Fermat-1

WELL COMPLETION REPORT

BASIC DATA

VIC/P46

Otway Basin, Offshore Victoria

Mitsui Exploration and Production Australia Pty Ltd
A.B.N. 49 108 437 529
Level 22
Exchange Plaza
2 The Esplanade
PERTH, W.A. 6000

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June 2009

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SEISMIC LOCATION:	Survey:	OEP 2D
	Line:	OEP02-13
	SP:	87m east of 2115.5

PERMIT:	VIC/P46	
BASIN:	Offshore Otway Basin	
PARTICIPANTS:	Beach Petroleum Ltd (Op.):	66.67%
	Mitsui E&P Aust Pty Ltd	33.33%

SURFACE LOCATION:	Latitude:	38º 11' 47.02879" S
	Longitude:	141º 03' 13.7734" E
	Easting:	504 713.143mE
	Northing:	5 772 392.606mN
	Datum:	GDA94
	Spheroid:	GRS80
	Map Grid:	MGA 94
	Projection:	UTM Zone 54s, CM147

WELL DESIGNATION:	Exploration
STATUS:	Plugged and Abandoned
STRUCTURE TYPE:	Stratigraphic
RIG NAME AND TYPE:	Seadrill West Triton Jack-Up MODU
RIG CONTRACTOR:	Atlas Drilling (S) PTE LTD

TOTAL DEPTH:	(mMD)	(mTVDSS)
Driller:	3585.0	3547.0
Logger:	3586.5	3548.5
ELEVATION:	Datum:	MSL
	RT-ASL (MSL):	38.0m
	WD (MSL):	39.0m
	RT-ML:	77.0m
SPUD DATE:	00:0hrs	14/12/2008
REACHED TD:	14:00hrs	06/01/2009
RIG RELEASED:	10:00hrs	18/01/2009

HOLE SIZES:	Size	Interval (mMD)
	914mm (36")	77.0 - 119.0
	445mm (17 ½")	119.0 - 999.0
	311mm (12 ¼")	999.0 - 2807.0
	216mm (8 ½")	2807.0 – 3585.0
CASING:	Size	Shoe (mMD)
	762x508mm (30x20")	116.0
	340mm (13 3/8")	987.0
	244mm (9 5/8")	2800.3

LWD LOGS

DATE	HOLE SIZE	RUN NUMBER	TOOL / MEASUREMENT	INTERVAL
15-17/12/2008	445mm (17 ½")	1	sonicVISION (GR-DT-DNI)	125.0 - 999.0m
20-26/12/2008	311mm (12 ¼")	2	VISION Resisitivity-sonicVISION (GR-RES-DT-DNI)	999.0 – 2396.0
26-29/12/2008	311mm (12 ¼")	3	VISION Resisitivity-sonicVISION (GR-RES-DT-DNI)	2396.0 – 2807.0
02-07/01/2009	244mm (8 ½")	4	VISION Service-sonicVISION (GR-RES-DENS-NEUT-DT-CAL-DNI)	2807.0 – 3585.0

WIRELINE LOGS

LOG TYPE	SUITE/RUN	INTERVAL mRT	BHT/TIME
HRLA-MSIP-PEX-HNGS-SP	1/1	3579.5 to 2801.5m	109.0 deg C / 18.5hrs
MDT-GR	1/2	3416.5 to 2876.5m	110.0 deg C / 39.9hrs
Checkshot Survey (VSI1)	1/3	3484.0 to 963.0m	N/A
CST-GR	1/4	3495.3 to 2842.0m	N/A

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DRILL STEM TESTING - no drill stem testing was undertaken				
TEST	TEST INTERVAL	FLOW RATE	CHOKE	FWHP

CEMENT PLUGS				
PLUG	INTERVAL	CEMENT TYPE	DRY VOLUME	SLURRY VOLUME
1A	3327 – 3119m	HTB	318 sx	64 bbls / 15.8 ppg
1B	3119 – 2969m	HTB	236 sx	47.5 bbls / 15.8 ppg
1B	2969 – 2835m	HTB	218 sx	44 bbls / 15.8 ppg
2	2835 – 2700m	HTB	165 sx	37 bbls / 15.8 ppg
3	160 – 100m	Class G	183 s	37 bbls / 15.9 ppg

Figure 1: Fermat-1 Location Map

1 OPERATIONS SUMMARY

1.1 Rig Mobilisation and Rig Up

The West Triton Jackup rig came on contract for Fermat-1 at 00:00hrs on 10th December 2008 when the rig was under tow, one nautical mile from Beach Petroleum's Spikey Beach-1 location, the previous well in the West Triton drill campaign. The tow was started with one vessel, Pacific Battler, which was joined by the Pacific Valkyrie after the rig had travelled 60nm. The remainder of the tow was completed with both vessels. The total tow distance of approximately 279nm was completed at an average speed of 5 knots.

The rig arrived at the Fermat-1 location and was soft pinned at 08:30hrs on 12 December 2008, 9.8 metres from the intended location. The rig was jacked up initially to a 2m air gap and preloading operations commenced. While taking on preload the air gap was increased to 2.65m due to increased wave heights. The preload was held for 3 hours and after dumping, the rig was jacked up to an operating air gap of 15m. The total time to move to the Fermat-1 location and rig-up prior to handling the BHA was 3.27 days.

1.2 Fermat-1 Drilling Operations

1.2.1 914mm (36") Hole Section and 762mm (30/20" Conductor)

A 36" BHA was made up and the well was spudded in with a survey of 0.5˚ at 00:00hrs on 14th December 2008. The initial 2.5m of the seabed was found to be very hard and took 1.5hrs to drill through. Once this hard crust had been penetrated drilling operations continued with no further problems. The section was drilled from seabed at 77mMDRT to 119mMDRT (42m interval) in a total of 6hrs. A survey taken at section TD recorded an inclination of 0.5°. At TD the hole was swept with 200bbls of hi-vis mud and displaced to pre-hydrated gel prior to pulling out of the hole and racking back the BHA.

The Conductor Tensioner Unit (CTU) and BOP work platform were installed on the Texas Deck while rigging up to run conductor. The 30" string was run to 116mMDRT and was cemented through drill pipe stabbed into the float shoe with 190bbls of 15.9ppg Class G cement slurry. A survey showed the top of cement to be just below the seabed.

1.2.2 445mm (17 ½") Hole Section and 311mm (13 ⅜") surface casing.

A new 17 ½" BHA was made up and run in hole tagging cement at 115m inside the conductor. New hole was then drilled to 999mMDRT with a Hughes MXL-T00 insert bit using seawater and hi-vis sweeps. While circulating at TD a rapid pressure loss of 700psi was observed and the string was pulled out of hole looking for a washout. Once out of the hole it was confirmed that one jet nozzle was missing along with a sonic shield from the MWD tool.

The 13 ⅜" casing was run in and set with a shoe depth of 987mMDRT. It was cemented with 228bbls of 15.8ppg class G cement, with final displacement pressure indicating top of cement at the planned depth of 500mMDRT. After nippling up the BOPs and diverter, the 13 ⅜" casing was tested against the blind-shear rams to 3700psi.

1.2.3 311mm (12 ¼") Hole Section and 244mm (9 ⅝") Casing

A 12 ¼" BHA, using a junk bit and boot basket, were run in as a precaution. The float collar was tagged at 974mMDRT and the wellbore was circulated to 9.3ppg KCl/Polymer mud while drilling the shoetrack and new hole to 1002mMDRT where a Leak Off Test was conducted to 15ppg EMW. The 12 ¼" hole was then drilled to 1027mMDRT while working the junk sub before the assembly was pulled out.

A new 12 ¼" Reed PDC bit was run back in on a BHA with resistivity, sonic and density-neutron LWD tools, and new hole drilled from 1027mMDRT to 2396mMDRT in 110hrs. At this point the bit was pulled due to poor ROP.

A new 12 ¼" Reed PDC bit was run in the hole on a similar BHA with the inclusion of a downhole motor too correct hole angle. This drilled to section TD at 2807mMDRT. Some minor cavings and increased background gas were observed towards the end of this section and so the mud weight was gradually increased to 10ppg while drilling.

9 ⅝" casing was run and cemented at 2800.3mMDRT with 230bbls of 15.8ppg Class G cement slurry, with an expected top of cement at 1700mMDRT. The BOPs were tested, and the 9 ⅝" casing was pressure tested against the blind shear rams to 6,000psi.

1.2.4 216mm (8 ½") Hole Section.

An 8 ½" Security PDC bit and BHA comprising resistivity, sonic and density-neutron LWD sensors was run in the hole and tagged cement at 2753mMDRT, 22m above the float collar. The cement plugs, cement and float equipment were drilled out and the wellbore circulated to 10.3ppg KCl/Polymer mud while drilling the shoe track. A Formation Integrity Test was conducted to 16ppg EMW after drilling to 2810m.

The 8 ½" hole was drilled trouble-free to TD at 3585mMDRT. Drilling breaks were observed at 3005mMDRT, 3019mMDRT and 3056mMDRT accompanied with gas shows and small amounts of cavings, which were controlled by raising the mud weight to 10.5ppg. Hole inclination built up gradually to 7.6 degrees (projected at TD) while drilling this section.

After pulling out of hole the following Schlumberger wireline logs were run:

Run #1: HRLA-PEX-MSIP-HNGS-SP
Run #2: MDT-MS-MS-LFA-PO
Log #3: VSI 1 (Checkshot Survey)
Log #4: CST

1.3 Plug and Abandon

The well was plugged and abandoned as per the well schematic in Figure 3.

A mule shoe was made up to 3.5” and 5.5” drill pipe and run in hole to 3327mMDRT to set the first abandonment plug from 3327-3127mMDRT using 64bbls of 15.8ppg HTB cement. Excess drill-pipe was pulled out of hole and laid down while waiting on cement before tagging top of cement at 3119mMDRT.

The second plug (Plug #1b) was placed in two parts from 3119m-2835mMDRT using 47bbls and then 44bbls of 15.8ppg HTB cement. Excess drill-pipe was laid down while waiting on cement and top of cement was tagged at 2835mMDRT.

Plug #2 was then set across the 9 ⅝” shoe from 2835m-2700mMDRT using 37bbls of 15.8ppg HTB cement. Excess drill-pipe was laid down while waiting on cement, and Plug #2 was pressure tested to 2900psi.

The 9 ⅝” casing was cut at 110mMDRT and the diverter and BOPs rigged down. The 13⅜” casing was cut at 105mMDRT and recovered to surface along with the Dril-Quip 18 ¾” wellhead.

The final abandonment plug (Plug #3) was set from 160-100mMDRT with 37bbls of 15.9ppg Class G cement slurry mixed in sea water. The 30” conductor was cut at 79mMD on the second attempt and recovered.

The rig was then secured for rig move, however, 2.15 days were subsequently spent waiting on weather due to high winds. The hull entered the water at 07:30hrs on 18th January 2009 for water tight integrity tests and the rig was released at 10:00hrs when 1 nautical mile from location.

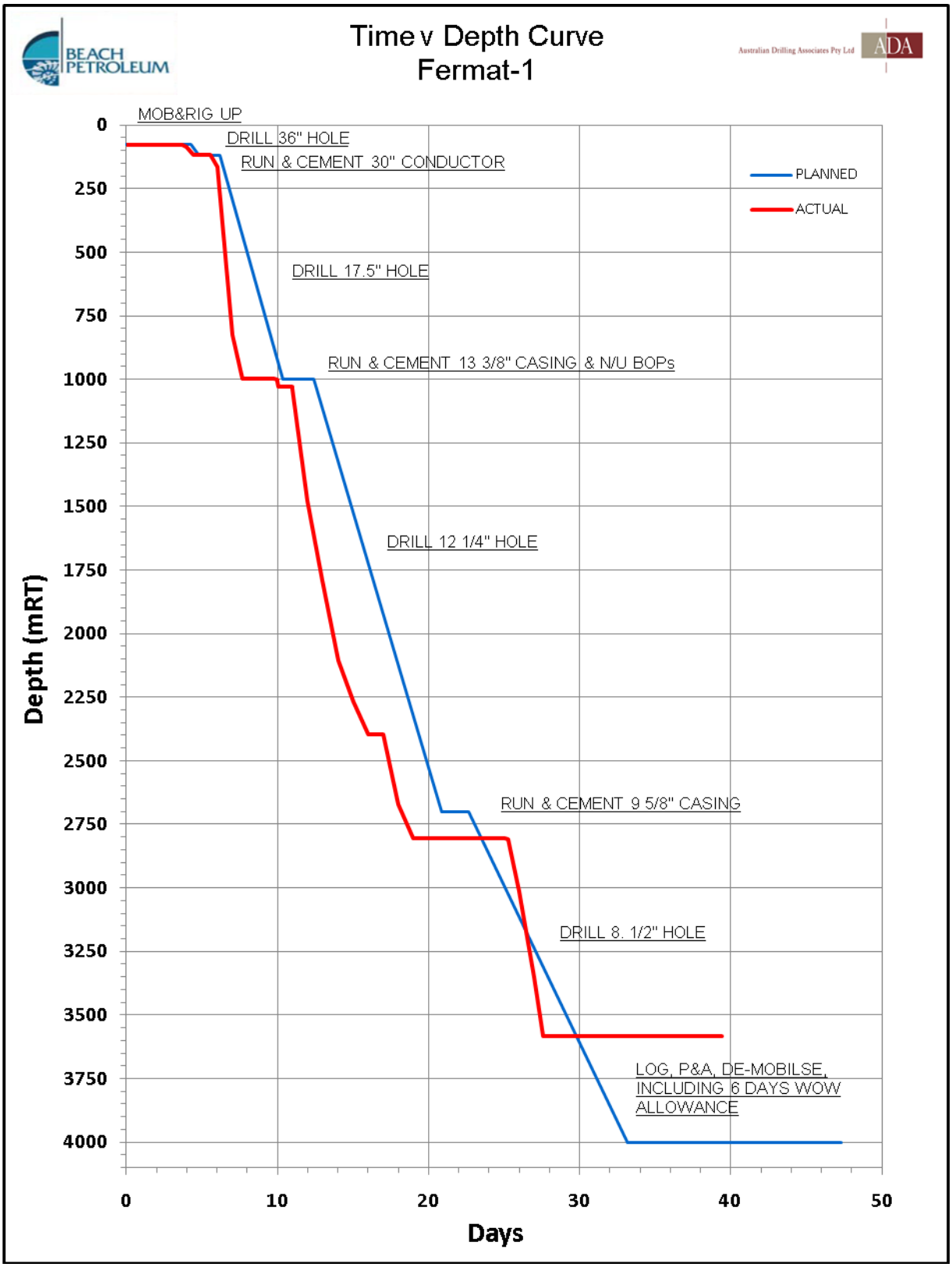


Figure 2: Fermat-1 Drilling Time/Depth Curve

2 DRILLING AND COMPLETION DATA

The drilling and engineering end of well report, prepared by Australian Drilling Associates Pty Ltd (ADA) on behalf of Beach Petroleum Ltd is contained in Appendix 1. Copies of the Daily Drilling Reports are contained in Appendix 2. Documentation of the rig move and the final well location survey prepared by Fugro is contained in Appendix 1, Attachment 9. A schematic diagram of the well bore after plug and abandonment is shown in Figure 3.

2.1 Hole Sizes and Depths

Hole sizes and the depths for to which they were drilled in Fermat-1 were as follows:

914mm / 36”	77.0	to	119.0mMDRT
445mm / 17 ½”	119.0	to	999.0mMDRT
311mm / 12 ¼”	999.0	to	2807.0mMDRT
216mm / 8 ½”	2807.0	to	3585.0mMDRT

2.2 Casing Data – Fermat-1

TYPE	Size	Weight	Grade	Thread	Shoe Depth
Conductor	30”	310ppf	X-52	D60/MT	106.4mMD
	20”	169ppf	X-56	E.R.W	116.0mMD
Surface Casing	13 3/8”	68ppf	NT80HE	BTC	987.1mMD
Intermediate casing	9 5/8”	53.5ppf	P110	Vam Top	2800.3mMD

A full casing report for Fermat-1 is contained in Appendix 1, Attachment 4.

2.3 Cementing Data

Cementing operations on Fermat-1 are detailed in the cementing report contained in Appendix 1, Attachment 5.

OPERATOR:	FIELD / WELL:	WELL SKETCH:
BEACH PETROLEUM	**FERMAT-1**	**AS ABANDONED**

DRILLING RIG: (RT 77m ABOVE ML)	COMPLETION RIG: n/a	PERMIT:	API NUMBER:
WEST TRITON (JACK UP)	**WEST TRITON** (JACK UP)	**Vic/P46**	

DIRECTIONAL DATA

KOP:	NA	deg @	NA	MD
MAX DEV:	NA	deg @	NA	MD
DLEG SEV:	NA	deg @	NA	MD
DEV @ PERFS:	NA	deg @	NA	MD
RET to VERT:	NA	deg @	NA	MD

DRILLING / COMPLETION FLUID

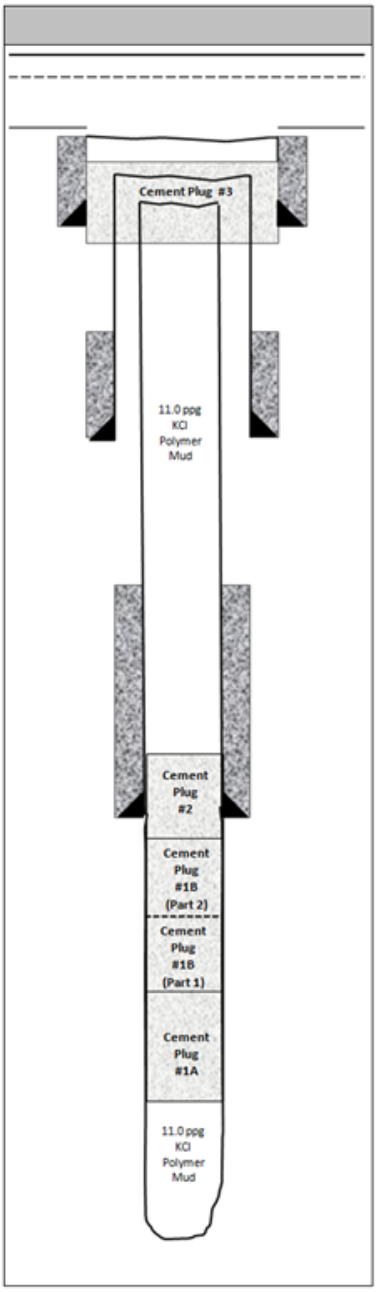
DRILLING FLUID:	11.00 ppg KCl Polymer Mud
DRILLING FLUID:	
COMPLETION FLUID:	
COMPLETION FLUID:	
PACKER FLUID:	

TUBULAR DATA

Tubulars	OD	ID	Weight	Grade	Thread	TVD	MD	TOC
CONDUCTOR	30.000	-	310.00	X52	D60/MT	116.0	116.0	77m
SURFACE	13.375	-	68.00	NT80-HE	BTC	987.0	987.0	500m
PRODUCTION	9.625	-	53.50	P110	Vam Top	2,800.3	2,800.3	1,700
PRODUCTION								
PRODUCTION								
PROD TIEBACK								
PROD TIEBACK								
TUBING								
TUBING								
TUBING								
TUBING								

WELLHEAD DATA

TYPE	DQ SU-10C		
WP	10000psi		
TREE	CAP	FLANGE:	
		THREAD:	
TUBING HANGER:			
Upper Plug OD			
Lower Plug OD			
ELEVATIONS:		WTR DEPTH:	39.0
RT-AMSL:	38.0	OTHER:	
RT-ML:	77.0	RT-ML:	77.0



EQUIPMENT DESCRIPTION	ID	OD	DEPTH TVD - BRT	DEPTH MD-BRT
RT			0.0	0.0
SEA LEVEL			38.0	38.0
MUDLINE Estimated TOC @ 77mTVDRT			77.0	77.0
30in Conductor cut at 79m			79.0	79.0
13.375in Surface casing cut at 105m			105.0	105.0
9.625in Intermediate casing cut at 110m			110.0	110.0
CEMENT PLUG #3 (60m) 100m TO 160m.				
30"x20" CONDCUTOR SHOE			116.0	116.0
36" CONDCUTOR HOLE			119.0	119.0
Estimated TOC @ 500mTVDRT			500.0	500.0
13.375" CASING SHOE			987.0	987.0
17.5" SURFACE HOLE			999.0	999.0
CEMENT PLUG #2 (135m) 2700 TO 2835m. (Tested to 2900 psi)				
9.625" CASING SHOE			2797.7	2800.3
12.25" INTERMEDIATE HOLE			2804.4	2807.0
CEMENT PLUG #1B Part 2 (134m) 2835m TO 2969m (Tagged)				
CEMENT PLUG #1B Part 1 (150m) 2969m TO 3119m				
CEMENT PLUG #1A (208m) 3119m TO 3327m (Tagged)				
8.5" PRODUCTION HOLE TD			3580.4	3585.0
COMMENTS:	PLUG BACK DEPTH:			
	TOTAL WELL DEPTH:		3580.4	3585.0
DRAWING NOT TO SCALE	**PREPARED BY:** M. Moussa		**DATE:** 30/01/2009	Rev 0

Figure 3: Fermat-1 P&A Diagram

2.4 Surveys

Directional surveying of the well path was conducted by Schlumberger Drilling and Measurements using Measurement While Drilling (MWD) equipment. The final Geodetic Survey is listed on pages 13 and 14. A full report is contained in Appendix 1, Attachment 7.

2.5 Bit Record

The bit and BHA record for Fermat-1 is included in Appendix 1, Attachment 2.

2.6 Mud Data

Baroid Fluid Services provided the drilling fluids and management of the mud program for Fermat-1. A full report of drilling fluids, physical mud properties and chemicals used in drilling the well are provided in Appendix 1, Attachment 3.

2.7 Testing

DST

No DST's were carried out in Fermat-1.

MDT

The Modular Dynamics Formation Tester (Schlumberger) was run on wireline over the interval 2876.5m to 3416.5m for formation pressure readings. The tabulated pressure test results are contained in Appendix 3.

Schlumberger

Fermat - 1 MWD Surveys DMAG Survey Report

Report Date:	January 9, 2009	Survey / DLS Computation Method:	Minimum Curvature / Lubinski
Client:	Beach Petroleum	Vertical Section Azimuth:	190.800*
Field:	Beach - Fermat-1	Vertical Section Origin:	N 0.000 m, E 0.000 m
Structure / Slot:	Fermat-1 / Slot 1	TVD Reference Datum:	RKB
Well:	Fermat-1	TVD Reference Elevation:	38.0 m relative to MSL
Borehole:	Fermat-1	Sea Bed / Ground Level Elevation:	-39.000 m relative to MSL
UWI/API#:		Magnetic Declination:	9.866*
Survey Name / Date:	Fermat - 1 MWD Surveys DMAG / December 23, 2008	Total Field Strength:	60719.112 nT
Tort / AHD / DDI / ERD ratio:	43.347* / 158.05 m / 4.352 / 0.044	Magnetic Dip:	-69.623*
Grid Coordinate System:	GDA94/MGA94 Zone 54	Declination Date:	December 28, 2008
Location Lat/Long:	S 38 11 47.029, E 141 3 13.773	Magnetic Declination Model:	BGGM 2008
Location Grid N/E Y/X:	N 5772392.606 m, E 504713.143 m	North Reference:	Grid North
Grid Convergence Angle:	-0.03328376*	Total Corr Mag North -> Grid North:	+9.901*
Grid Scale Factor:	0.99960027	Local Coordinates Referenced To:	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	DLS (deg/30 m)	Northing (m)	Easting (m)	Latitude	Longitude
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5772392.61	504713.14	S 38 11 47.029	E 141 3 13.773
	167.75	1.24	1.78	167.74	-1.79	1.81	0.06	0.22	5772394.42	504713.20	S 38 11 46.970	E 141 3 13.776
	197.16	0.28	58.77	197.14	-2.16	2.17	0.13	1.13	5772394.77	504713.27	S 38 11 46.958	E 141 3 13.779
	256.53	0.60	153.30	256.51	-2.01	1.97	0.39	0.34	5772394.57	504713.53	S 38 11 46.965	E 141 3 13.789
	286.11	2.77	188.85	286.08	-1.17	1.12	0.35	2.34	5772393.73	504713.49	S 38 11 46.992	E 141 3 13.788
	315.55	1.66	227.88	315.50	-0.12	0.13	-0.07	1.85	5772392.74	504713.07	S 38 11 47.024	E 141 3 13.770
	345.27	0.27	15.10	345.21	0.16	-0.09	-0.38	1.91	5772392.52	504712.77	S 38 11 47.032	E 141 3 13.758
	374.62	0.25	25.51	374.56	0.03	0.04	-0.33	0.05	5772392.64	504712.81	S 38 11 47.028	E 141 3 13.760
	404.16	1.68	211.90	404.10	0.42	-0.32	-0.56	2.16	5772392.29	504712.58	S 38 11 47.039	E 141 3 13.750
	463.95	0.32	269.03	463.88	1.36	-1.15	-1.24	0.87	5772391.45	504711.90	S 38 11 47.066	E 141 3 13.722
	493.39	0.43	249.60	493.32	1.44	-1.19	-1.43	0.17	5772391.41	504711.71	S 38 11 47.067	E 141 3 13.715
	523.07	0.44	347.74	523.00	1.39	-1.12	-1.56	0.66	5772391.49	504711.59	S 38 11 47.065	E 141 3 13.709
	552.74	0.22	270.06	552.67	1.30	-1.01	-1.64	0.45	5772391.60	504711.50	S 38 11 47.061	E 141 3 13.706
	582.42	0.09	59.69	582.35	1.29	-1.00	-1.68	0.30	5772391.61	504711.47	S 38 11 47.061	E 141 3 13.705
	611.99	0.51	339.54	611.92	1.16	-0.86	-1.70	0.51	5772391.75	504711.44	S 38 11 47.057	E 141 3 13.703
	641.40	0.19	327.69	641.32	1.02	-0.70	-1.77	0.33	5772391.91	504711.37	S 38 11 47.051	E 141 3 13.701
	670.88	0.49	288.55	670.80	0.96	-0.62	-1.92	0.37	5772391.99	504711.22	S 38 11 47.049	E 141 3 13.695
	700.49	0.33	247.43	700.41	0.99	-0.61	-2.12	0.33	5772392.00	504711.03	S 38 11 47.048	E 141 3 13.686
	729.55	0.46	275.90	729.47	1.05	-0.63	-2.31	0.24	5772391.98	504710.83	S 38 11 47.049	E 141 3 13.678
	759.18	0.36	241.87	759.10	1.12	-0.66	-2.51	0.26	5772391.95	504710.63	S 38 11 47.050	E 141 3 13.670
	788.76	0.65	163.00	788.68	1.33	-0.86	-2.54	0.69	5772391.74	504710.60	S 38 11 47.057	E 141 3 13.669
	818.32	0.12	122.27	818.24	1.49	-1.04	-2.47	0.57	5772391.57	504710.67	S 38 11 47.063	E 141 3 13.672
	848.13	0.24	67.63	848.05	1.46	-1.03	-2.39	0.20	5772391.57	504710.76	S 38 11 47.062	E 141 3 13.675
	877.69	0.50	112.18	877.61	1.45	-1.06	-2.21	0.38	5772391.55	504710.93	S 38 11 47.063	E 141 3 13.683
	906.92	0.33	214.11	906.84	1.56	-1.18	-2.14	0.67	5772391.43	504711.01	S 38 11 47.067	E 141 3 13.686
	936.44	1.52	212.18	936.35	2.00	-1.58	-2.39	1.21	5772391.03	504710.75	S 38 11 47.080	E 141 3 13.675
	966.55	2.74	216.55	966.44	3.02	-2.49	-3.04	1.23	5772390.11	504710.11	S 38 11 47.110	E 141 3 13.649
	990.90	2.28	226.38	990.77	3.94	-3.30	-3.73	0.77	5772389.31	504709.41	S 38 11 47.136	E 141 3 13.620
12.25 In Section BHA4	1023.76	2.63	224.84	1023.60	5.09	-4.28	-4.74	0.33	5772388.33	504708.41	S 38 11 47.168	E 141 3 13.579
	1053.62	2.63	224.67	1053.43	6.23	-5.26	-5.70	0.01	5772387.35	504707.44	S 38 11 47.199	E 141 3 13.539
	1083.09	2.60	225.86	1082.87	7.34	-6.20	-6.66	0.06	5772386.41	504706.49	S 38 11 47.230	E 141 3 13.500
	1112.27	2.75	224.69	1112.02	8.46	-7.16	-7.62	0.16	5772385.45	504705.52	S 38 11 47.261	E 141 3 13.460
	1141.71	2.61	223.95	1141.42	9.61	-8.14	-8.59	0.15	5772384.46	504704.56	S 38 11 47.293	E 141 3 13.421
	1171.39	2.66	223.44	1171.07	10.76	-9.13	-9.53	0.06	5772383.48	504703.62	S 38 11 47.325	E 141 3 13.382
	1200.78	2.64	223.80	1200.43	11.90	-10.12	-10.47	0.03	5772382.49	504702.68	S 38 11 47.357	E 141 3 13.343
	1230.79	2.72	225.15	1230.41	13.06	-11.12	-11.45	0.10	5772381.49	504701.70	S 38 11 47.389	E 141 3 13.303
	1288.88	2.77	225.56	1288.43	15.36	-13.07	-13.43	0.03	5772379.54	504699.72	S 38 11 47.453	E 141 3 13.222
	1318.86	2.69	226.89	1318.38	16.52	-14.06	-14.46	0.10	5772378.55	504698.69	S 38 11 47.485	E 141 3 13.179
	1407.48	2.91	229.04	1406.89	19.97	-16.95	-17.68	0.08	5772375.66	504695.47	S 38 11 47.579	E 141 3 13.047
	1436.37	2.94	228.54	1435.74	21.13	-17.93	-18.79	0.04	5772374.69	504694.36	S 38 11 47.610	E 141 3 13.002
	1465.90	3.02	227.97	1465.23	22.35	-18.95	-19.93	0.09	5772373.67	504693.22	S 38 11 47.644	E 141 3 12.955
	1495.44	3.02	228.27	1494.73	23.58	-19.99	-21.09	0.02	5772372.63	504692.06	S 38 11 47.677	E 141 3 12.907
	1525.13	3.06	228.31	1524.38	24.83	-21.03	-22.27	0.04	5772371.58	504690.89	S 38 11 47.711	E 141 3 12.859
	1554.71	3.12	227.55	1553.92	26.11	-22.10	-23.45	0.07	5772370.51	504689.70	S 38 11 47.746	E 141 3 12.810
	1584.40	3.16	227.33	1583.56	27.41	-23.20	-24.65	0.04	5772369.41	504688.51	S 38 11 47.782	E 141 3 12.761
	1614.18	3.15	227.26	1613.30	28.73	-24.31	-25.85	0.01	5772368.30	504687.30	S 38 11 47.818	E 141 3 12.712
	1643.45	3.22	227.15	1642.52	30.04	-25.42	-27.04	0.07	5772367.20	504686.11	S 38 11 47.854	E 141 3 12.663
	1732.53	3.23	229.06	1731.46	34.02	-28.77	-30.77	0.04	5772363.85	504682.38	S 38 11 47.962	E 141 3 12.509
	1761.71	3.31	229.32	1760.59	35.33	-29.85	-32.03	0.08	5772362.76	504681.12	S 38 11 47.998	E 141 3 12.458
	1791.33	3.27	229.40	1790.17	36.66	-30.96	-33.32	0.04	5772361.66	504679.83	S 38 11 48.033	E 141 3 12.405

Fermat-1 Final Geodetic Survey Listing (continued next page).

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	DLS (deg/30 m)	Northing (m)	Easting (m)	Latitude	Longitude
	1820.98	3.35	229.44	1819.77	37.99	-32.07	-34.62	0.08	5772360.54	504678.53	S 38 11 48.070	E 141 3 12.351
	1880.19	3.46	227.97	1878.87	40.77	-34.40	-37.27	0.07	5772358.22	504675.89	S 38 11 48.145	E 141 3 12.243
	1939.47	3.51	227.37	1938.04	43.65	-36.82	-39.93	0.03	5772355.80	504673.23	S 38 11 48.224	E 141 3 12.133
	2028.16	3.39	229.51	2026.57	47.88	-40.36	-43.92	0.06	5772352.26	504669.24	S 38 11 48.339	E 141 3 11.969
	2057.35	3.37	231.70	2055.71	49.20	-41.46	-45.25	0.13	5772351.17	504667.91	S 38 11 48.374	E 141 3 11.915
	2086.92	3.34	227.82	2085.23	50.54	-42.57	-46.57	0.23	5772350.05	504666.59	S 38 11 48.410	E 141 3 11.860
	2116.75	3.44	227.04	2115.01	51.96	-43.77	-47.87	0.11	5772348.86	504665.29	S 38 11 48.449	E 141 3 11.807
	2146.40	3.29	227.47	2144.61	53.36	-44.95	-49.15	0.15	5772347.68	504664.01	S 38 11 48.487	E 141 3 11.755
	2175.52	3.42	228.06	2173.68	54.72	-46.09	-50.41	0.14	5772346.53	504662.75	S 38 11 48.525	E 141 3 11.703
	2235.00	3.46	227.38	2233.05	57.58	-48.49	-53.05	0.03	5772344.13	504660.11	S 38 11 48.602	E 141 3 11.594
	2264.44	3.46	226.56	2262.44	59.01	-49.71	-54.35	0.05	5772342.92	504658.82	S 38 11 48.642	E 141 3 11.541
	2323.60	3.26	226.76	2321.49	61.82	-52.09	-56.87	0.10	5772340.54	504656.29	S 38 11 48.719	E 141 3 11.437
	2382.70	3.36	228.47	2380.50	64.55	-54.39	-59.39	0.07	5772338.24	504653.78	S 38 11 48.794	E 141 3 11.334
BHA 5 - from 2396m	2412.78	2.64	231.24	2410.53	65.78	-55.40	-60.59	0.73	5772337.22	504652.58	S 38 11 48.827	E 141 3 11.285
Motor correction	2441.90	1.53	213.40	2439.63	66.65	-56.15	-61.33	1.31	5772336.48	504651.84	S 38 11 48.851	E 141 3 11.254
	2471.60	0.60	128.24	2469.33	67.08	-56.58	-61.42	1.61	5772336.05	504651.74	S 38 11 48.865	E 141 3 11.250
	2500.84	1.41	69.21	2498.57	66.97	-56.54	-60.97	1.25	5772336.09	504652.20	S 38 11 48.864	E 141 3 11.269
	2530.68	2.34	71.20	2528.39	66.47	-56.22	-60.05	0.94	5772336.41	504653.12	S 38 11 48.853	E 141 3 11.307
	2559.85	2.34	72.69	2557.54	65.90	-55.85	-58.92	0.06	5772336.78	504654.25	S 38 11 48.841	E 141 3 11.353
	2589.92	2.25	73.44	2587.58	65.34	-55.50	-57.76	0.09	5772337.13	504655.40	S 38 11 48.830	E 141 3 11.401
	2648.85	2.04	82.16	2646.47	64.47	-55.02	-55.62	0.20	5772337.61	504657.55	S 38 11 48.814	E 141 3 11.489
	2678.97	2.05	86.30	2676.57	64.16	-54.91	-54.55	0.15	5772337.71	504658.62	S 38 11 48.811	E 141 3 11.533
	2708.38	2.63	86.65	2705.96	63.87	-54.84	-53.35	0.59	5772337.79	504659.82	S 38 11 48.808	E 141 3 11.582
	2737.95	2.75	86.68	2735.49	63.53	-54.76	-51.96	0.12	5772337.87	504661.20	S 38 11 48.806	E 141 3 11.639
	2767.46	3.28	73.47	2764.96	62.97	-54.48	-50.45	0.88	5772338.15	504662.72	S 38 11 48.797	E 141 3 11.701
Motor run TD at 2807m	2783.95	3.22	72.34	2781.43	62.53	-54.20	-49.55	0.16	5772338.42	504663.61	S 38 11 48.788	E 141 3 11.738
8.5 In Run	2816.25	3.18	78.94	2813.68	61.76	-53.76	-47.81	0.34	5772338.87	504665.35	S 38 11 48.773	E 141 3 11.810
	2845.87	3.21	82.42	2843.25	61.20	-53.49	-46.18	0.20	5772339.14	504666.98	S 38 11 48.764	E 141 3 11.877
	2875.23	3.12	85.48	2872.57	60.73	-53.32	-44.57	0.20	5772339.31	504668.59	S 38 11 48.759	E 141 3 11.943
	2904.72	3.04	88.56	2902.01	60.35	-53.24	-42.99	0.19	5772339.39	504670.17	S 38 11 48.756	E 141 3 12.008
	2934.24	2.89	94.43	2931.49	60.10	-53.27	-41.46	0.34	5772339.35	504671.70	S 38 11 48.757	E 141 3 12.071
	2963.69	2.77	103.77	2960.91	60.05	-53.50	-40.03	0.48	5772339.13	504673.13	S 38 11 48.765	E 141 3 12.129
	2992.79	2.65	116.56	2989.98	60.27	-53.97	-38.75	0.63	5772338.66	504674.41	S 38 11 48.780	E 141 3 12.182
	3022.28	2.80	118.01	3019.43	60.67	-54.61	-37.50	0.17	5772338.02	504675.66	S 38 11 48.801	E 141 3 12.233
	3051.99	2.87	121.90	3049.11	61.15	-55.35	-36.23	0.21	5772337.28	504676.93	S 38 11 48.824	E 141 3 12.286
	3081.57	2.92	130.18	3078.65	61.79	-56.22	-35.03	0.43	5772336.40	504678.13	S 38 11 48.853	E 141 3 12.335
	3111.25	3.10	139.57	3108.29	62.66	-57.32	-33.93	0.53	5772335.31	504679.23	S 38 11 48.888	E 141 3 12.380
	3140.79	3.39	147.97	3137.78	63.81	-58.67	-32.95	0.56	5772333.96	504680.21	S 38 11 48.932	E 141 3 12.421
	3170.28	3.47	152.03	3167.22	65.14	-60.20	-32.07	0.26	5772332.43	504681.09	S 38 11 48.982	E 141 3 12.457
	3199.75	3.55	146.04	3196.63	66.48	-61.74	-31.14	0.36	5772330.89	504682.02	S 38 11 49.032	E 141 3 12.495
	3229.40	3.69	145.49	3226.22	67.81	-63.29	-30.08	0.15	5772329.34	504683.07	S 38 11 49.082	E 141 3 12.539
	3259.28	3.79	146.43	3256.04	69.19	-64.91	-28.99	0.12	5772327.73	504684.16	S 38 11 49.134	E 141 3 12.583
	3288.90	3.91	148.34	3285.59	70.63	-66.58	-27.92	0.16	5772326.05	504685.23	S 38 11 49.189	E 141 3 12.627
	3318.10	4.02	150.54	3314.72	72.15	-68.32	-26.90	0.19	5772324.31	504686.26	S 38 11 49.245	E 141 3 12.670
	3347.40	4.21	152.14	3343.95	73.77	-70.16	-25.89	0.23	5772322.47	504687.26	S 38 11 49.305	E 141 3 12.711
	3376.97	4.39	156.43	3373.43	75.55	-72.16	-24.93	0.37	5772320.47	504688.22	S 38 11 49.370	E 141 3 12.751
	3406.76	4.66	160.95	3403.13	77.54	-74.35	-24.08	0.45	5772318.29	504689.07	S 38 11 49.441	E 141 3 12.786
	3436.14	5.16	162.03	3432.40	79.74	-76.73	-23.28	0.52	5772315.90	504689.87	S 38 11 49.518	E 141 3 12.818
	3465.57	5.58	159.59	3461.70	82.12	-79.33	-22.37	0.49	5772313.30	504690.78	S 38 11 49.602	E 141 3 12.856
	3495.57	6.02	157.91	3491.55	84.69	-82.16	-21.27	0.47	5772310.48	504691.88	S 38 11 49.694	E 141 3 12.901
	3525.24	6.42	158.39	3521.05	87.40	-85.14	-20.08	0.41	5772307.50	504693.07	S 38 11 49.790	E 141 3 12.950
	3555.17	6.99	159.59	3550.77	90.37	-88.41	-18.83	0.59	5772304.24	504694.32	S 38 11 49.896	E 141 3 13.002
	3569.38	7.28	160.29	3564.87	91.88	-90.06	-18.22	0.64	5772302.58	504694.93	S 38 11 49.950	E 141 3 13.027
Well TD	3585.00	7.60	161.03	3580.36	93.63	-91.97	-17.55	0.64	5772300.67	504695.60	S 38 11 50.012	E 141 3 13.054

Survey Type: Definitive Survey

Survey Error Model: SLB ISCWSA version 24 *** 2-D 95.00% Confidence 2.4477 sigma

Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	77.00	Act-Stns	SLB_MWD-STD-Depth Only	Fermat-1 -> Fermat - 1 MWD Surveys DMAG
77.00	2382.70	Act-Stns	SLB_MWD-STD	Fermat-1 -> Fermat - 1 MWD Surveys DMAG
2382.70	2783.95	Act-Stns	SLB_MWD+DMAG	Fermat-1 -> Fermat - 1 MWD Surveys DMAG
2783.95	3569.38	Act-Stns	SLB_MWD-STD	Fermat-1 -> Fermat - 1 MWD Surveys DMAG
3569.38	3585.00	Act-Stns	SLB_BLIND+TREND	Fermat-1 -> Fermat - 1 MWD Surveys DMAG

Fermat-1 Final Geodetic Survey Listing (continued).

3 FORMATION EVALUATION

3.1 Mudlogging

3.1.1 Mudlogging

Baker Hughes Inteq Mudlogging provided formation evaluation and monitoring of full drilling parameters from spud. Full mudlogging services, including cuttings collection and gas detection were provided from first returns to total depth using a high speed gas chromatograph system. The mudlog, gas log, drill log and pressure log recording lithology, penetration rate, mud gas, drilling and other data were prepared and are contained in Enclosure 1, 2, 3 and 4 of this report. The BHI Inteq Final Well Report is contained in Appendix 4.

3.1.2 Ditch Cutting Samples

Cuttings were collected and described from 999m (first returns) to TD at 3585.0m. The sampling intervals are described in Appendix 4, Section 3.1. The ditch cuttings sample intervals collected are tabulated below:

Depth (mMDRT)	Sample Interval
999.0 – 1100.0	5m
1100.0 – 1750.0	10m
1750.0 – 1950.0	5m
1950.0 – 2800.0	10m
2800.0 – 2807.0	7m
2807.0 – 2810.0	3m
2810.0 – 3585.0	5m

The wellsite daily geological reports are provided in Appendix 5 and Geologists' cuttings sample descriptions are contained in Appendix 6.

3.1.3 Hydrocarbon Indications

Fermat-1 was drilled with seawater and high viscosity Bentonite sweeps in the 36" and 17 ½"" hole sections with no returns. The 12 ¼" and 8 ½" hole sections were drilled with a KCl / Polymer mud system. Gas was monitored from first returns at 999.0mMD and significant peaks and breakdowns are recorded in Appendix 4, Section 3.1.4 and on the Mudlog and Gas Ratio Logs (Enclosures 1 and 2).

3.2 Coring

3.2.1 Coring

No conventional cores were taken in Fermat-1.

3.2.2 Sidewall Cores

One wireline logging run of percussion sidewall cores (CST's) was acquired in the 8 ½" hole as part of the TD logging program. Of 30 bullets fired, 27 cores were recovered, with 1 lost and 2 bullets empty. Wellsite descriptions are contained in Appendix 7.

3.3 MWD/LWD Logging

Real-time and recorded MWD /LWD data acquisition was provided by Schlumberger Drilling and Measurements in the 17 ½", 12 ¼" and 8 ½" hole sections of Fermat-1. Run summaries are tabulated below:

Run	Hole Size (in)	MWD/LWD Services	Start Depth (m)	Stop Depth (m)	Distance (m)	Start Date	Stop Date
1	17 ½"	sonicVISION	125.0	999.0	874.0	15/12/08	17/12/08
2	12 ¼"	VISION Resisitivity-sonicVISION	999.0	2396.0	1397.0	20/12/08	26/12/08
3	12 ¼"	VISION Resisitivity-sonicVISION	2396.0	2807.0	411.0	26/12/08	29/12/08
4	8 ½"	VISION Service-sonicVISION	2807.0	3585.0	778.0	02/01/09	07/01/09

The Schlumberger D&M End of Well Report is contained in Appendix 1, Attachment 7 of this report.

3.4 Wireline Logging

Schlumberger Wireline acquired open hole logging data in the 8 ½" hole section in one TD logging suite consisting of four (4) logging runs. Details of each run are summarised in the following table:

Log Tool String	Suite / Run	Interval mRT	Comments
HRLA-MSIP-PEX-HNGS-SP	1/1	3579.5 to 2801.5m	Logged open hole only at 900ft/hr.
MDT-GR	1/2	3416.5 to 2876.5m	21 pressures seats attempted, 15 valid, 2 samples
Checkshot Survey (VSI1)	1/3	3484.0 to 963.0m	38 stations recorded
CST-GR	1/4	3495.3 to 2842.0m	Shot 30, lost 1, 2 empty. (Recovery = 90%)

The wellsite logging diary is contained in Appendix 8.

3.5 Temperature Surveys

Wireline logs recorded the following maximum temperatures:

Logging Tool String	Temp (Deg C)	Temp (Deg C)	Temp (Deg C)	Depth (mMD)	Time After Last Circulation (Hours)
HRLA-MSIP-PEX-HNGS-SP	109	109	109	3585.0	18.5
MDT-GR	110	110	110	3416.5	39.9

Given that the MDT-GR bottom hole temperature was recorded 40 hours after 'last' circulation, at a depth very near to total depth, and that the measured temperature is very similar to the other temperature measured at total depth of the well, it can be assumed that the True Formation Bottom Hole Temperature approximates 110 degrees Celsius.

3.6 Velocity Survey

A zero offset Checkshot survey using a rig source was carried out by Schlumberger in Fermat-1 as part of the 8 ½" hole TD logging program. Check-Shots were acquired with variable receiver spacing; approximately 50m below 2790 m MD DF and 100m above. The data was acquired with a single shuttle VSI tool and with a rig sourced two-gun clustered 150 cu inch G-Gun Airgun setup suspended from a rig crane.

A QC report is contained in Appendix 9.

4 POST WELL ANALYSIS (BASIC DATA)

4.1 MDT Sampling and Analyses

Gas composition analyses were carried out on MDT samples recovered from the TD wireline operation in Fermat-1. Four (4) MPSR sample chambers were shipped directly to Petrolab in Adelaide for analyses and were transferred into Petrolab cylinders. Compositional analyses were carried out and the results of this work are contained in Appendix 10.

4.2 Palynology Data

A total of 15 sidewall cores samples were studied for palynology yields by Alan Partridge, Biostrata Pty Ltd. The Basic Data report is presented in Appendix 11 of this report.

4.3 Geochemical Analysis

Geochemical analyses (Gas Chromatogram and Mass Spectrometry) were carried out on extracts from cuttings samples from the interval 3060-3065m (Flaxman Formation) by Geotechnical Services Pty Ltd. Tabulated results are contained in Appendix 12 of this report.

The extract yield from the cuttings proved to be low, the sample obtained containing only 282ppm of extractable organics. The whole extract graphic shows the sample contains a full suite of n-alkanes. There appears to be some contamination in the mid-molecular weight range which may be remnants of drilling mud.

4.4 Petrology

Beach Petroleum Ltd submitted 12 sidewall cores from Fermat-1 to Phillips-Gerrard Petrology Consultants (PGPC). Samples were selected from the Late Cretaceous Waarre (Unit C) and Flaxman Formations for detailed petrological description. The study was designed to ascertain the lithology, mineralogy, sediment provenance, depositional environments, diagenetic alteration and factors controlling reservoir quality. Details of the results of the analyses are presented as Appendix 13.

The analyses listed below were provided by PGPC. Hand specimen descriptions and wireline logs of the relevant intervals were provided to PGPC to aid interpretation.

SUMMARY OF PETROLOGY SAMPLES & SERVICES

Swc	Depth (m)	Unit	TS description	Visual Estimate
5	3416.8	Waarre C	√	√
6	3410.5	Waarre C	√	√
8	3359.0	Waarre C	√	√
9	3354.0	Waarre C	√	√
17	3065.5	Flaxman	√	√
18	3057.4	Flaxman	√	√
20	3025.7	Flaxman	√	√
21	3017.0	Flaxman	√	√
22	3003.8	Flaxman	√	√
26	2894.0	Flaxman	√	√
27	2886.7	Flaxman	√	√
28	2876.6	Flaxman	√	√

Appendix 1: Drilling End of Well Report

End of Well Report

FERMAT-1

1	0	Issued	DE	SDE	DES	24.02.09
1	A	Issued for comment	DE	SDE	DES	12.02.09
Issue	Rev	Description	Prepared By:	Reviewed By:	Approved By:	Date:

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2. Approvals

Prepared by:

12.02.2009

ADA Drilling Engineer — Date

Reviewed by:

16.02.2009

ADA Senior Drilling Engineer — Date

Approved by:

24.02.2009

ADA Drilling Superintendant — Date

Beach Petroleum — Date

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3. Executive Summary

Operations on Fermat-1 commenced at 00:00hrs on 10th December 2008 when the West Triton jack-up rig was under tow, 1nm away from Beach Petroleum's well Spikey Beach-1. The tow distance of approximately 279nm from Bass Basin to Otway Basin was completed without incident in 56hrs.

Total time spent on the well was 39.42 days at an estimated cost of A$44.8M against an AFE of 47.34 days and A$48.2M. Total non-productive time (NPT) for the well was 6.35 days (16.1%) comprised of 4.1 days (10.4%) of operational NPT and 2.25 days (5.7%) WOW, which were below the AFE allowances of 20% NPT and 12.7% WOW.

Fermat-1 was spudded at 00:00hrs on 14th December 2008, in 39.0m of water with the rotary table being located 38.0m above MSL. The well was drilled to TD at 3585mMDRT, logged and abandoned. The well intersected all targets within the prescribed tolerance and all formation evaluation data specified was captured. The well ended at 1000hrs on 18 January 2009 when the rig came off contract to Beach Petroleum, 1nm from the location, while under tow to Western Port bay for demobilisation to Singapore.

The well was drilled during the peak crayfish season. As such, a scout boat was provided to escort the rig onto and off location to reduce the risk of damage to fishing equipment. This boat went ahead of the rig and moved craypots, as required out of the path of the rig. During the well operations, the supply vessels followed a route between the rig and Portland that was specified by the local fishing authorities to reduce the risk of damage to fishing equipment. In spite of all these measures, there was a claim from local fishermen at the end of well for compensation for damage to equipment and loss of catch.

The hard seabed caused problems at time of spud through trying to keep the well angle at less than 1 degree. The 26in bit had difficulty getting started and walked around on the seabed before the well was successfully spudded with less than 1 degree.

The good safety performance by the crews on the rig during the well was marred during the WOW period to move the rig off location, after P&A. The Chief Officer on the supply vessel Pacific Valkyrie sustained a broken wrist when he tripped backwards over the boat's tow wire which had been laid out on deck in preparation for connection to the rig. This was a disappointing way to end the rig's Australian campaign as it was the only LTI sustained during the entire period.

In preparation for demobilising the rig to Singapore after the well, all bulk products had to be disposed of because there was no safe way to return this to the supplier. Approval was obtained from the Regulatory Authority to dump cement, barites and gel. This approval however resulted in close scrutiny from the Regulator and a warning that similar action in future will require better planning to avoid this type of waste.

The performance of Dril-Quip during Fermat-1 was very disappointing. Total NPT related to Dril-Quip problems amounted to 52.5 hours (53.2% of operational NPT) due to issues attempting to release the 9.625in casing hanger running tool and trying to set and test the seal assembly. Further time was lost attempting to retrieve the 13.375in dummy hanger from the wellhead and because the anti-rotation keys on the 30in connectors had to be cut out during P&A and the connectors themselves could not be backed out with maximum torque on the tongs, and each joint had to be cut with an oxy torch.

4. Well Summary & Overview

4.1 Well Summary

Well Name	Fermat-1
Country	Australia
Designation	Exploration
Field Name	Fermat
License/Permit	Vic/P46
Rig Name/Type	West Triton / Jack-up
Well Operator	Beach Petroleum Limited
Participants	Essential Petroleum Resources Ltd Mitsui E&P Australia Pty Ltd
Rig On Contract	10th December, 2008, @ 00:00hrs
Rig on Location	12th December, 2008 @ 08:30hrs
Spud Date	14th December, 2008 @ 01:00hrs
Reached TD	6th January, 2009 @ 14:00hrs
Rig Off Contract	18th January, 2009 @ 10:00hrs
Total Days on Operations	39.42 days
Total Days AFE	47.34 days
Total Depth	3542.36mTVDSS / 3580.36mTVDRT / 3585.0mMDRT
Well Type	Vertical
Maximum Deviation Angle	7.60˚ at well TD (projected)
Water Depth	38.8m (MSL)
RT above MSL	38.0m
Rig Heading	128.46˚ True
Geocentric Datum	GDA94
Surface UTM	UTM Zone 54 S (MGA94)
Surface Latitude	38˚ 11’ 47.0287” S
Surface Longitude	141˚ 03’ 13.7734” E
Surface Easting	504 713.143 m
Surface Northing	5 772 392.606 m
Bottom Hole Location: Latitude	38˚ 11’ 50.012” S
Bottom Hole Location: Longitude	141˚ 03’ 13.054” E
Bottom Hole Location: Easting	504 695.60 m
Bottom Hole Location: Northing	5 772 300.67 m
36in Hole / 30in x 20in Conductor	119mMDRT / 116mMDRT
17.5in Hole / 13.375in Surface Casing	999mMDRT / 987.1mMDRT
12.25in / 9.625	2807mMDRT / 2800.3mMDRT
8.50in Open Hole	3542.36mTVDSS / 3580.36mTVDRT / 3585mMDRT

4.2 Casing and Cementing Data

4.2.1 Casing Data

Type	Size (inches)	Weight (ppf)	Grade	Thread	Depth (mMDRT)
Conductor (30in x 20in tapered shoe joint)	30	310 (1in wall)	X-52	D60/MT	106.4
	20	169 (0.625in wall)	X-56	E.R.W	116.0
Surface Casing	13.375	68.0	NT-80HE	BTC	987.1
Intermediate Casing	9.625	53.5*	P110	Vam Top	2800.30

* Special Drift 8.50in casing

4.2.2 Cementing Data

String / Plug	Cement Type	Dry Cmt Vol (sks)	Cement Additives	Mix Water (gal/sk)	Slurry Vol (bbls)	Slurry Density (ppg)	Cement to / from (mMDRT)	Csg Test Pressure (psi)
30in X 20in	Class G	943	-	5.15 sea water	195	15.9	116-77 (TOC visual)	n/a
13.375in	Class G	1103	-	5.11 fresh water	228	15.8	987-500 (TOC est)	3,700
9.625in	Class G	1100	Halad-413L, CFR-3L, SCR-100L	5.17 fresh water	230	15.8	2800-1700 (TOC est)	6,000
Plug #1A	HTB	315	CFR-3L, SCR-100L	4.70 fresh water	64	15.8	3327-3119 (tagged)	n/a
Plug #1B (Part 1)	HTB	236	CFR-3L, SCR-100L	4.70 fresh water	47	15.8	3119-2969	n/a
Plug #1B (Part 2)	HTB	218	CFR-3L, SCR-100L	4.70 fresh water	44	15.8	2969-2835 (tagged)	n/a
Plug #2	HTB	165	CFR-3L, SCR-100L	4.70 fresh waer	37	15.8	2835-2700 (pr test 2,900 psi)	n/a
Plug #3	Class G	183	-	5.16 sea water	37	15.9	160-100	n/a

4.3 Operations Summary

4.3.1 Rig Mobilisation and Rig Up

The West Triton transferred between Beach Petroleum AFEs from Spikey Beach-1 to Fermat-1 at 00:00hrs on 10th December 2008 when the rig was under tow, 1nm from Beach Petroleum's Spikey Beach-1 location. The tow was started with only one vessel, Pacific Battler, as the other vessel, Pacific Valkyrie, had been sent to the shore base to load out equipment for Spikey Beach-1 in anticipation of preloading for that well being completed successfully. However, Spikey Beach-1 preloading was aborted over concerns about foundation integrity, and the decision was taken to move the rig to Fermat-1 as that was the only other location approved for the rig.

Pacific Valkyrie met the tow after the rig had travelled 60nm, and the remainder of the tow was completed with both vessels. The total tow distance of approximately 279nm was completed without incident at an average speed slightly in excess of 5knots. The planned tow route was moved to the south, near the well location, to avoid the fishing grounds that surrounded the location. During the final few hours of the tow, a scout boat (Perfect Lady) went ahead of the rig to clear a path through the crayfish fishing ground. The following waypoints for the tow route were given to Pacific Battler by the Fisheries Liason Officer (Dr Andrew Levings), to minimise the risk of damage to fishing equipment by the rig:

Waypoint 3	142 28.50	39 00.00	Off shelf south of Tower Hill
Waypoint 4	141 19.00	38 42.00	Off shelf south of Cape Dusquense
Waypoint 5	141 10.84	38 21.90	Meet Scout Boat, which will clear any fishing gear between Waypoints 5 and 6
Waypoint 6	141 03.26	38 11.72	Fermat site

The good weather that had prevailed throughout the tow was starting to deteriorate when the rig made the final approach to Fermat-1 location, and it was fortunate that the rig was successfully pinned and jacked clear of the water before the seas rose to unworkable levels, thus avoiding a period of WOW. The West Triton was soft pinned on Fermat-1 location at 0830hrs on 12 December 2008, 9.8m from the intended location. The rig was jacked up initially to 2m air gap and preloading operations commenced. While taking on preload the air gap was increased to 2.65m due to the hull being contacted by several waves as the seas increased. The preload was held for 3 hours and after dumping, the rig was jacked up to an operating air gap of 15m. The final spudcan penetrations were as follows:

- Bow = 0.8m
- Stbd = 1.1m
- Port = 1.1m

The total time to move to Fermat-1 location and rig-up prior to handling the BHA was 3.27 days. There was no lost time recorded during this period.

4.3.2 Drilling 36in Hole section / Setting 30/20in Conductor

There were 2.5hrs lost WOW due to winds up to 50kts prior to picking up drill pipe and the 36in BHA, and a further hour was lost replacing a missing section of grating on the texas deck. After tagging the seabed with the 36in BHA there were multiple attempts to get a survey of less than 1˚ inclination prior to spudding. The hard seabed caused the bit to 'walk' when attempting to spud. The well was eventually spudded with a survey of 0.5˚ at 0000hrs on 14 December 2008 with a 26in Reed Y11C rock bit and a 36in hole opener. After drilling 0.5m, survey readings were erratic varying from 1˚ - 5˚ inclination. ROV observation indicated that the bit had been "walking" around and had worn a 'crater' 2-3m in diameter in the seabed. The ROV also reported tidal surge on bottom. The weight on bit (WOB) was increased to enable the bit to bite into and

penetrate the seabed. The initial 2.5m of the seabed was found to be very hard and took 1.5hrs to drill through. Once this hard crust had been penetrated drilling operations continued with no further problems. The section was drilled from seabed at 77mMDRT to 119mMDRT (42m interval) in a total of 6hrs. A survey taken at section TD recorded an inclination of 0.5°. At TD the hole was swept with 200bbls of hi-vis mud and displaced to pre-hydrated gel prior to POOH and racking back the BHA.

The Conductor Tensioner Unit (CTU) and BOP work platform were installed on the Texas deck while rigging up to run conductor. The 30in string was run to 116mMDRT without problems, and was supported by the CTU / Icon clamp while being cemented through drill pipe stabbed into the float shoe with 190bbls of 15.9ppg Class G cement slurry. Cement returns could not be monitored by the ROV due to poor visibility while pumping, but a later survey showed the top of cement to be just below the seabed.

4.3.3 Drilling 17.5in Hole Section / Setting 13.375in Casing / Nipple-up BOP

The final cut was made on the 30in conductor while handling BHAs. After RIH with the 17.5in BHA, cement was tagged at 115m inside the conductor. 17.5in hole section was drilled trouble-free to 999m with a Hughes MXL-T00 insert bit (IADC code 4-1-5) using seawater and hi-vis sweeps. The initial 80m of the section was hard with bit bounce and string vibrations limiting drilling parameters. Below 200mMDRT the formation became softer and ROP increased accordingly. Average on-bottom ROP for the section was 41.5m/hr, and 26.3m/hr overall including connections. While circulating at TD a rapid pressure loss of 700psi was observed while attempting to downlink the Schlumberger MWD tools. This pressure coincided with the effect of losing one bit nozzle, so circulation of the hi-vis mud continued until there was a rapid, total loss of pressure. As a consequence the string was POOH without further circulation, looking for a washout. There was one tight spot at 700m which had 50 kips overpull that was wiped free. Once out of the hole it was confirmed that one jet nozzle was missing along with a sonic shield from the MWD tool. The missing nozzle explained the initial 700psi pressure drop and the subsequent total loss in pressure was later attributed to plugged suction strainers starving the mud pumps.

The BHA included MWD Directional-GR-Sonic which successfully captured all data, and there was no requirement to run wireline logs.

13.375in casing was set at a shoe depth of 987mMDRT in the Pember Mudstone to provide integrity prior to drilling the secondary objective in the Pebble Point sandstone at a projected depth of 1028m. The casing was cemented with 228bbls of 15.8ppg class G cement, with final displacement pressure indicating top of cement at the planned depth of 500mMDRT. After nippling up BOPs and diverter, the 13.375in casing was tested against the blind-shear rams to 3700psi.

4.3.4 Drilling 12.25in Hole / Setting 9.625in casing

As a precaution against junk damage to the planned PDC bit for the 12.25in hole section, from the lost bit nozzle and MWD sonic shield in 17.5in hole, a junk bit (Hughes GT-1 - IADC code 1-1-7) and boot basket were run. The float collar was tagged at 974mMDRT and the wellbore was circulated to 9.3ppg KCl/Polymer mud while drilling the shoetrack and new hole to 1002mMDRT where a Leak Off Test was conducted to 15ppg EMW. The 12.25in hole was then drilled to 1027mMDRT while working the junk sub. The assembly was POOH and 175grams of metal junk recovered in the junk basket, but there was no sign of the missing bit nozzle.

After the junk bit run, a 12.25in Reed RSR616M-A16 PDC bit was RIH on a BHA comprising resistivity, sonic and density-neutron LWD sensors. 12.25in hole was drilled from 1027mMDRT to 2396mMDRT (1369m) over a period of 110hrs with minimal NPT. Hole inclination built up gradually to about 3.4 degrees on a consistent azimuth of approximately 225 degrees while drilling this interval. The bit was pulled at this point due to poor ROP, and it was decided to

include a steerable motor in the next BHA to make course corrections as necessary to maintain the well within the prescribed tolerance of 100m radius circle.

Tight hole was encountered while POOH and the string was back reamed from 1356mMDRT to the 13.375in shoe at 987mMDRT. Simultaneously, recurring problems with the cyber system and draw works reduced the pulling speed to crawl mode. This problem persisted throughout the remainder of the trip out, costing 10hrs NPT, and only being resolved when the bit was close to surface. The bit was found to be ringed out with significant damage to the cutting structure.

A new 12.25in Reed RSX616M-A16 PDC bit was RIH with a downhole motor set at 1.15 degree bend, and similar LWD components as in the previous run. The BHA went to bottom without any obstructions and 12.25in hole was drilled to section TD at 2807mMDRT (411m) while correcting the well trajectory. Seepage losses varying from 15-20bbl/hr were observed from 2785mMDRT and were reduced to less than 5bbl/hr by addition of sized calcium carbonate. One tight spot at 1132mMDRT was encountered while POOH. The bit was recovered with only minor wear on the cutting structure.

Minor cavings and increased background gas were observed towards the end of this section. The mud weight was gradually increased to 10ppg and drilling continued without problems. Formation evaluation data was acquired from real time and recorded LWD data and it was not necessary to run any wireline logs in this section. The average ROP for the 12.25in hole section, including the junk run and the correction run, was 17.4m/hr for on-bottom time and 13.0m/hr for overall average including connections.

A 13.375in dummy hanger was installed in the Dril-Quip wellhead prior to running the 9.625in casing, which was run to a setting depth of 2800.3mMDRT. A total of 1.5hrs NPT was recorded during this time when casing held up at 2774mMDRT and the hole packed off. The string was worked from 2764m–2778mMDRT until stable returns were established. No mud was lost to the hole during this incident. The casing was cemented with 230bbls of 15.8ppg Class G cement slurry giving an expected top of cement at 1700mMDRT.

When attempting to retrieve the casing hanger running tool, a connection broke on the landing string instead. This was thread locked back together again and further unsuccessful attempts were made to back out the Dril-Quip casing hanger running tool before the BOPs and diverter were nippled down to provide full access to the running string. All connections in the running string were welded before the running tool was eventually backed out with 50,000ft-lbs of torque. A total of 23hrs NPT was incurred due to this problem.

A further 20hrs NPT was incurred due to problems setting the 9.625in seal assembly. Several attempts to set and test this failed before the casing hanger lock-down ring was recovered, mangled and in two pieces sitting on top of the seal assembly running tool. At this point the BOPs were nippled down to provide clear access to the area where the seal assembly sits, so that it could be cleaned out. Subsequent to this, the seal assembly was successfully set and pressure tested.

The BOPs were once again nippled up and tested and the 9.625in casing was pressure tested against the blind shear rams to 6,000psi.

4.3.5 Drilling 8.5in Hole

2hrs NPT was incurred while making up the 8.5in BHA due to problems loading the radioactive source into the ADN tool. The 8.5in Security SE3653Z PDC bit and BHA comprising resistivity, sonic and density-neutron LWD sensors was RIH and tagged cement at 2753mMDRT, 22m above the float collar. It took 13 hrs to drill the cement plugs, cement and float equipment. The wellbore was circulated to 10.3ppg KCl/Polymer mud while drilling the shoe track. A Formation Integrity Test was conducted to 16ppg EMW after drilling to 2810m. 8.5in hole was then drilled essentially trouble-free to TD at 3585mMDRT.

Drilling breaks were observed at 3005m, 3019m and 3056mMDRT accompanied with gas shows and small amounts of cavings, which were controlled by raising the mud weight to 10.5ppg. Inclination once again built up gradually to 7.6 degrees (projected at TD) while drilling this section.

Tight hole was experienced while POOH at 3539M–3392mMDRT, 3081–2948mMDRT and 2900-2830mMDRT, with backreaming required in some sections. As a consequence, the bit was run back to bottom and the mud weight was increased to 11ppg to control hole instability at bottom before POOH with no problems.

The 8.5in hole section was drilled at an average ROP of 18.3m/hr for on-bottom time and 14.1m/hr for overall average.

The following Schlumberger wireline logs were run after POOH:-

Run #1:	PEX-DT
Run #2:	MDT-MS-LFA-PO
Log #3:	CSAT
Log #4:	CST (90% recovery, 1 bullet lost)

4.3.6 Abandonment Operations

A mule shoe was made up to 3.5in and 5.5in drill pipe and RIH to 3597mMDRT. While attempting to establish circulation, the hole packed off and 8.5hrs NPT was incurred circulating out a large quantity of cavings and cleaning up the hole in preparation for setting the abandonment plugs. The cementing string was pulled back to 3327mMDRT to set an abandonment plug. The first open hole plug (plug #1a) was set from 3327-3127mMDRT to isolate the Waarre formation from the Flaxman formation, using 64bbls of 15.8ppg HTB cement. Excess drill-pipe was POOH and laid down while waiting on cement before tagging TOC at 3119mMDRT.

The second plug (Plug #1b) was placed in two parts, to isolate the sands in the Flaxman formation, from 3119m-2835mMDRT using 47bbls and then 44bbls of 15.8ppg HTB cement. Excess drill-pipe was POOH and laid down while waiting on cement and TOC was tagged at 2835mMDRT.

Plug #2 was then set across the 9.625in shoe from 2835m-2700mMDRT using 37bbls of 15.8ppg HTB cement. Excess drill-pipe was POOH and laid down while waiting on cement, and Plug #2 was pressure tested to 2900psi.

The 9.625in casing was then cut at 110mMDRT without problems, but it took an hour to work the casing hanger through the annular preventer when POOH with the casing. A further two hours were lost attempting to recover the 13.375in dummy casing hanger before aborting this operation and nippling down the diverter and BOPs. The 13.375in casing was successfully cut at 105mMDRT and recovered to surface along with the Dril-Quip 18.75in wellhead.

The final abandonment plug (Plug #3) was set from 160-100mMDRT with 37bbls of 15.9ppg Class G cement slurry mixed in sea water. The first attempt to cut the 30in conductor at 79m failed after 2.5hrs, when an inspection of the knives revealed the tungsten carbide on the tips of the blades was worn smooth. The cutter was redressed with new knives which were then located in the previous cut attempt at 79m, and the cut was made successfully after a further 3hrs of cutting. When pulling the 30in conductor, further problems arose, that cost 3hrs NPT. None of the anti-rotation keys could be removed from the Dril-Quip D-60/MT connectors and these had to be flame cut out. Thereafter, none of the connectors would back out and all the joints were cut as the casing was pulled.

The rig was then secured for rig move before 2.15 days (51.5hrs) were spent WOW due to winds up to 35kts and seas up to 4m which gradually declined over the period. When the decision was made to move off location, the weather conditions had reduced to winds less than 10kts and combined seas in the range 1.8m – 2.2m. The hull entered the water at 0730hrs on 18 January 2009 for water tight integrity tests. The rig was afloat at 0912hrs and released at 1000hrs when 1nm from location.

The West Triton was towed to Western Port bay where it was pinned at 1400hrs on 20 January 2009, to await the heavy lift vessel for demobilisation to Singapore.

4.4 Health, Safety and Environment (HSE)

Parameter	Units (if applicable)		Comment(s)
Man-hours	number	65191	
STOP Cards Generated	number	1066	
Total MODU Proactive Safety Efforts	number	1922	Including Issued / Active Work Permits, JSA, Work Instructions, Pre Job safety Mtgs, TOFS, Area Authority Audits & STOP
Audit			
Regulatory Audit	number	0	
Internal EP Compliance Audit	number	1	Held on 13th - 14th Jan 09 during Fermat-1 drilling campaign. The following findings of Opportunities for Improvement / Partial Compliances were identified: *1) OFI 1 / PC 1– An EP commitments summary document defining key Regulatory requirements should be collated for integration into the drilling contractor system.* *2) OFI 2 – Suggested that closed top bins be provided in shaker house, bulk cement storage deck.* *3) OFI 3 – Suggested that ADA HSE Policy be included in arrival induction given on board the rig.* *4) PC 2 – It is recommended that during the development of the EP, monitoring commitments be discussed with the rig to ensure parameters can be measured.* *5) PC 3 – It is recommended that future drilling campaigns include the full environmental content detailed in the EP, in the induction package.* *6) PC 4 – It is recommended for future drilling campaigns that the MSDS management process is reviewed to ensure all MSDSs are current and available for all chemicals.* *7) PC 5 – Future drilling campaigns to consider incorporating any equipment overboard into the rig incident reporting procedure utilizing the incident database as a log/record for final reconciliation with ROV survey data.* *8) PC 6 – Galley waste oil drum – suggest metal or plastic bund to be installed to collect spills.* Note: All required actions are currently being worked on.
MODU Mini HSE Audits	number	3	Mini audits held covered the elements on Incident and Trend Analysis, COSHH and Waste Management.
Training			
ADA ERG Exercise	number	0	No Drilling Campaign Emergency Response Exercise held during Beach drilling campaign. However there was an Emergency Response Plan training held with Beach Petroleum
Environmental Plan Training	number	0	
MODU Emergency Drill	number	5	5 Fire / Abandon / Muster (Weekly) Drills and MOB Drill held during the drilling period.
Reportable Incident (NOPSA)			
Lost Time Injury (LTI)	number	1	15th Jan 09: Pacific Valkyrie's Chief Officer tripped and fell backwards on deck, over the already laid out tow wire. He sustained a fractured wrist (based on medical x-ray) and was further assessed in Perth for confirmation. Corrective / Preventive Actions: IP was treated earlier on board by vessel First Aider. Communication made to other vessel and rig crews.
Alternate Duties Injury (ADI)	number	0	
Medical Treatment Injury (MTI)	number	0	
Non Reportable Incident (NOPSA)			
First Aid Case	number	4	1) 18th Dec 08: Floor man bumped his head on the BOP when a nut he was attempting to loosen suddenly came free as he was pulling upwards, his hard hat fell off snd he knocked his head.

Parameter	Units (if applicable)		Comment(s)
First Aid Case *Continued*			*Corrective / Preventive Actions: 1. Advise all personnel that chin straps should be worn during this type of operation. DONE. 2. Crew to use impact wrench instead of socket wrench to complete task. DONE*
			2) 20th Dec 08: Dogman jarred wrist when handling load. Sling caught under snag and came free suddenly when IP was holding sling.
			Corrective / Preventive Actions: 1. Dogman not to handle the load. DONE 2. Crane operator is to oversee the operation. DONE 3. Conduct safety meeting and discuss the incident with all deck personnel. DONE 4. Consideration must be given to correct equipment placement and storage. DONE 5. Taglines to be used. DONE
			3) 25th Dec 08: A Floor man caught finger in the door during off duty hours. He was making mobile phone call and had chair positioned to keep door open to improve signal. After call he removed chair from door with one hand and door closed on other hand.
			Corrective / Preventive Actions1. IP to explain incident at Pre tour meeting. DONE 2. Maint Supt to order and fit new auto door closers. DONE 3. Sign to be posted on the respective door to warn personnel about the door hazard. DONE 4. Safety Advisor and barge Capt to inspect all other doors fitted with door closers and document a report of their findings. DONE
			4) 17th Jan 09: IP (MO47 crew member) felt sudden pain in left shoulder when lifting 80T shackle into position for tow bridle.
			Corrective / Preventive Actions IP was examined and treated with an ice pack and given pain killers and returned to work later. Communication made during Pre Tour and Weekly Safety Meeting
Near Miss	number	0	
Property Damage / Environment	number	0	
Recordable incidents (DPI)			
Spills - occurrence	number	0	
Spills - quantity	litre	0	
Wastes			
Hazardous wastes	m^3	20	All wastes including prescribed industrial waste are properly packed, stored and sent onshore to K&S Freighters in Portland and discharged to the environment from the Transpacific Industries Pty Ltd, Portland premises and also accepted for reprocessing, treatment, storage or disposal at Transpacific Industries Pty Ltd, Portland.
Non-hazardous wastes	m^3	123	
Marine User Interaction			
Cetacean sightings	number	0	
Errant vessel interaction	number	0	
Impacts from Fishing Operations (interaction)	number	0	
Water Based Muds (WBM)			
Volume water based drilling fluid dispose into the ocean (m^3)	m^3	711.8	Reference made to the Well Environment report
Volume of drill cuttings using WBM disposed to the seabed (m^3)	m^3	257.6	Reference made to the Well Environment report
Oil / Chemical Spills discharged to the marine environment	bbl	0	

Parameter	Units (if applicable)		Comment(s)
Problems with sewage plant resulted in discharge of untreated sewage to the marine environment	number	0	

4.5 Well Highlights

- No LTIs were sustained on the rig, although one LTI occurred on Pacific Valkyrie while WOW to move the rig off location after P&A.
- The well was drilled under time and under budget. Total time spent on the well was 39.42 days at an estimated cost of A$44.8M against an AFE of 47.34 days and A$48.2M.
- Savings of approximately A$2million were achieved in the planning stage by eliminating the 20in casing from the original well design. At the same time the 13.375in casing setting depth was reduced from 1300mMDRT to 1000mMDRT.
- There was no WOW to move onto location. The rig was pinned on location, within tolerance and jacked clear of the water just ahead of a weather change that would have delayed proceedings by several days.
- Operational NPT of 4.1 days (10.4%) and WOW of 2.25 days (5.7%) were below the AFE allowances of 20% NPT and 12.7% WOW.
- No wireline logs were run in the 17.5in and 12.25in hole sections due to the successful capture of all formation evaluation data by LWD tools
- All well targets were intersected within the target tolerances.
- The 8.5in hole section was completed in one bit run

4.6 Well Disappointments

- The chief officer on the supply vessel Pacific Valkyrie fractured his wrist when he tripped backwards over the tow wire which had been laid out on deck in preparation for connection to the rig at the end of the well. This resulted in a LTI.
- Surplus bulk mud products and cement remaining at the end of the well were discharged to the sea, with Regulatory approval, because there was no facility to backload and return these to the suppliers.
- Claims were received from a number of fishermen for damage to crayfish pots and loss of catch allegedly caused by the rig and supply boat movements.
- A junk bit run was required at the start of the 12.25in hole section to attempt recovery of junk (bit nozzle and LWD sonic shield) left in the hole from the previous hole section, resulting in 10hrs NPT.
- Recurring problems with the cyber system and draw works accounted for 12.5hrs of non productive time in the 12.25in section.
- Problems associated with the Dril-Quip 9.625in casing hanger and running tool, and the 9.625in seal assembly resulted in a total of 43hrs NPT. It proved very difficult to release the casing hanger running tool from the casing hanger and it proved equally difficult to get a pressure test on the seal assembly. Both problems are the subject of ongoing investigation by Dril-Quip.
- Well bore instability in the 8.5in hole section due to tectonic stress required a higher mud weight to stabilise and caused a wiper trip after drilling to TD, prior to wireline logging. An further 8.5hrs were spent establishing circulation and cleaning up the hole prior to setting the open hole abandonment plugs.

5. Time Analysis

5.1 Breakdown by Well Phase

Table 1 summarizes the planned versus actual time breakdown, by operational phase, for the well. Figure 1 presents the same data in graphical format. The following comments refer to the various phases of the well:

- **Mobilisation and rig up**

  Although no NPT was incurred during this phase of operation, the cranes were unable to work due to high winds, but chain pullers and chain blocks were successfully used to move equipment that allowed the cantilever to be skidded out, thus avoiding any downtime. Overall the time taken to move to Fermat-1 location and rig-up was 23.5hrs less than AFE time.

- **Drilling 36in hole**

  The total time assigned to drilling the 36in conductor hole was 14.5hrs more than allowed for in the AFE (28hrs vs. 13.5hrs). The majority of this additional time was spent on activities normally included in the rig up phase but which were re-ordered on this well due to inclement weather that prevented some activities from taking place. These included: picking up drill pipe (8hrs plus an additional 2.5hrs WOW); installing the texas deck stairs (1 hour); and, making repairs to the texas deck grating (1 hour). In addition to this, 3hrs of NPT was incurred due to the hard seabed which caused the bit to 'walk' around when attempting to spud, requiring extra effort and time to ensure the well angle remained below 1 degree.

- **Set 30in Conductor / Drilling 17.5in hole / Set 13.375in Casing / Nipple up BOP**

  As evident from Table 1, all the above phases were completed in less than the AFE times without any NPT. Factors that contributed to this included:
  - No mud line hanger in the 30in string, therefore no spaceout required
  - Elimination of the 20in string from the original design, which coupled with the absence of a mud line hanger simplified the 13.375in casing job
  - Good performance from the Hughes 17.5in MXL-T00 bit which drilled the entire section in one run, at an overall average ROP of 26.3m/hr
  - Offline make up of the 18.75in wellhead, running tool and 13.375in cement plugs

  However, some junk (bit nozzle and LWD sonic shield) was left in hole after drilling 17.5in section which resulted in a junk bit run at the start of the 12.25in hole section.

- **Drilling 12.25in hole**

  This phase took 38.2hrs more than the AFE estimate time.

  Junk in the form of a bit nozzle and a LWD sonic shield was left in the hole after the 17.5in hole section. As a precaution against junk damage to the 12.25in PDC bit, a junk run, costing 10hrs additional time was made with a rock bit and junk sub to retrieve the junk. 175 grams of metal junk was recovered from the boot basket, but there was no evidence of any bit nozzle material.

  The planned phase time for the 12.25in hole was based upon drilling to a section TD of 2700m MDRT, but the section was actually drilled to 2807m MDRT to case off as much of the potentially troublesome Belfast shale as possible. Approximately 6hrs were spent drilling the additional 100m. Additionally, a downhole motor was included in the BHA on a bit trip to arrest an angle building trend that was projected to put the well outside the target. The slower ROP while slide drilling compared to rotary drilling added approximately 5.5hrs to the drilling time.

Additionally, 11hrs NPT was recorded due to recurring problems with the cyber system and draw works.

- **Setting 9.625in Surface Casing**

  This phase took 70.8hrs more than planned (114.5hrs vs. 43.7hrs) and sustained the most operational downtime during the well with several incidents contributing to this additional time. However, in spite of this, the AFE time estimate for this phase was too aggressive.

  Initially 1.5hrs NPT was incurred when the casing being held up at 2774mMDRT and required to be worked and washed to bottom, with the hole intermittently packing off.

  More significantly, 23hrs were lost when attempting to back out the casing hanger running tool after cementing the casing. The first joint of casing below the rotary table (part of the landing string) backed out instead of the casing hanger running tool. This was made up again, with the connection being thread-locked. Several further attempts to back out the running tool also failed in spite of progressive efforts, including welding, to keep the landing string intact. The running tool was eventually backed out with 50,000ft-lbs of torque after nippling down the BOPs and fully welding the entire landing string.

  A further 20hrs NPT was incurred following release of the 9.625in casing hanger running tool due to several unsuccessful attempts to set and energise the seal assembly. On one occasion when the seal assembly was pulled back to the rig floor, the lock down ring of the 9.625in casing hanger, mangled and in two pieces was found sitting on top of the seal assembly running tool. At this point the BOPs were removed and the seal assembly seating area and top of the casing hanger was thoroughly cleaned of all debris. Only then was the seal assembly re-run and successfully tested.

  Furthermore, one (1) hour was taken up in replacing a leaking wellhead gasket and 3.5hrs were lost attempting to install the diverter when an orientation pin was found damaged.

- **Drilling 8.5in hole**

  The section was completed in 5.13 days against the AFE estimate of 10.48 days. However, the well TD was reduced from 4000m MDRT to 3585m MDRT due to the dry hole scenario eventuating. At the average ROP achieved in this hole section the additional depth would have taken approximately 30hrs to drill. The performance of the Security PDC bit SE3653Z also contributed to the time savings as the interval to 3585m was drilled in one single run against an expected two bit runs, and average ROP of 14.1m/hr was significantly better than the 5.8m/hr in the AFE estimated time.

- **Logging 8.5in hole**

  Despite no lost time having been incurred during this phase of operations, planned time was exceeded by 11hrs. This was a consequence of four (4) logging runs being executed as opposed to the two (2) runs that were planned in the AFE. Log #1: PEX-DT and Log #2: MDT-MS-LFA-PO were contingent logs which were run based on shows and were in addition to the planned CSAT and CST (Logs #3 and #4 respectively).

- **Plug and abandonment**

  Total time spent on P&A was 21.4hrs more than AFE. Most of this increased time can be accounted for by the 18.5hrs NPT, while the balance can be ascribed to setting three open hole plugs versus one in the AFE estimate.

  The NPT included 8.5hrs cleaning up the hole of cavings prior to setting any plugs, 4hrs due to problems with the 30in casing cutter and 3hrs due to problems with the anti-rotation keys and over-torqued connections on the 30in string.

Operation Phase	Time (days)					
	Planned	Actual	Programmed	Unprogrammed	NPT Programmed	NPT Unprogrammed
Rig move/Rig up	4.25	3.27	3.27	0.00	0.00	0.00
Drill 36in conductor hole	0.56	1.17	1.17	0.00	0.27	0.00
Set 30in conductor	1.38	1.10	1.10	0.00	0.00	0.00
Drill 17.5in hole	4.18	2.13	2.13	0.00	0.00	0.00
Set 13.375in casing	1.24	0.83	0.83	0.00	0.00	0.00
Run BOPs	0.80	0.54	0.54	0.00	0.00	0.00
Drill 12.25in hole	8.43	10.02	10.02	0.00	0.98	0.00
Set 9.625in casing	1.82	4.77	4.77	0.00	2.04	0.00
Drill 8.5in hole	10.48	5.13	5.13	0.00	0.15	0.00
Log 8.5in hole	1.58	2.04	2.04	0.00	0.00	0.00
P&A	4.51	5.40	5.40	0.00	0.77	0.00
Rig down & move out	2.10	3.02	3.02	0.00	2.15	0.00
WOW Contingency	6.00	0.00	0.00	0.00	0.00	0.00
TOTALS	**47.34**	**39.42**	**39.42**	**0.00**	**6.35**	**0**

Table 1

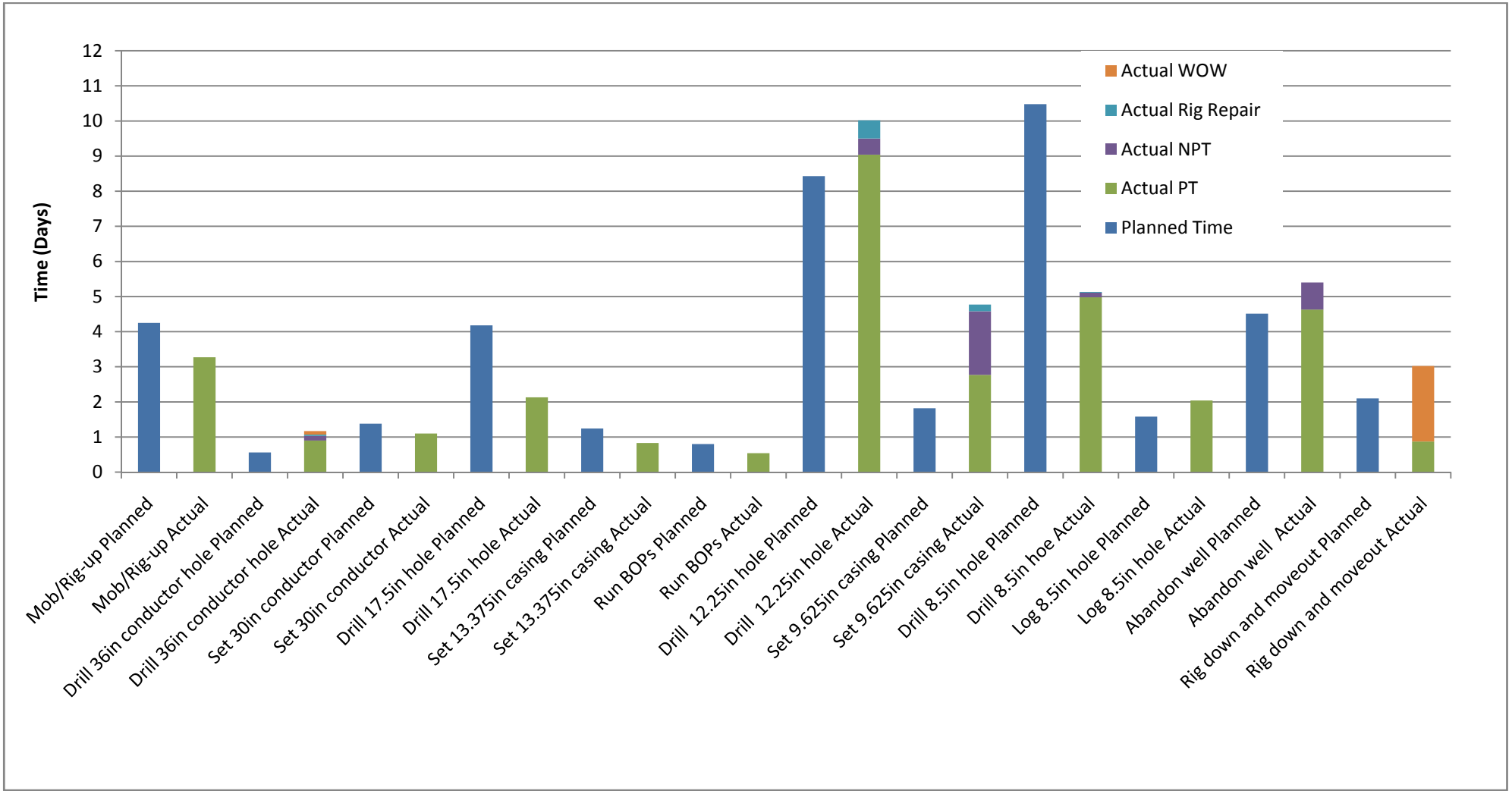

Time (Days)
0
1
2
3
4
5
6
7
8
9
10
11
12
Actual WOW
Actual Rig Repair
Actual NPT
Actual PT
Planned Time
Mob/Rig-up Planned
Mob/Rig-up Actual
Drill 36in conductor hole Planned
Drill 36in conductor hole Actual
Set 30in conductor Planned
Set 30in conductor Actual
Drill 17.5in hole Planned
Drill 17.5in hole Actual
Set 13.375in casing Planned
Set 13.375in casing Actual
Run BOPs Planned
Run BOPs Actual
Drill 12.25in hole Planned
Drill 12.25in hole Actual
Set 9.625in casing Planned
Set 9.625in casing Actual
Drill 8.5in hole Planned
Drill 8.5in hoe Actual
Drill 8.5in hole Planned
Log 8.5in hole Actual
Abandon well Planned
Abandon well Actual
Rig down and moveout Planned
Rig down and moveout Actual

Figure 1

5.2 Non Productive Time Analysis

The total NPT incurred on the well was 6.35 days. Table 2 provides a breakdown of this non-productive time, which comprises 2.25 days due to waiting on weather and the remaining 4.1 days operational downtime. The following points describe the significant operational NPT events on the Fermat-1 well:

Time Lost (hours)	Description
2.5	WOW to put a man up the derrick and use the cranes due to winds in excess of 50kts.
1	Replaced a section of grating on the Texas deck that was lost during the tow to location.
3	Time lost ensuring that hole angle remained less than 1 degree while spudding the well and drilling the first few metres.
10	Incremental time incurred making a junk bit run to attempt recovery of a bit nozzle and LWD sonic shield left in the hole at the end of the 17.5in hole section. Recovered 175g metal in the boot basket, but with no evidence of the bit nozzle being recovered.
2	Replaced TDS washpipe packing on two occasions.
11	Cyber system limits on the drawworks required re-setting due to numerous alarms and speed control issues.
1	Working and backreaming tight hole at 1132m when POOH to run 13.375in casing.
1.5	Circulating and working pipe to establish circulation after 9.625in casing took 30kips weight at 2774m and packed off.
23	When attempting to back out the Dril-Quip 9.625in casing hanger running tool after cementing the casing, the first joint of casing below the rotary table (part of the landing string) backed out instead. This was made up again, with the connection being thread-locked. Several further attempts to back out the running tool also failed in spite of progressive efforts, including welding, to keep the landing string intact. The running tool was eventually backed out with 50,000ft-lbs of torque after nippling down the BOPs and fully welding the entire landing string.
20	Following release of the 9.625in casing hanger running tool there were several unsuccessful attempts to set and energise the 9.625in seal assembly. On one occasion when the seal assembly was pulled back to the rig floor, the lock down ring of the 9.625in casing hanger, mangled and in two pieces was found sitting on top of the seal assembly running tool. At this point the BOPs were removed and the seal assembly seating area and top of the casing hanger was thoroughly cleaned of all debris. Only then was the seal assembly re-run and successfully tested. Dril-Quip are yet to provide an explanation for the hanger and seal assembly problems.
4.5	After successfully setting the 9.625in seal assembly, a leak developed in the connection between the BOPs and wellhead which required the gasket to be replaced. Further time was lost re-instating the diverter due to damage on the orientation pin, which was removed in order to facilitate correct land out.

