3163.33	A	2	

SAMPLE LIST

CLIENT : ESSO AUSTRALIA PTY LTD.

WELL : Marlin A24A

PLUG SIZE: 1.5" Diameter

FILE : PRP-04027

FLUID: 3% KCl brine

SAMPLE NO.	DEPTH (m)	PLUG DESIGNATION	PLUG GRADE	COMMENTS
039	3163.37	C	1-2	
040	3163.63	A	3	
041	3163.67	C	3	Groove down side
042	3163.93	A	2	
043	3163.97	C	1-2	
044	3164.00	V	2	
045	3164.23	A	3	
046	3164.27	C	2	
047	3164.53	A	3	
048	3164.57	C	2-3	
049	3164.83	A	2	Fine grained coal Lam
050	3164.87	C	1	
051	3165.00	V	1	
052	3165.13	A	1	
053	3165.17	C	1	
054	3165.43	A	1	
055	3165.47	C	1	
056	3165.77	A	1	
057	3165.81	C	1	
058	3166.00	V	1	
059	3166.03	A	2	
060	3166.07	C	2	
061	3166.33	A	3-4	
062	3166.37	C	3	
063	3166.63	A	4	
064	3166.67	C	3	
065	3166.93	A	2-3	
066	3166.97	C	2-3	
067	3167.00	V	2	
068	3167.17	A	3-4	Short plug
069	3167.21	C	1-2	
070	3167.51	A	3	
071	3167.55	C	5	Resin in sample
072	3167.83	A	2-3	
073	3167.87	C	2-3	
074	3168.00	V		No Sample
075	3168.13	A	2	
076	3168.18	C	2	
077	3168.43	A	2-3	
078	3168.48	C	2-3	
079	3168.72	A	3-4	Chipped edge
080	3168.81	C	3	1st C plug had resin

SAMPLE LIST

CLIENT : ESSO AUSTRALIA PTY LTD.

WELL : Marlin A24A

PLUG SIZE: 1.5" Diameter

FILE : PRP-04027

FLUID: 3% KCl brine

SAMPLE NO.	DEPTH (m)	PLUG DESIGNATION	PLUG GRADE	COMMENTS
081	3169.00	V	2-3	
082	3169.04	A	2	
083	3169.08	C	2	
084	3169.34	A	2-3	
085	3169.38	C	3	Chipped edge
086	3169.68	A	2-3	
087	3169.67	C	2	
088	3169.93	A	2	
089	3169.97	C	2-3	SI chipped edge
090	3170.00	V	2	Short plug
091	3170.23	A	2	
092	3170.27	C	2-3	SI chipped edge
093	3170.53	A	2	
094	3170.57	C	2-3	SI chipped edge
095	3170.76	A	2	Depth change due to fracture
096	3170.81	C	2	Depth change due to fracture
097	3171.00	V	2	
098	3171.14	A	2	
099	3171.18	C	2	
100	3171.44	A	2	
101	3171.48	C	2	
102	3171.73	A	2	
103	3171.77	C	2	
104	3172.00	V	2	
105	3172.04	A	2-3	
106	3172.08	C	2-3	SI chipped edge
107	3172.33	A	2	
108	3172.37	C	2	
109	3172.63	A	2	
110	3172.67	C	2	
111	3172.93	A	2	
112	3172.97	C	2	
113	3173.00	V	2	
114	3173.24	A	2	
115	3173.28	C	2	
116	3173.54	A	2	
117	3173.58	C	2	
118	3173.83	A	2	
119	3173.87	C	2	
120	3174.00	V	2	
121	3174.13	A	2-3	
122	3174.18	C	2	

SAMPLE LIST

CLIENT : ESSO AUSTRALIA PTY LTD.