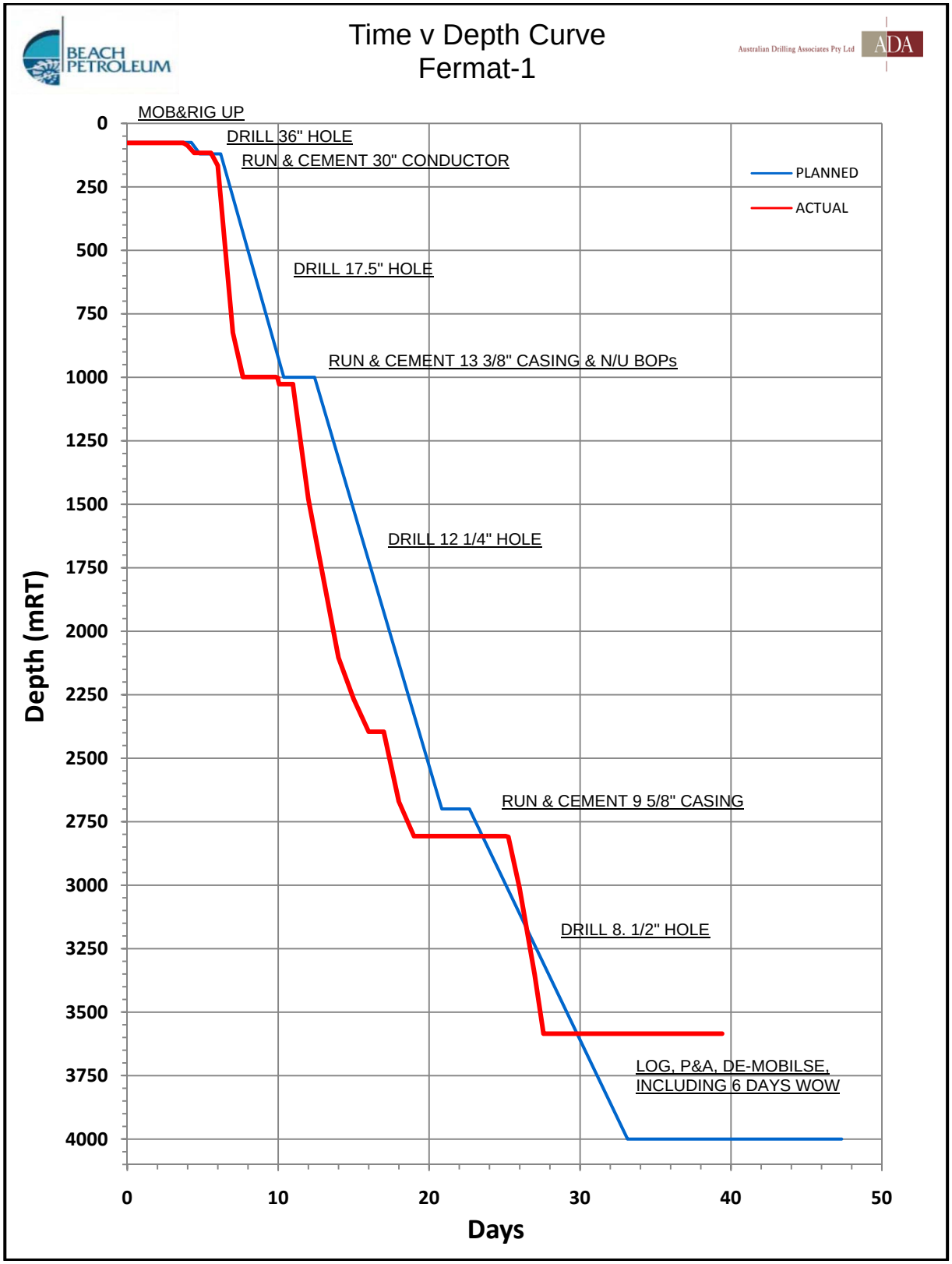
2	Schlumberger had problems retrieving the RA source transfer tool from the ADN tool after installing the source. The problem was diagnosed as lack of centralisation between the source handling tool relative to the transfer shield.
1	All stabilisers in the BHA hung up in the 9.625in float shoe while making a wiper trip after reaching TD, and the shoe had to be reamed to allow free passage of the stabilisers.
8.5	Unable to establish circulation after RIH to TD to set open hole abandonment plugs. Circulated and worked pipe to clear the hole of cavings due to tectonic stress in the well bore, before setting the first plug.
1	Unable to pull 9.625in casing hanger and seal assembly through annular preventer when pulling casing. Bled down koomey unit to relax the element.
2	Unable to retrieve the dummy 13.375in casing hanger from the wellhead during abandonment. Aborted this operation.
4	Failed to cut 30in conductor on first attempt. Inspection of the knives revealed they were worn smooth on the tip. Replaced the knives with a new set and successfully cut the casing after a further 3 hours of cutting in the previous cut profile. Suspect original knives were improperly covered with tungsten carbide.
3	Unable to remove anti-rotation keys from 30in conductor connectors, so cut out with oxy torch. Also unable to back out 30in connectors with maximum torque, so cut pipe instead.
51.5	WOW to move the rig off location due to winds up to 30kts and combined seas up to 4.5m.

FERMAT-1

OPERATIONS DESCRIPTION	TIME BREAKDOWN											
	ACTUAL DURATIONS				TOTAL NPT		MISCELLANEOUS		RIG REPAIR		WOW	
	DEPTH (M MD)	HRS	DAYS	CUM DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS
Mob/Rig up	77	78.5	3.27	3.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drill 36in conductor hole	116	28.0	1.17	4.4375	6.50	0.27	3.00	0.13	1.00	0.04	2.50	0.10
Run & cement 30in conductor	116	26.5	1.10	5.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drill 17.5in hole	999	51.0	2.13	7.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Run & cement 13.375in casing	999	20.0	0.83	8.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Run BOPs	999	13.0	0.54	9.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drill 12.25in hole	2,807	240.5	10.02	19.06	23.50	0.98	11.00	0.46	12.50	0.52	0.00	0.00
Run & cement 9.625in casing	2,807	114.5	4.77	23.83	49.00	2.04	44.50	1.85	4.50	0.19	0.00	0.00
Drill 8.5in hole	3,585	123.0	5.13	28.96	3.50	0.15	3.00	0.13	0.50	0.02	0.00	0.00
Log 8.5in hole	3,585	49.0	2.04	31.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P&A	3,585	129.5	5.40	36.40	18.50	0.77	18.50	0.77	0.00	0.00	0.00	0.00
Rig down & move out	3,585	72.5	3.02	39.42	51.50	2.15	0.00	0.00	0.00	0.00	51.50	2.15
			39.42		152.50	6.35	80.00	3.33	18.50	0.77	54.00	2.25

Table 2

5.3 Time Depth Curve



6. Recommendations

The main recommendations arising out of operations on Fermat-1 are summarised below.

Item	Phase	Keyword	Observation / Lesson Learnt	Action Required
1	Rig Up	Deploying Cantilever	Weather conditions were adverse resulting in the inability to use the cranes to move equipment out of the way to facilitate skidding out of the Cantilever.	Action taken was to use rigging equipment such as Chain Pullers and Chain Blocks to move the equipment so that Cantilever was clear to be skidded out.
2	Spud	Spud Well	Extremely hard seabed surface caused bit to 'walk' when attempting to spud. After approximately 30 minutes, ROV was deployed and found bit had worn a circular "crater" and had not penetrated seabed.	Decision made to increase weight on bit and this enabled bit to bite and penetrate seabed. Continued drilling with no further problems. Consider using 17.5in bit in place of 26in bit with 36in hole opener.
3	30in Conductor	Space Out For CTU	Conductor Joint to be set across the CTU was pre-painted with accurate one (1) metre marks to identify possible cutoff positions. Joint was then rough cut high, and remainder of unused conductor removed. This enabled a fast return to critical path operations. Final cut was made following the conductor cementation, off critical path.	By re-arranging the operations sequence of the final cut of the conductor, time was gained on the critical path. This allowed a more accurate final cut, and was done off critical path.
4	Drill 17.5in Hole	Additional Seawater Supply to Conductor	Used a hard piped seawater supply line to keep the Conductor filled when losing fluid to the formation.	In areas where losses are anticipated, cut a hole in the conductor at a point which will be below the sea level to keep the hole full if losses are encountered.
6	Run 9.625in casing	Pack off	Hole packed off when running last few joints of 9.625in casing which required circulation and working pipe to free up.	Higher mud weight would stabilise the hole and prevent collapse.
7	Run 9.625in casing	Plug bump	Did not bump plug on 9.625in cement job.	Ensure pump efficiency and actual casing ID are known in addition to surface lines volume when calculating cement displacement.
8	Run 9.625in casing	Hanger Running Tool	Could not back out 9.625in casing hanger running tool.	Undetermined – Dril-Quip still investigating this failure.

Item	Phase	Keyword	Observation / Lesson Learnt	Action Required
9	Run 9.625in casing	Seal Assembly	Unable to set and test seal assembly on several attempts. Casing hanger lockdown ring recovered on top of seal assy RT. This problem is likely linked to casing hanger running tool problem.	Undetermined – Dril-Quip still investigating this failure.
10	MWD	Schlumberger	Problems retrieving the RA source transfer tool from the ADN tool after installing the source.	The problem was diagnosed as lack of centralisation between the source handling tool relative to the transfer shield.
11	Drill 8.5in hole	Drill shoetrack	It took excessive time to get through the float collar and the shoe.	Recommendations for drilling the shoetrack from Halliburton to be included in drilling programs.
12	MWD	Schlumberger	Stabiliser hung up several times going in and out of the 9.625in shoe. It could not be confirmed if the Schlumberger MWD stabiliser had been gauged prior to RIH.	Ensure all stabilisers are accurately gauged prior to RIH.
13	MWD	Schlumberger	The parameters for drilling were continually fine tuned to reduce the amount of stick-slip.	MWD stick-slip values remained high throughout the section. Consider running a motor to help reduce string vibrations.
14	Drill 8.5in hole	Mud Centrifuge	The use of the centrifuge was limited by available operator hours and equipment break downs.	Two operators to be available throughout this section.
15	Drill 8.5in hole	Pack off	The hole packed off when establishing circulation with the cement stinger, due to hole collapse.	Presence of tectonic stress should be established prior to spud to ensure sufficient mud weight is programmed to stabilise the well bore.
16	Run BOP	BOP	The flanged connector which replaces the DQ radial bolt connector on the bottom of the BOPS is time consuming to make up and increases the risk of injury to personnel.	The radial bolt quick connector is far safer and quicker by several hours. Rig should consider purchasing and retaining the Dril-Quip connector for the BOP.
17	Abandon ment	30in Conductor	Cutting the 30in conductor was difficult and two sets of knives were used to complete the task.	The tungsten layer on the first set of knives was inadequate and possibly poorly laid. Review QC of knives by Weatherford.

Item	Phase	Keyword	Observation / Lesson Learnt	Action Required
18	Abandon ment	30in Conductor	When the conductor was pulled none of the anti-rotation keys could be removed and had to be cut out with an oxy torch. Similarly, the 30in connectors could not be backed out with maximum torque on the tongs, and each joint had to be cut.	Undetermined – Dril-Quip investigating and yet to advise findings.

7. Well Schematic

OPERATOR:	FIELD / WELL:	WELL SKETCH:
BEACH PETROLEUM	**FERMAT-1**	**AS ABANDONED**

DRILLING RIG: (RT 77m ABOVE ML)	COMPLETION RIG: n/a	PERMIT: Vic/P46	API NUMBER:
WEST TRITON (JACK UP)	**WEST TRITON** (JACK UP)		

DIRECTIONAL DATA

KOP:	NA	deg @	NA	MD
MAX DEV:	NA	deg @	NA	MD
DLEG SEV:	NA	deg @	NA	MD
DEV @ PERFS:	NA	deg @	NA	MD
RET to VERT:	NA	deg @	NA	MD

DRILLING / COMPLETION FLUID

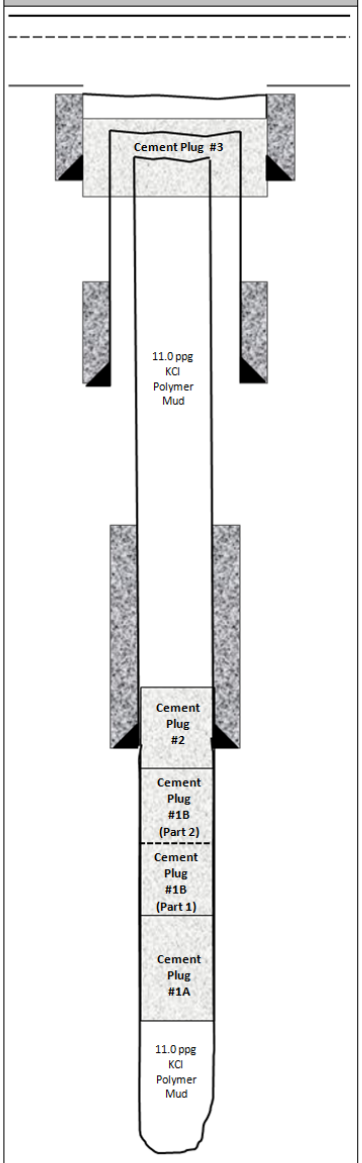
DRILLING FLUID:	11.00 ppg KCl Polymer Mud
DRILLING FLUID:	
COMPLETION FLUID:	
COMPLETION FLUID:	
PACKER FLUID:	

TUBULAR DATA

Tubulars	OD	ID	Weight	Grade	Thread	TVD	MD	TOC
CONDUCTOR	30.000	-	310.00	X52	D60/MT	116.0	116.0	77m
SURFACE	13.375	-	68.00	NT80-HE	BTC	987.0	987.0	500m
PRODUCTION	9.625	-	53.50	P110	Vam Top	2,800.3	2,800.3	1,700
PRODUCTION								
PRODUCTION								
PROD TIEBACK								
PROD TIEBACK								
TUBING								
TUBING								
TUBING								
TUBING								

WELLHEAD DATA

TYPE	DQ SU-10C		
WP	10000psi		
TREE	CAP	FLANGE:	
		THREAD:	
TUBING HANGER:			
Upper Plug OD			
Lower Plug OD			
ELEVATIONS:		WTR DEPTH:	39.0
RT-AMSL:	38.0	OTHER:	
RT-ML:	77.0	RT-ML:	77.0



EQUIPMENT DESCRIPTION	ID	OD	DEPTH TVD - BRT	DEPTH MD-BRT
RT			0.0	0.0
SEA LEVEL			38.0	38.0
MUDLINE Estimated TOC @ 77mTVDRT			77.0	77.0
30in Conductor cut at 79m			79.0	79.0
13.375in Surface casing cut at 105m			105.0	105.0
9.625in Intermediate casing cut at 110m			110.0	110.0
CEMENT PLUG #3 (60m) 100m TO 160m.				
30"x20" CONDCUTOR SHOE			116.0	116.0
36" CONDCUTOR HOLE			119.0	119.0
Estimated TOC @ 500mTVDRT			500.0	500.0
13.375" CASING SHOE			987.0	987.0
17.5" SURFACE HOLE			999.0	999.0
CEMENT PLUG #2 (135m) 2700 TO 2835m. (Tested to 2900 psi)				
9.625" CASING SHOE			2797.7	2800.3
12.25" INTERMEDIATE HOLE			2804.4	2807.0
CEMENT PLUG #1B Part 2 (134m) 2835m TO 2969m (Tagged)				
CEMENT PLUG #1B Part 1 (150m) 2969m TO 3119m				
CEMENT PLUG #1A (208m) 3119m TO 3327m (Tagged)				
8.5" PRODUCTION HOLE TD			3580.4	3585.0
COMMENTS:	PLUG BACK DEPTH:			
	TOTAL WELL DEPTH:		3580.4	3585.0
DRAWING NOT TO SCALE	**PREPARED BY:** M. Moussa		**DATE:** 30/01/2009	Rev 0

8. Attachments

1	Well Montage
2	Bit and BHA Record
3	Mud Report
4	Casing Report
5	Cementing Report
6	LOT/FIT Report
7	Deviation Survey and MWD Report (Schlumberger)
8	Activity Summary Reports
9	Final Rig Position Summary (Fugro)

Attachment 1

Well Montage

FERMAT-1 POST WELL SUMMARY

PROJECT:	Bass Strait Consortium	SURFACE LOCATION:	Latitude 38° 11' 47.0287" S	DATUM:	Rotary Table	LICENSE:	VIC/P46
WELL:	Fermat-1	UTM:	Longitude 141° 03' 13.7734" E	ELEVATION ABOVE MSL (m):	38	BASIN:	Otway
CLASSIFICATION:	Exploration Well		GDA94 Zone 54	WATER DEPTH (m):	39	STATE:	Victoria
RIG:	West Triton		5 772 392.606mN; 504 713.143m E	AIR GAP (m):	15	OPERATOR:	Beach Petroleum LTD.

PREPARED BY: Manelle Moussa
APPROVED BY: Rajiv Tikkoo
LAST UPDTAED: 02/02/09

Australian Drilling Associates Pty Ltd

WELL SCHEMATIC	FORMATION DEPTH: Formation Tops	FORMATION DEPTH: mMDRT	CASING SHOES	Hole Size /Casing Depth	CASING: SIZE	CASING: WEIGHT (ppf)	CASING: GRADE	CASING: CONNECT-ION	CASING: COMMENTS	FRACTURE GRADIENT LOT/FIT (ppg)	BHST	MUD PROGRAM	MAJOR EVENTS / LESSONS LEARNT	CEMENTING DETAILS: Additives	CEMENTING DETAILS: Density	CEMENTING DETAILS: TOC	CEMENTING DETAILS: Excess	SURVEY/ LWD	BITS AND BOTTOM HOLE ASSEMBLIES	WIRELINE LOGGING
RT 0 MSL 38 Seabed 77 30x20in Casing 116 CEMENT PLUG #3 36in Hole 119 Estimated TOC @ 500m MDRT 500 Plug #3: 100m -160m 13.375in Casing 987 17.5in hole 999 Estimated TOC @ 1700m MDRT 1700 9.625in Casing 2800 CEMENT PLUG #2 CEMENT PLUG#1B (Part 2) Plug #2: 2700m - 2835m 12.25in hole 2807 CEMENT PLUG#1B (Part 1) Plug #1B (Part 2): 2835m - 2969m CEMENT PLUG #1A Plug #1B (Part 1): 2969m - 3119m Plug #1A: 3119m - 3327m 8.5in Open Hole (TD) 3585	Sea bed Heytesbury Gp (Lst) Nirranda Gp Dilwyn Pember Mudstone Pebble Point Timboon sst Paarratte Skull Ck Mudstone Nullawarre Greensand Belfast Units C & B Sandstone Belfast Unit A Mudstone Flaxman Waarre Cb Waarre Ca Waarre B	77 492 576 963 1075 1092 1245 1705 1850 1905 2160 2873 3186 3313 (predicted) 3533 (predicted) TD 3585	RT 36in to 119m 116m 17.5in hole to 999m 987m 12.25in hole to 2807m 2800m 8.5in hole to 3585m TD 3585m	mMDRT 0	30in	1" wall	X52	D60/MT	30X20in shoe		10˚C	Seawater & High Viscosity Bentonite Sweeps	Rig up - Adverse weather conditions resulted in the inability to use the cranes to move equipment out of the way to facilitate skidding out of the Cantilever - Chain Pullers and Chain Blocks were used instead Spud - Extremely hard seabed surface caused bit to 'walk' when attempting to spud. ROV was deployed and found bit had worn a circular "crater" and had not penetrated seabed - increased WOB	Conductor Cementation Class G Sea water	15.9ppg	Mudline 77m MDRT	200%	ANDER-DRIFT	26in Bit & 36in Hole Opener (1 Run) 26" Y11C Bit + 36" HO Float Sub Anderdrift 3 x 9.5" DCs Crossover 4 x 8.25" DCs Crossover 4 x HWDP	None
					13.375in	68ppf	NT-80HE	BTC		LOT: EMW = 15ppg @ 999mRT	37˚C	Seawater & High Viscosity Bentonite Sweeps	Drilling 17.5in hole At the end of the 17.5in bit run, a sonic shield was found missing from the MWD tool along with one of the bit nozzles. Performed a junk run with a rock bit and junk sub to ensure that any metal lost down hole was milled out prior to running a PDC bit.	Plug #3 Class G Sea water	15.9ppg	100-160m MDRT		ANDER-DRIFT		None
					9.625in	53.5ppf	P110	VAMTOP	SD 8.5in	FIT: EMW = 16ppg @ 2807mRT	77˚C	KCl / POLYMER MW 9.3-10ppg KCl = 8% by weight 6rpm = 12-16 API Filtrate <6 HTHP Filtrate < 12 pH = 8.5-9.0	Deviation Control A correction run was performed in this section to prevent the well drifting out of the target tolerance. Draw works Control Recurring problems with the cyber system and draw works in the trip out resulted in reduced pulling speed. 9.625in Casing Hanger Running Tool Several unsuccessful attempts were made to back out the casing hanger running tool after cementation of the casing.The running tool was eventually backed out with 50,000ft lbs of torque after nippling down the BOPs and fully welding the entire landing string. Seal Assembly The 9.625in seal assembly failed to test after retrieval of the casing hanger runnig tool. A back up seal assembly was eventually run and tested after a mill and flush tool run.	Casing Cementation Class G+ Halad-413+ CFR-3L+ SCR-100L+ NF-6 Drill water	15.8ppg	Estimated 1700m MDRT	10%	MWD DIR GR-RES-SONIC	12.25" Run #1 (Junk run) 12.25" Bit - Hughes GT-1 Junk sub Stabiliser 8.25" DC (5 joints) Hydraulic Jar 8.25" DC (1 joint)+X/O 5.5" HWDP (5 joints) 12.25" Run #2 12.25" Bit - Reed RSR616M-A16 Stabiliser 8.25" arcVision 8.25" Telescope 8.25" sonicVision Stabiliser 8.25" DC (5 joints) Hydraulic Jar 8.25" DC (1 joint)+X/O 5.5" HWDP (6 joints) 12.25" Run #3 12.25" Bit - Reed RSX616M-A16 A962M7848GT Motor Float sub 8.25" arcVision 8.25" Telescope 8.25" sonicVision Stabiliser 8.25" DC (5 joints) Drilling Jar 8.25" DC (1 joint)+X/O 5.5" HWDP (6 joints)	None
														Plug #2 HTB cement CFR-3L+ SCR-100L+ Drill water	15.8ppg	2700-2835m MDRT				
											80˚C	KCl / POLYMER MW 10.3-11.0ppg KCl = 7% by weight 6rpm = 13-16 API Flitrate <6 HTHP filtrate≤12 pH = 8.5-10	Drilling 8.5in hole Hole instability resulted in a wiper trip to raise the mud weight from 10.5ppg to 11ppg prior to POOH for logging. Abandonment Cutting the 30in conductor was difficult and two sets of knives were used to complete the task. The anti rotation keys on the conductor connectors became jammed and could not be removed to break out the joints. This required each joint to be cut as it was pulled.	Plug #1B (Part 2) HTB cement CFR-3L+ SCR-100L+ Drill water	15.8ppg	2835-2969m MDRT		MWD DIR GR-RES SONIC-NEUTRON-DENSITY-CALIPER	8.5" BHA (1 Run) 8.5" Bit -Security DBS SE3653Z Stabiliser 6.75" arcVision 6.75" Telescope 6.75" sonicVision 6.75"adnVision 6.5" DC (10 joints) Hydraulic Jar 6.5" DC (1 joint)+X/O 5.5" HWDP (6 joints)	1. PEX-HRLA-MSIP-HNGS-SP 2. MDT-GR 3. VSI-GR 4. CST-GR
														Plug #1B (Part 1) HTB cement CFR-3L+ SCR-100L+ Drill water	15.8ppg	2969-3119m MDRT				
														Plug #1A HTB cement CFR-3L+ SCR-100L+ Drill water	15.8ppg	3119-3327m MDRT				

Attachment 2

Bit And BHA Record

BIT RECORD

bass strait consortium

Australian Drilling Associates Pty Ltd — ADA

Beach Petroleum -Fermat-1

Rotary Type Abbreviations

TS - Top Drive System
RT - Rotary Table
PDM - Positive Displacement Motor
SB - Steerable PDM & Bent Sub
TB - Turbine
MWD - Measurement While Drilling Tool

Mud Type Abbreviations

PHG - Gel Sweeps AQ - Aquacol
G - Gel PHPA - Polyacrylamide
POL - Polymer

Geology Abbreviations

Sd : Sand
Sst : Sandstone
Lst : Limestone
Stst : Siltstone
Cong: Conglomerite
Cl : Clay
Clst : Claystone
Volc: Volcanics
Dol : Dolomite
Msed: Metasediment

Dull Grade & Reason Pulled Abbreviations

A - All Rows
BC - Broken Cone
BHA - Bottomhole Assembly
BU - Balled Up Bit
CM - Condition Mud
CP - Core Point
DMF - Down Hole Motor Failure
DP - Drill Plug
DSF - Drill String Failure
DTF - Down Hole Tool Failure
E - Seals Effective
F - Seals Failed
FC - Flat Crested Wear
G - Gage Rows
H - Heel
HP - Hole Problems
HR - Hours on Bit
I - In Gauge
PR - Penetration rate
RG - Rounded Gauge
SD - Shirt Tail Damage
TD - Total / Csg Depth
TQ - Torque
TW - Twist Off
WC - Weather Condition
WT - Worn Teeth
BT - Broken Teeth
WO-Wash Out
JD - Junk Damage
LIH - Left In Hole
LOG - Run Logs
LT - Lost Teeth
M - Middle Rows
MH - Mid Heel
NO - No Dull Wear
RO - Ringed Out
PP - Pump Pressure
CR - Cored

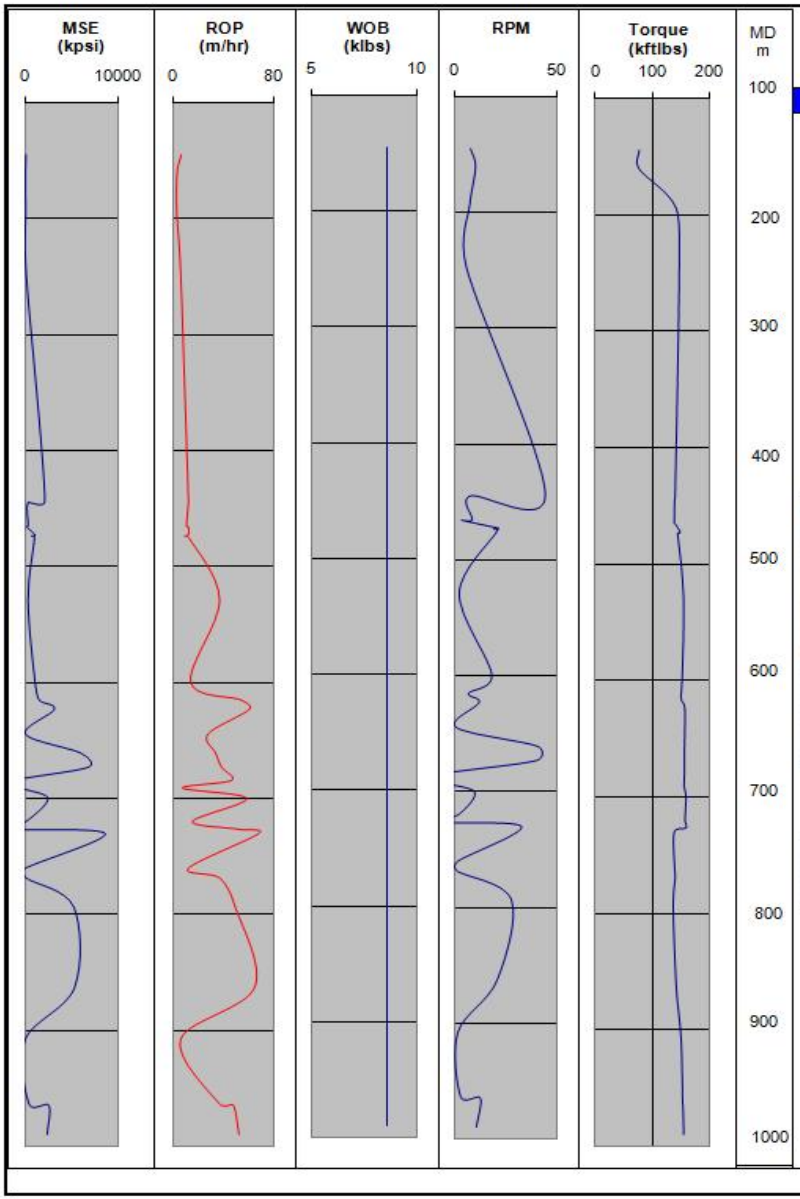
Run No.	Bit No.	Vendor	Type	Serial Number	Size (in)	Nozzles (x 1/32")	Depth In	Depth Out	Drilled m	Drilled hrs	ROP (m/hr)	WOB (klb)	RPM (at bit)	TORQ. (kft-lb)	TBR (krev)	Pump Pr (psi)	Flow Rate (gpm)	Dev (deg)	Geology Formation	MW ppg	Mud Type	PV/YP	IADC Dull Grade (G in 1/16") I	O	D	L	B	G	O	R
36" Hole Section: 77m to 119m																														
1	RR1	Reed	Y11C	D74635R	26	3 x 22, 1 x 16	77	119	42	3.2	13.2	4-5	60	0 - 2	12	940	1170	1.0	Clyst	8.7	SW / PHBS	SW / PHBS	1	1	NO	A	E	G	NO	TD
17 1/2" Hole Section: 119m - 999m																														
2	NB2	Hughes	MXL-T00	6060161	17 1/2"	3 x 20	119	999	880	21.2	41.5	5-10	60-160	1-5	175	2450	1200	2.3	Cmt/Clyst	8.8	SW / PHBS	SW / PHBS	2	2	LT	G	E	I	LN	TD
12 1/4" Hole Section: 999m - 2807m.																														
3	NB3	Hughes	GT-1	5149536	12 1/4"	3 x 16	999	1027	28	1.1	25.5	6	100-150	2	4.2	1300	900	2.6	Clst/Sst/ Stst	9.4	KCL / POLYMER	22 / 36	O	O	NO	A	E	I	NO	BHA
4	NB4	Reed	RSR616M-A10	212219	12 1/4"	3 x 13, 3 x 14	1027	2396	1369	83.3	16.4	8-15	200	2-20	945	2300	1000	3.4	Clst/Sst/ Stst Coal	10.0	KCL / POLYMER	14-36	5	3	RO	C	X	I	LT	BHA
5	NB5	Reed	RSX616M-A10	219736	12 1/4	3 x 13, 3 x 15	2396	2807	411	19.3	21.3	40	240	8-10	161	2300	1000	3.2	Clst/Sst/ Stst Coal	10.0	KCL / POLYMER	25-32	1	1	LT	G	X	I	BU	TD
8.5" Hole Section: 2807m - 3585m.																														
6	NB6	Security	SE3653Z	11001928	8.5	6 X 14	2807	3585	778	42.4	18.3	18	90	2-Oct	216.2	2900	700	7.8	Clst/Sst/ Stst	11	KCL / POLYMER	23-28	1	1	CT	N	X	I	NO	TD

DFE above MSL : 38.00m | Lat : 38 Deg 11 Min 47.0287 Sec | Spud Date : 14 Dec 2008 | Release Date : 18 Jan 2009

Water Depth : 39m | Long : 141 Deg 03 Min 13.7734 Sec | Spud Time: 00.00 | Release Time: 10:00

BHA Record

#	Date-in	Length	Weight	Weight Blw/Jar	String Weight	Pick-Up Weight	Slack-Off Weight	Torque Max	Torque on Bottom	Torque off Bottom	Description
1	13 Dec 2008	119.0	39.00		100.00	100.00	100.00	4	2	1	26" Y11C Bit + 36" HO, Float Sub, Anderdrift, 3 x 9.5" DCs, Crossover, 4 x 8.25" DCs, Crossover 4 x HWDP
2	15 Dec 2008	174.8	65.00		141.00	143.00	140.00	3	2	2	17.5" Bit - Hughes MXL-T1V, Float Sub, 9" Telescope MWD, 9" Sonic VISION, Stabiliser, 9.5" DC (1 joint), Stabiliser 9.5" DC (2 joints) + X/O, 8.25" DC (5 joints), 8" Hydraulic Jar, 8.25" DC (1 joint) + X/O, 5.5" HWDP (6 joints)
3	19 Dec 2008	126.8	40.00		150.00	152.00	150.00	4000	2000	1000	12.25" Bit - Hughes GT-1, Junk sub, Stabiliser, 8.25" DC (5 joints), Hydraulic Jar, 8.25" DC (1 joint)+X/O, 5.5" HWDP (5 joints)
4	20 Dec 2008	151.4	60.00		238.00	255.00	224.00	11000	8000	8000	12.25" Bit - Reed, RSR616M-A16, Stabiliser 8.25" arcVision, 8.25" Telescope, 8.25" sonicVision, Stabiliser 8.25" DC (5 joints), Hydraulic Jar, 8.25" DC (1 joint)+X/O, 5.5" HWDP (6 joints)
5	26 Dec 2008	159.8	56.00		259.00	271.00	249.00	12000	6000	3000	12.25" Bit - Reed RSX616M-A16, A962M7848GT Motor, Float sub, 8.25" arcVision, 8.25" Telescope, 8.25" sonicVision, Stabiliser, 8.25" DC (5 joints), Drilling Jar, 8.25" DC (1 joint)+X/O, 5.5" HWDP (6 joints)
6	02 Jan 2009	201.4	40.00		283.00	319.00	273.00	10000	7000	4000	8.5" Bit -Security DBS SE3653Z, Stabiliser, 6.75" arcVision, 6.75" Telescope, 6.75" sonicVision, 6.75"adnVision, 6.5" DC (10 joints), Hydraulic Jar, 6.5" DC (1 joint)+X/O, 5.5" HWDP (6 joints)



Bit Run Report

BAKER HUGHES Hughes Christensen

Photos

17 1/2" MXL-T00

New Bit

Top View

Side View

Well Data

Well Name	FERMAT-1
Field	Otway Basin
Operator	Beach Petroleum
Contractor	Seadrill
Rig Name	WEST TRITON
DD Co.	
Date In	15-Dec-08
Date Out	16-Dec-08

Bit Data

Size / Run #	17.5"	Nozzles	3x20
Type	MXL-T1V	TFA (in²)	0.9204
Serial No.	6060161	Cutter size	-

Mud			Hydraulics	
Type	PHB		SPP (psi)	2450
M.W.	8.8	Sg	Flow (gpm)	1200
P.V.	SW	cp	Bit Pressure	-
Y.P.	PHBS	lb/100ft²	H.S.I	3.62

Bit Performance

In	Out	Mtr	Hours	ROP	WOB	RPM	V/D
119	999	880	21.2	41.5	5-10	60-160	V
IADC Hours			24.4	36.1	M/Hr IADC ROP		
TVD (In/Out)		119	999	Inc (In/Out)		-	-
Vert. Sec		-		Azm (In/Out)		-	-

Rig Dull Grading

2	2	LT	G	E	I	LN	TD

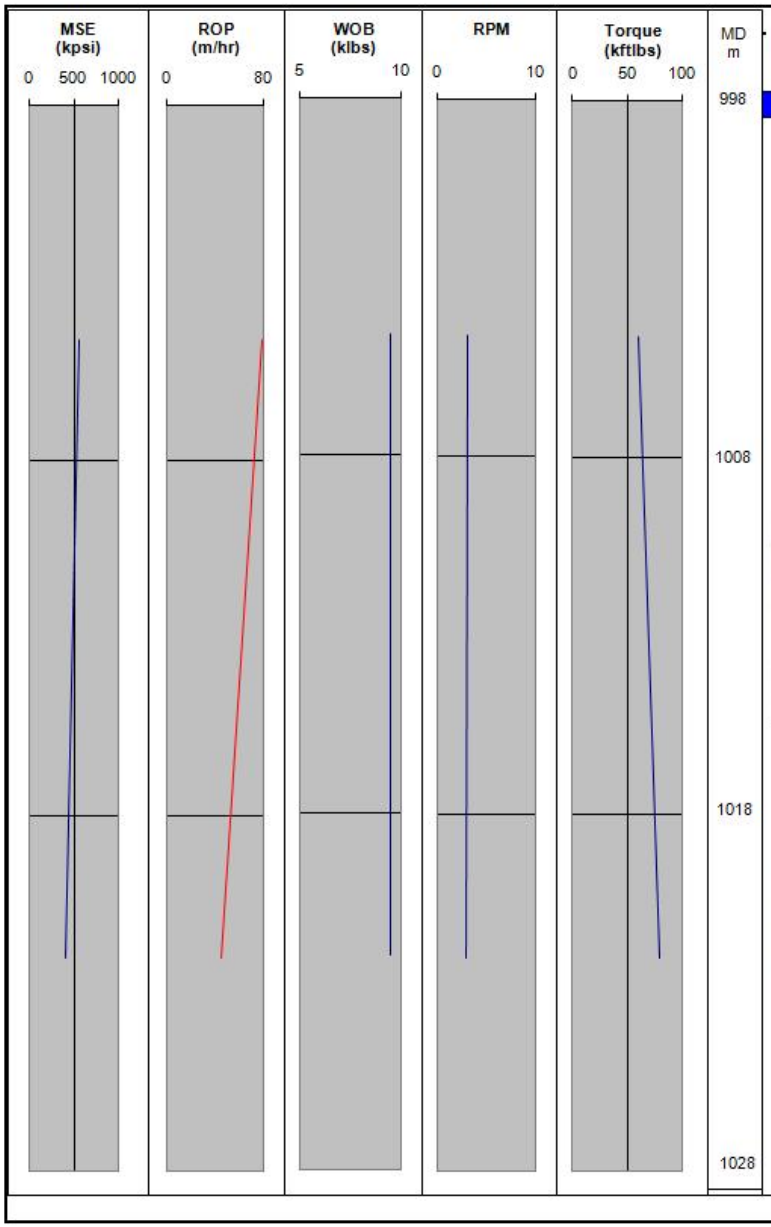
Hughes Christensen Dull Grading

1-1-BT-G-E-IN-LN-TD

Comments

Good run in terms of meterage, ROP and dull grade with all seal/bearings effective and good cutting structure condition except for 1 broken insert. However, on the surface one nozzle was found to be lost which explained an observed pressure loss towards the end of the run. On inspection of the dull, the nozzle bores appeared to be in good condition and an installation error is suspeceted. HCC warehouse personnel where informed of this and correct nozzle installation procedures were reinforced.

17.5in Bit#2 - HUGHES MXL-T00: Missing Nozzle



Bit Run Report

BAKER HUGHES Hughes Christensen

Photos

12.25" GT-1

New Bit

Top View

Side View

Well Data

Well Name	FERMAT-1
Field	Otway Basin
Operator	Beach Petroleum
Contractor	Seadrill
Rig Name	WEST TRITON
DD Co.	
Date In	18-Dec-08
Date Out	18-Dec-08

Bit Data

Size / Run #	12.25"	Nozzles	3x16
Type	GT-1	TFA (in²)	0.589
Serial No.	5149536	Cutter size	-

Mud			Hydraulics	
Type	KCL/POLYMER		SPP (psi)	1300
M.W.	9.4	Sg	Flow (gpm)	900
P.V.	22	cp	Bit Pressure	-
Y.P.	36	lb/100ft²	H.S.I	8.12

Bit Performance

In	Out	Mtr	Hours	ROP	WOB	RPM	V/D
999	1027	28	1.1	25.5	6	100-150	V
IADC Hours			25.5	1.1	M/Hr IADC ROP		
TVD (In/Out)		999	1027	Inc (In/Out)		-	-
Vert. Sec		-		Azm (In/Out)		-	-

Rig Dull Grading

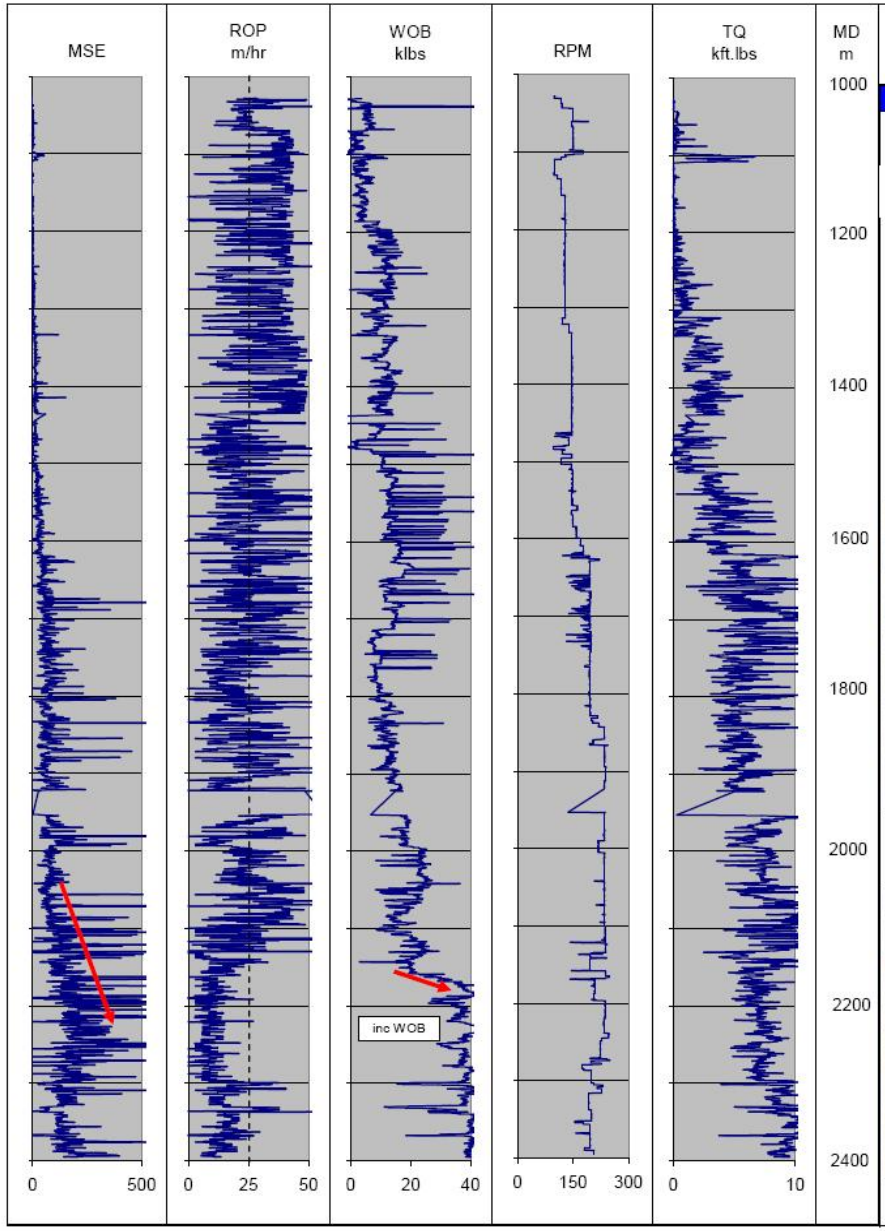
0	0	NO	A	E	I	NO	BHA

Hughes Christensen Dull Grading

N/A

Comments

The bit performed as expected and came out green. No significant dull characteristics or performance issues as the bit was used to drill out and then was pulled to run a PDC.



Bit Run Report

Reed Hycalog™

Photos

12.25" RSR616M-A10

New Bit

Top View

Side View

Well Data

Well Name	Fermat 1
Field	Bass Strait
Operator	ADA / Beach
Contractor	Seadrill
Rig Name	West Triton
DD Co.	NONE
Date In	20-Dec-08
Date Out	26-Dec-08

Bit Data

Size / Run #	12.25	Nozzles	3x13, 3x14
Type	RSR616M-A10	TFA (in^2)	0.84
Serial No.	212219	Cutter size	16mm

Mud		Hydraulics	
Type	KCL / POLYMER	SPP (psi)	2300
M.W.	10	Flow (gpm)	1000
P.V.	14	Bit Pressure	1305
Y.P.	36	H.S.I	6.46

Bit Performance

In	Out	M	Hours	ROP	WOB	RPM	V/D
1027	2396	1369	83.3	16.43	8-15	200	V
IADC Hours			-	-	M/Hr IADC ROP		
TVD (In/Out)				Inc (In/Out)		2.6	3.4
Vert. Sec				Azm (In/Out)		224	226

Rig Dull Grading

5	3	RO	C	X	I	LT	BHA

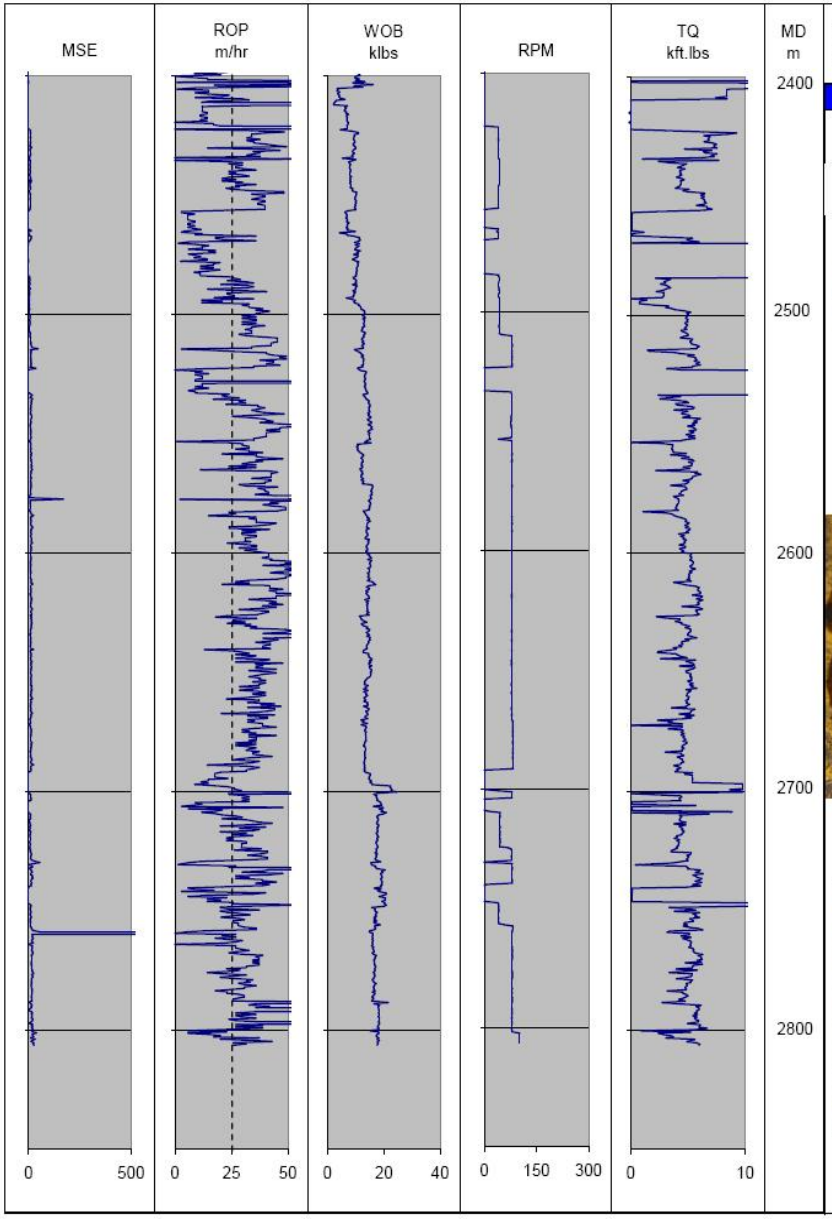
REEDHycalog Dull Grading

NOT GRADED

Comments

Bit drilled with good performance until approximately 2100m at this point ROP droped off substantially and WOB was increased by 100% in order to keep bit drilling. It was at this stage that the damage to the cutting structure became evident. Drilling on with the damage would have caused the Ring Out to become prominent. Significant mechanical damage is present to the remaining cutting structure, which suggests that there was moderate vibration occurring for part of the run. The MSE trace suggests that inefficient drilling started to occur at about 2000m possibly due to the presence of excess vibration, which may have caused the initial cutting structure damage. Significant backreaming out of the hole was undertaken which could have caused additional damage to the cutting structure.

12.25in Bit #4 – REED HYCALOG RSR616M-A10



Bit Run Report

Reed Hycalog™

Photos

12.25" RSX616M-A10

New Bit

Top View

Side View

Well Data

Well Name	Fermat 1
Field	Bass Strait
Operator	ADA / Beach
Contractor	Seadrill
Rig Name	West Triton
DD Co.	NONE
Date In	26-Dec-08
Date Out	28-Dec-08

Bit Data

Size / Run #	12.25	Nozzles	3x13, 3x15
Type	RSX616M-A10	TFA (in^2)	0.907
Serial No.	219736	Cutter size	16mm

Mud

Type	KCL / POLYMER
M.W.	10
P.V.	25
Y.P.	32

Hydraulics

SPP (psi)	2300
Flow (gpm)	1000
Bit Pressure	1120
H.S.I	5.5

Bit Performance

In	Out	M	Hours	ROP	WOB	RPM	V/D
2396	2807	411	19.3	21.30	40	240	V
IADC Hours			-	-	M/Hr IADC ROP		
TVD (In/Out)				Inc (In/Out)		3.4	3.2
Vert. Sec				Azm (In/Out)		226	72

Rig Dull Grading

1	1	LT	G	X	I	BU	TD

REEDHycalog Dull Grading

NOT GRADED

Comments

Bit ran in initially for a correction run on a bent motor. Bit achieved all objectives, whilst providing good ROP to TD. Cutting structure has come out with minor wear, and occasional mechanical damage to the Gauge cutters. This suggests moderate lateral vibration. The ROP achieved, and the low levels of calculated MSE during the run suggests that this was not at a level which inhibited performance.

12.25in Bit #5 – REED HYCALOG RSX616M-A10

bass strait consortium

Well Name: Fermat 1

HALLIBURTON
Drilling and Formation Evaluation

Run Date	2-Jan-2009
Permit/Field	Otway
Bit No.	6
Run No.	6
Bit Size (in.)	8 1/2"
Manufacturer	SDBS
Bit Type	SE3653Z
Serial No.	11001928
IADC Code	M423
Gauge Length (in.)	2
Cutters (count x size)	36
Nozzles (-/32 in.)	6 x 14
TFA (sq.in.)	0.902
Depth In (m)	2807
Depth Out (m)	3585
Interval Drilled (m)	778
On Bottom Hours	42.4
IADC Hours	57.5
Average ROP (OB)	
Average ROP (IADC)	18.30
Inclination In (deg)	3.20
Inclination Out (deg)	7.80
Azimuth In (deg)	
Azimuth Out (deg)	
Max. DLS (deg/30m)	
BHA: Pendulum.	
WOB (klbs)	18
Surface RPM	90
Downhole Tool RPM	0
Total RPM	90
kRevs	216
Flow Rate (gpm)	700
Pump Pressure (psi)	2900
Mud Type	KCL/Polymer
Mud Weight (ppg)	11
HSI	4.86
Formations Drilled: Claystone/Sandstone/Siltstone	
Dull Condition	1,1,I,CT,N,X,I,NO,TD
Comments: 7 chipped cutters in cone area. Significant erosion especially in nose and shoulder. Small section of matrix gouged from gauge area, most likely occurring on impact with shoe.	

Attachment 3

Mud Report

HALLIBURTON

Fluid Systems

BAROID FLUID SERVICES RECAP

BEACH PETROLEUM LTD
WEST TRITON
OTWAY BASIN, VICTORIA

Fermat-1

Prepared by: E. Edwards
K. Georgiou
M. Flexmore
B. Auckram

Date: 23rd January, 2009

Table Of Contents

1. WELL SUMMARY

1.1 Well Data

Well Name	:	Fermat-1
Operator :		Beach Petroleum
Well Type	:	Vertical / Exploration
Bottom Hole Temperature	:	80° C
Maximum Inclination	:	7.28 degrees
Location :		VIC/P46
Contractor/Rig :		West Triton
Start Date (Rig)	:	10/12/2008
Baroid On Location	:	13/12/2008
Drill Out Date	:	14/12/2008
RT to Mudline	:	77 m
Total Depth	:	3,585 m
Date TD Reached	:	06/01/2009
Total Days Actual Drilling	:	19
Date Released	:	13/01/2009
Total Days on Well (Baroid)	:	32
Drilling Cuttings Volume	:	2,078 bbl

1.2 Formation Tops

Formation	MDRT (m)	Length (m MD)	Actual (m MD)
Heytesbury Group	76.7 – 492	415.3	76.7
Nirranda Group	492 – 576	84	492
Dilwyn Formation	576 – 963	387	576
Pembe Mudstone	963 – 1075	112	963
Pebble Point Formation	1,075 – 1,092	17	1,075
Timboon Sandstone	1,092 – 1,245	153	1,092
Paaratte Formation	1,245 – 1,705	460	1,245
Skull Creek Mudstone	1,705 – 1,850	145	1,705
NullaWaarre Greensand	1,850 – 1,905	55	1,850
Belfast C&B Mudstone	1,905 – 2,160	255	1,905
Belfast A Mudstone	2,160 – 2,873	713	2,160
Flaxman Formation	2,873 – 3,186	313	2,873
Waarre Unit C	3,186 308		3,186
Total Depth			3,585

1.3 Casing Program

30”	Conductor	@	116 m MD
13 3/8”	Surface Casing	@	987 m MD
9 5/8”	Intermediate Casing	@	2,807 m MD

1.4 Personnel

Drilling Supervisors	:	Sean De Freitas	Rocco Roussow	Peter Sheehan
:		Peter Dane		
Baroid Field Service Reps.	:	Eugene Edwards	Mike Flexmore	Kosta Georgiou
	:	Brian Auckram		

2. COST SUMMARY

2.1 Drilling Fluid Costs

	Drilling Fluid	Hole Size	MD From	MD To	Cost USD
1.	Seawater & Bentonite sweeps	36”	76 m	119 m	5,456.78
2.	Seawater & Bentonite sweeps	17 ½”	119 m	999 m	24,434.70
3.	KCL / POLYMER	12 ¼”	999 m	2,807 m	189,528.04
4.	KCL / POLYMER	8 ½”	2,807 m	3,585 m	39,532.12
Mud Materials Used For Drilling				**USD $**	**258,951.64**
Mud Materials Used For Cementing				**USD $**	**3,605.67**
Mud Materials Used For Completion				**USD $**	**0**
Other Materials Used (Cleaning Pits & Rig Cleaning)				**USD $**	**0**
Products Lost / Damaged				**USD $**	**23.53**
Bulk Materials Dumped at End of Contract				**USD $**	**113,507.76**
Total Materials				**Total USD $**	**376,088.60**

2.2 Engineering Costs

Service Representatives	From (date)	To (date)	Days
Eugene Edwards	10/12/08	21/12/08	12
Kosta Georgiou	10/12/08	22/12/08	13
Mike Flexmore	22/12/08	31/12/08	10
Brian Auckram	23/12/08	7/01/09	16
Eugen Edwards	04//01/09	12/01/09	9
Kosta Georgiou	08/01/09	13/01/09	6
Total Days:			**66**
Total Engineering Cost:	**@ USD $ 1,250**	**USD $**	**82,500.00**
Total Well Cost:		**USD $**	**458,588.60**

3. PERFORMANCE SUMMARY

3.1 Comments

The objective of this well was to assess the presence of hydrocarbons in the Flaxman and Waarre Formations. The secondary targets assessed were the Pebb le Point, NullaWaarre Greensand and Waarre Formation (unit A).

The well was drilled vertically from 76 m to a TD of 3,585 m utilizing four separate intervals.

At well TD, the hole was logged and then plugged back, followed by an abandonment programme.

3.2 Performance Indicators

Interval 1. (76 m – 119 m) - 36" Interval	Program	Actual	Achieved (+/- 10 %)
• D rilled, m	39 43		Yes
• Volume Built, bbl (E xcludes volume carried over to next interval 788 bbl)	983 788		No
• Dilution Rate, bbl/m	NA N	A	NA
• Consumption Rate, bbl/m	25.2 1	8.33	No
• Mud Cost / bbl, US$	7.37 6.92		No
• Mud Cost / m, US$	185.80 126.9	0	No
• Interval Mud Cost, US$	7,246.16 5,456.78		No

Interval 2. (119 m – 999 m) - 17 ½" Interval	Program	Actual	Achieved (+/- 10 %)
• D rilled, m	880 880		Yes
• Volume Built, bbl (includes volume carried over from previous interval 788 bbl)	7,177 3,6	00	No
• Dilution Rate, bbl/m	NA N	A	NA
• Consumption Rate, bbl/m	8.2 3.20		No
• Mud Cost / bbl, US$	5.06 8.69		No
• Mud Cost / m, US$	41.30 27.7	7	No
• Interval Mud Cost, US$	36,340.04 24,434.70		No

Interval 3. (999 m – 2,807 m) - 12 ¼" Interval	Program	Actual	Achieved (+/- 10 %)
• D rilled, m	1,700 1,8	08	Yes
• Volume Built, bbl	3,958 3,7	56	Yes
• Dilution Rate, bbl/m	1.2 1.09		Yes
• Consumption Rate, bbl/m	2.33 2.08		Yes
• Mud Cost / bbl, US$	52.73 50.4	6	Yes
• Mud Cost / m, US$	122.75 104.8	3	Yes
• Interval Mud Cost, US$	208,676.86 189,528.04		Yes

Interval 4. (2,807 m – 3,585 m) - 8 ½" Interval	**Program**	**Actual**	**Achieved (+/- 10%)**
• D rilled, m	1,300 778		No
• Volume Built, bbl	1,254 250		No
• Dilution Rate, bbl/m	0.70 1.24		No
• Consumption Rate, bbl/m	0.96 0.32		No
• Mud Cost / bbl, US$	88.57 158.1	3	No
• Mud Cost / m, US$	85.45 50.8	1	No
• Interval Mud Cost, US$	111,083.68 39,532.12		No

3.3 Explanation of Non-Conformance

Interval 1: 36"
The amount of prehydrated bentonite built for the 36" interval exceeded programmed volumes. This was because it was intended to carry over excess volume to the procee ding 17 ½" interval. Approximately 1,576 bbl of Hi-vis prehy drated bentonite (PHB) mud was built for the 36" interval. Half of this volume (788 bbl) was carried over and charged off to the next interval.
The actual v olume consumed and respective costs for this interv al were below the programmed values due to less Hi-vis sweeps being pumped than programmed.

Interval 2: 17 ½"
The volume of prehydrated bentonite built for this interval was much less than programmed. This was due to the slow ROP for much of the interval allowing for better hole cleaning with sea water alone. The 17 ½" section was finish ed with a 200 bbl Hi-v is sweep that was circulated out with sea-water. After the sweep the programme ca lled for 1.5 times the open hole v olume (around 1,200 bbl) to be displaced to PHB mud. However, only 300 bbl of the required volume was displaced prior to suspected down hole problem s. Displacement wa s discontinued and the bit pulled to surface.

Interval 3: 12 ¼"
All costs and associated mud volumes conformed with programmed specif ications. Mud used to drill the 12 ¼" section was carried over into the 8 ½" interval.

Interval 4: 8 ½"
Mud costs for the 8 ½" portion of the well were much lower then programmed. Most of the volume used was built and charged off in the previous 12 ¼" interval. The majority of the costs in the 8 ½" interval were for treatment and maintenance especially after drilling out the casing shoe. The volume calculations and associated fluid costs were based on a TD of 4000 m, which was contingent on hydrocarbon shows. Since this di d not happen it was not necessary to build the extra volume to drill the extra 400+ m to the secondary TD.

Miscellaneous:
- One sack of BAROFIBRE FINE was damaged in the sackstore. This was unrecoverable and had to be disposed of. Cost = USD 23.53
- Ov er the duration of the well 4 sacks of Citric Acid, 7 Mt of Barite and one can of BARADEFOAM-W300 was used for cementing purposes at a cost of USD 3,605.67
- At the end of the contract a considerable amount of Barite, Bentonite and some KCL brine were remaining on the rig. This material was diluted with seawater in the mud pits and dumped over the side prior to the rig mov ing off contract with B each Petroleum. The cost of this produ ct that was not used for drilling purposes served to inflate the overall fluid cost by USD 113,507.76

4. INTERVAL - 1

4.1 SUMMARY

36" Hole From 76 m To 119 m In 1 Day

Drilling Fluid Seawater and Bentonite Sweeps
Formations Heytesbury Group

Fermat-1 was spudded on 14th December 2008.

The 36" interval was drilled riser-less, using seawater and unweighted Hi-vis flocculated spud mud sweeps from 76 m to 119 m. The spud mud used for sweeps was built from pre-hydrated bentonite at 30-35 ppb and cut back with seawater once hydrated. The PHB was flocculated by the addition of lime prior to pumping. 50-75 bbl sweeps were pumped as required to clean t he hole. All mud returns to seabed.

After drilling to 119 m, a 200 bbl flocculated PHB sweep was pumped to clean and displace the hole to 30 ppb prehydrated bentonite, prior to POOH for casing run.

The 30" conductor was run to bottom with no problems. It was then cemented as per programme.

Properties	Programmed		Actual (Typical Drilling)		
	Min	Max	Min	Max	Conformance
Mud Weight, ppg	ALAP	ALAP	8.7	8.8	Yes
6 rpm, lb/100 ft²	>40		43	51	Yes
YP, lbs/100ft^2 >50			74	77	Yes
Viscosity, sec/qt	>100		400	500	Yes
pH 8		9.5	8	9	Yes

Explanation of Non-Conformance

- All properties conformed to programmed requirements.

Maintenance

- The bentonite used was first prehydrated in dril l water at a concentration of 30-35 ppb. This was then cut back to 20-25 ppb using seawater . Lime was added at 0.25 ppb prior to use to enhance viscosity thro ugh flocculation. Soda ash was used to tre at out any divalent ions from the makeup drill water which also helped to obtain the required alkalinity.

- Sea water was used from Pit 6 fo r drilling. The prehydrated bentonite was prepared in Pits 3, 4 and 8. The PHB was mixed with sea water in pit 5.

INTERVAL - 2

4.2 SUMMARY

17 ½" Hole From 119 m To 999 m In 2 Days

Drilling Fluid Seawater and Bentonite Sweeps
Formations Heytesbury, Nirranda Dilwyn and Pember formations

The 17 ½" interval was drilled riser-less, using seawater and unweighted PHB spud mud sweeps from 119 m to 999 m. The spud mud used for sweeps was built from pre-hydrated bentonite at 30-35 ppb and cut back with se awater. Once hydrated and flocculated lime was added for further flocculation prior to pu mping. The 50 bbl sweeps were pumped every single, or as requ ired to clean the hole. All mud returns were to the seabed.

After drilling to 999 m, a 200 bbl Hi-vis sweep wa s pumped and then displaced out the well with seawater. The well was then intended to be disp laced with neat PHB. 300 bbl of the intended 1,200 bbl (1.5 x hole volume) was pumped before a loss of pump pressure occurred. Erring on the side of caution it was decided to terminate the displacement and PO OH to assess possible BHA damage. Upon reaching surface it was found that one jet and an MWD sonic shield were missing.

The 13 3/8" casing was run to bottom with no problems. It was then cemented as per program.

Properties	Programmed		Actual		
	Min	Max	Min	Max	Conformance
Mud Weight, ppg	ALAP	ALAP	8.8	8.8	Yes
6 rpm, lb/100 ft²	>40		43	51	Yes
YP, lbs/100ft^2 >50			74	77	Yes
Viscosity, sec/qt	>100		400	500	Yes
pH 8		9.5	8.5	9	Yes

Explanation of Non-Conformance

- All properties conformed to programmed guidelines.

Maintenance

- The bentonite used was first prehydrated in dril l water at a concentration of 30-35 ppb. This was then cut back to 20-2 5 ppb using seawater . Lime was added at 0.25 ppb prior to use to enhance viscosity through flocculation. Soda ash was used to tre at out any divalent ions from the makeup drill water which also obtained the required alkalinity.

- Sea water was used from Pit # 6 for drilling. The prehydrated bentonite was prepared in Pits 3, 4 and 8. The PHB was mixed with sea water in pit 5. One pit of guar gum was mixed in pit 2 as a contingency.

INTERVAL - 3

4.3 SUMMARY

12 ¼" Hole From 999 m To 2,807 m In 10 Days

Drilling Fluid KCL/Polymer
Formations Pebble Point, Timboon, Paaratte, Skull Creek, NullaWaarre, Belfast

The 13 3/8" casing plugs and shoe track were drilled using seawater. Prior to exiting the shoe-track the hole was displaced to 9.35 ppg KCL/Polymer mud. After drilling 3 m of new hole a LOT test was performed to 15.0 ppg EMW.

This 12 ¼" interval was drilled from 999 m to TD at 2,807 m using 6-8 % KCL/Polymer mud.

Only 1 trip was made at 2,396 m for a corrective BHA change due to inclination exceeding the window objective. The new BHA was successful in bringing back the inclination. Besides some minor drag across the Timboon Sands, there was no abnormal drag or overpull observed throughout the interval.

Drilling rates were initially between 40 and 60 m/hr throughout the lower Wangerrip and upper Sherbrook massive sand sequences. However throughout the shale and siltstone sequence of the Belfast Group the ROP slowed to 7-20 m/hr.

Indications of overpressure were evident towards the bottom of this interval across the lower Belfast-A shales. The mudweight was then raised to 10.0 ppg and drilling continued without any further problems. Just prior to TD downhole seepage loss was observed between 15-20 bbl/hr. Calcium carbonate bridging agent was added and these losses stopped immediately.

At section TD, the hole was circulated clean after 3 x bottoms up and POOH began. Once again hole assumed in good shape with only minor drag at 1,132 m across the Timboon sands.

The 9 5/8" casing was run to bottom and cemented as planned. However the cement plug did not bump.

Properties	Programmed		Actual (Typical Drilling)		
	Min	Max	Min	Max	Conformance
Mud Weight, ppg	9	10	9.3	10	Yes
PV, cp	ALAP		14	23	Yes
YP, lbs/100 ft^2 25		30	27	37	No
6 rpm, lbs/100 ft^2 12		16	11	16	No
pH 8.5		9.5	8.5	9	Yes
KCL, %bw	6	8	6.7	8	Yes
API WL, mL/30 min		6	4.4	5.6	Yes
HPHT, 250°F, 500 psi differential		12	10	11.4	Yes
Excess PHPA	2	3	2.4	2.4	Yes

Explanation of Non-Conformance

- The initial concentration of polymers was below programmed levels. This was to ensure no loss of whole mud over the shakers during the initial mud shearing after the displacement. The concentrations of polymer were increased gradually to programmed levels until mud properties were in specification, as the mud sheared and screens were fined up.
- The YP was elevated at times which resulted from maintaining the low-end 6 rpm rheology within the specified range.

- Overall the mud properties conformed to the programme throughout the drilling of this interval and there were no prolonged deviations.

Maintenance

- There was some evidence of cement contamination after displacement – the mud was treated with citric acid to lower the pH and soda ash was added to precipitate out the Ca++ ions.
- The KCL used was in the form of brine shipped out to the rig. This brine was prepared having a KCL content of 20% bw. All premixes prepared contained an equivalent concentration of 6-8 % bw KCL.
- The initial makeup contained no EZ-MUD or CLAYSEAL PLUS. This was added only after drilling out the casing shoe, once pH and Ca++ levels had minimized to a normal level. In so doing preventing a threat of cement contamination from adversely affecting these products.
- Ongoing rheological maintenance using BARAZAN-D PLUS was necessary to maintain required low-end rheology (6 rpm readings) of 11-16 lbs/100 sqft.
- For clay encapsulation and wellbore maintenance EZ-MUD Liquid was maintained at 2.4 ppb while CLAYSEAL PLUS was maintained at 2% v/v concentration (6.5 ppb).
- Towards the end of the interval it became apparent that the EZ-MUD concentration, of 2.4 ppb, was creating higher than required rheology. Because of this further EZ-MUD additions were halted just prior to interval TD.
- From the top of the Sherbrook Group formations, temperatures increased and signs of mud dehydration became apparent. A small stream of drill water was then added continuously to the flowline, at a rate of 2.5 bbl/hr to maintain the water phase. This water treatment continued through to section TD.
- Towards the base of the Belfast A Mudstone group, there appeared to be indications of increased pore pressure with evidence of minor cavings and increased background gas. In response to this the mudweight was raised to 10.0 ppg to counteract the overpressure. No further problems were observed.

Solids Control Equipment

- The 4 VSM 300 shakers were dressed with API 50 mesh screens for the initial displacement of un-sheared KCL/Polymer mud. Shortly after the displacement the screens were replaced gradually with a combination of API 120 mesh and API 140 mesh screens.
- However this was short lived as the sands in the upper Sherbrook Group caused significant blinding and loss of whole mud at the surface. These screens were then replaced with RHD 145 (API 80 mesh). No further issues were observed.
- The centrifuges were run throughout the interval in barite recovery mode to control the buildup of sand and LGS while retaining the barite.

EVALUATION

<u>Comments</u>

There were no mud related issues that required to be addressed.

Problems, Causes, Remedial Action Taken or Recommended

Hole Conditions

1) Problem: Seepage losses at times between 10-20 bbl/hr
   Cause: Permeable sand lenses in the Belfast Mudstone Formations
   Action: Generally these losses would self heal. However at 2,750 m losses continued necessitating the treatment using 10 ppg CaCO3 (medium & fine) bridging agents. Losses stopped immediately.

2) Problem: Minor cavings and increased background gas
   Cause: Possible overpressure of the lower Belfast A Mudstone formation
   Raised mudweight from 9.6 to 10.0 ppg. No further problems.

Drilling Fluid

1) Problem: High rheology
   Cause: At 2.5 ppb EZ-MUD concentration
   Action: Temporary stoppage of EZ-MUD treatments to allow concentration to drop.

2) Problem: Mud dehydration
   Cause: Elevated flowline temperature and evaporation causing drop in water phase
   Action: Small stream of drillwater was added just after the shakers into the flowline at 2.5 bbl/hr

Solids Control and Mud Mixing Equipment

1) Problem: Buildup of sand and LGS
   Cause: Formation and coarse screens
   Action: Ran centrifuges continuously in barite saving mode. No further sand and LGS issues.

RECOMMENDATIONS FOR IMPROVEMENT

Drilling Fluid

- No recommendations or changes to the system need be applied.
- The use of EZ-MUD liquid in place of the powder form proved to be practical and without any mixing issues.

Solids Control and Mud Mixing Equipment

- No centrifuge hand was available. The units were run by the rig crew in what appeared normal running mode. However there was no expertise on hand to determine this. In future the running of these machines should be avoided if there are no dedicated centrifuge hands available.

Other issues

- None.

INTERVAL - 4

4.4 SUMMARY

8 ½" Hole From 2,807 m To 3,585 m In 6 Days

Drilling Fluid KCL/Polymer
Formations Flaxman, Waarre

There were numerous problems setting the casing seal assembly prior to drilling this section. After considerable difficulty the BHA was made up and Run In Hole. The top plug was tagged at 2,752m and the cement and shoe drilled out with mud carried over from the 12 ¼" section. While drilling out the cement the mud was weighted to 10.3 ppg. At 2,810m a Formation Integrity Test performed to 16.0 ppg EMW. The CLAYSEAL PLUS and PHPA concentrations were also increased at this time to increase inhibition.

There was considerable cement contamination of the mud as a result of drilling cement. This was unexpected, but was not difficult to treat. Mud properties showed the after effects for approximately 24 hours. The mud initially required additions of Sodium Bicarbonate to treat the abnormally high residual hardness, as well as Soda Ash once the citric acid had brought the pH into programmed specification. In addition, extra fluid loss control chemicals were required to restore the desired properties.

The shakers were screened up with available used 255 mesh screens and in addition the centrifuges were run in barite recovery mode while drilling.

Drilling continued to 3,005 m where we circulated due to increased torque and gas.
At 3,019 m the gas levels increased, drilling was halted and the well was circulated until gas levels were assessed. The mud was weighted up to 10.5+ ppg in response to these conditions as drilling continued to 3,056 m where there was a drilling break. After a negative flow-check drilling continued.
Mud properties were maintained with additions of premix. Drilling continued without incident to 3,585 m where the hole was circulated clean prior to POOH.

While pulling out the hole tight spots were noted from 3,510 m to 3,451 m.
At 2,415 m it became necessary to wash and back ream. The hole was reamed down to 3,420 m and then tripping normally resumed from 3,420 to 3,081 m.
It was necessary to back ream 3,081 to 2,948 m again and also necessary to ream back out at the shoe.
On running in for the wiper trip the hole showed signs of instability and the mud was weighted up to 11.0 ppg. Tripping out following this weight-up was without incident.

Properties	Programmed		Actual (Typical Drilling)		
	Min	**Max**	**Min**	**Max**	**Conformance**
Mud Weight, ppg	10	12	10.3	11	Yes
PV, cp	ALAP		14	22	Yes
YP, lbs/100 ft^2 25		30	32	40	No
6 rpm, lbs/100 ft^2 12		16	13	16	Yes
pH 8.5		9.5	8.5	10	No
KCL, wt%	8	12	6.8	7.1	No
API WL, mL/30 min		6	5.6	6	Yes
HPHT, 250°F, 500 psi differential		12	11	12	Yes
Excess PHPA	2	3	2	2.7	Yes

Explanation of Non-Conformance

- The KCL was supplied to the rig as built brine. In order to increase the KCL concentration additional brine had to be added. However this section began with large amounts of premix built during the previous interval as a contingency for losses. This was used first and the opportunity to add additional KCL did not eventuate before TD was called. Cuttings returns were monitored at the shakers throughout the interval and no sticky cuttings were noticed indicating that levels of inhibition were adequate despite lower than programmed KCL levels.

Maintenance

- There was evidence of severe cement contamination. The mud was treated with Citric acid to lower the pH. Sodium bicarbonate and Soda ash was added to precipitate out the Ca++ ions.
- The KCL used was in the form of brine shipped out to the rig. This brine was prepared having a KCL content of 20 % bw. All premixes prepared contained an equivalent concentration of 8-10 % bw KCL.
- The mud contained 2 % CLAYSEAL PLUS and this was increased to 3 % after drilling out the casing shoe, once pH and Ca++ levels had minimized to a normal level. In so doing preventing a threat of cement contamination from adversely affecting the mud system.
- PAC-LE and DEXTRID LTE was added to the active mud system to maintain fluid loss below 6 ml/30 min.

Solids Control Equipment

- The 4 VSM 300 shakers were dressed with API 120 mesh screens. As soon as possible after drilling out the shoe the screens were fined up to API140 mesh.
- The centrifuges were initially utilized in barite recovery mode; however there was an electrical fault with one unit. A single centrifuge was run for the last 24 hours of drilling.
- The centrifuges broke down toward the end of the section. This may be attributable to poor maintenance during the previous section. It should be noted that the FES Centrifuge Hand had not been on the rig in the previous section and the centrifuge had been operated by rig personnel. It appears these personnel may not have been familiar with correct equipment start up, shut down and flushing procedures.
- The scalper screens were initially fitted with 10 and 20 mesh screens.

EVALUATION

Comments

The mud performed well. However, tight hole was experienced with the lighter 10.5-10.6 ppg mud on the trip out at TD. It was not sufficient to pull out of the hole at 3,585 m and a decision was made to weight up the mud to 11.0 ppg. After the mudweight was increased there were no significant tight spots encountered on the trip out.

Problems, Causes, Remedial Action Taken or Recommended

Hole Conditions

1) Problem: Tight hole pulling out from 3,585 m.
   Cause: There was some indication of sloughing shale at the shakers while circulating after running back to bottom. Possible formation expansion.
   Action: Increased mud weight from 10.6 ppg to 11 ppg and POOH.

Drilling Fluid

1) Problem: Potential for mud dehydration
   Cause: Elevated flowline temperature exceeding 70° C, high evaporation causing dropping water phase
   Action: Small stream of drillwater was added just after the shakers into the flowline approximately 2 bbl/hr.

Solids Control and Mud Mixing Equipment

1) Problem: Electrical fault and mono pump failure of one centrifuge.
   Cause: Mono pump ran empty at some point. Electrical fault unexplained.
   Action: Ran single centrifuge.

RECOMMENDATIONS FOR IMPROVEMENT

Drilling Fluid

- Small stock of KCL sacks should be kept for KCL/Polymer intervals to adjust KCL content without significantly increasing the volume or adversely interfering with the mud properties, as is the case with whole brine add itions. This will save hav ing to mix full premixes to maintain chemical concentrations.

Solids Control and Mud Mixing Equipment

- A centrifuge hand should be kept on board while drilling. This will ensure optimal operation and maintenance of the unit.

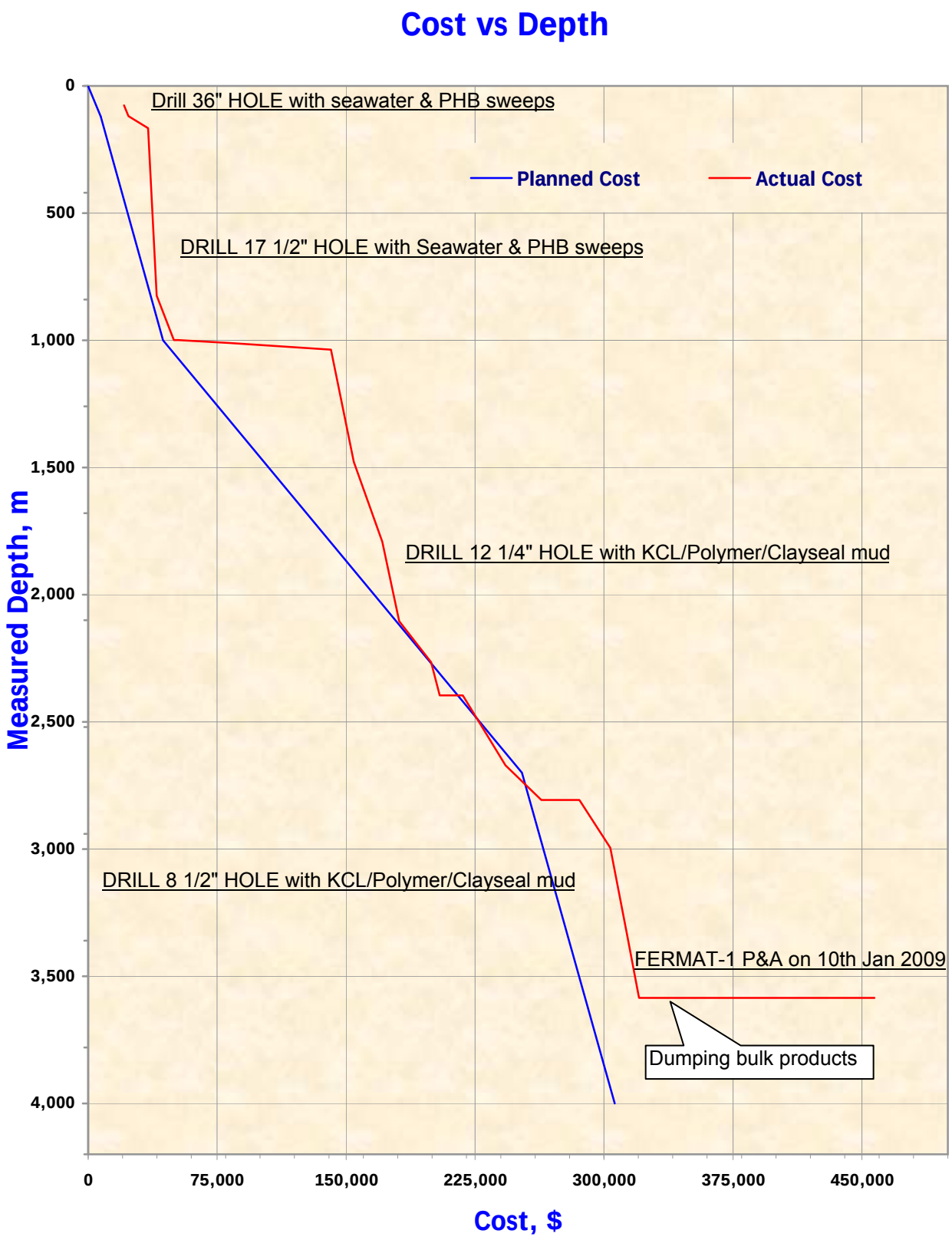
Other issues

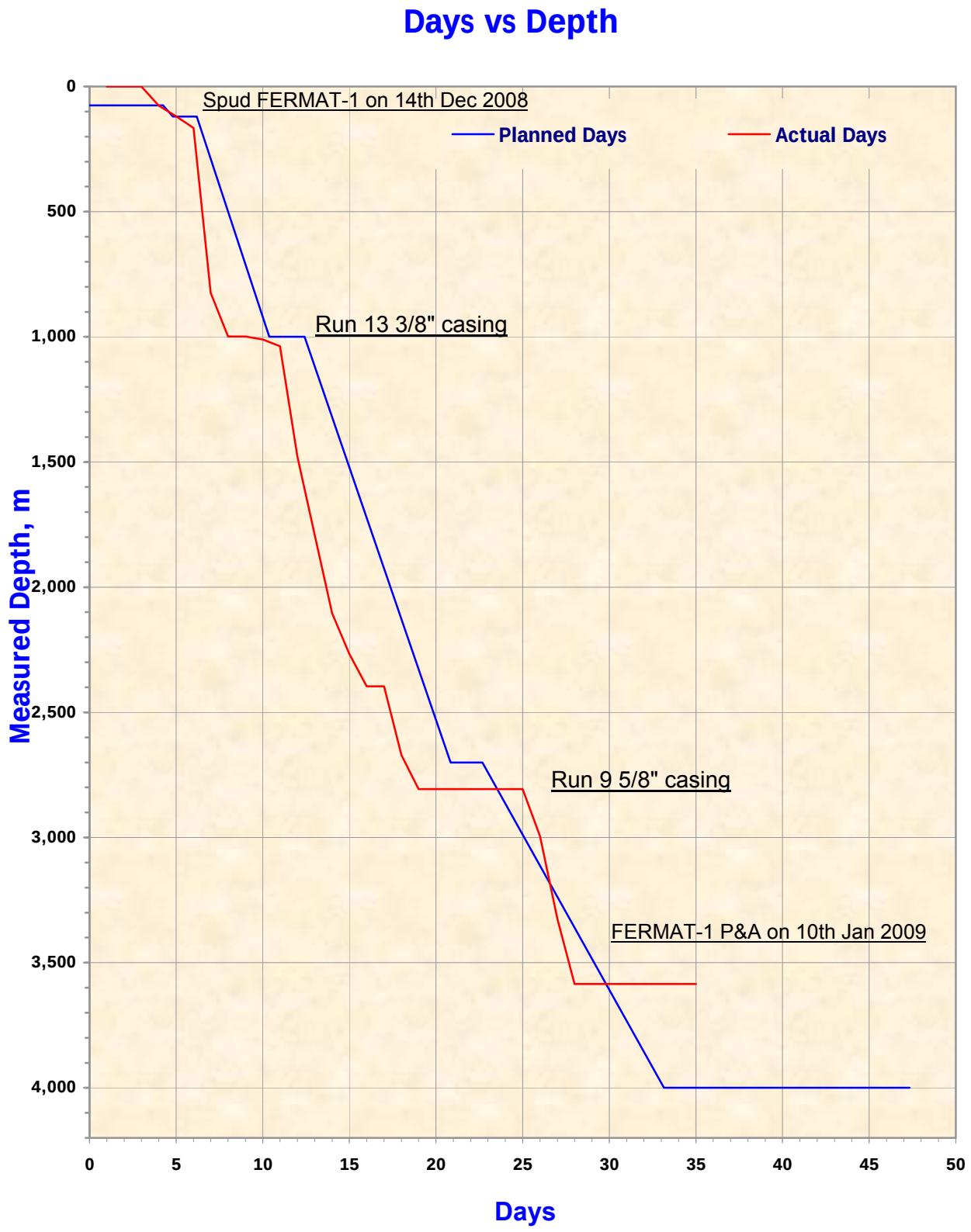
- None.

5. PLUG AND ABANDONMENT PROGRAMME

A decision was made to plug and abandon Fermat-1 after consultation of electric logs.
A cement stinger was RIH. Fill was tagged at 3,579 m (approximately 6 m of fill) and circulation was established to clear out some of the debris. Large cuttings volumes were seen at the shakers and Hi-vis pills were pumped to help clean the hole. A plug was spotted from 3,327 to 3,127 m to isolate the lower zones. Later the top of the plug was tagged at 3,119 m. Further plugs were spotted from 3,119 to 2,969 m and 2,969 to 2,830 m. A cement plug was placed across the shoe from 2,835 m to 2,700 m. After retrieval of the 13 3/8" casing a final cement plug was set from 160 to 100 m.

GRAPHS

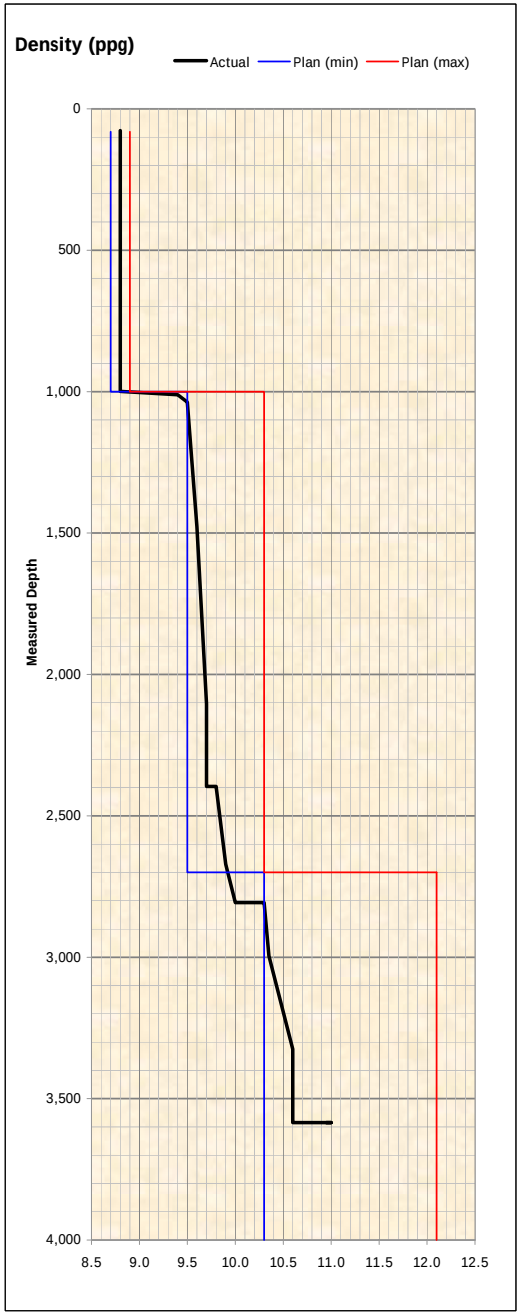

Cost vs Depth
Drill 36" HOLE with seawater & PHB sweeps
Planned Cost
Actual Cost
DRILL 17 1/2" HOLE with Seawater & PHB sweeps
DRILL 12 1/4" HOLE with KCL/Polymer/Clayseal mud
DRILL 8 1/2" HOLE with KCL/Polymer/Clayseal mud
FERMAT-1 P&A on 10th Jan 2009
Dumping bulk products
Measured Depth, m
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
0
75,000
150,000
225,000
300,000
375,000
450,000
Cost, $

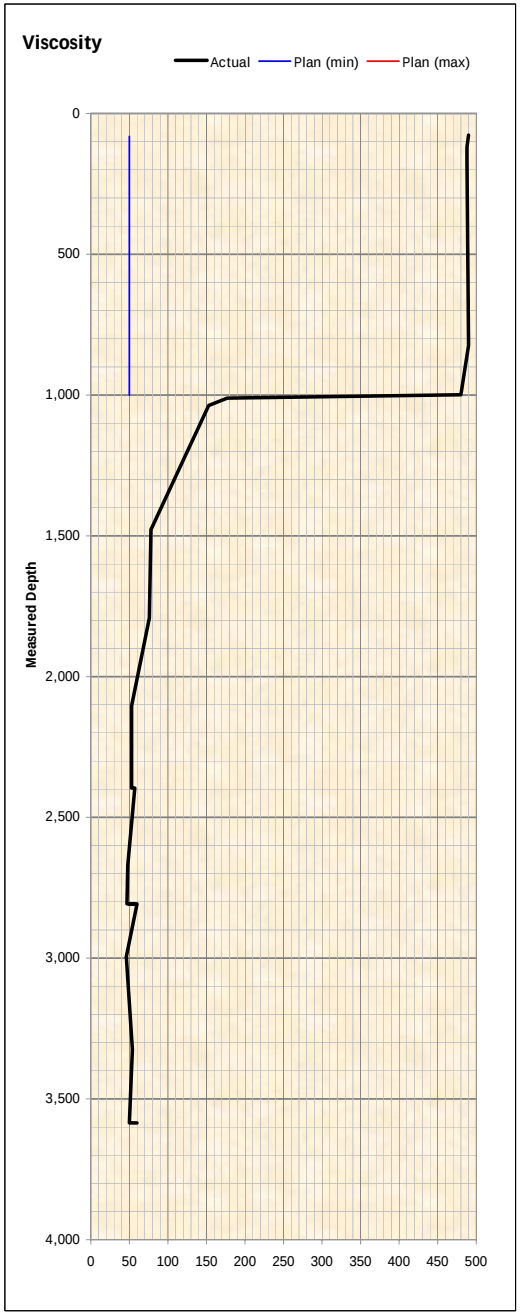

Days vs Depth
Spud FERMAT-1 on 14th Dec 2008
Planned Days
Actual Days
Run 13 3/8" casing
Run 9 5/8" casing
FERMAT-1 P&A on 10th Jan 2009
Measured Depth, m
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
0
5
10
15
20
25
30
35
40
45
50
Days

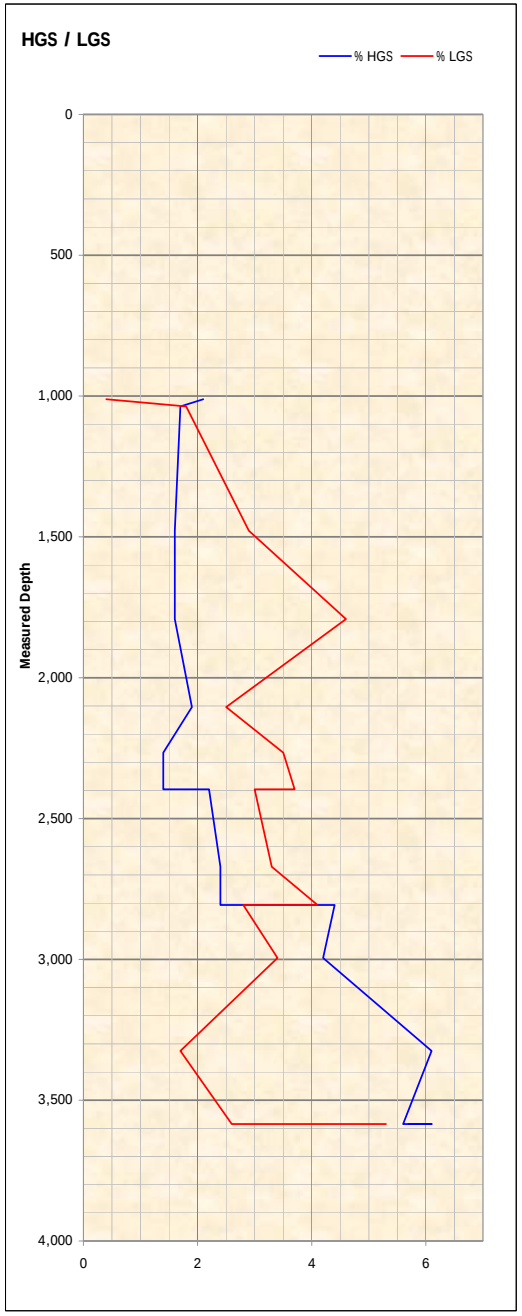
BEACH PETROLEUM Ltd

FERMAT-1

38o 11' 47"S Lat X 141o 3' 13.8"E Long





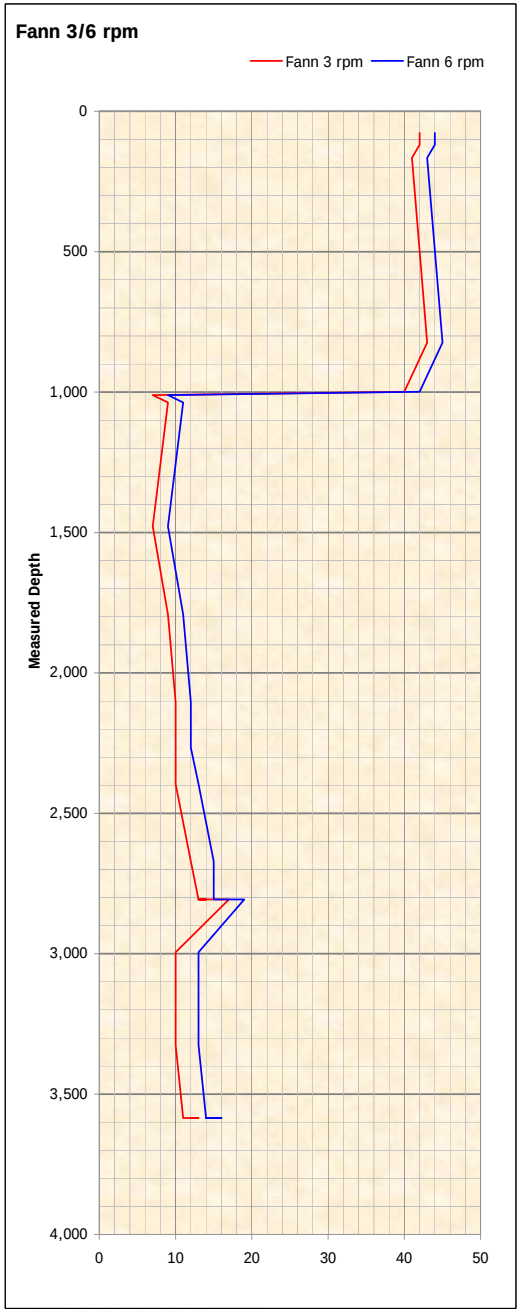


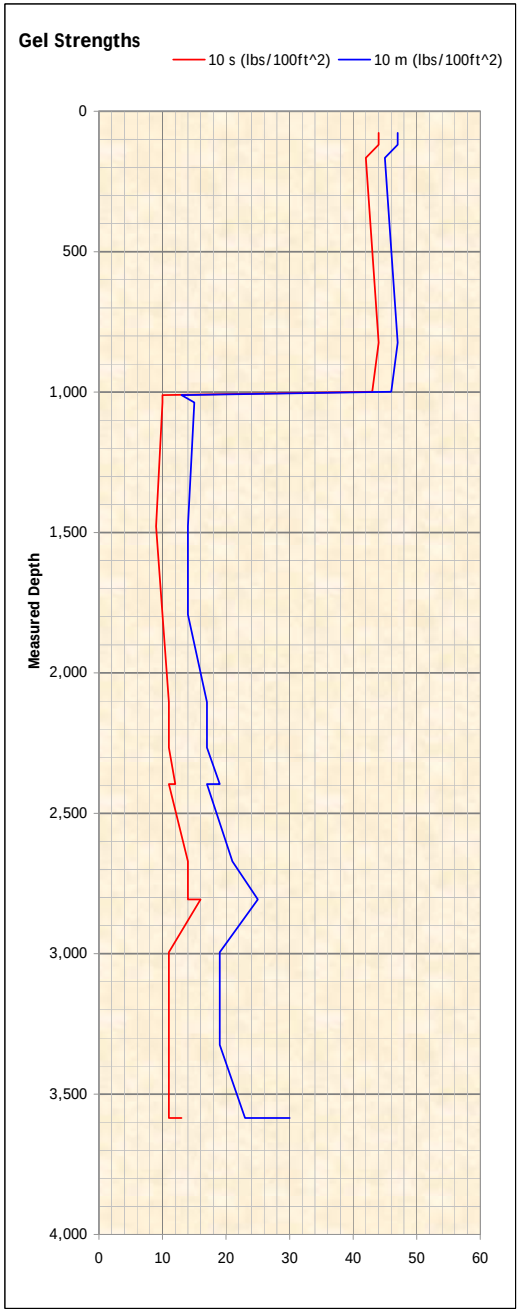
HALLIBURTON
Fluid Systems

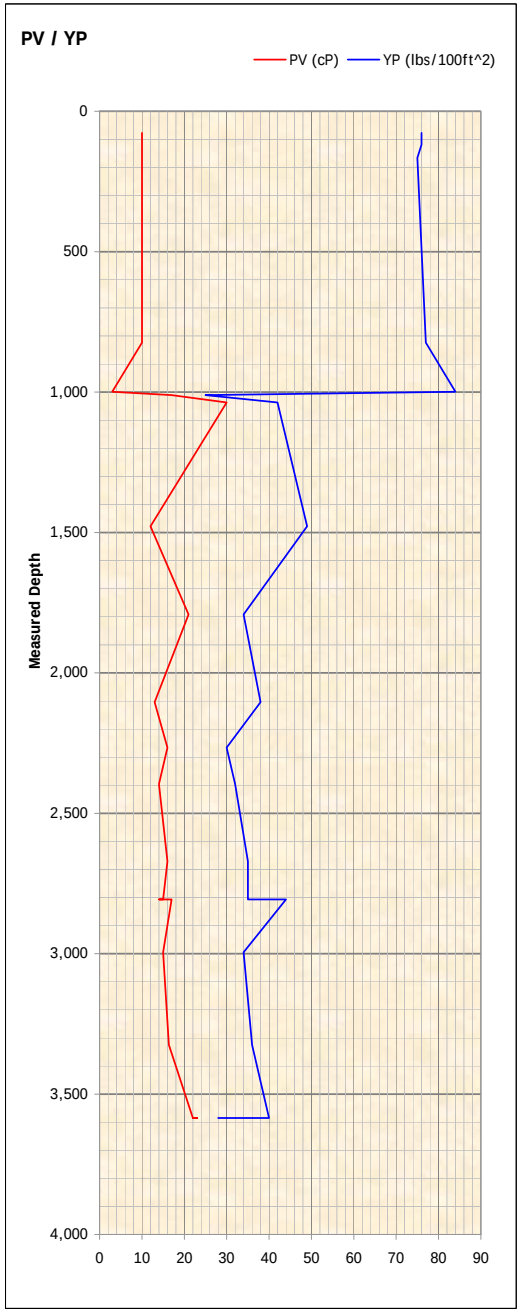
Physical Properties

Baroid Fluid Services

BEACH PETROLEUM Ltd **FERMAT-1** **38o 11' 47"S Lat X 141o 3' 13.8"E Long**







HALLIBURTON
Fluid Systems

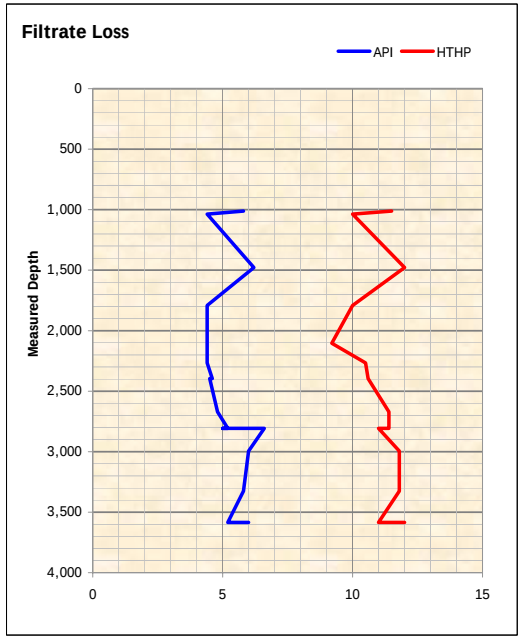
Physical Properties

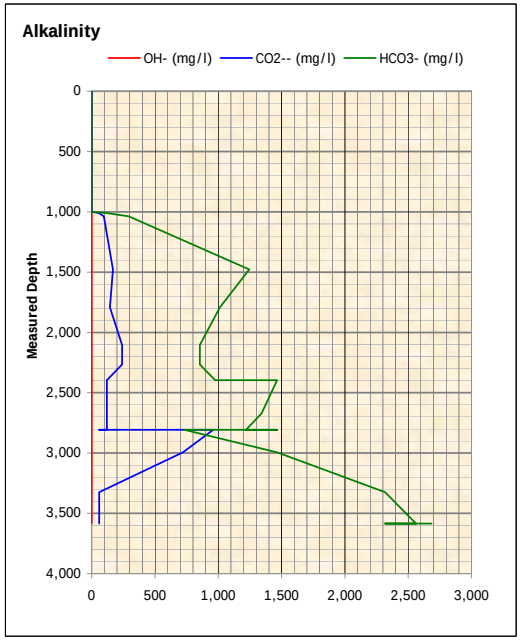
Baroid Fluid Services

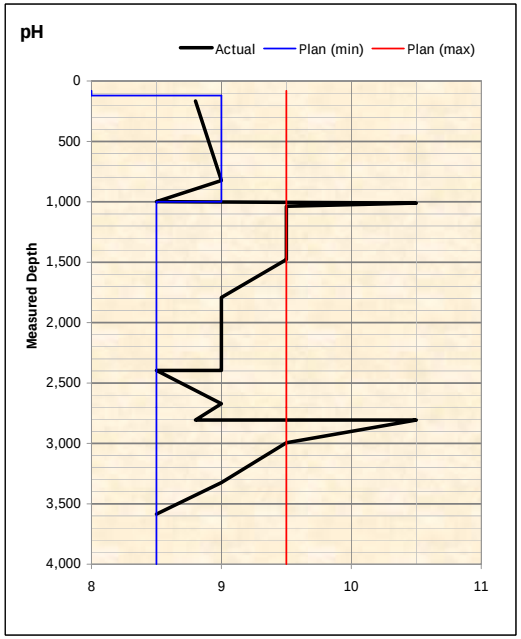
BEACH PETROLEUM Ltd

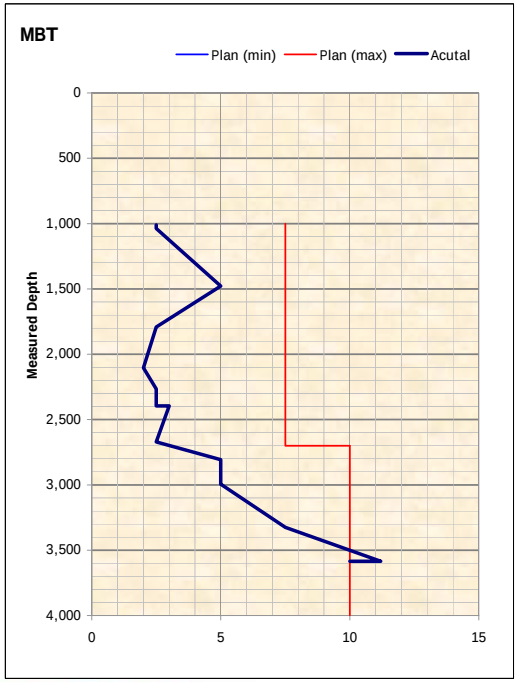
FERMAT-1

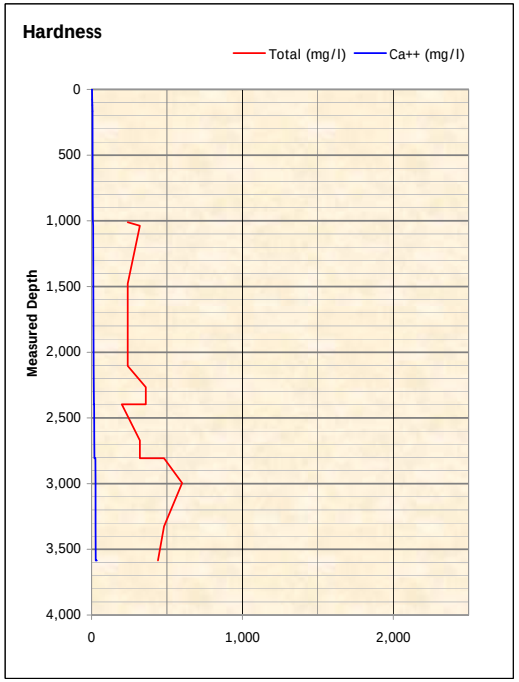
38o 11' 47"S Lat X 141o 3' 13.8"E Long

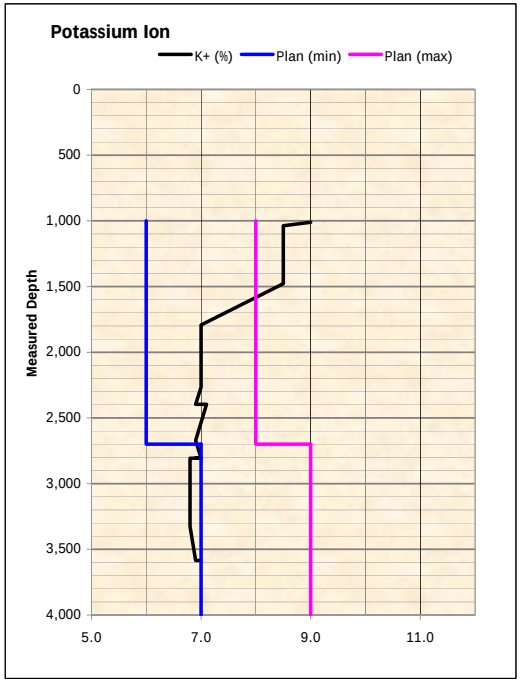












HALLIBURTON
Fluid Systems

WBM Properties

Baroid Fluid Services

POSTWELL AUDIT

Baroid Fluid Services

Well Name	**Fermat- 1**
Operator	**BEACH PETROLEUM**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Well Summary Report

Well Data

Spud Date		13/12/2008	Actual Well Fluid Cost	$	258,951.64
TD Date		06/01/2009	Fluids/Products: Drilling Cost	$	258,951.64
Project			Fluids/Products: Completion Cost	$	0.00
Days on Well (Baroid)		32	Solids Control/Waste Management Cost	$	0.00
From Date		13/12/2008	Fluids/Products: Cementing Cost	$	3,605.67
To Date		13/01/2009	Prod Lost/Damaged Cost	$	23.53
Drilling Days		19	Engineer Services Cost	$	82,500.00
Rotating / Drilling Hours		267.0/249.0	Equipment Cost	$	0.00
Average ROP	m/hr	13.9	Transport/Packaging	$	0.00
Maximum Density	ppg	11.00	Other Cost	$	113,507.76
Total Measured Depth	m	3,585	Total Well Cost	$	458,588.60
True Vertical Depth	m	3,580	Planned Cost	$	363,346.74
Distance Drilled	m	3,461	Fluid Cost Per Fluid Volume (only charged to Fluid Sets)	$/bbl	21.81
Maximum Deviation	deg	7.28	Fluid Cost Per Length Drilled (only charged to Fluid Sets)	$/m	74.82
Max. Horz. Displacement	m	93	Fluid Cost/Vol of Hole Drilled (only charged to Fluid Sets)	$/bbl	127.54
Bottom Hole Temp	Deg C	80	Total Additions/Hole Drilled	bbl/bbl	5.847
Water Depth	m	38	Total Additions/Length Drilled	bbl/m	3.430

Casing Design

Description	Set Date & Time	Top MD m	Top TVD m	End MD m	End TVD m	CSG OD in	CSG ID in	Max. Hole Size in	Hole MD m	Hole TVD m
30 X-52 309.7	12/14/2008 23:59	20	20	116	116	30.000	28.000	36.000	119	119
13.375 J-55 68.0	12/18/2008 23:59	20	20	987	987	13.375	12.415	17.500	999	999
9.625 P-110 53.5	12/30/2008 6:30	20	20	2,800	2,798	9.625	8.535	12.250	2,807	2,805

Baroid Fluid Services

Well Name	Fermat- 1
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Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Well Summary Report

Fluid Program

Int #	Fluid Type	Interval Days	BHT Deg C	Max. Dens ppg	Whole fluid + Mix products	Other material charges	Other charges	Total Interval Cost $		
								Plan	Actual	Variance
1	Seawater Bentonite Mud	5		8.80	10,913.56		12,500.00	7,246.16	23,413.56	16,167.40
2	Bentonite Mud	4		8.80	18,977.92		10,000.00	36,340.04	28,977.92	-7,362.12
3	Bentonite Mud KCl/Polymer	12	65	10.00	189,528.04	3,420.71	30,000.00	208,676.86	222,948.75	14,271.89
4	Bentonite Mud KCl/Polymer	14	80	11.00	39,532.12	113,716.25	30,000.00	111,083.68	183,248.37	72,164.69
Total Well Cost $					**258,951.64**	**117,136.96**	**82,500.00**	**363,346.74**	**458,588.60**	**95,241.86**

Baroid Fluid Services

Well Name	**Fermat- 1**
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Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	ADA/BEACH PETROLEUM

Total Cost Breakdown

	Unit Size	Quantity		Total Cost
Engineering/Services				
Drilling Fluids Engineer	day(s)	35.00		43,750.00
Drilling Fluids Engineer 2	day(s)	31.00		38,750.00
		SubTotal	**$**	**82,500.00**
Fluids/Products: Cementing Cost				
BARA-DEFOAM W300	5 gal can	1.00		96.55
barite	1000 kg bulk	7.000		3,324.16
citric acid	25 kg bag	4.00		184.96
		SubTotal	**$**	**3,605.67**
Fluid/Product: Lost Damage				
BAROFIBRE FINE	25 lb bag	1.00		23.53
		SubTotal	**$**	**23.53**
Other				
barite	1000 kg bulk	149.000		70,757.12
bentonite	1000 kg bulk	53.000		26,228.64
KCL Tech Grade (bulk)	1000 kg bulk	22.000		16,522.00
		SubTotal	**$**	**113,507.76**
Fluids/Products: Drilling Cost				
ALDACIDE G	5 gal can	29.00		2,027.10
BARA-DEFOAM W300	5 gal can	1.00		96.55
BARAZAN D PLUS	25 kg bag	115.00		17,507.60
barite	1000 kg bulk	119.000		56,510.72
bentonite	1000 kg bulk	58.200		28,802.02
caustic soda	25 kg pail	13.00		574.47
Circal 60/16	25 kg sack	125.00		1,266.25
Circal Y	25 kg sack	191.00		2,444.80
citric acid	25 kg bag	24.00		1,109.76
CLAYSEAL PLUS	216 kg drum	57.00		54,528.48
DEXTRID LTE	25 kg sack	229.00		9,288.24
EZ-MUD	25 kg pail	136.00		10,311.52
guar gum	25 kg bag	30.00		2,547.90
Hme Energizer	5 gal can	2.00		240.90
KCL Tech Grade (bulk)	1000 kg bulk	71.400		53,621.40
lime	25 kg bag	8.00		52.40
N-DRIL HT PLUS	50 lb bag	15.00		1,442.25
PAC-L	25 kg bag	176.00		14,409.12
potassium hydroxide	25 kg bag	32.00		1,439.36
soda ash	25 kg bag	40.00		530.00
sodium bicarbonate	25 kg bag	16.00		200.80
		SubTotal	**$**	**258,951.64**
		Total Well Cost:	**$**	**458,588.60**

Baroid Fluid Services

Well	**Fermat- 1**
Operator	**BEACH PETROLEUM**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Net Well Cost Breakdown

Cost Breakdown I $	Interval 01	Interval 02	Interval 03	Interval 04	Total
Fluid/Product: Drilling	10,913.56	18,977.92	189,528.04	39,532.12	258,951.64
Fluid/Product: Comp/Filtration					
Solids Control/Waste Management Cost					
Fluids/Products: Cementing Cost			3,420.71	184.96	3,605.67
Engineering Services	12,500.00	10,000.00	30,000.00	30,000.00	82,500.00
Fluid/Product: Lost Damage				23.53	23.53
Other Cost				113,507.76	113,507.76
Equipment Cost					
Transport/Packaging Cost					
Total Cost	23,413.56	28,977.92	222,948.75	183,248.37	458,588.60

Cost Breakdown II $	Interval 01	Interval 02	Interval 03	Interval 04	Total
Total Products Cost	10,913.56	18,977.92	192,948.75	153,248.37	376,088.60
Total Fluids Cost					
Total Charges Cost	12,500.00	10,000.00	30,000.00	30,000.00	82,500.00
Allocated To / From Other Interval	0.00				
Total Cost	23,413.56	28,977.92	222,948.75	183,248.37	458,588.60
Planned Cost	7,246.16	36,340.04	208,676.86	111,083.68	363,346.74
Variance	16,167.40	-7,362.12	14,271.89	72,164.69	95,241.86

Volume Breakdown bbl	Interval 01	Interval 02	Interval 03	Interval 04	Total
Total Base Fluids Addition					
Total Chemical Addition	55.6	86.4	426.4	62.6	631.1
Total Barite Addition			121.4	56.9	178.3
Total Water Addition	1,490.3	3,229.3	3,207.9	332.4	8,259.9
Total Fluid Built	1,546.0	3,315.7	3,755.7	451.9	9,069.3
Total Fluid Received	420.5	217.4	46.8	2,117.0	2,801.7
Total Influx Addition					
Not Used In Interval		-787.0			
Total Fluid Volume	1,966.5	4,712.6	6,513.5	2,982.8	11,871.0

Baroid Fluid Services

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Operator	**BEACH PETROLEUM**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Interval Summary

Interval #	**1**	**Max Bit Size: 36.000 in**	**Hole Size Avg/Max**	**31.129 / 36.000 in**

Interval Start Date		12/10/2008	Planned Cost	$	7,246.16
Interval End Date		12/14/2008	Total Interval Cost	$	23,413.56
Interval TD Date		12/14/2008	Program Variance	$	16,167.40
Drilling Days		1.00	Other material charges		
Rotating/Hours		8.50 / 8.50	Total Fluids Cost	$	10,913.56
Interval Top MD/TVD	m	0.0 / 0.0	Total Charges Cost	$	12,500.00
Interval End MD/TVD	m	119.0 / 119.0	Total Cementing Cost	$	0.00
Footage	m	119.0	Fluid Cost Per Vol Unit	$/bbl	5.55
Average ROP	m/hr	14.0	Fluid Cost/Hole Drilled	$/m	91.71
Max Hole Angle	degrees	1.24	Fluid Cost/Vol Drilled	$/bbl	29.70
Casing Size	in	30.000	Fluid Built	bbl	1,546.0
Casing Shoe MD	m	116.0	Total Additions/Vol Drilled	bbl/bbl	5.35
Casing Length	m	96.0	Total Additions/Hole Drilled	bbl/m	16.53
Bottom Hole Temp			Fluid Loss/Vol Drilled	bbl/bbl	0.00
Max Fluid Density	ppg	8.80	Fluid Loss/Hole Drilled	bbl/m	0.00

Interval Product and Base Fluids Usage and Cost

Product Function / Name	**Drilling Fluid**	**Packaging**	**Quantity Used**	**Product Cost**
Viscosifier/Suspension Agent				
bentonite	AQUAGEL Mud	1000 kg bulk	22.000	10,887.36
			Total	**$ 10,887.36**
Alkalinity Control				
lime	AQUAGEL Mud	25 kg bag	4.000	26.20
			Total	**$ 26.20**

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Interval Summary

Interval # 2	Max Bit Size: 17.500 in	Hole Size Avg/Max	17.500 / 17.500 in

Interval Start Date		12/15/2008	Planned Cost	$	36,340.04
Interval End Date		12/18/2008	Total Interval Cost	$	28,977.92
Interval TD Date		12/17/2008	Program Variance	$	-7,362.12
Drilling Days		3.00	Other material charges		
Rotating/Hours		31.50 / 31.50	Total Fluids Cost	$	18,977.92
Interval Top MD/TVD	m	166.0 / 166.0	Total Charges Cost	$	10,000.00
Interval End MD/TVD	m	999.0 / 998.2	Total Cementing Cost	$	0.00
Footage	m	833.0	Fluid Cost Per Vol Unit	$/bbl	4.03
Average ROP	m/hr	26.4	Fluid Cost/Hole Drilled	$/m	22.78
Max Hole Angle	degrees	2.77	Fluid Cost/Vol Drilled	$/bbl	23.34
Casing Size	in	13.375	Fluid Built	bbl	3,315.7
Casing Shoe MD	m	987.0	Total Additions/Vol Drilled	bbl/bbl	5.80
Casing Length	m	967.0	Total Additions/Hole Drilled	bbl/m	5.66
Bottom Hole Temp			Fluid Loss/Vol Drilled	bbl/bbl	3.16
Max Fluid Density	ppg	8.80	Fluid Loss/Hole Drilled	bbl/m	3.09

Interval Product and Base Fluids Usage and Cost

Product Function / Name	Drilling Fluid	Packaging	Quantity Used	Product Cost
Viscosifier/Suspension Agent				
bentonite	AQUAGEL Mud	1000 kg bulk	33.200	16,430.02
guar gum	AQUAGEL Mud	25 kg bag	30.000	2,547.90
			Total	**$ 18,977.92**

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Interval Summary

Interval # 3	Max Bit Size: 12.250 in	Hole Size Avg/Max	12.250 / 12.250 in

Interval Start Date		12/19/2008	Planned Cost	$	208,676.86
Interval End Date		12/30/2008	Total Interval Cost	$	222,948.75
Interval TD Date		12/28/2008	Program Variance	$	14,271.89
Drilling Days		10.00	Other material charges	$	3,420.71
Rotating/Hours		152.00 / 141.50	Total Fluids Cost	$	189,528.04
Interval Top MD/TVD	m	999.0 / 999.0	Total Charges Cost	$	30,000.00
Interval End MD/TVD	m	2,807.0 / 2,803.9	Total Cementing Cost	$	3,420.71
Footage	m	1,808.0	Fluid Cost Per Vol Unit	$/bbl	29.10
Average ROP	m/hr	12.8	Fluid Cost/Hole Drilled	$/m	104.83
Max Hole Angle	degrees	3.46	Fluid Cost/Vol Drilled	$/bbl	219.18
Casing Size	in	9.625	Fluid Built	bbl	3,755.7
Casing Shoe MD	m	2,800.0	Total Additions/Vol Drilled	bbl/bbl	7.53
Casing Length	m	2,780.0	Total Additions/Hole Drilled	bbl/m	3.60
Bottom Hole Temp	Deg C	65	Fluid Loss/Vol Drilled	bbl/bbl	3.52
Max Fluid Density	ppg	10.00	Fluid Loss/Hole Drilled	bbl/m	1.68

Interval Product and Base Fluids Usage and Cost

Product Function / Name	Drilling Fluid	Packaging	Quantity Used	Product Cost
Bactericides				
ALDACIDE G	KCl/Polymer	5 gal can	22.000	1,537.80
			Total	**$ 1,537.80**
Defoamer				
BARA-DEFOAM W300	KCl/Polymer	5 gal can	1.000	96.55
BARA-DEFOAM W300	No Fluid	5 gal can	1.000	96.55
			Total	**$ 193.10**
Weighting Material				
barite	KCl/Polymer	1000 kg bulk	81.000	38,465.28
barite	No Fluid	1000 kg bulk	7.000	3,324.16
			Total	**$ 41,789.44**
Viscosifier/Suspension Agent				
BARAZAN D PLUS	KCl/Polymer	25 kg bag	115.000	17,507.60
			Total	**$ 17,507.60**
Alkalinity Control				
caustic soda	KCl/Polymer	25 kg pail	8.000	353.52
citric acid	KCl/Polymer	25 kg bag	9.000	416.16
lime	AQUAGEL Mud	25 kg bag	4.000	26.20
potassium hydroxide	KCl/Polymer	25 kg bag	31.000	1,394.38
soda ash	KCl/Polymer	25 kg bag	29.000	384.25
			Total	**$ 2,574.51**
Shale Control				
EZ-MUD	KCl/Polymer	25 kg pail	123.000	9,325.86
KCL Tech Grade (bulk)	KCl/Polymer	1000 kg bulk	64.100	48,139.10
CLAYSEAL PLUS	KCl/Polymer	216 kg drum	50.000	47,832.00
			Total	**$ 105,296.96**
Lost Circulation/Bridging Agent				
Circal Y	KCl/Polymer	25 kg sack	170.000	2,176.00

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Interval Summary

Circal 60/16	KCl/Polymer	25 kg sack	110.000	1,114.30
			Total	**$ 3,290.30**
Filtration Control				
DEXTRID LTE	KCl/Polymer	25 kg sack	205.000	8,314.80
PAC-L	KCl/Polymer	25 kg bag	152.000	12,444.24
			Total	**$ 20,759.04**

Well Name	**Fermat- 1**
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Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Interval Summary

Interval #	**4**	**Max Bit Size: 8.500 in**	**Hole Size Avg/Max**	**8.500 / 8.500 in**

Interval Start Date		12/31/2008	Planned Cost	$	111,083.68
Interval End Date		01/13/2009	Total Interval Cost	$	183,248.37
Interval TD Date		01/07/2009	Program Variance	$	72,164.69
Drilling Days		5.00	Other material charges	$	113,716.25
Rotating/Hours		75.00 / 67.50	Total Fluids Cost	$	39,532.12
Interval Top MD/TVD	m	2,807.0 / 2,803.9	Total Charges Cost	$	30,000.00
Interval End MD/TVD	m	3,585.0 / 3,579.9	Total Cementing Cost	$	184.96
Footage	m	778.0	Fluid Cost Per Vol Unit	$/bbl	15.39
Average ROP	m/hr	11.5	Fluid Cost/Hole Drilled	$/m	50.81
Max Hole Angle	degrees	7.28	Fluid Cost/Vol Drilled	$/bbl	220.66
Casing Size	in	9.625	Fluid Built	bbl	451.9
Casing Shoe MD	m	2,800.0	Total Additions/Vol Drilled	bbl/bbl	14.34
Casing Length	m	2,780.0	Total Additions/Hole Drilled	bbl/m	3.30
Bottom Hole Temp			Fluid Loss/Vol Drilled	bbl/bbl	9.48
Max Fluid Density	ppg	11.00	Fluid Loss/Hole Drilled	bbl/m	2.18

Interval Product and Base Fluids Usage and Cost

Product Function / Name	Drilling Fluid	Packaging	Quantity Used	Product Cost
Lost Circulation/Bridging Agent				
BAROFIBRE FINE	No Fluid	25 lb bag	1.000	23.53
Circal Y	KCl/Polymer	25 kg sack	21.000	268.80
Circal 60/16	KCl/Polymer	25 kg sack	15.000	151.95
			Total	**$ 444.28**
Bactericides				
ALDACIDE G	KCl/Polymer	5 gal can	7.000	489.30
			Total	**$ 489.30**
Weighting Material				
barite	KCl/Polymer	1000 kg bulk	38.000	18,045.44
barite	No Fluid	1000 kg bulk	149.000	70,757.12
			Total	**$ 88,802.56**
Filtration Control				
N-DRIL HT PLUS	KCl/Polymer	50 lb bag	15.000	1,442.25
DEXTRID LTE	KCl/Polymer	25 kg sack	24.000	973.44
PAC-L	KCl/Polymer	25 kg bag	24.000	1,964.88
			Total	**$ 4,380.57**
Viscosifier/Suspension Agent				
bentonite	AQUAGEL Mud	1000 kg bulk	3.000	1,484.64
bentonite	No Fluid	1000 kg bulk	53.000	26,228.64
			Total	**$ 27,713.28**
Alkalinity Control				
caustic soda	KCl/Polymer	25 kg pail	5.000	220.95
citric acid	KCl/Polymer	25 kg bag	15.000	693.60
citric acid	No Fluid	25 kg bag	4.000	184.96
potassium hydroxide	KCl/Polymer	25 kg bag	1.000	44.98
soda ash	KCl/Polymer	25 kg bag	11.000	145.75
sodium bicarbonate	KCl/Polymer	25 kg bag	16.000	200.80

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Interval Summary

			Total	**$ 1,491.04**
Shale Control				
EZ-MUD	KCl/Polymer	25 kg pail	13.000	985.66
KCL Tech Grade (bulk)	KCl/Polymer	1000 kg bulk	7.300	5,482.30
KCL Tech Grade (bulk)	No Fluid	1000 kg bulk	22.000	16,522.00
CLAYSEAL PLUS	KCl/Polymer	216 kg drum	7.000	6,696.48
			Total	**$ 29,686.44**
Detergent/Surfactanct				
Hme Energizer	KCl/Polymer	5 gal can	2.000	240.90
			Total	**$ 240.90**

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Interval Cost Breakdown

Interval # 01		**From Date**	**12/10/2008**	**Top of Interval**	**0.0 m**
Max. Hole Size / Bit Size	**36.000 / 36.000 in**	**To Date**	**12/14/2008**	**Bottom of Interval**	**119.0 m**

Material	**Unit Size**	**Quantity**		**Total Cost**
Engineering/Services				
Drilling Fluids Engineer	day(s)	5.00		6250.00
Drilling Fluids Engineer 2	day(s)	5.00		6250.00
		SubTotal	**$**	**12,500.00**
Fluids/Products: Drilling Cost				
bentonite	1000 kg bulk	22.000		10887.36
lime	25 kg bag	4.00		26.20
		SubTotal	**$**	**10,913.56**
		Interval Total Cost	**$**	**23,413.56**
	Charged To/From Other Interval		**$**	
	Net Description Total Cost		**$**	**23,413.56**
	Programmed Cost		**$**	**7,246.16**
	Program Variance		**$**	**16,167.40**

Baroid Fluid Services

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Interval Cost Breakdown

Interval # 02		**From Date**	**12/15/2008**	**Top of Interval**	**166.0 m**
Max. Hole Size / Bit Size	**17.500 / 17.500 in**	**To Date**	**12/18/2008**	**Bottom of Interval**	**999.0 m**

Material	**Unit Size**	**Quantity**		**Total Cost**
Engineering/Services				
Drilling Fluids Engineer	day(s)	4.00		5000.00
Drilling Fluids Engineer 2	day(s)	4.00		5000.00
		SubTotal	**$**	**10,000.00**
Fluids/Products: Drilling Cost				
bentonite	1000 kg bulk	33.200		16430.02
guar gum	25 kg bag	30.00		2547.90
		SubTotal	**$**	**18,977.92**
		Interval Total Cost	**$**	**28,977.92**
	Charged To/From Other Interval		**$**	
	Net Description Total Cost		**$**	**28,977.92**
	Programmed Cost		**$**	**36,340.04**
	Program Variance		**$**	**-7,362.12**

Baroid Fluid Services

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Interval Cost Breakdown

Interval # 03		**From Date**	**12/19/2008**	**Top of Interval**	**999.0 m**
Max. Hole Size / Bit Size	**12.250 / 12.250 in**	**To Date**	**12/30/2008**	**Bottom of Interval**	**2,807.0 m**

Material	**Unit Size**	**Quantity**		**Total Cost**
Engineering/Services				
Drilling Fluids Engineer	day(s)	12.00		15000.00
Drilling Fluids Engineer 2	day(s)	12.00		15000.00
		SubTotal	**$**	**30,000.00**
Fluids/Products: Cementing Cost				
BARA-DEFOAM W300	5 gal can	1.00		96.55
barite	1000 kg bulk	7.000		3324.16
		SubTotal	**$**	**3,420.71**
Fluids/Products: Drilling Cost				
ALDACIDE G	5 gal can	22.00		1537.80
BARA-DEFOAM W300	5 gal can	1.00		96.55
BARAZAN D PLUS	25 kg bag	115.00		17507.60
barite	1000 kg bulk	81.000		38465.28
caustic soda	25 kg pail	8.00		353.52
Circal 60/16	25 kg sack	110.00		1114.30
Circal Y	25 kg sack	170.00		2176.00
citric acid	25 kg bag	9.00		416.16
CLAYSEAL PLUS	216 kg drum	50.00		47832.00
DEXTRID LTE	25 kg sack	205.00		8314.80
EZ-MUD	25 kg pail	123.00		9325.86
KCL Tech Grade (bulk)	1000 kg bulk	64.100		48139.10
lime	25 kg bag	4.00		26.20
PAC-L	25 kg bag	152.00		12444.24
potassium hydroxide	25 kg bag	31.00		1394.38
soda ash	25 kg bag	29.00		384.25
		SubTotal	**$**	**189,528.04**
		Interval Total Cost	**$**	**222,948.75**
	Charged To/From Other Interval		**$**	**0.00**
	Net Description Total Cost		**$**	**222,948.75**
	Programmed Cost		**$**	**208,676.86**
	Program Variance		**$**	**14,271.89**

Baroid Fluid Services

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Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Interval Cost Breakdown

Interval # 04		**From Date**	**12/31/2008**	**Top of Interval**	**2,807.0 m**
Max. Hole Size / Bit Size	**8.500 / 8.500 in**	**To Date**	**01/13/2009**	**Bottom of Interval**	**3,585.0 m**

Material	Unit Size	Quantity		Total Cost
Engineering/Services				
Drilling Fluids Engineer	day(s)	14.00		17500.00
Drilling Fluids Engineer 2	day(s)	10.00		12500.00
		SubTotal	**$**	**30,000.00**
Fluids/Products: Cementing Cost				
citric acid	25 kg bag	4.00		184.96
		SubTotal	**$**	**184.96**
Fluid/Product: Lost Damage				
BAROFIBRE FINE	25 lb bag	1.00		23.53
		SubTotal	**$**	**23.53**
Other				
barite	1000 kg bulk	149.000		70757.12
bentonite	1000 kg bulk	53.000		26228.64
KCL Tech Grade (bulk)	1000 kg bulk	22.000		16522.00
		SubTotal	**$**	**113,507.76**
Fluids/Products: Drilling Cost				
ALDACIDE G	5 gal can	7.00		489.30
barite	1000 kg bulk	38.000		18045.44
bentonite	1000 kg bulk	3.000		1484.64
caustic soda	25 kg pail	5.00		220.95
Circal 60/16	25 kg sack	15.00		151.95
Circal Y	25 kg sack	21.00		268.80
citric acid	25 kg bag	15.00		693.60
CLAYSEAL PLUS	216 kg drum	7.00		6696.48
DEXTRID LTE	25 kg sack	24.00		973.44
EZ-MUD	25 kg pail	13.00		985.66
Hme Energizer	5 gal can	2.00		240.90
KCL Tech Grade (bulk)	1000 kg bulk	7.300		5482.30
N-DRIL HT PLUS	50 lb bag	15.00		1442.25
PAC-L	25 kg bag	24.00		1964.88
potassium hydroxide	25 kg bag	1.00		44.98
soda ash	25 kg bag	11.00		145.75
sodium bicarbonate	25 kg bag	16.00		200.80
		SubTotal	**$**	**39,532.12**
		Interval Total Cost	**$**	**183,248.37**
	Charged To/From Other Interval		**$**	
	Net Description Total Cost		**$**	**183,248.37**
	Programmed Cost		**$**	**111,083.68**

Well Name	Fermat- 1
Operator	BEACH PETROLEUM
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Interval Cost Breakdown

Program Variance	$	72,164.69

Baroid Fluid Services

Well Name	**Fermat- 1**
Operator	**BEACH PETROLEUM**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Interval Inventory Report

Interval # 01		**From Date**	**12/10/2008**	**Top of Interval**		**0.0 m**	
Max. Hole Size / Bit Size	**36.000 / 36.000 in**	**To Date**	**12/14/2008**	**Bottom of Interval**		**119.0 m**	
Product Name	**Units**	**Starting**	**Received**	**Used**	**Returned**	**Ending**	**Weight lb**
ALDACIDE G	5 gal can		35.0			35.0	1,605.45
BARABLOK	50 lb bag		50.0			50.0	2,500.00
BARA-DEFOAM W300	5 gal can		16.0			16.0	585.80
BARAZAN D PLUS	25 kg bag		58.0			58.0	3,196.70
barite	1000 kg bulk		81.500			81.500	179,676.74
BAROFIBRE FINE	25 lb bag		100.0			100.0	2,500.00
bentonite	1000 kg bulk		50.000	22.000		28.000	61,729.43
caustic soda	25 kg pail		31.0			31.0	1,708.58
Circal 60/16	25 kg sack		185.0			185.0	10,196.38
Circal Y	25 kg sack		168.0			168.0	9,259.41
CLAYSEAL PLUS	216 kg drum		13.0			13.0	6,190.58
CON DET	55 gal drum		4.0			4.0	1,880.67
DEXTRID LTE	25 kg sack		37.0			37.0	2,039.28
EZ SPOT	55 gal drum		12.0			12.0	12,660.12
EZ-MUD DP	25 kg bag		27.0			27.0	1,488.12
guar gum	25 kg bag		94.0			94.0	5,180.86
Hme Energizer	5 gal can		26.0			26.0	997.46
KCL Tech Grade (bulk)	1000 kg bulk		46.400			46.400	102,294.49
Kwikseal Fine	40 lb bag		38.0			38.0	1,520.00
lime	25 kg bag		24.0	4.0		20.0	1,102.31
N-DRIL HT PLUS	50 lb bag		15.0			15.0	750.00
NO-SULF	17 kg pail		40.0			40.0	1,499.14
Omyacarb 5	25 kg bulk		96.000			96.000	5,291.09
OXYGON	6 gal pail		5.0			5.0	300.24
PAC-L	25 kg bag		55.0			55.0	3,031.36
potassium chloride	1000 kg bag		6.0			6.0	13,227.74
soda ash	25 kg bag		22.0			22.0	1,212.54
STEELSEAL	25 kg sack		122.0			122.0	6,724.10
				Total Weight of Products in Stock lb			**440,348.60**
				Total Weight of Products in Stock, Metric Tons			**199.74**

Baroid Fluid Services

Well Name	**Fermat- 1**
Operator	**BEACH PETROLEUM**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Interval Inventory Report

Interval # 02	**From Date**	**12/15/2008**	**Top of Interval**	**166.0 m**
Max. Hole Size / Bit Size 36.000 / 36.000 in	**To Date**	**12/18/2008**	**Bottom of Interval**	**999.0 m**

Product Name	**Units**	**Starting**	**Received**	**Used**	**Returned**	**Ending**	**Weight lb**
ALDACIDE G	5 gal can	35.0				35.0	1,605.45
Amodrill 1235	1500 l drum		2.0			2.0	5,175.26
BARABLOK	50 lb bag	50.0				50.0	2,500.00
BARA-DEFOAM W300	5 gal can	16.0				16.0	585.80
BARAZAN D PLUS	25 kg bag	58.0				58.0	3,196.70
barite	1000 kg bulk	81.500	78.500			160.000	352,739.60
BAROFIBRE FINE	25 lb bag	100.0				100.0	2,500.00
bentonite	1000 kg bulk	28.000	47.200	33.200		42.000	92,594.15
calcium chloride	25 kg bag		42.0			42.0	2,314.85
caustic soda	25 kg pail	31.0	32.0			63.0	3,472.28
Circal 60/16	25 kg sack	185.0				185.0	10,196.38
Circal Y	25 kg sack	168.0				168.0	9,259.41
CLAYSEAL PLUS	216 kg drum	13.0	20.0			33.0	15,714.55
CON DET	55 gal drum	4.0				4.0	1,880.67
DEXTRID LTE	25 kg sack	37.0	36.0			73.0	4,023.44
EZ SPOT	55 gal drum	12.0				12.0	12,660.12
EZ-MUD	25 kg pail		96.0			96.0	5,291.09
EZ-MUD DP	25 kg bag	27.0				27.0	1,488.12
guar gum	25 kg bag	94.0		30.0		64.0	3,527.40
Hme Energizer	5 gal can	26.0				26.0	997.46
KCL Tech Grade (bulk)	1000 kg bulk	46.400				46.400	102,294.49
Kwikseal Fine	40 lb bag	38.0				38.0	1,520.00
lime	25 kg bag	20.0				20.0	1,102.31
N-DRIL HT PLUS	50 lb bag	15.0				15.0	750.00
NO-SULF	17 kg pail	40.0				40.0	1,499.14
Omyacarb 5	25 kg bulk	96.000				96.000	5,291.09
OXYGON	6 gal pail	5.0				5.0	300.24
PAC-L	25 kg bag	55.0	36.0			91.0	5,015.52
potassium chloride	1000 kg bag	6.0				6.0	13,227.74
potassium hydroxide	25 kg bag		32.0			32.0	1,763.70
sapp	25 kg bag		19.0			19.0	1,047.20
soda ash	25 kg bag	22.0				22.0	1,212.54
sodium chloride	25 kg bag		7.0			7.0	385.81
STEELSEAL	25 kg sack	122.0				122.0	6,724.10
					Total Weight of Products in Stock lb		**673,856.62**
					Total Weight of Products in Stock, Metric Tons		**305.66**

Baroid Fluid Services

Well Name	**Fermat- 1**
Operator	**BEACH PETROLEUM**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Interval Inventory Report

Interval # 03	**From Date**	**12/19/2008**	**Top of Interval**	**999.0 m**
Max. Hole Size / Bit Size 17.500 / 17.500 in	**To Date**	**12/30/2008**	**Bottom of Interval**	**2,807.0 m**

Product Name	**Units**	**Starting**	**Received**	**Used**	**Returned**	**Ending**	**Weight lb**
ALDACIDE G	5 gal can	35.0	32.0	22.0		45.0	2,064.15
Amodrill 1235	1500 l drum	2.0				2.0	5,175.26
BARABLOK	50 lb bag	50.0	40.0			90.0	4,500.00
BARA-DEFOAM W300	5 gal can	16.0		2.0		14.0	512.58
BARAZAN D PLUS	25 kg bag	58.0	170.0	115.0		113.0	6,228.06
barite	1000 kg bulk	160.000	36.000	88.000		108.000	238,099.23
BAROFIBRE FINE	25 lb bag	100.0				100.0	2,500.00
bentonite	1000 kg bulk	42.000				42.000	92,594.15
calcium chloride	25 kg bag	42.0				42.0	2,314.85
caustic soda	25 kg pail	63.0		8.0		55.0	3,031.36
Circal 60/16	25 kg sack	185.0	96.0	110.0		171.0	9,424.76
Circal Y	25 kg sack	168.0	232.0	170.0		230.0	12,676.58
citric acid	25 kg bag		80.0	9.0		71.0	3,913.20
CLAYSEAL PLUS	216 kg drum	33.0	44.0	50.0		27.0	12,857.36
CON DET	55 gal drum	4.0				4.0	1,880.67
DEXTRID LTE	25 kg sack	73.0	216.0	205.0		84.0	4,629.71
EZ SPOT	55 gal drum	12.0				12.0	12,660.12
EZ-MUD	25 kg pail	96.0	200.0	123.0		173.0	9,534.99
EZ-MUD DP	25 kg bag	27.0				27.0	1,488.12
guar gum	25 kg bag	64.0				64.0	3,527.40
Hme Energizer	5 gal can	26.0				26.0	997.46
KCL Tech Grade (bulk)	1000 kg bulk	46.400	22.000	64.100		4.300	9,479.88
Kwikseal Fine	40 lb bag	38.0				38.0	1,520.00
lime	25 kg bag	20.0		4.0		16.0	881.85
N-DRIL HT PLUS	50 lb bag	15.0				15.0	750.00
NO-SULF	17 kg pail	40.0				40.0	1,499.14
Omyacarb 5	25 kg bulk	96.000				96.000	5,291.09
OXYGON	6 gal pail	5.0	24.0			29.0	1,741.39
PAC-L	25 kg bag	91.0	137.0	152.0		76.0	4,188.78
potassium chloride	1000 kg bag	6.0			6.0		
potassium hydroxide	25 kg bag	32.0		31.0		1.0	55.12
sapp	25 kg bag	19.0				19.0	1,047.20
soda ash	25 kg bag	22.0	48.0	29.0		41.0	2,259.74
sodium bicarbonate	25 kg bag		40.0			40.0	2,204.62
sodium chloride	25 kg bag	7.0				7.0	385.81
STEELSEAL	25 kg sack	122.0				122.0	6,724.10
					Total Weight of Products in Stock lb		**468,638.73**

Well Name	Fermat- 1
Operator	BEACH PETROLEUM
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Interval Inventory Report

Total Weight of Products in Stock, Metric Tons	212.57

Baroid Fluid Services

Well Name	**Fermat- 1**
Operator	**BEACH PETROLEUM**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Interval Inventory Report

Interval # 04	**From Date**	**12/31/2008**		**Top of Interval**		**2,807.0 m**	
Max. Hole Size / Bit Size 8.500 / 8.500 in	**To Date**	**01/13/2009**		**Bottom of Interval**		**3,585.0 m**	
Product Name	**Units**	**Starting**	**Received**	**Used**	**Returned**	**Ending**	**Weight lb**
ALDACIDE G	5 gal can	45.0		7.0	38.0		
Amodrill 1235	1500 l drum	2.0			2.0		
BARABLOK	50 lb bag	90.0			90.0		
BARA-DEFOAM W300	5 gal can	14.0			14.0		
BARAZAN D PLUS	25 kg bag	113.0	40.0		153.0		
barite	1000 kg bulk	108.000	79.000	187.000			
BAROFIBRE FINE	25 lb bag	100.0		1.0	99.0		
bentonite	1000 kg bulk	42.000	54.000	56.000	40.000		
calcium chloride	25 kg bag	42.0			42.0		
caustic soda	25 kg pail	55.0		5.0	50.0		
Circal 60/16	25 kg sack	171.0		15.0	156.0		
Circal Y	25 kg sack	230.0		21.0	209.0		
citric acid	25 kg bag	71.0		19.0	52.0		
CLAYSEAL PLUS	216 kg drum	27.0	16.0	7.0	36.0		
CON DET	55 gal drum	4.0			4.0		
DEXTRID LTE	25 kg sack	84.0	36.0	24.0	96.0		
EZ SPOT	55 gal drum	12.0			12.0		
EZ-MUD	25 kg pail	173.0		13.0	160.0		
EZ-MUD DP	25 kg bag	27.0			27.0		
guar gum	25 kg bag	64.0			64.0		
Hme Energizer	5 gal can	26.0		2.0	24.0		
KCL Tech Grade (bulk)	1000 kg bulk	4.300	25.000	29.300		0.000	0.00
Kwikseal Fine	40 lb bag	38.0			38.0		
lime	25 kg bag	16.0			16.0		
N-DRIL HT PLUS	50 lb bag	15.0		15.0			
NO-SULF	17 kg pail	40.0			40.0		
Omyacarb 5	25 kg bulk	96.000			96.000		
OXYGON	6 gal pail	29.0			29.0		
PAC-L	25 kg bag	76.0	40.0	24.0	92.0		
potassium chloride	1000 kg bag						
potassium hydroxide	25 kg bag	1.0		1.0			
sapp	25 kg bag	19.0			19.0		
soda ash	25 kg bag	41.0		11.0	30.0		
sodium bicarbonate	25 kg bag	40.0		16.0	24.0		
sodium chloride	25 kg bag	7.0			7.0		
STEELSEAL	25 kg sack	122.0			122.0		
				Total Weight of Products in Stock lb			**0.00**

Well Name	Fermat- 1
Operator	BEACH PETROLEUM
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Interval Inventory Report

Total Weight of Products in Stock, Metric Tons	0.00

Baroid Fluid Services

Company	**BEACH PETROLEUM**
Well Name	**Fermat- 1**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Fluid Volume Record Report

			Additions								Losses						Volumes			
Report No	Date	Initial Volume bbl	Received bbl	Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Mixed bbl	Returned bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
Interval # 01																				
Fluid Name: Seawater																				
004	13/12/2008					388.0				388.0									388.0	388.0
Cumulative Volume						388.0				388.0										
Fluid Name: Bentonite Mud																				
004	13/12/2008		420.5			1,100.0		55.5		1,576.0									1,576.0	1,576.0
005	14/12/2008	1,576.0				2.3		0.1		2.4							252.3		1,326.2	1,578.5
Cumulative Volume			420.5			1,102.3		55.6		1,578.4										

Company	BEACH PETROLEUM
Well Name	Fermat- 1
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Fluid Volume Record Report

			Additions								Losses						Volumes			
Report No	Date	Initial Volume bbl	Received bbl	Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Mixed bbl	Returned bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
Interval # 02																				
Fluid Name: Seawater																				
006	15/12/2008	388.0				113.0				113.0	166.0					166.0		335.0		335.0
007	16/12/2008	335.0				503.0				503.0								335.0	503.0	838.0
008	17/12/2008	838.0									51.0					51.0		275.0	512.0	787.0
Cumulative Volume						616.0				616.0	217.0					217.0				
Fluid Name: Bentonite Mud																				
006	15/12/2008	1,578.4				1,205.6		45.3		1,250.9	187.3					187.3	46.4		2,390.0	2,436.4
007	16/12/2008	2,436.4				1,405.7		2.8	217.4	1,625.9	1,200.0					1,200.0	688.7		1,968.0	2,656.7
008	17/12/2008	2,656.7						38.3		38.3	617.2					617.2	1,101.7		976.0	2,077.7
009	18/12/2008	2,077.7				2.0				2.0	567.0					567.0	534.7		976.0	1,510.7
Cumulative Volume						2,613.3		86.4	217.4	2,917.1	2,571.5					2,571.5				

Baroid Fluid Services

Company	**BEACH PETROLEUM**
Well Name	**Fermat- 1**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Fluid Volume Record Report

			Additions								Losses						Volumes			
Report No	Date	Initial Volume bbl	Received bbl	Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Mixed bbl	Returned bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
Interval # 03																				
Fluid Name: Seawater																				
010	19/12/2008	787.0											787.0			787.0				
Cumulative Volume													787.0			787.0				
Fluid Name: Bentonite Mud																				
010	19/12/2008	1,510.7											253.6			253.6	483.1		774.0	1,257.1
011	20/12/2008	1,257.1						0.3		0.3	1,257.4					1,257.4				
Cumulative Volume								0.3		0.3	1,257.4		253.6			1,511.0				
Fluid Name: KCl/Polymer																				
010	19/12/2008					1,304.4	30.0	21.6		1,356.0								207.0	1,149.0	1,356.0
011	20/12/2008	1,356.0	46.8					227.5		274.3							494.4	262.0	874.0	1,630.4
012	21/12/2008	1,630.4				450.0		12.9		462.9	367.0		21.6			388.6	685.7	327.0	692.0	1,704.7
013	22/12/2008	1,704.7				400.0		23.0		423.0	24.0		1.7			25.7	835.9	327.0	939.0	2,101.9
014	23/12/2008	2,101.9				513.0		23.5		536.5	209.0	11.0				220.0	953.5	490.0	974.8	2,418.3
015	24/12/2008	2,418.3				168.5		38.0		206.5	180.0	16.0				196.0	1,023.8	454.0	951.0	2,428.8
016	25/12/2008	2,428.8						10.6		10.6	170.0					170.0	1,131.3	397.0	741.0	2,269.3
017	26/12/2008	2,269.3					34.5			34.5			42.0			42.0	1,125.8	416.0	720.0	2,261.8
018	27/12/2008	2,261.8				372.0		51.9		423.9	147.0	26.0				173.0	1,198.2	435.0	879.4	2,512.6
019	28/12/2008	2,512.7					56.9	0.6		57.5	106.0					106.0	1,370.8	407.0	686.3	2,464.1
020	29/12/2008	2,464.1						16.3		16.3							1,228.7	532.0	719.8	2,480.5
021	30/12/2008	2,480.4										58.0	431.4		1,991.0	2,480.4				
Cumulative Volume			46.8			3,207.9	121.4	425.9		3,802.0	1,203.0	111.0	496.7		1,991.0	3,801.7				

Baroid Fluid Services

Company	**BEACH PETROLEUM**
Well Name	**Fermat- 1**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Fluid Volume Record Report

			Additions								Losses						Volumes			
Report No	Date	Initial Volume bbl	Received bbl	Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Mixed bbl	Returned bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
Interval # 04																				
Fluid Name: Bentonite Mud																				
30	8/01/2009					192.4		7.6		200.0									200.0	200.0
31	9/01/2009	200.0												200.0		200.0				
Cumulative Volume						192.4		7.6		200.0				200.0		200.0				
Fluid Name: KCl/Polymer																				
022	31/12/2008		1,989.0			0.4		0.4		1,989.8							697.0	465.3	829.0	1,991.3
23	1/01/2009	1,991.4											1.6			1.6	697.0	465.3	829.0	1,991.3
24	2/01/2009	1,991.4									21.2					21.2	697.0	464.7	810.0	1,971.7
25	3/01/2009	1,971.7					10.5	2.0		12.5	61.8					61.8	560.4	458.0	904.0	1,922.4
26	4/01/2009	1,922.4				1.6	15.0	14.1		30.7	137.4					137.4	599.7	488.0	728.0	1,815.7
27	5/01/2009	1,815.7						32.8		32.8	177.5					177.5	678.0	478.0	515.0	1,671.0
28	6/01/2009	1,671.0					9.0	3.3		12.3	115.7					115.7	739.6	478.0	350.0	1,567.6
29	7/01/2009	1,567.6				138.0	22.5	0.1		160.6	59.0					59.0	876.2	463.0	330.0	1,669.2
30	8/01/2009	1,669.2						2.6		2.6							876.2	463.0	332.6	1,671.8
31	9/01/2009	1,671.8		200.0						200.0							876.2	463.0	532.6	1,871.8
32	10/01/2009	1,871.8							44.0	44.0							731.8	607.0	577.0	1,915.8
33	11/01/2009	1,915.8							84.0	84.0	60.0					60.0	755.8	409.0	775.0	1,939.8
34	12/01/2009	1,939.8									1,063.6					1,063.6	876.2			876.2
Cumulative Volume			1,989.0	200.0		140.0	57.0	55.3	128.0	2,569.3	1,696.2		1.6			1,697.8				

Baroid Fluid Services

Well Name	Fermat- 1
Operator	BEACH PETROLEUM
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Interval Chemical Concentration

Interval # 01		From Report Date	12/10/2008	Top of Interval	0.0 m
Max. Hole Size / Bit Size	36.000 / 36.000 in	To Report Date	12/14/2008	Bottom of Interval	119.0 m

Fluid Name: Bentonite Mud

Material	Average ppb	Minimum ppb	Maximum ppb
bentonite	30.75	30.73	30.78
lime	0.10	0.07	0.14

Baroid Fluid Services

Well Name	Fermat- 1
Operator	BEACH PETROLEUM
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Interval Chemical Concentration

Interval # 02		From Report Date	12/15/2008	Top of Interval	166.0 m
Max. Hole Size / Bit Size	17.500 / 17.500 in	To Report Date	12/18/2008	Bottom of Interval	999.0 m

Fluid Name: Bentonite Mud

Material	Average ppb	Minimum ppb	Maximum ppb
bentonite	26.93	17.04	31.14
guar gum	0.42	0.41	0.42
lime	0.05	0.04	0.07

Baroid Fluid Services

Well Name	Fermat- 1
Operator	BEACH PETROLEUM
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Interval Chemical Concentration

Interval # 03		From Report Date	12/19/2008	Top of Interval	999.0 m
Max. Hole Size / Bit Size	12.250 / 12.250 in	To Report Date	12/30/2008	Bottom of Interval	2,807.0 m

Fluid Name: Bentonite Mud

Material	Average ppb	Minimum ppb	Maximum ppb
bentonite	31.14	31.13	31.14
guar gum	0.42	0.42	0.42
lime	0.13	0.04	0.22

Fluid Name: KCl/Polymer

Material	Average ppb	Minimum ppb	Maximum ppb
ALDACIDE G	0.24	0.14	0.41
BARA-DEFOAM W300	0.01	0.01	0.02
BARAZAN D PLUS	1.80	1.53	2.32
barite	38.96	12.41	110.79
caustic soda	0.13	0.10	0.21
citric acid	0.18	0.11	0.37
CLAYSEAL PLUS	6.13	4.88	7.72
DEXTRID LTE	2.91	2.32	3.64
EZ-MUD	2.10	1.68	2.43
KCL Tech Grade (bulk)	41.06	34.85	64.10
PAC-L	2.32	2.01	2.97
potassium hydroxide	0.44	0.03	0.69
soda ash	0.44	0.35	0.51

Baroid Fluid Services

Well Name	Fermat- 1
Operator	BEACH PETROLEUM
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Interval Chemical Concentration

Interval # 04		From Report Date	12/31/2008	Top of Interval	2,807.0 m
Max. Hole Size / Bit Size	8.500 / 8.500 in	To Report Date	01/13/2009	Bottom of Interval	3,585.0 m

Fluid Name: Bentonite Mud

Material	Average ppb	Minimum ppb	Maximum ppb
bentonite	33.07	33.07	33.07
guar gum	0.42	0.42	0.42
lime	0.22	0.22	0.22

Fluid Name: KCl/Polymer

Material	Average ppb	Minimum ppb	Maximum ppb
ALDACIDE G	0.52	0.50	0.60
BARA-DEFOAM W300	0.02	0.01	0.02
BARAZAN D PLUS	1.93	1.65	2.11
barite	135.13	120.37	159.84
bentonite	3.40	3.31	3.53
caustic soda	0.20	0.12	0.28
Circal 60/16	0.48	0.45	0.54
Circal Y	0.67	0.63	0.76
citric acid	0.41	0.14	0.56
CLAYSEAL PLUS	8.89	8.16	9.97
DEXTRID LTE	4.02	3.70	4.49
EZ-MUD	2.53	2.30	2.81
guar gum	0.04	0.04	0.05
Hme Energizer	0.04	0.04	0.05
KCL Tech Grade (bulk)	46.82	43.09	52.67
lime	0.02	0.02	0.02
N-DRIL HT PLUS	0.33	0.15	0.39
PAC-L	3.01	2.80	3.46
potassium hydroxide	0.70	0.62	0.75
soda ash	0.68	0.54	0.83
sodium bicarbonate	0.40	0.35	0.44

Baroid Fluid Services

Operator	**BEACH PETROLEUM**
Well Name	**Fermat- 1**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology 49 Deg C					Filtration					Filtrate Analysis						MBT	Sand	Retort Analysis				Rheometer Dial Readings					
					PV	lbs/100 ft2				API	HTHP	Cake API	Cake HTHP	Temp	pH	Pm	Pf	Mf	Cl	Total Hardness			% by vol				600	300	200	100	6	3
	m	Deg C	ppg	sec/qt	cP	YP	10S	10M	30M	ml/30 min	ml/30 min	32nd in		Deg C		ml	ml	ml	mg/l	mg/l	ppb Eq.	% by vol	Corr Solid	LGS	NAP Base	Water						
Interval # 01										**From Date**				**12/10/2008**						**Top of Interval**				**0.0**		**m**						
Max. Hole Size / Bit Size			**36.000 / 36.000 in**							**To Date**				**12/14/2008**						**Bottom of Interval**				**119.0**		**m**						
12/13/2008	77		8.80	488	10	75	43	46	48																	96	95.0	85.0	73.0	65.0	43.0	41.0
12/13/2008	77		8.80	490	10	76	44	47	49																	96	96.0	86.0	74.0	66.0	44.0	42.0
12/14/2008	77		8.80	488	10	75	43	46	48																	96	95.0	85.0	73.0	65.0	43.0	41.0
12/14/2008	119		8.80	488	10	76	44	47	49																	96	96.0	86.0	74.0	66.0	44.0	42.0
Interval # 02										**From Date**				**12/15/2008**						**Top of Interval**				**166.0**		**m**						
Max. Hole Size / Bit Size			**17.500 / 17.500 in**							**To Date**				**12/18/2008**						**Bottom of Interval**				**999.0**		**m**						
12/15/2008	119		8.80	488	10	75	43	46	48																	96	95.0	85.0	73.0	65.0	43.0	41.0
12/15/2008	119		8.80	300	11	74	43	46	48						8.80											96	96.0	85.0	74.0	66.0	44.0	41.0
12/15/2008	158		8.80	488	10	75	42	45	47						8.80											96	95.0	85.0	73.0	65.0	43.0	41.0
12/16/2008	174		8.80	490	10	76	43	46	48						9.00											96	96.0	86.0	74.0	66.0	44.0	42.0
12/16/2008	356		8.80	300	11	76	45	47	49						9.00											96	98.0	87.0	75.0	67.0	44.0	42.0
12/16/2008	500		8.80	300	11	76	45	47	49						9.00										96		98.0	87.0	75.0	67.0	44.0	42.0
12/16/2008	795		8.80	490	10	77	44	47	49						9.00											96	97.0	87.0	75.0	67.0	45.0	43.0
12/17/2008	842		8.80	484	10	77	43	46	48						9.00											96	97.0	87.0	75.0	67.0	44.0	42.0
12/17/2008	999		8.80	480	3	84	43	46	48						8.50											96	90.0	87.0	73.0	64.0	42.0	40.0
Interval # 03										**From Date**				**12/19/2008**						**Top of Interval**				**999.0**		**m**						
Max. Hole Size / Bit Size			**12.250 / 12.250 in**							**To Date**				**12/30/2008**						**Bottom of Interval**				**2,807.0**		**m**						
12/19/2008	999		9.35	185	17	25	10	13	15	5.8		1			8.80	0.10	0.05	0.20	43,000	200			2.45	0.688		94	59.0	42.0	35.0	25.0	9.0	7.0
12/19/2008	999		9.30	180	17	26	11	14	16	5.8		1			10.50	0.10	0.05	0.20	42,000	320			2.54	1.155		94	60.0	43.0	36.0	26.0	10.0	8.0
12/19/2008	1,011	35	9.40	177	17	25	10	13	15	5.8		1			10.50	0.10	0.05	0.20	42,000	240			2.54	0.406		94	59.0	42.0	35.0	25.0	9.0	7.0
12/20/2008	1,027		9.45	175	17	25	10	13	15	4.4	10.0	1	1		10.00	0.10	0.05	0.20	42,000	240	2.5		2.54	0.031		94	59.0	42.0	35.0	25.0	9.0	7.0
12/20/2008	1,027		9.45	150	30	41	9	14	15	4.4	10.0	1	1		8.50	0.05		1.50	42,000	400	2.5		2.54	0.031		94	101.0	71.0	58.0	40.0	11.0	8.0
12/20/2008	1,027		9.50	153	30	42	10	15	17	4.4	10.0	1			9.50	0.13	0.08	0.40	38,000	320	2.5		2.88	0.02		94	102.0	72.0	59.0	51.0	11.0	9.0
12/21/2008	1,037		9.50	78	21	30	9	14	15	4.6	10.0	1	1	250	8.50	0.10	0.05	1.30	45,000	240	2.5		3.32	1.421		93	72.0	51.0	43.0	30.0	11.0	9.0
12/21/2008	1,250		9.65	74	23	23	9	14	15	4.4	9.0	1	1	250	8.50	0.05	0.10	1.20	44,000	240	2.5		3.92	1.41		92.5	69.0	46.0	40.0	30.0	10.0	8.0

Operator	**BEACH PETROLEUM**
Well Name	**Fermat- 1**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology 49 Deg C					Filtration					Filtrate Analysis						MBT	Sand	Retort Analysis				Rheometer Dial Readings					
					PV	lbs/100 ft2				API	HTHP	Cake API	Cake HTHP	Temp	pH	Pm	Pf	Mf	Cl	Total Hardness		% by vol	% by vol				600	300	200	100	6	3
	m	Deg C	ppg	sec/qt	cP	YP	10S	10M	30M	ml/30 min	ml/30 min	32nd in		Deg C		ml	ml	ml	mg/l	mg/l	ppb Eq.	% by vol	Corr Solid	LGS	NAP Base	Water						
12/21/2008	1,322		9.60	78	21	27	9	13	15	4.4	10.0	1	1	250	8.50	0.05	0.10	1.10	44,000	240	2.5		4.44	2.805		92	69.0	48.0	40.0	29.0	10.0	8.0
12/21/2008	1,445	36	9.60	76	12	49	9	14	16	6.2	12.0	1	1	250	9.50	0.75	0.14	1.30	43,000	240	5.0	1.20	4.53	2.896		92	73.0	61.0	43.0	31.0	9.0	7.0
12/22/2008	1,488	36	9.65	78	21	28	10	14	16	4.4	10.0	1	1	250	9.00	0.75	0.13	1.40	48,000	240	3.5	1.40	5.15	4.108		91	70.0	49.0	41.0	30.0	12.0	10.0
12/22/2008	1,703	42	9.60	69	21	35	11	15	18	4.6	10.0	1	1	250	8.60	0.65	0.10	1.05	49,000	240	2.5	1.50	5.06	4.391		91	77.0	56.0	47.0	35.0	12.0	10.0
12/22/2008	1,737	45	9.65	76	21	34	10	14	17	4.4	10.0	1	1	250	9.00	0.70	0.12	1.07	48,000	240	2.5	1.20	6.19	6.154		90	76.0	55.0	46.0	34.0	11.0	9.0
12/23/2008	1,831	46	9.70	55	21	35	11	15	18	4.4	9.2	1	2	250	8.80	0.70	0.12	1.40	49,500	240	2.0	1.20	4.5	2.572		91.5	77.0	56.0	47.0	35.0	12.0	10.0
12/23/2008	1,920	49	9.70	52	15	34	11	16	19	4.4		1		250	8.80	0.22	0.10	1.10	50,000	280	2.0	1.20	4.45	2.526		91.5	64.0	49.0	41.0	31.0	12.0	10.0
12/23/2008	2,012	50	9.70	51	15	34	11	15	18	4.5		1		250	8.90	0.19	0.10	1.21	50,000	240	2.0	1.00	4.45	2.526		91.5	64.0	49.0	42.0	32.0	12.0	10.0
12/23/2008	2,093	47	9.70	53	13	38	11	17	20	4.4		1		250	9.00	0.10	0.20	1.10	50,000	240	2.0	1.00	4.45	2.526		91.5	64.0	51.0	44.0	33.0	12.0	10.0
12/24/2008	2,132	47	9.70	53	16	30	11	17	20	4.4		1		250	9.00	0.10	0.20	1.10	50,000	360	2.5	1.00	4.98	3.549		91	62.0	46.0	39.0	31.0	12.0	10.0
12/24/2008	2,175	50	9.70	50	14	34	12	19	22	4.5	10.5	1	2	250	8.50	0.10	0.10	1.15	49,500	300	2.5	0.75	5.02	3.596		91	62.0	48.0	41.0	32.0	13.0	10.0
12/24/2008	2,219	53	9.70	49	14	31	12	18	21	4.6		1		250	9.00	0.20	0.12	1.20	49,000	300	2.5	0.75	4.75	3.028		91.3	59.0	45.0	39.0	30.0	12.0	10.0
12/24/2008	2,250	47	9.70	49	14	34	11	17	20	4.6		1		250	9.00	0.20	0.20	1.20	49,000	320	2.5	0.75	5.06	3.642		91	62.0	48.0	41.0	32.0	12.0	10.0
12/25/2008	2,308	47	9.70	49	14	34	11	18	21	4.6		1		250	9.00	0.05	0.10	1.00	47,000	360	2.5	0.50	5.23	3.826		91	62.0	48.0	41.0	32.0	12.0	10.0
12/25/2008	2,371	52	9.70	48	15	33	14	22	25	4.4	10.6	1	2	250	8.90	0.08	0.10	1.10	48,000	380	3.0	0.50	5.15	3.734		91	63.0	48.0	42.0	33.0	13.0	11.0
12/25/2008	2,396		9.70	53	14	37	12	19	24	4.6		1		250	9.00	0.05	0.10	1.00	48,000	360	2.5	0.50	5.15	3.734		91	65.0	51.0	43.0	34.0	13.0	10.0
12/26/2008	2,396		9.70	53	14	32	11	17	23	4.5	10.6	1	2	250	8.50	0.10	0.10	1.37	47,500	200	3.0	0.50	5.19	3.78		91	60.0	46.0	40.0	30.0	13.0	10.0
12/26/2008	2,396		9.80	57	14	32	11	17	23	4.5		1		250	8.50	0.10	0.10	1.40	47,500	200	3.0	0.50	5.19	3.031		91	60.0	46.0	40.0	30.0	13.0	10.0
12/27/2008	2,451	50	9.85	47	14	36	15	25	28	4.9	11.4	1	2	250	8.50	0.10	0.10	1.35	47,500	280	2.5	0.50	5.71	3.679		90.5	64.0	50.0	43.0	35.0	15.0	13.0
12/27/2008	2,523	50	9.85	47	14	35	14	23	27	5.0		1		250	8.70	0.10	0.10	1.41	47,000	280	2.5	0.50	5.75	3.724		90.5	63.0	49.0	42.0	33.0	15.0	12.0
12/27/2008	2,610	33	9.90	48	16	35	14	21	25	4.8		1		250	9.00	0.10	0.10	1.30	47,000	320	2.5	0.05	5.75	3.35		90.5	67.0	51.0	45.0	35.0	15.0	12.0
12/28/2008	2,730	34	10.00	49	16	37	15	24	27	5.6		1		250	8.50	0.05	0.05	1.10	45,000	320	2.5	0.25	6.44	3.803		90	69.0	53.0	46.0	36.0	16.0	13.0
12/28/2008	2,807	52	10.00	47	15	35	10	25	28	5.2	11.4	1	2	250	8.80	0.10	0.10	1.20	46,000	320	5.0	0.25	6.56	4.122		89.8	65.0	50.0	43.0	34.0	15.0	13.0
12/29/2008	2,807		10.00	55	14	36	14	25	28	5.0	11.0	1	2	250	8.80	0.10	0.10	1.31	46,000	320	5.0	0.25	6.56	4.122		89.8	64.0	50.0	43.0	34.0	15.0	13.0
Interval # 04										**From Date**				**12/31/2008**						**Top of Interval**			**2,807.0**			**m**						
Max. Hole Size / Bit Size			**8.500 / 8.500 in**							**To Date**				**01/13/2009**						**Bottom of Interval**			**3,585.0**			**m**						
12/31/2008	2,807		10.10	55	15	40	14	24	28	5.0	11.0	1	2	250	8.50	0.10	0.10	1.30	46,000	320	5.0	0.10	6.35	2.964		90	70.0	55.0	47.0	37.0	16.0	13.0

Operator	**BEACH PETROLEUM**
Well Name	**Fermat- 1**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology 49 Deg C					Filtration					Filtrate Analysis						MBT	Sand	Retort Analysis				Rheometer Dial Readings					
					PV	lbs/100 ft2				API	HTHP	Cake API	Cake HTHP	Temp	pH	Pm	Pf	Mf	Cl	Total Hardness		% by vol	% by vol				600	300	200	100	6	3
	m	Deg C	ppg	sec/qt	cP	YP	10S	10M	30M	ml/30 min	ml/30 min	32nd in		Deg C		ml	ml	ml	mg/l	mg/l	ppb Eq.	% by vol	Corr Solid	LGS	NAP Base	Water						
01/01/2009	2,807		10.10	55	15	40	14	24	28	5.0	11.0	1	2	250	8.50	0.05	0.05	1.30	46,000	320	5.0	0.25	6.35	2.964		90	70.0	55.0	47.0	37.0	16.0	13.0
01/02/2009	2,807		10.10	55	14	36	14	19	24	5.2	11.0	1	2	250	8.50	0.10	0.10	1.30	45,000	360	5.0	0.10	6.44	3.054		90	64.0	50.0	42.0	35.0	14.0	11.0
01/03/2009	2,807		10.10	55	11	33	13	18	22	5.6	11.0	1	2	250	8.50	0.10	0.10	1.30	45,000	320	5.0	0.25	6.44	3.054		90	55.0	44.0	36.0	30.0	13.0	10.0
01/03/2009	2,807	41	10.30	60	17	44	16	25	29	6.6		2		250	10.50	1.20	0.80	2.20	43,000	480	5.0	0.50	7.12	2.754		89.5	78.0	61.0	54.0	43.0	19.0	17.0
01/04/2009	2,810	41	10.35	44	14	32	12	20	24	7.0		1		250	10.00	0.90	0.70	2.40	45,000	480	5.0	0.25	6.96	2.203		89.5	60.0	46.0	41.0	31.0	14.0	10.0
01/04/2009	2,909	50	10.40	46	15	37	11	19	23	6.0	12.0	1	1	250	9.20	0.45	0.28	3.00	42,000	800	6.0	1.25	7.72	3.113		89	67.0	52.0	45.0	35.0	14.0	10.0
01/04/2009	2,995	41	10.35	46	15	34	11	19	24	6.0	11.8	1	2	250	9.50	0.10	0.60	2.40	43,000	600	5.0	1.00	7.64	3.4		89	64.0	49.0	42.0	33.0	13.0	10.0
01/05/2009	3,064	53	10.60	48	16	36	11	19	24	6.0		1		250	9.50	0.10	0.30	2.40	42,000	480	6.2	0.75	7.72	1.615		89	68.0	52.0	45.0	34.0	13.0	10.0
01/05/2009	3,164	53	10.60	47	22	35	13	23	28	6.0		1		250	8.80	0.20	0.15	2.00	41,000	480	7.5	0.75	7.8	1.701		89	79.0	57.0	48.0	32.0	15.0	12.0
01/05/2009	3,244	55	10.50	49	19	37	14	26	34	5.6	11.8	1	1	250	8.50	0.05	0.05	2.00	40,000	480	7.5	0.75	7.88	2.537		89	75.0	56.0	42.0	38.0	15.0	13.0
01/05/2009	3,325	57	10.60	54	16	36	11	19	23	5.8		1		250	9.00	0.05	0.05	2.00	41,000	480	7.5	0.75	7.8	1.701		89	68.0	52.0	45.0	34.0	13.0	10.0
01/06/2009	3,430	53	10.60	52	20	40	12	20	25	5.6		1		250	8.50	0.05	0.05	2.00	42,000	480	10.0	0.50	8.24	2.634		88.5	80.0	60.0	51.0	39.0	14.0	11.0
01/06/2009	3,506	55	10.60	49	21	38	13	28	37	5.2	11.0	1	1	260	8.60	0.05	0.05	2.60	42,000	480	11.2	0.50	8.76	3.654		88	80.0	59.0	50.0	38.0	15.0	12.0
01/06/2009	3,585	57	10.60	50	22	36	12	26	35	5.2	11.0	1	1	260	8.60	0.10	0.05	2.40	42,000	480	11.2	0.50	8.24	2.634		88.5	80.0	58.0	49.0	36.0	14.0	11.0
01/06/2009	3,585	50	10.60	50	20	40	11	23	31	5.2		1		260	8.50	0.05	0.05	2.20	42,000	440	11.2	0.50	8.24	2.634		88.5	80.0	60.0	50.0	37.0	14.0	11.0
01/07/2009	3,585	45	10.60	54	19	37	14	28	33	6.0		1		260	8.50	0.05	0.05	2.40	42,000	440	10.0	0.75	8.24	2.634		88.5	75.0	56.0	48.0	37.0	15.0	13.0
01/07/2009	3,585	47	11.00	59	23	28	12	30	38	6.0	12.0	1	1	260	8.50	0.05	0.05	2.00	40,000	440	10.0	1.00	11	4.904		86	74.0	51.0	45.0	32.0	16.0	13.0
01/08/2009	3,585	25	11.00	63	23	27	13	31	39	6.0	12.0	1	1	260	8.50	0.05	0.05	2.30	40,000	440	10.0	0.75	11	4.904		86	73.0	50.0	44.0	32.0	15.0	13.0
01/08/2009	3,585		10.95	60	22	28	13	30	38	6.0	12.0	1	1	260	8.50	0.05	0.05	2.30	40,000	440	10.0	0.75	11	5.278		86	72.0	50.0	43.0	32.0	14.0	12.0
01/09/2009	3,858		10.90	63	22	29	13	30	38	6.0	12.0	1	1	260	8.50	0.05	0.05	2.10	40,000	440	10.0	0.75	11	5.653		86	73.0	51.0	44.0	32.0	14.0	12.0
01/09/2009	3,585		10.90	64	22	28	13	30	38	6.0	12.0	1	1	260	8.50	0.05	0.05	2.00	40,000	440	10.0	0.75	11	5.653		86	72.0	50.0	43.0	32.0	14.0	12.0
01/10/2009	3,585		11.00	62	22	28	13	30	38	6.0	12.0	1	1	260	8.30	0.05	0.05	2.00	40,000	440	10.0	0.75	8.92	0.829		88	72.0	50.0	43.0	32.0	14.0	12.0
01/10/2009	3,585		11.00	69	23	27	13	30	38	6.0	12.0	1	1	260	8.30	0.05	0.05	2.00	40,000	440	10.0	0.75	8.92	0.829		88	73.0	50.0	44.0	32.0	14.0	12.0
01/11/2009	3,858		11.00	65	22	28	13	30	38	6.0	12.0	1	1	260	8.50	0.05	0.05	2.00	40,000	440	10.0	0.75	11	4.904		86	72.0	50.0	43.0	32.0	14.0	12.0
01/11/2009	3,585		11.00	64	23	26	13	30	38	6.0	12.0	1	1	260	8.50	0.05	0.05	2.00	40,000	440	10.0	0.75	11	4.904		86	72.0	49.0	43.0	31.0	13.0	11.0

Company	BEACH PETROLEUM
Well Name	Fermat- 1
Contractor	Seadrill
Rig Name	West Triton
Unit System	ADA/BEACH PETROLEUM

Fluid Program Exception Report

Report No	Date	Time	Depth m	Property Name	Unit System	Actual Value	Exception	Program Min	Program Max

No data available for this report

Operations Log Recap

Well Name	Fermat- 1
Operator	BEACH PETROLEUM
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Interval		**01**		**From Date**	**001**	**Top of Interval**	**.0**	**m**
Max. Hole Size / Bit Size		**36.000 / 36.000**	**in**	**To Date**	**005**	**Bottom of Interval**	**119.0**	**m**
For Report	**# 001**	**On**	**12/10/2008**	**Operation at Depth**		**.0 m**		
Rig Activity				Rig up at new location. Fermat-1.				
Activity				Rig up and rig down				
Fluid Treatment				Baroid crew on Standby in town.				
For Report	**# 002**	**On**	**12/11/2008**	**Operation at Depth**		**.0 m**		
Rig Activity				Pre Load				
Activity				Pre Load				
Fluid Treatment				Baroid Crew on Standby in town				
For Report	**# 003**	**On**	**12/12/2008**	**Operation at Depth**		**.0 m**		
Rig Activity				Pre Load				
Activity				Pre Load				
Fluid Treatment				Baroid Crew on Standby in town.				
For Report	**# 004**	**On**	**12/13/2008**	**Operation at Depth**		**76.7 m**		
Rig Activity				Rig up, make up BHA & installed missing grating on Texas Deck. Tagged sea bed at 76.76m with 9K WOB, 85 SPM & 500 GPM at 200 psi. Took 5 inclination Surveys at 500 GPM, 2.5, 1, 1, 1.5 and 3 Degrees.				
Activity				Inclination Surveys				
Fluid Treatment				2 x Baroid Engineers arrived at rigsite. Made up 1576 bbl of 8.8 ppg PHB. Added lime to flocculate.				
For Report	**# 005**	**On**	**12/14/2008**	**Operation at Depth**		**119.0 m**		
Rig Activity				Continued to tag sea bed until less than 1 degree was achieved. Spud in with survey of 0.5 f/ 76 - 77m. ROV observed bit had been walking on hard bottom up to 3m diameter. Drilled through f/ 76-87m checked inclination. Continued to drill 36" hole f/ 87-119m. Pumped 200 bbl Hi-Vis Sweep then Displace hole w/ PHB mud. POOH with 36" and rack back in derrick. Rig up equipment for 30" conductor & installed CTU. Installed ICON clamp to CTU. Cut 30" conductor and stamp excess. Rig down Weatherford equipment. Fit 20" centraliser, RIH and Break Circ. Rig up Cement line.				
Activity				Rig Up Cement Line.				
Fluid Treatment				Mixed 1350 bbl of 8.8 ppg PHB mud into 3 pits. This volume and chemicals will be charged off tomorrow when we start drilling again. 251 bbl of 8.8 ppg was used to drill this section, Returns were to the seabed.				

Interval		**02**		**From Date**	**006**	**Top of Interval**	**166.0**	**m**
Max. Hole Size / Bit Size		**17.500 / 17.500**	**in**	**To Date**	**009**	**Bottom of Interval**	**999.0**	**m**
For Report	**# 006**	**On**	**12/15/2008**	**Operation at Depth**		**166.0 m**		
Rig Activity				Performed cement job as per program, POOH and rig down stinger. Rig up & installed test joint in BOP, rigged up 5.5" and zip bails and commenced pick up of 5.5" DP - rack in derrick. Layed out 36" BHA. Made final cut on 30" conductor 19.3m below RKB. Made up 17.5" BHA, RIH & drilled out cement. Continued drilling f/ 145-166m.				
Activity				Drilling				
Fluid Treatment				Inventory correction, 2 x Amodril 1235 added to inventory. Built an additional 1452 bbl, 30ppb PHB. Received 47 MT of Bentonite off the Battler. All returns going to sea bed while drilling.				
For Report	**# 007**	**On**	**12/16/2008**	**Operation at Depth**		**824.0 m**		
Rig Activity				Continued drilling 17.5" hole f/166-824m.				
Activity				Drilling				
Fluid Treatment				Built 450 bbl 30 ppb PHG into pit 4. Added 0.25 ppb lime, cut PHG back w/ sea water 60:40 and pumped 50 bbl sweeps each single or as required. Built 3 ppg Guar Gum Hi- Vis for contingency. Drill water off the Valkyrie had very high chloride concentrations ~20,000. Tested tanks 15P, 15S and 5C and all seemed to be contaminated with Sea Water. Reported to C/M. Transferred 5C into 15S and took on board more drill water. Returns to sea bed 1200 bbl. 24 x 8.8 ppg, 50 bbl Hi Vis Sweeps.				
For Report	**# 008**	**On**	**12/17/2008**	**Operation at Depth**		**999.0 m**		
Rig Activity				Drilled f/ 824 - 999m, Pumped 100 bbl Hi-Vis & circ hole clean. Down liked data f/ SLM tools & pumped an additional 100 bbl Hi-Vis. Displaced hole to Hi-Vis PHB @ 8.8 ppg, 1.5 x open hole volume. POOH f/ 999m to surface & L/O BHA. (1x20 nozzle missing from bit & Transmitting shield from SLM tool missing) Make up cement head and rack the same in derrick. Rig up 13 3/8" casing & RIH f/ Surface - 725m.				
Activity				Run 13 3/8" Casing.				
Fluid Treatment				Filled pits # 1, 2, 5 & 7 w/ sea water & flushed to prepare for KCl polymer fluid. Double checked inventory on board for 12.25" section.				
For Report	**# 009**	**On**	**12/18/2008**	**Operation at Depth**		**999.0 m**		
Rig Activity				Cont. RIH 13-3/8" casing and perform cement job. Nipple up BOP. Connect and install choke hose and pressure up to Koomey Unit. P/U and installed bell nipple, overshot, diverter, hook up control hoses & test. Make up wear bushing running tool, pull diverter inserts & RIH w/ wear bushing.				
Activity				RIH with Wear Bushing				
Fluid Treatment				Build 60 bbl Guar Gum Hi-Vis Sweep. Preparing 1800 bbl 8% KCL / Polymer mud. NOTE: Initial polymer concentrations are lower than programmed to prevent loss of whole mud over shakers during the displacement. Will charge off all chemicals & volumes at the start of the next interval. Dressed Shakers, 20 mesh scalpers and 4 x 89 mesh.				

Interval		**03**		**From Date**	**010**	**Top of Interval**	**999.0**	**m**
Max. Hole Size / Bit Size		**12.250 / 12.250**	**in**	**To Date**	**021**	**Bottom of Interval**	**2,807.0**	**m**
For Report	**# 010**	**On**	**12/19/2008**	**Operation at Depth**		**1,011.0 m**		
Rig Activity				Make up Junk Basket, BHA & singles & RIH f/ Surface - 954m. Removed power slips & changed out elevators, continued to RIH f/ 954 - 974m (top of float collar). Drilled float collar, cement & shoe track. Displace hole to 9.4 ppg KCL Polymer Fluid. Washed down Rat Hole to 999m. Worked Junk Basket at 999m switching pumps on and off whilst drilling 3m of new formation to 1002m. Perform FIT to 14.9 ppg EMW. Circulated 1.5 times bottoms up & performed LOT & tested surface lines.				
Activity				Perform LOT				
Fluid Treatment				Initial Fluid built had reduced concentrations of Polymers for displacement. Cont. to add chemicals & weight up KCL fluid to desired weight. Treat Hardness after drilling cement w/ Soda Ash & used Citric Acid to bring pH down. Add PAC LE to maintain fluid loss properties. Make up 60 bbl 11.3 ppg KCL polymer Slug in Slug Pit.				
For Report	**# 011**	**On**	**12/20/2008**	**Operation at Depth**		**1,037.0 m**		
Rig Activity				Drilled f/ 1011-1027m working Junk Basket. CBU & flow check = static, pumped slug & POOH f/ 1027-127m . Cont. POOH f/ 127m - Surface racked back & laid out pipe, junk basket and BHA. Recovered Pieces of nozzle and SLB tool. Perform shallow test on SLM tools. Cont. to RIH BHA f/ 27.89 - 151.43m. Change out handling equipment, install hydraulic slips & continued to pick up D/P f/ derrick. RIH to 987m. Logged f/ shoe- 1027m at 40 m/hr w/ 800gpm at 40 rpm. Establish parameters & drill ahead f/ 1027-1037m (23:59 hrs).				
Activity				Drilling				
Fluid Treatment				Received 6 containers of chemical at 20:00 hrs, consisting of DEXTRID LTE, Circal 60/16, Circal Y, BARAZAN-D PLUS, EZ MUD LIQUID, PAC LE, OXYGON & GUAR GUM. Inventory: Received 20% KCL brine, taken on board & entered in inventory as 1000 kg bags (30 bbl = 1000 kg bag). Cont. to maintain Fluid properties w/ additions of EZ MUD Liquid to active system to programmed levels. Dumped 774 bbl of 8.8 ppg PHB from pits 3, 4 and 8 - not required for this interval.				
For Report	**# 012**	**On**	**12/21/2008**	**Operation at Depth**		**1,478.0 m**		
Rig Activity				Drilled ahead f/ 1037 - 1478m (23:59 hrs)				
Activity				Drilling				
Fluid Treatment				Loss of unsheared mud at the shakers once drilling started. Attempt to fine up shaker screens ASAP, only able to install 145's on all shakers at 1700 hrs to prevent mud losses. Screened up As soon as mud had sheared. Combination of 10 and 20's top & 145 & 215 mesh installed by midnight. Used a combination of new & the better of the used screens to reduce sand content in Fluid & reduce sand going through pumps. Treated active w/ 0.2ppb caustic to raise pH. Cont. adding PHPA. Add 0.25ppb PAC LE to maintain properties & ALDACIDE-G to maintain properties in other pits.				
For Report	**# 013**	**On**	**12/22/2008**	**Operation at Depth**		**1,792.0 m**		
Rig Activity				Continued drilling f/ 1478-1792m (23:59 hrs)				
Activity				Drilling				
Fluid Treatment				KCL brine on hand: 427 bbl (68 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). Treated circulating system w/ PHPA by adding 3.0 ppb EZ-MUD. Maintained dilution to active for volume while running centrifuge on occassions for MW control. Continue to retain the 145 mesh shaker screens while allowing small shaker losses due to				

Interval	03		From Date	010	Top of Interval	999.0	m
Max. Hole Size / Bit Size	12.250 / 12.250	in	To Date	021	Bottom of Interval	2,807.0	m

	blinding. Building more premix volume in progress. Added 2 pails KOH to active to increase pH and maintain properties. Made another 443 bbl of 9.1 ppg KCl polymer fluid in pit 4.
For Report # 014 On 12/23/2008	**Operation at Depth 2,104.0 m**
Rig Activity	Adding KOH for alkalinity. Building new premix in progress. Drilled ahead from 1792m to 2104m at midnight w/ surveys. Weighting mud up to 9.7 ppg with barite at midnight.
Activity	Drilling
Fluid Treatment	KCL brine on hand: 232 bbl (37 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). Downhole seepage losses observed from 1850-1989 m, 15-18 bbl/hr, permeable sands. Losses slowed to slight seepage. Running centrifuges to control LGS while adding 2.5 bbl drillwater to flowline to maintain water phase. Adding EZ-MUD to active to maintain 3 ppb w/ adding premix for volume control. Removed 10 damaged 145 mesh shaker screens, replaced w/ new screens. Received barite from Valkyrie.
For Report # 015 On 12/24/2008	**Operation at Depth 2,266.0 m**
Rig Activity	Drilled ahead f/ 2104m to 2123m & stopped for rig repair to wash pipe. Then continued drilling f/ 2123m to 2266m at midnight with surveys.
Activity	Drilling
Fluid Treatment	Continue w/ EZ-MUD maintenance to active. Running centrifuges continuously in barite recovery mode to control LGS. Adding drillwater to flowline at 2.5 bbl/hr to maintain water phase. MW maintained at 9.7 ppg, dusting with barite as required. Caustic potash for alkalinity control. Prepared slug at 11.7 ppg.
For Report # 016 On 12/25/2008	**Operation at Depth 2,396.0 m**
Rig Activity	Drilled ahead f/ 2266m to 2396m. CBU & flow checked prior to tripping out to 2101m. At 2101m pumped slug & POOH to 1356m where the hole became tight. Wash and ream back to 1333m. Brakes set on Draw-works & problem trouble shooting carried out. Continue to wash out f/ 1333m to 1245m at midnight. NOTE: Hydraulic Data given as per circulating on bottom. Volume data for report calculated based on bit depth at midnight (Tripping out).
Activity	Trip
Fluid Treatment	KCL brine on hand: 333 bbl (53 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). Received 300 bbl (48 m3) brine f/ Battler. Continued EZ-MUD maintenance to active. Ran centrifuges continuously in barite recovery mode to control LGS. Added drillwater to flowline at 2.5 bbl/hr to maintain water phase. Dusted with barite as required for MW while maintaining volume in active using unweighted premix. Caustic potash for alkalinity control & soda ash to trim hardness. Reconciled inventory & corrected as required.
For Report # 017 On 12/26/2008	**Operation at Depth 2,396.0 m**
Rig Activity	Continued to backream f/ 1245m to 1038m. At 1038m the washpipe failed. POOH f/ 1038m to 987m (Shoe). Once inside the shoe trouble shoot rig control software & change out washpipe. POOH f/ 987m to 920m then continue to troubleshoot control software. POOH for BHA change & service rig. P/U new BHA & RIH to shallow test MWD. Cont. RIH to 1341m at midnight filling string every 20 stands.