WELL : Marlin A24A

PLUG SIZE: 1.5" Diameter

FILE : PRP-04027

FLUID: 3% KCl brine

SAMPLE NO.	DEPTH (m)	PLUG DESIGNATION	PLUG GRADE	COMMENTS
123	3174.44	A	2	
124	3174.48	C	2	
125	3174.73	A	1-2	
126	3174.78	C	2	
127	3175.00	V	1-2	
128	3175.03	A	2	
129	3175.07	C	2	
130	3175.33	A	2	
131	3175.38	C	2	
132	3175.55	A	2	
133	3175.60	C	5	Resin invasion
134	3175.83	A	3	
135	3175.89	C	2	
136	3176.00	V		No Plug, metre mark in middle of barrel
137	3176.10	A	3	
138	3176.17	C	3	
139	3176.70	A	3	
140	3176.74	C	2-3	
141	3176.93	A	2	
142	3176.97	C	2-3	
143	3177.00	V	3	
144	3177.22	A	2	
145	3177.26	C	2	
146	3177.51	A	2-3	
147	3177.56	C	2	
148	3177.81	A	2-3	
149	3177.86	C	2-3	SI chipped edge
150	3178.00	V	2	
151	3178.04	A	2	
152	3178.08	C	2-3	SI chipped edge
153	3178.33	A	2	
154	3178.37	C	2	
155	3178.63	A	2	
156	3178.67	C	2	
157	3178.93	A	2	
158	3178.97	C	2	
159	3179.00	V	2	
160	3179.19	A	2-3	Depth change due to fracture
161	3179.23	C	2	Depth change due to fracture
162	3179.53	A	2-3	
163	3179.57	C	2-3	
164	3179.83	A	2	

SAMPLE LIST

CLIENT : ESSO AUSTRALIA PTY LTD.

WELL : Marlin A24A

PLUG SIZE: 1.5" Diameter

FILE : PRP-04027

FLUID: 3% KCl brine

SAMPLE NO.	DEPTH (m)	PLUG DESIGNATION	PLUG GRADE	COMMENTS
165	3179.87	C	2	
166	3180.00	V	2-3	
167	3180.14	A	2	
168	3180.18	C	2-3	SI chipped edge
169	3180.39	A	2	Depth change due to fracture
170	3180.44	C	2	Depth change due to fracture
171	3180.74	A	3	Chipped edge
172	3180.82	C	2-3	
173	3181.00	V	2-3	
174	3181.04	A	2	
175	3181.09	C	2	
176	3181.33	A	2	
177	3181.38	C	1-2	
178	3181.63	A		No RCA,hard Sl/Sst
179	3181.67	C		No RCA,hard Sl/Sst
180	3181.93	A		No RCA,hard Sl/Sst
181	3181.97	C		No RCA,hard Sl/Sst
182	3182.00	V	5	Plug failed chips only
183	3182.23	A	1	fine grained, sdy Sl/Sst
184	3182.27	C	2	Fine grained silty Sst, coal lam
185	3182.53	A	1	sls/ss/coal sst lam
186	3182.57	C	3-4	a/a plus shale parting
187	3182.83	A	5	Fract no analysis
188	3182.87	C	3-4	Marg short plug, fractured piece off side of plug
189	3183.00	V	5	Fract plug
190	3183.21	A	5	Sh/ coal lam fract
191	3183.25	C	5	Sh/ coal lam fract
192	3183.52	A	5	coal not trimmed broken up
193	3183.56	C	5	Fract shly coal
194	3183.82	A	5	Fract shly coal not trimmed
195	3183.86	C	5	Fract shly coal not trimmed
196	3184.00	V	5	Fractured no plug obtained
197	3184.06	A	5	Fractured coal ,No plug
198	3184.10	C	5	Fractured coal ,No plug
199	3184.32	A	5	Fractured coal ,No plug
200	3184.36	C	5	Fractured coal ,No plug
201	3184.62	A	3	Fine gr sandy, py lam Fractured
202	3184.66	C	5	Sltly Sh carb fractured
203	3184.93	A	2-3	Fractured lam
204	3184.97	C	5	Sltly Sh carb fractured
205	3185.00	V		No plug
206	3185.23	A	2	Sandy slt/st

SAMPLE LIST

CLIENT : ESSO AUSTRALIA PTY LTD.

WELL : Marlin A24A PLUG SIZE: 1.5" Diameter

FILE : PRP-04027

FLUID: 3% KCl brine

SAMPLE NO.	DEPTH (m)	PLUG DESIGNATION	PLUG GRADE	COMMENTS
207	3185.31	C	2	Sandy slt/st,lam
208	3185.53	A	2	Sandy slt/st,lam
209	3185.57	C	1	Sandy slt/st,lam

SAMPLE LIST

CLIENT : ESSO AUSTRALIA PTY LTD.

WELL : Marlin A24A PLUG SIZE: 1.5" Diameter

FILE : PRP-04027

FLUID: 3% KCl brine

SAMPLE NO.	DEPTH (m)	PLUG DESIGNATION	PLUG GRADE	COMMENTS
001	3162.04	B		
002	3167.11	B		
003	3170.04	B		
004	3173.97	B		
005	3178.12	B		