Interval	**03**			**From Date**	**010**	**Top of Interval**	**999.0**	**m**
Max. Hole Size / Bit Size	**12.250 / 12.250**	**in**		**To Date**	**021**	**Bottom of Interval**	**2,807.0**	**m**

Activity	Tripping
Fluid Treatment	KCL brine on hand: 333 bbl (53 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). Unloaded containers & placed chemicals received into sack store. No Circulation.
For Report # 018 On 12/27/2008	**Operation at Depth 2,671.0 m**
Rig Activity	Continued to RIH f/ 1341m to 2346m & washed down f/ 2346m to 2396m (TD). Drilled ahead from 2396 to 2469m then drill & slide as per Directional Driller's instructions to 2671m at midnight. Preparing to weight up to 10ppg prior to section TD.
Activity	Drilling
Fluid Treatment	KCL brine on hand: 133 bbl (32 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). After trip retain slugs in system to allow MW to be maintained at 9.9 ppg for pore pressure control. Added PAC-LE to maintain tight WL control & KOH for alkalinity. Adding 2.5 bbl/hr water at flowline to maintain water phase & running centrifuges in barite recovery mode to control LGS. Clayseal Plus added for additional clay protection. Current PHPA concentration = 2.4 ppb. Prepared 400 bbl premix.
For Report # 019 On 12/28/2008	**Operation at Depth 2,807.0 m**
Rig Activity	Continue to drill 12 1/4" section f/ 2671m to 2692m sliding as instructed by Directional Driller. Drill ahead to 2807m (Section TD) and circulate 2 x Bottoms Up to ensure hole clean & down link LWD Tools. Flow check for 10mins - well static. POOH 10 stands wet to 2524m then pump 30 bbl 12ppg slug & POOH. At 1132m work through tight hole & continue to POOH at midnight.
Activity	Drilling
Fluid Treatment	KCL brine on hand: 133 bbl (32 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). From 2758 m, downhole seepage loss observed varying between 15 - 20 bbl/hr. Turned off centrifuges & treated system with 6 ppb Circal-Y ($CaCO_3$ med) + 4 ppb Circal 60/16 ($CaCO_3$ fine) as bridging agents to minimise these losses. Result = losses slowed to 5 bbl/hr. Note increase in LGS due to $CaCO_3$ added. Prepared 12.0 ppg slug for POOH. Overpull observed at 1132 m.
For Report # 020 On 12/29/2008	**Operation at Depth 2,807.0 m**
Rig Activity	Continue POOH & break out bit. Rig up to run 9 5/8" casing & run same. Preparing to rig up to circulate & cement shortly after midnight.
Activity	casing
Fluid Treatment	KCL brine on hand: 133 bbl (32 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). Circal 60/16 & Circal-Y ($CaCO_3$) were used yesterday to curb hole seepage losses. Casing data will be updated on next report. No downhole seepage loss observed while running casing.

Operations Log Recap

Well Name	Fermat- 1
Operator	BEACH PETROLEUM
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Interval		**03**		**From Date**	**010**	**Top of Interval**	**999.0**	**m**
Max. Hole Size / Bit Size		**12.250 / 12.250**	**in**	**To Date**	**021**	**Bottom of Interval**	**2,807.0**	**m**
For Report	**# 021**	**On**	**12/30/2008**	**Operation at Depth**		**2,807.0 m**		

Rig Activity	Continued to RIH w/ 9 5/8" casing to 2774m. At 2774m the casing string took weight so the circulation equipment was rigged up. The casing was circulated however the hole packed off. The casing was worked to re-establish circulation & the string worked f/ 2764m to 2778m w/ intermittent packing off. The casing was washed down to TD at 2807m & then landed & set at 2800.5m. The cementing equipment was rigged up & the hole circulated bottoms up then cemented as per programme. When an attempt was made to breakout the running tool the top landing joint backed out. This connection was remade & another attempt resulted in the Pup Joint backing out. Continuing to work the problem at midnight.
Activity	Run casing and cement
Fluid Treatment	KCL brine on hand: 133 bbl (32 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). After pumping cement & spacers, volume left behind casing (lost) = 155 bbl. While displacing cmt, lost 58 bbl as downhole loss. Volume correction also applied. Plug did not bump. Today being final report for 12 1/4" interval. Transferred all remaining volume to next interval.

Interval	**04**		**From Date**	**022**	**Top of Interval**	**2,807.0**	**m**
Max. Hole Size / Bit Size	**8.500 / 8.500**	**in**	**To Date**	**35**	**Bottom of Interval**	**3,585.0**	**m**

For Report	**# 022**	**On**	**12/31/2008**	**Operation at Depth**	**2,807.0 m**
Rig Activity				Continue to attempt to retreive Running Tool, break out & recover after considerable effort. Make up Mill & flush. Make up Seal Assembly & run. Surface Test okay however unable to get downhole test. Recover & rerun.	
Activity				Makeup BHA	
Fluid Treatment				KCL brine on hand: 133 bbl (32 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). Received chemicals & brine from Valkyrie. For recap purpose, transferred all remaining volume from previous to today's report being start of 8 1/2" interval. Treated surface pits with Aldacide-G to mitigate bacterial action.	

For Report	**# 23**	**On**	**01/01/2009**	**Operation at Depth**	**2,807.0 m**
Rig Activity				Retrieve Running Tool w/ damaged lock ring. RIH & jet BOP then nipple down BOP & clean & inspect wellhead as per instructions. Pick up Drill Pipe then pick up mill & flush tool & mill & wash Seal Assembly area as per directions. Rig down mill & make up to re-run Seal Assembly, run same & test void to 2k (good test). Nipple Up BOP & test. Leak at radial bolts. Retighten & retest. Tests good. Prepare to change out gasket in BOP.	
Activity				Testing B.O.P.	
Fluid Treatment				KCL brine on hand: 577 bbl (92 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). No Circulation.	

For Report	**# 24**	**On**	**01/02/2009**	**Operation at Depth**	**2,807.0 m**
Rig Activity				Made up Combo Tool w/ Cup Tester. Raised BOP & changed seal. Tested BOP & began making up BHA for 8 1/2" section. Shallow tested LWD.	
Activity				Tripping	
Fluid Treatment				KCL brine on hand: 577 bbl (92 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). No Circulation. Dumped Sand Trap & ran centrifuges.	

For Report	**# 25**	**On**	**01/03/2009**	**Operation at Depth**	**2,807.0 m**
Rig Activity				Continue to make up BHA & load radioactive source. Pick up & make up BHA & RIH w/ Drill Pipe. Tag top plug at 2752m & drill out shoe to 2798m at midnight. Note: Mud Check #2 is cement contaminated mud while drilling cement. Treated mud with Citric & Bicarb.	
Activity				Drill out	

Interval	**04**		**From Date**	**022**	**Top of Interval**	**2,807.0**	**m**
Max. Hole Size / Bit Size	**8.500 / 8.500**	**in**	**To Date**	**35**	**Bottom of Interval**	**3,585.0**	**m**

Fluid Treatment	KCL brine on hand: 577 bbl (92 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). Backloaded Bentonite & received Barite from Valkyrie. Drilling Cement mud came back cement contaminated (Mud Check #2). Treated with Sodium Bicarbonate & Citric Acid. Weighted mud up to 10.3ppg prior to drilling out shoe & drilling new formation.

For Report	**# 26**	**On**	**01/04/2009**	**Operation at Depth**	**3,012.0 m**

Rig Activity	Continue to drill out float & shoe from 2799m & drill 3m of new hole to 2810m. Circulate 1 1/2 bottoms up, take SCRs & perform FIT to 16.0ppg EMW. Drill ahead f/ 2810m to 3005m & circulate due to increased torque & gas. Continue to drill to 3012m at midnight. At midnight begin weighting up to 10.6ppg.
Activity	Drilling
Fluid Treatment	KCL brine on hand: 577 bbl (92 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl). Added 0.3ppb N Drill HT & 0.45 ppb Soda Ash to active. Increase Clayseal concentration as per programme & treat high fluid loss. Screen up shakers with available used 255 mesh screens.

For Report	**# 27**	**On**	**01/05/2009**	**Operation at Depth**	**3,352.0 m**

Rig Activity	Continue to drill f/ 3012m to 3019m. At 3019m the gas levels increased & the well was circulated until gas levels were assessed. The mud was weighted up to 10.5+ppg as drilling continued to 3056m where there was a drilling break. A flow check was conducted & the well found to be static. Drilling continued to 3352m at midnight.
Activity	Drilling
Fluid Treatment	Received 301bbl of KCL Brine from Battler. (Equivalent to 10 x 1000kg bags) KCL brine on hand: 672 bbl (107 m3). Recorded in inventory as 22 x 1000 kg bags equivalent (1 bag ~ 30 bbl). Charged off 206bbl (used) as 7.3 bags. Maintaining mud properties with additions of premix.

For Report	**# 28**	**On**	**01/06/2009**	**Operation at Depth**	**3,585.0 m**

Rig Activity	Drill f/ 3352m to 3585m & circulate hole clean. Conduct flow check & POOH. Tight hole f/ 3510m to 3451m. At 2415m it became necessary to wash & back ream. Washed & reamed 3392m to 3420m & then POOH from 3420 to 3081m. Back ream 3081 to 2948m & then POOH from 2948m to 2900m. Ream back to the shoe from 2900m to 2800m and service top drive at midnight. Note that hydraulic data applies as per circulating at TD (3585m)
Activity	Tripping
Fluid Treatment	KCL brine on hand: 672 bbl (107 m3). Recorded in inventory as 22 x 1000 kg bags equivalent (1 bag ~ 30 bbl). Received 42Mt Barite and 16Mt Bentonite.

Interval		**04**		**From Date**	**022**	**Top of Interval**	**2,807.0**	**m**
Max. Hole Size / Bit Size		**8.500 / 8.500**	**in**	**To Date**	**35**	**Bottom of Interval**	**3,585.0**	**m**
For Report	**# 29**	**On**	**01/07/2009**	**Operation at Depth**		**3,585.0 m**		
Rig Activity				Wash & ream stabilizers through the shoe. RIH f/ 2880m to 3451m & wash down f/ 3451m reaming as required to 3585m. Circulate bottoms up until hole clean. POOH wet to 3549m taking 20-30k drag. Wash & ream back to bottom. Weigh up to 11ppg & POOH to shoe at 2800m. Flowcheck at shoe & then continue to POOH. Rack back BHA & break out bit then rig up for wireline operations. Running wireline at midnight.				
Activity				Wire Line logs				
Fluid Treatment				KCL brine on hand: 672 bbl (107 m3). Recorded in inventory as 22 x 1000 kg bags equivalent (1 bag ~ 30 bbl). Weigh up to 11ppg at TD for hole stability.				
For Report	**# 30**	**On**	**01/08/2009**	**Operation at Depth**		**3,585.0 m**		
Rig Activity				Continue running wireline logs.				
Activity				Wire Line 8 1/2" hole				
Fluid Treatment				Mixed 200 bbl, 25 ppb PHB Hi Vis, for setting cement plugs. Made inventory correction- circal, HME.				
For Report	**# 31**	**On**	**01/09/2009**	**Operation at Depth**		**3,585.0 m**		
Rig Activity				Continue wireline logging. Rig down tools.				
Activity				Rig Down SLB Tools.				
Fluid Treatment				No treatments.				
For Report	**# 32**	**On**	**01/10/2009**	**Operation at Depth**		**3,585.0 m**		
Rig Activity				Rig down MWD spool in standpipe. RIH cement stinger to 3550m. Attempt to circulate, packed off, POH tight to 3426m. POOH free to 3259m. RIH & wash to 3426m. Tight hole & packed off. POOH to 3300m. Pump HI Vis & set cement plug #1, POOH to 3278m.				
Activity				Displacing 1st cement Plug				
Fluid Treatment				Began backloading chemicals & dumping barite through the mud pits.				
For Report	**# 33**	**On**	**01/11/2009**	**Operation at Depth**		**3,585.0 m**		
Rig Activity				Continued to POH to 3069m, circulate bottoms up. Lay out drill pipe, RIH & tag cement at 3119m. Mix & pump cement @ 3119m as per program. POOH to 2969m. Break circulation, mix & pump cement as per program. POOH to 2777m, circulate bottoms up. layout drill pipe & BHA. RIH to 2806m.				
Activity				Tripping				
Fluid Treatment				Cont. to dump barite through pits. Diluted & dumped KCL brine through pits. Backloaded chemicals.				
For Report	**# 34**	**On**	**01/12/2009**	**Operation at Depth**		**3,585.0 m**		
Rig Activity				Pulling Casing & Preparing for final cement plug.				

Interval	**04**		**From Date**	**022**	**Top of Interval**	**2,807.0**	**m**
Max. Hole Size / Bit Size	**8.500 / 8.500**	**in**	**To Date**	**35**	**Bottom of Interval**	**3,585.0**	**m**

Activity	Pulling Casing
Fluid Treatment	Dumped all 42 MT barite and 53 MT gel through pits. Also dumped final volume of Brine through mud pits. Ratio was 60% sea water 40% Chemical. Cementer used 4 Sx Citric Acid. Dumped all pits of KCL polymer fluid. Although marked as "dumped" we have kept Hi-Vis volume in pit # 3 for cement job at some stage tomorrow evening/night. As yet 2 x AMODRILL 1235 (Bulk), 9 x pails NO SULF, 5 x pails OXYGON and 8 x Sx EZ-MUD DP have yet to be loaded on any boat. Backloaded the rest of chemicals, other than above.

For Report	**# 35**	**On**	**01/13/2009**	**Operation at Depth**	**3,585.0 m**

Rig Activity	Pulling Casing & preparing for cement plug.
Activity	Moving off Location
Fluid Treatment	Flushing all pits w/ Sea Water. Cleaning Mud Lab & finalising detail in documents.

Well Name	Fermat- 1
Operator	BEACH PETROLEUM
Contractor	Seadrill
Rig No	West Triton
Unit System	ADA/BEACH PETROLEUM

Deviation Actual

Survey Date	MD m	TVD m	Angle	Direction	Horiz Displ. m
12/14/2008	167	167	1.24	1.7	
12/15/2008	197	197	0.28	3.3	2.1
12/16/2008	286	286	2.77	17.3	1.1
12/23/2008	1,761	1,761	3.30	227.0	43.7
12/24/2008	2,235	2,233	3.46	227.3	
12/25/2008	2,382	2,380	3.36	228.4	
12/27/2008	2,471	2,469	0.59	128.0	
12/29/2008	2,708	2,705	2.64	86.8	
01/04/2009	2,992	2,990	2.65	116.5	
01/05/2009	3,318	3,315	4.02	150.5	
01/06/2009	3,569	3,564	7.28	160.0	

Baroid Fluid Services

Company	**BEACH PETROLEUM**
Well Name	**Fermat- 1**
Contractor	**Seadrill**
Rig No	**West Triton**
Unit System	**ADA/BEACH PETROLEUM**

Bit Record Report

Run No	Bit No	Bit Size in	Bit Manufacturer	Bit Type	Bit Style	IADC Code	Serial Number	Jet or TFA sq-in	Depth Out m	Run Length m	ROP m/hr	WOB lb	Bit RPM	Pump Press psi	Pump OutPut gpm	Fluid Type	Fluid Weight ppg	Hole Angle	Bit Grading	Reason Pulled
3	3	12.250	HTC	GT-1	MT	116	5149536	3x16	1,027.0	28.0	60.0	40,000.0	120	2,300.0	997	KCl/Polymer	9.40	3.3	to be graded	BHA - Change BHA
4	4	12.250	REED	RSR616M-B3	FC		212219	3x13|3x14	2,396.0	1,369.0	25.0	40.0	240	2,450.0	997	KCl/Polymer	9.70	3.4	to be graded	BHA - Change BHA
5	5	12.250	HYCALOG	RSX 616M	FC		219736	3x13|3x15	2,807.0	411.0	12.0	30,000.0	60	2,450.0	883	KCl/Polymer	10.00	0.6	to be graded	TD - Total/Casing Depth
6	6	9.625	CASING	Casing	OT		9 5/8" csg	1x32	2,807.0							KCl/Polymer	10.00		not applicable	dummy run

DAILY MUD REPORTS

Baroid Fluid Services

Report No 001

Daily Drilling Fluid Report

Date	12/10/2008	Depth	0.0 m
Spud Date	12/13/2008	Rig Activity	Rig up and rig down

Operator: BEACH PETROLEUM	Report For: Sean Defreitas	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information		Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD	Circulation/Hydraulics Data			
Bit Size	in							Model			
Make/Type								Bore in			
Jets								Strokes in			
TFA	sq-in							Eff(%)			
Jets Velocity	m/sec							bbl/strk			
Jet Impact Force	lbf							SPM			
Bit HHSI	hhp/in2							gpm|bbl/min			
Press Drop @ Bit	psi							Total GPM		AV, Riser	Circ Press psi
Bit Depth	m							Total Circ Time		AV min DP	Tot Pres Loss
ECD @ Csg Shoe	ppg							BU Time , min		AV max DC	Press Drop DP
ECD @ Bit	ppg							Total Strokes		BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type

Baroid crew on Standby in town.

Rig Activity

Rig up at new location. Fermat-1.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
ALDACIDE G	5 gal can		35		35	
BARABLOK	50 lb bag		50		50	
BARA-DEFOAM W300	5 gal can		16		16	
BARAZAN D PLUS	25 kg bag		58		58	
barite	1000 kg bulk		81.500		81.500	
BAROFIBRE FINE	25 lb bag		100		100	
bentonite	1000 kg bulk		50.000		50.000	
caustic soda	25 kg pail		31		31	
Circal 60/16	25 kg sack		185		185	
Circal Y	25 kg sack		168		168	
CLAYSEAL PLUS	216 kg drum		13		13	
CON DET	55 gal drum		4		4	
DEXTRID LTE	25 kg sack		37		37	
EZ SPOT	55 gal drum		12		12	
EZ-MUD DP	25 kg bag		27		27	
guar gum	25 kg bag		94		94	
Hme Energizer	5 gal can		26		26	
KCL Tech Grade (bulk)	1000 kg bulk		46.400		46.400	
Kwikseal Fine	40 lb bag		38		38	
lime	25 kg bag		24		24	
N-DRIL HT PLUS	50 lb bag		15		15	
NO-SULF	17 kg pail		40		40	
Omyacarb 5	25 kg bulk		96.000		96.000	
OXYGON	6 gal pail		5		5	
PAC-L	25 kg bag		55		55	
potassium chloride	1000 kg bag		6		6	
soda ash	25 kg bag		22		22	

Daily Products Cost	$0.00	Total Daily Cost	$2,500.00
Cumulative Products Cost	$0.00	Total Cumulative Cost	$2,500.00

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	24.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole		Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve		Barite		Other	
Prev Vol		Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol		Total		Total Losses	

Fluid Types	Vol bbl

Deviation Information	
Survey MD	m
Survey TVD	m
Angle	Deg
Direction	
Horiz Displ.	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 002

Daily Drilling Fluid Report

Date	12/11/2008	Depth	0.0 m
Spud Date	12/13/2008	Rig Activity	Pre Load

Operator: BEACH PETROLEUM	Report For: Sean Defreitas	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information		Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD
Bit Size	in						
Make/Type							
Jets							
TFA	sq-in						
Jets Velocity	m/sec						
Jet Impact Force	lbf						
Bit HHSI	hhp/in2						
Press Drop @ Bit	psi						
Bit Depth	m						
ECD @ Csg Shoe	ppg						
ECD @ Bit	ppg						

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	0.000	0.000	0.000
Strokes in	14.000	14.000	14.000
Eff(%)	0	0	0
bbl/strk	0.000	0.000	0.000
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type

Baroid Crew on Standby in town

Rig Activity

Pre Load

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
ALDACIDE G	5 gal can	35			35	
BARABLOK	50 lb bag	50			50	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	58			58	
barite	1000 kg bulk	81.500			81.500	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	50.000			50.000	
caustic soda	25 kg pail	31			31	
Circal 60/16	25 kg sack	185			185	
Circal Y	25 kg sack	168			168	
CLAYSEAL PLUS	216 kg drum	13			13	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	37			37	
EZ SPOT	55 gal drum	12			12	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	94			94	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	46.400			46.400	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	24			24	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGON	6 gal pail	5			5	
PAC-L	25 kg bag	55			55	
potassium chloride	1000 kg bag	6			6	
soda ash	25 kg bag	22			22	

Daily Products Cost	$0.00	Total Daily Cost	$2,500.00
Cumulative Products Cost	$0.00	Total Cumulative Cost	$5,000.00

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	24.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole		Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve		Barite		Other	
Prev Vol		Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol		Total		Total Losses	

Fluid Types	Vol bbl

Deviation Information	
Survey MD	m
Survey TVD	m
Angle	Deg
Direction	
Horiz Displ.	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 003

Daily Drilling Fluid Report

Date	12/12/2008	Depth	0.0 m
Spud Date	12/13/2008	Rig Activity	Pre Load

Operator: BEACH PETROLEUM	Report For: Sean Defreitas	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information		Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD
Bit Size	in						
Make/Type							
Jets							
TFA	sq-in						
Jets Velocity	m/sec						
Jet Impact Force	lbf						
Bit HHSI	hhp/in2						
Press Drop @ Bit	psi						
Bit Depth	m						
ECD @ Csg Shoe	ppg						
ECD @ Bit	ppg						

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	0.000	0.000	0.000
Strokes in	14.000	14.000	14.000
Eff(%)	0	0	0
bbl/strk	0.000	0.000	0.000
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type

Baroid Crew on Standby in town.

Rig Activity

Pre Load

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
ALDACIDE G	5 gal can	35			35	
BARABLOK	50 lb bag	50			50	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	58			58	
barite	1000 kg bulk	81.500			81.500	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	50.000			50.000	
caustic soda	25 kg pail	31			31	
Circal 60/16	25 kg sack	185			185	
Circal Y	25 kg sack	168			168	
CLAYSEAL PLUS	216 kg drum	13			13	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	37			37	
EZ SPOT	55 gal drum	12			12	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	94			94	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	46.400			46.400	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	24			24	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGON	6 gal pail	5			5	
PAC-L	25 kg bag	55			55	
potassium chloride	1000 kg bag	6			6	
soda ash	25 kg bag	22			22	

Daily Products Cost	$0.00	Total Daily Cost	$2,500.00
Cumulative Products Cost	$0.00	Total Cumulative Cost	$7,500.00

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	24.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole		Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve		Barite		Other	
Prev Vol		Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol		Total		Total Losses	

Fluid Types	Vol bbl

Deviation Information	
Survey MD	m
Survey TVD	m
Angle	Deg
Direction	
Horiz Displ.	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 004

Daily Drilling Fluid Report

Date	12/13/2008	Depth	76.7 m
Spud Date	12/13/2008	Rig Activity	Inclination Surveys

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information		Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD
Bit Size	in						
Make/Type							
Jets							
TFA	sq-in						
Jets Velocity	m/sec						
Jet Impact Force	lbf						
Bit HHSI	hhp/in2						
Press Drop @ Bit	psi						
Bit Depth	m						
ECD @ Csg Shoe	ppg						
ECD @ Bit	ppg						

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	0.000	0.000	0.000
Strokes in	14.000	14.000	14.000
Eff(%)	0	0	0
bbl/strk	0.000	0.000	0.000
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program
Source		Pit #3	Pit #4				
Time		21:00	22:40				
Depth	m	77	77				
FL Temp	Deg C						
Density @ Deg C	ppg	8.80 @ 25	8.80 @ 25				
FV @ Deg C	sec/qt	488 @ 25	490 @ 25				
PV @ Deg C	cP	10 @ 25	10 @ 25				
YP	lbs/100 ft2	75	76				
GELS	lbs/100 ft2	43/46/48	44/47/49				
600/300		95.0/85.0	96.0/86.0				
200/100		73.0/65.0	74.0/66.0				
6/3		43.0/41.0	44.0/42.0				
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol	-/96.0	-/96.0				
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						

Additional Properties

Fluid Treatments

Fluid Type Seawater

2 x Baroid Engineers arrived at rigsite. Made up 1576 bbl of 8.8 ppg PHB. Added lime to flocculate.

Rig Activity

Rig up, make up BHA & installed missing grating on Texas Deck. Tagged sea bed at 76.76m with 9K WOB, 85 SPM & 500 GPM at 200 psi. Took 5 inclination Surveys at 500 GPM, 2.5, 1, 1, 1.5 and 3 Degrees.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
bentonite	1000 kg bulk	50.000		22.000	28.000	$10,887.36
lime	25 kg bag	24		2	22	$13.10
ALDACIDE G	5 gal can	35			35	
BARABLOK	50 lb bag	50			50	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	58			58	
barite	1000 kg bulk	81.500			81.500	
BAROFIBRE FINE	25 lb bag	100			100	
caustic soda	25 kg pail	31			31	
Circal 60/16	25 kg sack	185			185	
Circal Y	25 kg sack	168			168	
CLAYSEAL PLUS	216 kg drum	13			13	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	37			37	
EZ SPOT	55 gal drum	12			12	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	94			94	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	46.400			46.400	
Kwikseal Fine	40 lb bag	38			38	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGON	6 gal pail	5			5	
PAC-L	25 kg bag	55			55	
potassium chloride	1000 kg bag	6			6	
soda ash	25 kg bag	22			22	

Daily Products Cost	$10,900.46	Total Daily Cost	$13,400.46
Cumulative Products Cost	$10,900.46	Total Cumulative Cost	$20,900.46

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	4.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	20.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — Seawater

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole		Sea Water	388.0	Evaporation	
Total Circ		Whole Mud		Trips	
Reserve	388.0	Barite		Other	
Prev Vol		Chemicals		Total Surface	
Net Change	388.0	Other		Downhole	
Total Vol	388.0	Total	388.0	Total Losses	

Fluid Types	Vol bbl
Bentonite Mud	1576.0

Deviation Information	
Survey MD	m
Survey TVD	m
Angle	Deg
Direction	
Horiz Displ.	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 005

Daily Drilling Fluid Report

Date	12/14/2008	Depth	119.0 m
Spud Date	12/13/2008	Rig Activity	Rig Up Cement Line.

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information		Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD
Bit Size	in				30.000	@	116.0
Make/Type							
Jets							
TFA	sq-in						
Jets Velocity	m/sec						
Jet Impact Force	lbf						
Bit HHSI	hhp/in2						
Press Drop @ Bit	psi						
Bit Depth	m	Open Hole	36.000	43.0			
ECD @ Csg Shoe	ppg						
ECD @ Bit	ppg						

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	0.000	0.000	0.000
Strokes in	14.000	14.000	14.000
Eff(%)	0	0	0
bbl/strk	0.000	0.000	0.000
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets		Program	
Source		Pit #3	Pit #4						
Time		1:52	22:30						
Depth	m	77	119						
FL Temp	Deg C								
Density @ Deg C	ppg	8.80 @ 25	8.80 @ 25					8.50	9.00
FV @ Deg C	sec/qt	488 @ 25	488 @ 25			X	X	100	
PV @ Deg C	cP	10 @ 25	10 @ 25						
YP	lbs/100 ft2	75	76			X	X	50	
GELS	lbs/100 ft2	43/46/48	44/47/49						
600/300		95.0/85.0	96.0/86.0						
200/100		73.0/65.0	74.0/66.0						
6/3		43.0/41.0	44.0/42.0						
API Filt	ml/30 min								
HTHP @ Deg C	ml/30 min								
Cake API/HTHP	32nd in								
Corr Solid	% by Vol								
NAP/Water	% by Vol	-/96.0	-/96.0						
Sand	% by vol								
MBT	ppb Eq.								
pH @ Deg C									
ALK Mud	Pm								
ALK Filt	Pf/Mf								
Chlorides	mg/l								
Tot. Hardness	mg/l								
LGS/HGS	% by Vol								
LGS/HGS	ppb								
ASG	SG								

Additional Properties

Fluid Treatments

Fluid Type Bentonite Mud

Mixed 1350 bbl of 8.8 ppg PHB mud into 3 pits. This volume and chemicals will be charged off tomorrow when we start drilling again.
251 bbl of 8.8 ppg was used to drill this section, Returns were to the seabed.

Rig Activity

Continued to tag sea bed until less than 1 degree was achieved. Spud in with survey of 0.5 f/ 76 - 77m. ROV observed bit had been walking on hard bottom up to 3m diameter. Drilled through f/ 76-87m checked inclination.
Continued to drill 36" hole f/ 87-119m. Pumped 200 bbl Hi-Vis Sweep then Displace hole w/ PHB mud. POOH with 36" and rack back in derrick. Rig up equipment for 30" conductor & installed CTU. Installed ICON clamp to CTU. Cut 30" conductor and stamp excess. Rig down Weatherford equipment. Fit 20" centraliser, RIH and Break Circ. Rig up Cement line.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
lime	25 kg bag	22		2	20	$13.10
ALDACIDE G	5 gal can	35			35	
BARABLOK	50 lb bag	50			50	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	58			58	
barite	1000 kg bulk	81.500			81.500	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	28.000			28.000	
caustic soda	25 kg pail	31			31	
Circal 60/16	25 kg sack	185			185	
Circal Y	25 kg sack	168			168	
CLAYSEAL PLUS	216 kg drum	13			13	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	37			37	
EZ SPOT	55 gal drum	12			12	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	94			94	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	46.400			46.400	
Kwikseal Fine	40 lb bag	38			38	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGON	6 gal pail	5			5	
PAC-L	25 kg bag	55			55	
potassium chloride	1000 kg bag	6			6	
soda ash	25 kg bag	22			22	

Daily Products Cost	$13.10	Total Daily Cost	$2,513.10
Cumulative Products Cost	$10,913.56	Total Cumulative Cost	$23,413.56

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time	
Drilling	8.5
Circulating	
Trips	1.5
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	14.0
Total	24.0
Rotating	8.5
ROP	5.0
Dil Rate	0.00

Fluid Volume Breakdown Bentonite Mud

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	388.0	Dewatering		SCE	
Total Hole	252.3	Sea Water	2.3	Evaporation	
Total Circ	388.0	Whole Mud		Trips	
Reserve	1326.2	Barite		Other	
Prev Vol	1576.0	Chemicals	0.1	Total Surface	
Net Change	2.5	Other		Downhole	
Total Vol	1966.4	Total	2.5	Total Losses	

Fluid Types	Vol bbl
Seawater	388.0

Deviation Information	
Survey MD	m
Survey TVD	m
Angle	Deg
Direction	
Horiz Displ.	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 006

Daily Drilling Fluid Report

Date	12/15/2008	Depth	166.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	17.500	in
Make/Type	HUGHES/MXL-T1V	
Jets	3x20	
TFA	0.920	sq-in
Jets Velocity	125.8	m/sec
Jet Impact Force	2230.2	lbf
Bit HHSI	3.85	hhp/in2
Press Drop @ Bit	1338	psi
Bit Depth	166.0	m
ECD @ Csg Shoe	8.93	ppg
ECD @ Bit	9.02	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	20.2
Drill Collar	8.250	2.875	67.3
Drill Collar	9.500	3.000	42.8
Motor	8.250	0.000	17.9
Motor	8.250	0.000	17.9
Open Hole	17.500		50.0

in Casing m

OD	Set	MD
30.000	@	116.0

Circulation/Hydraulics Data

Model	Nat-14-P-220		Nat-14-P-220		Nat-14-P-220	
Bore in	6.500		6.500		6.500	
Strokes in	14.000		14.000		14.000	
Eff(%)	95		95		95	
bbl/strk	0.136		0.136		0.136	
SPM	69		69		69	
gpm|bbl/min	395	9.42	395	9.42	395	9.42
Total GPM	1,186	AV, Riser			Circ Press psi	2100
Total Circ Time	21	AV min DP	11.7		Tot Pres Loss	1705
BU Time , min	9	AV max DC	41.0		Press Drop DP	304
Total Strokes	4,342	BU Strokes	1,861		Press Drop An	6

Properties

Properties		Hyd 1	2	3	4	Targets	Program
Source		Pit #3	Pit #8	Pit #4			
Time		4:00	12:00	22:00			
Depth	m	119	119	158			
FL Temp	Deg C						
Density @ Deg C	ppg	8.80 @ 25	8.80 @ 25	8.80 @ 25			
FV @ Deg C	sec/qt	488 @ 25	300 @ 25	488 @ 25			
PV @ Deg C	cP	10 @ 25	11 @ 25	10 @ 25			
YP	lbs/100 ft2	75	74	75			
GELS	lbs/100 ft2	43/46/48	43/46/48	42/45/47			
600/300		95.0/85.0	96.0/85.0	95.0/85.0			
200/100		73.0/65.0	74.0/66.0	73.0/65.0			
6/3		43.0/41.0	44.0/41.0	43.0/41.0			
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol	-/96.0	-/96.0	-/96.0			
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C			8.80 @ 25	8.80 @ 25			
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						

Additional Properties

Fluid Treatments

Fluid Type Bentonite Mud

Inventory correction, 2 x Amodril 1235 added to inventory.
Built an additional 1452 bbl, 30ppb PHB.

Received 47 MT of Bentonite off the Battler.

All returns going to sea bed while drilling.

Rig Activity

Performed cement job as per program, POOH and rig down stinger. Rig up & installed test joint in BOP, rigged up 5.5" and zip bails and commenced pick up of 5.5" DP - rack in derrick. Layed out 36" BHA. Made final cut on 30" conductor 19.3m below RKB. Made up 17.5" BHA, RIH & drilled out cement. Continued drilling f/ 145-166m.

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
bentonite	1000 kg bulk	28.000	47.200	18.000	57.200	$8,907.84
ALDACIDE G	5 gal can	35			35	
Amodrill 1235	1500 l drum		2		2	
BARABLOK	50 lb bag	50			50	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	58			58	
barite	1000 kg bulk	81.500			81.500	
BAROFIBRE FINE	25 lb bag	100			100	
caustic soda	25 kg pail	31			31	
Circal 60/16	25 kg sack	185			185	
Circal Y	25 kg sack	168			168	
CLAYSEAL PLUS	216 kg drum	13	20		33	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	37			37	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail		32		32	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	94			94	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	46.400			46.400	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	20			20	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGON	6 gal pail	5			5	
PAC-L	25 kg bag	55			55	

Daily Products Cost	$8,907.84	Total Daily Cost	$11,407.84
Cumulative Products Cost	$19,821.40	Total Cumulative Cost	$34,821.40

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	2.0
Circulating	
Trips	5.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	2.0
Logging	
Dir Work	
Repair	
Other	15.0
Total	24.0
Rotating	2.0
ROP	23.5
Dil Rate	0.00

Fluid Volume Breakdown — Bentonite Mud

Active	bbl	Additions	bbl	Losses	bbl
Annulus	254.0	Base		Fluid Dumped	
Pipe Cap	3.6	Drill Water	1000.0	Transferred	
Active Pits	335.0	Dewatering		SCE	-187.3
Total Hole	257.6	Sea Water	205.6	Evaporation	
Total Circ	592.6	Whole Mud		Trips	
Reserve	2390.0	Barite		Other	
Prev Vol	1578.4	Chemicals	45.3	Total Surface	
Net Change	1063.6	Other		Downhole	
Total Vol	2982.6	Total	1250.9	Total Losses	-187.3

Fluid Types	Vol bbl
Seawater	335.0

Deviation Information

Survey MD	m
Survey TVD	m
Angle	Deg
Direction	
Horiz Displ.	m

Baroid Representatives Eugene Edwards Kosta Georgiou
Office 90 Talinga Rd Melbourne Telephone 61-03-9581-7555
Warehouse c/o of Esso Australia Ltd Telephone 61-3-56-881-445

Baroid Fluid Services

Report No 007

Daily Drilling Fluid Report

Date	12/16/2008	Depth	824.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	17.500	in
Make/Type	HUGHES/MXL-T1V	
Jets	3x20	
TFA	0.920	sq-in
Jets Velocity	125.8	m/sec
Jet Impact Force	2230.2	lbf
Bit HHSI	3.85	hhp/in2
Press Drop @ Bit	1338	psi
Bit Depth	166.0	m
ECD @ Csg Shoe	8.93	ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	20.2
Drill Collar	8.250	2.875	67.3
Drill Collar	9.500	3.000	42.8
Motor	8.250	0.000	17.9
Motor	8.250	0.000	17.9
Open Hole	17.500		708.0

in Casing m

OD	Set	MD
30.000	@	116.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	69	69	69
gpm|bbl/min	395 | 9.42	395 | 9.42	395 | 9.42

Total GPM	1,186	AV, Riser		Circ Press psi	2790
Total Circ Time	21	AV min DP	11.7	Tot Pres Loss	1804
BU Time , min	9	AV max DC	41.0	Press Drop DP	303
Total Strokes	4,342	BU Strokes	1,861	Press Drop An	6

Properties

Properties		Hyd 1	2	3	4
Source		Pit #3	Pit #8	Pit #8	Pit #4
Time		1:35	13:30	16:00	23:00
Depth	m	174	356	500	795
FL Temp	Deg C				
Density @ Deg C	ppg	8.80 @ 25	8.80 @ 25	8.80 @ 25	8.80 @ 25
FV @ Deg C	sec/qt	490 @ 25	300 @ 25	300 @ 25	490 @ 25
PV @ Deg C	cP	10 @ 25	11 @ 25	11 @ 25	10 @ 25
YP	lbs/100 ft2	76	76	76	77
GELS	lbs/100 ft2	43/46/48	45/47/49	45/47/49	44/47/49
600/300		96.0/86.0	98.0/87.0	98.0/87.0	97.0/87.0
200/100		74.0/66.0	75.0/67.0	75.0/67.0	75.0/67.0
6/3		44.0/42.0	44.0/42.0	44.0/42.0	45.0/43.0
API Filt	ml/30 min				
HTHP @ Deg C	ml/30 min				
Cake API/HTHP	32nd in				
Corr Solid	% by Vol				
NAP/Water	% by Vol	-/96.0	-/96.0	96.0/-	-/96.0
Sand	% by vol				
MBT	ppb Eq.				
pH @ Deg C		9.00 @ 25	9.00 @ 25	9.00 @ 25	9.00 @ 25
ALK Mud	Pm				
ALK Filt	Pf/Mf				
Chlorides	mg/l				
Tot. Hardness	mg/l				
LGS/HGS	% by Vol				
LGS/HGS	ppb				
ASG	SG				

Additional Properties

Targets

Program

Fluid Treatments

Fluid Type Bentonite Mud

Built 450 bbl 30 ppb PHG into pit 4.
Added 0.25 ppb lime, cut PHG back w/ sea water 60:40 and pumped 50 bbl sweeps each single or as required.
Built 3 ppg Guar Gum Hi- Vis for contingency.
Drill water off the Valkyrie had very high chloride concentrations ~20,000. Tested tanks 15P, 15S and 5C and all seemed to be contaminated with Sea Water. Reported to C/M. Transferred 5C into 15S and took on board more drill water.
Returns to sea bed 1200 bbl. 24 x 8.8 ppg, 50 bbl Hi Vis Sweeps.

Rig Activity

Continued drilling 17.5" hole f/166-824m.

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
guar gum	25 kg bag	94		30	64	$2,547.90
ALDACIDE G	5 gal can	35			35	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	50			50	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	58			58	
barite	1000 kg bulk	81.500	42.000		123.500	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	57.200			57.200	
caustic soda	25 kg pail	31	32		63	
Circal 60/16	25 kg sack	185			185	
Circal Y	25 kg sack	168			168	
CLAYSEAL PLUS	216 kg drum	33			33	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	37	36		73	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	32	64		96	
EZ-MUD DP	25 kg bag	27			27	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	46.400			46.400	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	20			20	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGON	6 gal pail	5			5	
PAC-L	25 kg bag	55	36		91	

Daily Products Cost	$2,547.90	Total Daily Cost	$5,047.90
Cumulative Products Cost	$22,369.30	Total Cumulative Cost	$39,869.30

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	24.0
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	24.0
ROP	27.4
Dil Rate	0.00

Fluid Volume Breakdown — Bentonite Mud

Active	bbl	Additions	bbl	Losses	bbl
Annulus	254.0	Base		Fluid Dumped	
Pipe Cap	3.6	Drill Water	750.1	Transferred	
Active Pits	335.0	Dewatering		SCE	-1200.0
Total Hole	899.8	Sea Water	655.6	Evaporation	
Total Circ	592.6	Whole Mud		Trips	
Reserve	1968.0	Barite		Other	
Prev Vol	2647.6	Chemicals	2.8	Total Surface	
Net Change	425.9	Other	217.4	Downhole	
Total Vol	3202.8	Total	1625.9	Total Losses	-1200.0

Fluid Types	Vol bbl
Seawater	838.0

Deviation Information

Survey MD	286.1	m
Survey TVD	286.1	m
Angle	2.77	Deg
Direction	17	
Horiz Displ.	1.1	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 008

Daily Drilling Fluid Report

Date	12/17/2008	Depth	999.0 m
Spud Date	12/13/2008	Rig Activity	Run 13 3/8" Casing.

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information		Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD
Bit Size	in				30.000	@	116.0
Make/Type							
Jets							
TFA	sq-in						
Jets Velocity	m/sec						
Jet Impact Force	lbf						
Bit HHSI	hhp/in2						
Press Drop @ Bit	psi						
Bit Depth	m	Open Hole	17.500	883.0			
ECD @ Csg Shoe	ppg						
ECD @ Bit	ppg						

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4
Source		Pit #3	Pit #3		
Time		5:00	15:00		
Depth	m	842	999		
FL Temp	Deg C				
Density @ Deg C	ppg	8.80 @ 25	8.80 @ 25		
FV @ Deg C	sec/qt	484 @ 25	480 @ 25		
PV @ Deg C	cP	10 @ 25	3 @ 25		
YP	lbs/100 ft2	77	84		
GELS	lbs/100 ft2	43/46/48	43/46/48		
600/300		97.0/87.0	90.0/87.0		
200/100		75.0/67.0	73.0/64.0		
6/3		44.0/42.0	42.0/40.0		
API Filt	ml/30 min				
HTHP @ Deg C	ml/30 min				
Cake API/HTHP	32nd in				
Corr Solid	% by Vol				
NAP/Water	% by Vol	-/96.0	-/96.0		
Sand	% by vol				
MBT	ppb Eq.				
pH @ Deg C		9.00 @ 25	8.50 @ 25		
ALK Mud	Pm				
ALK Filt	Pf/Mf				
Chlorides	mg/l				
Tot. Hardness	mg/l				
LGS/HGS	% by Vol				
LGS/HGS	ppb				
ASG	SG				

Additional Properties

Targets

Program

Fluid Treatments

Fluid Type **Bentonite Mud**

Filled pits # 1, 2, 5 & 7 w/ sea water & flushed to prepare for KCl polymer fluid.

Double checked inventory on board for 12.25" section.

Rig Activity

Drilled f/ 824 - 999m, Pumped 100 bbl Hi-Vis & circ hole clean.
Down liked data f/ SLM tools & pumped an additional 100 bbl Hi-Vis.
Displaced hole to Hi-Vis PHB @ 8.8 ppg, 1.5 x open hole volume.
POOH f/ 999m to surface & L/O BHA. (1x20 nozzle missing from bit & Transmitting shield from SLM tool missing) Make up cement head and rack the same in derrick. Rig up 13 3/8" casing & RIH f/ Surface - 725m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
bentonite	1000 kg bulk	57.200		15.200	42.000	$7,522.18
ALDACIDE G	5 gal can	35			35	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	50			50	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	58			58	
barite	1000 kg bulk	123.500	36.500		160.000	
BAROFIBRE FINE	25 lb bag	100			100	
calcium chloride	25 kg bag		42		42	
caustic soda	25 kg pail	63			63	
Circal 60/16	25 kg sack	185			185	
Circal Y	25 kg sack	168			168	
CLAYSEAL PLUS	216 kg drum	33			33	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	73			73	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	96			96	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	46.400			46.400	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	20			20	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGON	6 gal pail	5			5	

Daily Products Cost	$7,522.18	Total Daily Cost	$10,022.18
Cumulative Products Cost	$29,891.48	Total Cumulative Cost	$49,891.48

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	5.5
Circulating	1.5
Trips	7.0
Rig	0.5
Surveys	
Fishing	
Run Casing	8.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	1.5
Total	24.0
Rotating	5.5
ROP	31.8
Dil Rate	0.00

Fluid Volume Breakdown **Bentonite Mud**

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	275.0	Dewatering		SCE	-617.2
Total Hole	1101.7	Sea Water		Evaporation	
Total Circ	275.0	Whole Mud		Trips	
Reserve	976.0	Barite		Other	
Prev Vol	2867.8	Chemicals	38.3	Total Surface	
Net Change	-578.9	Other		Downhole	
Total Vol	2352.7	Total	38.3	Total Losses	-617.2

Fluid Types	Vol bbl
Seawater	787.0

Deviation Information		
Survey MD	286.1	m
Survey TVD	286.1	m
Angle	2.77	Deg
Direction	17	
Horiz Displ.	1.1	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 009

Daily Drilling Fluid Report

Date	12/18/2008	Depth	999.0 m
Spud Date	12/13/2008	Rig Activity	RIH with Wear Bushing

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information		Drill String (in) / (m)	OD	ID	Length	in Casing m	OD	Set	MD
Bit Size	in								
Make/Type							30.000	@	116.0
Jets							13.375	@	987.0
TFA	sq-in								
Jets Velocity	m/sec								
Jet Impact Force	lbf								
Bit HHSI	hhp/in2								
Press Drop @ Bit	psi								
Bit Depth	m	Riser	28.000		20.0				
ECD @ Csg Shoe	ppg	Open Hole	17.500		12.0				
ECD @ Bit	ppg								

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type Bentonite Mud

Build 60 bbl Guar Gum Hi-Vis Sweep.
Preparing 1800 bbl 8% KCL / Polymer mud.
NOTE: Initial polymer concentrations are lower than programmed to prevent loss of whole mud over shakers during the displacement.
Will charge off all chemicals & volumes at the start of the next interval.

Dressed Shakers, 20 mesh scalpers and 4 x 89 mesh.

Rig Activity

Cont. RIH 13-3/8" casing and perform cement job. Nipple up BOP. Connect and install choke hose and pressure up to Koomey Unit. P/U and installed bell nipple, overshot, diverter, hook up control hoses & test. Make up wear bushing running tool, pull diverter inserts & RIH w/ wear bushing.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
ALDACIDE G	5 gal can	35			35	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	50			50	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	58			58	
barite	1000 kg bulk	160.000			160.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	63			63	
Circal 60/16	25 kg sack	185			185	
Circal Y	25 kg sack	168			168	
CLAYSEAL PLUS	216 kg drum	33			33	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	73			73	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	96			96	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	46.400			46.400	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	20			20	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGEN	6 gal pail	5			5	

Daily Products Cost	$0.00	Total Daily Cost	$2,500.00
Cumulative Products Cost	$29,891.48	Total Cumulative Cost	$52,391.48

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	89	
VSM-300	89	
VSM-300	89	
VSM-300	89	

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	12.0
Coring	
Reaming	
Testing	2.5
Logging	
Dir Work	
Repair	
Other	9.5
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown Bentonite Mud

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	275.0	Dewatering		SCE	-567.0
Total Hole	536.7	Sea Water	2.0	Evaporation	
Total Circ	275.0	Whole Mud		Trips	
Reserve	976.0	Barite		Other	
Prev Vol	2077.7	Chemicals		Total Surface	
Net Change	-565.0	Other		Downhole	
Total Vol	1787.7	Total	2.0	Total Losses	-567.0

Fluid Types	Vol bbl
Seawater	787.0

Deviation Information		
Survey MD	286.1	m
Survey TVD	286.1	m
Angle	2.77	Deg
Direction	17	
Horiz Displ.	1.1	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 010

Daily Drilling Fluid Report

Date	12/19/2008	Depth	1,011.0 m
Spud Date	12/13/2008	Rig Activity	Perform LOT

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	12.250	in
Make/Type	HUGHES/GT-1	
Jets	3x16	
TFA	0.589	sq-in
Jets Velocity	10.4	m/sec
Jet Impact Force	10.5	lbf
Bit HHSI	0.00	hhp/in2
Press Drop @ Bit	10	psi
Bit Depth	1,011.0	m
ECD @ Csg Shoe	9.48	ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	885.3
Drill Pipe	3.450	3.000	56.0
Drill Collar	8.250	2.750	69.7
Riser	28.000		20.0
Open Hole	12.250		24.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220			
Bore in	6.500	6.500	6.500			
Strokes in	14.000	14.000	14.000			
Eff(%)	95	95	95			
bbl/strk	0.136	0.136	0.136			
SPM	6	5	0			
gpm|bbl/min	34	0.82	29	0.68		
Total GPM	63	AV, Riser	0.6	Circ Press psi	1000	
Total Circ Time	460	AV min DP	3.3	Tot Pres Loss	75	
BU Time , min	287	AV max DC	5.7	Press Drop DP	48	
Total Strokes	5,057	BU Strokes	3,153	Press Drop An	15	

Properties

Properties		1	2	Hyd 3	4
Source		Pit #6	Pit #5	Pit #6	
Time		3:00	18:00	20:45	
Depth	m	999	999	1,011	
FL Temp	Deg C			35	
Density @ Deg C	ppg	9.35 @ 25	9.30 @ 25	9.40 @ 30	
FV @ Deg C	sec/qt	185 @ 25	180 @ 25	177 @ 30	
PV @ Deg C	cP	17 @ 25	17 @ 25	17 @ 25	
YP	lbs/100 ft2	25	26	25	
GELS	lbs/100 ft2	10/13/15	11/14/16	10/13/15	
600/300		59.0/42.0	60.0/43.0	59.0/42.0	
200/100		35.0/25.0	36.0/26.0	35.0/25.0	
6/3		9.0/7.0	10.0/8.0	9.0/7.0	
API Filt	ml/30 min	5.8	5.8	5.8	
HTHP @ Deg C	ml/30 min				
Cake API/HTHP	32nd in	1/-	1/-	1/ -	
Corr Solid	% by Vol	2.5	2.5	2.5	
NAP/Water	% by Vol	-/94.0	-/94.0	-/94.0	
Sand	% by vol				
MBT	ppb Eq.				
pH @ Deg C		8.80 @ 25	10.50 @ 25	10.50 @ 25	
ALK Mud	Pm	0.10	0.10	0.10	
ALK Filt	Pf/Mf	0.05/0.20	0.05/0.20	0.05/0.20	
Chlorides	mg/l	43,000	42,000	42,000	
Tot. Hardness	mg/l	200	320	240	
LGS/HGS	% by Vol	0.7/1.8	1.2/1.4	0.4/2.1	
LGS/HGS	ppb	6.27/25.96	10.52/20.35	3.70/31.37	
ASG	SG	3.751	3.472	3.944	
Additional Properties					
KCL %	% by vol	9.0	9.0	9.0	

Targets

Program

Fluid Treatments

Fluid Type Bentonite Mud

Initial Fluid built had reduced concentrations of Polymers for displacement. Cont. to add chemicals & weight up KCL fluid to desired weight.
Treat Hardness after drilling cement w/ Soda Ash & used Citric Acid to bring pH down. Add PAC LE to maintain fluid loss properties.
Make up 60 bbl 11.3 ppg KCL polymer Slug in Slug Pit.

Rig Activity

Make up Junk Basket, BHA & singles & RIH f/ Surface - 954m. Removed power slips & changed out elevators, continued to RIH f/ 954 - 974m (top of float collar). Drilled float collar, cement & shoe track. Displace hole to 9.4 ppg KCL Polymer Fluid. Washed down Rat Hole to 999m. Worked Junk Basket at 999m switching pumps on and off whilst drilling 3m of new formation to 1002m. Perform FIT to 14.9 ppg EMW. Circulated 1.5 times bottoms up & performed LOT & tested surface lines.

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
barite	1000 kg bulk	160.000		20.000	140.000	$9,497.60
BARAZAN D PLUS	25 kg bag	58		57	1	$8,677.68
PAC-L	25 kg bag	91	1	73	19	$5,976.51
DEXTRID LTE	25 kg sack	73		64	9	$2,595.84
citric acid	25 kg bag		40	9	31	$416.16
ALDACIDE G	5 gal can	35		4	31	$279.60
soda ash	25 kg bag	22		12	10	$159.00
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	50			50	
BARA-DEFOAM W300	5 gal can	16			16	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	63			63	
Circal 60/16	25 kg sack	185			185	
Circal Y	25 kg sack	168			168	
CLAYSEAL PLUS	216 kg drum	33			33	
CON DET	55 gal drum	4			4	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	96			96	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	46.400			46.400	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	20			20	
N-DRIL HT PLUS	50 lb bag	15			15	

Daily Products Cost	$27,602.39	Total Daily Cost	$30,102.39
Cumulative Products Cost	$57,493.87	Total Cumulative Cost	$82,493.87

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	89	12.0
VSM-300	89	12.0
VSM-300	89	12.0
VSM-300	89	12.0

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	6.0
Circulating	1.5
Trips	8.5
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	8.0
Total	24.0
Rotating	6.0
ROP	2.0
Dil Rate	0.00

Fluid Volume Breakdown — Bentonite Mud

Active	bbl	Additions	bbl	Losses	bbl
Annulus	430.3	Base		Fluid Dumped	
Pipe Cap	52.8	Drill Water		Transferred	
Active Pits	207.0	Dewatering		SCE	
Total Hole	483.1	Sea Water		Evaporation	
Total Circ	690.1	Whole Mud		Trips	
Reserve	774.0	Barite		Other	-253.6
Prev Vol	1512.7	Chemicals		Total Surface	
Net Change	-253.6	Other		Downhole	
Total Vol	1464.1	Total		Total Losses	-253.6

Fluid Types	Vol bbl
KCl/Polymer	1356.0

Deviation Information

Survey MD	286.1	m
Survey TVD	286.1	m
Angle	2.77	Deg
Direction	17	
Horiz Displ.	1.1	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 011

Daily Drilling Fluid Report

Date	12/20/2008	Depth	1,037.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	12.250	in
Make/Type	HUGHES/GT-1	
Jets	3x16	
TFA	0.589	sq-in
Jets Velocity	161.4	m/sec
Jet Impact Force	2536.4	lbf
Bit HHSI	11.47	hhp/in2
Press Drop @ Bit	2377	psi
Bit Depth	1,037.0	m
ECD @ Csg Shoe	9.50	ppg
ECD @ Bit	9.50	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	911.3
Drill Pipe	3.450	3.000	56.0
Drill Collar	8.250	2.750	69.7
Riser	28.000		20.0
Open Hole	12.250		50.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	85	85	0
gpm|bbl/min	487 11.60	487 11.60	

Total GPM	974	AV, Riser	9.7	Circ Press psi	2000
Total Circ Time	33	AV min DP	51.2	Tot Pres Loss	2377
BU Time , min	19	AV max DC	88.8	Press Drop DP	
Total Strokes	5,542	BU Strokes	3,225	Press Drop An	

Properties

		1	2	Hyd 3	4
Source		Pit #6	Pit #6	Pit #6	
Time		3:35	17:00	22:25	
Depth	m	1,027	1,027	1,027	
FL Temp	Deg C				
Density @ Deg C	ppg	9.45 @ 25	9.45 @ 25	9.50 @ 25	
FV @ Deg C	sec/qt	175 @ 30	150 @ 25	153 @ 25	
PV @ Deg C	cP	17 @ 25	30 @ 25	30 @ 25	
YP	lbs/100 ft2	25	41	42	
GELS	lbs/100 ft2	10/13/15	9/14/15	10/15/17	
600/300		59.0/42.0	101.0/71.0	102.0/72.0	
200/100		35.0/25.0	58.0/40.0	59.0/51.0	
6/3		9.0/7.0	11.0/8.0	11.0/9.0	
API Filt	ml/30 min	4.4	4.4	4.4	
HTHP @ Deg C	ml/30 min	10.0	10.0	10.0	
Cake API/HTHP	32nd in	1/1	1/1	1/ -	
Corr Solid	% by Vol	2.5	2.5	2.9	
NAP/Water	% by Vol	-/94.0	-/94.0	-/94.0	
Sand	% by vol				
MBT	ppb Eq.	2.5	2.5	2.5	
pH @ Deg C		10.00 @ 25	8.50 @ 25	9.50 @ 25	
ALK Mud	Pm	0.10	0.05	0.13	
ALK Filt	Pf/Mf	0.05/0.20	-/1.50	0.08/0.40	
Chlorides	mg/l	42,000	42,000	38,000	
Tot. Hardness	mg/l	240	400	320	
LGS/HGS	% by Vol	0.0/2.5	0.0/2.5	0.0/2.9	
LGS/HGS	ppb	0.28/36.89	0.28/36.89	0.18/42.05	
ASG	SG	4.180	4.180	4.189	
Additional Properties					
KCL %	% by vol	9.0	8.5	8.5	

Targets

Program

Fluid Treatments

Fluid Type KCl/Polymer

Received 6 containers of chemical at 20:00 hrs, consisting of DEXTRID LTE, Circal 60/16, Circal Y, BARAZAN-D PLUS, EZ MUD LIQUID, PAC LE, OXYGON & GUAR GUM. Inventory: Received 20% KCL brine, taken on board & entered in inventory as 1000 kg bags (30 bbl = 1000 kg bag). Cont. to maintain Fluid properties w/ additions of EZ MUD Liquid to active system to programmed levels.
Dumped 774 bbl of 8.8 ppg PHB from pits 3, 4 and 8 - not required for this interval.

Rig Activity

Drilled f/ 1011-1027m working Junk Basket. CBU & flow check = static, pumped slug & POOH f/ 1027-127m . Cont. POOH f/ 127m - Surface racked back & laid out pipe, junk basket and BHA. Recovered Pieces of nozzle and SLB tool. Perform shallow test on SLM tools. Cont. to RIH BHA f/ 27.89 - 151.43m. Change out handling equipment, install hydraulic slips & continued to pick up D/P f/ derrick. RIH to 987m. Logged f/ shoe- 1027m at 40 m/hr w/ 800gpm at 40 rpm. Establish parameters & drill ahead f/ 1027-1037m (23:59 hrs).

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
KCL Tech Grade (bulk)	1000 kg bulk	46.400	12.000	47.400	11.000	$35,597.40
CLAYSEAL PLUS	216 kg drum	33		21	12	$20,089.44
DEXTRID LTE	25 kg sack	9	72	8	73	$324.48
ALDACIDE G	5 gal can	31		1	30	$69.90
soda ash	25 kg bag	10		3	7	$39.75
lime	25 kg bag	20		4	16	$26.20
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	50			50	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	1	80		81	
barite	1000 kg bulk	140.000			140.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	63			63	
Circal 60/16	25 kg sack	185	96		281	
Circal Y	25 kg sack	168	96		264	
citric acid	25 kg bag	31			31	
CON DET	55 gal drum	4			4	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	96	72		168	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
Kwikseal Fine	40 lb bag	38			38	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	

Daily Products Cost	$56,147.17	Total Daily Cost	$58,647.17
Cumulative Products Cost	$113,641.04	Total Cumulative Cost	$141,141.04

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	145	5.0
VSM-300	89	5.0
VSM-300	89	5.0
VSM-300	89	5.0

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	2.5
Circulating	0.5
Trips	13.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	8.0
Total	24.0
Rotating	2.5
ROP	10.4
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	440.1	Base		Fluid Dumped	
Pipe Cap	54.2	Drill Water		Transferred	
Active Pits	262.0	Dewatering		SCE	
Total Hole	494.4	Sea Water		Evaporation	
Total Circ	756.4	Whole Mud	46.8	Trips	
Reserve	874.0	Barite		Other	
Prev Vol	1356.0	Chemicals	227.5	Total Surface	
Net Change	274.3	Other		Downhole	
Total Vol	1630.4	Total	274.3	Total Losses	

Fluid Types	Vol bbl

Deviation Information

Survey MD	286.1	m
Survey TVD	286.1	m
Angle	2.77	Deg
Direction	17	
Horiz Displ.	1.1	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 012

Daily Drilling Fluid Report

Date	12/21/2008	Depth	1,478.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	12.250	in
Make/Type	HUGHES/GT-1	
Jets	3x16	
TFA	0.589	sq-in
Jets Velocity	131.0	m/sec
Jet Impact Force	1689.0	lbf
Bit HHSI	6.20	hhp/in2
Press Drop @ Bit	1583	psi
Bit Depth	1,478.0	m
ECD @ Csg Shoe	9.60	ppg
ECD @ Bit	9.60	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	1,352.3
Drill Pipe	3.450	3.000	56.0
Drill Collar	8.250	2.750	69.7
Riser	28.000		20.0
Open Hole	12.250		491.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	69	69	0
gpm|bbl/min	395 9.42	395 9.42	

Total GPM	791	AV, Riser	7.8	Circ Press psi	1520
Total Circ Time	54	AV min DP	42.8	Tot Pres Loss	1583
BU Time , min	32	AV max DC	72.1	Press Drop DP	
Total Strokes	7,421	BU Strokes	4,446	Press Drop An	

Properties

		1	2	3	Hyd 4
Source		Pit #6	Flow Line	Flow Line	Pit #6
Time		1:00	12:00	16:00	20:45
Depth	m	1,037	1,250	1,322	1,445
FL Temp	Deg C				36
Density @ Deg C	ppg	9.50 @ 25	9.65 @ 25	9.60 @ 25	9.60 @ 36
FV @ Deg C	sec/qt	78 @ 25	74 @ 25	78 @ 25	76 @ 36
PV @ Deg C	cP	21 @ 25	23 @ 25	21 @ 25	12 @ 25
YP	lbs/100 ft2	30	23	27	49
GELS	lbs/100 ft2	9/14/15	9/14/15	9/13/15	9/14/16
600/300		72.0/51.0	69.0/46.0	69.0/48.0	73.0/61.0
200/100		43.0/30.0	40.0/30.0	40.0/29.0	43.0/31.0
6/3		11.0/9.0	10.0/8.0	10.0/8.0	9.0/7.0
API Filt	ml/30 min	4.6	4.4	4.4	6.2
HTHP @ Deg C	ml/30 min	10.0 @ 250	9.0 @ 250	10.0 @ 250	12.0 @ 250
Cake API/HTHP	32nd in	1/1	1/1	1/1	1/1
Corr Solid	% by Vol	3.3	3.9	4.4	4.5
NAP/Water	% by Vol	-/93.0	-/92.5	-/92.0	-/92.0
Sand	% by vol				1.20
MBT	ppb Eq.	2.5	2.5	2.5	5.0
pH @ Deg C		8.50 @ 25	8.50 @ 25	8.50 @ 25	9.50 @ 25
ALK Mud	Pm	0.10	0.05	0.05	0.75
ALK Filt	Pf/Mf	0.05/1.30	0.10/1.20	0.10/1.10	0.14/1.30
Chlorides	mg/l	45,000	44,000	44,000	43,000
Tot. Hardness	mg/l	240	240	240	240
LGS/HGS	% by Vol	1.4/1.9	1.4/2.5	2.8/1.6	2.9/1.6
LGS/HGS	ppb	12.95/27.94	12.85/36.99	25.57/24.10	26.39/24.01
ASG	SG	3.515	3.625	3.190	3.176
Additional Properties					
KCL %	% by vol	8.5	8.5	8.5	8.5

Targets

Program

Fluid Treatments

Fluid Type KCl/Polymer

Loss of unsheared mud at the shakers once drilling started.
Attempt to fine up shaker screens ASAP, only able to install 145's on all shakers at 1700 hrs to prevent mud losses. Screened up As soon as mud had sheared. Combination of 10 and 20's top & 145 & 215 mesh installed by midnight.
Used a combination of new & the better of the used screens to reduce sand content in Fluid & reduce sand going through pumps. Treated active w/ 0.2ppb caustic to raise pH.
Cont. adding PHPA. Add 0.25ppb PAC LE to maintain properties & ALDACIDE-G to maintain properties in other pits.

Rig Activity

Drilled ahead f/ 1037 - 1478m (23:59 hrs)

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
CLAYSEAL PLUS	216 kg drum	12		5	7	$4,783.20
BARAZAN D PLUS	25 kg bag	81		16	65	$2,435.84
PAC-L	25 kg bag	55		22	33	$1,801.14
DEXTRID LTE	25 kg sack	73		16	57	$648.96
caustic soda	25 kg pail	63		8	55	$353.52
ALDACIDE G	5 gal can	30		2	28	$139.80
soda ash	25 kg bag	7		1	6	$13.25
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	50	40		90	
BARA-DEFOAM W300	5 gal can	16			16	
barite	1000 kg bulk	140.000			140.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
Circal 60/16	25 kg sack	281			281	
Circal Y	25 kg sack	264			264	
citric acid	25 kg bag	31			31	
CON DET	55 gal drum	4			4	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	168			168	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	11.000			11.000	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
N-DRIL HT PLUS	50 lb bag	15			15	

Daily Products Cost	$10,175.71	Total Daily Cost	$12,675.71
Cumulative Products Cost	$123,816.75	Total Cumulative Cost	$153,816.75

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	145	24.0
VSM-300	215	24.0
VSM-300	215	24.0
VSM-300	215	24.0

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	24.0
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	24.0
ROP	18.4
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	606.8	Base		Fluid Dumped	
Pipe Cap	78.9	Drill Water	450.0	Transferred	
Active Pits	327.0	Dewatering		SCE	-367.0
Total Hole	685.7	Sea Water		Evaporation	
Total Circ	1012.7	Whole Mud		Trips	-16.6
Reserve	692.0	Barite		Other	-5.0
Prev Vol	1630.4	Chemicals	12.8	Total Surface	
Net Change	74.2	Other		Downhole	
Total Vol	1704.7	Total	462.8	Total Losses	-388.6

Fluid Types	Vol bbl

Deviation Information

Survey MD	286.1	m
Survey TVD	286.1	m
Angle	2.77	Deg
Direction	17	
Horiz Displ.	1.1	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 013

Daily Drilling Fluid Report

Date	12/22/2008	Depth	1,792.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	12.250	in
Make/Type	HUGHES/GT-1	
Jets	3x16	
TFA	0.589	sq-in
Jets Velocity	159.5	m/sec
Jet Impact Force	2516.2	lbf
Bit HHSI	11.24	hhp/in2
Press Drop @ Bit	2358	psi
Bit Depth	1,478.0	m
ECD @ Csg Shoe	9.91	ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	1,352.3
Drill Pipe	3.450	3.000	56.0
Drill Collar	8.250	2.750	69.7
Riser	28.000		20.0
Open Hole	12.250		805.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	84	0	84
gpm|bbl/min	481 | 11.46		481 | 11.46

Total GPM	963	AV, Riser	9.5	Circ Press psi	2100
Total Circ Time	44	AV min DP	52.1	Tot Pres Loss	3852
BU Time , min	26	AV max DC	87.7	Press Drop DP	1356
Total Strokes	7,421	BU Strokes	4,446	Press Drop An	70

Properties

		1	2	Hyd 3	4
Source		Pit #6	Flow Line	Pit #6	
Time		1:35	16:00	22:45	
Depth	m	1,488	1,703	1,737	
FL Temp	Deg C	36	42	45	
Density @ Deg C	ppg	9.65 @ 36	9.60 @ 42	9.65 @ 45	
FV @ Deg C	sec/qt	78 @ 36	69 @ 35	76 @ 45	
PV @ Deg C	cP	21 @ 25	21 @ 25	21 @ 25	
YP	lbs/100 ft2	28	35	34	
GELS	lbs/100 ft2	10/14/16	11/15/18	10/14/17	
600/300		70.0/49.0	77.0/56.0	76.0/55.0	
200/100		41.0/30.0	47.0/35.0	46.0/34.0	
6/3		12.0/10.0	12.0/10.0	11.0/9.0	
API Filt	ml/30 min	4.4	4.6	4.4	
HTHP @ Deg C	ml/30 min	10.0 @ 250	10.0 @ 250	10.0 @ 250	
Cake API/HTHP	32nd in	1/1	1/1	1/1	
Corr Solid	% by Vol	5.1	5.1	6.2	
NAP/Water	% by Vol	-/91.0	-/91.0	-/90.0	
Sand	% by vol	1.40	1.50	1.20	
MBT	ppb Eq.	3.5	2.5	2.5	
pH @ Deg C		9.00 @ 25	8.60 @ 22	9.00 @ 22	
ALK Mud	Pm	0.75	0.65	0.70	
ALK Filt	Pf/Mf	0.13/1.40	0.10/1.05	0.12/1.07	
Chlorides	mg/l	48,000	49,000	48,000	
Tot. Hardness	mg/l	240	240	240	
LGS/HGS	% by Vol	4.1/1.0	4.4/0.7	6.2/0.0	
LGS/HGS	ppb	37.44/15.27	40.01/9.87	56.08/0.51	
ASG	SG	2.923	2.812	2.609	
Additional Properties					
KCL %	% by vol	7.8	7.5	7.0	

Targets

Program

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 427 bbl (68 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

Treated circulating system w/ PHPA by adding 3.0 ppb EZ-MUD. Maintained dilution to active for volume while running centrifuge on occassions for MW control. Continue to retain the 145 mesh shaker screens while allowing small shaker losses due to blinding. Building more premix volume in progress.

Added 2 pails KOH to active to increase pH and maintain properties.

Rig Activity

Continued drilling f/ 1478-1792m (23:59 hrs)

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
CLAYSEAL PLUS	216 kg drum	7		6	1	$5,739.84
EZ-MUD	25 kg pail	168		65	103	$4,928.30
BARAZAN D PLUS	25 kg bag	65		14	51	$2,131.36
DEXTRID LTE	25 kg sack	57		29	28	$1,176.24
PAC-L	25 kg bag	33		5	28	$409.35
ALDACIDE G	5 gal can	28		3	25	$209.70
potassium hydroxide	25 kg bag	32		1	31	$44.98
soda ash	25 kg bag	6		2	4	$26.50
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	16			16	
barite	1000 kg bulk	140.000			140.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	281			281	
Circal Y	25 kg sack	264			264	
citric acid	25 kg bag	31			31	
CON DET	55 gal drum	4			4	
EZ SPOT	55 gal drum	12			12	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	11.000			11.000	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	

Daily Products Cost	$14,666.27	Total Daily Cost	$17,166.27
Cumulative Products Cost	$138,483.02	Total Cumulative Cost	$170,983.02

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	145	24.0
VSM-300	145	24.0
VSM-300	145	24.0
VSM-300	145	24.0

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	1.0
Centrifuge	3,000	40.00	1.0

Time

Drilling	20.0
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	4.0
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	24.0
ROP	15.7
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	606.8	Base		Fluid Dumped	
Pipe Cap	78.9	Drill Water	400.0	Transferred	
Active Pits	327.0	Dewatering		SCE	-24.0
Total Hole	835.9	Sea Water		Evaporation	-1.7
Total Circ	1012.7	Whole Mud		Trips	
Reserve	939.0	Barite		Other	
Prev Vol	1704.7	Chemicals	23.1	Total Surface	
Net Change	397.4	Other		Downhole	
Total Vol	2101.9	Total	423.1	Total Losses	-25.7

Fluid Types

Vol	bbl

Deviation Information

Survey MD	1,761.0	m
Survey TVD	1,761.0	m
Angle	3.3	Deg
Direction	227	
Horiz Displ.	43.7	m

Baroid Representatives Mike Flexmore Kosta Georgiou

Office 90 Talinga Rd Melbourne Telephone 61-03-9581-7555

Warehouse c/o of Esso Australia Ltd Telephone 61-3-56-881-445

Baroid Fluid Services

Report No 014

Daily Drilling Fluid Report

Date	12/23/2008	Depth	2,104.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	12.250	in
Make/Type	REED/RSR616M-B3	
Jets	3x13|3x14	
TFA	0.840	sq-in
Jets Velocity	114.5	m/sec
Jet Impact Force	1858.9	lbf
Bit HHSI	5.96	hhp/in2
Press Drop @ Bit	1222	psi
Bit Depth	2,104.0	m
ECD @ Csg Shoe	9.70	ppg
ECD @ Bit	9.70	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	1,952.6
Drill Pipe	3.450	3.000	56.2
Drill Collar	8.250	2.750	95.2
Riser	28.000		20.0
Open Hole	12.250		1,117.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220		
Bore in	6.500	6.500	6.500		
Strokes in	14.000	14.000	14.000		
Eff(%)	95	95	95		
bbl/strk	0.136	0.136	0.136		
SPM	86	86	0		
gpm|bbl/min	493	11.74	493	11.74	
Total GPM	986	AV, Riser	9.8	Circ Press psi	2250
Total Circ Time	61	AV min DP	53.3	Tot Pres Loss	1222
BU Time , min	36	AV max DC	89.8	Press Drop DP	
Total Strokes	10,577	BU Strokes	6,158	Press Drop An	

Properties

		1	2	3	Hyd 4
Source		Pit #6	Flow Line	Flow Line	Pit #6
Time		2:52	11:15	17:00	22:00
Depth	m	1,831	1,920	2,012	2,093
FL Temp	Deg C	46	49	50	47
Density @ Deg C	ppg	9.70 @ 46	9.70 @ 49	9.70 @ 50	9.70 @ 40
FV @ Deg C	sec/qt	55 @ 46	52 @ 42	51 @ 45	53 @ 40
PV @ Deg C	cP	21 @ 25	15 @ 25	15 @ 25	13 @ 25
YP	lbs/100 ft2	35	34	34	38
GELS	lbs/100 ft2	11/15/18	11/16/19	11/15/18	11/17/20
600/300		77.0/56.0	64.0/49.0	64.0/49.0	64.0/51.0
200/100		47.0/35.0	41.0/31.0	42.0/32.0	44.0/33.0
6/3		12.0/10.0	12.0/10.0	12.0/10.0	12.0/10.0
API Filt	ml/30 min	4.4	4.4	4.5	4.4
HTHP @ Deg C	ml/30 min	9.2 @ 250			
Cake API/HTHP	32nd in	1/2	1/-	1/ -	1/-
Corr Solid	% by Vol	4.5	4.5	4.5	4.5
NAP/Water	% by Vol	-/91.5	-/91.5	-/91.5	-/91.5
Sand	% by vol	1.20	1.20	1.00	1.00
MBT	ppb Eq.	2.0	2.0	2.0	2.0
pH @ Deg C		8.80 @ 22	8.80 @ 22	8.90 @ 22	9.00 @ 22
ALK Mud	Pm	0.70	0.22	0.19	0.10
ALK Filt	Pf/Mf	0.12/1.40	0.10/1.10	0.10/1.21	0.20/1.10
Chlorides	mg/l	49,500	50,000	50,000	50,000
Tot. Hardness	mg/l	240	280	240	240
LGS/HGS	% by Vol	2.6/1.9	2.5/1.9	2.5/1.9	2.5/1.9
LGS/HGS	ppb	23.44/28.34	23.02/28.39	23.02/28.39	23.02/28.39
ASG	SG	3.285	3.293	3.293	3.293
Additional Properties					
KCL %	% by vol	7.5	7.0	7.0	7.0

Targets

Program

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 232 bbl (37 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

Downhole seepage losses observed from 1850-1989 m, 15-18 bbl/hr, permeable sands. Losses slowed to slight seepage. Running centrifuges to control LGS while adding 2.5 bbl drillwater to flowline to maintain water phase. Adding EZ-MUD to active to maintain 3 ppb w/ adding premix for volume control. Removed 10 damaged 145 mesh shaker screens, replaced w/ new screens.

Received barite from Valkyrie.

Rig Activity

Adding KOH for alkalinity. Building new premix in progress.

Drilled ahead from 1792m to 2104m at midnight w/ surveys.

Weighting mud up to 9.7 ppg with barite at midnight.

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
KCL Tech Grade (bulk)	1000 kg bulk	11.000		3.300	7.700	$2,478.30
EZ-MUD	25 kg pail	103		26	77	$1,971.32
PAC-L	25 kg bag	28		14	14	$1,146.18
DEXTRID LTE	25 kg sack	28		28		$1,135.68
potassium hydroxide	25 kg bag	31		10	21	$449.80
ALDACIDE G	5 gal can	25		3	22	$209.70
soda ash	25 kg bag	4		2	2	$26.50
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	51			51	
barite	1000 kg bulk	140.000	36.000		176.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	281			281	
Circal Y	25 kg sack	264			264	
citric acid	25 kg bag	31			31	
CLAYSEAL PLUS	216 kg drum	1			1	
CON DET	55 gal drum	4			4	
EZ SPOT	55 gal drum	12			12	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	

Daily Products Cost	$7,417.48	Total Daily Cost	$9,917.48
Cumulative Products Cost	$145,900.50	Total Cumulative Cost	$180,900.50

Baroid Representatives	Brian Auckram	Mike Flexmore	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	145	24.0
VSM-300	145	24.0
VSM-300	145	24.0
VSM-300	145	24.0

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	17.0
Centrifuge	3,000	40.00	

Time

Drilling	24.0
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	24.0
ROP	13.0
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	840.4	Base		Fluid Dumped	
Pipe Cap	113.1	Drill Water	513.0	Transferred	
Active Pits	490.0	Dewatering		SCE	-209.0
Total Hole	953.5	Sea Water		Evaporation	
Total Circ	1443.5	Whole Mud		Trips	
Reserve	974.8	Barite		Other	
Prev Vol	2101.9	Chemicals	23.6	Total Surface	
Net Change	316.6	Other		Downhole	-11.0
Total Vol	2418.3	Total	536.6	Total Losses	-220.0

Fluid Types Vol bbl

Deviation Information

Survey MD	1,761.0	m
Survey TVD	1,761.0	m
Angle	3.3	Deg
Direction	227	
Horiz Displ.	43.7	m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 015

Daily Drilling Fluid Report

Date	12/24/2008	Depth	2,266.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	12.250	in
Make/Type	REED/RSR616M-B3	
Jets	3x13|3x14	
TFA	0.840	sq-in
Jets Velocity	115.8	m/sec
Jet Impact Force	1902.4	lbf
Bit HHSI	6.17	hhp/in2
Press Drop @ Bit	1250	psi
Bit Depth	2,266.0	m
ECD @ Csg Shoe	9.97	ppg
ECD @ Bit	9.99	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	2,114.6
Drill Pipe	3.450	3.000	56.2
Drill Collar	8.250	2.750	95.2
Riser	28.000		20.0
Open Hole	12.250		1,279.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	87	87	0
gpm|bbl/min	499 | 11.87	499 | 11.87	

Total GPM	997	AV, Riser	9.9	Circ Press psi	2300
Total Circ Time	62	AV min DP	53.9	Tot Pres Loss	3118
BU Time , min	38	AV max DC	90.9	Press Drop DP	1698
Total Strokes	10,829	BU Strokes	6,606	Press Drop An	111

Properties		1	Hyd 2	3	4
Source		Pit #6	Flow Line	Flow Line	Pit #6
Time		4:00	10:30	17:00	22:00
Depth	m	2,132	2,175	2,219	2,250
FL Temp	Deg C	47	50	53	47
Density @ Deg C	ppg	9.70 @ 40	9.70 @ 48	9.70 @ 49	9.70 @ 40
FV @ Deg C	sec/qt	53 @ 40	50 @ 45	49 @ 49	49 @ 40
PV @ Deg C	cP	16 @ 25	14 @ 25	14 @ 25	14 @ 25
YP	lbs/100 ft2	30	34	31	34
GELS	lbs/100 ft2	11/17/20	12/19/22	12/18/21	11/17/20
600/300		62.0/46.0	62.0/48.0	59.0/45.0	62.0/48.0
200/100		39.0/31.0	41.0/32.0	39.0/30.0	41.0/32.0
6/3		12.0/10.0	13.0/10.0	12.0/10.0	12.0/10.0
API Filt	ml/30 min	4.4	4.5	4.6	4.6
HTHP @ Deg C	ml/30 min		10.5 @ 250		
Cake API/HTHP	32nd in	1/-	1/2	1/ -	1/-
Corr Solid	% by Vol	5.0	5.0	4.7	5.1
NAP/Water	% by Vol	-/91.0	-/91.0	-/91.3	-/91.0
Sand	% by vol	1.00	0.75	0.75	0.75
MBT	ppb Eq.	2.5	2.5	2.5	2.5
pH @ Deg C		9.00 @ 22	8.50 @ 23	9.00 @ 23	9.00 @ 23
ALK Mud	Pm	0.10	0.10	0.20	0.20
ALK Filt	Pf/Mf	0.20/1.10	0.10/1.15	0.12/1.20	0.20/1.20
Chlorides	mg/l	50,000	49,500	49,000	49,000
Tot. Hardness	mg/l	360	300	300	320
LGS/HGS	% by Vol	3.5/1.4	3.6/1.4	3.0/1.7	3.6/1.4
LGS/HGS	ppb	32.34/21.01	32.77/20.95	27.59/25.33	33.19/20.90
ASG	SG	3.059	3.054	3.180	3.049
Additional Properties					
KCL %	% by vol	7.0	7.3	7.0	7.0

Targets | Program

Fluid Treatments

Fluid Type KCl/Polymer

Continue w/ EZ-MUD maintenance to active. Running centrifuges continuously in barite recovery mode to control LGS. Adding drillwater to flowline at 2.5 bbl/hr to maintain water phase. MW maintained at 9.7 ppg, dusting with barite as required. Caustic potash for alkalinity control. Prepared slug at 11.7 ppg.

Rig Activity

Drilled ahead f/ 2104m to 2123m & stopped for rig repair to wash pipe.
Then continued drilling f/ 2123m to 2266m at midnight with surveys.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
CLAYSEAL PLUS	216 kg drum	1	6	6	1	$5,739.84
KCL Tech Grade (bulk)	1000 kg bulk	7.700		4.700	3.000	$3,529.70
BARAZAN D PLUS	25 kg bag	51		14	37	$2,131.36
EZ-MUD	25 kg pail	77		22	55	$1,668.04
DEXTRID LTE	25 kg sack		30	30		$1,216.80
PAC-L	25 kg bag	14		14		$1,146.18
potassium hydroxide	25 kg bag	21		8	13	$359.84
ALDACIDE G	5 gal can	22		3	19	$209.70
soda ash	25 kg bag	2		2		$26.50
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	16			16	
barite	1000 kg bulk	176.000			176.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	281			281	
Circal Y	25 kg sack	264			264	
citric acid	25 kg bag	31			31	
CON DET	55 gal drum	4			4	
EZ SPOT	55 gal drum	12			12	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	

Daily Products Cost	$16,027.96	Total Daily Cost	$18,527.96
Cumulative Products Cost	$161,928.46	Total Cumulative Cost	$199,428.46

Baroid Representatives	Brian Auckram	Mike Flexmore	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	145	24.0
VSM-300	145	24.0
VSM-300	145	24.0
VSM-300	145	24.0

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	24.0
Centrifuge	3,000	40.00	

Time

Drilling	23.0
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	1.0
Other	
Total	24.0
Rotating	23.0
ROP	7.0
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	901.6	Base		Fluid Dumped	
Pipe Cap	122.2	Drill Water	168.5	Transferred	
Active Pits	454.0	Dewatering		SCE	-180.0
Total Hole	1023.8	Sea Water		Evaporation	
Total Circ	1477.8	Whole Mud		Trips	
Reserve	951.0	Barite		Other	
Prev Vol	2418.3	Chemicals	38.1	Total Surface	
Net Change	10.6	Other		Downhole	-16.0
Total Vol	2428.8	Total	206.6	Total Losses	-196.0

Fluid Types Vol bbl

Deviation Information

Survey MD	2,235.0	m
Survey TVD	2,233.0	m
Angle	3.46	Deg
Direction	227	
Horiz Displ.		m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 016

Daily Drilling Fluid Report

Date	12/25/2008	Depth	2,396.0 m
Spud Date	12/13/2008	Rig Activity	Trip

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	12.250	in
Make/Type	REED/RSR616M-B3	
Jets	3x13|3x14	
TFA	0.840	sq-in
Jets Velocity	115.8	m/sec
Jet Impact Force	1902.4	lbf
Bit HHSI	6.17	hhp/in2
Press Drop @ Bit	1250	psi
Bit Depth	1,245.0	m
ECD @ Csg Shoe	9.97	ppg
ECD @ Bit	10.00	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	1,093.6
Drill Pipe	3.450	3.000	56.2
Drill Collar	8.250	2.750	95.2
Riser	28.000		20.0
Open Hole	12.250		1,409.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220			
Bore in	6.500	6.500	6.500			
Strokes in	14.000	14.000	14.000			
Eff(%)	95	95	95			
bbl/strk	0.136	0.136	0.136			
SPM	87	87	0			
gpm|bbl/min	499	11.87	499	11.87		
Total GPM	997	AV, Riser	9.9	Circ Press psi	2450	
Total Circ Time	41	AV min DP	53.9	Tot Pres Loss	2490	
BU Time , min	22	AV max DC	90.9	Press Drop DP	1118	
Total Strokes	7,165	BU Strokes	3,779	Press Drop An	63	

Properties

		1	Hyd 2	3	4
Source		Flow Line	Flow Line	Pit #6	
Time		5:00	11:00	22:00	
Depth	m	2,308	2,371	2,396	
FL Temp	Deg C	47	52		
Density @ Deg C	ppg	9.70 @ 40	9.70 @ 49	9.70 @ 30	
FV @ Deg C	sec/qt	49 @ 40	48 @ 49	53 @ 30	
PV @ Deg C	cP	14 @ 25	15 @ 25	14 @ 25	
YP	lbs/100 ft2	34	33	37	
GELS	lbs/100 ft2	11/18/21	14/22/25	12/19/24	
600/300		62.0/48.0	63.0/48.0	65.0/51.0	
200/100		41.0/32.0	42.0/33.0	43.0/34.0	
6/3		12.0/10.0	13.0/11.0	13.0/10.0	
API Filt	ml/30 min	4.6	4.4	4.6	
HTHP @ Deg C	ml/30 min		10.6 @ 250		
Cake API/HTHP	32nd in	1/-	1/2	1/ -	
Corr Solid	% by Vol	5.2	5.1	5.1	
NAP/Water	% by Vol	-/91.0	-/91.0	-/91.0	
Sand	% by vol	0.50	0.50	0.50	
MBT	ppb Eq.	2.5	3.0	2.5	
pH @ Deg C		9.00 @ 23	8.90 @ 23	9.00 @ 23	
ALK Mud	Pm	0.05	0.08	0.05	
ALK Filt	Pf/Mf	0.10/1.00	0.10/1.10	0.10/1.00	
Chlorides	mg/l	47,000	48,000	48,000	
Tot. Hardness	mg/l	360	380	360	
LGS/HGS	% by Vol	3.8/1.4	3.7/1.4	3.7/1.4	
LGS/HGS	ppb	34.86/20.68	34.03/20.79	34.03/20.79	
ASG	SG	3.030	3.039	3.039	
Additional Properties					
KCL %	% by vol	7.0	7.1	6.9	

Targets

Program

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 333 bbl (53 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).
Received 300 bbl (48 m3) brine f/ Battler.
Continued EZ-MUD maintenance to active. Ran centrifuges continuously in barite recovery mode to control LGS. Added drillwater to flowline at 2.5 bbl/hr to maintain water phase. Dusted with barite as required for MW while maintaining volume in active using unweighted premix.
Caustic potash for alkalinity control & soda ash to trim hardness.
Reconciled inventory & corrected as required.

Rig Activity

Drilled ahead f/ 2266m to 2396m.
CBU & flow checked prior to tripping out to 2101m.
At 2101m pumped slug & POOH to 1356m where the hole became tight. Wash and ream back to 1333m.
Brakes set on Draw-works & problem trouble shooting carried out.
Continue to wash out f/ 1333m to 1245m at midnight.
NOTE: Hydraulic Data given as per circulating on bottom. Volume data for report calculated based on bit depth at midnight (Tripping out).

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
KCL Tech Grade (bulk)	1000 kg bulk	3.000	10.000	2.000	11.000	$1,502.00
EZ-MUD	25 kg pail	55		10	45	$758.20
potassium hydroxide	25 kg bag	13		4	9	$179.92
soda ash	25 kg bag		48	5	43	$66.25
ALDACIDE G	5 gal can	19			19	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	37			37	
barite	1000 kg bulk	176.000			176.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	281			281	
Circal Y	25 kg sack	264			264	
citric acid	25 kg bag	31	40		71	
CLAYSEAL PLUS	216 kg drum	1	2		3	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack		42		42	
EZ SPOT	55 gal drum	12			12	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
N-DRIL HT PLUS	50 lb bag	15			15	

Daily Products Cost	$2,506.37	Total Daily Cost	$5,006.37
Cumulative Products Cost	$164,434.83	Total Cumulative Cost	$204,434.83

Baroid Representatives	Brian Auckram	Mike Flexmore	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	145	14.5
VSM-300	145	14.5
VSM-300	145	14.5
VSM-300	145	14.5

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	14.5
Centrifuge	3,000	40.00	14.5

Time

Drilling	13.5
Circulating	1.5
Trips	5.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	3.0
Testing	
Logging	
Dir Work	
Repair	1.0
Other	
Total	24.0
Rotating	16.5
ROP	9.6
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	515.8	Base		Fluid Dumped	
Pipe Cap	65.1	Drill Water		Transferred	
Active Pits	397.0	Dewatering		SCE	-170.0
Total Hole	1131.3	Sea Water		Evaporation	
Total Circ	977.8	Whole Mud		Trips	
Reserve	741.0	Barite		Other	
Prev Vol	2428.8	Chemicals	10.6	Total Surface	
Net Change	-159.4	Other		Downhole	
Total Vol	2269.3	Total	10.6	Total Losses	-170.0

Fluid Types

Vol	bbl

Deviation Information

Survey MD	2,382.0	m
Survey TVD	2,380.0	m
Angle	3.36	Deg
Direction	228	
Horiz Displ.		m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 017

Daily Drilling Fluid Report

Date	12/26/2008	Depth	2,396.0 m
Spud Date	12/13/2008	Rig Activity	Tripping

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	12.250	in
Make/Type	HYCALOG/RSX 616M	
Jets	3x13|3x15	
TFA	0.907	sq-in
Jets Velocity		m/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	1,341.0	m
ECD @ Csg Shoe	9.70	ppg
ECD @ Bit	9.70	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	1,181.2
Drill Pipe	3.450	3.000	56.2
Drill Collar	8.250	2.750	103.5
Riser	28.000		20.0
Open Hole	12.250		1,409.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties

		Hyd 1	2	3	4	Targets	Program
Source		Pit #6	Pit #6				
Time		15:30	22:00				
Depth	m	2,396	2,396				
FL Temp	Deg C						
Density @ Deg C	ppg	9.70 @ 35	9.80 @ 25				
FV @ Deg C	sec/qt	53 @ 35	57 @ 25				
PV @ Deg C	cP	14 @ 25	14 @ 25				
YP	lbs/100 ft2	32	32				
GELS	lbs/100 ft2	11/17/23	11/17/23				
600/300		60.0/46.0	60.0/46.0				
200/100		40.0/30.0	40.0/30.0				
6/3		13.0/10.0	13.0/10.0				
API Filt	ml/30 min	4.5	4.5				
HTHP @ Deg C	ml/30 min	10.6 @ 250					
Cake API/HTHP	32nd in	1/2	1/-				
Corr Solid	% by Vol	5.2	5.2				
NAP/Water	% by Vol	-/91.0	-/91.0				
Sand	% by vol	0.50	0.50				
MBT	ppb Eq.	3.0	3.0				
pH @ Deg C		8.50 @ 23	8.50 @ 23				
ALK Mud	Pm	0.10	0.10				
ALK Filt	Pf/Mf	0.10/1.37	0.10/1.40				
Chlorides	mg/l	47,500	47,500				
Tot. Hardness	mg/l	200	200				
LGS/HGS	% by Vol	3.8/1.4	3.0/2.2				
LGS/HGS	ppb	34.45/20.73	27.62/31.76				
ASG	SG	3.034	3.265				
Additional Properties							
KCL %	% by vol	7.1	7.1				

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 333 bbl (53 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

Unloaded containers & placed chemicals received into sack store.

No Circulation.

Rig Activity

Continued to backream f/ 1245m to 1038m. At 1038m the washpipe failed. POOH f/ 1038m to 987m (Shoe).
Once inside the shoe trouble shoot rig control software & change out washpipe.
POOH f/ 987m to 920m then continue to troubleshoot control software.
POOH for BHA change & service rig.
P/U new BHA & RIH to shallow test MWD.
Cont. RIH to 1341m at midnight filling string every 20 stands.

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
barite	1000 kg bulk	176.000		23.000	153.000	$10,922.24
ALDACIDE G	5 gal can	19			19	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	16			16	
BARAZAN D PLUS	25 kg bag	37	40		77	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	281			281	
Circal Y	25 kg sack	264	136		400	
citric acid	25 kg bag	71			71	
CLAYSEAL PLUS	216 kg drum	3	36		39	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	42	72		114	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	45			45	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	11.000			11.000	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	

Daily Products Cost	$10,922.24	Total Daily Cost	$13,422.24
Cumulative Products Cost	$175,357.07	Total Cumulative Cost	$217,857.07

Baroid Representatives	Brian Auckram	Mike Flexmore	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	16.0
Rig	0.5
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	2.5
Testing	
Logging	
Dir Work	
Repair	5.0
Other	
Total	24.0
Rotating	2.5
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	551.1	Base		Fluid Dumped	
Pipe Cap	70.2	Drill Water		Transferred	
Active Pits	416.0	Dewatering		SCE	
Total Hole	1125.8	Sea Water		Evaporation	
Total Circ	1037.2	Whole Mud		Trips	-42.0
Reserve	720.0	Barite	34.5	Other	
Prev Vol	2269.3	Chemicals		Total Surface	
Net Change	-7.5	Other		Downhole	
Total Vol	2261.8	Total	34.5	Total Losses	-42.0

Fluid Types	Vol bbl

Deviation Information

Survey MD	2,382.0	m
Survey TVD	2,380.0	m
Angle	3.36	Deg
Direction	228	
Horiz Displ.		m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 018

Daily Drilling Fluid Report

Date	12/27/2008	Depth	2,671.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	12.250	in
Make/Type	HYCALOG/RSX 616M	
Jets	3x13|3x15	
TFA	0.907	sq-in
Jets Velocity	94.9	m/sec
Jet Impact Force	1401.5	lbf
Bit HHSI	3.73	hhp/in2
Press Drop @ Bit	853	psi
Bit Depth	2,671.0	m
ECD @ Csg Shoe	10.12	ppg
ECD @ Bit	10.14	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	2,511.2
Drill Pipe	3.450	3.000	56.2
Drill Collar	8.250	2.750	103.5
Riser	28.000		20.0
Open Hole	12.250		1,684.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	77	77	0
gpm|bbl/min	441 | 10.51	441 | 10.51	

Total GPM	883	AV, Riser	8.7	Circ Press psi	2450
Total Circ Time	78	AV min DP	47.7	Tot Pres Loss	2715
BU Time , min	50	AV max DC	80.4	Press Drop DP	1678
Total Strokes	11,968	BU Strokes	7,721	Press Drop An	134

Properties

Properties		1	Hyd 2	3	4	Targets	Program
Source		Flow Line	Flow Line	Pit #6			
Time		10:15	16:00	22:00			
Depth	m	2,451	2,523	2,610			
FL Temp	Deg C	50	50	33			
Density @ Deg C	ppg	9.85 @ 48	9.85 @ 47	9.90 @ 30			
FV @ Deg C	sec/qt	47 @ 45	47 @ 45	48 @ 30			
PV @ Deg C	cP	14 @ 25	14 @ 25	16 @ 25			
YP	lbs/100 ft2	36	35	35			
GELS	lbs/100 ft2	15/25/28	14/23/27	14/21/25			
600/300		64.0/50.0	63.0/49.0	67.0/51.0			
200/100		43.0/35.0	42.0/33.0	45.0/35.0			
6/3		15.0/13.0	15.0/12.0	15.0/12.0			
API Filt	ml/30 min	4.9	5.0	4.8			
HTHP @ Deg C	ml/30 min	11.4 @ 250					
Cake API/HTHP	32nd in	1/2	1/-	1/ -			
Corr Solid	% by Vol	5.7	5.8	5.8			
NAP/Water	% by Vol	-/90.5	-/90.5	-/90.5			
Sand	% by vol	0.50	0.50	0.05			
MBT	ppb Eq.	2.5	2.5	2.5			
pH @ Deg C		8.50 @ 23	8.70 @ 23	9.00 @ 23			
ALK Mud	Pm	0.10	0.10	0.10			
ALK Filt	Pf/Mf	0.10/1.35	0.10/1.41	0.10/1.30			
Chlorides	mg/l	47,500	47,000	47,000			
Tot. Hardness	mg/l	280	280	320			
LGS/HGS	% by Vol	3.7/2.0	3.7/2.0	3.3/2.4			
LGS/HGS	ppb	33.52/29.89	33.94/29.83	30.53/35.35			
ASG	SG	3.169	3.164	3.268			
Additional Properties							
KCL %	% by vol	6.9	6.9	6.9			

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 133 bbl (32 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

After trip retain slugs in system to allow MW to be maintained at 9.9 ppg for pore pressure control. Added PAC-LE to maintain tight WL control & KOH for alkalinity. Adding 2.5 bbl/hr water at flowline to maintain water phase & running centrifuges in barite recovery mode to control LGS. Clayseal Plus added for additional clay protection. Current PHPA concentration = 2.4 ppb. Prepared 400 bbl premix.

Rig Activity

Continued to RIH f/ 1341m to 2346m & washed down f/ 2346m to 2396m (TD). Drilled ahead from 2396 to 2469m then drill & slide as per Directional Driller's instructions to 2671m at midnight.

Preparing to weight up to 10ppg prior to section TD.

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
CLAYSEAL PLUS	216 kg drum	39		12	27	$11,479.68
KCL Tech Grade (bulk)	1000 kg bulk	11.000		6.700	4.300	$5,031.70
BARAZAN D PLUS	25 kg bag	77	50	14	113	$2,131.36
PAC-L	25 kg bag	68	32	24	76	$1,964.88
DEXTRID LTE	25 kg sack	114		30	84	$1,216.80
potassium hydroxide	25 kg bag	9		6	3	$269.88
ALDACIDE G	5 gal can	19	32	3	48	$209.70
BARA-DEFOAM W300	5 gal can	16		1	15	$96.55
soda ash	25 kg bag	43		2	41	$26.50
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
barite	1000 kg bulk	153.000			153.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	281			281	
Circal Y	25 kg sack	400			400	
citric acid	25 kg bag	71			71	
CON DET	55 gal drum	4			4	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	45	128		173	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	

Daily Products Cost	$22,427.05	Total Daily Cost	$24,927.05
Cumulative Products Cost	$197,784.12	Total Cumulative Cost	$242,784.12

Baroid Representatives	Brian Auckram	Mike Flexmore	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	145	20.5
VSM-300	145	20.5
VSM-300	145	20.5
VSM-300	145	

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	20.0
Centrifuge	3,000	40.00	20.0

Time

Drilling	20.5
Circulating	
Trips	3.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	0.5
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	21.0
ROP	13.4
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	1053.6	Base		Fluid Dumped	
Pipe Cap	144.6	Drill Water	372.0	Transferred	
Active Pits	435.0	Dewatering		SCE	-147.0
Total Hole	1198.3	Sea Water		Evaporation	
Total Circ	1633.3	Whole Mud		Trips	
Reserve	879.4	Barite		Other	
Prev Vol	2261.8	Chemicals	51.9	Total Surface	
Net Change	250.9	Other		Downhole	-26.0
Total Vol	2512.7	Total	423.9	Total Losses	-173.0

Fluid Types Vol bbl

Deviation Information

Survey MD	2,471.0	m
Survey TVD	2,469.0	m
Angle	0.59	Deg
Direction	128	
Horiz Displ.		m

Baroid Fluid Services

Report No 019

Daily Drilling Fluid Report

Date	12/28/2008	Depth	2,807.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Mike Barry	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	12.250	in
Make/Type	HYCALOG/RSX 616M	
Jets	3x13|3x15	
TFA	0.907	sq-in
Jets Velocity		m/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	250.0	m
ECD @ Csg Shoe	10.00	ppg
ECD @ Bit	10.00	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	90.2
Drill Pipe	3.450	3.000	56.2
Drill Collar	8.250	2.750	103.5
Riser	28.000		20.0
Open Hole	12.250		1,820.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			

Total GPM		AV, Riser	Circ Press psi 2350
Total Circ Time		AV min DP	Tot Pres Loss
BU Time , min		AV max DC	Press Drop DP
Total Strokes		BU Strokes	Press Drop An

Properties		1	Hyd 2	3	4	Targets	Program
Source		Pit #6	Flow Line				
Time		3:30	9:30				
Depth	m	2,730	2,807				
FL Temp	Deg C	34	52				
Density @ Deg C	ppg	10.00 @ 30	10.00 @ 49				
FV @ Deg C	sec/qt	49 @ 30	47 @ 48				
PV @ Deg C	cP	16 @ 25	15 @ 25				
YP	lbs/100 ft2	37	35				
GELS	lbs/100 ft2	15/24/27	10/25/28				
600/300		69.0/53.0	65.0/50.0				
200/100		46.0/36.0	43.0/34.0				
6/3		16.0/13.0	15.0/13.0				
API Filt	ml/30 min	5.6	5.2				
HTHP @ Deg C	ml/30 min		11.4 @ 250				
Cake API/HTHP	32nd in	1/-	1/2				
Corr Solid	% by Vol	6.4	6.6				
NAP/Water	% by Vol	-/90.0	-/89.8				
Sand	% by vol	0.25	0.25				
MBT	ppb Eq.	2.5	5.0				
pH @ Deg C		8.50 @ 23	8.80 @ 23				
ALK Mud	Pm	0.05	0.10				
ALK Filt	Pf/Mf	0.05/1.10	0.10/1.20				
Chlorides	mg/l	45,000	46,000				
Tot. Hardness	mg/l	320	320				
LGS/HGS	% by Vol	3.8/2.6	4.1/2.4				
LGS/HGS	ppb	34.66/38.78	37.56/35.93				
ASG	SG	3.255	3.195				
Additional Properties							
KCL %	% by vol	6.7	7.0				

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 133 bbl (32 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

From 2758 m, downhole seepage loss observed varying between 15 - 20 bbl/hr. Turned off centrifuges & treated system with 6 ppb Circal-Y (CaCO3 med) + 4 ppb Circal 60/16 (CaCO3 fine) as bridging agents to minimise these losses. Result = losses slowed to 5 bbl/hr.
Note increase in LGS due to CaCO3 added.
Prepared 12.0 ppg slug for POOH. Overpull observed at 1132 m.

Rig Activity

Continue to drill 12 1/4" section f/ 2671m to 2692m sliding as instructed by Directional Driller.
Drill ahead to 2807m (Section TD) and circulate 2 x Bottoms Up to ensure hole clean & down link LWD Tools.
Flow check for 10mins - well static.
POOH 10 stands wet to 2524m then pump 30 bbl 12ppg slug & POOH.
At 1132m work through tight hole & continue to POOH at midnight.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
barite	1000 kg bulk	153.000		38.000	115.000	$18,045.44
ALDACIDE G	5 gal can	48		3	45	$209.70
potassium hydroxide	25 kg bag	3		2	1	$89.96
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	15			15	
BARAZAN D PLUS	25 kg bag	113			113	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	281			281	
Circal Y	25 kg sack	400			400	
citric acid	25 kg bag	71			71	
CLAYSEAL PLUS	216 kg drum	27			27	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	84			84	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	173			173	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	4.300			4.300	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	

Daily Products Cost	$18,345.10	Total Daily Cost	$20,845.10
Cumulative Products Cost	$216,129.22	Total Cumulative Cost	$263,629.22

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	145	10.0
VSM-300	145	10.0
VSM-300	145	
VSM-300	145	

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	6.5
Centrifuge	3,000	40.00	6.5

Time

Drilling	8.0
Circulating	2.5
Trips	10.0
Rig	3.0
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	0.5
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	8.5
ROP	17.0
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	129.2	Base		Fluid Dumped	
Pipe Cap	9.1	Drill Water		Transferred	
Active Pits	407.0	Dewatering		SCE	-106.0
Total Hole	1370.8	Sea Water		Evaporation	
Total Circ	545.3	Whole Mud		Trips	
Reserve	686.3	Barite	56.9	Other	
Prev Vol	2512.7	Chemicals	0.6	Total Surface	
Net Change	-48.5	Other		Downhole	
Total Vol	2464.1	Total	57.5	Total Losses	-106.0

Fluid Types Vol bbl

Deviation Information

Survey MD	2,708.0	m
Survey TVD	2,705.0	m
Angle	2.64	Deg
Direction	87	
Horiz Displ.		m

Baroid Representatives	Brian Auckram	Mike Flexmore	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 020

Daily Drilling Fluid Report

Date	12/29/2008	Depth	2,807.0 m
Spud Date	12/13/2008	Rig Activity	casing

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	9.625	in
Make/Type	SPA/Casing	
Jets	1x32	
TFA	0.785	sq-in
Jets Velocity		m/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,776.0	m
ECD @ Csg Shoe	10.00	ppg
ECD @ Bit	10.00	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	9.625	8.600	2,776.0
Riser	28.000		20.0
Open Hole	12.250		1,820.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties		Hyd 1	2	3	4	Targets	Program
Source		Pit #6					
Time		12:00					
Depth	m	2,807					
FL Temp	Deg C						
Density @ Deg C	ppg	10.00 @ 31					
FV @ Deg C	sec/qt	55 @ 31					
PV @ Deg C	cP	14 @ 49					
YP	lbs/100 ft2	36					
GELS	lbs/100 ft2	14/25/28					
600/300		64.0/50.0					
200/100		43.0/34.0					
6/3		15.0/13.0					
API Filt	ml/30 min	5.0					
HTHP @ Deg C	ml/30 min	11.0 @ 250					
Cake API/HTHP	32nd in	1/2					
Corr Solid	% by Vol	6.6					
NAP/Water	% by Vol	-/89.8					
Sand	% by vol	0.25					
MBT	ppb Eq.	5.0					
pH @ Deg C		8.80 @ 23					
ALK Mud	Pm	0.10					
ALK Filt	Pf/Mf	0.10/1.31					
Chlorides	mg/l	46,000					
Tot. Hardness	mg/l	320					
LGS/HGS	% by Vol	4.1/2.4					
LGS/HGS	ppb	37.56/35.93					
ASG	SG	3.195					
Additional Properties							
KCL %	% by vol	6.9					

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 133 bbl (32 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

Circal 60/16 & Circal-Y (CaCO3) were used yesterday to curb hole seepage losses. Casing data will be updated on next report. No downhole seepage loss observed while running casing.

Rig Activity

Continue POOH & break out bit.
Rig up to run 9 5/8" casing & run same.
Preparing to rig up to circulate & cement shortly after midnight.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
Circal Y	25 kg sack	400		170	230	$2,176.00
Circal 60/16	25 kg sack	281		110	171	$1,114.30
ALDACIDE G	5 gal can	45			45	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	15			15	
BARAZAN D PLUS	25 kg bag	113			113	
barite	1000 kg bulk	115.000			115.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
citric acid	25 kg bag	71			71	
CLAYSEAL PLUS	216 kg drum	27			27	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	84			84	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	173			173	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	4.300			4.300	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	

Daily Products Cost	$3,290.30	Total Daily Cost	$5,790.30
Cumulative Products Cost	$219,419.52	Total Cumulative Cost	$269,419.52

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	1.5
Rig	
Surveys	
Fishing	
Run Casing	22.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	0.5
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.5	Base		Fluid Dumped	
Pipe Cap	653.4	Drill Water		Transferred	
Active Pits	532.0	Dewatering		SCE	
Total Hole	1228.7	Sea Water		Evaporation	
Total Circ	1745.8	Whole Mud		Trips	
Reserve	719.8	Barite		Other	
Prev Vol	2464.1	Chemicals	16.3	Total Surface	
Net Change	16.3	Other		Downhole	
Total Vol	2480.4	Total	16.3	Total Losses	

Fluid Types	Vol bbl

Deviation Information

Survey MD	2,708.0	m
Survey TVD	2,705.0	m
Angle	2.64	Deg
Direction	87	
Horiz Displ.		m

Baroid Representatives	Brian Auckram	Mike Flexmore	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 021

Daily Drilling Fluid Report

Date	12/30/2008	Depth	2,807.0 m
Spud Date	12/13/2008	Rig Activity	Run casing and cement

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information			Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD
Bit Size		in				30.000	@	116.0
Make/Type						13.375	@	987.0
Jets						9.625	@	2,800.0
TFA		sq-in						
Jets Velocity		m/sec						
Jet Impact Force		lbf						
Bit HHSI		hhp/in2						
Press Drop @ Bit		psi						
Bit Depth		m	Riser	28.000	20.0			
ECD @ Csg Shoe	10.00	ppg						
ECD @ Bit		ppg						

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	Hyd 2	3	4	Targets	Program
Source		Pit #6	Pit #6				
Time		5:00	14:00				
Depth	m	2,807	2,807				
FL Temp	Deg C						
Density @ Deg C	ppg	10.00 @ 31	10.00 @ 30				
FV @ Deg C	sec/qt	48 @ 31	50 @ 30				
PV @ Deg C	cP	15 @ 49	15 @ 49				
YP	lbs/100 ft2	40	39				
GELS	lbs/100 ft2	14/25/28	14/24/28				
600/300		70.0/55.0	69.0/54.0				
200/100		47.0/37.0	46.0/36.0				
6/3		17.0/14.0	16.0/14.0				
API Filt	ml/30 min	5.0	5.0				
HTHP @ Deg C	ml/30 min		11.0 @ 250				
Cake API/HTHP	32nd in	1/-	1/2				
Corr Solid	% by Vol	6.4	6.4				
NAP/Water	% by Vol	-/90.0	-/90.0				
Sand	% by vol	0.25	0.25				
MBT	ppb Eq.	5.0	5.0				
pH @ Deg C		8.50 @ 23	8.50 @ 22				
ALK Mud	Pm	0.05	0.10				
ALK Filt	Pf/Mf	0.05/1.40	0.10/1.35				
Chlorides	mg/l	46,000	46,000				
Tot. Hardness	mg/l	320	320				
LGS/HGS	% by Vol	3.7/2.6	3.7/2.6				
LGS/HGS	ppb	33.84/38.89	33.84/38.89				
ASG	SG	3.265	3.265				
Additional Properties							
KCL %	% by vol	7.0	7.0				

Fluid Treatments

Fluid Type

KCL brine on hand: 133 bbl (32 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

After pumping cement & spacers, volume left behind casing (lost) = 155 bbl. While displacing cmt, lost 58 bbl as downhole loss. Volume correction also applied. Plug did not bump. Today being final report for 12 1/4" interval. Transferred all remaining volume to next interval.

Rig Activity

Continued to RIH w/ 9 5/8" casing to 2774m. At 2774m the casing string took weight so the circulation equipment was rigged up. The casing was circulated however the hole packed off. The casing was worked to re-establish circulation & the string worked f/ 2764m to 2778m w/ intermittent packing off. The casing was washed down to TD at 2807m & then landed & set at 2800.5m. The cementing equipment was rigged up & the hole circulated bottoms up then cemented as per programme.
When an attempt was made to breakout the running tool the top landing joint backed out. This connection was remade & another attempt

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
barite	1000 kg bulk	115.000		7.000	108.000	$3,324.16
BARA-DEFOAM W300	5 gal can	15		1	14	$96.55
ALDACIDE G	5 gal can	45			45	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARAZAN D PLUS	25 kg bag	113			113	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	171			171	
Circal Y	25 kg sack	230			230	
citric acid	25 kg bag	71			71	
CLAYSEAL PLUS	216 kg drum	27			27	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	84			84	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	173			173	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	4.300			4.300	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	

Daily Products Cost	$3,420.71	Total Daily Cost	$5,920.71
Cumulative Products Cost	$222,840.23	Total Cumulative Cost	$275,340.23

Baroid Representatives	Brian Auckram	Mike Flexmore	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	22.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	2.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole		Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve		Barite		Other	
Prev Vol		Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol		Total		Total Losses	

Fluid Types	Vol bbl

Deviation Information

Survey MD	2,708.0	m
Survey TVD	2,705.0	m
Angle	2.64	Deg
Direction	87	
Horiz Displ.		m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 022

Daily Drilling Fluid Report

Date	12/31/2008	Depth	2,807.0 m
Spud Date	12/13/2008	Rig Activity	Makeup BHA

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information			Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD
Bit Size		in				30.000	@	116.0
Make/Type						13.375	@	987.0
Jets						9.625	@	2,800.0
TFA		sq-in						
Jets Velocity		m/sec						
Jet Impact Force		lbf						
Bit HHSI		hhp/in2						
Press Drop @ Bit		psi						
Bit Depth	2,807.0	m	Riser	28.000	20.0			
ECD @ Csg Shoe		ppg						
ECD @ Bit		ppg						

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program
Source		Pit #6					
Time		19:00					
Depth	m	2,807					
FL Temp	Deg C						
Density @ Deg C	ppg	10.10 @ 25					
FV @ Deg C	sec/qt	55 @ 25					
PV @ Deg C	cP	15 @ 49					
YP	lbs/100 ft2	40					
GELS	lbs/100 ft2	14/24/28					
600/300		70.0/55.0					
200/100		47.0/37.0					
6/3		16.0/13.0					
API Filt	ml/30 min	5.0					
HTHP @ Deg C	ml/30 min	11.0 @ 250					
Cake API/HTHP	32nd in	1/2					
Corr Solid	% by Vol	6.4					
NAP/Water	% by Vol	-/90.0					
Sand	% by vol	0.10					
MBT	ppb Eq.	5.0					
pH @ Deg C		8.50 @ 22					
ALK Mud	Pm	0.10					
ALK Filt	Pf/Mf	0.10/1.30					
Chlorides	mg/l	46,000					
Tot. Hardness	mg/l	320					
LGS/HGS	% by Vol	3.0/3.4					
LGS/HGS	ppb	27.01/49.91					
ASG	SG	3.454					
Additional Properties							
KCL %	% by vol	7.0					

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 133 bbl (32 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

Received chemicals & brine from Valkyrie.

For recap purpose, transferred all remaining volume from previous to today's report being start of 8 1/2" interval.

Treated surface pits with Aldacide-G to mitigate bacterial action.

Rig Activity

Continue to attempt to retreive Running Tool, break out & recover after considerable effort. Make up Mill & flush. Make up Seal Assembly & run. Surface Test okay however unable to get downhole test. Recover & rerun.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
ALDACIDE G	5 gal can	45		3	42	$209.70
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	113	40		153	
barite	1000 kg bulk	108.000			108.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	171			171	
Circal Y	25 kg sack	230			230	
citric acid	25 kg bag	71			71	
CLAYSEAL PLUS	216 kg drum	27	16		43	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	84	36		120	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	173			173	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	4.300			4.300	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	

Daily Products Cost	$209.70	Total Daily Cost	$2,709.70
Cumulative Products Cost	$223,049.93	Total Cumulative Cost	$278,049.93

Baroid Representatives	Brian Auckram	Mike Flexmore	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time	
Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	24.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water	0.4	Transferred	
Active Pits	465.3	Dewatering		SCE	
Total Hole	695.4	Sea Water		Evaporation	
Total Circ	465.3	Whole Mud	1989.0	Trips	
Reserve	829.0	Barite		Other	
Prev Vol		Chemicals	0.4	Total Surface	
Net Change	1989.7	Other		Downhole	
Total Vol	1989.7	Total	1989.7	Total Losses	

Fluid Types	Vol bbl

Deviation Information		
Survey MD	2,708.0	m
Survey TVD	2,705.0	m
Angle	2.64	Deg
Direction	87	
Horiz Displ.		m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 23

Daily Drilling Fluid Report

Date	01/01/2009	Depth	2,807.0 m
Spud Date	12/13/2008	Rig Activity	Testing B.O.P.

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information			Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD
Bit Size		in				30.000	@	116.0
Make/Type						13.375	@	987.0
Jets						9.625	@	2,800.0
TFA		sq-in						
Jets Velocity		m/sec						
Jet Impact Force		lbf						
Bit HHSI		hhp/in2						
Press Drop @ Bit		psi						
Bit Depth	2,807.0	m	Riser	28.000	20.0			
ECD @ Csg Shoe		ppg						
ECD @ Bit		ppg						

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program
Source		Pit #6					
Time		18:00					
Depth	m	2,807					
FL Temp	Deg C						
Density @ Deg C	ppg	10.10 @ 25					
FV @ Deg C	sec/qt	55 @ 25					
PV @ Deg C	cP	15 @ 49					
YP	lbs/100 ft2	40					
GELS	lbs/100 ft2	14/24/28					
600/300		70.0/55.0					
200/100		47.0/37.0					
6/3		16.0/13.0					
API Filt	ml/30 min	5.0					
HTHP @ Deg C	ml/30 min	11.0 @ 250					
Cake API/HTHP	32nd in	1/2					
Corr Solid	% by Vol	6.4					
NAP/Water	% by Vol	-/90.0					
Sand	% by vol	0.25					
MBT	ppb Eq.	5.0					
pH @ Deg C		8.50 @ 22					
ALK Mud	Pm	0.05					
ALK Filt	Pf/Mf	0.05/1.30					
Chlorides	mg/l	46,000					
Tot. Hardness	mg/l	320					
LGS/HGS	% by Vol	3.0/3.4					
LGS/HGS	ppb	27.01/49.91					
ASG	SG	3.454					
Additional Properties							
KCL %	% by vol	7.0					

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 577 bbl (92 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

No Circulation.

Rig Activity

Retrieve Running Tool w/ damaged lock ring. RIH & jet BOP then nipple down BOP & clean & inspect wellhead as per instructions. Pick up Drill Pipe then pick up mill & flush tool & mill & wash Seal Assembly area as per directions. Rig down mill & make up to re-run Seal Assembly, run same & test void to 2k (good test). Nipple Up BOP & test. Leak at radial bolts. Retighten & retest. Tests good. Prepare to change out gasket in BOP.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer	day(s)			1		$1,250.00
ALDACIDE G	5 gal can	42			42	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			153	
barite	1000 kg bulk	108.000			108.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	171			171	
Circal Y	25 kg sack	230			230	
citric acid	25 kg bag	71			71	
CLAYSEAL PLUS	216 kg drum	43			43	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	120			120	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	173			173	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	4.300	15.000		19.300	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGON	6 gal pail	29			29	

Daily Products Cost	$0.00	Total Daily Cost	$1,250.00
Cumulative Products Cost	$223,049.93	Total Cumulative Cost	$279,299.93

Baroid Representatives	Brian Auckram		
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time	
Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	24.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	465.3	Dewatering		SCE	
Total Hole	695.4	Sea Water		Evaporation	
Total Circ	465.3	Whole Mud		Trips	
Reserve	829.0	Barite		Other	-1.6
Prev Vol	1989.7	Chemicals		Total Surface	
Net Change	-1.6	Other		Downhole	
Total Vol	1989.7	Total		Total Losses	-1.6

Fluid Types	Vol bbl

Deviation Information		
Survey MD	2,708.0	m
Survey TVD	2,705.0	m
Angle	2.64	Deg
Direction	87	
Horiz Displ.		m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 24

Daily Drilling Fluid Report

Date	01/02/2009	Depth	2,807.0 m
Spud Date	12/13/2008	Rig Activity	Tripping

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information		
Bit Size		in
Make/Type		
Jets		
TFA		sq-in
Jets Velocity		m/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,807.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)	OD	ID	Length
Riser	28.000		20.0

in Casing m		
OD	Set	MD
30.000	@	116.0
13.375	@	987.0
9.625	@	2,800.0

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program
Source		Pit #6					
Time		19:00					
Depth	m	2,807					
FL Temp	Deg C						
Density @ Deg C	ppg	10.10 @ 25					
FV @ Deg C	sec/qt	55 @ 25					
PV @ Deg C	cP	14 @ 49					
YP	lbs/100 ft2	36					
GELS	lbs/100 ft2	14/19/24					
600/300		64.0/50.0					
200/100		42.0/35.0					
6/3		14.0/11.0					
API Filt	ml/30 min	5.2					
HTHP @ Deg C	ml/30 min	11.0 @ 250					
Cake API/HTHP	32nd in	1/2					
Corr Solid	% by Vol	6.4					
NAP/Water	% by Vol	-/90.0					
Sand	% by vol	0.10					
MBT	ppb Eq.	5.0					
pH @ Deg C		8.50 @ 22					
ALK Mud	Pm	0.10					
ALK Filt	Pf/Mf	0.10/1.30					
Chlorides	mg/l	45,000					
Tot. Hardness	mg/l	360					
LGS/HGS	% by Vol	3.1/3.4					
LGS/HGS	ppb	27.83/49.81					
ASG	SG	3.441					
Additional Properties							
KCL %	% by vol	7.0					

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 577 bbl (92 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

No Circulation.

Dumped Sand Trap & ran centrifuges.

Rig Activity

Made up Combo Tool w/ Cup Tester.
Raised BOP & changed seal.
Tested BOP & began making up BHA for 8 1/2" section.
Shallow tested LWD.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer	day(s)			1		$1,250.00
ALDACIDE G	5 gal can	42			42	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			153	
barite	1000 kg bulk	108.000			108.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			42.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	171			171	
Circal Y	25 kg sack	230			230	
citric acid	25 kg bag	71			71	
CLAYSEAL PLUS	216 kg drum	43			43	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	120			120	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	173			173	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	19.300			19.300	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGON	6 gal pail	29			29	

Daily Products Cost	$0.00	Total Daily Cost	$1,250.00
Cumulative Products Cost	$223,049.93	Total Cumulative Cost	$280,549.93

Baroid Representatives	Brian Auckram		
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	9.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	10.5
Logging	
Dir Work	
Repair	1.5
Other	3.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	464.7	Dewatering		SCE	-21.2
Total Hole	695.4	Sea Water		Evaporation	
Total Circ	464.7	Whole Mud		Trips	
Reserve	810.0	Barite		Other	
Prev Vol	1989.7	Chemicals		Total Surface	
Net Change	-21.2	Other		Downhole	
Total Vol	1970.1	Total		Total Losses	-21.2

Fluid Types	Vol bbl

Deviation Information		
Survey MD	2,708.0	m
Survey TVD	2,705.0	m
Angle	2.64	Deg
Direction	87	
Horiz Displ.		m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 25

Daily Drilling Fluid Report

Date	01/03/2009	Depth	2,807.0 m
Spud Date	12/13/2008	Rig Activity	Drill out

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	8.500	in
Make/Type	DBS/SE3653	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity		m/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,798.0	m
ECD @ Csg Shoe	10.10	ppg
ECD @ Bit	10.10	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	2,596.6
Drill Pipe	5.500	3.250	56.2
Drill Collar	6.500	2.813	145.1
Riser	28.000		20.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0
9.625	@	2,800.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties

		Hyd 1	2	3	4	Targets	Program
Source		Pit #6	Pit #6				
Time		19:00	22:30				
Depth	m	2,807	2,807				
FL Temp	Deg C		41				
Density @ Deg C	ppg	10.10 @ 25	10.30 @ 30				
FV @ Deg C	sec/qt	55 @ 25	60 @ 30				
PV @ Deg C	cP	11 @ 49	17 @ 49				
YP	lbs/100 ft2	33	44				
GELS	lbs/100 ft2	13/18/22	16/25/29				
600/300		55.0/44.0	78.0/61.0				
200/100		36.0/30.0	54.0/43.0				
6/3		13.0/10.0	19.0/17.0				
API Filt	ml/30 min	5.6	6.6				
HTHP @ Deg C	ml/30 min	11.0 @ 250					
Cake API/HTHP	32nd in	1/2	2/-				
Corr Solid	% by Vol	6.4	7.1				
NAP/Water	% by Vol	-/90.0	-/89.5				
Sand	% by vol	0.25	0.50				
MBT	ppb Eq.	5.0	5.0				
pH @ Deg C		8.50 @ 22	10.50 @ 22				
ALK Mud	Pm	0.10	1.20				
ALK Filt	Pf/Mf	0.10/1.30	0.80/2.20				
Chlorides	mg/l	45,000	43,000				
Tot. Hardness	mg/l	320	480				
LGS/HGS	% by Vol	3.1/3.4	2.8/4.4				
LGS/HGS	ppb	27.83/49.81	25.10/64.29				
ASG	SG	3.441	3.581				
Additional Properties							
KCL %	% by vol	7.0	6.8				

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 577 bbl (92 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

Backloaded Bentonite & received Barite from Valkyrie.

Drilling Cement mud came back cement contaminated (Mud Check #2). Treated with Sodium Bicarbonate & Citric Acid.

Weighted mud up to 10.3ppg prior to drilling out shoe & drilling new formation.

Rig Activity

Continue to make up BHA & load radioactive source.
Pick up & make up BHA & RIH w/ Drill Pipe.

Tag top plug at 2752m & drill out shoe to 2798m at midnight.

Note: Mud Check #2 is cement contaminated mud while drilling cement.
Treated mud with Citric & Bicarb.

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer	day(s)			1		$1,250.00
barite	1000 kg bulk	108.000	37.000	7.000	138.000	$3,324.16
citric acid	25 kg bag	71		9	62	$416.16
sodium bicarbonate	25 kg bag	40		16	24	$200.80
ALDACIDE G	5 gal can	42			42	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			153	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	42.000			2.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	171			171	
Circal Y	25 kg sack	230			230	
CLAYSEAL PLUS	216 kg drum	43			43	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	120			120	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	173			173	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	19.300			19.300	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
N-DRIL HT PLUS	50 lb bag	15			15	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	

Daily Products Cost	$3,941.12	Total Daily Cost	$5,191.12
Cumulative Products Cost	$226,991.05	Total Cumulative Cost	$285,741.05

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	145	
VSM-300	145	13.0
VSM-300	145	13.0
VSM-300	145	

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	11.0
Circulating	
Trips	13.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	11.0
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	409.1	Base		Fluid Dumped	
Pipe Cap	150.9	Drill Water		Transferred	
Active Pits	458.0	Dewatering		SCE	-61.8
Total Hole	560.4	Sea Water		Evaporation	
Total Circ	1018.0	Whole Mud		Trips	
Reserve	904.0	Barite	10.5	Other	
Prev Vol	1970.1	Chemicals	2.1	Total Surface	
Net Change	-49.2	Other		Downhole	
Total Vol	1922.4	Total	12.6	Total Losses	-61.8

Fluid Types	Vol bbl

Deviation Information

Survey MD	2,708.0	m
Survey TVD	2,705.0	m
Angle	2.64	Deg
Direction	87	
Horiz Displ.		m

Baroid Representatives Brian Auckram
Office 90 Talinga Rd Melbourne Telephone 61-03-9581-7555
Warehouse c/o of Esso Australia Ltd Telephone 61-3-56-881-445

Baroid Fluid Services

Report No 26

Daily Drilling Fluid Report

Date	01/04/2009	Depth	3,012.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Rocco Rossouw Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	8.500	in
Make/Type	DBS/SE3653	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity	74.4	m/sec
Jet Impact Force	899.1	lbf
Bit HHSI	3.89	hhp/in2
Press Drop @ Bit	550	psi
Bit Depth	3,012.0	m
ECD @ Csg Shoe	11.60	ppg
ECD @ Bit	11.64	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	2,810.6
Drill Pipe	5.500	3.250	56.2
Drill Collar	6.500	2.813	145.1
Riser	28.000		20.0
Open Hole	8.500		212.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0
9.625	@	2,800.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220			
Bore in	6.500	6.500	6.500			
Strokes in	14.000	14.000	14.000			
Eff(%)	95	95	95			
bbl/strk	0.136	0.136	0.136			
SPM	60	60	0			
gpm|bbl/min	344	8.19	344	8.19		
Total GPM	688	AV, Riser	6.8	Circ Press psi	2700	
Total Circ Time	66	AV min DP	120.6	Tot Pres Loss	2553	
BU Time , min	27	AV max DC	171.3	Press Drop DP	1305	
Total Strokes	7,971	BU Strokes	3,201	Press Drop An	663	

Properties		1	2	Hyd 3	4	Targets	Program
Source		Flow Line	Pit #6	Pit #6			
Time		8:00	15:50	23:00			
Depth	m	2,810	2,909	2,995			
FL Temp	Deg C	41	50	41			
Density @ Deg C	ppg	10.35 @ 35	10.40 @ 48	10.35 @ 35			
FV @ Deg C	sec/qt	44 @ 30	46 @ 48	46 @ 35			
PV @ Deg C	cP	14 @ 49	15 @ 49	15 @ 49			
YP	lbs/100 ft2	32	37	34			
GELS	lbs/100 ft2	12/20/24	11/19/23	11/19/24			
600/300		60.0/46.0	67.0/52.0	64.0/49.0			
200/100		41.0/31.0	45.0/35.0	42.0/33.0			
6/3		14.0/10.0	14.0/10.0	13.0/10.0			
API Filt	ml/30 min	7.0	6.0	6.0			
HTHP @ Deg C	ml/30 min		12.0 @ 250	11.8 @ 250			
Cake API/HTHP	32nd in	1/-	1/1	1/2			
Corr Solid	% by Vol	7.0	7.7	7.6			
NAP/Water	% by Vol	-/89.5	-/89.0	-/89.0			
Sand	% by vol	0.25	1.25	1.00			
MBT	ppb Eq.	5.0	6.0	5.0			
pH @ Deg C		10.00 @ 22	9.20 @ 30	9.50 @ 30			
ALK Mud	Pm	0.90	0.45	0.10			
ALK Filt	Pf/Mf	0.70/2.40	0.28/3.00	0.60/2.40			
Chlorides	mg/l	45,000	42,000	43,000			
Tot. Hardness	mg/l	480	800	600			
LGS/HGS	% by Vol	2.2/4.8	3.1/4.6	3.4/4.2			
LGS/HGS	ppb	20.07/69.99	28.36/67.84	30.98/62.42			
ASG	SG	3.693	3.555	3.488			
Additional Properties							
KCL %	% by vol	6.9	6.9	6.8			

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 577 bbl (92 m3). Recorded in inventory as 1000 kg bags equivalent (1 bag ~ 30 bbl).

Added 0.3ppb N Drill HT & 0.45 ppb Soda Ash to active.

Increase Clayseal concentration as per programme & treat high fluid loss.

Screen up shakers with available used 255 mesh screens.

Rig Activity

Continue to drill out float & shoe from 2799m & drill 3m of new hole to 2810m.
Circulate 1 1/2 bottoms up, take SCRs & perform FIT to 16.0ppg EMW.
Drill ahead f/ 2810m to 3005m & circulate due to increased torque & gas. Continue to drill to 3012m at midnight.
At midnight begin weighting up to 10.6ppg.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
CLAYSEAL PLUS	216 kg drum	43		7	36	$6,696.48
barite	1000 kg bulk	138.000		10.000	128.000	$4,748.80
PAC-L	25 kg bag	116		12	104	$982.44
N-DRIL HT PLUS	50 lb bag	15		6	9	$576.90
DEXTRID LTE	25 kg sack	120		12	108	$486.72
EZ-MUD	25 kg pail	173		4	169	$303.28
citric acid	25 kg bag	62		6	56	$277.44
soda ash	25 kg bag	41		9	32	$119.25
ALDACIDE G	5 gal can	42			42	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			153	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	2.000			2.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	171			171	
Circal Y	25 kg sack	230			230	
CON DET	55 gal drum	4			4	
EZ SPOT	55 gal drum	12			12	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	19.300			19.300	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	145	
VSM-300	255	24.0
VSM-300	255	24.0
VSM-300	145	

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	17.0
Centrifuge	3,000	40.00	17.0

Time

Drilling	19.5
Circulating	0.5
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	2.0
Testing	
Logging	
Dir Work	
Repair	
Other	2.0
Total	24.0
Rotating	21.5
ROP	10.5
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	436.9	Base		Fluid Dumped	
Pipe Cap	162.9	Drill Water	1.6	Transferred	
Active Pits	488.0	Dewatering		SCE	-137.4
Total Hole	599.8	Sea Water		Evaporation	
Total Circ	1087.8	Whole Mud		Trips	
Reserve	728.0	Barite	15.0	Other	
Prev Vol	1922.4	Chemicals	13.9	Total Surface	
Net Change	-106.9	Other		Downhole	
Total Vol	1815.8	Total	30.5	Total Losses	-137.4

Fluid Types	Vol bbl

Deviation Information

Survey MD	2,992.0	m
Survey TVD	2,990.0	m
Angle	2.65	Deg
Direction	116	
Horiz Displ.		m

Daily Products Cost	$14,191.31	Total Daily Cost	$16,691.31
Cumulative Products Cost	$241,182.36	Total Cumulative Cost	$302,432.36

Baroid Representatives Brian Auckram Eugene Edwards
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Warehouse c/o of Esso Australia Ltd Telephone 61-3-56-881-445

Baroid Fluid Services

Report No 27

Daily Drilling Fluid Report

Date	01/05/2009	Depth	3,352.0 m
Spud Date	12/13/2008	Rig Activity	Drilling

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	8.500	in
Make/Type	DBS/SE3653	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity	76.9	m/sec
Jet Impact Force	983.2	lbf
Bit HHSI	4.40	hhp/in2
Press Drop @ Bit	602	psi
Bit Depth	3,012.0	m
ECD @ Csg Shoe	11.94	ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	2,810.6
Drill Pipe	5.500	3.250	56.2
Drill Collar	6.500	2.813	145.1
Riser	28.000		20.0
Open Hole	8.500		552.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0
9.625	@	2,800.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	62	62	0
gpm|bbl/min	355 8.46	355 8.46	

Total GPM	711	AV, Riser	7.0	Circ Press psi	3050
Total Circ Time	64	AV min DP	124.6	Tot Pres Loss	2777
BU Time , min	26	AV max DC	177.0	Press Drop DP	1426
Total Strokes	7,897	BU Strokes	3,201	Press Drop An	712

Properties

		1	2	3	Hyd 4
Source		Pit #6	Pit #6	Pit #6	Pit #6
Time		5:00	9:35	17:00	22:30
Depth	m	3,064	3,164	3,244	3,325
FL Temp	Deg C	53	53	55	57
Density @ Deg C	ppg	10.60 @ 35	10.60 @ 40	10.50 @ 41	10.60 @ 40
FV @ Deg C	sec/qt	48 @ 35	47 @ 40	49 @ 41	54 @ 40
PV @ Deg C	cP	16 @ 49	22 @ 49	19 @ 49	16 @ 49
YP	lbs/100 ft2	36	35	37	36
GELS	lbs/100 ft2	11/19/24	13/23/28	14/26/34	11/19/23
600/300		68.0/52.0	79.0/57.0	75.0/56.0	68.0/52.0
200/100		45.0/34.0	48.0/32.0	42.0/38.0	45.0/34.0
6/3		13.0/10.0	15.0/12.0	15.0/13.0	13.0/10.0
API Filt	ml/30 min	6.0	6.0	5.6	5.8
HTHP @ Deg C	ml/30 min			11.8 @ 250	
Cake API/HTHP	32nd in	1/-	1/-	1/1	1/-
Corr Solid	% by Vol	7.7	7.8	7.9	7.8
NAP/Water	% by Vol	-/89.0	-/89.0	-/89.0	-/89.0
Sand	% by vol	0.75	0.75	0.75	0.75
MBT	ppb Eq.	6.2	7.5	7.5	7.5
pH @ Deg C		9.50 @ 30	8.80 @ 30	8.50 @ 30	9.00 @ 30
ALK Mud	Pm	0.10	0.20	0.05	0.05
ALK Filt	Pf/Mf	0.30/2.40	0.15/2.00	0.05/2.00	0.05/2.00
Chlorides	mg/l	42,000	41,000	40,000	41,000
Tot. Hardness	mg/l	480	480	480	480
LGS/HGS	% by Vol	1.6/6.1	1.7/6.1	2.5/5.3	1.7/6.1
LGS/HGS	ppb	14.71/89.89	15.50/89.81	23.12/78.70	15.50/89.81
ASG	SG	3.865	3.851	3.685	3.851
Additional Properties					
KCL %	% by vol	6.8	6.8	6.7	6.8

Targets

Program

Fluid Treatments

Fluid Type KCl/Polymer

Received 301bbl of KCL Brine from Battler. (Equivalent to 10 x 1000kg bags)

KCL brine on hand: 672 bbl (107 m3). Recorded in inventory as 22 x 1000 kg bags equivalent (1 bag ~ 30 bbl).

Charged off 206bbl (used) as 7.3 bags.

Maintaining mud properties with additions of premix.

Rig Activity

Continue to drill f/ 3012m to 3019m. At 3019m the gas levels increased & the well was circulated until gas levels were assessed. The mud was weighted up to 10.5+ppg as drilling continued to 3056m where there was a drilling break.
A flow check was conducted & the well found to be static.
Drilling continued to 3352m at midnight.

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
KCL Tech Grade (bulk)	1000 kg bulk	19.300	10.000	7.300	22.000	$5,482.30
N-DRIL HT PLUS	50 lb bag	9		9		$865.35
EZ-MUD	25 kg pail	169		9	160	$682.38
ALDACIDE G	5 gal can	42			42	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			153	
barite	1000 kg bulk	128.000			128.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	2.000			2.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	55			55	
Circal 60/16	25 kg sack	171			171	
Circal Y	25 kg sack	230			230	
citric acid	25 kg bag	56			56	
CLAYSEAL PLUS	216 kg drum	36			36	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	108			108	
EZ SPOT	55 gal drum	12			12	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	

Daily Products Cost	$7,030.03	Total Daily Cost	$9,530.03
Cumulative Products Cost	$248,212.39	Total Cumulative Cost	$311,962.39

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	215	
VSM-300	255	24.0
VSM-300	255	24.0
VSM-300	255	

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	16.5
Centrifuge	3,000	40.00	16.5

Time

Drilling	23.0
Circulating	1.0
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	23.0
ROP	14.8
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	436.9	Base		Fluid Dumped	
Pipe Cap	162.9	Drill Water		Transferred	
Active Pits	478.0	Dewatering		SCE	-177.5
Total Hole	678.0	Sea Water		Evaporation	
Total Circ	1077.8	Whole Mud		Trips	
Reserve	515.0	Barite		Other	
Prev Vol	1815.8	Chemicals	32.8	Total Surface	
Net Change	-144.7	Other		Downhole	
Total Vol	1671.0	Total	32.8	Total Losses	-177.5

Fluid Types Vol bbl

Deviation Information

Survey MD	3,318.0	m
Survey TVD	3,315.0	m
Angle	4.02	Deg
Direction	150	
Horiz Displ.		m

Baroid Representatives	Brian Auckram	Eugene Edwards	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
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Baroid Fluid Services

Report No 28

Daily Drilling Fluid Report

Date	01/06/2009	Depth	3,585.0 m
Spud Date	12/13/2008	Rig Activity	Tripping

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	8.500	in
Make/Type	DBS/SE3653	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity	75.6	m/sec
Jet Impact Force	951.8	lbf
Bit HHSI	4.19	hhp/in2
Press Drop @ Bit	582	psi
Bit Depth	2,835.0	m
ECD @ Csg Shoe	12.04	ppg
ECD @ Bit	12.05	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	2,633.6
Drill Pipe	5.500	3.250	56.2
Drill Collar	6.500	2.813	145.1
Riser	28.000		20.0
Open Hole	8.500		785.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0
9.625	@	2,800.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	61	61	0
gpm|bbl/min	350 | 8.32	350 | 8.32	

Total GPM	699	AV, Riser	6.9	Circ Press psi	3250
Total Circ Time	63	AV min DP	122.6	Tot Pres Loss	2908
BU Time , min	25	AV max DC	174.1	Press Drop DP	1578
Total Strokes	7,656	BU Strokes	3,033	Press Drop An	703

Properties		1	Hyd 2	3	4
Source		Pit #6	Pit #6	Pit #6	Pit #6
Time		5:00	15:00	19:00	9:20
Depth	m	3,430	3,585	3,585	3,506
FL Temp	Deg C	53	57	50	55
Density @ Deg C	ppg	10.60 @ 40	10.60 @ 49	10.60 @ 40	10.60 @ 49
FV @ Deg C	sec/qt	52 @ 40	50 @ 49	50 @ 40	49 @ 49
PV @ Deg C	cP	20 @ 49	22 @ 49	20 @ 49	21 @ 49
YP	lbs/100 ft2	40	36	40	38
GELS	lbs/100 ft2	12/20/25	12/26/35	11/23/31	13/28/37
600/300		80.0/60.0	80.0/58.0	80.0/60.0	80.0/59.0
200/100		51.0/39.0	49.0/36.0	50.0/37.0	50.0/38.0
6/3		14.0/11.0	14.0/11.0	14.0/11.0	15.0/12.0
API Filt	ml/30 min	5.6	5.2	5.2	5.2
HTHP @ Deg C	ml/30 min		11.0 @ 260		11.0 @ 260
Cake API/HTHP	32nd in	1/-	1/1	1/ -	1/1
Corr Solid	% by Vol	8.2	8.2	8.2	8.8
NAP/Water	% by Vol	-/88.5	-/88.5	-/88.5	-/88.0
Sand	% by vol	0.50	0.50	0.50	0.50
MBT	ppb Eq.	10.0	11.2	11.2	11.2
pH @ Deg C		8.50 @ 30	8.60 @ 30	8.50 @ 30	8.60 @ 30
ALK Mud	Pm	0.05	0.10	0.05	0.05
ALK Filt	Pf/Mf	0.05/2.00	0.05/2.40	0.05/2.20	0.05/2.60
Chlorides	mg/l	42,000	42,000	42,000	42,000
Tot. Hardness	mg/l	480	480	440	480
LGS/HGS	% by Vol	2.6/5.6	2.6/5.6	2.6/5.6	3.7/5.1
LGS/HGS	ppb	24.01/82.51	24.01/82.51	24.01/82.51	33.30/75.14
ASG	SG	3.688	3.688	3.688	3.532
Additional Properties					
KCL %	% by vol	6.9	7.0	6.9	7.0

Targets | Program

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 672 bbl (107 m3). Recorded in inventory as 22 x 1000 kg bags equivalent (1 bag ~ 30 bbl).

Received 42Mt Barite and 16Mt Bentonite.

Rig Activity

Drill f/ 3352m to 3585m & circulate hole clean.
Conduct flow check & POOH.
Tight hole f/ 3510m to 3451m.
At 2415m it became necessary to wash & back ream. Washed & reamed 3392m to 3420m & then POOH from 3420 to 3081m.
Back ream 3081 to 2948m & then POOH from 2948m to 2900m.
Ream back to the shoe from 2900m to 2800m and service top drive at midnight.
Note that hydraulic data applies as per circulating at TD (3585m)

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
barite	1000 kg bulk	128.000	42.000	6.000	164.000	$2,849.28
PAC-L	25 kg bag	104		12	92	$982.44
DEXTRID LTE	25 kg sack	108		12	96	$486.72
ALDACIDE G	5 gal can	42		3	39	$209.70
caustic soda	25 kg pail	55		4	51	$176.76
potassium hydroxide	25 kg bag	1		1		$44.98
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			153	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	2.000	16.000		18.000	
calcium chloride	25 kg bag	42			42	
Circal 60/16	25 kg sack	171			171	
Circal Y	25 kg sack	230			230	
citric acid	25 kg bag	56			56	
CLAYSEAL PLUS	216 kg drum	36			36	
CON DET	55 gal drum	4			4	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	160			160	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	22.000			22.000	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
NO-SULF	17 kg pail	40			40	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	215	
VSM-300	255	16.0
VSM-300	255	16.0
VSM-300	255	

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	2.0
Centrifuge	3,000	40.00	8.0

Time

Drilling	14.0
Circulating	1.5
Trips	6.5
Rig	0.5
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	1.5
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	15.5
ROP	16.6
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	413.9	Base		Fluid Dumped	
Pipe Cap	153.0	Drill Water		Transferred	
Active Pits	478.0	Dewatering		SCE	-115.7
Total Hole	739.6	Sea Water		Evaporation	
Total Circ	1044.9	Whole Mud		Trips	
Reserve	350.0	Barite	9.0	Other	
Prev Vol	1671.0	Chemicals	3.2	Total Surface	
Net Change	-103.6	Other		Downhole	
Total Vol	1567.6	Total	12.2	Total Losses	-115.7

Fluid Types Vol bbl

Deviation Information

Survey MD	3,569.0	m
Survey TVD	3,564.0	m
Angle	7.28	Deg
Direction	160	
Horiz Displ.		m

Daily Products Cost	$4,749.88	Total Daily Cost	$7,249.88
Cumulative Products Cost	$252,962.27	Total Cumulative Cost	$319,212.27

Baroid Representatives Brian Auckram Eugene Edwards
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Baroid Fluid Services

Report No 29

Daily Drilling Fluid Report

Date	01/07/2009	Depth	3,585.0 m
Spud Date	12/13/2008	Rig Activity	Wire Line logs

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Sheehan	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information		Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD
Bit Size	in				30.000	@	116.0
Make/Type					13.375	@	987.0
Jets					9.625	@	2,800.0
TFA	sq-in						
Jets Velocity	m/sec						
Jet Impact Force	lbf						
Bit HHSI	hhp/in2						
Press Drop @ Bit	psi						
Bit Depth	m	Riser	28.000	20.0			
ECD @ Csg Shoe	ppg	Open Hole	8.500	785.0			
ECD @ Bit	ppg						

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4
Source		Flow Line	Pit #6		
Time		4:00	10:00		
Depth	m	3,585	3,585		
FL Temp	Deg C	45	47		
Density @ Deg C	ppg	10.60 @ 45	11.00 @ 49		
FV @ Deg C	sec/qt	54 @ 40	59 @ 49		
PV @ Deg C	cP	19 @ 49	23 @ 49		
YP	lbs/100 ft2	37	28		
GELS	lbs/100 ft2	14/28/33	12/30/38		
600/300		75.0/56.0	74.0/51.0		
200/100		48.0/37.0	45.0/32.0		
6/3		15.0/13.0	16.0/13.0		
API Filt	ml/30 min	6.0	6.0		
HTHP @ Deg C	ml/30 min		12.0 @ 260		
Cake API/HTHP	32nd in	1/-	1/1		
Corr Solid	% by Vol	8.2	11.0		
NAP/Water	% by Vol	-/88.5	-/86.0		
Sand	% by vol	0.75	1.00		
MBT	ppb Eq.	10.0	10.0		
pH @ Deg C		8.50 @ 30	8.50 @ 30		
ALK Mud	Pm	0.05	0.05		
ALK Filt	Pf/Mf	0.05/2.40	0.05/2.00		
Chlorides	mg/l	42,000	40,000		
Tot. Hardness	mg/l	440	440		
LGS/HGS	% by Vol	2.6/5.6	4.9/6.1		
LGS/HGS	ppb	24.01/82.51	44.69/89.56		
ASG	SG	3.688	3.486		
Additional Properties					
KCL %	% by vol	7.0	7.0		

Targets

Program

Fluid Treatments

Fluid Type KCl/Polymer

KCL brine on hand: 672 bbl (107 m3). Recorded in inventory as 22 x 1000 kg bags equivalent (1 bag ~ 30 bbl).

Weigh up to 11ppg at TD for hole stability.

Rig Activity

Wash & ream stabilizers through the shoe.
RIH f/ 2880m to 3451m & wash down f/ 3451m reaming as required to 3585m. Circulate bottoms up until hole clean.
POOH wet to 3549m taking 20-30k drag. Wash & ream back to bottom.
Weigh up to 11ppg & POOH to shoe at 2800m.
Flowcheck at shoe & then continue to POOH.
Rack back BHA & break out bit then rig up for wireline operations.
Running wireline at midnight.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
barite	1000 kg bulk	164.000		15.000	149.000	$7,123.20
caustic soda	25 kg pail	51		1	50	$44.19
ALDACIDE G	5 gal can	39			39	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			153	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	18.000			18.000	
calcium chloride	25 kg bag	42			42	
Circal 60/16	25 kg sack	171			171	
Circal Y	25 kg sack	230			230	
citric acid	25 kg bag	56			56	
CLAYSEAL PLUS	216 kg drum	36			36	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	96			96	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	160			160	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	26			26	
KCL Tech Grade (bulk)	1000 kg bulk	22.000			22.000	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGEN	6 gal pail	29			29	

Daily Products Cost	$7,167.39	Total Daily Cost	$9,667.39
Cumulative Products Cost	$260,129.66	Total Cumulative Cost	$328,879.66

Baroid Representatives	Brian Auckram	Eugene Edwards	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	3.5
Trips	13.5
Rig	
Surveys	1.0
Fishing	
Run Casing	
Coring	
Reaming	4.0
Testing	
Logging	1.5
Dir Work	
Repair	0.5
Other	
Total	24.0
Rotating	4.0
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water	138.0	Transferred	
Active Pits	463.0	Dewatering		SCE	-59.0
Total Hole	876.2	Sea Water		Evaporation	
Total Circ	463.0	Whole Mud		Trips	
Reserve	330.0	Barite	22.5	Other	
Prev Vol	1567.6	Chemicals	0.1	Total Surface	
Net Change	101.6	Other		Downhole	
Total Vol	1669.2	Total	160.6	Total Losses	-59.0

Fluid Types	Vol bbl

Deviation Information		
Survey MD	3,569.0	m
Survey TVD	3,564.0	m
Angle	7.28	Deg
Direction	160	
Horiz Displ.		m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 30

Daily Drilling Fluid Report

Date	01/08/2009	Depth	3,585.0 m
Spud Date	12/13/2008	Rig Activity	Wire Line 8 1/2" hole

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Dane	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information			Drill String (in) / (m)			in Casing m			Circulation/Hydraulics Data			
Bit Size		in	OD	ID	Length	OD	Set	MD	Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Make/Type						30.000	@	116.0	Bore in	6.500	6.500	6.500
Jets						13.375	@	987.0	Strokes in	14.000	14.000	14.000
TFA		sq-in				9.625	@	2,800.0	Eff(%)	95	95	95
Jets Velocity		m/sec							bbl/strk	0.136	0.136	0.136
Jet Impact Force		lbf							SPM	0	0	0
Bit HHSI		hhp/in2							gpm|bbl/min			
Press Drop @ Bit		psi							Total GPM		AV, Riser	Circ Press psi
Bit Depth		m	Riser	28.000	20.0				Total Circ Time		AV min DP	Tot Pres Loss
ECD @ Csg Shoe	11.00	ppg	Open Hole	8.500	785.0				BU Time , min		AV max DC	Press Drop DP
ECD @ Bit		ppg							Total Strokes		BU Strokes	Press Drop An

Properties		Hyd 1	2	3	4	Targets	Program
Source		Pit #6	Pit #6				
Time		10:00	18:30				
Depth	m	3,585	3,585				
FL Temp	Deg C	25					
Density @ Deg C	ppg	11.00 @ 25	10.95 @ 25				
FV @ Deg C	sec/qt	63 @ 25	60 @ 25				
PV @ Deg C	cP	23 @ 49	22 @ 49				
YP	lbs/100 ft2	27	28				
GELS	lbs/100 ft2	13/31/39	13/30/38				
600/300		73.0/50.0	72.0/50.0				
200/100		44.0/32.0	43.0/32.0				
6/3		15.0/13.0	14.0/12.0				
API Filt	ml/30 min	6.0	6.0				
HTHP @ Deg C	ml/30 min	12.0 @ 260	12.0 @ 260				
Cake API/HTHP	32nd in	1/1	1/1				
Corr Solid	% by Vol	11.0	11.0				
NAP/Water	% by Vol	-/86.0	-/86.0				
Sand	% by vol	0.75	0.75				
MBT	ppb Eq.	10.0	10.0				
pH @ Deg C		8.50 @ 30	8.50 @ 30				
ALK Mud	Pm	0.05	0.05				
ALK Filt	Pf/Mf	0.05/2.30	0.05/2.30				
Chlorides	mg/l	40,000	40,000				
Tot. Hardness	mg/l	440	440				
LGS/HGS	% by Vol	4.9/6.1	5.3/5.7				
LGS/HGS	ppb	44.69/89.56	48.10/84.04				
ASG	SG	3.486	3.431				
Additional Properties							
KCL %	% by vol	7.0	7.0				

Fluid Treatments

Fluid Type KCl/Polymer

Mixed 200 bbl, 25 ppb PHB Hi Vis, for setting cement plugs.
Made inventory correction- circal, HME.

Rig Activity

Continue running wireline logs.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
bentonite	1000 kg bulk	18.000		3.000	15.000	$1,484.64
Circal Y	25 kg sack	230		21	209	$268.80
Hme Energizer	5 gal can	26		2	24	$240.90
Circal 60/16	25 kg sack	171		15	156	$151.95
ALDACIDE G	5 gal can	39		1	38	$69.90
soda ash	25 kg bag	32		2	30	$26.50
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			153	
barite	1000 kg bulk	149.000			149.000	
BAROFIBRE FINE	25 lb bag	100			100	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	50			50	
citric acid	25 kg bag	56			56	
CLAYSEAL PLUS	216 kg drum	36			36	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	96			96	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	160			160	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
KCL Tech Grade (bulk)	1000 kg bulk	22.000			22.000	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	

Daily Products Cost	$2,242.69	Total Daily Cost	$4,742.69
Cumulative Products Cost	$262,372.35	Total Cumulative Cost	$333,622.35

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	24.0
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	463.0	Dewatering		SCE	
Total Hole	876.2	Sea Water		Evaporation	
Total Circ	463.0	Whole Mud		Trips	
Reserve	332.6	Barite		Other	
Prev Vol	1669.2	Chemicals	2.6	Total Surface	
Net Change	2.6	Other		Downhole	
Total Vol	1671.8	Total	2.6	Total Losses	

Fluid Types	Vol bbl
Bentonite Mud	200.0

Deviation Information

Survey MD	3,569.0	m
Survey TVD	3,564.0	m
Angle	7.28	Deg
Direction	160	
Horiz Displ.		m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 31

Daily Drilling Fluid Report

Date	01/09/2009	Depth	3,585.0 m
Spud Date	12/13/2008	Rig Activity	Rig Down SLB Tools.

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Dane	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	in
Make/Type	
Jets	
TFA	sq-in
Jets Velocity	m/sec
Jet Impact Force	lbf
Bit HHSI	hhp/in2
Press Drop @ Bit	psi
Bit Depth	m
ECD @ Csg Shoe	ppg
ECD @ Bit	ppg

Drill String (in) / (m)

	OD	ID	Length
Riser	28.000		20.0
Open Hole	8.500		785.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0
9.625	@	2,800.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program
Source		Pit #6	Pit #6				
Time		3:00	19:00				
Depth	m	3,858	3,585				
FL Temp	Deg C						
Density @ Deg C	ppg	10.90 @ 23	10.90 @ 23				
FV @ Deg C	sec/qt	63 @ 23	64 @ 23				
PV @ Deg C	cP	22 @ 49	22 @ 49				
YP	lbs/100 ft2	29	28				
GELS	lbs/100 ft2	13/30/38	13/30/38				
600/300		73.0/51.0	72.0/50.0				
200/100		44.0/32.0	43.0/32.0				
6/3		14.0/12.0	14.0/12.0				
API Filt	ml/30 min	6.0	6.0				
HTHP @ Deg C	ml/30 min	12.0 @ 260	12.0 @ 260				
Cake API/HTHP	32nd in	1/1	1/1				
Corr Solid	% by Vol	11.0	11.0				
NAP/Water	% by Vol	-/86.0	-/86.0				
Sand	% by vol	0.75	0.75				
MBT	ppb Eq.	10.0	10.0				
pH @ Deg C		8.50 @ 23	8.50 @ 23				
ALK Mud	Pm	0.05	0.05				
ALK Filt	Pf/Mf	0.05/2.10	0.05/2.00				
Chlorides	mg/l	40,000	40,000				
Tot. Hardness	mg/l	440	440				
LGS/HGS	% by Vol	5.7/5.3	5.7/5.3				
LGS/HGS	ppb	51.51/78.53	51.51/78.53				
ASG	SG	3.377	3.377				
Additional Properties							
KCL %	% by vol	7.0	7.0				

Fluid Treatments

Fluid Type: KCl/Polymer

No treatments.

Rig Activity

Continue wireline logging. Rig down tools.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
ALDACIDE G	5 gal can	38			38	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			153	
barite	1000 kg bulk	149.000			149.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	15.000			15.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	50			50	
Circal 60/16	25 kg sack	156			156	
Circal Y	25 kg sack	209			209	
citric acid	25 kg bag	56			56	
CLAYSEAL PLUS	216 kg drum	36			36	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	96			96	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	160			160	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	24			24	
KCL Tech Grade (bulk)	1000 kg bulk	22.000			22.000	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGEN	6 gal pail	29			29	

Daily Products Cost	$0.00	Total Daily Cost	$2,500.00
Cumulative Products Cost	$262,372.35	Total Cumulative Cost	$336,122.35

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	24.0
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	463.0	Dewatering		SCE	
Total Hole	876.2	Sea Water		Evaporation	
Total Circ	463.0	Whole Mud	200.0	Trips	
Reserve	532.6	Barite		Other	
Prev Vol	1671.8	Chemicals		Total Surface	
Net Change	200.0	Other		Downhole	
Total Vol	1871.8	Total	200.0	Total Losses	

Fluid Types Vol bbl

Deviation Information

Survey MD	3,569.0	m
Survey TVD	3,564.0	m
Angle	7.28	Deg
Direction	160	
Horiz Displ.		m

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Report No 32

Daily Drilling Fluid Report

Date	01/10/2009	Depth	3,585.0 m
Spud Date	12/13/2008	Rig Activity	Displacing 1st cement Plug

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Dane	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	3.500	in
Make/Type	./Mule Shoe	
Jets		
TFA	1.000	sq-in
Jets Velocity		m/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	3,338.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	3,133.0
Drill Pipe	3.500	2.063	205.0
Riser	28.000		20.0
Open Hole	8.500		785.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0
9.625	@	2,800.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties

		1	2	3	4
Source		Pit #6	Pit #6		
Time		4:00	20:00		
Depth	m	3,585	3,585		
FL Temp	Deg C				
Density @ Deg C	ppg	11.00 @ 25	11.00 @ 25		
FV @ Deg C	sec/qt	62 @ 25	69 @ 25		
PV @ Deg C	cP	22 @ 49	23 @ 49		
YP	lbs/100 ft2	28	27		
GELS	lbs/100 ft2	13/30/38	13/30/38		
600/300		72.0/50.0	73.0/50.0		
200/100		43.0/32.0	44.0/32.0		
6/3		14.0/12.0	14.0/12.0		
API Filt	ml/30 min	6.0	6.0		
HTHP @ Deg C	ml/30 min	12.0 @ 260	12.0 @ 260		
Cake API/HTHP	32nd in	1/1	1/1		
Corr Solid	% by Vol	8.9	8.9		
NAP/Water	% by Vol	-/88.0	-/88.0		
Sand	% by vol	0.75	0.75		
MBT	ppb Eq.	10.0	10.0		
pH @ Deg C		8.30 @ 23	8.30 @ 23		
ALK Mud	Pm	0.05	0.05		
ALK Filt	Pf/Mf	0.05/2.00	0.05/2.00		
Chlorides	mg/l	40,000	40,000		
Tot. Hardness	mg/l	440	440		
LGS/HGS	% by Vol	0.8/8.1	0.8/8.1		
LGS/HGS	ppb	7.56/119.07	7.56/119.07		
ASG	SG	4.051	4.051		
Additional Properties					
KCL %	% by vol	6.8	6.8		

Targets

Program

Fluid Treatments

Fluid Type KCl/Polymer

Began backloading chemicals & dumping barite through the mud pits.

Rig Activity

Rig down MWD spool in standpipe. RIH cement stinger to 3550m. Attempt to circulate, packed off, POH tight to 3426m. POOH free to 3259m. RIH & wash to 3426m. Tight hole & packed off. POOH to 3300m. Pump HI Vis & set cement plug #1, POOH to 3278m.

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
ALDACIDE G	5 gal can	38			38	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90			90	
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			153	
barite	1000 kg bulk	149.000			149.000	
BAROFIBRE FINE	25 lb bag	100			100	
bentonite	1000 kg bulk	15.000	38.000		53.000	
calcium chloride	25 kg bag	42			42	
caustic soda	25 kg pail	50			50	
Circal 60/16	25 kg sack	156			156	
Circal Y	25 kg sack	209			209	
citric acid	25 kg bag	56			56	
CLAYSEAL PLUS	216 kg drum	36			36	
CON DET	55 gal drum	4			4	
DEXTRID LTE	25 kg sack	96			96	
EZ SPOT	55 gal drum	12			12	
EZ-MUD	25 kg pail	160			160	
EZ-MUD DP	25 kg bag	27			27	
guar gum	25 kg bag	64			64	
Hme Energizer	5 gal can	24			24	
KCL Tech Grade (bulk)	1000 kg bulk	22.000			22.000	
Kwikseal Fine	40 lb bag	38			38	
lime	25 kg bag	16			16	
NO-SULF	17 kg pail	40			40	
Omyacarb 5	25 kg bulk	96.000			96.000	
OXYGON	6 gal pail	29			29	

Daily Products Cost	$0.00	Total Daily Cost	$2,500.00
Cumulative Products Cost	$262,372.35	Total Cumulative Cost	$338,622.35

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	215	
VSM-300	255	6.0
VSM-300	255	6.0
VSM-300	255	

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	7.0
Trips	13.0
Rig	
Surveys	
Fishing	
Run Casing	3.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	1.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	496.8	Base		Fluid Dumped	
Pipe Cap	178.2	Drill Water		Transferred	
Active Pits	607.0	Dewatering		SCE	
Total Hole	731.8	Sea Water		Evaporation	
Total Circ	1281.9	Whole Mud		Trips	
Reserve	577.0	Barite		Other	
Prev Vol	1871.8	Chemicals		Total Surface	
Net Change	44.0	Other	44.0	Downhole	
Total Vol	1915.8	Total	44.0	Total Losses	

Fluid Types Vol bbl

Deviation Information

Survey MD	3,569.0	m
Survey TVD	3,564.0	m
Angle	7.28	Deg
Direction	160	
Horiz Displ.		m

Baroid Representatives Eugene Edwards Kosta Georgiou

Office 90 Talinga Rd Melbourne Telephone 61-03-9581-7555

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Baroid Fluid Services

Report No 33

Daily Drilling Fluid Report

Date	01/11/2009	Depth	3,585.0 m
Spud Date	12/13/2008	Rig Activity	Tripping

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Dane	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information

Bit Size	3.500	in
Make/Type	./Mule Shoe	
Jets		
TFA	1.000	sq-in
Jets Velocity		m/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,798.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.500	4.250	2,593.0
Drill Pipe	3.500	2.063	205.0
Riser	28.000		20.0
Open Hole	8.500		785.0

in Casing m

OD	Set	MD
30.000	@	116.0
13.375	@	987.0
9.625	@	2,800.0

Circulation/Hydraulics Data

Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties

		1	2	3	4
Source		Pit #6	Pit #6		
Time		3:00	19:00		
Depth	m	3,858	3,585		
FL Temp	Deg C				
Density @ Deg C	ppg	11.00 @ 25	11.00 @ 25		
FV @ Deg C	sec/qt	65 @ 25	64 @ 25		
PV @ Deg C	cP	22 @ 49	23 @ 49		
YP	lbs/100 ft2	28	26		
GELS	lbs/100 ft2	13/30/38	13/30/38		
600/300		72.0/50.0	72.0/49.0		
200/100		43.0/32.0	43.0/31.0		
6/3		14.0/12.0	13.0/11.0		
API Filt	ml/30 min	6.0	6.0		
HTHP @ Deg C	ml/30 min	12.0 @ 260	12.0 @ 260		
Cake API/HTHP	32nd in	1/1	1/1		
Corr Solid	% by Vol	11.0	11.0		
NAP/Water	% by Vol	-/86.0	-/86.0		
Sand	% by vol	0.75	0.75		
MBT	ppb Eq.	10.0	10.0		
pH @ Deg C		8.50 @ 25	8.50 @ 25		
ALK Mud	Pm	0.05	0.05		
ALK Filt	Pf/Mf	0.05/2.00	0.05/2.00		
Chlorides	mg/l	40,000	40,000		
Tot. Hardness	mg/l	440	440		
LGS/HGS	% by Vol	4.9/6.1	4.9/6.1		
LGS/HGS	ppb	44.69/89.56	44.69/89.56		
ASG	SG	3.486	3.486		
Additional Properties					
KCL %	% by vol	7.0	7.0		

Targets

Program

Fluid Treatments

Fluid Type KCl/Polymer

Cont. to dump barite through pits.
Diluted & dumped KCL brine through pits.

Backloaded chemicals.

Rig Activity

Continued to POH to 3069m, circulate bottoms up. Lay out drill pipe, RIH & tag cement at 3119m. Mix & pump cement @ 3119m as per program. POOH to 2969m. Break circulation, mix & pump cement as per program. POOH to 2777m, circulate bottoms up. layout drill pipe & BHA. RIH to 2806m.

Product Name

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
barite	1000 kg bulk	149.000		107.000	42.000	$50,812.16
KCL Tech Grade (bulk)	1000 kg bulk	22.000		22.000	0.000	$16,522.00
BAROFIBRE FINE	25 lb bag	100		1		$23.53
ALDACIDE G	5 gal can	38			38	
Amodrill 1235	1500 l drum	2			2	
BARABLOK	50 lb bag	90				
BARA-DEFOAM W300	5 gal can	14			14	
BARAZAN D PLUS	25 kg bag	153			33	
bentonite	1000 kg bulk	53.000			53.000	
calcium chloride	25 kg bag	42			19	
caustic soda	25 kg pail	50			18	
Circal 60/16	25 kg sack	156			24	
Circal Y	25 kg sack	209			17	
citric acid	25 kg bag	56			16	
CLAYSEAL PLUS	216 kg drum	36				
CON DET	55 gal drum	4				
DEXTRID LTE	25 kg sack	96				
EZ SPOT	55 gal drum	12			8	
EZ-MUD	25 kg pail	160				
EZ-MUD DP	25 kg bag	27				
guar gum	25 kg bag	64				
Hme Energizer	5 gal can	24			24	
Kwikseal Fine	40 lb bag	38				
lime	25 kg bag	16			16	
NO-SULF	17 kg pail	40			8	
Omyacarb 5	25 kg bulk	96.000				
OXYGON	6 gal pail	29			5	

Daily Products Cost	$67,357.69	Total Daily Cost	$69,857.69
Cumulative Products Cost	$329,730.04	Total Cumulative Cost	$408,480.04

Baroid Representatives	Eugene Edwards	Kosta Georgiou	
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Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	215	
VSM-300	255	24.0
VSM-300	255	24.0
VSM-300	255	

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time

Drilling	
Circulating	2.0
Trips	18.0
Rig	
Surveys	
Fishing	
Run Casing	4.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	426.6	Base		Fluid Dumped	
Pipe Cap	147.9	Drill Water		Transferred	
Active Pits	409.0	Dewatering		SCE	-60.0
Total Hole	755.8	Sea Water		Evaporation	
Total Circ	983.6	Whole Mud		Trips	
Reserve	775.0	Barite		Other	
Prev Vol	1915.8	Chemicals		Total Surface	
Net Change	24.0	Other	84.0	Downhole	
Total Vol	1939.8	Total	84.0	Total Losses	-60.0

Fluid Types Vol bbl

Deviation Information

Survey MD	3,569.0	m
Survey TVD	3,564.0	m
Angle	7.28	Deg
Direction	160	
Horiz Displ.		m

Baroid Fluid Services

Report No 34

Daily Drilling Fluid Report

Date	01/12/2009	Depth	3,585.0 m
Spud Date	12/13/2008	Rig Activity	Pulling Casing

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Dane	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information		Drill String (in) / (m)	OD	ID	Length	in Casing m	OD	Set	MD
Bit Size	in								
Make/Type							30.000	@	116.0
Jets							13.375	@	987.0
TFA	sq-in						9.625	@	2,800.0
Jets Velocity	m/sec								
Jet Impact Force	lbf								
Bit HHSI	hhp/in2								
Press Drop @ Bit	psi								
Bit Depth	m	Riser	28.000		20.0				
ECD @ Csg Shoe	ppg	Open Hole	8.500		785.0				
ECD @ Bit	ppg								

Circulation/Hydraulics Data			
Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Bore in	6.500	6.500	6.500
Strokes in	14.000	14.000	14.000
Eff(%)	95	95	95
bbl/strk	0.136	0.136	0.136
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type KCl/Polymer

Dumped all 42 MT barite and 53 MT gel through pits. Also dumped final volume of Brine through mud pits. Ratio was 60% sea water 40% Chemical. Cementer used 4 Sx Citric Acid. Dumped all pits of KCL polymer fluid. Although marked as "dumped" we have kept Hi-Vis volume in pit # 3 for cement job at some stage tomorrow evening/night.
As yet 2 x AMODRILL 1235 (Bulk), 9 x pails NO SULF, 5 x pails OXYGON and 8 x Sx EZ-MUD DP have yet to be loaded on any boat. Backloaded the rest of chemicals, other than above.

Rig Activity

Pulling Casing & Preparing for final cement plug.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$1,250.00
Drilling Fluids Engineer	day(s)			1		$1,250.00
bentonite	1000 kg bulk	53.000		53.000		$26,228.64
barite	1000 kg bulk	42.000		42.000		$19,944.96
citric acid	25 kg bag	16		4		$184.96
ALDACIDE G	5 gal can	38				
Amodrill 1235	1500 l drum	2				
BARA-DEFOAM W300	5 gal can	14				
BARAZAN D PLUS	25 kg bag	33				
calcium chloride	25 kg bag	19				
caustic soda	25 kg pail	18				
Circal 60/16	25 kg sack	24				
Circal Y	25 kg sack	17				
EZ SPOT	55 gal drum	8				
Hme Energizer	5 gal can	24				
KCL Tech Grade (bulk)	1000 kg bulk	0.000			0.000	
lime	25 kg bag	16				
NO-SULF	17 kg pail	8				
OXYGON	6 gal pail	5				

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time	
Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	24.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	-1063.6
Total Hole	876.2	Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve		Barite		Other	
Prev Vol	1939.8	Chemicals		Total Surface	
Net Change	-1063.6	Other		Downhole	
Total Vol	876.2	Total		Total Losses	-1063.6

Fluid Types	Vol bbl

Deviation Information		
Survey MD	3,569.0	m
Survey TVD	3,564.0	m
Angle	7.28	Deg
Direction	160	
Horiz Displ.		m

Daily Products Cost	$46,358.56	Total Daily Cost	$48,858.56
Cumulative Products Cost	$376,088.60	Total Cumulative Cost	$457,338.60

Baroid Representatives Eugene Edwards Kosta Georgiou
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Baroid Fluid Services

Report No 35

Daily Drilling Fluid Report

Date	01/13/2009	Depth	3,585.0 m
Spud Date	12/13/2008	Rig Activity	Moving off Location

Operator: BEACH PETROLEUM	Report For: Sean Defreitas Peter Dane	Well Name: Fermat- 1	
Contractor: Seadrill	Report For: Joe Maddox	Rig Name: West Triton	Unit System: ADA/BEACH PETROLEUM
Country: Australia	State/Province/Region: Victoria	Geographic Area/County: Bass Strait	Field or Block: Vic P46

Bit Information			Drill String (in) / (m)				in Casing m			Circulation/Hydraulics Data			
Bit Size		in		OD	ID	Length	OD	Set	MD	Model	Nat-14-P-220	Nat-14-P-220	Nat-14-P-220
Make/Type							30.000	@	116.0	Bore in	6.500	6.500	6.500
Jets							13.375	@	987.0	Strokes in	14.000	14.000	14.000
TFA		sq-in					9.625	@	2,800.0	Eff(%)	95	95	95
Jets Velocity		m/sec								bbl/strk	0.136	0.136	0.136
Jet Impact Force		lbf								SPM	0	0	0
Bit HHSI		hhp/in2								gpm|bbl/min			
Press Drop @ Bit		psi								Total GPM		AV, Riser	Circ Press psi
Bit Depth	3,585.0	m	Riser	28.000		20.0				Total Circ Time		AV min DP	Tot Pres Loss
ECD @ Csg Shoe		ppg	Open Hole	8.500		785.0				BU Time , min		AV max DC	Press Drop DP
ECD @ Bit		ppg								Total Strokes		BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type KCl/Polymer

Flushing all pits w/ Sea Water. Cleaning Mud Lab & finalising detail in documents.

Rig Activity

Pulling Casing & preparing for cement plug.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer	day(s)			1		$1,250.00
KCL Tech Grade (bulk)	1000 kg bulk	0.000			0.000	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs
D 16	16 4		

Centrifuge	Speed	Feed Rate	Hrs
Centrifuge	3,000	40.00	
Centrifuge	3,000	40.00	

Time	
Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	24.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole	876.2	Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve		Barite		Other	
Prev Vol	876.2	Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol	876.2	Total		Total Losses	

Fluid Types	Vol bbl

Deviation Information		
Survey MD	3,569.0	m
Survey TVD	3,564.0	m
Angle	7.28	Deg
Direction	160	
Horiz Displ.		m

Daily Products Cost	$0.00	Total Daily Cost	$1,250.00
Cumulative Products Cost	$376,088.60	Total Cumulative Cost	$458,588.60

Baroid Representatives Kosta Georgiou

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Attachment 4

Casing Report

DFE above MSL : 38.00m	Lat : 38 Deg 11 Min 47.0284 Sec	Spud Date : 14 Dec 2008	Release Date : 18 Jan 2009
Water Depth : 39m	Long : 141 Deg 03 Min 13.7586 Sec	Spud Time : 00.00	Release Time : 10:00

Casing Summary

Well: Fermat-1

Diameter	30 "	L.O.T. (Act)	
Casing Shoe MD (Act)	151.00m	F.I.T. (Act)	
Casing Shoe TVD (Act)	151.00m		
Cement data			
Comment			

Description	Depth	Weight	Grade	Thread
	116.0	310.0	X-52	D60/MT
	116.0	310.0	X-52	D60/MT
	116.0	310.0	X-52	D60/MT

Diameter	13.38	L.O.T. (Act)	15.00ppg
Casing Shoe MD (Act)	987.00m	F.I.T. (Act)	
Casing Shoe TVD (Act)	987.00m		
Cement data			
Comment			

Description	Depth	Weight	Grade	Thread
	987.0	68.0	N80	BTC
	987.0	68.0	N80	BTC
	987.0	68.0	N80	BTC

Diameter	9.63	L.O.T. (Act)	
Casing Shoe MD (Act)	2800.27m	F.I.T. (Act)	16.00ppg
Casing Shoe TVD (Act)	2797.72m		
Cement data			
Comment			

Description	Depth	Weight	Grade	Thread
	2800.3	53.5	P110	Vam top
	2800.3	53.5	P110	Vam top

30"/20" CASING RUNNING TALLY

BEACH PETROLEUM

Australian Drilling Associates Pty Ltd ADA

Well :	Fermat-1	Date :	14-Dec-08	Rig :	West Triton
Grade :	X52	Conn. :	D-60-MT	RKB - Seabed:	77 m
Weight :	310 lb/ft	Water Depth	39 m	Shoe:	116 m

Run No	Joint No	Length meter	Total Length, meter	Top Connection. Depth, meter	Comments
					TD 36" Hole 120m.
				116.00	Shoe set at 116m.
1	Shoe Joint A	11.64	11.64	104.36	20" Shoe & 30" Joint
2	11	11.69	23.33	92.67	D-60-MT Pin / Box
3	12	11.70	35.03	80.97	D-60-MT Pin / Box
4	13	11.70	46.73	69.27	D-60-MT Pin / Box
5	14	11.65	58.38	57.62	D-60-MT Pin / Box
6	15	11.68	70.06	45.94	D-60-MT Pin / Box
7	16	11.68	81.74	34.26	D-60-MT Pin / Box
8	1	11.68	93.42	22.58	D-60-MT Pin / Box
9	2	11.68	105.10	10.90	D-60-MT Pin / Box
10	3	11.93	117.03	-1.03	Stick UP

FERMAT-1
13 3/8" CASING RUNNING TALLY

Australian Drilling Associates Pty Ltd

Casing Data					Well Data		
Size	13.375	in			Base CTU	22.4	m
Grade	NT-80HE				Mudline	76.7	m
Weight	68	lb/ft	Burst	5000 psi	17.5" TD	999.0	m
Calipered ID	12.453	in	Nominal ID	12.415 in	Shoe Depth	987.1	m
M/U Loss	0.12	m	Drift ID	12.259 in	Rathole	11.9	m
Thread	BTC						
Internal Capacity	0.4942	bbl/m					

Joint Number	Length (m)	Depth - Top of Joint (m)	Depth - Bottom of Joint (m)	Running Depth	Capacity bbls	Centralisers	Comments
Shoe Jt 'A'	12.18	974.94	987.12	12.18	6.02	**2**	
Float Jt 'A'	11.75	963.19	974.94	23.93	11.83	**1**	Bakerlock this connection
90	12.71	950.48	963.19	36.64	18.11	**1**	Bakerlock this connection
89	12.74	937.74	950.48	49.38	24.41	**1**	
88	12.21	925.53	937.74	61.59	30.44	**1**	
87	12.73	912.80	925.53	74.32	36.73		
86	12.73	900.07	912.80	87.05	43.02		
85	12.72	887.35	900.07	99.77	49.31		
84	12.70	874.65	887.35	112.47	55.59		
83	12.64	862.01	874.65	125.11	61.84		
82	12.72	849.29	862.01	137.83	68.12		
81	11.94	837.35	849.29	149.77	74.02		
80	12.69	824.66	837.35	162.46	80.30		
79	12.45	812.21	824.66	174.91	86.45		
78	12.58	799.63	812.21	187.49	92.67		
77	12.72	786.91	799.63	200.21	98.95		
76	12.73	774.18	786.91	212.94	105.24		
75	12.72	761.46	774.18	225.66	111.53		
74	12.71	748.75	761.46	238.37	117.81		
73	12.72	736.03	748.75	251.09	124.10		
72	12.70	723.33	736.03	263.79	130.38		
71	12.71	710.62	723.33	276.50	136.66		
70	12.73	697.89	710.62	289.23	142.95		
69	12.73	685.16	697.89	301.96	149.24		
68	11.95	673.21	685.16	313.91	155.15		
67	12.73	660.48	673.21	326.64	161.44		
66	12.39	648.09	660.48	339.03	167.56		
65	11.93	636.16	648.09	350.96	173.46		
64	12.59	623.57	636.16	363.55	179.68		
63	12.74	610.83	623.57	376.29	185.98		
62	12.73	598.10	610.83	389.02	192.27		
61	12.71	585.39	598.10	401.73	198.55		
60	11.93	573.46	585.39	413.66	204.45		
59	12.70	560.76	573.46	426.36	210.73		
58	12.72	548.04	560.76	439.08	217.01		
57	12.16	535.88	548.04	451.24	223.02		
56	12.70	523.18	535.88	463.94	229.30		
55	11.94	511.24	523.18	475.88	235.20		
54	11.92	499.32	511.24	487.80	241.09		
53	11.91	487.41	499.32	499.71	246.98		
52	11.93	475.48	487.41	511.64	252.88		
51	12.74	462.74	475.48	524.38	259.17		
50	12.72	450.02	462.74	537.10	265.46		
49	12.71	437.31	450.02	549.81	271.74		
48	12.71	424.60	437.31	562.52	278.02		
47	12.71	411.89	424.60	575.23	284.31		
46	12.72	399.17	411.89	587.95	290.59		
45	11.93	387.24	399.17	599.88	296.49		
44	12.70	374.54	387.24	612.58	302.77		
43	11.93	362.61	374.54	624.51	308.66		
42	12.72	349.89	362.61	637.23	314.95		
41	12.72	337.17	349.89	649.95	321.24		

Joint Number	Length (m)	Depth - Top of Joint (m)	Depth - Bottom of Joint (m)	Running Depth	Capacity bbls	Centralisers	Comments
40	12.71	324.46	337.17	662.66	327.52		
39	12.71	311.75	324.46	675.37	333.80		
38	12.72	299.03	311.75	688.09	340.09		
37	12.73	286.30	299.03	700.82	346.38		
36	12.58	273.72	286.30	713.40	352.60		
35	11.93	261.79	273.72	725.33	358.49		
34	12.72	249.07	261.79	738.05	364.78		
33	12.28	236.79	249.07	750.33	370.85		
32	12.38	224.41	236.79	762.71	376.97		
31	12.73	211.68	224.41	775.44	383.26		
30	12.72	198.96	211.68	788.16	389.55		
29	12.58	186.38	198.96	800.74	395.76		
28	12.58	173.80	186.38	813.32	401.98		
27	12.49	161.31	173.80	825.81	408.15		
26	12.30	149.01	161.31	838.11	414.23		
25	11.93	137.08	149.01	850.04	420.13		
24	12.73	124.35	137.08	862.77	426.42		
23	11.91	112.44	124.35	874.68	432.31		
22	11.92	100.52	112.44	886.60	438.20		
21	12.60	87.92	100.52	899.20	444.43		
20	12.69	75.23	87.92	911.89	450.70		
19	12.72	62.51	75.23	924.61	456.99		
18	12.71	49.80	62.51	937.32	463.27		
17	11.93	37.87	49.80	949.25	469.16		
16	12.71	25.16	37.87	961.96	475.45		
18 3/4" Wellhead and pup below land off point	5.86	19.30	25.16	967.82	478.34		
18 3/4" Wellhead above land off point	1.40	17.90	19.30	969.22	479.03		Land off on 30" Casing at 19.30m
Running Tool Stick Up	1.07	16.83	17.90	970.29	479.56		
Cross over	1.00	15.83	16.83	971.29	480.06		Confirm length
DP to Surface	15.83	0.00	15.83	987.12	487.88		Confirm length
Summary		**Delivered**	**Run**	**Left on Deck**			
13-3/8		100	75	25			15 Numbered and measured & 10 joints not measured - bundled
13-3/8 Shoe Joints		2	1	1			
13-3/8 Float Collar Joints		2	1	1			
Pup Joints (on deck)		8	0	8			

FERMAT - 1
9 5/8" CASING RUNNING TALLY

Australian Drilling Associates Pty Ltd

Casing Data					Well Data		
Size	9.625	in			CTU	21.0	m
Grade	P 110				Mudline	76.7	m
Weight	53.5	ppf			12 1/4" TD	2807.0	m
Measured ID	8.66	in					m
M/U Loss	0.14	m			Rathole	7.0	m
Thread	Vam Top	Drifted to:	8.51	in			
Internal Capacity	0.23902	bbls/m			Shoe depth	2800.27	

Joint Number	Meas. Length (ft)	Effective Length (ft)	Depth - Top of Joint (ft)	Depth - Bottom of Joint (ft)	Running Depth	Capacity bbls	Comments
Shoe	0.57	0.57	2799.7	2800.27	0.57	0.14	**Shoe depth @ 2800.3m**
Shoe A jnt	12.23	12.23	2787.47	2799.7	12.8	3.06	2 x centralisers
Interm A	12.37	12.23	2775.24	2787.47	25.03	5.98	2 x centralisers, **Bakerlock**
Float	0.58	0.44	2774.8	2775.24	25.47	6.09	
Float A Jnt	12.25	12.25	2762.55	2774.8	37.72	9.02	1 x centraliser, **Bakerlock**
140	12.38	12.24	2750.31	2762.55	49.96	11.94	1 x centraliser
139	12.38	12.24	2738.07	2750.31	62.2	14.87	1 x centraliser
138	12.38	12.24	2725.83	2738.07	74.44	17.79	1 x centraliser
137	12.38	12.24	2713.59	2725.83	86.68	20.72	1 x centraliser
136	12.38	12.24	2701.35	2713.59	98.92	23.64	1 x centraliser
135	12.38	12.24	2689.11	2701.35	111.16	26.57	1 x centraliser
134	12.38	12.24	2676.87	2689.11	123.40	29.49	1 x centraliser
133	12.39	12.25	2664.62	2676.87	135.65	32.42	1 x centraliser
132	12.38	12.24	2652.38	2664.62	147.89	35.35	1 x centraliser
131	12.35	12.21	2640.17	2652.38	160.10	38.27	1 x centraliser
130	12.34	12.20	2627.97	2640.17	172.30	41.18	1 x centraliser
129	12.37	12.23	2615.74	2627.97	184.53	44.11	1 x centraliser
128	12.38	12.24	2603.50	2615.74	196.77	47.03	
127	12.38	12.24	2591.26	2603.50	209.01	49.96	
126	12.38	12.24	2579.02	2591.26	221.25	52.88	
125	12.38	12.24	2566.78	2579.02	233.49	55.81	
124	12.38	12.24	2554.54	2566.78	245.73	58.73	
123	12.38	12.24	2542.30	2554.54	257.97	61.66	
122	12.38	12.24	2530.06	2542.30	270.21	64.59	
121	12.34	12.20	2517.86	2530.06	282.41	67.50	
120	12.31	12.17	2505.69	2517.86	294.58	70.41	
119	12.38	12.24	2493.45	2505.69	306.82	73.34	
118	12.39	12.25	2481.20	2493.45	319.07	76.26	
117	12.38	12.24	2468.96	2481.20	331.31	79.19	
116	12.37	12.23	2456.73	2468.96	343.54	82.11	
115	12.38	12.24	2444.49	2456.73	355.78	85.04	
114	12.38	12.24	2432.25	2444.49	368.02	87.96	
113	12.37	12.23	2420.02	2432.25	380.25	90.89	
112	12.38	12.24	2407.78	2420.02	392.49	93.81	
111	12.38	12.24	2395.54	2407.78	404.73	96.74	
110	12.36	12.22	2383.32	2395.54	416.95	99.66	
109	12.37	12.23	2371.09	2383.32	429.18	102.58	
108	12.38	12.24	2358.85	2371.09	441.42	105.51	
107	12.37	12.23	2346.62	2358.85	453.65	108.43	
106	12.38	12.24	2334.38	2346.62	465.89	111.36	
105	12.30	12.16	2322.22	2334.38	478.05	114.26	
104	12.37	12.23	2309.99	2322.22	490.28	117.19	
103	12.38	12.24	2297.75	2309.99	502.52	120.11	
102	12.38	12.24	2285.51	2297.75	514.76	123.04	
101	12.38	12.24	2273.27	2285.51	527.00	125.96	
100	12.37	12.23	2261.04	2273.27	539.23	128.89	
99	12.37	12.23	2248.81	2261.04	551.46	131.81	
98	12.38	12.24	2236.57	2248.81	563.70	134.73	
97	12.38	12.24	2224.33	2236.57	575.94	137.66	
96	12.36	12.22	2212.11	2224.33	588.16	140.58	
95	12.38	12.24	2199.87	2212.11	600.40	143.51	
94	12.22	12.08	2187.79	2199.87	612.48	146.39	
93	12.36	12.22	2175.57	2187.79	624.70	149.31	
92	12.37	12.23	2163.34	2175.57	636.93	152.24	

Joint Number	Meas. Length (ft)	Effective Length (ft)	Depth - Top of Joint (ft)	Depth - Bottom of Joint (ft)	Running Depth	Capacity bbls	Comments
91	12.29	12.15	2151.19	2163.34	649.08	155.14	
90	12.06	11.92	2139.27	2151.19	661.00	157.99	
89	12.38	12.24	2127.03	2139.27	673.24	160.92	
88	12.18	12.04	2114.99	2127.03	685.28	163.79	
87	12.08	11.94	2103.05	2114.99	697.22	166.65	
86	12.38	12.24	2090.81	2103.05	709.46	169.57	
85	12.38	12.24	2078.57	2090.81	721.70	172.50	
84	12.38	12.24	2066.33	2078.57	733.94	175.43	
83	12.38	12.24	2054.09	2066.33	746.18	178.35	
82	12.32	12.18	2041.91	2054.09	758.36	181.26	
81	12.38	12.24	2029.67	2041.91	770.60	184.19	
80	12.37	12.23	2017.44	2029.67	782.83	187.11	
79	12.38	12.24	2005.20	2017.44	795.07	190.04	
78	12.39	12.25	1992.95	2005.20	807.32	192.96	
77	12.37	12.23	1980.72	1992.95	819.55	195.89	
76	12.35	12.21	1968.51	1980.72	831.76	198.81	
75	12.38	12.24	1956.27	1968.51	844.00	201.73	
74	12.38	12.24	1944.03	1956.27	856.24	204.66	
73	12.38	12.24	1931.79	1944.03	868.48	207.58	
72	12.37	12.23	1919.56	1931.79	880.71	210.51	
71	12.37	12.23	1907.33	1919.56	892.94	213.43	
70	12.37	12.23	1895.10	1907.33	905.17	216.35	
69	12.23	12.09	1883.01	1895.10	917.26	219.24	
68	12.38	12.24	1870.77	1883.01	929.50	222.17	
67	12.37	12.23	1858.54	1870.77	941.73	225.09	
66	12.37	12.23	1846.31	1858.54	953.96	228.01	
65	12.38	12.24	1834.07	1846.31	966.20	230.94	
64	12.37	12.23	1821.84	1834.07	978.43	233.86	
63	12.37	12.23	1809.61	1821.84	990.66	236.79	
62	12.37	12.23	1797.38	1809.61	1002.89	239.71	
61	12.37	12.23	1785.15	1797.38	1015.12	242.63	
60	12.37	12.23	1772.92	1785.15	1027.35	245.56	
59	12.37	12.23	1760.69	1772.92	1039.58	248.48	
58	12.36	12.22	1748.47	1760.69	1051.80	251.40	
57	12.38	12.24	1736.23	1748.47	1064.04	254.33	
56	12.37	12.23	1724.00	1736.23	1076.27	257.25	
55	12.37	12.23	1711.77	1724.00	1088.50	260.17	
54	12.37	12.23	1699.54	1711.77	1100.73	263.09	
53	12.22	12.08	1687.46	1699.54	1112.81	265.98	
52	12.37	12.23	1675.23	1687.46	1125.04	268.91	
51	12.21	12.07	1663.16	1675.23	1137.11	271.79	
50	12.66	12.52	1650.64	1663.16	1149.63	274.78	
49	12.75	12.61	1638.03	1650.64	1162.24	277.80	
48	12.22	12.08	1625.95	1638.03	1174.32	280.68	
47	12.62	12.48	1613.47	1625.95	1186.80	283.67	
46	12.21	12.07	1601.40	1613.47	1198.87	286.55	
45	12.76	12.62	1588.78	1601.40	1211.49	289.57	
44	12.77	12.63	1576.15	1588.78	1224.12	292.59	
43	12.76	12.62	1563.53	1576.15	1236.74	295.60	
42	12.75	12.61	1550.92	1563.53	1249.35	298.62	
41	12.38	12.24	1538.68	1550.92	1261.59	301.54	
40	12.72	12.58	1526.10	1538.68	1274.17	304.55	
39	12.77	12.63	1513.47	1526.10	1286.80	307.57	
38	12.78	12.64	1500.83	1513.47	1299.44	310.59	
37	12.76	12.62	1488.21	1500.83	1312.06	313.61	
36	12.76	12.62	1475.59	1488.21	1324.68	316.62	
35	12.38	12.24	1463.35	1475.59	1336.92	319.55	
34	12.21	12.07	1451.28	1463.35	1348.99	322.43	
33	12.23	12.09	1439.19	1451.28	1361.08	325.32	
32	12.38	12.24	1426.95	1439.19	1373.32	328.25	
31	12.23	12.09	1414.86	1426.95	1385.41	331.14	
30	12.79	12.65	1402.21	1414.86	1398.06	334.16	
29	12.79	12.65	1389.56	1402.21	1410.71	337.19	
28	12.76	12.62	1376.94	1389.56	1423.33	340.20	
27	12.52	12.38	1364.56	1376.94	1435.71	343.16	
26	12.84	12.70	1351.86	1364.56	1448.41	346.20	
25	12.20	12.06	1339.80	1351.86	1460.47	349.08	
24	12.37	12.23	1327.57	1339.80	1472.70	352.00	
23	12.38	12.24	1315.33	1327.57	1484.94	354.93	

Joint Number	Meas. Length (ft)	Effective Length (ft)	Depth - Top of Joint (ft)	Depth - Bottom of Joint (ft)	Running Depth	Capacity bbls	Comments
22	12.37	12.23	1303.10	1315.33	1497.17	357.85	
21	12.37	12.23	1290.87	1303.10	1509.40	360.77	
20	12.37	12.23	1278.64	1290.87	1521.63	363.70	
19	12.38	12.24	1266.40	1278.64	1533.87	366.62	
18	12.38	12.24	1254.16	1266.40	1546.11	369.55	
17	12.38	12.24	1241.92	1254.16	1558.35	372.47	
16	12.36	12.22	1229.70	1241.92	1570.57	375.40	
15	12.38	12.24	1217.46	1229.70	1582.81	378.32	
14	12.38	12.24	1205.22	1217.46	1595.05	381.25	
13	12.21	12.07	1193.15	1205.22	1607.12	384.13	
12	12.30	12.16	1180.99	1193.15	1619.28	387.04	
11	12.22	12.08	1168.91	1180.99	1631.36	389.93	
10	12.37	12.23	1156.68	1168.91	1643.59	392.85	
9	12.17	12.03	1144.65	1156.68	1655.62	395.72	
8	12.24	12.10	1132.55	1144.65	1667.72	398.62	
7	12.37	12.23	1120.32	1132.55	1679.95	401.54	
6	12.27	12.13	1108.19	1120.32	1692.08	404.44	
5	12.23	12.09	1096.10	1108.19	1704.17	407.33	
4	12.22	12.08	1084.02	1096.10	1716.25	410.22	
3	12.21	12.07	1071.95	1084.02	1728.32	413.10	
2	12.38	12.24	1059.71	1071.95	1740.56	416.03	
1	12.29	12.15	1047.56	1059.71	1752.71	418.93	
252	12.35	12.21	1035.35	1047.56	1764.92	421.85	
251	12.92	12.78	1022.57	1035.35	1777.70	424.90	
250	12.93	12.79	1009.78	1022.57	1790.49	427.96	
249	12.92	12.78	997.00	1009.78	1803.27	431.01	
248	12.84	12.70	984.30	997.00	1815.97	434.05	
247	12.96	12.82	971.48	984.30	1828.79	437.11	
246	12.99	12.85	958.63	971.48	1841.64	440.19	
245	12.78	12.64	945.99	958.63	1854.28	443.21	
244	12.79	12.65	933.34	945.99	1866.93	446.23	
243	12.78	12.64	920.70	933.34	1879.57	449.25	
242	12.76	12.62	908.08	920.70	1892.19	452.27	
241	12.76	12.62	895.46	908.08	1904.81	455.28	
240	12.99	12.85	882.61	895.46	1917.66	458.36	
239	12.64	12.50	870.11	882.61	1930.16	461.34	
238	12.90	12.76	857.35	870.11	1942.92	464.39	
237	12.85	12.71	844.64	857.35	1955.63	467.43	
236	12.99	12.85	831.79	844.64	1968.48	470.50	
235	12.77	12.63	819.16	831.79	1981.11	473.52	
234	12.76	12.62	806.54	819.16	1993.73	476.54	
233	12.75	12.61	793.93	806.54	2006.34	479.55	
232	12.73	12.59	781.34	793.93	2018.93	482.56	
231	12.68	12.54	768.80	781.34	2031.47	485.56	
230	12.99	12.85	755.95	768.80	2044.32	488.63	
229	12.23	12.09	743.86	755.95	2056.41	491.52	
228	12.97	12.83	731.03	743.86	2069.24	494.59	
227	12.94	12.80	718.23	731.03	2082.04	497.65	
226	12.94	12.80	705.43	718.23	2094.84	500.71	
225	12.38	12.24	693.19	705.43	2107.08	503.63	
224	12.37	12.23	680.96	693.19	2119.31	506.55	
223	12.37	12.23	668.73	680.96	2131.54	509.48	
222	12.38	12.24	656.49	668.73	2143.78	512.40	
221	12.38	12.24	644.25	656.49	2156.02	515.33	
220	12.38	12.24	632.01	644.25	2168.26	518.25	
219	12.99	12.85	619.16	632.01	2181.11	521.33	
218	12.89	12.75	606.41	619.16	2193.86	524.37	
217	12.99	12.85	593.56	606.41	2206.71	527.44	
216	12.99	12.85	580.71	593.56	2219.56	530.52	
215	12.99	12.85	567.86	580.71	2232.41	533.59	
214	12.37	12.23	555.63	567.86	2244.64	536.51	
213	12.22	12.08	543.55	555.63	2256.72	539.40	
212	12.32	12.18	531.37	543.55	2268.90	542.31	
211	12.38	12.24	519.13	531.37	2281.14	545.23	
210	12.37	12.23	506.90	519.13	2293.37	548.16	
209	12.37	12.23	494.67	506.90	2305.60	551.08	
208	12.37	12.23	482.44	494.67	2317.83	554.00	
207	12.35	12.21	470.23	482.44	2330.04	556.92	
206	12.34	12.20	458.03	470.23	2342.24	559.84	

Joint Number	Meas. Length (ft)	Effective Length (ft)	Depth - Top of Joint (ft)	Depth - Bottom of Joint (ft)	Running Depth	Capacity bbls	Comments
205	12.38	12.24	445.79	458.03	2354.48	562.76	
204	12.38	12.24	433.55	445.79	2366.72	565.69	
203	12.37	12.23	421.32	433.55	2378.95	568.61	
202	12.37	12.23	409.09	421.32	2391.18	571.54	
201	12.23	12.09	397.00	409.09	2403.27	574.43	
200	12.37	12.23	384.77	397.00	2415.50	577.35	
199	12.37	12.23	372.54	384.77	2427.73	580.27	
198	12.37	12.23	360.31	372.54	2439.96	583.20	
197	12.20	12.06	348.25	360.31	2452.02	586.08	
196	12.27	12.13	336.12	348.25	2464.15	588.98	
195	12.36	12.22	323.90	336.12	2476.37	591.90	
194	12.37	12.23	311.67	323.90	2488.60	594.82	
193	12.22	12.08	299.59	311.67	2500.68	597.71	
192	12.37	12.23	287.36	299.59	2512.91	600.63	
191	12.38	12.24	275.12	287.36	2525.15	603.56	
190	12.38	12.24	262.88	275.12	2537.39	606.48	
189	12.21	12.07	250.81	262.88	2549.46	609.37	
188	12.37	12.23	238.58	250.81	2561.69	612.29	
187	12.37	12.23	226.35	238.58	2573.92	615.21	
186	12.23	12.09	214.26	226.35	2586.01	618.10	
185	12.31	12.17	202.09	214.26	2598.18	621.01	
184	12.38	12.24	189.85	202.09	2610.42	623.94	
183	12.37	12.23	177.62	189.85	2622.65	626.86	
182	12.08	11.94	165.68	177.62	2634.59	629.72	
181	12.37	12.23	153.45	165.68	2646.82	632.64	
180	12.37	12.23	141.22	153.45	2659.05	635.56	
179	12.17	12.03	129.19	141.22	2671.08	638.44	
178	12.27	12.13	117.06	129.19	2683.21	641.34	
177	12.37	12.23	104.83	117.06	2695.44	644.26	
176	12.20	12.06	92.77	104.83	2707.50	647.14	
175	12.27	12.13	80.64	92.77	2719.63	650.04	
174	12.27	12.13	68.51	80.64	2731.76	652.94	
173	12.21	12.07	56.44	68.51	2743.83	655.83	
172	12.21	12.07	44.37	56.44	2755.90	658.71	
171	12.06	11.92	32.45	44.37	2767.82	661.56	
170	12.37	12.23	20.22	32.45	2780.05	664.48	
Length below hang off point	1.62	1.62	**18.60**	20.22	2781.67	664.87	**Land off point below RT = 18.60m**
Casing Hanger #3	0.18	0.18	18.42	18.60	2781.85	664.91	**Shoe depth @ 2800.3m**
Running Tool #3	2.22	2.22	16.20	18.42	2784.07	665.44	
164	12.04	11.90	4.30	16.20	2795.97	668.29	
Pup jt F	6.11	5.97	-1.67	4.30	2801.94	669.72	**Stick up: 1.67m**
Summary		**On Cant.**	**Run**	**Left on Cant.**			
9 5/8		252	223	29			
				0			
9 5/8 Shoe Jnts		2	1	1			
9 5/8 Float Jnts		2	1	1			
9 5/8 Interm Jnts		2	1	1			

Attachment 5

Cementing Report

Australian Drilling Associates Pty Ltd
Level 5 / Rialto North Tower
525 Collins Street
Melbourne, VIC, 3000

Fermat-1
Post Job Report

Prepared for Rajiv Tikkoo
Thursday, 5 February 2009

Submitted by Prem kumar Salibendla
Halliburton Australia Pty Ltd
90 Talinga Rd, Cheltenham, VIC, 3192
Ph: 03 9581 7536 Fax: 03 9581 7599

HALLIBURTON

90 Talinga Road
Cheltenham, Vic 3192
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Fax: +61 3 9581 7599

Thursday, 5 February 2009

Rajiv Tikkoo
Australian Drilling Associates Pty Ltd
Level 5 / Rialto North Tower
525 Collins Street
Melbourne, VIC, 3000

Rajiv,

Re: Fermat -1 Cement jobs PJR

Included for your review is a copy of the Post Job Report of the Fermat-1 cementing operations. The PJR includes the programs, job logs, and lab reports.

I trust this PJR meets the requirements of Beach Petroleum and with insight and reflection provides sufficient detail for future reference.

Yours sincerely,

Prem kumar Salibendla
Technical Professional

cc

Allan Hatfield
Cementing Service Coordinator

Table of Contents

1.0 Summary of operations

The Fermat-1 well was cemented using a 30in conductor casing, 13 3/8in Surface Casing and 9 5/8in intermediate casing, and then plugged and abandoned. The 30in conductor casing was cemented on 15th December, 13 3/8in Surface casing was cemented on the 18th December, 9 5/8in casing was cemented on the 30th December 2008 and the well was P&A on the 10-14th January 2009. Please see Job logs for more details.

1.1 Lessons Learnt

All cement jobs were performed as for the plan

2.0 Cement Program

2.1 Summary

The following program out line the cementation of 30in, 13 3/8in,and 9 5/8in casings and on Fermat-1 well, this well will be plugged and abandoned with 5 plugs in unsuccessful case.

- 30in Casing set at 120m MD single Class G slurry
- 13 3/8in casing set at 1000m MD single Class G slurry
- 9 5/8in casing set at 2700m MD single Class G slurry

In unsuccessful case following 4 plugs will be cemented to abandon the Fermat -1 well.

- Plug 1A, cemented form 3327-3119m MD single HTB cement slurry
- Plug 1B Part 1, cemented form 3119-2969m MD Single HTB cement slurry
- Plug 1B Part2 cemented form 2969-2835m MD Single HTB cement slurry
- Plug 2 Cemented form 2835-2700m MD Single HTB cement slurry
- Plug 3, cemented form 160-100m MD single class G slurry

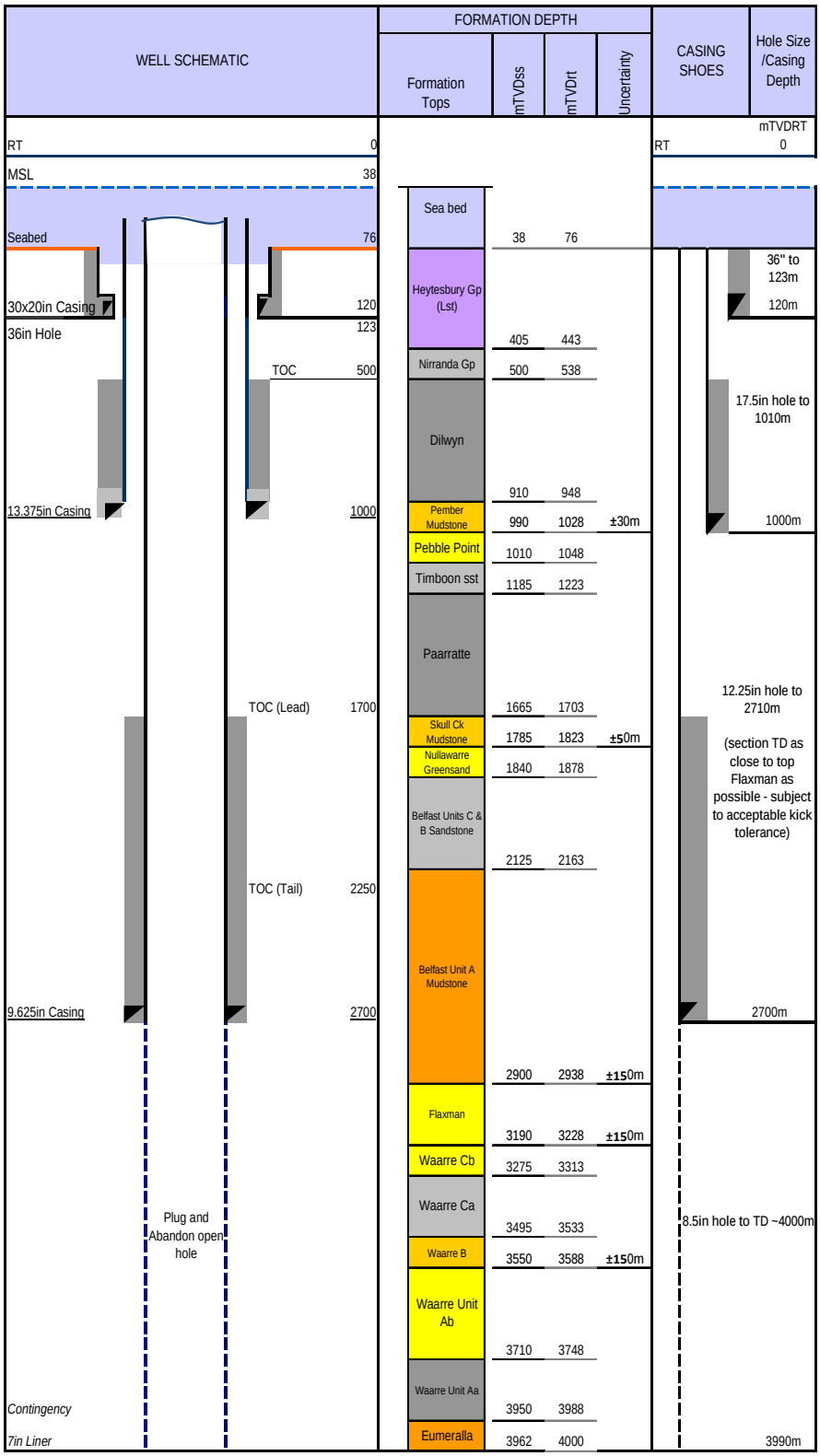
Revision History

Draft 1	23rd July 2007	Initial program
Revision 1	10th December 2008	Changed program
Revision 2	10th December 2008	for 9 5/8in casing Tuned spacer density changed to 13ppg and a single slurry for 7in liner
Revision 3	11th December 2008	P&A program included and OptiCem for 9 5/8in casing and 7in liner
Revision 4	15th December 2008	Changed excess for 17.5in hole section form 25% to 10%.
Revision 4a	9th January 2008	P&A program updated as per customers request
Revision 4B	5th February 2009	Final revision after all jobs

Items to be aware of

1) Check stab in sealing adapter and O-rings prior to use. Confirm centraliser and drill pipe stop collars are present
2) Check the 30in conductor Hydrostatics before the cement job
3) Check SSR plugs once they arrive on location and go through SSR procedures manual
4) Check 9 5/8” casing collar length and see if suitable with cement head quick latch. If the collar is too short a spacer ring can be installed to make it compatible.

2.2 Casing Schematic



2.3 30 inch Casing Detail

JOB PARAMETERS

Casing measured depth:	120m	BHST temperature:	10°C
True vertical depth:	120m	BHCT temperature:	11°C
Depth to top cement:	76m	Drilling mud type:	SW&HVBS
		Drilling mud density:	8.60ppg

WELLBORE

Casing/Tubing (Inner string job)

0-120m	5 1/2in 24.7ppf Tubing
0-120m	30in 309.7ppf Casing (X-52 D60/MT)

Annulus

0-76m	RKB-ML
76-120m	36in open hole (251% excess)

SPACERS

Spacer - 100.0bbl Seawater at 8.55ppg

Seawater	42.00 gal/bbl	(23m OH annular fill / 13min contact time)

Contact times are based on the displacement rate.

CEMENT

Composition		**Properties**	
Adelaide Brighton Class G		Surface density:	15.90 ppg
Seawater	5.12 gal/sk	Surface yield:	1.16 ft³/sk
NF-6	0.25 gal/10bblMF	Total mixing fluid:	5.12 gal/sk
		Thickening time (70 Bc):	4:00
		Free water vert at 11°C:	<1 %
		Comp strength at 10°C	50 psi in 4 hrs
		Comp strength at 10°C	500 psi in 8 hrs
		Comp strength at 10°C	2,000 psi in 24 hrs

VOLUME CALCULATIONS

Cement

30in Casing / 36in hole volume	44 m x 1.2620 bbl/m	55.5 bbl
30in Casing / 36in hole excess	2.51 x 55.5 bbl	139.5 bbl
	Total slurry volume =195.0 bbl	
Quantity of cement	195.0 bbl x 5.6146 / 1.16 ft³/sk	944 sks
Quantity of mix fluid	944 sks x 5.12 gal/sk	115.1 bbl

Displacement

5 1/2in Tubing volume	120 m x 0.0695 bbl/m	8.3 bbl
	Total displacement volume =8.3 bbl	

PUMPING SCHEDULE & TIMES

	Volume (bbl)	Rate (bbl/min)	Time (min)
Make up lines & pressure test:	N/A	N/A	30
Circulate 1.2 x Casing volume:	10.0	10.0	1
Pump spacers:	100.0	10.0	10
Mix & pump cement:	195.0	6.0	33
Release dart/top plug:	N/A	N/A	5
Pump displacement:	8.3	8.0	1

Total job time (including circulation):	***80 min***	***1hr 20min***
Minimum cement thickening time (with 2hr safety factor):	***159 min***	***2hr 39min***

MINIMUM MATERIAL REQUIREMENTS (Double for loadout)

Spacer - Seawater

Seawater	100 bbl

Cement

Adelaide Brighton Class G	40 MT(938 ft^3)
Seawater	115.1 bbl
NF-6	3 gals

These are estimates calculated on the information given. Calculations should be confirmed on the job site well in advance.

2.3.1 30in Casing Job Procedure

1) Rig up surface lines with pump in sub
2) Stab in and establish circulation
3) Pressure Test lines to 1000psi
4) Pump 100bbls Seawater
5) Mix and pump 195bbls of Class G cement slurry @ 15.9ppg. Monitor pressure. Monitor returns until cement is seen at sea bed.
6) Displace with 7bbls of seawater
7) *Note under displace by 1.5bbl
8) Check the floats are holding
9) Unsting from float and drop a wiper ball. Displace with two times tubing volume. Circulate an additional two times casing volumes.
10) End job

2.4 13 3/8 inch Casing Details

JOB PARAMETERS

Casing measured depth:	1,000m	BHST temperature:	37°C
True vertical depth:	1,000m	BHCT temperature:	29°C
Depth to top cement:	500m	Drilling mud type:	SW+HVBS
		Drilling mud density:	8.60ppg

WELLBORE

Casing/Tubing

0-1,000m	13 3/8in 68ppf Casing (N-80 BTC)

Annulus

0-120m	30in 309.7ppf casing (28in ID)
120-1,000m	17.5in open hole (10% excess)

SPACERS

Spacer - 80.0bbl Freshwater at 8.55ppg

Freshwater	42.00 gal/bbl	(179m OH annular fill / 10min contact time)

Contact times are based on the displacement rate.

CEMENT

Composition		**Properties**	
Adelaide Brighton Class G		Surface density:	15.80 ppg
Freshwater	5.10 gal/sk	Surface yield:	1.16 ft³/sk
NF-6	0.25 gal/10bblMF	Total mixing fluid:	5.11 gal/sk
		Thickening time (70 Bc):	4:00
		Free water vert at 29°C:	Trace %
		Comp strength at 34°C	50 psi in 5 hrs
		Comp strength at 34°C	500 psi in 7 hrs
		Comp strength at 34°C	2,000 psi in 24 hrs

VOLUME CALCULATIONS

Cement

13 3/8in Casing / 17.5in hole volume	500 m x 0.4059 bbl/m	202.9 bbl
13 3/8in Casing / 17.5in hole excess	0.10 x 202.9 bbl	20.3 bbl
Shoe track volume	12 m x 0.4912 bbl/m	5.9 bbl
	Total slurry volume =228.0 bbl	

Quantity of cement	229.1 bbl x 5.6146 / 1.16 ft³/sk	1109 sks
Quantity of mix fluid	1109 sks x 5.11 gal/sk	134.9 bbl

Displacement

13 3/8in Casing volume	988 m x 0.4912 bbl/m	485.3 bbl
	Total displacement volume =485.3 bbl	

PUMPING SCHEDULE & TIMES

	Volume (bbl)	Rate (bbl/min)	Time (min)
Make up lines & pressure test:	N/A	N/A	30
Circulate 1.5 x Casing volume:	736.8	10.0	74
Pump spacers:	80.0	10.0	8
Mix & pump cement:	229.1	5.0	46
Release dart/top plug:	N/A	N/A	5
Pump displacement:	485.3	8.0	61

Total job time (including circulation):	***224 min***	***3hr 44min***
Minimum cement thickening time (with 2hr safety factor):	***232 min***	***3hr 52min***

MINIMUM MATERIAL REQUIREMENTS (Double for loadout)

Spacer - Freshwater

Freshwater	80 bbl

Cement

Adelaide Brighton Class G	47 MT(1,102 ft^3)
Freshwater	134.8 bbl
NF-6	4 gals

These are estimates calculated on the information given. Calculations should be confirmed on the job site well in advance.

2.4.1 13 3/8in casing Job Procedure

1) Run 13 3/8”casing to TD and circulate 120% casing content with sea water
2) Pumping 10bbl Fresh water
3) Test lines to 3000psi
4) Pump 70bbls Fresh water
5) Note: No Bottom plug will be used
6) Mix and pump 228bbls of single 15.8ppg slurry
7) Drop releasing dart
8) Start displacing with 10bbl fresh water at 1bpm to engage the dart in to the releasing sleeve and apply about 2500 ± 500psi to release the top plug. Once the plug is released increase the pump rate to pump rest of fresh water.
9) Displace with 475.3bbls of displacement fluid. Use calliper volumes if possible
10) Slow pump rate down to 1bbl/min for final 5bbls. Bump plug 500psi over, do not exceed 900psi and hold for 10mins. Bleed back and check floats
11) End job

2.5 9 5/8 inch Casing

JOB PARAMETERS

Casing measured depth:	2,700m	BHST temperature:	85°C
True vertical depth:	2,700m	BHCT temperature:	60°C
Depth to top cement:	1,585m	Drilling mud type:	KCL/POLYMER
		Drilling mud density:	9.60ppg

WELLBORE

Casing/Tubing

0-2,700m	9 5/8in 53.5ppf Casing (P110 Vam Top)

Annulus

0-1,000m	13 3/8in 68ppf casing (12.415in ID)
1,000-2,700m	12.25in open hole (10% excess)

SPACERS

Spacer #1 - 80.0bbl Freshwater at 8.33ppg

Freshwater	42.00 gal/bbl	(397m OH annular fill / 10min contact time)

Spacer #2 - 60.0bbl Tuned Spacer E+ at 11.00ppg

Freshwater	37.31 gal/bbl	(298m OH annular fill / 8min contact time)
Barite	133.78 lb/bbl	Estimated Pv: 22cP
Tuned Spacer E+	16.80 lb/bbl	Estimated Yp: 21lbs/100ft²

Contact times are based on the displacement rate.

CEMENT

Composition		**Properties**	
Adelaide Brighton Class G		Surface density:	15.80 ppg
Halad -413L	30.00 gal/10bblMF	Surface yield:	1.16 ft³/sk
CFR-3L	3.00 gal/10bblMF	Total mixing fluid:	5.16 gal/sk
SCR-100L	1.00 gal/10bblMF	Thickening time (70 Bc):	4:00
Freshwater	4.74 gal/sk	Free water vert at 60°C:	Trace %
NF-6	0.25 gal/10bblMF	Fluid loss at 60°C:	<50 cc/30min
		Comp strength at 77°C	50 psi in 5 hrs
		Comp strength at 77°C	500 psi in 6 hrs
		Comp strength at 77°C	2,500 psi in 24 hrs

VOLUME CALCULATIONS

Cement

9 5/8in Casing / 12.25in hole volume	1,115 m x 0.1830 bbl/m	204.0 bbl
9 5/8in Casing / 12.25in hole excess	0.10 x 204.0 bbl	20.4 bbl
Shoe track volume	24 m x 0.2322 bbl/m	5.6 bbl
	Total slurry volume =230.0 bbl	

Quantity of cement	230.0 bbl x 5.6146 / 1.16 ft³/sk	1113 sks
Quantity of mix fluid	1113 sks x 5.16 gal/sk	136.7 bbl

Displacement

9 5/8in Casing volume	2,676 m x 0.2322 bbl/m	621.3 bbl
	Total displacement volume =621.3 bbl	

PUMPING SCHEDULE & TIMES

	Volume (bbl)	Rate (bbl/min)	Time (min)
Make up lines & pressure test:	N/A	N/A	30
Circulate 1.5 x Casing volume:	940.3	10.0	94
Pump spacers:	140.0	10.0	14
Release ball/bottom plug:	N/A	N/A	5
Mix & pump cement:	230.0	5.0	46
Release dart/top plug:	N/A	N/A	5
Pump displacement:	621.3	8.0	78

Total job time (including circulation):	***272 min***	***4hr 32min***
Minimum cement thickening time (with 2hr safety factor):	***249 min***	***4hr 09min***

MINIMUM MATERIAL REQUIREMENTS (Double for loadout)

Spacer #1 - Freshwater (Including 10.0 bbl pit loss)

Freshwater	90 bbl

Spacer #2 - Tuned Spacer E+ (Including 10.0 bbl pit loss)

Freshwater	62.2 bbl
Barite	9,364 lb
Tuned Spacer E+	1,176 lb

Cement

Adelaide Brighton Class G	47 MT(1,102 ft^3)
Halad -413L	410 gals
CFR-3L	41 gals
SCR-100L	14 gals
Freshwater	125.6 bbl
NF-6	4 gals

These are estimates calculated on the information given. Calculations should be confirmed on the job site well in advance.

2.5.1 9 5/8in Casing Job Procedure

1) Establish circulation
2) Test lines to 3000psi
3) Pump 80bbls Fresh water
4) Pump 60bbls Tuned spacer
5) Drop bottom plug
6) Mix and pump 230bls of 15.8ppg Tail cement slurry
7) Drop top plug
8) Pump 10bbls of fresh water
9) Displace with 611.3bbls of mud. Use calliper volumes if possible
10) Slow pump rate down for final 10bbls. Bump plug 500psi over and hold for 10mins. Bleed back and check floats
11) End Job

12)

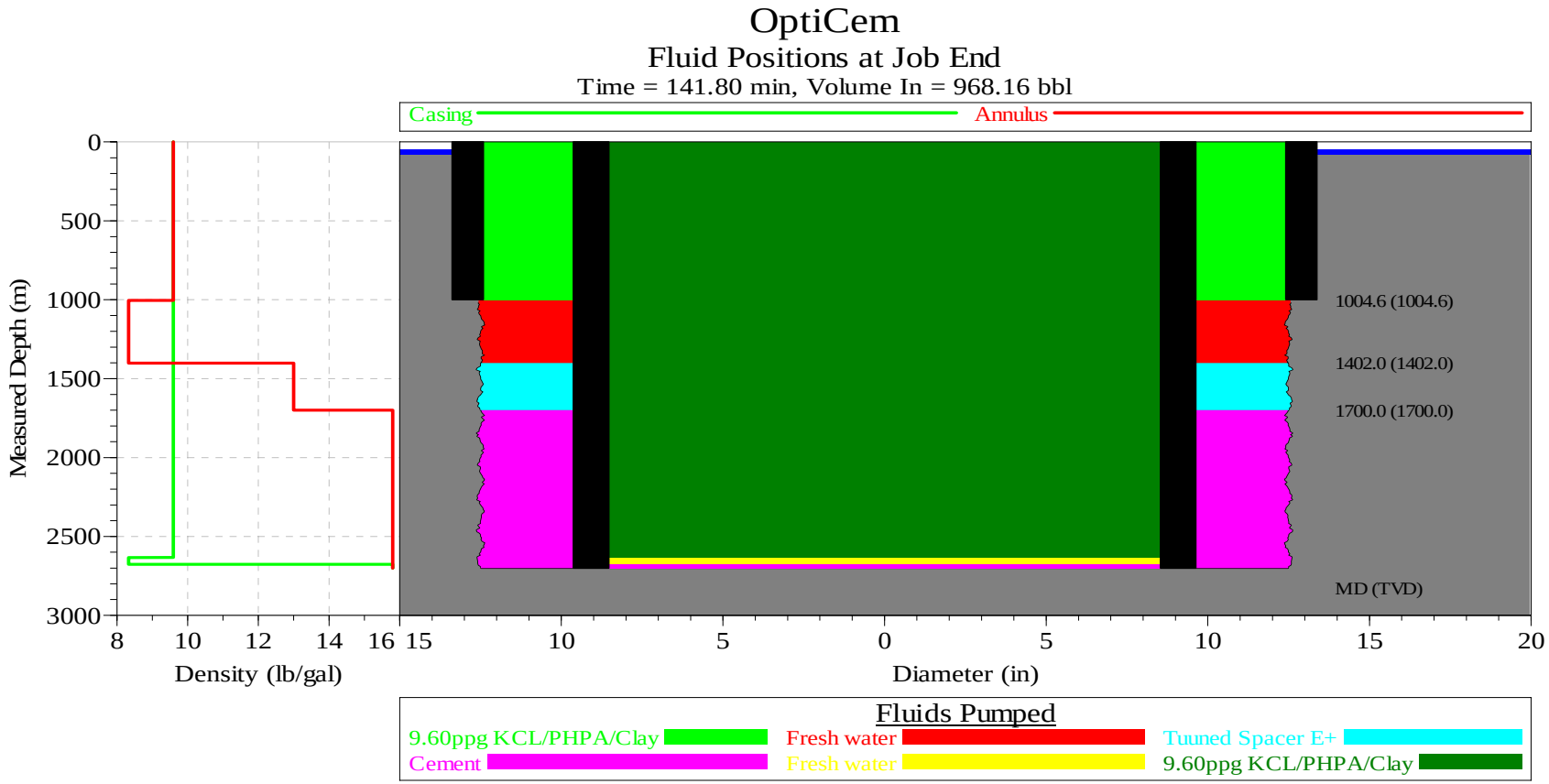
2.5.2 Guidelines for Preparation of Tuned Spacer E+

Note: A clean pit is required to mix the tuned spacer.

1) Load appropriately 57bbls of freshwater in a clean pit
2) Add 1008lbsTuned spacer E+ Blend and agitate
3) Wait 45-60 mins to allow Tuned spacer E+ to yield before adding Barite
4) Add 17194lbs Barite (continue to agitate and circulate until spacer is homogeneous. Approximately 30mins)
5) Check density with mud balance, ~13ppg.

2.6 9 5/8in OptiCem Simulation Graphs

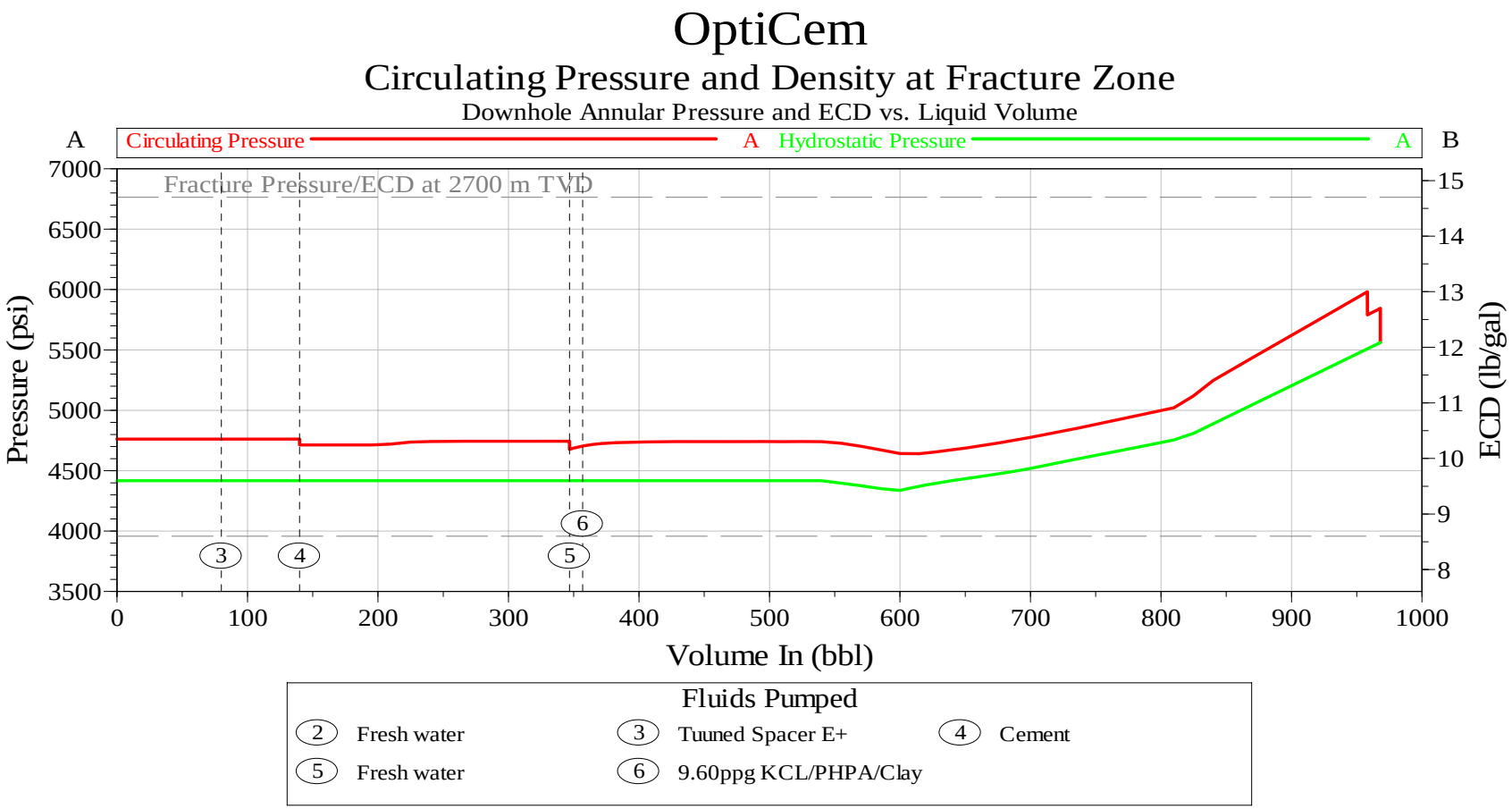
2.6.1 Fluid Positions (graph)



Customer: ADA - Beach Petroleum Well Description: Fermat-1	Job Date: 11-Dec-2008 UWI: 9 5/8inch casing	Sales Order #:

OptiCem v6.4.0
11-Dec-08 15:31

2.6.2 Circ Pressure & Density - Frac Zone (graph)

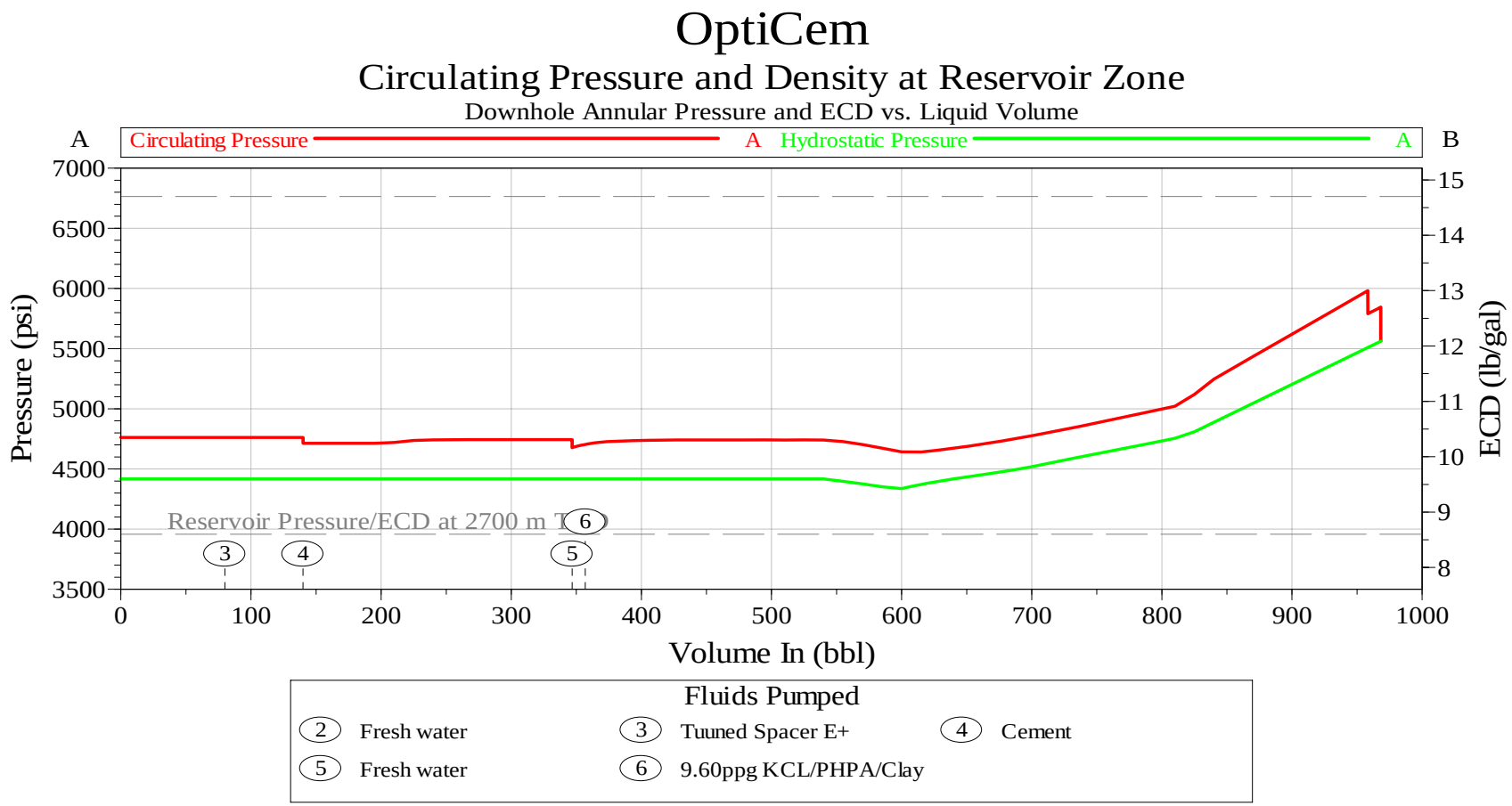


Fluids Pumped		
2 Fresh water	3 Tuuned Spacer E+	4 Cement
5 Fresh water	6 9.60ppg KCL/PHPA/Clay	

Customer: ADA - Beach Petroleum Well Description: Fermat-1	Job Date: 11-Dec-2008 UWI: 9 5/8inch casing	Sales Order #:

OptiCem v6.4.0
11-Dec-08 15:31

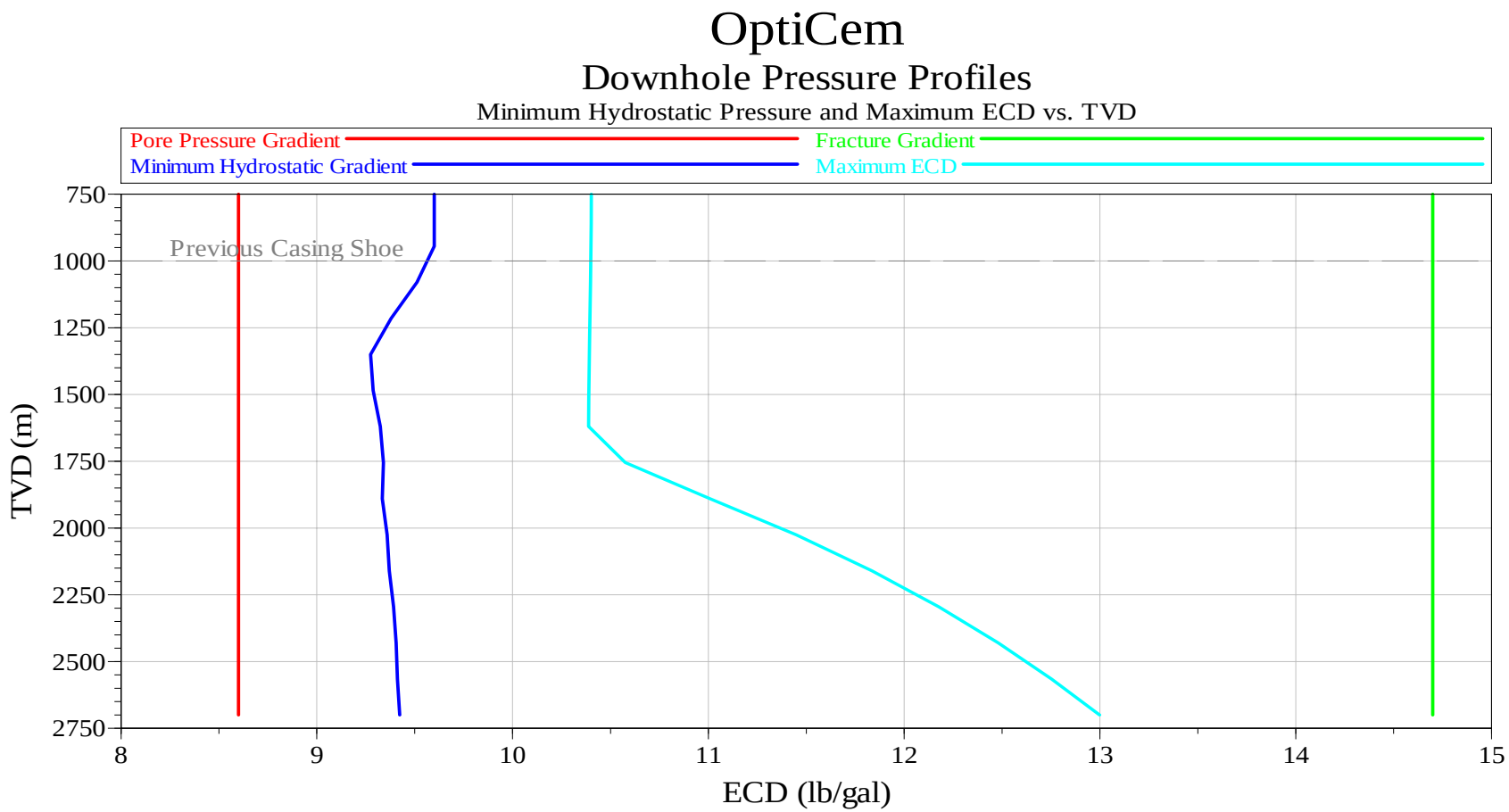
2.6.3 Circ Pressure & Density - Res Zone (graph)



Customer: ADA - Beach Petroleum Well Description: Fermat-1	Job Date: 11-Dec-2008 UWI: 9 5/8inch casing	Sales Order #:

OptiCem v6.4.0
11-Dec-08 15:31

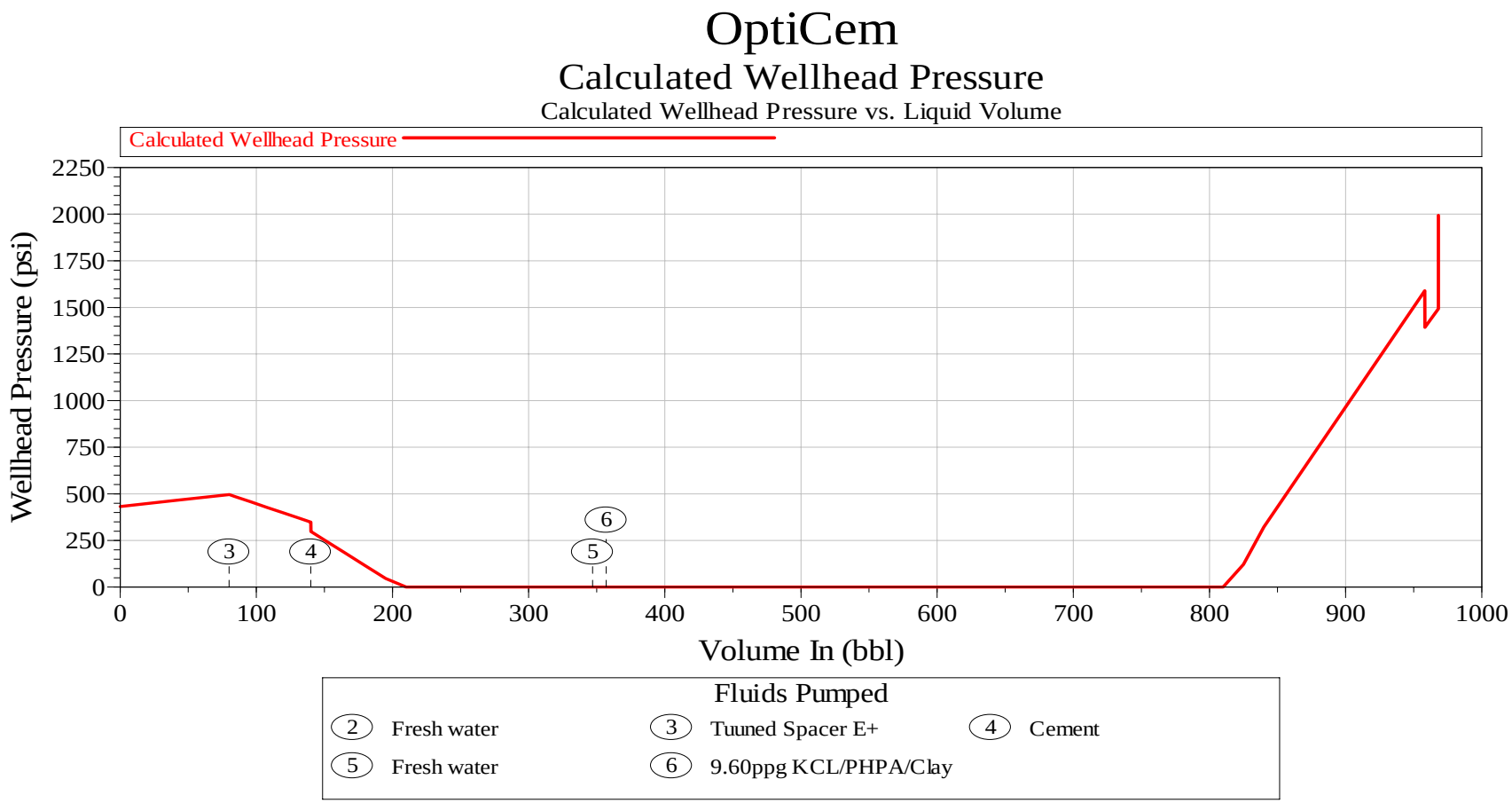
2.6.4 Downhole Pressure Profiles (graph)



Customer: ADA - Beach Petroleum Well Description: Fermat-1	Job Date: 11-Dec-2008 UWI: 9 5/8inch casing	Sales Order #:

OptiCem v6.4.0
11-Dec-08 15:31

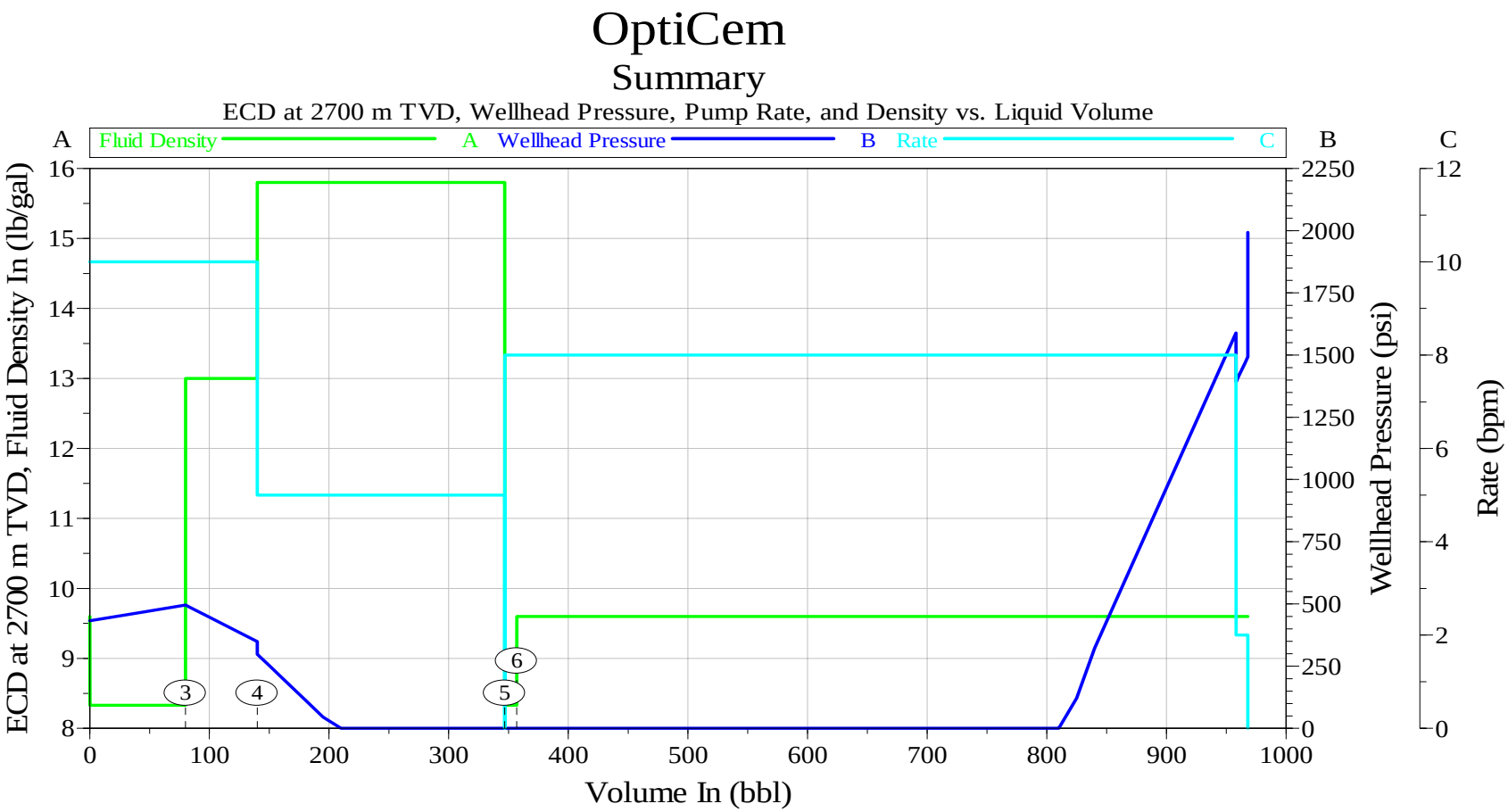
2.6.5 Calculated Wellhead Pressure (graph)



Customer: ADA - Beach Petroleum Well Description: Fermat-1	Job Date: 11-Dec-2008 UWI: 9 5/8inch casing	Sales Order #:

OptiCem v6.4.0
11-Dec-08 15:31

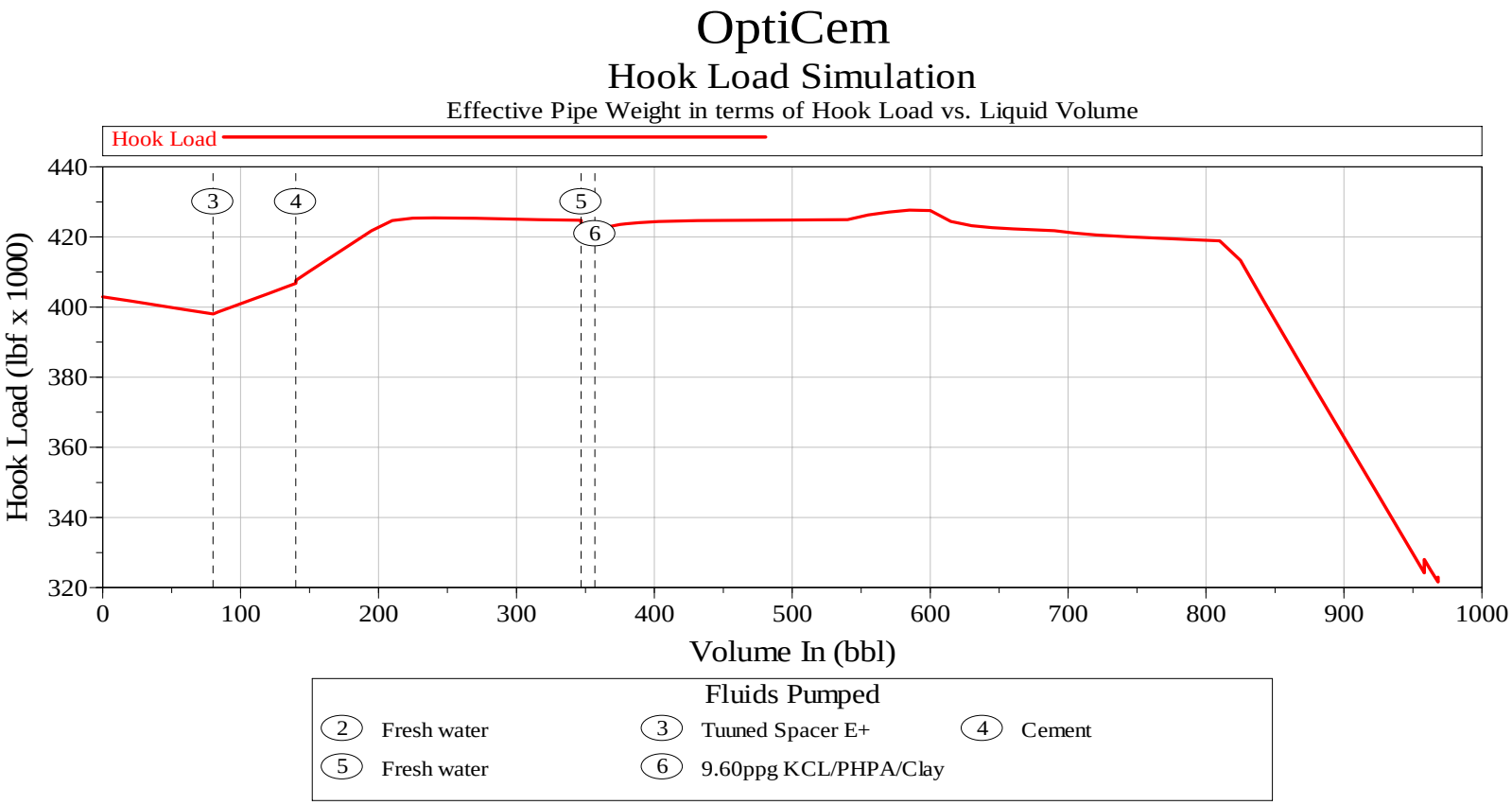
2.6.6 Summary (graph)



Customer: ADA - Beach Petroleum Well Description: Fermat-1	Job Date: 11-Dec-2008 UWI: 9 5/8inch casing	Sales Order #:

OptiCem v6.4.0
11-Dec-08 15:31

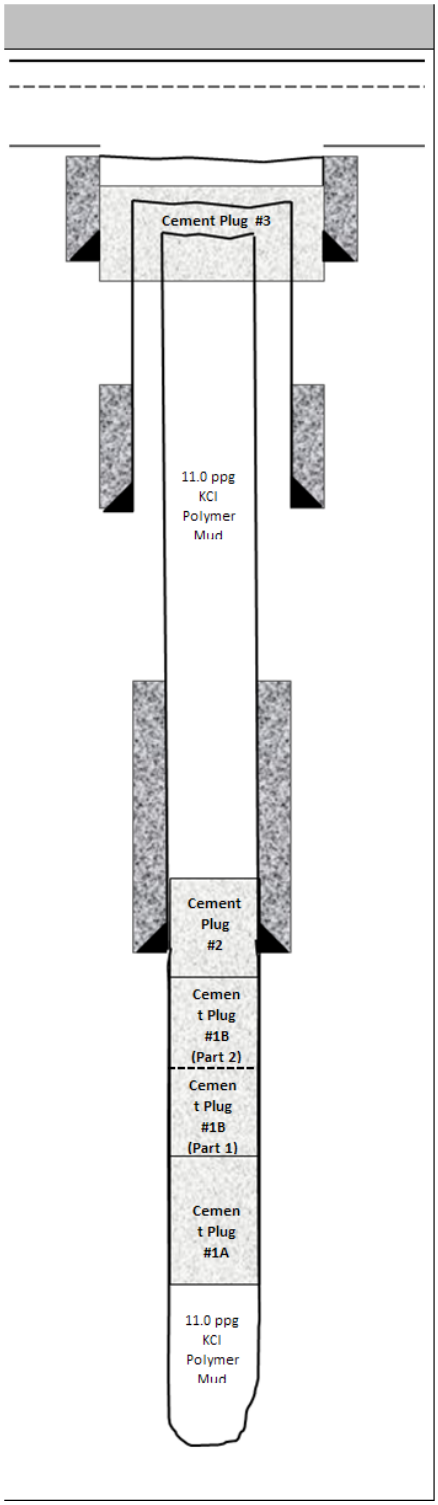
2.6.7 Hook Load Simulation (graph)



Customer: ADA - Beach Petroleum Well Description: Fermat-1	Job Date: 11-Dec-2008 UWI: 9 5/8inch casing	Sales Order #:

OptiCem v6.4.0
11-Dec-08 15:31

2.7 P&A Schematic



EQUIPMENT DESCRIPTION	DEPTH TVD - BRT	DEPTH MD-BRT
RT	0.0	0.0
SEA LEVEL	38.0	38.0
MUDLINE Estimated TOC @ 77mTVDRT	77.0	77.0
30in Conductor cut at 79m	79.0	79.0
13.375in Surface casing cut at 105m	105.0	105.0
9.625in Intermediate casing cut at 110m	110.0	110.0
CEMENT PLUG #3 (60m) 100m TO 160m.		
30"x20" CONDCUTOR SHOE	116.0	116.0
36" CONDCUTOR HOLE	119.0	119.0
Estimated TOC @ 500mTVDRT	500.0	500.0
13.375" CASING SHOE	987.0	987.0
17.5" SURFACE HOLE	999.0	999.0
CEMENT PLUG #2 (135m) 2700 TO 2835m. (Tested to 2900 psi)		
9.625" CASING SHOE	2800.3	2800.3
12.25" INTERMEDIATE HOLE	2807.0	2807.0
CEMENT PLUG #1B Part 2 (134m) 2835m TO 2969m (Tagged)		
CEMENT PLUG #1B Part 1 (150m) 2969m TO 3119m		
CEMENT PLUG #1A (208m) 3119m TO 3327m (Tagged)		
8.5" PRODUCTION HOLE TD	3580.4	3585.0
COMMENTS:		
	3580.4	3585.0
DRAWING NOT TO SCALE	**DATE:** 30/01/2009	Rev A

2.8 Plug #1A Details

Plug Details - 8.5in hole

JOB PARAMETERS

Plug bottom MD:	3,327m	BHST temperature:	104°C
Plug bottom TVD:	3,327m	BHCT temperature:	87°C
Plug top MD:	3,119m	Drilling mud type:	KCL/POLYMER
Plug length:	208m	Drilling mud density:	10.50ppg
Plug length with DP in:	228m		

WELLBORE

Workstring

0-3,327m	5 1/2in 24.7ppf tubing

Annulus

0-2,800m	9 5/8in 53.5ppf casing (8.535in ID)
2,800-3,327m	8.5in open hole (34% excess)

SPACERS

Spacer - Freshwater at 8.33ppg

Freshwater	42.00 gal/bbl	20.0bbl ahead and 6.6bbl behind to balance (71m annular fill / 3min contact time)

Contact times are based on the displacement rate.

CEMENT SLURRY

Composition		**Properties**	
Adelaide Brighton HTB		Surface density:	15.80 ppg
SCR-100L	2.00 gal/10bblMF	Surface yield:	1.13 ft³/sk
CFR-3L	3.00 gal/10bblMF	Total mixing fluid:	4.70 gal/sk
Freshwater	4.64 gal/sk	Thickening time (70 Bc):	4:00
NF-6	0.25 gal/10bblMF	Free water vert at 87°C:	trace %
		Fluid loss at 87°C:	<100 cc/30min
		Comp strength at 98°C	50 psi in 5 hrs
		Comp strength at 98°C	500 psi in 6 hrs
		Comp strength at 98°C	2,500 psi in 24 hrs

VOLUME CALCULATIONS

Cement

8.5in hole volume	208 m x 0.2303 bbl/m	47.9 bbl
8.5in hole excess	0.34 x 47.9 bbl	16.1 bbl
	Slurry volume =64.0 bbl	
Quantity of cement	64.0 bbl x 5.6146 / 1.13 ft³/sk	318 sacks
Quantity of mix fluid	318 sacks x 4.70 gal/sk	35.6 bbl

Displacement

5 1/2in tubing volume	3,004 m x 0.0695 bbl/m	208.8 bbl
	Total displacement volume =208.8 bbl	

PUMPING SCHEDULE & TIMES	Volume (bbl)	Rate (bbl/min)	Time (min)
Make up lines & pressure test:	N/A	N/A	30
Circulate 1 x bottoms up:	491.4	6.0	82
Pump spacers ahead:	20.0	6.0	3
Mix & pump cement:	64.0	5.0	13
Drop wiper ball:	N/A	N/A	5
Pump spacers behind:	6.6	6.0	1
Pump displacement:	208.8	6.0	35
Pull workstring 45 m above TOC:	253m	9.0m/min	28
Circulate workstring clean:	214.0	6.0	36

Total job time (including circulation):	***233 min***	***3hr 53min***
Minimum cement thickening time (with 2hr safety factor):	***238 min***	***3hr 58min***

MINIMUM MATERIAL REQUIREMENTS (Double for loadout)

Spacer - Freshwater

Freshwater	26.6 bbl

Cement

Adelaide Brighton HTB	14 MT(358 ft^3)
SCR-100L	7 gals
CFR-3L	11 gals
Freshwater	35.1 bbl
NF-6	1 gals

These are estimates calculated on the information given. Calculations should be confirmed on the job site well in advance.

2.8.1 Plug #1A Job Procedure

1) RIH to 3327m with work string
2) Rig up surface lines.
3) Tested lines 2500psi.
4) Pump 13bbls Fresh water pumped
5) Mixed and pumped 64bbls of 15.8ppg cement slurry pumped
6) Displaced with 3bbls of Fresh Water to balance
7) Continued to displace with 202bbls of well fluid to create a balanced plug
8) Note 5bbl under displace to aid in dry POOH
9) Pick up worksting 5 joints string above TOC
10) Circulate 1 1/2 times tubing volumes clean before POOH
11) Pick up and prepare for Plug 1B Part 1

2.9 Plug #1B Part 1 Details

Plug Details - 8.5in hole

JOB PARAMETERS

Plug bottom MD:	3,119m	BHST temperature:	99°C
Plug bottom TVD:	3,119m	BHCT temperature:	82°C
Plug top MD:	2,969m	Drilling mud type:	KCL/POLYMER
Plug length:	150m	Drilling mud density:	10.50ppg
Plug length with DP in:	164m		

WELLBORE

Workstring

0-3,119m	5 1/2in 24.7ppf tubing

Annulus

0-2,800m	9 5/8in 53.5ppf casing (8.535in ID)
2,800-3,119m	8.5in open hole (37.45% excess)

SPACERS

Spacer - Freshwater at 8.33ppg

Freshwater	42.00 gal/bbl	20.0bbl ahead and 6.3bbl behind to balance (66m annular fill / 3min contact time)

Contact times are based on the displacement rate.

CEMENT SLURRY

Composition		**Properties**	
Adelaide Brighton HTB		Surface density:	15.80 ppg
SCR-100L	2.00 gal/10bblMF	Surface yield:	1.13 ft³/sk
CFR-3L	3.00 gal/10bblMF	Total mixing fluid:	4.70 gal/sk
Freshwater	4.64 gal/sk	Thickening time (70 Bc):	4:00
NF-6	0.25 gal/10bblMF	Free water vert at 82°C:	trace %
		Fluid loss at 82°C:	<100 cc/30min
		Comp strength at 93°C	50 psi in 5 hrs
		Comp strength at 93°C	500 psi in 6 hrs
		Comp strength at 93°C	2,500 psi in 24 hrs

VOLUME CALCULATIONS

Cement

8.5in hole volume	150 m x 0.2303 bbl/m	34.5 bbl
8.5in hole excess	0.37 x 34.5 bbl	12.9 bbl
	Slurry volume =47.5 bbl	
Quantity of cement	47.5 bbl x 5.6146 / 1.13 ft³/sk	236 sacks
Quantity of mix fluid	236 sacks x 4.70 gal/sk	26.4 bbl

Displacement

5 1/2in tubing volume	2,864 m x 0.0695 bbl/m	199.1 bbl
	Total displacement volume =199.1 bbl	

PUMPING SCHEDULE & TIMES

	Volume	**Rate**	**Time**

	(bbl)	(bbl/min)	(min)
Make up lines & pressure test:	N/A	N/A	30
Circulate 1 x bottoms up:	450.3	6.0	75
Pump spacers ahead:	20.0	6.0	3
Mix & pump cement:	47.5	5.0	10
Drop wiper ball:	N/A	N/A	5
Pump spacers behind:	6.3	6.0	1
Pump displacement:	199.1	6.0	33
Pull workstring 45 m above TOC:	195m	9.0m/min	22
Circulate workstring clean:	203.0	6.0	34

Total job time (including circulation):	***213 min***	***3hr 33min***
Minimum cement thickening time (with 2hr safety factor):	***225 min***	***3hr 45min***

MINIMUM MATERIAL REQUIREMENTS (Double for loadout)

Spacer - Freshwater

Freshwater	26.3 bbl

Cement

Adelaide Brighton HTB	10 MT(255 ft^3)
SCR-100L	5 gals
CFR-3L	8 gals
Freshwater	26.1 bbl
NF-6	1 gals

These are estimates calculated on the information given. Calculations should be confirmed on the job site well in advance.

2.9.1 Plug #1BPart 1 Job Procedure

12) RIH to 3119m with work string
13) Rig up surface lines.
14) Tested lines 3000psi.
15) Pumped 11bbls Fresh water.
16) Mixed and pumped 47.5 bbls of 15.8ppg cement slurry.
17) Displaced with 1.5bbls of Fresh Water to balance
18) Continued to displace with 195bbls of well fluid to create a balanced plug
19) Note 4.1bbl under displace to aid in dryPOOH
20) Pick up worksting 5 joints string above TOC
21) Circulate 1 1/2 times tubing volumes clean before POOH
22) Pick up and prepare for Plug 1B Part 2
23)

24)

2.10 Plug #1B Part 2 Details

Plug Details - 8.5in hole

JOB PARAMETERS

Plug bottom MD:	2,969m	BHST temperature:	96°C
Plug bottom TVD:	2,969m	BHCT temperature:	79°C
Plug top MD:	2,835m	Drilling mud type:	KCL/POLYMER
Plug length:	134m	Drilling mud density:	10.50ppg
Plug length with DP in:	146m		

WELLBORE

Workstring

0-2,969m	5 1/2in 24.7ppf tubing

Annulus

0-2,800m	9 5/8in 53.5ppf casing (8.535in ID)
2,800-2,969m	8.5in open hole (42.52% excess)

SPACERS

Spacer - Freshwater at 8.33ppg

Freshwater	42.00 gal/bbl	20.0bbl ahead and 9.1bbl behind to balance (61m annular fill / 3min contact time)

Contact times are based on the displacement rate.

CEMENT SLURRY

Composition		**Properties**	
Adelaide Brighton HTB		Surface density:	15.80 ppg
SCR-100L	2.00 gal/10bblMF	Surface yield:	1.13 ft³/sk
CFR-3L	3.00 gal/10bblMF	Total mixing fluid:	4.70 gal/sk
Freshwater	4.64 gal/sk	Thickening time (70 Bc):	4:00
NF-6	0.25 gal/10bblMF	Free water vert at 79°C:	trace %
		Fluid loss at 79°C:	<100 cc/30min
		Comp strength at 90°C	50 psi in 5 hrs
		Comp strength at 90°C	500 psi in 6 hrs
		Comp strength at 90°C	2,500 psi in 24 hrs

VOLUME CALCULATIONS

Cement

8.5in hole volume	134 m x 0.2303 bbl/m	30.9 bbl
8.5in hole excess	0.43 x 30.9 bbl	13.1 bbl
	Slurry volume =44.0 bbl	
Quantity of cement	44.0 bbl x 5.6146 / 1.13 ft³/sk	218 sacks
Quantity of mix fluid	218 sacks x 4.70 gal/sk	24.4 bbl

Displacement

5 1/2in tubing volume	2,692 m x 0.0695 bbl/m	187.1 bbl
	Total displacement volume =187.1 bbl	

PUMPING SCHEDULE & TIMES

	Volume (bbl)	Rate (bbl/min)	Time (min)
Make up lines & pressure test:	N/A	N/A	30
Circulate 1 x bottoms up:	419.3	6.0	70
Pump spacers ahead:	20.0	6.0	3
Mix & pump cement:	44.0	5.0	9
Drop wiper ball:	N/A	N/A	5
Pump spacers behind:	9.1	6.0	2
Pump displacement:	187.1	6.0	31
Pull workstring 45 m above TOC:	179m	9.0m/min	20
Circulate workstring clean:	194.0	6.0	32

Total job time (including circulation):	***202 min***	***3hr 22min***
Minimum cement thickening time (with 2hr safety factor):	***219 min***	***3hr 39min***

MINIMUM MATERIAL REQUIREMENTS (Double for loadout)

Spacer - Freshwater

Freshwater	29.1 bbl

Cement

Adelaide Brighton HTB	9 MT(230 ft^3)
SCR-100L	5 gals
CFR-3L	7 gals
Freshwater	24.1 bbl
NF-6	1 gals

These are estimates calculated on the information given. Calculations should be confirmed on the job site well in advance.

2.10.1 Plug #1B Part 2 Job Procedure

25) RIH to 2969m with work string
26) Rig up surface lines.
27) Test lines 3000psi.
28) Pump 13bbls Fresh water.
29) Mix and pump 44bbls of 15.8ppg cement slurry.
30) Displace with 1.5bbls of Fresh Water to balance
31) Continue to displace with 178bbls of well fluid to create a balanced plug
32) Note 9bbl under displace to aid in dryPOOH
33) Pick up worksting 5 joints string above TOC
34) Circulate 1 1/2 times tubing volumes clean before POOH
35) Pick up and prepare for Plug 2
36)

2.11 Plug 2 Details

Plug Details - 9 5/8in casing x 8.5in hole

JOB PARAMETERS

Plug bottom MD:	2,835m	BHST temperature:	92°C
Plug bottom TVD:	2,835m	BHCT temperature:	76°C
Plug top MD:	2,700m	Drilling mud type:	KCL/POLYMER
Plug length:	135m	Drilling mud density:	10.50ppg
Plug length with DP in:	153m		

WELLBORE

Workstring

0-2,835m	5 1/2in 24.7ppf tubing

Annulus

0-2,800m	9 5/8in 53.5ppf casing (8.535in ID)
2,800-2,835m	8.5in open hole (71% excess)

SPACERS

Spacer - Freshwater at 8.33ppg

Freshwater	42.00 gal/bbl	20.0bbl ahead and 10.2bbl behind to balance (40m annular fill / 3min contact time)

Contact times are based on the displacement rate.

CEMENT SLURRY

Composition		**Properties**	
Adelaide Brighton HTB		Surface density:	15.80 ppg
SCR-100L	2.00 gal/10bblMF	Surface yield:	1.13 ft³/sk
CFR-3L	3.00 gal/10bblMF	Total mixing fluid:	4.70 gal/sk
Freshwater	4.64 gal/sk	Thickening time (70 Bc):	4:00
NF-6	0.25 gal/10bblMF	Free water vert at 76°C:	trace %
		Fluid loss at 76°C:	<100 cc/30min
		Comp strength at 87°C	50 psi in 5 hrs
		Comp strength at 87°C	500 psi in 6 hrs
		Comp strength at 87°C	2,500 psi in 24 hrs

VOLUME CALCULATIONS

Cement

9 5/8in casing volume	100 m x 0.2322 bbl/m	23.2 bbl
8.5in hole volume	35 m x 0.2303 bbl/m	8.1 bbl
8.5in hole excess	0.71 x 8.1 bbl	5.7 bbl
	Slurry volume =37.0 bbl	

Quantity of cement	37.0 bbl x 5.6146 / 1.13 ft³/sk	184 sacks
Quantity of mix fluid	184 sacks x 4.70 gal/sk	20.6 bbl

Displacement

5 1/2in tubing volume	2,535 m x 0.0695 bbl/m	176.2 bbl
	Total displacement volume =176.2 bbl	

PUMPING SCHEDULE & TIMES	Volume (bbl)	Rate (bbl/min)	Time (min)
Make up lines & pressure test:	N/A	N/A	30
Circulate 1 x bottoms up:	390.5	6.0	65
Pump spacers ahead:	20.0	6.0	3
Mix & pump cement:	37.0	5.0	7
Drop wiper ball:	N/A	N/A	5
Pump spacers behind:	10.2	6.0	2
Pump displacement:	176.2	6.0	29
Pull workstring 45 m above TOC:	180m	9.0m/min	20
Circulate workstring clean:	185.0	6.0	31

Total job time (including circulation):	***192 min***	***3hr 12min***
Minimum cement thickening time (with 2hr safety factor):	***214 min***	***3hr 34min***

MINIMUM MATERIAL REQUIREMENTS (Double for loadout)

Spacer - Freshwater

Freshwater	30.2 bbl

Cement

Adelaide Brighton HTB	8 MT(204 ft^3)
SCR-100L	4 gals
CFR-3L	6 gals
Freshwater	20.3 bbl
NF-6	1 gals

These are estimates calculated on the information given. Calculations should be confirmed on the job site well in advance.

2.11.1 Plug 2 Job Procedure

37) RIH to 2835m with work string
38) Rig up surface lines.
39) Tested lines 2000psi.
40) Pumped 13bbls Fresh water.
41) Mixed and pumped 37bbls of 15.8ppg cement slurry.
42) Displaced with 5bbls of Fresh Water to balance
43) Continue to displace with 181bbls of well fluid to create a balanced plug
44) Note 5bbl over displaced
45) Pick up worksting 5 joints string above TOC
46) Circulate 1 1/2 times tubing volumes clean before POOH
47) Pick up and prepare for Plug 3

2.12 Plug 3 Details

Plug Details - 30in casing x 13 3/8in casing x 9 5/8in casing

JOB PARAMETERS

Plug bottom MD:	160m	BHST temperature:	25°C
Plug bottom TVD:	160m	BHCT temperature:	21°C
Plug top MD:	100m	Drilling mud type:	WBM
Plug length:	60m	Drilling mud density:	8.60ppg
Plug length with DP in:	60m		

WELLBORE

Workstring

0-160m	5 1/2in 24.7ppf tubing

Annulus

0-77m	RKB-ML
77-105m	30in 309.7ppf casing (28in ID) (60.8% excess)
105-110m	13 3/8in 68ppf casing (12.415in ID) (20% excess)
110-160m	9 5/8in 53.5ppf casing (8.535in ID) (20% excess)

SPACERS

Spacer - Seawater at 8.55ppg

Seawater	42.00 gal/bbl	20.0bbl ahead and 0.4bbl behind to balance (3m annular fill / 3min contact time)

Contact times are based on the displacement rate.

CEMENT SLURRY

Composition		**Properties**	
Adelaide Brighton Class G		Surface density:	15.90 ppg
Seawater	5.12 gal/sk	Surface yield:	1.16 ft³/sk
NF-6	0.25 gal/10bblMF	Total mixing fluid:	5.12 gal/sk
		Thickening time (70 Bc):	3:00
		Free water vert at 21°C:	trace %
		Comp strength at 24°C	50 psi in 5 hrs
		Comp strength at 24°C	500 psi in 7 hrs
		Comp strength at 24°C	2,500 psi in 24 hrs

VOLUME CALCULATIONS

Cement

30in casing volume	5 m x 2.4986 bbl/m	12.5 bbl
30in casing excess	0.61 x 12.5 bbl	7.6 bbl
13 3/8in casing volume	5 m x 0.4912 bbl/m	2.5 bbl
13 3/8in casing excess	0.20 x 2.5 bbl	0.5 bbl
9 5/8in casing volume	50 m x 0.2322 bbl/m	11.6 bbl
9 5/8in casing excess	0.20 x 11.6 bbl	2.3 bbl
		Slurry volume =37.0 bbl
Quantity of cement	37.0 bbl x 5.6146 / 1.16 ft³/sk	179 sacks
Quantity of mix fluid	179 sacks x 5.12 gal/sk	21.8 bbl

Displacement

5 1/2in tubing volume	94 m x 0.0695 bbl/m	6.6 bbl
	Total displacement volume =6.6 bbl	

PUMPING SCHEDULE & TIMES

	Volume (bbl)	Rate (bbl/min)	Time (min)
Make up lines & pressure test:	N/A	N/A	30
Circulate 1 x bottoms up:	121.4	6.0	20
Pump spacers ahead:	20.0	6.0	3
Mix & pump cement:	37.0	5.0	7
Drop wiper ball:	N/A	N/A	5
Pump spacers behind:	0.4	6.0	0
Pump displacement:	6.6	6.0	1
Pull workstring 27 m above TOC:	87m	9.0m/min	10
Circulate workstring clean:	5.0	6.0	1

Total job time (including circulation):	***77 min***	***1hr 17min***
Minimum cement thickening time (with 2hr safety factor):	***144 min***	***2hr 24min***

MINIMUM MATERIAL REQUIREMENTS (Double for loadout)

Spacer - Seawater

Seawater	20.4 bbl

Cement

Adelaide Brighton Class G	8 MT(188 ft^3)
Seawater	21.8 bbl
NF-6	1 gals

These are estimates calculated on the information given. Calculations should be confirmed on the job site well in advance.

2.12.1 Plug 3 Job Procedure

48) RIH to 160m with work string
49) Rig up surface lines.
50) Tested lines 3000psi.
51) Pumped 20bbls Fresh water.
52) Mixed and pumped 34.3bbls of 15.8ppg cement slurry.
53) Displaced with 10.2bbls of fresh water to balance
54) Continued to displace with 167.2bbls of well fluid to create a balanced plug
55) Note 9bbl under displace to aid in dry POOH
56) Pick up worksting to at 5 joints above TOC
57) Circulate 1 1/2 times tubing volumes clean before POOH
58) Pick up and End job

2.13 Plug Setting Recommendations

1. **Cement Volume: Pumping sufficient volume is one of the biggest causes of plug failures.**
   - *Open hole*: HOC + 50% excess over gauge to account for washouts, (if not calipered).
   - *Cased Hole*: 10 bbls to compensate for mud contamination.

2. **If plug is not being set on a firm base, set a CST or spot a Viscous Reactive Pill (VRP),** the same length as the proposed plug, to act as a base.

3. **Drill pipe and stinger should be drifted for accurate displacement.** Include using a latch-down indicator sub (ball catcher) to achieve accurate displacement.

4. **Wash over the plug interval.** Rotate and reciprocate down over the entire interval at maximum rate, dependent on well conditions.

5. **Minimise any shutdowns to keep the mud in a fluidised condition.** This will help to maximise mud removal efficiency when placing cement.

6. **Use a side-port diverter tool** to direct the flow outwards, minimising intermixing and providing jetting action. DO NOT USE A MULE SHOE WITH NARROW SLOTS.

7. **Plug height should be limited to 500 ft.** The extra time taken to pull slowly out of the plug increases the risk of cementing-in the cementing assembly.

8. **Use 2-7/8" or 3 ½" stinger** on the end of the drill pipe to minimise stripping the plug when POOH. The recommended length is 1.5 x plug length. When in highly deviated or horizontal holes, centralising the stinger will prevent dead areas of mud on the low side of the hole.

9. **Pump minimum of 40 bbls of spacer ahead of the plug** and required volume behind to balance & separate the mud from the cement. It is best to keep the spacer weight almost equal to the cement weight in horizontal holes.

10. **Pump spacer, cement and displacement at maximum possible rates** with the cement unit, however **do not over displace** - slow rate down prior to end of calculated displacement.

11. **Use side entry sub/swivel** or top-drive cement head to enable rotation of the drill pipe whilst pumping cement and displacement - **DO NOT reciprocate.**

12. **POOH slowly (30 - 60 ft/min)** and break connections carefully to avoid stripping plug until 500ft above the cement plug. Avoid any delay's

13. **Do not circulate on top of plug.** Break circulation slowly so as to minimise disturbance of plug. Never reverse circulate when setting an open-hole plug.

14. **Waiting on cement** should be at least the time for the plug to reach 500 psi. or 3000 psi. for a Kick-off plug. Best results have been obtained by a mandatory 24 hr WOC before disturbing the plug.

59)

2.14 Guidelines for Preparation of Cement Mixwater

From time to time it is necessary to pre-mix the additives and mixwater for a cement job instead of adding them "on the fly" via the cement unit LAP system.

NOTE: If mixing in displacement tanks, Econolite and HR-6L are not compatible in their neat form. Ensure there is a sufficient level of water for dilution before mixing chemical additives or add them separately to the mixwater

Lab testing has indicated that there is a maximum age, or retention time, **for batch mixed mixwaters,** after which they should not be used. This is because slurry properties such as thickening time may be affected, and it applies particularly to the "high fineness" additives: Silicalite Liquid, Micromax, Gascon 469 and Microbond in conjunction with cement retarders. Therefore when pre-mixing additives the following guidelines need to be followed:
Prepare drillwater/seawater in a **clean pit/blender** and check fluid has the appropriate chloride content.

Freshwater	<1000	Ppm
Seawater	<20000	Ppm

Add 2 gal of defoamer (NF-6) per 10 bbl of water.
During the casing/liner run add the additives below in the following order.

a) Extenders – **Silicalite Liquid / Gascon 469 / Econolite Liquid**, **WG-17LXP**
b) Friction Reducers – **CFR-3L**.
c) Fluid Loss/Gas Migration Additives – **Halad additives / GasStop-L**.

Once the casing is on bottom or the liner hanger has been set and just prior to/during mud conditioning add the additives below in the following order.

a) Viscosifying Additives – **SA-533**. This must be added very slowly to prevent lumps forming and should be added directly to a tub and not though a mixing hopper, since a build up of partially hydrated polymer can form inside the gooseneck. Note that SA-533 requires at least 30 mins to yield.
b) Weighting Materials – **Micromax**.

Immediately prior to the jobs commencement add the retarder and then any expansive additives. Circulate the pit with maximum agitation.

a) Retarders – **HR-6L / HR-25L / SCR-100L**.
b) Expansive Additives - **MicroBond**.

If any foaming is observed add additional anti-foaming agents as required.

NOTE: Once the retarder has been added Halliburton recommends that the maximum surface time of the mixwater should be no more than **8** hours. This is due to the retarder being attracted to the high surface area of the siliceous material in the extender. This has the effect of reducing the retardation effect of the retarder on the cement.It is recommended that if the mixwater with retarder is left for more than 8 hours on surface that it be dumped and a new batch mixed. Mixwater that has been prepared without the addition of an extender or retarder can be kept for 24 hours. After 24 hours the mixwater should not be used for cementing operations unless authorised by a Halliburton engineer.

3.0 Lab Reports

3.1 30in Conductor Casing

HALLIBURTON **CEMENT SLURRY LABORATORY REPORT**

Customer Information

Customer	: ADA	Date	: 28-Nov-08
Rig Name	: West Triton	Lab Reference	: C-08-034A
Well Name	: Spikey Beach ,	API Schedule	:
Pipe Size / Casing Size	: 30" Conductor Casing		

Well Information

BHST	:	28	°C
BHCT	:	23	°C
Measured Depth	:	212	m
Total Vertical depth	:	212	m

HalCem™ cement Casing Slurry Design

MATERIAL		Conc.	Unit	Conc.	Unit	Date	Source
ABC Class G		94.00	lbs			25/11/08	From Rig
NF-6		0.003	gal/sk	0.25	gal/10bbl		
Seawater		5.15	gal/sk				
Total Mixing Fluid	:	5.15	gal/sk				
Slurry Density	:	15.9	lb/gal				
Slurry Yield	:	1.16	ft^3/sk				

Laboratory Test Results

Thickening Time

Initial BC	30	50	70
18	3:05	3:50	4:11

Pumping time at 23 °C & 561 psi is 4:11 hrs:mins

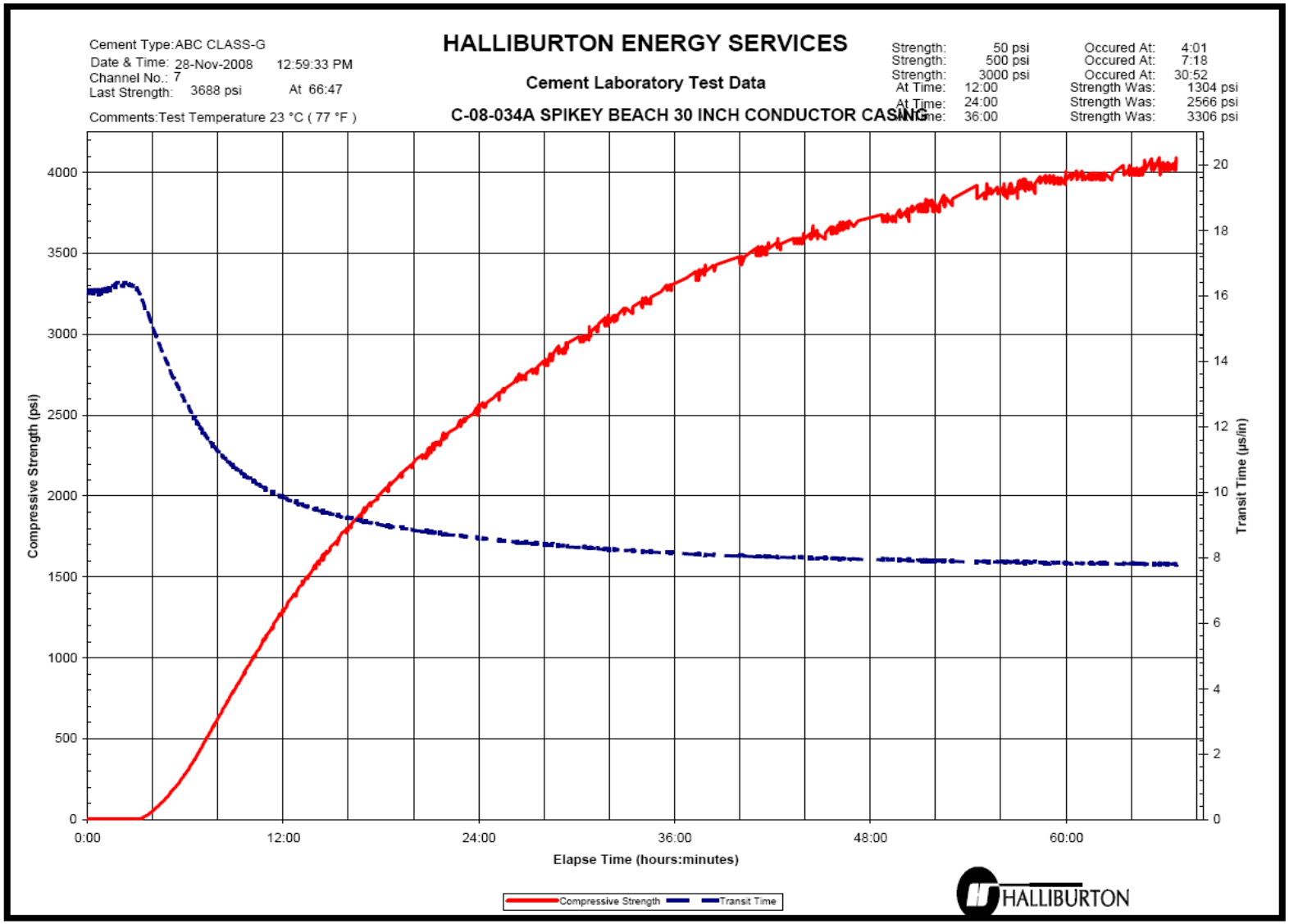
Slurry thickening time test is performed with slurry in motion, not in static condition

Compressive Strength

Non Destructive (UCA)	Temp	Pressure	50psi	24 hours
	28 °C	3000 psi	4:01	2566 psi

Lab Technician: Gary Reid
Approved: Dave Webb

APPROVED
By Prem kumar Salibendla at 1:33 pm, Dec 04, 2008


HALLIBURTON ENERGY SERVICES
Cement Laboratory Test Data
C-08-034A SPIKEY BEACH 30 INCH CONDUCTOR CASING
Cement Type:ABC CLASS-G
Date & Time: 28-Nov-2008 12:59:33 PM
Channel No.: 7
Last Strength: 3688 psi At 66:47
Comments:Test Temperature 23 °C (77 °F)
Strength: 50 psi Occured At: 4:01
Strength: 500 psi Occured At: 7:18
Strength: 3000 psi Occured At: 30:52
At Time: 12:00 Strength Was: 1304 psi
At Time: 24:00 Strength Was: 2566 psi
At Time: 36:00 Strength Was: 3306 psi
Compressive Strength (psi)
Transit Time (µs/in)
Elapse Time (hours:minutes)
0:00
12:00
24:00
36:00
48:00
60:00
Compressive Strength
Transit Time
HALLIBURTON

3.2 13 3/8in Surface Casing

HALLIBURTON **CEMENT SLURRY LABORATORY REPORT**

Customer Information

Customer	: ADA	Date	: 28-Nov-08
Rig Name	: West Triton	Lab Reference	: C-08-035A
Well Name	: Fermat-1	API Schedule	:
Pipe Size / Casing Size	: 13 3/8" Intermediate Casing		

Well Information

BHST	:	40	°C
BHCT	:	33	°C
Measured Depth	:	1000	m
Total Vertical depth	:	1000	m

HalCem™ cement Casing Slurry Design

MATERIAL	Conc.	Unit	Conc.	Unit	Date	Source
ABC Class G	94.00	lbs			25/11/08	From Rig
NF-6	0.003	gal/sk	0.25	gal/10bbl		
Freshwater	5.11	gal/sk	Cl- Content	400	mg/L	

Total Mixing Fluid	:	5.11	gal/sk
Slurry Density	:	15.8	lb/gal
Slurry Yield	:	1.16	ft^3/sk

Laboratory Test Results

Thickening Time

Initial BC	30	50	70
29	2:47	4:01	4:25

Pumping time at 33 °C & 1488 psi is 4:25 hrs:mins

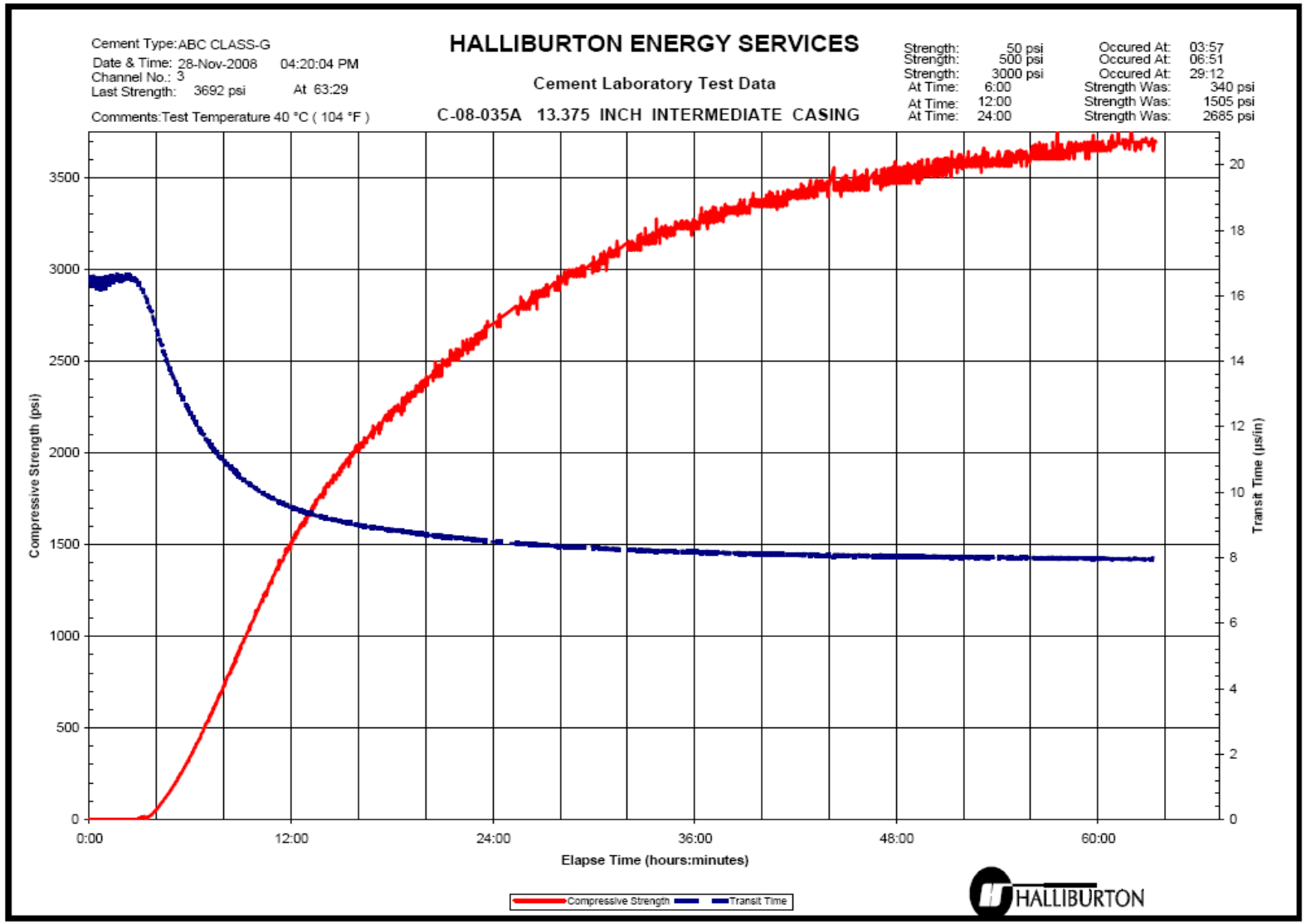
Slurry thickening time test is performed with slurry in motion, not in static condition

Compressive Strength

Non Destructive (UCA)	Temp	Pressure	50psi	24 hours
	40 °C	3000 psi	3:57	2685 psi

Lab Technician: Gary Reid
Approved: Dave Webb

APPROVED
By Prem kumar Salibendla at 3:09 pm, Dec 15, 2008


Cement Type: ABC CLASS-G
Date & Time: 28-Nov-2008 04:20:04 PM
Channel No.: 3
Last Strength: 3692 psi At 63:29
Comments: Test Temperature 40 °C (104 °F)
HALLIBURTON ENERGY SERVICES
Cement Laboratory Test Data
C-08-035A 13.375 INCH INTERMEDIATE CASING
Strength: 50 psi Occured At: 03:57
Strength: 500 psi Occured At: 06:51
Strength: 3000 psi Occured At: 29:12
At Time: 6:00 Strength Was: 340 psi
At Time: 12:00 Strength Was: 1505 psi
At Time: 24:00 Strength Was: 2685 psi
Compressive Strength (psi)
Transit Time (µs/in)
Elapse Time (hours:minutes)
0:00
12:00
24:00
36:00
48:00
60:00
Compressive Strength
Transit Time
HALLIBURTON

3.1 9 5/8in casing

Cement Laboratory Report		HALLIBURTON MANAGEMENT SYSTEM Australasia		
DOCUMENT NO:	PREPARED BY	APPROVED BY	REVISION NO:	DATE
	Megan Beale		12	25-Jun-07

HALLIBURTON **CEMENT SLURRY LABORATORY REPORT**

Customer Information

Customer	:	ADA	Date	:	17-Dec-08
Rig Name	:	West triton	Lab Reference	:	C-08-037B
Well Name	:	Fermat 1	API Schedule	:	
Pipe Size / Casing Size	:	9.625			

Well Information

BHST	:	85	°C
BHCT	:	60	°C
Measured Depth	:	2700	m
Total Vertical depth	:	2700	m

HalCem™ cement Casing Slurry Design

MATERIAL	Conc.	Unit	Conc.	Unit	Date	Source
ABC Class G	94.00	lbs			10/11/08	BBMT
CFR-3L	0.037	gal/sk	3.00	gal/10bbl		
Halad-413L	0.369	gal/sk	30.00	gal/10bbl		
SCR-100L	0.025	gal/sk	2.00	gal/10bbl		
NF-6	0.003	gal/sk	0.25	gal/10bbl		
Drill Water	4.74	gal/sk				
Total Mixing Fluid :	5.17	gal/sk				
Slurry Density :	15.8	lb/gal				
Slurry Yield :	1.16	ft^3/sk				

Laboratory Test Results

Thickening Time

Initial BC	30	50	70
17	4:59	5:07	5:10

Pumping time at 60 °C & 5009 psi is 5:10 hrs:mins

Slurry thickening time test is performed with slurry in motion, not in static condition

Free Fluid Traces Vertical at 27 °C

API Fluid Loss cc/30 mins. at 60 °C and 1,000 psi

Slurry Rheology

	Fann Readings (RPM) 300	200	100	6	3	PV (cP)	YP ($lb_f/100ft^2$)
Mix Temp Raised Temp 60 °C							

Compressive Strength

	Temp	Pressure	50psi	24 hours
Non Destructive (UCA)	85 °C	3000 psi		

Lab Technician: Gary Reid
Approved: Dave Webb

3.2 Plugs

HALLIBURTON CEMENT SLURRY LABORATORY REPORT

Customer Information

Customer	: ADA	Date	: 09-Jan-09
Rig Name	: West Triton	Lab Reference	: C-08-002C
Well Name	: Fermat-1	API Schedule	:
Pipe Size / Casing Size	: Plug 1 & 2		

Well Information

BHST	:	103	°C
BHCT	:	86	°C
Measured Depth	:	3286	m
Total Vertical depth	:	3286	m

HalCem™ cement Plug Slurry Design

MATERIAL	Conc.	Unit	Conc.	Unit	Date	Source
ABC HTB	69.60	lbs			10/10/08	From Rig
CFR-3L	0.034	gal/sk	3.00	gal/10bbl		
SCR-100L	0.045	gal/sk	4.00	gal/10bbl		
NF-6	0.003	gal/sk	0.25	gal/10bbl		
Tap Water	4.64	gal/sk	Cl- Content	200	mg/L	

Total Mixing Fluid	:	4.71	gal/sk
Slurry Density	:	15.8	lb/gal
Slurry Yield	:	1.13	ft^3/sk

Laboratory Test Results

Thickening Time

Initial BC	30	50	70
25	2;05	4:32	4:34

Pumping time at 86 °C & 6720 psi is 4:34 hrs:mins

Slurry thickening time test is performed with slurry in motion, not in static condition

Free Fluid Traces at 27 °C

Lab Technician: Gary Reid
Approved: Prem kumar Salibendla

The above pilot report is based on sound engineering practices, but because of variable well conditions and other information which must be relied upon, Halliburton makes no warranty, express or implied, as to the accuracy of the data or any of the calculations or opinions expressed herein. You agree that Halliburton shall not be liable for any loss or damage whether due to negligence or otherwise arising out of or in connection with such data, calculations or opinions.

4.0 Summary, EJCS, Job Logs

4.1 30in Conductor Casing

Beach Petroleum

POST JOB REPORTS
CEMENTING/PUMPING

Well Name : Fermat #1

Rig: West Triton

CEMENT CONDUCTOR CASING 14161

Prepared for Sean Defrietas

15/12/2008

Prepared by John Hargreaves

HALLIBURTON

The Future is Working Together.

HALLIBURTON

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum		15 December 2008

CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat #1	Otway Basin	Australia	John Hargreaves	Sean Defrietas	Exploration
JOB TYPE		**JOB PURPOSE CODE**		**BDA**	**RIG**
Zonal Isolation		CEMENT CONDUCTOR CASING 14161		Perth	West Triton

KEY PERFORMANCE INDICATORS

TYPE OF JOB (Cementing or Non-Cementing): Cementing
Select the job type (Cementing or Non-Cementing)

TOTAL OPERATING TIME (hrs) 120.0 hrs
Rig up/ Pumping/ Rig Down

HSE INCIDENT, ACCIDENT, INJURY: NO
This should be recordable incidents only

WAS THE JOB DELIVERED CORRECTLY AS PER. YES
This will be dictated by the customer

TOTAL TIME PUMPING (hrs) 1hr15min
Total number of hours pumping fluid on this job

NON -PRODUCTIVE RIG TIME: none
As a result of Halliburton cementing PSL

NUMBER OF JSA'S PERFORMED: 1

NUMBER OF UNPLANNED SHUTDOWNS (After starti none

TYPE OF RIG(CLASSIFICATION) JOB WAS PERFORM JACKUP

REASON FOR UNPLANNED SHUTDOWNS (After starting to pump)
Add details in job logs

REASON FOR NON-PRODUCTIVE RIG TIME (Cementing PSL resp
Add details in job logs

WAS THIS A PRIMARY CEMENT JOB (YES / NO) YES
Primary cement job = Casing job, Liner Job, tie back

DID WE RUN WIPER PLUGS? None

WAS THIS A PLUG OR SQUEEZE JOB? Neither

WAS THIS A PRIMARY OR REMEDIAL JOB? Primary
Remedial = Repeated attempts or corrections of initial cement job

MIXING DENSITY OF JOB STAYED IN DESIGNED RANGE 97%
Density defined as +/- 0.2ppg. Calculation: Total bbls cement mixed at designed density divided by total bbls of cement multiplied by 100

WAS AUTOMATED DENSITY CONTROL USED YES

JOB WAS PUMPED AT DESIGNED PUMP RATE 100%
Pump rate ranged defined as +/- bpm. Calculation : total bbls of fluid pumped at the designed rate divided by total bbls of fluid pumped multiplied by 100

NUMBER OF REMEDIAL SQUEEZE JOBS REQUIRED - HE Zero
Number of remedial squeeze jobs required after primary job performed by HES

NUMBER OF REMEDIAL AQUEEZE JOBS REQUIRED - CO Zero
Number of remedial squeeze jobs required after primary job performed by competition

NUMBER OF REMEDIAL PLUG JOBS REQUIRED - HES Zero
Number of remedial plug jobs required after primary plug pumped by HES

EJCS / CUSTOMER COMMENTS

Dear Customer,

We hope you were happy with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and services of a standard unmatched in the service sector of the energy industry

Please take the time to let us know if our performance met your expectations. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use

Please indicate your response by placing a tick in the box underneath the rating that best matches your opinion.

	Superior Performance (Establish new quality performance)	**Exceeded Expectations** (Provided more than what was expected)	**Met expectations** (Did what was expected)	**Below expectations** (Did not do what was expected, recovery made)	**Poor** (Job problems / failure occured) **Create CPI**
	5	4	3	2	1
Did our personnel perform the job to your satisfaction?					
Did our equipment perform the job to your satisfaction?					
Did we perform the job to the agreed upon design?					
Did our products and materials perform as you expected?					
Did we perform in a safe & careful manner? PPE, Pre/Post mtgs, JSA					
Did we perform in an environmentally sound manner? Spills, discharges, clean up					
Was the job performed as scheduled? On time, as designed/discussed					
Did the equipment condition & appearance meet you expectations?					
How well did our personnel communicate during mobilisation, rig up and job execution					

	YES	NO
Overall, I was satisfied with Halliburton's job performance		

Customer Comments? *(What can we do to improve/maintain our services?)*

Customer Signature: ..... **Date:** .....

PERSONELL

PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE	hrs	PERSONNEL / EXPOSURE	hrs
126881	John Hargreaves	120	398914	Danny Lorroway	48				

EQUIPMENT

SAP#	PUMPING / MIXING	HOURS	SAP#	BULK SUPPLY / TANKS	HOURS
10951913	SKD ADVANTAGE 25DZ2 - WEST TRITAN	144			
10960844	SKD CMS - WEST TRITAN	144			

FLOAT EQUIPMENT AND CASING EQUIPMENT

SAP#	FLOAT EQUIPMENT	QTY	SAP#	PLUGS	QTY
	20 to 30" Drill Quip float shoe	1			
SAP#	**CASING ATTACHMENTS**	**QTY**	**SAP#**	**OTHER**	**QTY**
	20" Weatherford Bow Centralizer	1		Stab in adapter to suit Drill Quip Float shoe	1

WELL PROFILE

NEW CASING	OPEN HOLE + EXCESS OR CALIPER DATA	PREVIOUS CASINGS
Non Tapered Casing , Innerstring, N/Am shoe track		
30"in 310ppf X52 D60Mt : 18m to 116m MD, m TVD	36in, 200 percent excess, 76m to 120m	

FOR PLUG AND LINER JOBS PLEASE INDICATE WORKSTRING 5.5in 24.7ppf Drill Pipe with No Stinger

CEMENT DESIGN

Single			
DENSITY	15.9ppg	**WATER**	5.15gal/sk
YIELD	1.16cuft/sk	**MIX FLUID**	5.15gal/sk
WATER SOURCE	Seawater		
CEMENT TYPE	ABC Class 'G' at 94lb/sk		
Total Cement Used	943sks		
Estimated TOC	77m		
Additive	**Concentration**	**Total Used**	

END OF JOB DETAILS

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum		15 December 2008

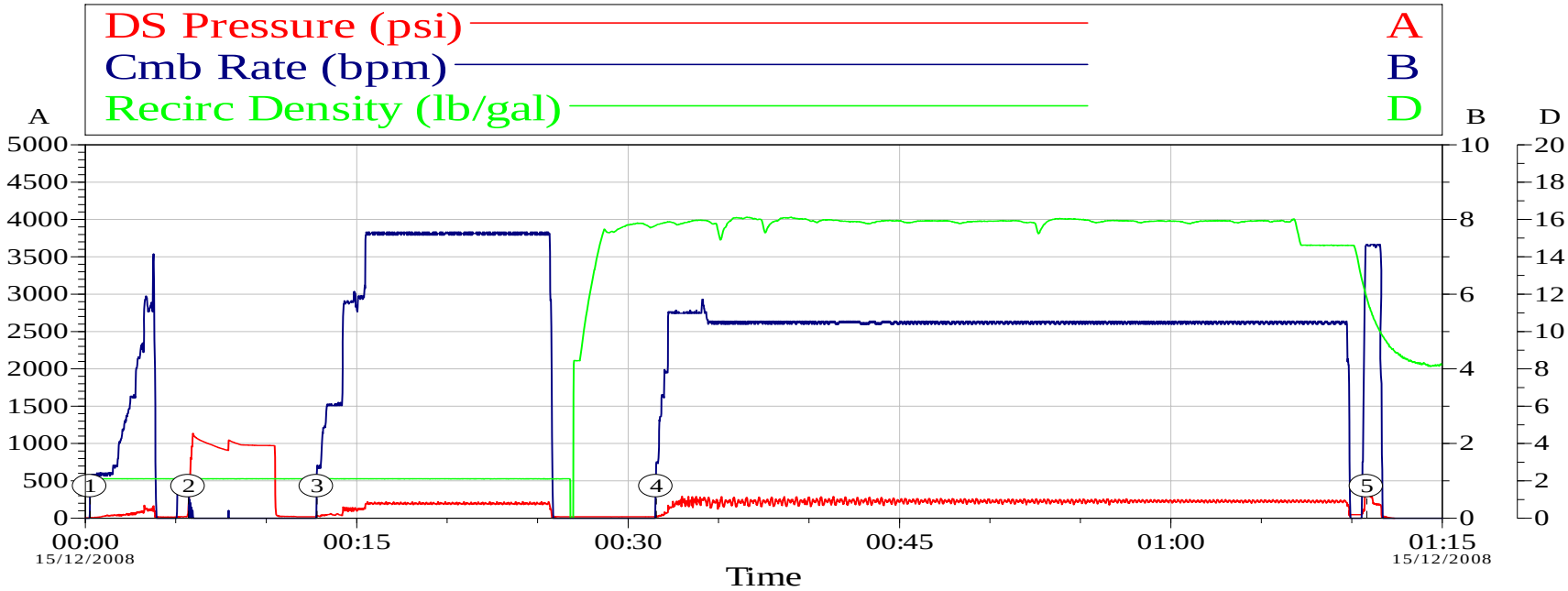
CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat-1	Otway Basin	Australia	John Hargreaves	Sean Defrietas	Exploration

JOB TYPE	JOB PURPOSE CODE	BDA	RIG
Zonal Isolation	CEMENT CONDUCTOR CASING 14161	Perth	West Triton

JOB LOGS

DATE DAY-MTH-YR	TIME HRS:MIN	VOLUME BBLS	PRESSURE (psi) HIGH	PRESSURE (psi) LOW	RATE BPM	JOB DESCRIPTION REMARKS/DETAILS
11/12/2008						John Hargreaves arrive West triton Platform, Nigel Lucas off rig--Rig on Tow to location
12/12/2008						Rig on Location Fermat #1- Preload and Jacking operations
13/12/2008						Rig finished preloading and skid canter lever out and prepare for spudding in of well
						Run cmt unit and pressure test unit 5500psi all Ok.
						Danny Lorraway arrive West Triton,Hook up chicksan lines from rig floor to Cmt unit
14/12/2008						Prepare for 30" Conductor cmt job.Rig continue with drilling operations until TD section
						120M pooh with Bha and run 30" conductor then rih 5" DP for 30" Conductor cmt job
	23:00					tagged Drill quip float shoe and stab into float shoe ,Break circualtion with rig pumps
	23:10					Rov confirm returns,Fill Annulas between DP and conductor to check seal on stab
						in adapter all Ok.
	23:45					Hold pre job cmt safety meeting with Drill Crew, etc.
15/12/2008	0:00	10	200		7	Pump 10 BBL Seawater
	0:05		1000			Pressure test line to 1000psi
	0:12	90	200		7.5	Pump 90 BBL's Seawater
	0:31	195	230	100	5	Mix and pump 195 BBL's Cmt slurry @ 15.9 ppg
	1:10	7	230		7	Displace 7 BBL's Seawater
	1:12					Finish displacing cmt ,Shut down pumps and bled any pressure off.
						Monitor floats - Floats held and just under 1 BBL's returned to cmt unit.
						Hand over to rig pumps and unsting out of Float shoe and circulate DP Clean



Stages

1	Pump 10 BBL's Seawater	00:00:16	2	Pressure test lines	00:05:42
3	Pump 90 BBL's Seawater	00:12:48	4	Mix and Pump 195BBLs CMT Slurry	00:31:34
5	Displace 7BBL's Seawater	01:10:50			

Customer: ADA/Beach Petroleum	Job Date: 15/12/08
Well Description: 30" Conductor	Well Name: Fermat#1

CemWin v1.7.2
15-Dec-08 09:22

HALLIBURTON

PRE JOB OPERATIONAL CHECKLIST

WELL NAME	Fermat #1
DATE	14/12/2008
JOB DETAIL	Cmt 30" Conductor
HES REP	John Hargreaves
COMP REP	Sean Defrietas

JSA's reviewed	YES	
Unit checklist signed	YES	
Correct PPE onsite	YES	
MSDS for chemicals available	NA	

VOLUMES		**TARGET RATE**
Spacers	100.0bbls	
Lead slurry	0.0bbls	
Tail Slurry	195.0bbls	
Displacement	7.0bbls	
Top Up Job		
Max Rate Allowed	10BPM	

PRESSURE		
Surface Lines test	1000psi	
The surface line test should be at least the max allowable pressure for the job		
Casing Pressure test	N/A	
Max pressure allowed	1500psi	**CHECK CASING GRADE!**
Kickouts/PRV set to max psi allowed	**1500psi**	***CRITICAL***
Expected Bump Pressure	**N/A**	

DATA RECORDING		
Unipro / Chart recorder Functional & ON	YES	***CRITICAL***
Displacement pressures monitorable?	YES	If the rig is displacing can we monitor the pressure?
Previous Jobs Downloaded	NA	

WELL CONDITIONS

Any Abnormal conditions expected,any instructions?

*REMEMBER - AT ANY TIME THE JOB PARAMETERS CHANGE OR THERE IS AN UNPLANNED EVENT, **STOP THE JOB ,STEP BACK AND COMMUNICATE** WITH YOUR WORK PARTY THE NEW PLAN*

HALLIBURTON

Engines	Pass	Fail	Comments
Check Oils,water,air	x		
Air Starter Operation	x		
Check Fuel Filter / levels	x		
Check Throttle / Trans. operation	x		
Check for Oil Leaks	x		
Hydraulic System / Filters	x		

Control Panel	Pass	Fail	Comments
MD Gauges	x		
Air ,Oil,Temp Gauges	x		
Air Actuator Valves / Hoses	x		
mix / boost pump gauges	x		
Kick Outs Functional	x		

Displacement Tanks	Pass	Fail	Comments
Tank Condition	x		
All Butterfly Valves	x		
Air Actuators	x		

RCM	Pass	Fail	Comments
Recirc / Mix Pump	x		
Cement Head Operation	x		
Agitators	x		
MD Chart Recorder	x		
Unipro Operation	x		

HT-400 Pumps	Pass	Fail	Comments
Power End Oil Checked	x		
Oiler Operation	x		
Plungers & Packing	x		
Valves	x		

Auxillary Equipment	Pass	Fail	Comments
All Lo-Torq Valves Serviced	x		
Lo-Torq's Operating Freely	x		
Chiksan Loops Serviced - Tested	x		
All suction hoses serviceable	x		
Cement Head serviced	x		
Debrief with Rig Representative	**YES**	**NO**	
	X		

Operator:John Hargreaves	**Date**	**14/12/2008**
Company Rep:Sean Defreitas	**Rig**	**West Triton**

4.2 13 3/8 Surface casing

Beach Petroleum

POST JOB REPORTS
CEMENTING/PUMPING

Well Name : Fermat #1

Rig: West Triton

SURFACE CASING 7521

Prepared for Peter Sheenan

18/12/2008

Prepared by John Hargreaves

HALLIBURTON

The Future is Working Together.

HALLIBURTON

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum		18 December 2008

CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat #1	Otway Basin	Australia	John Hargreaves	Peter Sheenan	Exploration
JOB TYPE		**JOB PURPOSE CODE**		**BDA**	**RIG**
Zonal Isolation		SURFACE CASING 7521		Perth	West Triton

KEY PERFORMANCE INDICATORS

TYPE OF JOB (Cementing or Non-Cementing): Cementing
Select the job type (Cementing or Non-Cementing)

TOTAL OPERATING TIME (hrs) 72.0 hrs
Rig up/ Pumping/ Rig Down

HSE INCIDENT, ACCIDENT, INJURY: NO
This should be recordable incidents only

WAS THE JOB DELIVERED CORRECTLY AS PER. YES
This will be dictated by the customer

TOTAL TIME PUMPING (hrs) 2hr45min
Total number of hours pumping fluid on this job

NON -PRODUCTIVE RIG TIME: none
As a result of Halliburton cementing PSL

NUMBER OF JSA'S PERFORMED: 2

NUMBER OF UNPLANNED SHUTDOWNS (After starti none

TYPE OF RIG(CLASSIFICATION) JOB WAS PERFORM JACKUP

REASON FOR UNPLANNED SHUTDOWNS (After starting to pump)
Add details in job logs

REASON FOR NON-PRODUCTIVE RIG TIME (Cementing PSL resp
Add details in job logs

WAS THIS A PRIMARY CEMENT JOB (YES / NO) YES
Primary cement job = Casing job, Liner Job, tie back

DID WE RUN WIPER PLUGS? Top Plug

WAS THIS A PLUG OR SQUEEZE JOB? Neither

WAS THIS A PRIMARY OR REMEDIAL JOB? Primary
Remedial = Repeated attempts or corrections of initial cement job

MIXING DENSITY OF JOB STAYED IN DESIGNED RANGE 100%
Density defined as +/- 0.2ppg. Calculation: Total bbls cement mixed at designed density divided by total bbls of cement multiplied by 100

WAS AUTOMATED DENSITY CONTROL USED YES

JOB WAS PUMPED AT DESIGNED PUMP RATE 100%
Pump rate ranged defined as +/- bpm. Calculation : total bbls of fluid pumped at the designed rate divided by total bbls of fluid pumped multiplied by 100

NUMBER OF REMEDIAL SQUEEZE JOBS REQUIRED - HE Zero
Number of remedial squeeze jobs required after primary job performed by HES

NUMBER OF REMEDIAL AQUEEZE JOBS REQUIRED - CO Zero
Number of remedial squeeze jobs required after primary job performed by competition

NUMBER OF REMEDIAL PLUG JOBS REQUIRED - HES Zero
Number of remedial plug jobs required after primary plug pumped by HES

EJCS / CUSTOMER COMMENTS

Dear Customer,

We hope you were happy with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and services of a standard unmatched in the service sector of the energy industry

Please take the time to let us know if our performance met your expectations. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use

Please indicate your response by placing a tick in the box underneath the rating that best matches your opinion.

	Superior Performance (Establish new quality performance)	**Exceeded Expectations** (Provided more than what was expected)	**Met expectations** (Did what was expected)	**Below expectations** (Did not do what was expected, recovery made)	**Poor** (Job problems / failure occured) **Create CPI**
	5	4	3	2	1
Did our personnel perform the job to your satisfaction?					
Did our equipment perform the job to your satisfaction?					
Did we perform the job to the agreed upon design?					
Did our products and materials perform as you expected?					
Did we perform in a safe & careful manner? PPE, Pre/Post mtgs, JSA					
Did we perform in an environmentally sound manner? Spills, discharges, clean up					
Was the job performed as scheduled? On time, as designed/discussed					
Did the equipment condition & appearance meet you expectations?					
How well did our personnel communicate during mobilisation, rig up and job execution					

	YES	NO
Overall, I was satisfied with Halliburton's job performance		

Customer Comments? *(What can we do to improve/maintain our services?)*

Customer Signature: ..... **Date:** .....

PERSONELL

PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE	hrs	PERSONNEL / EXPOSURE	hrs
126881	John Hargreaves	72	443875	Mat Wynd	12				

EQUIPMENT

SAP#	PUMPING / MIXING	HOURS	SAP#	BULK SUPPLY / TANKS	HOURS
10951913	SKD ADVANTAGE 25DZ2 - WEST TRITAN	72			
10960844	SKD CMS - WEST TRITAN	72			

FLOAT EQUIPMENT AND CASING EQUIPMENT

SAP#	FLOAT EQUIPMENT	QTY	SAP#	PLUGS	QTY
	13 3/8" Float collar BTC Super Seal II L-80-NR	1	100004666	13 3/8" SSR Top Plug NR	1
	13 3/8" Float shoe BTC Super Seal II L-80	1			
SAP#	**CASING ATTACHMENTS**	**QTY**	**SAP#**	**OTHER**	**QTY**
#N/A	13 3/8in x17.5in Centek Halliburton Centralizers	6		250Ton Halliburton SSR Plug CMT Head	1

WELL PROFILE

NEW CASING	OPEN HOLE + EXCESS OR CALIPER DATA	PREVIOUS CASINGS
Non Tapered Casing , SSR, 12.18m shoe track		
13 3/8"in 68ppf N-80 BTC : 19.3m to 987m MD, m TVD	17.5in, 10 percent excess, 116m to 999m	30in, 310ppf, 19.3m to 116m

FOR PLUG AND LINER JOBS PLEASE INDICATE WORKSTRIN 5.5in 24.7ppf Drill Pipe with 22m of 5.5in 24.7ppf Stinger

CEMENT DESIGN

Single			
DENSITY	15.8ppg	**WATER**	5.11gal/sk
YIELD	1.16cuft/sk	**MIX FLUID**	5.11gal/sk
WATER SOURCE	Drillwater		
CEMENT TYPE	ABC Class 'G' at 94lb/sk		
Total Cement Used	1103sks		
Estimated TOC	500m		
Additive	**Concentration**	**Total Used**	

END OF JOB DETAILS

HALLIBURTON

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum		18 December 2008

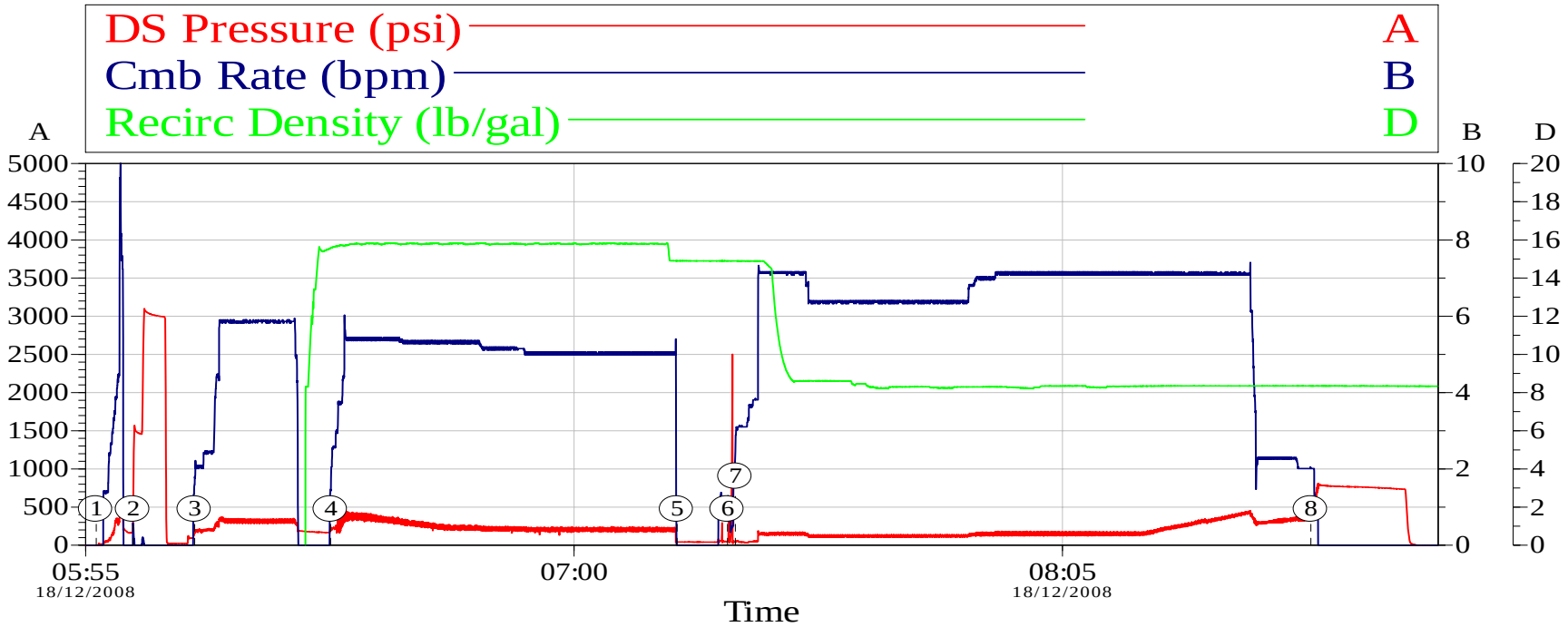
CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat-1	Otway Basin	Australia	John Hargreaves	Peter Sheenan	Exploration

JOB TYPE	JOB PURPOSE CODE	BDA	RIG
Zonal Isolation	SURFACE CASING 7521	Perth	West Triton

JOB LOGS

DATE DAY-MTH-YR	TIME HRS:MIN	VOLUME BBLS	PRESSURE (psi) HIGH	PRESSURE (psi) LOW	RATE BPM	JOB DESCRIPTION REMARKS/DETAILS
16/12/2008						Rig make up BHA and rih to drill next section with 17 1/2" Bit
17/12/2008						Rig continue with Drilling operations reach TD 333m Pooh
						Hold JSA before making Cmtchead up on 5 1/2" DP and racking back in Derrick.
	14:30					Make up Cmt head with Pup jnts and X-over
	15:30					Finished make up and rack back in Derrick.Rig go ahead and rig and run 13 3/8" Casing.
18/12/2008	3:30					Test Drill water in case of contaimination by Seawater all Ok.
	3:40					Make up Drill Quip housing ,running tool with 13 3/8" Top Plug
	4:10					Make up Top Drive and wash casing to Bottom,Pump rate = 6Bpm.
	5:05					Pick up SSR Cmt head make up on DP and rih to land out 13 3/8" casing with Drill Quip.
						Land casing out and rig up cmt head mainfold.
	5:30					Hold pre job cmt safety meeting with Drill Crew, etc.
	5:56	10	400		7	Pump 10 BBL Freshwater
	6:00		3000			Pressure test line to 3000psi
	6:09	70	450		7	Pump 70 BBL's Freshwater
	6:27	228	450		5	Mix and pump 228 BBL's Cmt slurry @ 15.8 ppg
	7:13					Drop DP Dart
	7:20	1.7			1.5	Displace 1.7BBL's freshwater - DP dart Latch into Top and sheared at 2500psi
		10				continue to displace and displace 10 BBL's Freshwater
		,460				Change over to Seawater and displace 460BBL's Seawater
	8:38		800			Bumped Plug to 800psi and hold pressure for 10minutes.
	8:51					Bled pressure off and monitor floats- Floats hold and 3 1/4" BBL's returned.
						Set Drill Quop running tool and back out.
	10:40					Break out SSR cmt head and take off Rig floor.
	12:00					Break out equalizing sub and off rig floor
						Rig continue with rig operation and nipple up Bop's.



Stages

1	Pump Freshwater Spacer 10BBL's	05:56:24	2	Pressure test Lines	06:01:20
3	Pump Freshwater Spacer 70BBL's	06:09:32	4	Mix and pump 228 BBL's Cmt Slurry @15.8ppg	06:27:37
5	Drop Drill Pipe Dart displace 1.7BBL's	07:13:43	6	Dp dart latch Top Plug and shear out	07:20:26
7	Displace 107BBL's H20 - 460BBLs Seawater	07:21:29	8	Bumped plug to 800psi	08:38:04

Customer: Ada/Beach Petroleum Job Description: 13 3/8" Surface casing	Job Date: 18/12/08	Well Fermat#1

CemWin v1.7.2
18-Dec-08 14:26

HALLIBURTON

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum	0	18 December 2008

CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat #1	Otway Basin	Australia	John Hargreaves	Peter Sheenan	Exploration
JOB TYPE		**JOB PURPOSE CODE**		**BDA**	**RIG**
Zonal Isolation		SURFACE CASING 7521		Perth	West Triton

ATTENDEES

Halliburton Cmt crew	Company Man		
Drill Crew			

HAZARDS FOUND AT JOB SITE

MARK BOXES WITH AN (X) OR LEAVE BLANK IF NOT APPLICABLE

- [ ] **Electrical** Discuss location of electrical lines and power sources in relation to equipment and lines
- [x] **Hydraulic Leaks** - Discussed procedures to follow for leaks
- [ ] **Chemicals** Discuss harmful substances on the job site (eg. H2S, flammable gasses, drilling fluids, additives well bore fluids, Radioactive). Ask for MSDS sheets when necessary Discuss possible exposures to substances such as dust, acids, akalines, vapours, and Flammable/combustibles
- [x] **Communication** Discuss radios, hand signals etc.
- [x] **Noise** Discuss noise levels from equipment. Avoid placing high noise producing equipment next to work stations when possible. Avoid areas of high noise if possible or use appropriate hearing protection
- [ ] **Explosives** Discuss explosives handling and storage procedure
- [ ] **Ignition sources** Discuss possible ignition sources (eg. engines, electrical equipment, open flames, smoking etc.)
- [x] **Lifting** Discuss proper lifting techniques and ways to eliminate or reduce heavy lifting such as; forklifts, cranes, and sharing the load.
- [ ] **Wireline** Discuss cables, tape off no go areas.
- [ ] **Confined Spaces** Discuss any required entry into confined spaces (eg. Cellars, tanks, pits).
- [x] **Walking / Working Surfaces** Discuss the terrain where the rig up and job will occur (eg. Boards, limestone, mud, stairways, walkways, the derrick, and the rig floor Discuss the dangers in walking on cementing equipment, especially on HT400 pumps
- [ ] **Wellbore fluids or Gasses** Discuss shale shaker, Frac tanks, return lines, and vent lines.
- [x] **Slipping and tripping** Discuss tripping hazards (eg. equipment and lines on the ground and rig floor, suction hoses and vent lines)
- [ ] **Falling** Discuss job procedures requiting work at heights greater than 1.8m
- [ ] **Environment** Discuss environmental conditions (eg. heat, cold, ice snow, rain, wind, dust, visibility etc.)
- [x] **Overhead** Discuss overhead hazards (eg, guy wires, hazards while on rig floor or under the rig floor). Discuss equipment rigged up overhead such as DME above the rig floor, lubricators, chains, pulleys.
- [ ] **Radiation** Discuss radiation hazards introduced to the site.
- [x] **Pressure** Discuss pressure hazards such as DME and bulk tanks

HAZARD CONTROLS

- [x] **Personal protective equipment** Discuss required PPE such as respirators, head protection, hearing protection, protective footwear, hand and skin protection, and fall protection
- [x] **Assembly Points** Discuss where to gather in the event of an emergency.
- [x] **Physical barriers** Discuss items such as hose covers, line tie-downs, guards, railings, and inert gas blankets.
- [ ] **Location of eyewash / safety shower station** Discuss the location of the eyewash / safety shower station and how to use it.
- [x] **Spill control** Discuss measures used for reporting and containing spills.
- [ ] **Vents** Discuss vent lines for Frac tanks and bulk tanks.
- [ ] **Ignition source controls** Discuss control measures for ignition sources such as the use of spark arresters, emergency shutdown procedures, and NO SMOKING rules.
- [ ] **Safety equipment** Discuss safety items such as pop-off valves, fire extinguishers, and communication devices.
- [x] **Emergency Shut Down Procedures** Discuss when, how and what to shut down in the event of an emergency.
- [ ] **Wind direction** Discuss the wind direction and how it may change the contingency plan such as the assembly area location, and discuss how to detect wind direction on the job site (eg. Windsocks, streamers etc.)
- [x] **Recovery Procedures** Discuss how to return to normal operating procedures after an emergency.
- [x] **Fire fighting** Discuss fire fighting responsibilities with the appropriate personnel (trained & equipped personnel only)
- [ ] **First Aid Station** point out the location of the first aid lot and who is responsible for administering first aid.
- [x] **High Pressure Manifolding** Clearly mark all high pressure manifolding after rigging it up and before commencing any pumping. Possible marking may include: Yellow tape, signs, roping off the area, orange cones etc.
- [ ] **Environment** Discuss control measures for environmental factors such as temperature, wind, ice, rain, snow, etc.
- [x] **Injury and Accident Procedures** Discuss personnel responsibilities and procedures in the event of an injury or accident.
- [x] **Rescue Procedures** Discuss rescue procedures with the appropriate personnel (trained and equipped)

PERSONELL RESPONSIBILITES

Discuss individual roles and responsibilities for all of the above. Determine the level of understanding by asking questions, performing skill checks or other forms of evaluation, depending upon the hazards of the process (eg. Opening and closing of valves, the correct use of communication devices, the correct use of specific PPE such as fall protection, and an understanding of equipment and procedures.

EMERGENCY PROCEDURES

TOTAL EVACUATION AREA!!

CONTACT DETAILS

Ambulance / EMS:		First Aid Responders on this site (names):	
Doctor:			
Supervisor: Halliburton		Hospital:	
Fire Department		Police:	
Information Centre:		National Poisons and Hazardous Chemicals	

HALLIBURTON

HALLIBURTON

PRE JOB OPERATIONAL CHECKLIST

WELL NAME	Fermat #1
DATE	17/12/2008
JOB DETAIL	Cmt 13 3/8" Surface Casing
HES REP	John Hargreaves
COMP REP	Peter Sheenan

JSA's reviewed	YES
Unit checklist signed	YES
Correct PPE onsite	YES
MSDS for chemicals available	NA

VOLUMES		**TARGET RATE**
Spacers	80.0bbls	
Lead slurry	0.0bbls	
Tail Slurry	228.0bbls	
Displacement	472.0bbls	
Top Up Job		
Max Rate Allowed	8.0bpm	

PRESSURE

Surface Lines test	3000psi	
The surface line test should be at least the max allowable pressure for the job		
Casing Pressure test	N/A	
Max pressure allowed	900psi	**CHECK CASING GRADE!**
Kickouts/PRV set to max psi allowed	**1000psi**	***CRITICAL***
Expected Bump Pressure	**N/A**	

DATA RECORDING

Unipro / Chart recorder Functional & ON	YES	***CRITICAL***
Displacement pressures monitorable?	YES	If the rig is displacing can we monitor the pressure?
Previous Jobs Downloaded	NA	

WELL CONDITIONS

Any Abnormal conditions expected,any instructions?

*REMEMBER - AT ANY TIME THE JOB PARAMETERS CHANGE OR THERE IS AN UNPLANNED EVENT, **STOP THE JOB ,STEP BACK AND COMMUNICATE** WITH YOUR WORK PARTY THE NEW PLAN*

HALLIBURTON

Engines	Pass	Fail	Comments
Check Oils,water,air	x		
Air Starter Operation	x		
Check Fuel Filter / levels	x		
Check Throttle / Trans. operation	x		
Check for Oil Leaks	x		
Hydraulic System / Filters	x		

Control Panel	Pass	Fail	Comments
MD Gauges	x		
Air ,Oil,Temp Gauges	x		
Air Actuator Valves / Hoses	x		
mix / boost pump gauges	x		
Kick Outs Functional	x		

Displacement Tanks	Pass	Fail	Comments
Tank Condition	x		
All Butterfly Valves	x		
Air Actuators	x		

RCM	Pass	Fail	Comments
Recirc / Mix Pump	x		
Cement Head Operation	x		
Agitators	x		
MD Chart Recorder	x		
Unipro Operation	x		

HT-400 Pumps	Pass	Fail	Comments
Power End Oil Checked	x		
Oiler Operation	x		
Plungers & Packing	x		
Valves	x		

Auxillary Equipment	Pass	Fail	Comments
All Lo-Torq Valves Serviced	x		
Lo-Torq's Operating Freely	x		
Chiksan Loops Serviced - Tested	x		
All suction hoses serviceable	x		
Cement Head serviced	x		
Debrief with Rig Representative	**YES**	**NO**	
	X		

Operator:John Hargreaves	**Date**	**17/12/2008**
Company Rep:Peter Sheenan	**Rig**	**West Triton**

4.3 9 5/8in Casing

Beach Petroleum

POST JOB REPORTS
CEMENTING/PUMPING

Well Name : Fermat #1

Rig: West Triton

INTERMEDIATE CASING 7522

Prepared for Peter Sheenan/Rocco Rossouw

30/12/2008

Prepared by Danny Lorraway

HALLIBURTON

The Future is Working Together.

HALLIBURTON

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum		30 December 2008

CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat #1	Otway Basin	Australia	Danny Lorraway	Peter Sheenan/Rocco Rossouw	Exploration
JOB TYPE		**JOB PURPOSE CODE**		**BDA**	**RIG**
Zonal Isolation		INTERMEDIATE CASING 7522		Perth	West Triton

KEY PERFORMANCE INDICATORS

TYPE OF JOB (Cementing or Non-Cementing): Cementing
Select the job type (Cementing or Non-Cementing)

TOTAL OPERATING TIME (hrs) 24.0 hrs
Rig up/ Pumping/ Rig Down

HSE INCIDENT, ACCIDENT, INJURY: NO
This should be recordable incidents only

WAS THE JOB DELIVERED CORRECTLY AS PER. YES
This will be dictated by the customer

TOTAL TIME PUMPING (hrs) 4.0 hrs
Total number of hours pumping fluid on this job

NON -PRODUCTIVE RIG TIME: none
As a result of Halliburton cementing PSL

NUMBER OF JSA'S PERFORMED: 2

NUMBER OF UNPLANNED SHUTDOWNS (After starti none

TYPE OF RIG(CLASSIFICATION) JOB WAS PERFORM JACKUP

REASON FOR UNPLANNED SHUTDOWNS (After starting to pump)
Add details in job logs

REASON FOR NON-PRODUCTIVE RIG TIME (Cementing PSL resp
Add details in job logs

WAS THIS A PRIMARY CEMENT JOB (YES / NO) YES
Primary cement job = Casing job, Liner Job, tie back

DID WE RUN WIPER PLUGS? Top & Bottom Plugs

WAS THIS A PLUG OR SQUEEZE JOB? Neither

WAS THIS A PRIMARY OR REMEDIAL JOB? Primary
Remedial = Repeated attempts or corrections of initial cement job

MIXING DENSITY OF JOB STAYED IN DESIGNED RANGE 95%
Density defined as +/- 0.2ppg. Calculation: Total bbls cement mixed at designed density divided by total bbls of cement multiplied by 100

WAS AUTOMATED DENSITY CONTROL USED NO

JOB WAS PUMPED AT DESIGNED PUMP RATE 100%
Pump rate ranged defined as +/- bpm. Calculation : total bbls of fluid pumped at the designed rate divided by total bbls of fluid pumped multiplied by 100

NUMBER OF REMEDIAL SQUEEZE JOBS REQUIRED - HE Zero
Number of remedial squeeze jobs required after primary job performed by HES

NUMBER OF REMEDIAL AQUEEZE JOBS REQUIRED - CO Zero
Number of remedial squeeze jobs required after primary job performed by competition

NUMBER OF REMEDIAL PLUG JOBS REQUIRED - HES Zero
Number of remedial plug jobs required after primary plug pumped by HES

EJCS / CUSTOMER COMMENTS

Dear Customer,

We hope you were happy with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and services of a standard unmatched in the service sector of the energy industry

Please take the time to let us know if our performance met your expectations. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use

Please indicate your response by placing a tick in the box underneath the rating that best matches your opinion.

	Superior Performance (Establish new quality performance)	**Exceeded Expectations** (Provided more than what was expected)	**Met expectations** (Did what was expected)	**Below expectations** (Did not do what was expected, recovery made)	**Poor** (Job problems / failure occured) **Create CPI**
	5	4	3	2	1
Did our personnel perform the job to your satisfaction?					
Did our equipment perform the job to your satisfaction?					
Did we perform the job to the agreed upon design?					
Did our products and materials perform as you expected?					
Did we perform in a safe & careful manner? PPE, Pre/Post mtgs, JSA					
Did we perform in an environmentally sound manner? Spills, discharges, clean up					
Was the job performed as scheduled? On time, as designed/discussed					
Did the equipment condition & appearance meet you expectations?					
How well did our personnel communicate during mobilisation, rig up and job execution					

	YES	NO
Overall, I was satisfied with Halliburton's job performance		

Customer Comments? *(What can we do to improve/maintain our services?)*

Customer Signature: ..... **Date:** .....

PERSONELL

PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE	hrs	PERSONNEL / EXPOSURE	hrs
#N/A	Danny Lorraway	24	126397	Nigel Lucas	24				

EQUIPMENT

SAP#	PUMPING / MIXING	HOURS	SAP#	BULK SUPPLY / TANKS	HOURS
10951913	SKD ADVANTAGE 25DZ2 - WEST TRITAN	72			
10960844	SKD CMS - WEST TRITAN	72			

FLOAT EQUIPMENT AND CASING EQUIPMENT

SAP#	FLOAT EQUIPMENT	QTY	SAP#	PLUGS	QTY
100004941	9 5/8" FLOAT SHOE	1	100003211	9 5/8" BOTTOM PLUG NR 5 WIPER	1
100076753	9 5/8" FLOAT COLLAR NR	1	100003172	9 5/8" TOP PLUG NR 5 WIPER	1
SAP#	**CASING ATTACHMENTS**	**QTY**	**SAP#**	**OTHER**	**QTY**
100004485	CENTRALISER - 9 5/8" x 12 1/4" BOW SPRING	6		Double Plug Q Latch, (9 5/8)	1

WELL PROFILE

NEW CASING	OPEN HOLE + EXCESS OR CALIPER DATA	PREVIOUS CASINGS
Non Tapered Casing , SSR, 12.18m shoe track		
9.625in 53.5ppf P110 Vam Top : 1.45m to 2800.5m MD, m TV	12.25in, 10 percent excess, 1700m to 2800m	13.375in, 68ppf, 19.3m to 987m

CEMENT DESIGN

Single

DENSITY	15.8ppg	**WATER**	5.11gal/sk
YIELD	1.16cuft/sk	**MIX FLUID**	5.17gal/sk

WATER SOURCE	Drillwater
CEMENT TYPE	ABC Class 'G' at 94lb/sk
Total Cement Used	1100sks
Estimated TOC	1700m

Additive	Concentration	Total Used
Halad-413L	30 gal/10bbl	400gals
CFR-3	3 gal/10bbl	40gals
SCR-100L	1 gal/10bbl	13gals
NF-6 Defoamer	0.37 gal/10bbl	5gals

END OF JOB DETAILS

HALLIBURTON

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum		30 December 2008

CEMENT/PUMPING JOB SUMMARY

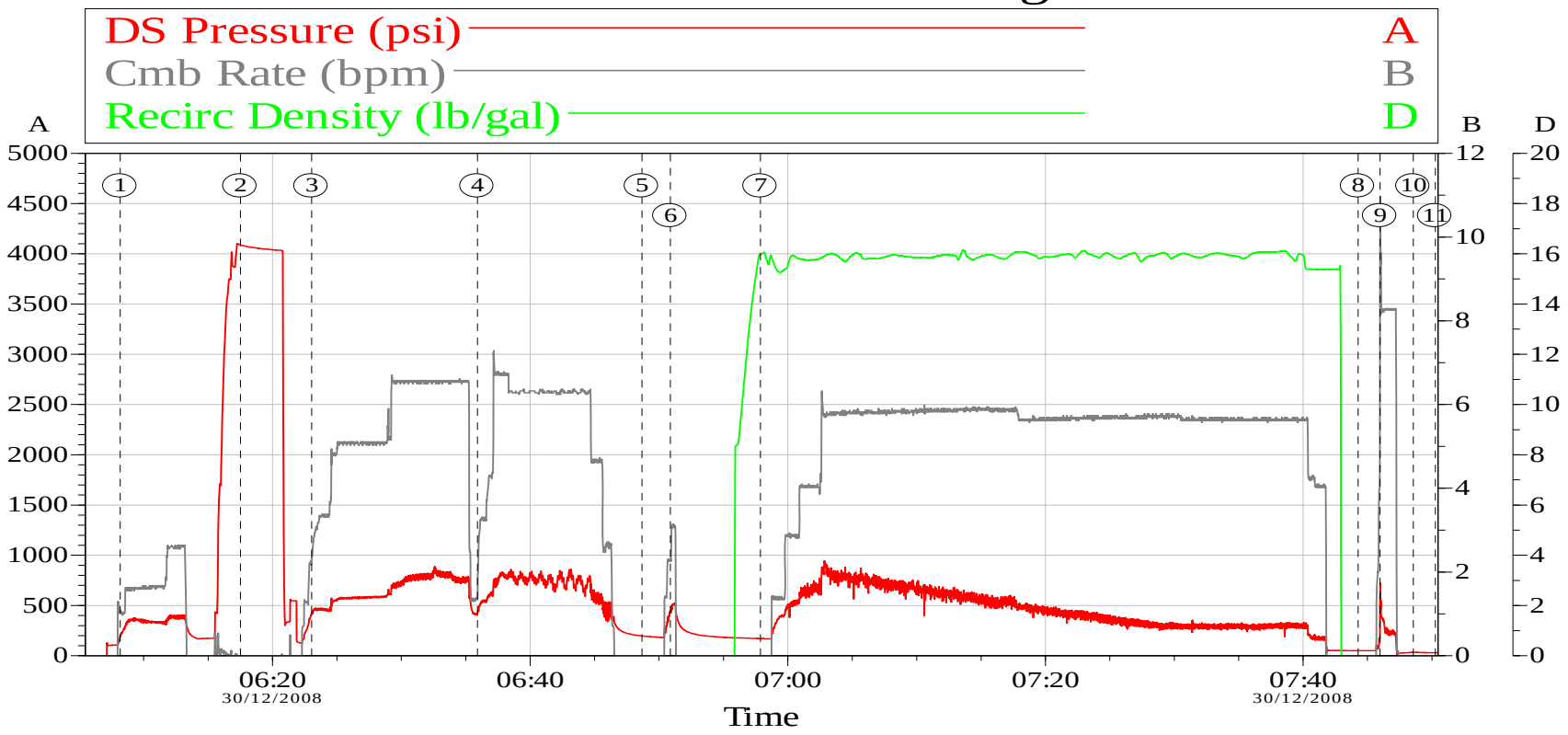
WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat-1	Otway Basin	Australia	Danny Lorraway	Peter Sheenan/Rocco Rossouw	Exploration

JOB TYPE	JOB PURPOSE CODE	BDA	RIG
Zonal Isolation	INTERMEDIATE CASING 7522	Perth	West Triton

JOB LOGS

DATE DAY-MTH-YR	TIME HRS:MIN	VOLUME BBLS	PRESSURE (psi) HIGH	PRESSURE (psi) LOW	RATE BPM	JOB DESCRIPTION REMARKS/DETAILS
30/12/2008	3:28					Call to the rig floor
	4:00					JSA on putting on cement head and rigging up lines
	4:30					Rig up cement head (Plugs Loaded)
	4:50		1500			Pressure test lines to 1500
	5:00	600				Circulate with rig pumps through Cement head
	6:00					JSA on cement Job and pre Job meetting with rig crew
	6:08	10	193		3	Pump Drill water spacer
	6:17		4100			Pressure test lines to 4000 PSI
	6:23	70	408		3	Pump Drill water Spacer
	6:35	60	419		3	Pump Tune Spacer @13 ppg
	6:48					Release Bottom Plug
	6:50	1	432		2	Pump away with 1 BBL dfrill water
	6:57	230	800	200	5.8	Mix and pump 230 BBL cement @ 15.8PPG
	7:44					Release To Plug,
	7:45	10	585		8	Pump 10 BBL drilling Mud
	7:48	656.6	1000	137	10	Switch to rig to displace 656.6 BBL drilling mud
	9:30					End displacing Didi not Bump plug, Pump Half shoe track.
	9:48	2				bleed off pressure, and check floats, 2 bbl returns and floats holding
	10:00					Wash up unit, flush all C1 & C2 lines flush C3,C4,C5, and cement hose
	12:30					Stand down
						Chemical Used on 9 5/8 Casing Cement Job
						Class "G" Cement----------46 MT
						Halad 413L----------400 GALs, 460 Gals Loaded (water Loss)
						CFR 100L----------40 Gals, 50 Gals Loaded (Friction reducer)
						SCR100L----------15 Gals
						NF6----------5 Gals (de foaming agent)
						Tune spacer E+ ----------20 SX

Fermat #1 9 5/8 Casing



Customer: ADA Beach Well Description: Fermat #1	Job Date: 30-12-2009 UWI:	Ticket #:

TG Version G3.4.1
30-Dec-08 18:25

HALLIBURTON

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum	0	30 December 2008

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Halliburton Cmt crew	Company Man		
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EMERGENCY PROCEDURES

TOTAL EVACUATION AREA!!

CONTACT DETAILS

Ambulance / EMS:	Rig Medic	First Aid Responders on this site (names):	
Doctor:			
Supervisor: Halliburton	Nigel Lucas	Hospital:	
Fire Department		Police:	
Information Centre:		National Poisons and Hazardous Chemicals	

HALLIBURTON

PRE JOB OPERATIONAL CHECKLIST

WELL NAME	Fermat #1
DATE	30/12/2008
JOB DETAIL	Cmt 9 5/8 Inter Casing to 2800mtrs
HES REP	Danny Lorraway
COMP REP	Peter Sheenan

JSA's reviewed	YES
Unit checklist signed	YES
Correct PPE onsite	YES
MSDS for chemicals available	NA

VOLUMES		**TARGET RATE**
Spacers	140.0bbls	
Lead slurry	228.0bbls	
Tail Slurry		
Displacement	565.6bbls	
Top Up Job		
Max Rate Allowed	8.0bpm	

PRESSURE

Surface Lines test	4000psi	
The surface line test should be at least the max allowable pressure for the job		
Casing Pressure test	N/A	
Max pressure allowed	900psi	**CHECK CASING GRADE!**
Kickouts/PRV set to max psi allowed	**4500psi**	***CRITICAL***
Expected Bump Pressure	**N/A**	

DATA RECORDING

Unipro / Chart recorder Functional & ON	YES	***CRITICAL***
Displacement pressures monitorable?	YES	If the rig is displacing can we monitor the pressure?
Previous Jobs Downloaded	NA	

WELL CONDITIONS

Any Abnormal conditions expected,any instructions?

Hole was packing off whilst running and circulating casing, Did not bump Plug, pumped half the shoe track and stopped, floats held, blerad back 2BBL

REMEMBER - AT ANY TIME THE JOB PARAMETERS CHANGE OR THERE IS AN UNPLANNED EVENT, ***STOP THE JOB ,STEP BACK AND COMMUNICATE*** *WITH YOUR WORK PARTY THE NEW PLAN*

HALLIBURTON

Engines	Pass	Fail	Comments
Check Oils,water,air	x		
Air Starter Operation	x		
Check Fuel Filter / levels	x		
Check Throttle / Trans. operation	x		
Check for Oil Leaks	x		
Hydraulic System / Filters	x		

Control Panel	Pass	Fail	Comments
MD Gauges	x		
Air ,Oil,Temp Gauges	x		
Air Actuator Valves / Hoses	x		
mix / boost pump gauges	x		
Kick Outs Functional	x		

Displacement Tanks	Pass	Fail	Comments
Tank Condition	x		
All Butterfly Valves	x		
Air Actuators	x		

RCM	Pass	Fail	Comments
Recirc / Mix Pump	x		
Cement Head Operation	x		
Agitators	x		
MD Chart Recorder	x		
Unipro Operation	x		

HT-400 Pumps	Pass	Fail	Comments
Power End Oil Checked	x		
Oiler Operation	x		
Plungers & Packing	x		
Valves	x		

Auxillary Equipment	Pass	Fail	Comments
All Lo-Torq Valves Serviced	x		
Lo-Torq's Operating Freely	x		
Chiksan Loops Serviced - Tested	x		
All suction hoses serviceable	x		
Cement Head serviced	x		
Debrief with Rig Representative	**YES**	**NO**	
	X		

Operator:Danny Lorroway	**Date**	**30/12/2008**
Company Rep:Peter Sheenan	**Rig**	**West Triton**

CMS OPERATIONS CHECKLIST

This work method provides a quick inspection before the job to determinate if the CMS equipment is ready to start Automatic operations in order to ensure the CMS function correctly on location. It is imperative that the check sheet associated with the Work Method is followed and all areas are reviewed and actioned accordingly.

			YES	NO
1	Open the tank suction valve.		Y	
2	Open the suction manifold valve on CMS skid.		Y	
3	Close the secondary discharge and bypass valve.		Y	
4	Turn on the ADC UniPro II.		On	
5	Check Calibrations		Done	
6	Make sure the switch on the D1TX valves are on "run" position.		Done	
7	Load the blend information.		77.5 Gals /1000gals	
8	Turn on the CMS UniPro II.			
9	Load the concentration you plan to use for each pump in the Job Manager.		done	
10	Start mixing on the ADC controller.		yes	
11	Do a Job Start on the CMS UniPro.		yes	
12	Verify concentration	[Screen 1].	done	
13	Verify pump rate.	[Screen 2].	done	

Signed : nigel Lucas

Date: 30/12/2008

4.4 Plug & Abandon

Beach Petroleum

POST JOB REPORTS
CEMENTING/PUMPING

Well Name : Fermat #1

Rig: West Triton

PLUG TO ABANDON 7528

Prepared for Sean deFreitas/Peter Dane

10-1 to 14-01-2009

Prepared by Danny Lorraway/nigel Lucas

HALLIBURTON

The Future is Working Together.

HALLIBURTON

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum		10-1 to 14-01-2009

CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat #1	Otway Basin	Australia	Danny Lorraway/nigel Lucas	Sean deFreitas/Peter Dane	Exploration
JOB TYPE		**JOB PURPOSE CODE**		**BDA**	**RIG**
Zonal Isolation		PLUG TO ABANDON 7528		Perth	West Triton

KEY PERFORMANCE INDICATORS

TYPE OF JOB (Cementing or Non-Cementing): Cementing
Select the job type (Cementing or Non-Cementing)

TOTAL OPERATING TIME (hrs) 96.0 hrs
Rig up/ Pumping/ Rig Down

HSE INCIDENT, ACCIDENT, INJURY: NO
This should be recordable incidents only

WAS THE JOB DELIVERED CORRECTLY AS PERJOB DESIGN? YES
This will be dictated by the customer

TOTAL TIME PUMPING (hrs) 8 hrs
Total number of hours pumping fluid on this job

NON -PRODUCTIVE RIG TIME: none
As a result of Halliburton cementing PSL

NUMBER OF JSA'S PERFORMED: 6

NUMBER OF UNPLANNED SHUTDOWNS (After starting to pump) none

TYPE OF RIG(CLASSIFICATION) JOB WAS PERFORMED ON: JACKUP

REASON FOR UNPLANNED SHUTDOWNS (After starting to pump)
Add details in job logs

REASON FOR NON-PRODUCTIVE RIG TIME (Cementing PSL responsibility):
Add details in job logs

WAS THIS A PRIMARY CEMENT JOB (YES / NO) NA
Primary cement job = Casing job, Liner Job, tie back

DID WE RUN WIPER PLUGS?

WAS THIS A PLUG OR SQUEEZE JOB? Plug Job

WAS THIS A PRIMARY OR REMEDIAL JOB? Primary
Remedial = Repeated attempts or corrections of initial cement job

MIXING DENSITY OF JOB STAYED IN DESIGNED RANGE 99%
Density defined as +/- 0.2ppg. Calculation: Total bbls cement mixed at designed density divided by total bbls of cement multiplied by 100

WAS AUTOMATED DENSITY CONTROL USED YES

JOB WAS PUMPED AT DESIGNED PUMP RATE 100%
Pump rate ranged defined as +/- bpm. Calculation : total bbls of fluid pumped at the designed rate divided by total bbls of fluid pumped multiplied by 100

NUMBER OF REMEDIAL SQUEEZE JOBS REQUIRED - HES Zero
Number of remedial squeeze jobs required after primary job performed by HES

NUMBER OF REMEDIAL AQUEEZE JOBS REQUIRED - COMPETITION Zero
Number of remedial squeeze jobs required after primary job performed by competition

NUMBER OF REMEDIAL PLUG JOBS REQUIRED - HES Zero
Number of remedial plug jobs required after primary plug pumped by HES

EJCS / CUSTOMER COMMENTS

Dear Customer,

We hope you were happy with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and services of a standard unmatched in the service sector of the energy industry

Please take the time to let us know if our performance met your expectations. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of

Please indicate your response by placing a tick in the box underneath the rating that best matches your opinion.

	Superior Performance (Establish new quality performance standards) 5	**Exceeded Expectations** (Provided more than what was expected) 4	**Met expectations** (Did what was expected) 3	**Below expectations** (Did not do what was expected, recovery made) **Create CPI** 2	**Poor** (Job problems / failures occured) **Create CPI** 1
Did our personnel perform the job to your satisfaction?					
Did our equipment perform the job to your satisfaction?					
Did we perform the job to the agreed upon design?					
Did our products and materials perform as you expected?					
Did we perform in a safe & careful manner? PPE, Pre/Post mtgs, JSA					
Did we perform in an environmentally sound manner? Spills, disharges, clean up					
Was the job performed as scheduled? On time, as designed/discussed					
Did the equipment condition & appearance meet you expectations?					
How well did our personnel communicate during mobilisation, rig up and job execution					

	YES	NO
Overall, I was satisfied with Halliburton's job performance		

Customer Comments? *(What can we do to improve/maintain our services?)*

Customer Signature: ..... **Date:** .....

PERSONELL

PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE	hrs	PERSONNEL / EXPOSURE	hrs
#N/A	Danny Lorraway	36	126337	Nigel Lucas	36				

EQUIPMENT

SAP#	PUMPING / MIXING	HOURS	SAP#	BULK SUPPLY / TANKS	HOURS
10951913	SKD ADVANTAGE 25DZ2 - WEST TRITAN	72			
10960844	SKD CMS - WEST TRITAN	72			

WELL PROFILE

NEW CASING	OPEN HOLE + EXCESS OR CALIPER DATA	PREVIOUS CASINGS
Non Tapered Casing , SSR, m shoe track		
	9.5in, 10 percent excess, m to m	9.625in, 53.3ppf, 19.3m to 2800.5m

FOR PLUG AND LINER JOBS PLEASE INDICATE WORKSTRIN 5.5in 24ppf Drill Pipe with 204m of 3.5in 15.5ppf Stinger

CEMENT DESIGN

Plug 1A				Plug 1B Part 1				Plug 1B Part 2			
DENSITY	15.8ppg	WATER	4.70gal/sk	DENSITY	15.8ppg	WATER	4.70gal/sk	DENSITY	15.8ppg	WATER	4.70gal/sk
YIELD	1.13cuft/sk	MIX FLUID	5.17gal/sk	YIELD	1.13cuft/sk	MIX FLUID	4.70gal/sk	YIELD	1.13cuft/sk	MIX FLUID	4.70gal/sk
WATER SOURCE	Drillwater			WATER SOURCE	Drillwater			WATER SOURCE	Drillwater		
CEMENT TYPE	HTB at 63.3lb/sk			CEMENT TYPE	HTB at 63.3lb/sk			CEMENT TYPE	HTB at 63.3lb/sk		
Total Cement Used	315sks			Total Cement Used	236sks			Total Cement Used	218sks		
Estimated TOC	3119m			Estimated TOC	2363m			Estimated TOC	2835m		
Additive	Concentration	Total Used		Additive	Concentration	Total Used		Additive	Concentration	Total Used	
	gal/10bbl	gals		CFR-3L	3 gal/10bbl	12gal		CFR-3L	3 gal/10bbl	12gal	
CFR-3	3 gal/10bbl	12gals		SCR-100L	4 gal/10bbl	16gal		SCR-100L	4 gal/10bbl	16gal	
SCR-100L	4 gal/10bbl	16gals		NF-6	0.25 gal/10bbl	1gal		NF-6	0.25 gal/10bbl	1gal	
NF-6 Defoamer	0.25 gal/10bbl	2gals									

Plug 2				Plug 3			
DENSITY	15.8ppg	WATER	4.70gal/sk	DENSITY	15.3ppg	WATER	5.16gal/sk
YIELD	1.13cuft/sk	MIX FLUID	4.70gal/sk	YIELD	1.16cuft/sk	MIX FLUID	5.16gal/sk
WATER SOURCE	Drillwater			WATER SOURCE	Seawater		
CEMENT TYPE	HTB at 63.3lb/sk			CEMENT TYPE	ABC Class 'G' at 94lb/sk		
Total Cement Used	165sks			Total Cement Used	183sks		
Estimated TOC	2700m			Estimated TOC	100m		
Additive	Concentration	Total Used		Additive	Concentration	Total Used	
CFR-3L	3 gal/10bbl	6gal		NF-6 Defoamer	0.25 gal/10bbl	1Gal	
SCR-100L	2 gal/bbl	4gal					
NF-6 Defoamer	0.25 gal/10bbl	1gal					

END OF JOB DETAILS

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum		10-1 to 14-01-2009

CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat-1	Otway Basin	Australia	Danny Lorraway/nigel Lucas	Sean deFreitas/Peter Dane	Exploration

JOB TYPE	JOB PURPOSE CODE	BDA	RIG
Zonal Isolation	PLUG TO ABANDON 7528	Perth	West Triton

JOB LOGS

DATE DAY-MTH-YR	TIME HRS:MIN	VOLUME BBLS	PRESSURE (psi) HIGH	PRESSURE (psi) LOW	RATE BPM	JOB DESCRIPTION REMARKS/DETAILS
10/01/2009	18:30					JSA and safety meetting with drill crew
						Attempt to pump down hole, Hole problems
	22:00					JSA and safety meetting with drill crew
	22:34	7	500		3.5	Pump drill water spacer
	22:37		2500			Pressure test Lines
	22:40	6	700		3.5	Pump drill water spacer
	22:45					Batch mix cement to 15.8ppg
	22:47	64	850	480	5.2	Mix and pump Cement down hole @ 15.8ppg
	23:05	3	300	0	3	Pump drill water spacer
	23:05	202	700	0	8.2	Displace with drilling mud
	23:28					End displacing, bleed off pressure
	23:40					Clean up cement unit,
11/01/2009	0:50					flush stand pipe
	2:50					stand down
						Chemicals Used on Plug 1a
						15.2MT (360sx) HTB Cement
						16 Gal SCR100L
						12 Gal CFR3L
						1 Gal NF-6
**********	**********	**********	**********	**********	**********	**********
11/01/2009						Plug 1b Part 1
	10:00					JSA and safety meetting with drill crew
	11:13	3	600		3.5	Pump drill water spacer
	11:19		2500			Pressure test lines
	11:26	8	600		3.5	Pump drill water spacer
	11:31					Batch mix Cement to 15.8ppg
	11:39	47.5	900		5.2	Mix and pump cement down hole
	11:50	1.5	200		3.5	Pump drill water spacer
	11:51	195	680		8	Displace with drilling mud
	12:16		0			end displacment
	12:35					wash up unit
	13:40					wash stand pipe
						Chemicals used on Plug 1a part 1
						Cement HTB 12 MT, (270sx)
						12 gals SCR100L
						9 Gals CFR3L
						1 Gal NF6

HALLIBURTON

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum		10-1 to 14-01-2009

CEMENT/PUMPING JOB SUMMARY

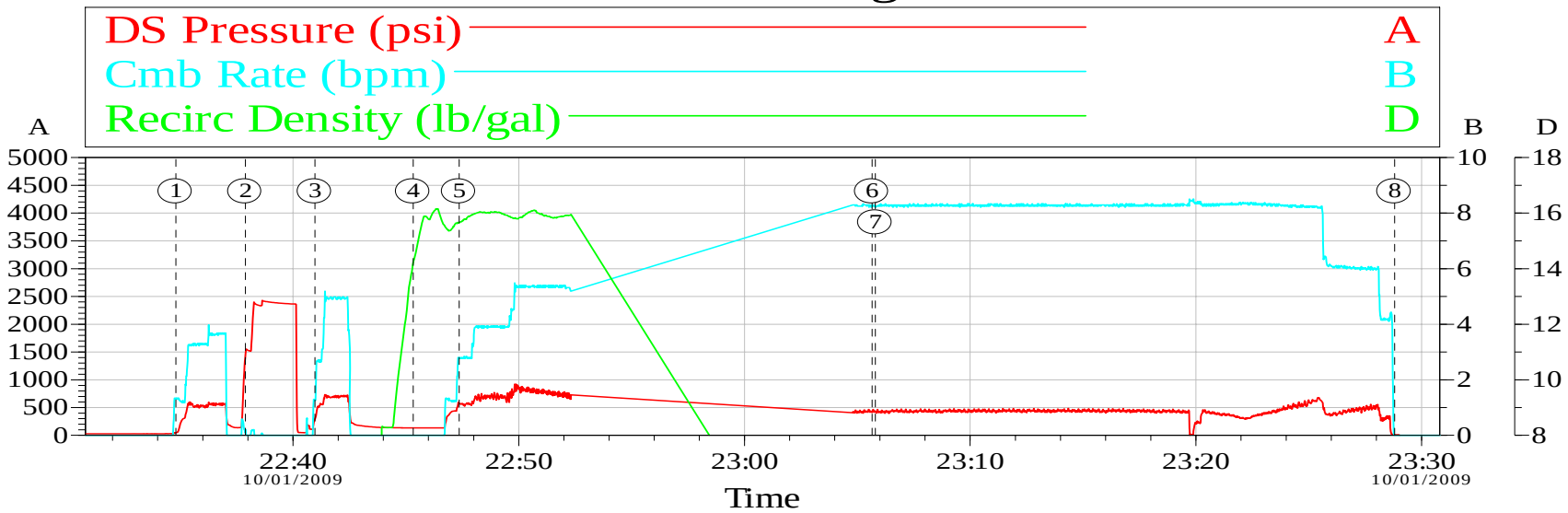
WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat-1	Otway Basin	Australia	Danny Lorraway/nigel Lucas	Sean deFreitas/Peter Dane	Exploration

JOB TYPE	JOB PURPOSE CODE	BDA	RIG
Zonal Isolation	PLUG TO ABANDON 7528	Perth	West Triton

JOB LOGS

DATE DAY-MTH-YR	TIME HRS:MIN	VOLUME BBLS	PRESSURE (psi) HIGH	PRESSURE (psi) LOW	RATE BPM	JOB DESCRIPTION REMARKS/DETAILS
********	**********	**********	**********	**********	**********	**********
plug 1b part b						Plug 1b Part 2
	14:23		2500			Pressure test Lines
	14:24	6	600		4	Pump drill water spacer
	14:28		3000			Pressure test Lines
	14:38	7	0:00		4	Pump drill water spacer
	14:39					Batch mix cement to 15.8ppg
	14:44	44	600		5.2	Mix and pump down hole
	14:54	1.5	200		3	Pump drill water spacer
	14:55		800		8	Displace with drilling mud
	15:19		0			End displacing, bleed off pressure
	15:35					wash up unit
	16:40					flush stand pipe
	18:00					stand down
						Chemicals used on Plug 1a part 2
						Cement HTB 12 MT, (270sx)
						12 gals SCR100L
						9 Gals CFR3L
						1 Gal NF6
**********	**********	**********	**********	**********	**********	**********
12/01/2009						
	0:30					JSA with rig crew
	0:59	7	600		3.5	Pump drillwater spacer
	1:04		2000			Pressure test lines
	1:07	6	600		3.5	Pump drillwater spacer
	1:12					Batch up cement to 15.8 Ppg
	1:15	37	600		4	Mix and pump down hole
	1:26	5	200		4	Pump drillwater spacer
	1:26	181	700		8	Displace with drilling mud
	1:51		0			end displacment
	2:12					Wash unit
	3:15					wash stand pipe manifold
	4:30					Stand down
						Chemicals used on plug 2
						HTB cement 12MT, (270sx)
						2 gals SCR100L
						3 Gals CFR 3L
						1 Gal NF6
**********	**********	**********	**********	**********	**********	**********
12/01/2009	16:00		2900			Pressure test Plug 2
**********	**********	**********	**********	**********	**********	**********
Plug #3						Pluh #3, Across 9 5/8 and 13 3/8
14/01/2009	3:00					JSA with rig crew
	3:31					Pump sea water spacer
	3:35					Batch up cement @15.9 PPG
	3:35					Pressure test lines
	3:38					pump sea water spacer
	3:40	37				Mix and pump cement down hole
	3:49					displace with sea water
	4:50					wash up unit
	5:30					wash up stand pipe
	7:50					rig down lines
	8:00					Prepare Unit for storage

Fermat #1 Plug 1 a



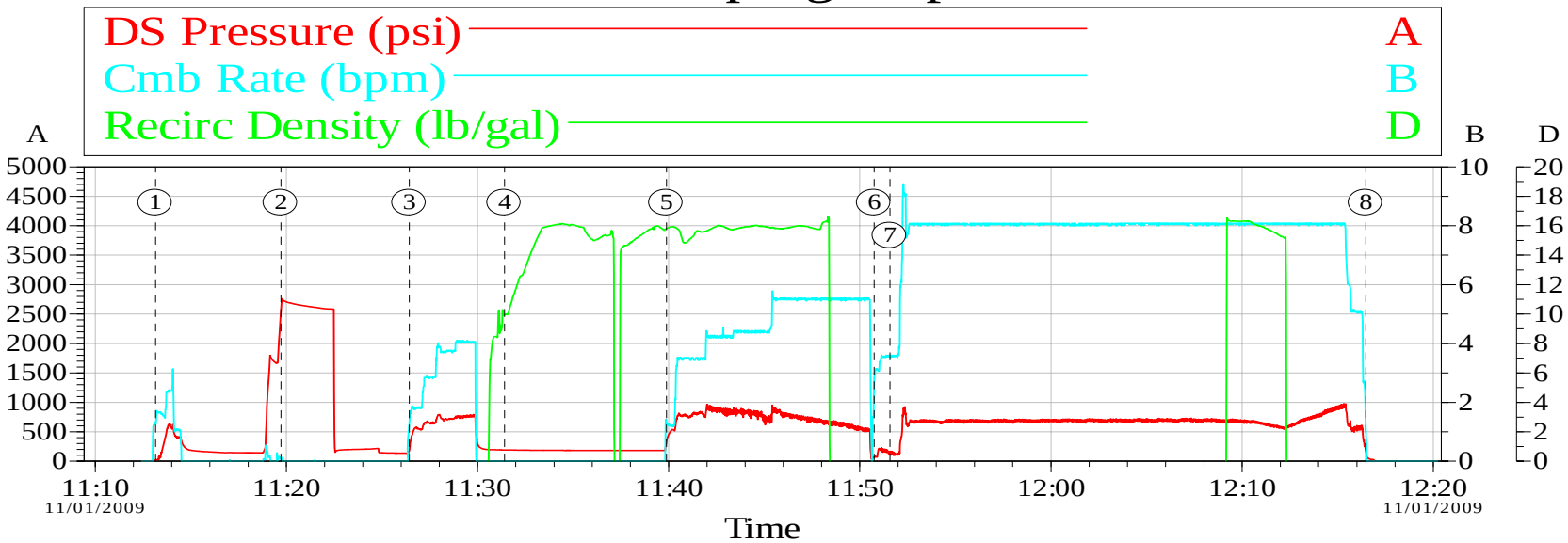
Event Log

	Intersection		DP	CR	RD		Intersection		DP	CR	RD
1	Pump drill water spacer	22:34:48	44.49	1.340	-0.263	2	Pressure test lines	22:37:53	1429	0.124	-0.262
3	Pump drill water spacer	22:40:58	296.9	1.286	-0.262	4	Batch up cement to 15.8	22:45:19	133.3	0.000	14.21
5	Mix and pump down hole	22:47:22	572.1	2.764	15.65	6	Pump drill water spacer	23:05:39	413.1	8.275	-0.263
7	Displace with drilling mud	23:05:48	439.9	8.209	-0.263	8	End displacing	23:28:48	14.91	0.000	-0.263

Customer: ADA Beach Well Description: Fermat#1	Job Date: 11-1-2009 UWI:	Ticket #:

TG Version G3.4.1
13-Jan-09 17:06

Fermat #1 plug 1b part a



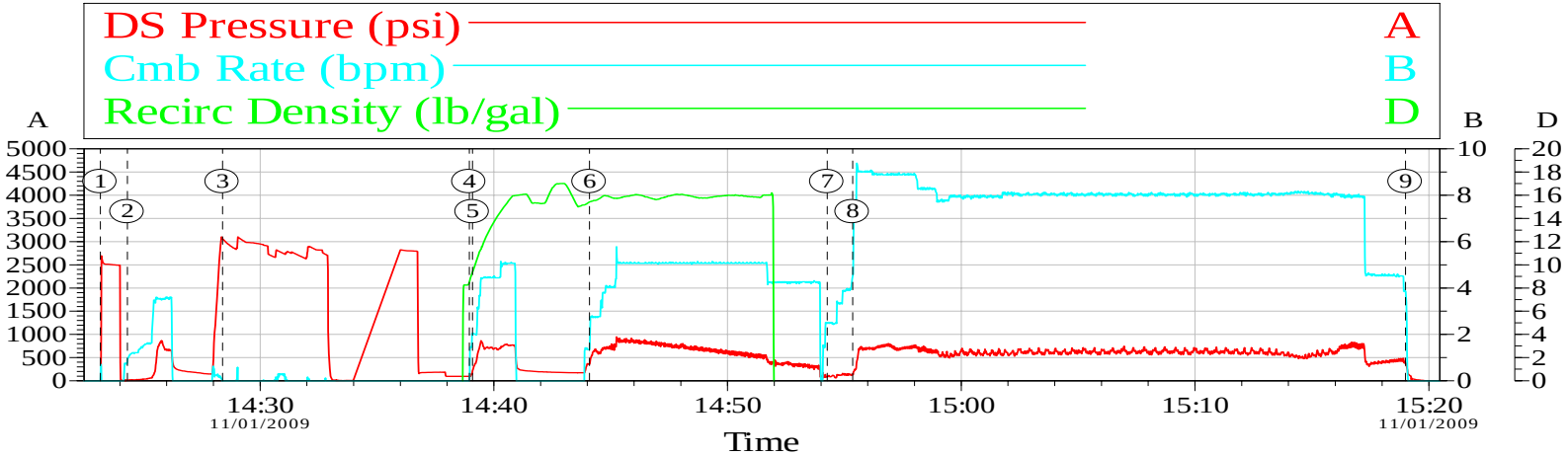
Event Log

	Intersection		CR	RD		Intersection		CR	RD
1	Pump drill water spacer	11:13:09	1.257	-0.264	2	Pressure test lines	11:19:43	0.087	-0.265
3	Pump drill water spacer	11:26:26	1.325	-0.266	4	Batch up ceement to 15.85ppg	11:31:25	0.000	9.930
5	Mix and pump down hole	11:39:53	1.356	15.80	6	Pump drill water spacer	11:50:45	2.721	-0.265
7	Displace with drilling Mud	11:51:35	3.602	-0.266	8	End displacing	12:16:28	1.173	-0.266

Customer: ADA Beach Well Description: Fermat #1	Job Date: 11-1-2009 UWI:	Ticket #:

TG Version G3.4.1
13-Jan-09 17:14

FERMAT #1 Plug 1b part b



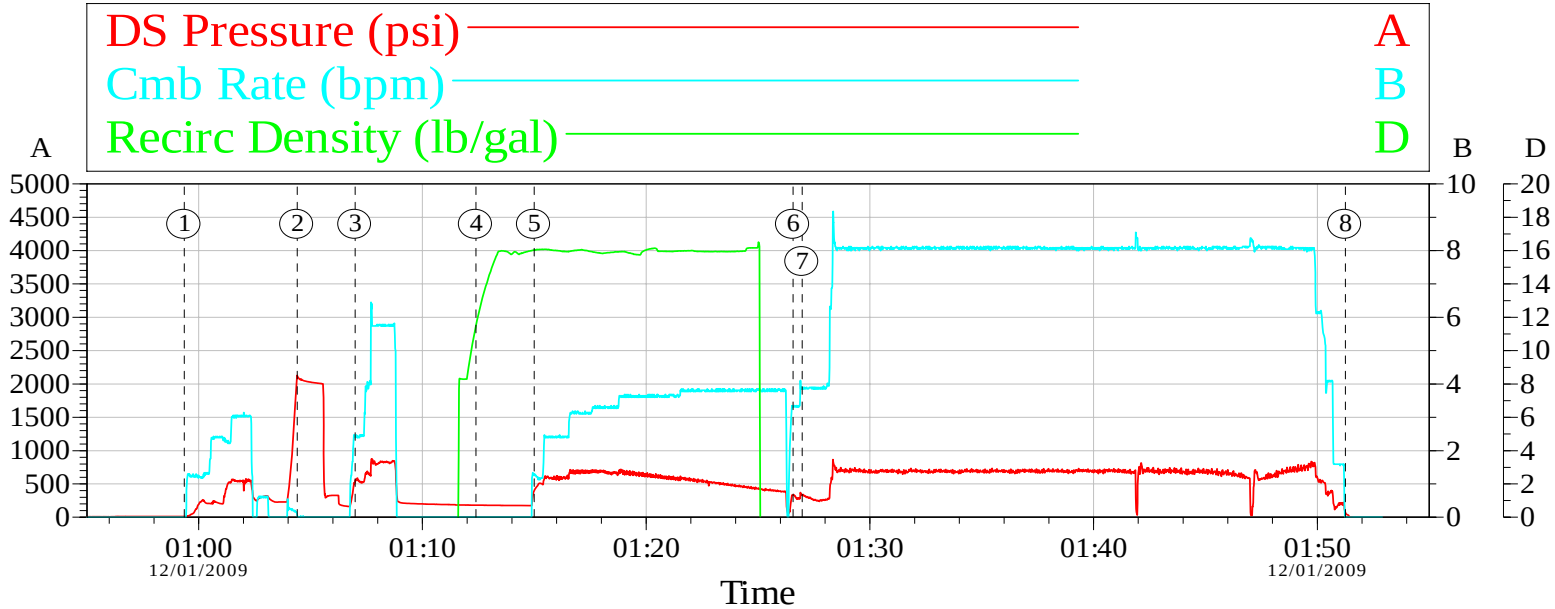
Event Log

	Intersection		CR	RD		Intersection		CR	RD
1	pressure test	14:23:10	0.196	-0.265	2	Pump drill water spacer	14:24:20	0.894	-0.265
3	Pressure test Lines	14:28:24	0.000	-0.264	4	Pump Drill water spacer	14:38:57	0.012	8.538
5	Batch up cement to 15.85 ppg	14:39:05	2.052	9.383	6	Mix and pump down hole	14:44:06	1.371	15.43
7	Pump drill water spacer	14:54:16	2.512	-0.263	8	Displace with drilling mud	14:55:21	4.502	-0.263
9	End displacing	15:19:00	3.853	-0.266					

Customer: ADA Beach Well Description: Fermat 1	Job Date: 11-1-2008 UWI:	Ticket #:

TG Version G3.4.1
13-Jan-09 17:12

Fermat Plug #2 (across 9 5/8 shoe)



Event Log

	Intersection		CR	RD		Intersection		CR	RD
1	Pump Drillwater spacer	00:59:21	0.000	-0.263	2	Pressure test 2000 PSI	01:04:24	0.052	-0.263
3	Pump Drillwater spacer	01:07:00	2.398	-0.262	4	batch cement	01:12:24	0.000	11.51
5	Mix and pump cement down hole	01:15:00	1.257	16.03	6	Pump drill water spacer	01:26:34	3.309	-0.263
7	Dispalce with drilling mud	01:26:59	3.853	-0.265	8	End displacment	01:51:15	0.000	-0.265

Customer: ADA Beach Well Description: Fermat #1	Job Date: 12/01/2009 UWI:	Ticket #:

TG Version G3.4.1
13-Jan-09 17:19

HALLIBURTON

HALLIBURTON	CUSTOMER	SALES ORDER No.	DATE
	Beach Petroleum	0	10-1 to 14-01-2009

CEMENT/PUMPING JOB SUMMARY

WELL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
Fermat #1	Otway Basin	Australia	Danny Lorraway/nigel Lucas	Sean deFreitas/Peter Dane	Exploration
JOB TYPE		**JOB PURPOSE CODE**		**BDA**	**RIG**
Zonal Isolation		PLUG TO ABANDON 7528		Perth	West Triton

ATTENDEES

Halliburton Cmt crew	Company Man		
Drill Crew			

HAZARDS FOUND AT JOB SITE

MARK BOXES WITH AN (X) OR LEAVE BLANK IF NOT APPLICABLE

- [ ] **Electrical** Discuss location of electrical lines and power sources in relation to equipment and lines
- [X] **Hydraulic Leaks** - Discussed procedures to follow for leaks
- [ ] **Chemicals** Discuss harmful substances on the job site (eg. H2S, flammable gasses, drilling fluids, additives well bore fluids, Radioactive). Ask for MSDS sheets when necessary Discuss possible exposures to substances such as dust, acids, akalines, vapours, and Flammable/combustibles
- [X] **Communication** Discuss radios, hand signals etc.
- [X] **Noise** Discuss noise levels from equipment. Avoid placing high noise producing equipment next to work stations when possible. Avoid areas of high noise if possible or use appropriate hearing protection
- [ ] **Explosives** Discuss explosives handling and storage procedure
- [ ] **Ignition sources** Discuss possible ignition sources (eg. engines, electrical equipment, open flames, smoking etc.)
- [X] **Lifting** Discuss proper lifting techniques and ways to eliminate or reduce heavy lifting such as; forklifts, cranes, and sharing the load.
- [ ] **Wireline** Discuss cables, tape off no go areas.
- [ ] **Confined Spaces** Discuss any required entry into confined spaces (eg. Cellars, tanks, pits).
- [X] **Walking / Working Surfaces** Discuss the terrain where the rig up and job will occur (eg. Boards, limestone, mud, stairways, walkways, the derrick, and the rig floor Discuss the dangers in walking on cementing equipment, especially on HT400 pumps
- [ ] **Wellbore fluids or Gasses** Discuss shale shaker, Frac tanks, return lines, and vent lines.
- [X] **Slipping and tripping** Discuss tripping hazards (eg. equipment and lines on the ground and rig floor, suction hoses and vent lines)
- [ ] **Falling** Discuss job procedures requiting work at heights greater than 1.8m
- [ ] **Environment** Discuss environmental conditions (eg. heat, cold, ice snow, rain, wind, dust, visibility etc.)
- [X] **Overhead** Discuss overhead hazards (eg, guy wires, hazards while on rig floor or under the rig floor). Discuss equipment rigged up overhead such as DME above the rig floor, lubricators, chains, pulleys.
- [ ] **Radiation** Discuss radiation hazards introduced to the site.
- [X] **Pressure** Discuss pressure hazards such as DME and bulk tanks

HAZARD CONTROLS

- [X] **Personal protective equipment** Discuss required PPE such as respirators, head protection, hearing protection, protective footwear, hand and skin protection, and fall protection
- [X] **Assembly Points** Discuss where to gather in the event of an emergency.
- [X] **Physical barriers** Discuss items such as hose covers, line tie-downs, guards, railings, and inert gas blankets.
- [ ] **Location of eyewash / safety shower station** Discuss the location of the eyewash / safety shower station and how to use it.
- [X] **Spill control** Discuss measures used for reporting and containing spills.
- [ ] **Vents** Discuss vent lines for Frac tanks and bulk tanks.
- [ ] **Ignition source controls** Discuss control measures for ignition sources such as the use of spark arresters, emergency shutdown procedures, and NO SMOKING rules.
- [ ] **Safety equipment** Discuss safety items such as pop-off valves, fire extinguishers, and communication devices.
- [X] **Emergency Shut Down Procedures** Discuss when, how and what to shut down in the event of an emergency.
- [ ] **Wind direction** Discuss the wind direction and how it may change the contingency plan such as the assembly area location, and discuss how to detect wind direction on the job site (eg. Windsocks, streamers etc.)
- [X] **Recovery Procedures** Discuss how to return to normal operating procedures after an emergency.
- [X] **Fire fighting** Discuss fire fighting responsibilities with the appropriate personnel (trained & equipped personnel only)
- [ ] **First Aid Station** point out the location of the first aid lot and who is responsible for administering first aid.
- [X] **High Pressure Manifolding** Clearly mark all high pressure manifolding after rigging it up and before commencing any pumping. Possible marking may include: Yellow tape, signs, roping off the area, orange cones etc.
- [ ] **Environment** Discuss control measures for environmental factors such as temperature, wind, ice, rain, snow, etc.
- [X] **Injury and Accident Procedures** Discuss personnel responsibilities and procedures in the event of an injury or accident.
- [X] **Rescue Procedures** Discuss rescue procedures with the appropriate personnel (trained and equipped)

PERSONELL RESPONSIBILITES

Discuss individual roles and responsibilities for all of the above. Determine the level of understanding by asking questions, performing skill checks or other forms of evaluation, depending upon the hazards of the process (eg. Opening and closing of valves, the correct use of communication devices, the correct use of specific PPE such as fall protection, and an understanding of equipment and procedures.

EMERGENCY PROCEDURES

TOTAL EVACUATION AREA!!

CONTACT DETAILS

Ambulance / EMS:	Rig Medic	First Aid Responders on this site (names):	
Doctor:			
Supervisor: Halliburton	Nigel Lucas	Hospital:	
Fire Department		Police:	
Information Centre:		National Poisons and Hazardous Chemicals	

HALLIBURTON

PRE JOB OPERATIONAL CHECKLIST

WELL NAME	Fermat #1
DATE	10/01/2009
JOB DETAIL	Plug to abandon
HES REP	Danny Lorraway
COMP REP	Sean DeFreitas

JSA's reviewed	YES
Unit checklist signed	YES
Correct PPE onsite	YES
MSDS for chemicals available	NA

VOLUMES		**TARGET RATE**
Spacers		
Lead slurry		
Tail Slurry		
Displacement		
Top Up Job		
Max Rate Allowed		

PRESSURE

Surface Lines test	6000psi	
The surface line test should be at least the max allowable pressure for the job		
Casing Pressure test	N/A	
Max pressure allowed	4000psi	**CHECK CASING GRADE!**
Kickouts/PRV set to max psi allowed	**3000psi**	***CRITICAL***
Expected Bump Pressure	**N/A**	

DATA RECORDING

Unipro / Chart recorder Functional & ON	YES	***CRITICAL***
Displacement pressures monitorable?	YES	If the rig is displacing can we monitor the pressure?
Previous Jobs Downloaded	NA	

WELL CONDITIONS

Any Abnormal conditions expected,any instructions?

REMEMBER - AT ANY TIME THE JOB PARAMETERS CHANGE OR THERE IS AN UNPLANNED EVENT, ***STOP THE JOB ,STEP BACK AND COMMUNICATE*** *WITH YOUR WORK PARTY THE NEW PLAN*

HALLIBURTON

Engines	Pass	Fail	Comments
Check Oils,water,air	x		
Air Starter Operation	x		
Check Fuel Filter / levels	x		
Check Throttle / Trans. operation	x		
Check for Oil Leaks	x		
Hydraulic System / Filters	x		

Control Panel	Pass	Fail	Comments
MD Gauges	x		
Air ,Oil,Temp Gauges	x		
Air Actuator Valves / Hoses	x		
mix / boost pump gauges	x		
Kick Outs Functional	x		

Displacement Tanks	Pass	Fail	Comments
Tank Condition	x		
All Butterfly Valves	x		
Air Actuators	x		

RCM	Pass	Fail	Comments
Recirc / Mix Pump	x		
Cement Head Operation	x		
Agitators	x		
MD Chart Recorder	x		
Unipro Operation	x		

HT-400 Pumps	Pass	Fail	Comments
Power End Oil Checked	x		
Oiler Operation	x		
Plungers & Packing	x		
Valves	x		

Auxillary Equipment	Pass	Fail	Comments
All Lo-Torq Valves Serviced	x		
Lo-Torq's Operating Freely	x		
Chiksan Loops Serviced - Tested	x		
All suction hoses serviceable	x		
Cement Head serviced	x		
Debrief with Rig Representative	**YES**	**NO**	
	X		

Operator:Danny Lorroway	**Date**	**10/01/2009**
Company Rep:Sean Defreitas	**Rig**	**West Triton**

Attachment 6

LOT/FIT Report

Australian Drilling Associates Pty Ltd ADA

LOT/FIT FORM

BEACH PETROLEUM

Well: FERMAT-1 **Rig:** West Triton **Date** 19-Dec-08

Test (FIT/LOT): **LOT**

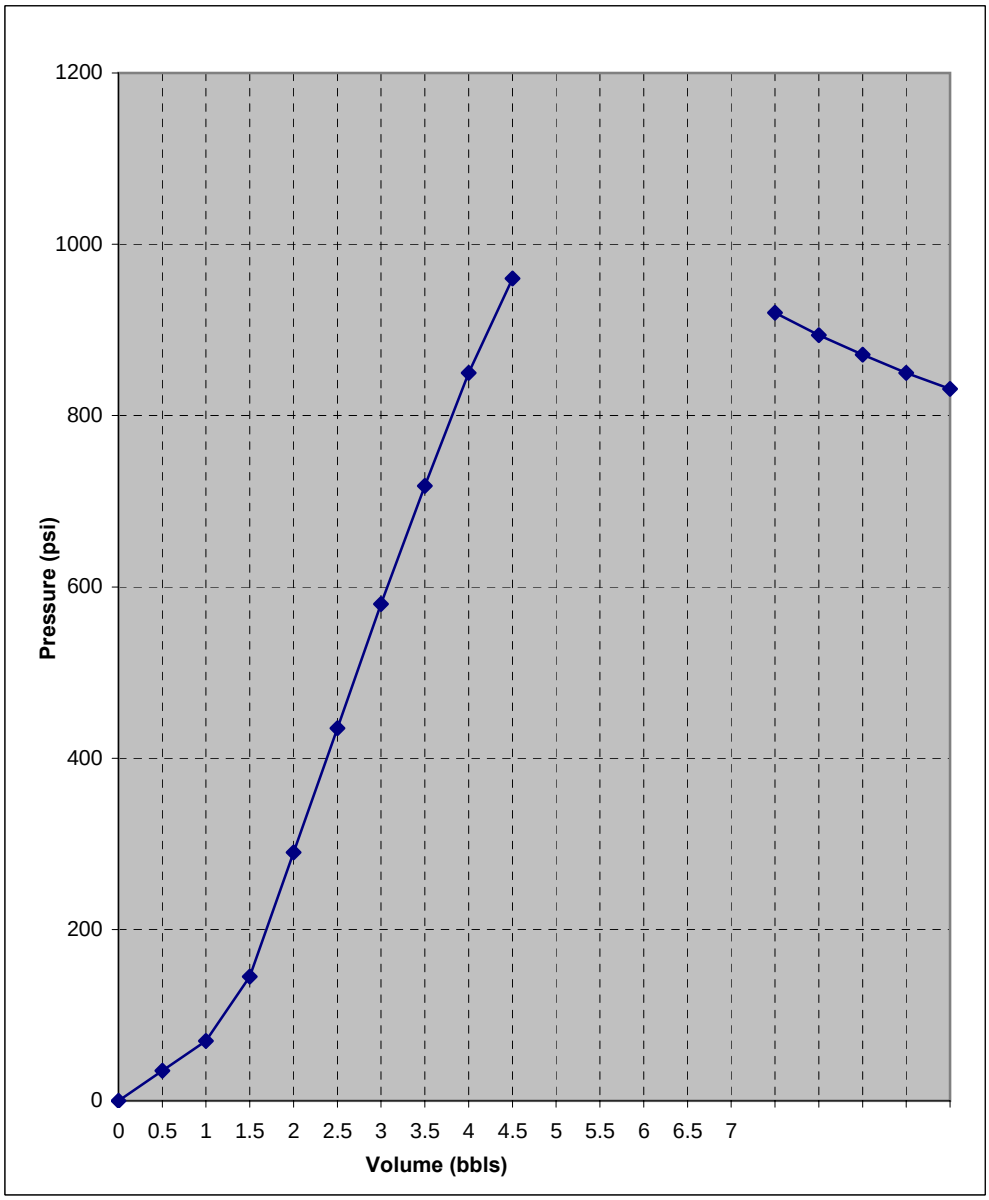
Mud Properties		Well Depth (m)	1002	Vol pumped (bbls)	4.5
Weight (ppg)	9.3	Well TVD (m)	1002	Vol lost (bbls)	0.25
PV (cp)		Casing size	13 3/8	Pressure(psi)	960
YP(lb/100sq.ft)		Shoe Depth (m)	987	Pump rate(bbls/min)	0.25
FL (cc)		Min.Burst (psi)	4,000	LOT (EMW)* ppg	**14.99**

$$\text{*FIT/LOT(EMW ppg)} = \frac{\text{Applied Pressure (psi)}}{\text{Shoe Depth (m)} \times 0.171} + \text{Mud weight}$$

Time	Vol (bbls)	Ps (psi)
	0	0
	0.5	35
	1	70
	1.5	145
	2	290
	2.5	435
	3	580
	3.5	718
	4	850
	4.5	960
	5	
	5.5	
	6	
ISP	6.5	
	7	
2 min		920
4 min		894
6 min		871
8 min		850
10 min		831
12 min		
14 min		

Ps = Surface pressure

Pumped 4.5 bbls,
Returned 4.25 bbls



LOT/FIT FORM

Australian Drilling Associates Pty Ltd ADA

BEACH PETROLEUM

Well: FERMAT-1 **Rig:** West Triton **Date** 3-Jan-09

Test (FIT/LOT): **FIT**

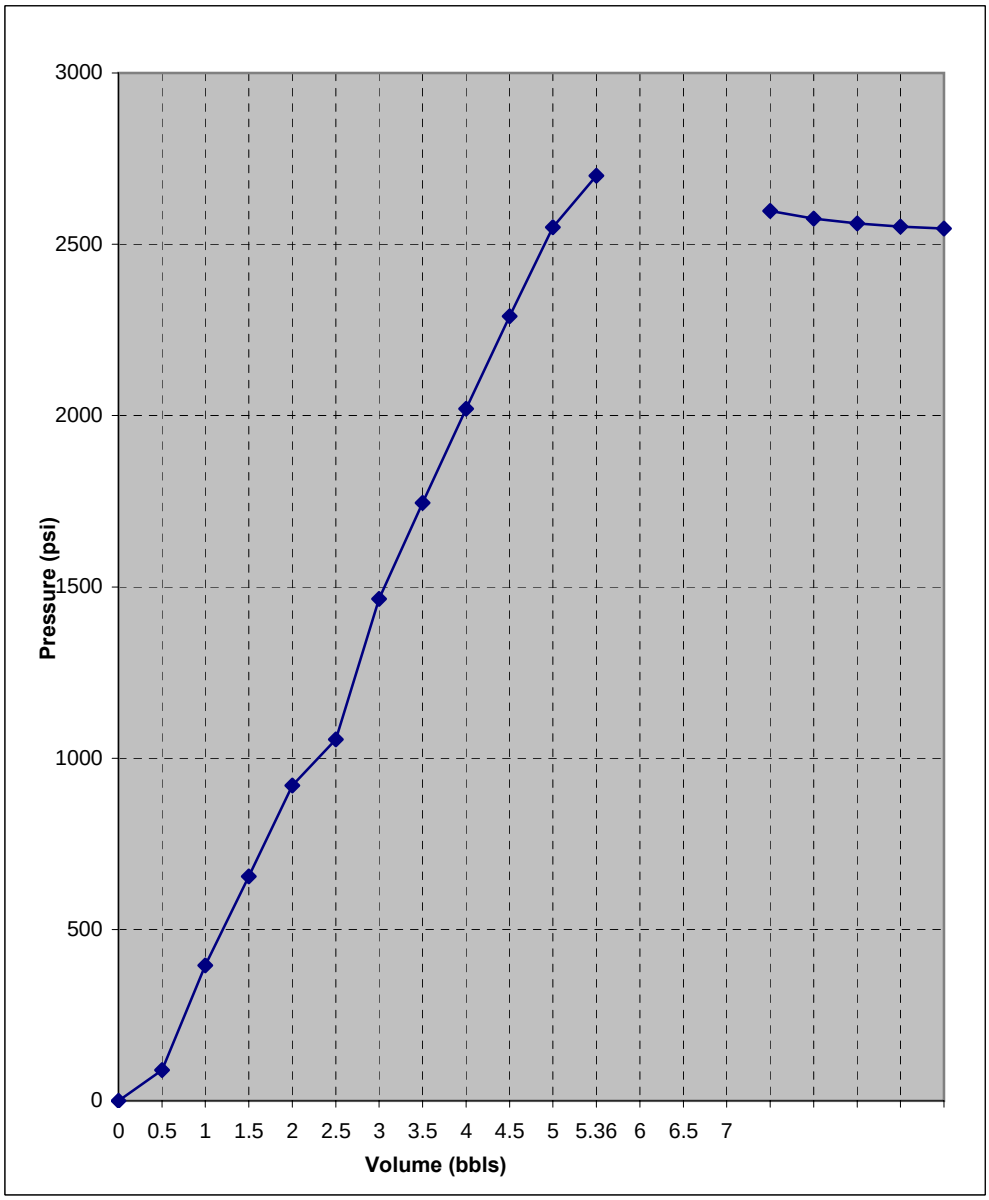
Mud Properties		Well Depth (m)	2810	Vol pumped (bbls)	5.36
Weight (ppg)	10.3	Well TVD (m)	2807	Vol lost (bbls)	0.36
PV (cp)		Casing size	9 5/8"	Pressure(psi)	2720
YP(lb/100sq.ft)		Shoe TVD (m)	2798	Pump rate(bbls/min)	0.33
FL (cc)		Min.Burst (psi)	10,900	LOT (EMW)* ppg	**15.98**

$$\text{*FIT/LOT(EMW ppg)} = \frac{\text{Applied Pressure (psi)}}{\text{Shoe Depth (m)} \times 0.171} + \text{Mud weight}$$

Time	Vol (bbls)	Ps (psi)
	0	0
	0.5	90
	1	395
	1.5	655
	2	920
	2.5	1055
	3	1465
	3.5	1745
	4	2020
	4.5	2290
	5	2550
	5.36	2700
	6	
ISP	6.5	
	7	
2 min		2597
4 min		2575
6 min		2561
8 min		2552
10 min		2546
12 min		
14 min		

Ps = Surface pressure

Pumped 5.36 bbls,
Returned 5.0 bbls



Attachment 7

Directional Drilling Report

Schlumberger

Drilling & Measurements

BEACH PETROLEUM

Fermat-1

End of Well Report

Schlumberger

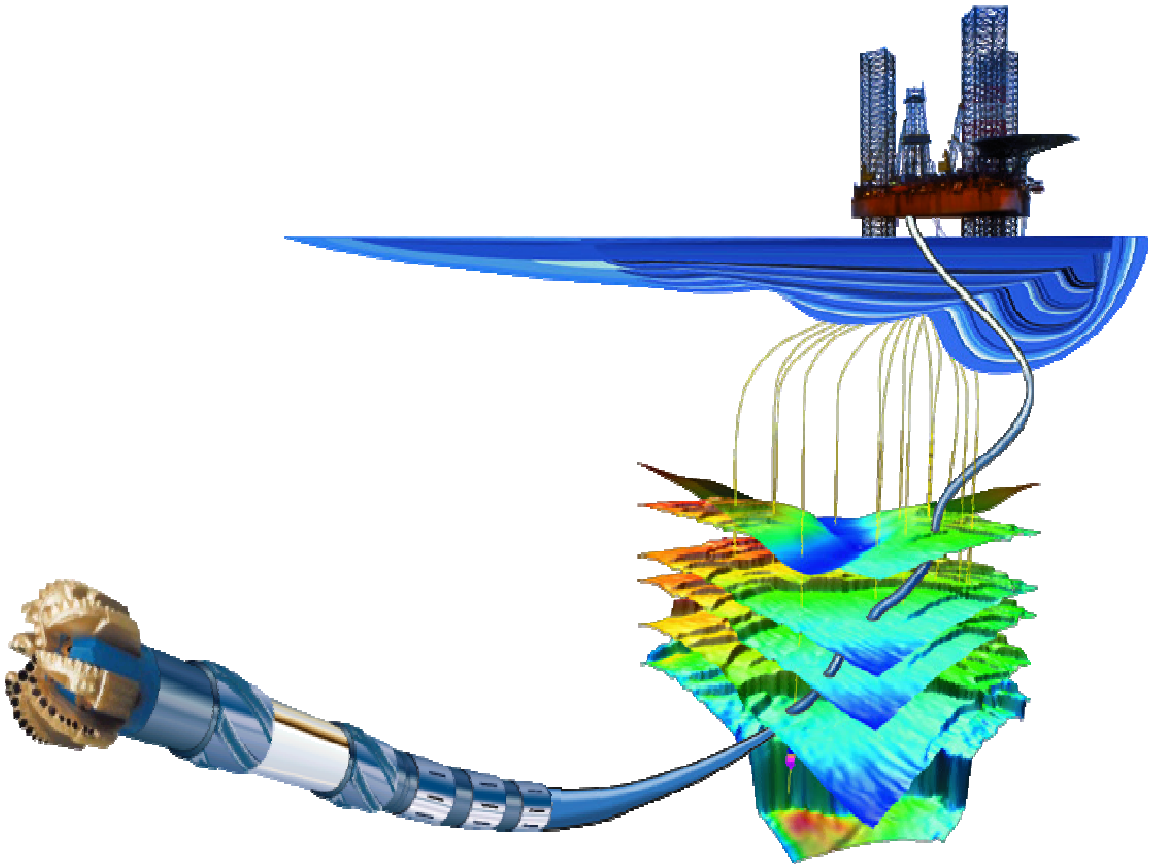
BEACH PETROLEUM

Contents

Schlumberger

BEACH PETROLEUM

1. General Information



Schlumberger

BEACH PETROLEUM

General Information

Well Name:	Fermat-1	
Rig:	West Triton	
Field:	Fermat-1	
Location:	Otway Basin	
Country:	Australia	
Cell Members:	Joshua Seevaratnam	MWD/LWD Engineer
	San Thida Aung	MWD/LWD Engineer
	David Gibson	MWD/LWD Engineer
	Rika Kartorahardjo	MWD/LWD Engineer
Town Contacts:	David Rapp	Operations Manager
	Michael McDermott	Field Services Manager
	Femi Daramola	Service Quality Coach
	Mee Yean Tan	Engineer In Charge
Company Representatives:	S. De Freitas & R. Rossouw	Senior Drilling Supervisor
	Peter Sheenhan	Drilling Supervisor

Schlumberger

Geomagnetic and Survey Reference Criteria

Fermat-1

Geomagnetic Data

Magnetic Model:	BGGM version 2008
Magnetic Date:	23 December 2008
Magnetic Field Strength:	1214.380 HCNT
Magnetic Declination:	9.868 °
Magnetic Dip:	-69.620 °

Survey Reference Criteria

Reference G:	1000.20 mGal
Reference H:	1214.44 HCNT
Reference Dip:	-69.62 °
G value Tolerance:	(±) 2.50 mGal
H value Tolerance:	(±) 6.00 HCNT
Dip Tolerance:	(±) 0.45 °

Survey Corrections Applied

Reference North:	Grid North
Magnetic Declination:	9.868 °
Grid Convergence:	-0.033 °
Total Azimuth Correction:	9.901 °
Vertical Section Azimuth:	190.800 °

Survey Reference Location

Fermat-1 Surface Coordinates:

Latitude:	38° 11′ 47.029″ South
Longitude:	141° 3′ 13.773″ East
Northing:	5,772,392.606 meters
Easting:	504,713.143 meters
Vertical Datum:	Mean Sea Level (MSL)
Rotary Table Elevation:	38.00m above MSL

Health, Safety and Environment

Schlumberger Drilling and Measurements personnel actively participated in the Seadrill STOP safety initiative, and attended pre-tour and weekly safety meetings.

Schlumberger Drilling and Measurements personnel were not involved in any safety incidents while on board the West Triton.

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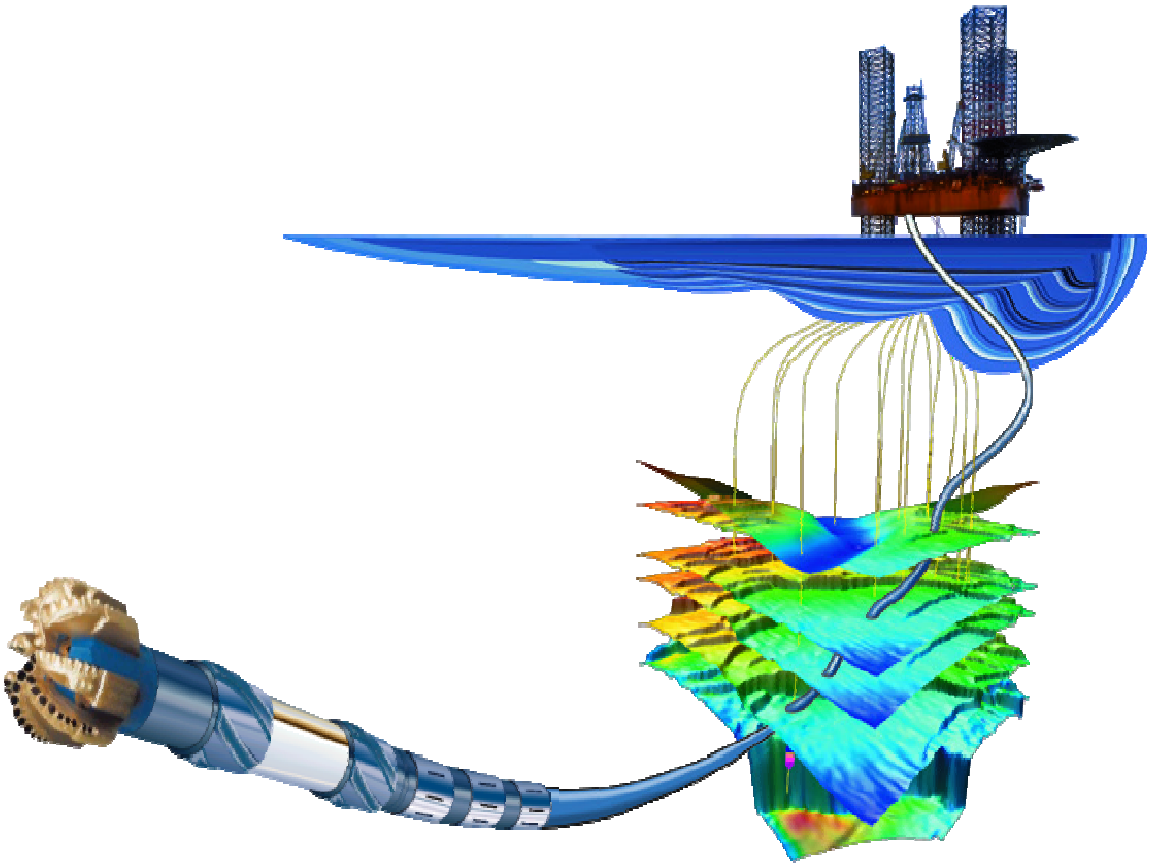
Schlumberger

BEACH PETROLEUM

2. Definitive Survey



Schlumberger

Fermat - 1 MWD Surveys DMAG Survey Report

Report Date:	January 9, 2009	Survey / DLS Computation Method:	Minimum Curvature / Lubinski
Client:	Beach Petroleum	Vertical Section Azimuth:	190.800°
Field:	Beach - Fermat-1	Vertical Section Origin:	N 0.000 m, E 0.000 m
Structure / Slot:	Fermat-1 / Slot 1	TVD Reference Datum:	RKB
Well:	Fermat-1	TVD Reference Elevation:	38.0 m relative to MSL
Borehole:	Fermat-1	Sea Bed / Ground Level Elevation:	-39.000 m relative to MSL
UWI/API#:		Magnetic Declination:	9.868°
Survey Name / Date:	Fermat - 1 MWD Surveys DMAG / December 23, 2008	Total Field Strength:	60719.112 nT
Tort / AHD / DDI / ERD ratio:	43.347° / 158.05 m / 4.352 / 0.044	Magnetic Dip:	-69.623°
Grid Coordinate System:	GDA94/MGA94 Zone 54	Declination Date:	December 28, 2008
Location Lat/Long:	S 38 11 47.029, E 141 3 13.773	Magnetic Declination Model:	BGGM 2008
Location Grid N/E Y/X:	N 5772392.606 m, E 504713.143 m	North Reference:	Grid North
Grid Convergence Angle:	-0.03328376°	Total Corr Mag North -> Grid North:	+9.901°
Grid Scale Factor:	0.99960027	Local Coordinates Referenced To:	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	DLS (deg/30 m)	Northing (m)	Easting (m)	Latitude	Longitude
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5772392.61	504713.14	S 38 11 47.029	E 141 3 13.773
	167.75	1.24	1.78	167.74	-1.79	1.81	0.06	0.22	5772394.42	504713.20	S 38 11 46.970	E 141 3 13.776
	197.16	0.28	58.77	197.14	-2.16	2.17	0.13	1.13	5772394.77	504713.27	S 38 11 46.958	E 141 3 13.779
	256.53	0.60	153.30	256.51	-2.01	1.97	0.39	0.34	5772394.57	504713.53	S 38 11 46.965	E 141 3 13.789
	286.11	2.77	188.85	286.08	-1.17	1.12	0.35	2.34	5772393.73	504713.49	S 38 11 46.992	E 141 3 13.788
	315.55	1.66	227.88	315.50	-0.12	0.13	-0.07	1.85	5772392.74	504713.07	S 38 11 47.024	E 141 3 13.770
	345.27	0.27	15.10	345.21	0.16	-0.09	-0.38	1.91	5772392.52	504712.77	S 38 11 47.032	E 141 3 13.758
	374.62	0.25	25.51	374.56	0.03	0.04	-0.33	0.05	5772392.64	504712.81	S 38 11 47.028	E 141 3 13.760
	404.16	1.88	211.90	404.10	0.42	-0.32	-0.56	2.16	5772392.29	504712.58	S 38 11 47.039	E 141 3 13.750
	463.95	0.32	269.03	463.88	1.36	-1.15	-1.24	0.87	5772391.45	504711.90	S 38 11 47.066	E 141 3 13.722
	493.39	0.43	249.60	493.32	1.44	-1.19	-1.43	0.17	5772391.41	504711.71	S 38 11 47.067	E 141 3 13.715
	523.07	0.44	347.74	523.00	1.39	-1.12	-1.56	0.66	5772391.49	504711.59	S 38 11 47.065	E 141 3 13.709
	552.74	0.22	270.06	552.67	1.30	-1.01	-1.64	0.45	5772391.60	504711.50	S 38 11 47.061	E 141 3 13.706
	582.42	0.09	59.69	582.35	1.29	-1.00	-1.68	0.30	5772391.61	504711.47	S 38 11 47.061	E 141 3 13.705
	611.99	0.51	339.54	611.92	1.16	-0.86	-1.70	0.51	5772391.75	504711.44	S 38 11 47.057	E 141 3 13.703
	641.40	0.19	327.69	641.32	1.02	-0.70	-1.77	0.33	5772391.91	504711.37	S 38 11 47.051	E 141 3 13.701
	670.88	0.49	288.55	670.80	0.96	-0.62	-1.92	0.37	5772391.99	504711.22	S 38 11 47.049	E 141 3 13.695
	700.49	0.33	247.43	700.41	0.99	-0.61	-2.12	0.33	5772392.00	504711.03	S 38 11 47.048	E 141 3 13.686
	729.55	0.46	275.90	729.47	1.05	-0.63	-2.31	0.24	5772391.98	504710.83	S 38 11 47.049	E 141 3 13.678
	759.18	0.36	241.87	759.10	1.12	-0.66	-2.51	0.26	5772391.95	504710.63	S 38 11 47.050	E 141 3 13.670
	788.76	0.65	163.00	788.68	1.33	-0.86	-2.54	0.69	5772391.74	504710.60	S 38 11 47.057	E 141 3 13.669
	818.32	0.12	122.27	818.24	1.49	-1.04	-2.47	0.57	5772391.57	504710.67	S 38 11 47.063	E 141 3 13.672
	848.13	0.24	67.63	848.05	1.46	-1.03	-2.39	0.20	5772391.57	504710.76	S 38 11 47.062	E 141 3 13.675
	877.69	0.50	112.18	877.61	1.45	-1.06	-2.21	0.38	5772391.55	504710.93	S 38 11 47.063	E 141 3 13.683
	906.92	0.33	214.11	906.84	1.56	-1.18	-2.14	0.67	5772391.43	504711.01	S 38 11 47.067	E 141 3 13.686
	936.44	1.52	212.18	936.35	2.00	-1.58	-2.39	1.21	5772391.03	504710.75	S 38 11 47.080	E 141 3 13.675
	966.55	2.74	216.55	966.44	3.02	-2.49	-3.04	1.23	5772390.11	504710.11	S 38 11 47.110	E 141 3 13.649
	990.90	2.28	226.38	990.77	3.94	-3.30	-3.73	0.77	5772389.31	504709.41	S 38 11 47.136	E 141 3 13.620
12.25 in Section BHA4	1023.76	2.63	224.84	1023.60	5.09	-4.28	-4.74	0.33	5772388.33	504708.41	S 38 11 47.168	E 141 3 13.579
	1053.62	2.63	224.67	1053.43	6.23	-5.26	-5.70	0.01	5772387.35	504707.44	S 38 11 47.199	E 141 3 13.539
	1083.09	2.60	225.86	1082.87	7.34	-6.20	-6.66	0.06	5772386.41	504706.49	S 38 11 47.230	E 141 3 13.500
	1112.27	2.75	224.69	1112.02	8.46	-7.16	-7.62	0.16	5772385.45	504705.52	S 38 11 47.261	E 141 3 13.460
	1141.71	2.61	223.95	1141.42	9.61	-8.14	-8.59	0.15	5772384.46	504704.56	S 38 11 47.293	E 141 3 13.421
	1171.39	2.66	223.44	1171.07	10.76	-9.13	-9.53	0.06	5772383.48	504703.62	S 38 11 47.325	E 141 3 13.382
	1200.78	2.64	223.80	1200.43	11.90	-10.12	-10.47	0.03	5772382.49	504702.68	S 38 11 47.357	E 141 3 13.343
	1230.79	2.72	225.15	1230.41	13.06	-11.12	-11.45	0.10	5772381.49	504701.70	S 38 11 47.389	E 141 3 13.303
	1288.88	2.77	225.56	1288.43	15.36	-13.07	-13.43	0.03	5772379.54	504699.72	S 38 11 47.453	E 141 3 13.222
	1318.86	2.69	226.89	1318.38	16.52	-14.06	-14.46	0.10	5772378.55	504698.69	S 38 11 47.485	E 141 3 13.179
	1407.48	2.91	229.04	1406.89	19.97	-16.95	-17.68	0.08	5772375.66	504695.47	S 38 11 47.579	E 141 3 13.047
	1436.37	2.94	228.54	1435.74	21.13	-17.93	-18.79	0.04	5772374.69	504694.36	S 38 11 47.610	E 141 3 13.002
	1465.90	3.02	227.97	1465.23	22.35	-18.95	-19.93	0.09	5772373.67	504693.22	S 38 11 47.644	E 141 3 12.955
	1495.44	3.02	228.27	1494.73	23.58	-19.99	-21.09	0.02	5772372.63	504692.06	S 38 11 47.677	E 141 3 12.907
	1525.13	3.06	228.31	1524.38	24.83	-21.03	-22.27	0.04	5772371.58	504690.89	S 38 11 47.711	E 141 3 12.859
	1554.71	3.12	227.55	1553.92	26.11	-22.10	-23.45	0.07	5772370.51	504689.70	S 38 11 47.746	E 141 3 12.810
	1584.40	3.16	227.33	1583.56	27.41	-23.20	-24.65	0.04	5772369.41	504688.51	S 38 11 47.782	E 141 3 12.761
	1614.18	3.15	227.26	1613.30	28.73	-24.31	-25.85	0.01	5772368.30	504687.30	S 38 11 47.818	E 141 3 12.712
	1643.45	3.22	227.15	1642.52	30.04	-25.42	-27.04	0.07	5772367.20	504686.11	S 38 11 47.854	E 141 3 12.663
	1732.53	3.23	229.06	1731.46	34.02	-28.77	-30.77	0.04	5772363.85	504682.38	S 38 11 47.962	E 141 3 12.509
	1761.71	3.31	229.32	1760.59	35.33	-29.85	-32.03	0.08	5772362.76	504681.12	S 38 11 47.998	E 141 3 12.458
	1791.33	3.27	229.40	1790.17	36.66	-30.96	-33.32	0.04	5772361.66	504679.83	S 38 11 48.033	E 141 3 12.405

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	DLS (deg/30 m)	Northing (m)	Easting (m)	Latitude	Longitude
	1820.98	3.35	229.44	1819.77	37.99	-32.07	-34.62	0.08	5772360.54	504678.53	S 38 11 48.070	E 141 3 12.351
	1880.19	3.46	227.97	1878.87	40.77	-34.40	-37.27	0.07	5772358.22	504675.89	S 38 11 48.145	E 141 3 12.243
	1939.47	3.51	227.37	1938.04	43.65	-36.82	-39.93	0.03	5772355.80	504673.23	S 38 11 48.224	E 141 3 12.133
	2028.16	3.39	229.51	2026.57	47.88	-40.36	-43.92	0.06	5772352.26	504669.24	S 38 11 48.339	E 141 3 11.969
	2057.35	3.37	231.70	2055.71	49.20	-41.46	-45.25	0.13	5772351.17	504667.91	S 38 11 48.374	E 141 3 11.915
	2086.92	3.34	227.82	2085.23	50.54	-42.57	-46.57	0.23	5772350.05	504666.59	S 38 11 48.410	E 141 3 11.860
	2116.75	3.44	227.04	2115.01	51.96	-43.77	-47.87	0.11	5772348.86	504665.29	S 38 11 48.449	E 141 3 11.807
	2146.40	3.29	227.47	2144.61	53.36	-44.95	-49.15	0.15	5772347.68	504664.01	S 38 11 48.487	E 141 3 11.755
	2175.52	3.42	228.06	2173.68	54.72	-46.09	-50.41	0.14	5772346.53	504662.75	S 38 11 48.525	E 141 3 11.703
	2235.00	3.46	227.38	2233.05	57.58	-48.49	-53.05	0.03	5772344.13	504660.11	S 38 11 48.602	E 141 3 11.594
	2264.44	3.46	226.56	2262.44	59.01	-49.71	-54.35	0.05	5772342.92	504658.82	S 38 11 48.642	E 141 3 11.541
	2323.60	3.26	226.76	2321.49	61.82	-52.09	-56.87	0.10	5772340.54	504656.29	S 38 11 48.719	E 141 3 11.437
	2382.70	3.36	228.47	2380.50	64.55	-54.39	-59.39	0.07	5772338.24	504653.78	S 38 11 48.794	E 141 3 11.334
BHA 5 - from 2396m	2412.78	2.64	231.24	2410.53	65.78	-55.40	-60.59	0.73	5772337.22	504652.58	S 38 11 48.827	E 141 3 11.285
Motor correction	2441.90	1.53	213.40	2439.63	66.65	-56.15	-61.33	1.31	5772336.48	504651.84	S 38 11 48.851	E 141 3 11.254
	2471.60	0.60	128.24	2469.33	67.08	-56.58	-61.42	1.61	5772336.05	504651.74	S 38 11 48.865	E 141 3 11.250
	2500.84	1.41	69.21	2498.57	66.97	-56.54	-60.97	1.25	5772336.09	504652.20	S 38 11 48.864	E 141 3 11.269
	2530.68	2.34	71.20	2528.39	66.47	-56.22	-60.05	0.94	5772336.41	504653.12	S 38 11 48.853	E 141 3 11.307
	2559.85	2.34	72.69	2557.54	65.90	-55.85	-58.92	0.06	5772336.78	504654.25	S 38 11 48.841	E 141 3 11.353
	2589.92	2.25	73.44	2587.58	65.34	-55.50	-57.76	0.09	5772337.13	504655.40	S 38 11 48.830	E 141 3 11.401
	2648.85	2.04	82.16	2646.47	64.47	-55.02	-55.62	0.20	5772337.61	504657.55	S 38 11 48.814	E 141 3 11.489
	2678.97	2.05	86.30	2676.57	64.16	-54.91	-54.55	0.15	5772337.71	504658.62	S 38 11 48.811	E 141 3 11.533
	2708.38	2.63	86.65	2705.96	63.87	-54.84	-53.35	0.59	5772337.79	504659.82	S 38 11 48.808	E 141 3 11.582
	2737.95	2.75	86.68	2735.49	63.53	-54.76	-51.96	0.12	5772337.87	504661.20	S 38 11 48.806	E 141 3 11.639
	2767.46	3.28	73.47	2764.96	62.97	-54.48	-50.45	0.88	5772338.15	504662.72	S 38 11 48.797	E 141 3 11.701
Motor run TD at 2807m	2783.95	3.22	72.34	2781.43	62.53	-54.20	-49.55	0.16	5772338.42	504663.61	S 38 11 48.788	E 141 3 11.738
8.5 in Run	2816.25	3.18	78.94	2813.68	61.76	-53.76	-47.81	0.34	5772338.87	504665.35	S 38 11 48.773	E 141 3 11.810
	2845.87	3.21	82.42	2843.25	61.20	-53.49	-46.18	0.20	5772339.14	504666.98	S 38 11 48.764	E 141 3 11.877
	2875.23	3.12	85.48	2872.57	60.73	-53.32	-44.57	0.20	5772339.31	504668.59	S 38 11 48.759	E 141 3 11.943
	2904.72	3.04	88.56	2902.01	60.35	-53.24	-42.99	0.19	5772339.39	504670.17	S 38 11 48.756	E 141 3 12.008
	2934.24	2.89	94.43	2931.49	60.10	-53.27	-41.46	0.34	5772339.35	504671.70	S 38 11 48.757	E 141 3 12.071
	2963.69	2.77	103.77	2960.91	60.05	-53.50	-40.03	0.48	5772339.13	504673.13	S 38 11 48.765	E 141 3 12.129
	2992.79	2.65	116.56	2989.98	60.27	-53.97	-38.75	0.63	5772338.66	504674.41	S 38 11 48.780	E 141 3 12.182
	3022.28	2.80	118.01	3019.43	60.67	-54.61	-37.50	0.17	5772338.02	504675.66	S 38 11 48.801	E 141 3 12.233
	3051.99	2.87	121.90	3049.11	61.15	-55.35	-36.23	0.21	5772337.28	504676.93	S 38 11 48.824	E 141 3 12.286
	3081.57	2.92	130.18	3078.65	61.79	-56.22	-35.03	0.43	5772336.40	504678.13	S 38 11 48.853	E 141 3 12.335
	3111.25	3.10	139.57	3108.29	62.66	-57.32	-33.93	0.53	5772335.31	504679.23	S 38 11 48.888	E 141 3 12.380
	3140.79	3.39	147.97	3137.78	63.81	-58.67	-32.95	0.56	5772333.96	504680.21	S 38 11 48.932	E 141 3 12.421
	3170.28	3.47	152.03	3167.22	65.14	-60.20	-32.07	0.26	5772332.43	504681.09	S 38 11 48.982	E 141 3 12.457
	3199.75	3.55	146.04	3196.63	66.48	-61.74	-31.14	0.38	5772330.89	504682.02	S 38 11 49.032	E 141 3 12.495
	3229.40	3.69	145.49	3226.22	67.81	-63.29	-30.08	0.15	5772329.34	504683.07	S 38 11 49.082	E 141 3 12.539
	3259.28	3.79	146.43	3256.04	69.19	-64.91	-28.99	0.12	5772327.73	504684.16	S 38 11 49.134	E 141 3 12.583
	3288.90	3.91	148.34	3285.59	70.63	-66.58	-27.92	0.18	5772326.05	504685.23	S 38 11 49.189	E 141 3 12.627
	3318.10	4.02	150.54	3314.72	72.15	-68.32	-26.90	0.19	5772324.31	504686.26	S 38 11 49.245	E 141 3 12.670
	3347.40	4.21	152.14	3343.95	73.77	-70.16	-25.89	0.23	5772322.47	504687.26	S 38 11 49.305	E 141 3 12.711
	3376.97	4.39	156.43	3373.43	75.55	-72.16	-24.93	0.37	5772320.47	504688.22	S 38 11 49.370	E 141 3 12.751
	3406.76	4.66	160.95	3403.13	77.54	-74.35	-24.08	0.45	5772318.29	504689.07	S 38 11 49.441	E 141 3 12.786
	3436.14	5.16	162.03	3432.40	79.74	-76.73	-23.28	0.52	5772315.90	504689.87	S 38 11 49.518	E 141 3 12.818
	3465.57	5.58	159.59	3461.70	82.12	-79.33	-22.37	0.49	5772313.30	504690.78	S 38 11 49.602	E 141 3 12.856
	3495.57	6.02	157.91	3491.55	84.69	-82.16	-21.27	0.47	5772310.48	504691.88	S 38 11 49.694	E 141 3 12.901
	3525.24	6.42	158.39	3521.05	87.40	-85.14	-20.08	0.41	5772307.50	504693.07	S 38 11 49.790	E 141 3 12.950
	3555.17	6.99	159.59	3550.77	90.37	-88.41	-18.83	0.59	5772304.24	504694.32	S 38 11 49.896	E 141 3 13.002
	3569.38	7.28	160.29	3564.87	91.88	-90.06	-18.22	0.64	5772302.58	504694.93	S 38 11 49.950	E 141 3 13.027
Well TD	3585.00	7.60	161.03	3580.36	93.63	-91.97	-17.55	0.64	5772300.67	504695.60	S 38 11 50.012	E 141 3 13.054

Survey Type: Definitive Survey

Survey Error Model: **SLB ISCWSA version 24 *** 2-D 95.00% Confidence 2.4477 sigma**

Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	77.00	Act-Stns	SLB_MWD-STD-Depth Only	Fermat-1 -> Fermat - 1 MWD Surveys DMAG
77.00	2382.70	Act-Stns	SLB_MWD-STD	Fermat-1 -> Fermat - 1 MWD Surveys DMAG
2382.70	2783.95	Act-Stns	SLB_MWD+DMAG	Fermat-1 -> Fermat - 1 MWD Surveys DMAG
2783.95	3569.38	Act-Stns	SLB_MWD-STD	Fermat-1 -> Fermat - 1 MWD Surveys DMAG
3569.38	3585.00	Act-Stns	SLB_BLIND+TREND	Fermat-1 -> Fermat - 1 MWD Surveys DMAG

**Italicized stations are NOT used in position calculations.*

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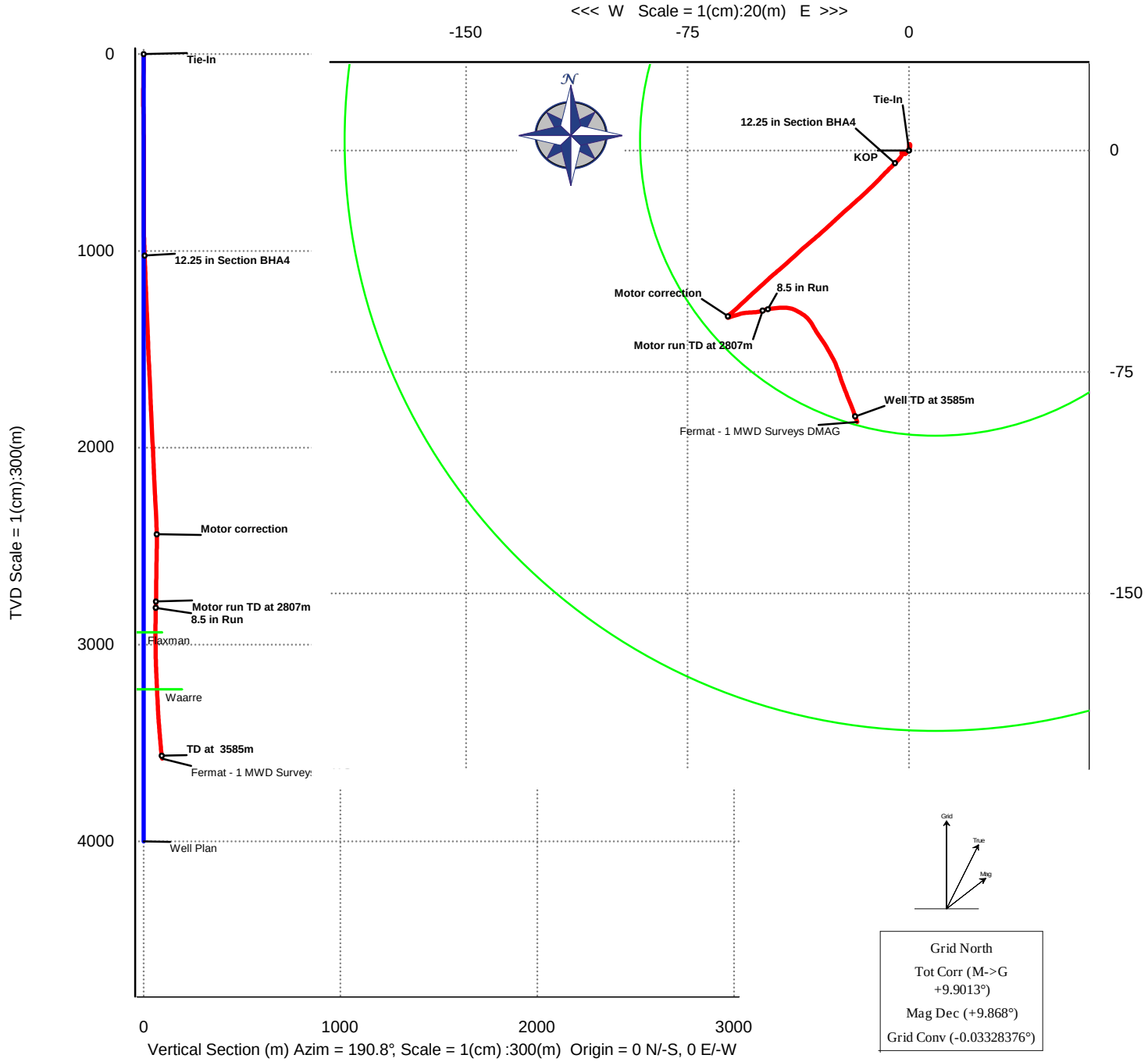
WELL	FIELD	STRUCTURE
Fermat-1	**Beach - Fermat-1**	**Fermat-1**

Magnetic Parameters													
Model:	BGGM 2008	Dip:	-69.623°	Date:	December 28, 2008	Lat:	S38 11 47.029	Northing:	5772392.61 m	Grid Conv:	-0.03328376°	Slot:	Slot 1
		Mag Dec:	+9.868°	FS:	60719.1 nT	Lon:	E141 3 13.773	Easting:	504713.14 m	Scale Fact:	0.9996002736	Plan:	Fermat - 1 MWD Surveys DMAG

Surface Location: GDA94/MGA94 Zone 54

Miscellaneous: TVD Ref: RKB (38.00 m above MSL); Survey Date: December 23, 2008



Grid North

Tot Corr (M->G +9.9013°)

Mag Dec (+9.868°)

Grid Conv (-0.03328376°)

Surface Location

Northing: 5772392.61 m Easting: 504713.14 m

Target Description			Grid Coord				Local Coord	
Target Name	Shape	Major Axis	N(+)/S(-)	E(+)/W(-)	TVD	VSec	N(+)/S(-)	E(+)/W(-)
Flaxman	Circle	200.00	5772396.00	504722.00	2938.00	-5.00	3.40	8.86
Waarre	Circle	400.00	5772396.00	504722.00	3228.00	-5.00	3.40	8.86

Legend

Fermat - 1 MWD Surveys DMAG
Well Plan
Flaxman
Waarre

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12.25 in Section BHA4	1023.76	2.63	224.84	1023.60	5.09	-4.28	-4.74	0.33
BHA 5 - from 2396m	2412.78	2.64	231.24	2410.53	65.78	-55.40	-60.59	0.73
Motor correction	2441.90	1.53	213.40	2439.63	66.65	-56.15	-61.33	1.31
Motor run TD at 2807m	2783.95	3.22	72.34	2781.43	62.53	-54.20	-49.55	0.16
8.5 in Run	2816.25	3.18	78.94	2813.68	61.76	-53.76	-47.81	0.34
POOH to Log / TD. 3585m	3569.38	7.28	160.29	3564.87	91.88	-90.06	-18.22	0.64
Sampled water.	3585.00	7.60	161.03	3580.36	93.63	-91.97	-17.55	0.64

Quality Control

Date Drawn: January 16, 2002

Drawn by: Current User

Checked by:

Client OK:

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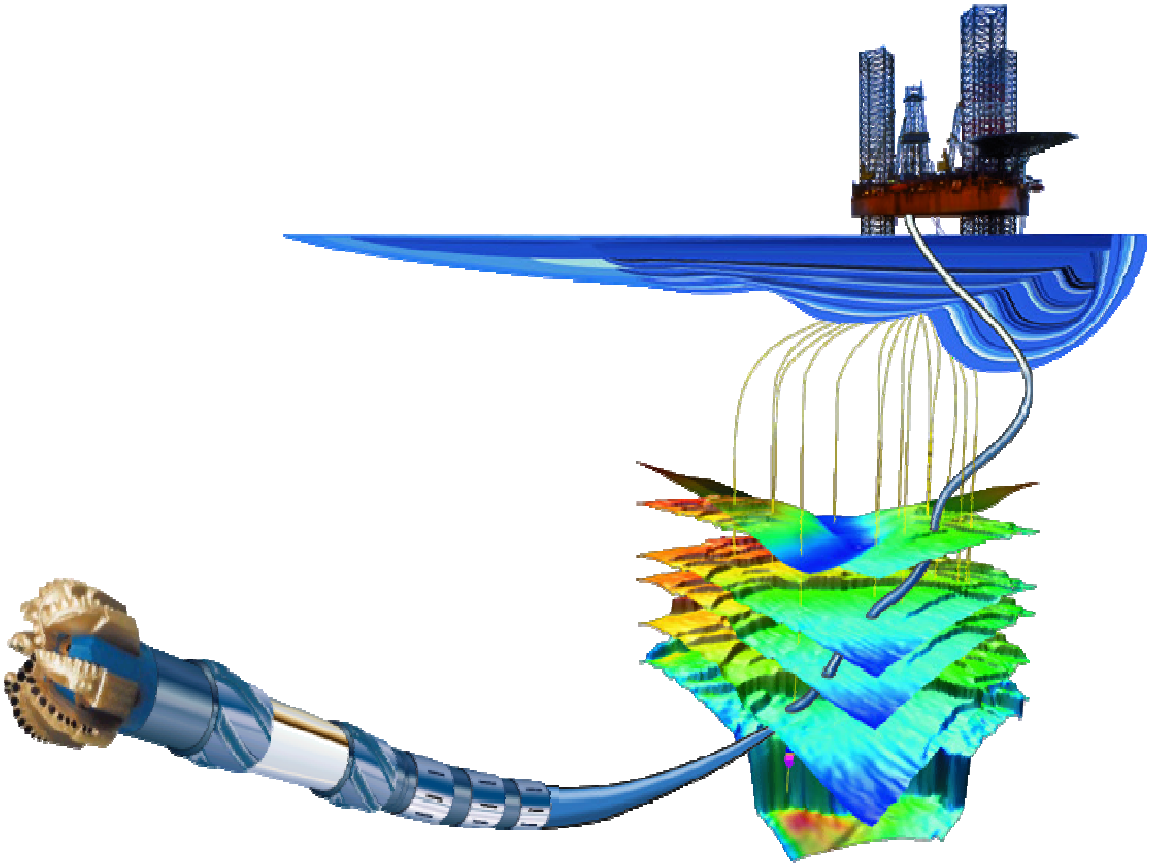
3. Drilling & MWD/LWD Run Summary



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BEACH PETROLEUM

End of Well Drilling Summary

14 December 2008 to 10 January 2009

Fermat-1 Objectives:

Fermat-1 will be drilled by the jack-up mobile offshore drilling unit (MODU) West Triton, which is operated by Seadrill Limited.

Fermat-1 is a vertical exploration well with the objective of intersecting and exploring the Flaxman formation with sandstones and siltstones; and the Waarre formation (Unit C) which are made up of interbedded sandstone, siltstone and shale. The primary and secondary targets tops are expected at 2938m BRT and 3228m BRT.

BHA # 2: Rotary Assembly (LWD Run# 1)
444.5mm – 17 ½ ″ Hole Section (119m MD – 999m MD)

The following Rotary Assembly was made up in the 1st LWD run:-

17½″ Milled Tooth Bit (Hughes, Type: MXL-T00, Jet: 3x20)
Float Sub
9½″ Telescope* MWD
9″ sonicVISION* LWD
17½″ Stabiliser
9½″ DC
17½″ Stabiliser
9″ DC
Crossover
8¼″ DC
8″ Jar
8¼″ DC
Crossover
15 x 5½″ HWDP
5½″ DP to surface

Bit Grading: 2 – 2 – LT – G – E – I – LN – TD

* Mark of Schlumberger

MWD/LWD Summary

TeleScope was programmed with 12Hz/3bps telemetry configuration to provide Real-time Gamma Ray, Direction and Inclination; while the SonicVISION Real-Time Delta-T Compressional was transmitted uphole as well as recorded in Memory mode. A good SHT was performed before RIH. The BHA tagged cement at 115m from where drilling commenced ahead to 999m BRT section TD as per program. D&I survey of the borehole was taken every stand down.

High Shocks and Stick & Slip were experienced throughout the run. The Client representative was informed at the wellsite to adjust drilling parameters (i.e. WOB & RPM). The Shocks were mitigated but the sticknslip was persistent throughout the whole run. While drilling there was a sudden drop in the standpipe pressure as well as in the Turbine RPM (TRPM). The was a mud washout in the BHA above the MWD tool.

Upon reaching TD, downlinking messages were sent to the sonicVISION to change to fast configuration before tripping out, however it was unsuccessful. Once BHA on surface, it was noticed that the sonic Tool Transmitter shield had broken off downhole. The sonicVISION Techlogs and Memory data were examined and it was determined that the transmitter shield had broken off at approximately 750m MD. In addition, the bit had a lost nozzle.

BHA # 4: Rotary Assembly (LWD Run#2)
311.15mm – 12¼" Hole Section (1027mMD – 2396m MD)

The following elements were made up in the 2nd LWD Run bottom Hole Assembly: -

12¼" PDC Bit (Reed Hycalog, Type: RSR616M-A10, Jets: 3 x 13, 3 x 14)
Float Sub
8¼" arcVISION* LWD
8¼" TeleScope* MWD
8¼" sonicVISION* LWD
12¼" Stabilizer
5 x 8¼" DC
8" Jar
8¼" DC
Crossover
15 x 5½" HWDP
5½" DP to surface

Bit Grading: 5 – 3 – RO – A – X – 1 – LT – BHA

MWD/LWD Summary

Real-time telemetry configuration for this BHA consisting of D&M TeleScope*, sonicVISION* and arcVISION* was 12Hz/6bps. This configuration transmitted in Real-Time Gamma Ray, Direction and Inclination; Resistivity, Annular Pressure and Temperature and sonicVISION Delta-T Compressional.

The BHA was RIH to bottom at 1027m and drilled ahead to 2396m MD. There were high stick & slip in the run. The company man and the drilling crew were kept in the loop about the situation of the shock and Vibration. However, the client formally acknowledges the notification of the drilling condition but parameter adjustments were not done at the decision of the client.

The wellbore inclination was of critical concern during the run and was to be kept below 4.5°. The run was to be terminated if the any of the following 3 situation arose:

1. The whole inclination gone above the 4.5° limit,
2. The bit becomes balled-up and
3. Drilling could not continue to 2400m MD.

Notwithstanding, drilling successfully continued to 2396mMD; few meters shy of the planned TD of 2400m where the hole angle was 3.36°. The run was terminated and decisions were made to POOH the BHA and make a corrective motor run.

Before the trip-out started, the sonicVISION was downlinked successfully to the 1sec fast configuration. Recorded mode data were dumped from all the LWD tools, data processed and field print logs generated and presented.

BHA#4 Steerable Motor Assembly
311.15mm – 12¼" Hole Correction Section (2396mMD – 2807mMD)

The following 12¼" Steerable Motor Assembly was made up and run in:

12¼" PDC Bit (Reed Hycalog, Type: RSX616-A10, Jets: 3x13's & 3x15's)
A962M GT PowerPak Motor (1.15° bend, (12 1/8" Sleeve Stabilizer)
8" Float Sub
8¼" arcVISION* LWD
8¼" TeleScope* MWD
8¼" sonicVISION* LWD
12 3/16" String Stabilizer
5 x 8¼" DC
8" Jar

* Mark of Schlumberger

8¼" DC
Crossover
15 x 5½" HWDP
5½" DP to surface

Bit Grading: 1 – 1 – LT – G – X – I – BU – TD

Drilling Summary

The BHA was made up with 1.15° bend set in the Motor and successfully shallow hole tested before RIH.

At 2345m MD, commenced washing and reaming down to a depth of 2380m MD at 800GPM and 50 RPM, where the BHA picked weight. Continued to ream down until 2396m MD, where bottom was tagged and commenced to break in the bit.

After breaking in the bit, flow was brought up to 900GPM and a slide to 45° Azimuth was attempted. Could not get orientated into a consistent slide until a depth of 2407m MD, whence a reasonably consistent slide of 15metres at an average azimuth of 50° was achieved. During slides, the top drive could not be used to turn the Tool Face on bottom. In order to get orientated, an estimate of reactive torque had to be dialed in off bottom, and once on bottom, variations of WOB and differential pressure was used to bring the Tool Face around to the approximate desired Orientation. Several attempts were made to get the right amount of reactive torque compensation set in the Tool Face before continuing to slide.

Drilling in Rotary gave an ROP of between 30 to 40 m/hr through the Belfast A Mudstone formation. High stick/slip was being observed; varying RPM from 40 to 80 rpm only had a marginal improvement in stick/slip. Altering weight on bit had no noticeable improvement with Stick/slip.

At 2700m MD, could not maintain a consistent slide for more than 50 cm. By this time, the rig crew had found a procedure to enable controlled rotation of the top drive on bottom; however it seems the formation was inter-bedded. An orientation would be established with consistent parameters, then the tool face would drift away, differential pressure would alter, and ROP would change. Would then re-establish an orientation for the new conditions, and the reverse would soon occur. The slide was abandoned after 5metres, and re-attempted successfully at 2740m MD where more consistent formation was encountered.

The trip out of the hole was uneventful, except at 1132m MD, where 15klbf overpull was encountered. The trip tanks volumes also increased indicating swabbing of the formation. Top drive was connected, pumped through the obstruction without rotation, run back down with pumps off, observed no obstruction, and continued to POOH.

On surface, there were indications that the bit was beginning to Ball Up, which could explain why rotary ROP was dropping off to 20m/hr just prior to TD of the 12¼ Section.

BHA # 6: Rotary Assembly
215.9mm – 8 1/2" Hole Section (2807m MD – 3585m MD)

The following Rotary Assembly was made up and run in: -

8½" PDC Bit (Security, Type: SE3653Z, Jets: 6x14)
Near Bit Stabilizer
6¾" arcVISION* LWD
6¾" TeleScope* MWD
6¾" sonicVISION* LWD
6¾" adnVISION* LWD
10 x 6" DC
6" Jar
6" DC
Crossover
15 x 5½" HWDP
5½" DP to surface

Bit Grading: 2 – 1 – CT – N – X – 1 – ER – TD

<u>MWD/LWD Summary</u>

BHA consists of TeleScope, arcVISION*, sonicVISION* and adnVISION* to provide GR, Resistivity, APWD, Delta-T Compressional, Density, Neutron Porosity and UltraSonic Caliper in Real Time.

SHT performed successfully without the radioactive source, then proceeded to load RA source into ADN tool. Initial source loading was unsuccessful (source attached to the handling tool didn't seem to seat into source receptacle correctly and attempts to retrieve the source with handling tool back up to the Transfer Shield were unsuccessful.

Called Operation support centre in town for solutions and they suggested to try free the handling tool with source attached, bring the source back into the Transfer shield, lock it in, and inspect to ensure the fishing head & handling tool head isn't damaged, etc.

The driller came out to help the LWD crew and he pulled the slack tugger line with his body strength (not using the air supply) and the handling tool with source came free. Locked the source back into the Transfer shield, checked that nothing was damaged and proceeded to load the source into the receptacle once again.

Once again, high Stick Slip experienced throughout whole run, tried mitigating with drilling parameters. Once BHA was on surface; all tools were physically checked, there were no damages to the ILS, transmitter shields, wearbands, or the Tool Read out port (ROP). Memory data dumped successfully from tools and processed accordingly.

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MWD/LWD Run Summary

Run	Hole Size (in)	MWD/LWD Services	Start Depth (m)	Stop Depth (m)	Distance (m)	Start Date	Stop Date
1	26″	None	76.0	125.0	49.0	14-Dec-08	14-Dec-08
2	17 ½″	sonicVISION*	119.0	999.0	874.0	15-Dec-08	17-Dec-08
3	12¼″	None	999.0	1027.0	28.0	19-Dec-08	19-Dec-08
4	12¼″	VISION* Resisitivity – sonicVISION*	999.0	2396.0	1397.0	20-Dec-08	26-Dec-08
5	12¼″	VISION* Resisitivity – sonicVISION*	2396.0	2807.0	411.0	26-Dec-08	29-Dec-08
6	8 ½″	VISION* Service – sonicVISION*	2807.0	3585.0	778.0	2-Jan-09	7-Jan-09

Run	Hours BRT	Drilling Hours	Circulating Hours	Max Temp (°C)	Trip for MWD	Failure type
2	47.5	32.5	35.5	75.0	No	Damaged sonicVISION Transmitter shield
3	148.0	109.5	113.0	65.0	No	None
4	68.0	19.3	29.7	77.0	No	None
6	120.33	42.4	72.6	80.0	No	ADN6 Source loading

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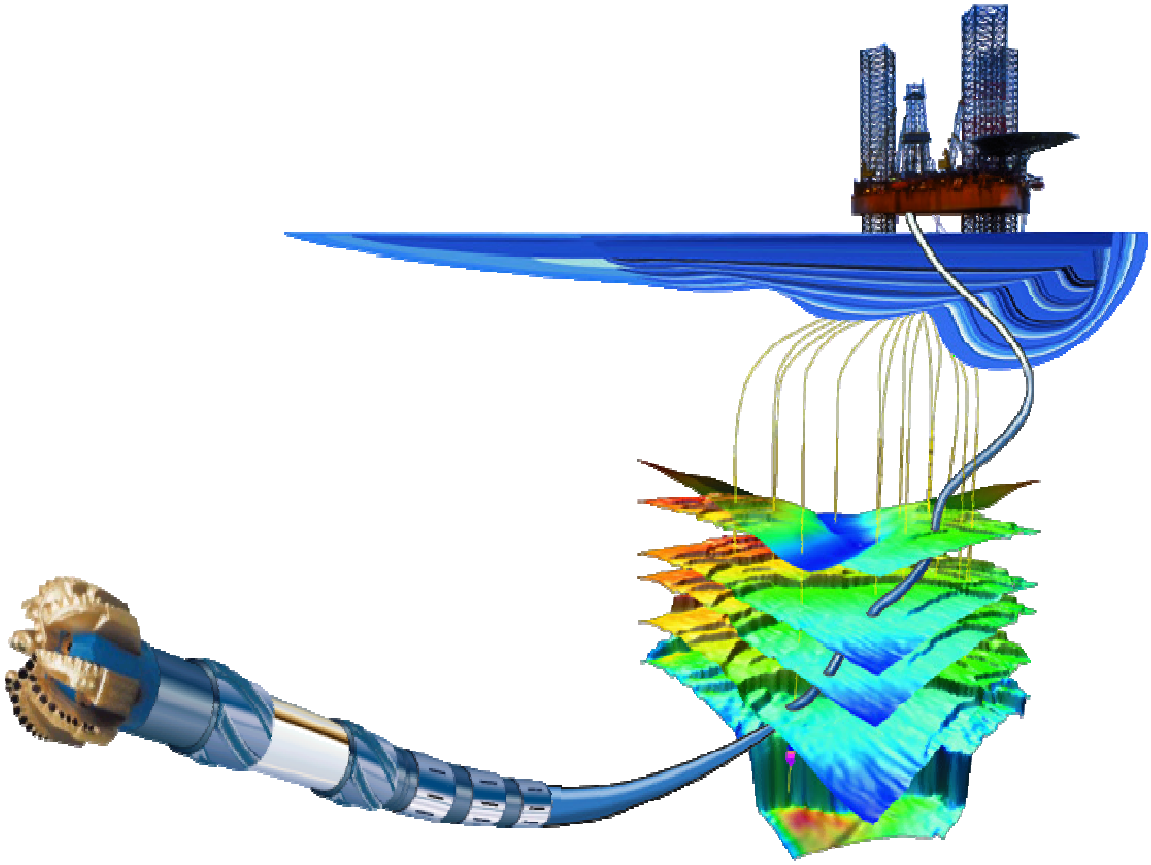
4. Equipment Run Reports



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Equipment Run Summary Report

18-Dec-2008
7:04AM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Sean Defreitas,Peter Sheehan	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	1				

Run Information

	Date In		Date Out
	15-Dec-2008 2:00PM		17-Dec-2008 1:30PM
Depth (MD):	119.0 m	to	999.0 m
Depth (TVD):	119.0 m	to	999.0 m
Inclination:	0.00 deg	to	2.28 deg
Azimuth:	0.00 deg	to	226.38 deg

Drilling Distance:	883.00 m
Rotary Drilling Distance:	883.00 m
Sliding Distance:	0.00 m
Reaming Distance:	116.00 m

Drilling Hours:	32.50 hrs
Rotary Drilling Hrs:	32.50 hrs
Sliding Hours:	0.00 hrs
Reaming Hours:	2.50 hrs
Hrs Below Rotary:	47.50 hrs
Total Pumping Hrs:	35.50 hrs

Hole Size:	17.50 in
Last Casing Size:	30.000 in
Last Casing Depth:	125.0 m (MD)
Tool Face Arc:	
Total Face Angle:	0.00 deg

North Ref Used:	Grid North
Magnetic Dec:	9.870 deg
Grid Correction:	-0.030 deg
Total Correction:	9.900 deg
Est. Mag. Int:	deg

Min DLS:	0.00 deg/30 m
Max DLS:	0.00 deg/30 m
Max DLS Depth:	0.0 m
Surface Screen:	No
DFS Used:	No
Inline Filter:	No

Rig Information

Rig Type:	Jack Up
Water Depth:	38.00 m
Air Gap:	15.00 m
RKB Height:	42.90 m
Ground Elevation:	80.85 m

Pump Type:	Triplex
Pulse Damp Press:	700 psi
Number of Pumps:	3
Pump Line ID:	6.50 in
Pump Output:	5.85 galUS/stroke
Pump Stroke Len:	14.00 in

Run Objective

A vertical well and this 17.5in section to a planned TD of 1000m MD, providing GR & Sonic projection in RT.This section is using Bentonite as weighting material in the mud. There is no KCL.

D&M Crew List:

Cell Manager: Joshua Seevaratnam

Crew: San thida Aung, LWD
David Gibson, MWD
Josh Seevaratnam, Cell Manager

DH Motor Information

Manufacturer:		Bit to Bend Dist:	m
Motor Type:		Bearing Play In:	in
Motor Size:		Bearing Play Out:	in
Serial No.:		Bent Sub Angle:	deg
Lobe Config:		Bent HSG Angle:	deg
Stage Length:	m		
Rubber:			
Sleeve Position:			
Sleeve Size:	in		
Bearing Type:			

RSS Information

RSS Manufacturer:	
RSS Type:	
RSS SN:	
RSS Size:	
Pulse Ht Threshold:	
Min Pulse Width:	
Max Pulse Width:	
Conn Phase Angle:	deg
Rise Time Const:	
Fall Time Const:	
Digit Time:	

MWD Configuration

Mod Type:	QPSK	Int Tool Face Offset:	deg	Bit Rate:	12 bps	Slimpulse Pulser Config:	
Mod Gap:	0.12000 in	Turbine Config:	600-1200 galUS/min	Frequency:	24 Hz	Pred Sig Strength @ TD:	psi
SPT Type:							

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Equipment Run Summary Report

18-Dec-2008
7:04AM

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton
Company Rep: Sean Defreitas,Peter Sheehan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1
Run Number: 1

Drilling Parameters

	Min	Max	Avg
BH Temperature:	72.00 degC	75.00 degC	72.75 degC
Surface RPM:	139.00 rpm	154.00 rpm	145.80 rpm
ROP:	11.50 m/hr	32.50 m/hr	41.51 m/hr
Surface Torque:	0.69 kft.lbf	2.70 kft.lbf	1.70 kft.lbf
Flow Rate:	3,011.00 galUS/min	3,011.21 galUS/min	3,011.08 galUS/min
WOB Sliding:			

Total DH Shocks (k): 0 k
Max Shock Level: 2
Max Shock Duration: 60 sec
Checkshot Type:
Checkshot Depth: m
Checkshot Incl: deg
Checkshot Azim: deg
H2S In Well: No

Average Pump Pressure: 47 psi

Turbine RPM @ Min Flow Rate: 4,219 rpm Min Flow Rate: 3,011.00galUS/min SPP Off Bottom: 1,075.00 psi
Turbine RPM @ Max Flow Rate: 4,180 rpm Max Flow Rate: 3,011.21galUS/min SPP On Bottom: 1,164.00 psi

Mud Information

Mud Type: Sea Water
Mud Company: Halliburton
Mud Brand:
Funnel Viscosity: 480.00 s/qt
Plastic Viscosity: 3.00 cp
Yield Point: 84.00 lbm/100ft2
Mud Resistivity: ohm-m

Mud Clean: Yes
LCM Type:
LCM Size:
LCM Concentration: lbs/bbl
Weighting Material: Bentonite
Mud Weight: 8.80 lbm/galUS

pH: 8.50
Chlorides: ppm
Sand Content: %
Solids: %
Percent Oil: %

IADC Bit Grading

Manufacturer: Hughes Christianson
Model: MXL0T00
Type: Milltooth

Total Revs:
Stick/Slip:
Reason Pulled: Total Depth/Casing Depth

IADC Code: 6060161
Jets (/ 32 in): 3X20
Bit TFA: 0.92 in2

Inner Row	Outer Row	Dull Char	Location	Bearings/Seals	Gauge	Other Chars
2.00	2.00	LT	G	E	I	LN

End of Run - Summary

Sync Hours: 29.37 hrs
Jamming: No 0.00 hrs
Surface Vibration: No
Trans Fail: No

Downhole Noise: No
Surface System Failure: No
Surface Noise: No
H2S in Well: No

Run Failed: Yes
D&M Trip: No
Low Oil Flag: No 0.00 hrs
Filter Screen/Plug Shear: No

Client Inconvenience: **No** Lost Time: hrs
Reason for POOH: Total Depth/Casing Depth

D&M Run Obj Met? [DD and MWD/LWD]: **Yes**

Brief Run Summary:

Driling with good signals through the run and maximum ROP 88 mphr. Experienced some shocks whilst driling, but mostly whilst backreaming. Informed Co-man & driller, and they adjusted backreaming parameters. ROP was slowing down while drilling due to formation and bring back to 80m/h suddently. Towards the end of the run (just before reaching TD), sudden loss in Standpipe pressure/pump pressure. Informed coman and driller. Flow rate constant, stand pipe pressure and turbine rpm drop down frequently. Keep informing co-man and driller .Once TD, pressure kept dropping. Throughout the run, we have got maximum shock level 2 frequently. Especially while they reaming and drilling hard formation.

Once started tripping out of hole, total pressure loss. When BHA on surface, noticed the transmitter on Sonic9 (S/N# 42793) broken off ,and 1 nozzle missing from the bit. Also pumps have problem due to the information from

If not, why?:

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Equipment Run Summary Report

18-Dec-2008

7:04AM

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton

Company Rep: Sean Defreitas,Peter Sheehan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1

Run Number: 1

Equipment on the Run

Equipment	Pump Hours Start	Pump Hours Cumulative	Software Version	Tool Size
H524743-61958	0.00 hrs	35.50 hrs		9.25 in
H524743-61959	0.00 hrs	35.50 hrs		9.25 in
MDC-FG-YX06	0.00 hrs	35.50 hrs	9.2C02	9.25 in
SD9C-AA-42793	0.00 hrs	35.50 hrs	6.6	9.25 in

Services on the Run

Equipment	Service	Tool Name	Real Time Hours	Real Time Failed	Real Time Depth	Recorded Mode Hours	Recorded Mode Failed	Recorded Mode Depth	CAF
MWD	Gamma Ray	TeleScope	35.50 hrs		883.0 m	47.50 hrs		883.0 m	
LWD	Compressional DT	SonicVision	35.50 hrs		883.0 m	47.50 hrs		883.0 m	

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BHA Report

18-Dec-2008

7:18AM

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton

Company Rep: Sean Defreitas,Peter Sheehan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1

Run Number: 1 **BHA Type:** Rotary Steerable

Item	Description	Vendor	Tool Name	Serial Number	Length		OD	ID	Fishing Neck OD	Fishing Neck Len, m	Stab OD	Bottom Connection Size	Bottom Connection Type	Top Connection Size	Top Connection Type	Cumul Ler
1	BIT	Hughes Christianson	Milltooth	6060161	0.39	m	17.50							7 5/8"	PIN	0.39
2	FLOAT SUB		Float Sub	SSSD7202	1.22	m	9.50					7 5/8"	BOX	7 5/8"	PIN	1.61
3	MWD	D&M	TeleScope	YX06	8.54	m	9.25					7 5/8"	FH BOX	7 5/8"	PIN	10.15
4	LWD	D&M	SonicVISION	42793	7.72	m	9.25					7 5/8"	BOX	7 5/8"	FH PIN	17.87
5	STABILIZER		Stabilizer	207A210	2.17	m	17.50					7 5/8"	BOX	7 5/8"	PIN	20.04
6	DRILL COLLAR		Driller collar	16523	9.40	m	9.50					7 5/8"	BOX	7 5/8"	PIN	29.44
7	STABILIZER		Stabilizer	205A37	1.71	m	17.50					7 5/8"	BOX	7 5/8"	PIN	31.15
8	DRILL COLLAR		Drill collar	1T9	9.42	m	9.50					7 5/8"	BOX	7 5/8"	PIN	40.57
9	DRILL COLLAR		Drill collar	16527	9.44	m	9.50					7 5/8"	BOX	7 5/8"	PIN	50.01
10	CROSSOVER		Crossover	sssd7125	1.22	m	9.50					6 5/8"	BOX	7 5/8"	PIN	51.23
11	DRILL COLLAR		Drill collar	7t8	47.24	m	8.25					6 5/8"	BOX	6 5/8"	PIN	98.47
12	JAR		Jar	1762-1380	9.68	m	8.00					6 5/8"	BOX	6 5/8"	PIN	108.15
13	DRILL COLLAR		Drill collar	5t8	9.46	m	8.25					6 5/8"	BOX	6 5/8"	PIN	117.61
14	CROSSOVER		Crossover	sssd7132	0.93	m	8.25					5 1/2"	BOX	6 5/8"	PIN	118.54
15	HWDP		HWDP	5120296	56.23	m	5.50					5 1/2"	BOX	5 1/2"	PIN	174.77

Predicted BHA Tendency:

Hookload Out:

Pickup Out:

Slack Weight:

Wt Below Jars:

Wt Above Jars:

Total Air Wt:

Stab Description	Mid Pt to Bit	Blade Type	Blade Len	Blade Width	Gauge Len	Gauge In	Gauge Out

Bit to Read Out Port		
MWD-TeleScope	3.40	m
LWD-SonicVISION	14.30	m

Bit to Measurement Port		
TeleScope-Gamma Ray	5.10	m
SonicVISION-Compressional DT	14.74	m

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Daily Drilling Activity Report

18-Dec-2008
7:04AM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Sean Defreitas,Peter Sheel	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run No:	1				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
15-Dec-2008						
00:00	01:30	1.50	0.0	0.0	Run casing / cement	Running casing
01:30	03:00	1.50	0.0	0.0	Run casing / cement	Finished up casing running
03:00	04:00	1.00	0.0	0.0	Other	Testing BOP offline
04:00	18:30	14.50	0.0	0.0	PU / LD BHA / Tripping	Make up BHA,pick up drill pipes
18:30	20:00	1.50	0.0	119.0	Reaming / Hole opener / Unc	Dril out cement,shoe,
20:00	21:00	1.00	119.0	143.0	Drilling	Drilling ahead with 80rpm,560psi
21:00	22:00	1.00	143.0	143.0	PU / LD BHA / Tripping	pick up jar stand from derrrick
22:00	00:00	2.00	143.0	166.0	Drilling	Drill ahead,1200gpm,2500psi
16-Dec-2008						
00:00	12:00	12.00	166.0	434.0	Drilling	Drill ahead from 166m to 434m
12:00	00:00	12.00	434.0	824.0	Drilling	Drill ahead from 434m to 824m
17-Dec-2008						
00:00	05:30	5.50	824.0	999.0	Drilling	Continue drill to TD
05:30	06:00	0.50	999.0	999.0	Circulate / Condition mud	Pumps,circulating hole clean,
06:00	06:30	0.50	999.0	999.0	Other	Downlink data
06:30	07:30	1.00	999.0	999.0	Reaming / Hole opener / Unc	hole clean, observed pressure lost and shut down pumps
07:30	12:00	4.50	999.0	31.0	PU / LD BHA / Tripping	Commence POOH
12:00	15:30	3.50	31.0	20.0	PU / LD BHA / Tripping	POOH to surface
15:30	16:00	0.50	0.0	0.0	Lubricate rig / Service	Top drive inspection
16:00	00:00	8.00	0.0	0.0	Run casing / cement	Running casing 13 3/8"

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Time Description Report

18-Dec-2008
7:04AM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Sean Defreitas,Peter Sheehar	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	1				

Date/Time	Depth		Description
15-Dec-2008 12:00AM	0.0	m	Check the surface equipments, prepare the tools to run in hole
15-Dec-2008 3:00AM	0.0	m	Tools laid out on deck
15-Dec-2008 4:00AM	0.0	m	strapped tools, depassivated batteries, Loaded batteries monitor tools
15-Dec-2008 6:00AM	0.0	m	Primary MWD (telescope) laid on to deck was packed under casing on boat.
15-Dec-2008 6:20AM	0.0	m	place magnet in sonic after tool was programmed
15-Dec-2008 8:00AM	0.0	m	Re-check all sensors
15-Dec-2008 9:00AM	0.0	m	Config all surface system and parameters
15-Dec-2008 11:00AM	0.0	m	Re-program sonic
15-Dec-2008 11:20AM	0.0	m	Re-place magnet in sonic
15-Dec-2008 12:00PM	0.0	m	sonic initialzed
15-Dec-2008 1:18PM	0.0	m	Picked up powerpulse
15-Dec-2008 1:31PM	0.0	m	picked up sonic
15-Dec-2008 1:40PM	0.0	m	sonic and powerpulse torqued up
15-Dec-2008 2:00PM	0.0	m	Tried communicating with Sonic to dump RM data, unsuccessful, troubleshooting
15-Dec-2008 2:00PM	0.0	m	bit below rotary
15-Dec-2008 2:44PM	0.0	m	SHT completed
15-Dec-2008 3:00PM	0.0	m	RIH and Make up rest of BHA.
15-Dec-2008 4:42PM	69.1	m	reset the depth..hole depth 125,bdepth 69
15-Dec-2008 5:00PM	0.0	m	Successfully dumped RM data from Sonic9, start RM processing
15-Dec-2008 6:00PM	115.0	m	set depth,
15-Dec-2008 7:55PM	144.7	m	stand down,tag cement @17:48pm
15-Dec-2008 11:00PM	166.3	m	Drilling ahead with ROP7m/hr, tflow 3011 with 68strokes/min for each pump
16-Dec-2008 12:00AM	171.4	m	Drilling ahead with 2m/hr ROP.
16-Dec-2008 12:30AM	173.9	m	stand down @ 12:31am,1.43m KD
16-Dec-2008 1:03AM	173.9	m	Took first survey ,ToolH and Dip angle out.
16-Dec-2008 2:13AM	183.4	m	Drill ahead with ROP 6m/hr, swob1.1klbf, srpm143, stick slips 48
16-Dec-2008 3:01AM	191.0	m	Drill ahead with ROP 15m/hr,SWOB0.5, srpm143, stickslip 54
16-Dec-2008 4:07AM	204.0	m	Take every stand and drilling ahead with rop 40m/hr,tflow 136,wob1 klbf
16-Dec-2008 4:30AM	228.0	m	Continue drilling with ROP 50m/her,tflow3011,no shocks, crpm 142,stick slips 18
16-Dec-2008 5:50AM	262.7	m	KD, ream, connection & survey
16-Dec-2008 7:50AM	290.4	m	Reboot IDEAL because RT depth log not updating, problem solved
16-Dec-2008 9:06AM	361.0	m	Drilling ahead, ROP 58m/h, SWOB 7kft.lbf, Stickslip=63rpm,shocks=0
16-Dec-2008 11:09AM	440.5	m	Ran out of drill water, re-filling mud pits
16-Dec-2008 2:49PM	525.6	m	Noticed level 2 shock on Sonic, inform Co-man & driller, decision to lower SRPM whilst back-reaming
16-Dec-2008 5:43PM	617.0	m	got shock level 1 on Sonic again while back reaming. Keep watching to inform Co-man and driller again.
16-Dec-2008 5:46PM	626.0	m	Drilling ahead with ROP 80, swob20, TFLOW3000, rpm 153,stickslip78, No shock at that moment
16-Dec-2008 6:51PM	677.3	m	Take survey
16-Dec-2008 7:59PM	712.0	m	Drill ahead with rop 77m/hr,tflow 3011,68strokes for each pump.stick slip 21
16-Dec-2008 8:24PM	735.0	m	Sonic shock level 1 @726m, wait and see to inform co-man. ROP slow down due to start changing formation.
16-Dec-2008 8:48PM	738.0	m	Continue drilling with good signals. No shock, tflow 3011, rop50m/hr,crpm141,take survery in each stand
16-Dec-2008 9:29PM	768.0	m	Drill ahead with ROP 80mphr, tlow3300
16-Dec-2008 10:15PM	799.0	m	Drill ahead with ROP80mphr,tflow3011,rpm 144,wob5,hkld 147
16-Dec-2008 10:34PM	823.6	m	Shock level 1for 5 second. Inform driller
16-Dec-2008 11:02PM	829.0	m	Continue drilling, got shock level 1sonic, Inform OSC,RPM 142,RPM85,gpm 795.48gal/min

Date/Time	Depth		Description
16-Dec-2008 11:55PM	861.0	m	Contiue drilling with ROP80, rpm 144
17-Dec-2008 12:00AM	867.0	m	Midnight depth
17-Dec-2008 1:55AM	942.6	m	Continue drill with rop 80
17-Dec-2008 2:26AM	951.0	m	Shock level 2, tell the driller to change parameters, informed co-man
17-Dec-2008 2:42AM	951.4	m	shock level 2 , inform driller and coman to reduce RPM , and wob,current wob 4,rpm 156
17-Dec-2008 2:45AM	953.0	m	Back to level 1 and rop bring back to 80rpm, wob 14, rpm 112
17-Dec-2008 3:16AM	972.0	m	Pressure loss just before stand down, ROP suddently up, assumed loss of formation or drillstring
17-Dec-2008 3:32AM	975.0	m	Pressure dropping, inform driller and keep waiting for the progress SPPA now 1143psi.TRPM stable.
17-Dec-2008 3:37AM	977.5	m	Pressure bring back again. Keep Informing driller and waiting whether wash out or not .
17-Dec-2008 3:57AM	986.0	m	Total flow didnt change, trpm and pressure dropped. It could be wash out above MWD. Informed coman and driller.
17-Dec-2008 4:01AM	990.0	m	SPPA drop to 1064. ROP 36, wob 20, rpm 157,stick slip 33
17-Dec-2008 4:25AM	999.6	m	Call TD for 17.5in section
17-Dec-2008 5:19AM	999.6	m	DL to sonic change to 1 sec trip out
17-Dec-2008 5:45AM	974.0	m	Not success in DL, tried DL twice
17-Dec-2008 6:59AM	972.0	m	Loss in SPP
17-Dec-2008 7:48AM	777.0	m	POOH
17-Dec-2008 1:00PM	20.0	m	Tools @ Rotary table, noticed transmitter broken off on Sonic9, L/D tools
17-Dec-2008 2:30PM	0.0	m	Tried communicating with Sonic9 to dump RM data, no success, troubleshooting
17-Dec-2008 5:00PM	0.0	m	Successfully communicated with Sonic9, dump RM data, start RM processing
17-Dec-2008 8:00PM	0.0	m	Finished processing all RM data, upload all required on InterAct, informed DCS

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Drilling Parameters Repo

18-Dec-2

7:04:1

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton

Company Rep: Sean Defreitas,Peter Sheehan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1

Run Number: 1

	17-Dec-2008 3:41 AM	16-Dec-2008 8:50 PM	16-Dec-2008 2:49 PM	16-Dec-2008 9:01 AM	16-Dec-2008 1:44 AM
Field Engineer	San thida Aung	San thida Aung	Josh Seevaratnam	Josh Seevaratnam	San thida Aung
Depth	979.00 m	739.00 m	525.60 m	361.00 m	180.00 m
Avg ROP	12.96 m/hr	27.42 m/hr	27.42 m/hr	27.42 m/hr	27.42 m/hr
On Bottom ROP	97.22 m/hr	40.12 m/hr	40.12 m/hr	40.12 m/hr	40.12 m/hr
Flow Rate	3,011.00 galUS/min	3,011.00 galUS/min	3,011.00 galUS/min	3,011.21 galUS/min	3,011.21 galUS/min
Turbine RPM	4,219 rpm	4,180 rpm	4,180 rpm	4,180 rpm	4,180 rpm
Surface RPM	154 rpm	141 rpm	153 rpm	139 rpm	142 rpm
WOB Rotating	25.00 klbm	23.00 klbm	13.00 klbm		.50 klbm
WOB Sliding					
DH WOB					
Surface Torque				2.70 kft.lbf	.69 kft.lbf
DH Torque					
Hookload	136 klbm	123 klbm	117 klbm	113 klbm	102 klbm
PickUp Weight					
Slack Weight					
Friction					
SPP On Bottom	1,164.00 psi	1,259.00 psi	1,241.00 psi	1,185.00 psi	1,170.00 psi
SPP Off Bottom		1,253.00 psi	1,175.00 psi	1,075.00 psi	1,165.00 psi
Diff Pressure		6 psi	66 psi	110 psi	5 psi
BH Temperature	75.00 degC	72.00 degC	72.00 degC		72.00 degC
Total Shocks (k)					
Max Shock Level	2	1	2		
Max Shock Duration	60	5			
Torsional Vib					
Lateral Vib					
Axial Vib					
CRPM	153 rpm	146 rpm	154 rpm	139 rpm	144 rpm
Stick/Slip			42	57	33
Formation	Sandstone	Sandstone	Sandstone	Limestone	Limestone
Signal Strength	64.00 psi	52.00 psi	68.90 psi	59.00 psi	66.00 psi
Percent Signal Conf	95 %	91 %	86 %	85 %	99 %

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Equipment Run Summary Report

27-Dec-2008
1:39PM

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton
Company Rep: Rocco Roussow, Peter Sheehan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1
Run Number: 2

Run Information

Date In	Date Out
20-Dec-2008 9:00AM	26-Dec-2008 1:00PM

Depth (MD):	999.0 m	to	2396.0 m
Depth (TVD):	999.0 m	to	2393.8 m
Inclination:	2.28 deg	to	3.36 deg
Azimuth:	226.38 deg	to	228.47 deg

Drilling Distance:	1,376.00 m
Rotary Drilling Distance:	1,376.00 m
Sliding Distance:	0.00 m
Reaming Distance:	88.00 m

Drilling Hours:	109.50 hrs
Rotary Drilling Hrs:	109.50 hrs
Sliding Hours:	0.00 hrs
Reaming Hours:	1.50 hrs
Hrs Below Rotary:	148.00 hrs
Total Pumping Hrs:	113.00 hrs

Hole Size:	12.25 in
Last Casing Size:	13.375 in
Last Casing Depth:	987.0 m (MD)
Tool Face Arc:	
Total Face Angle:	deg

North Ref Used:	Grid North
Magnetic Dec:	9.870 deg
Grid Correction:	-0.030 deg
Total Correction:	9.900 deg
Est. Mag. Int:	0.00 deg

Min DLS:	0.00 deg/30 m
Max DLS:	0.01 deg/30 m
Max DLS Depth:	1,023.0 m
Surface Screen:	No
DFS Used:	No
Inline Filter:	No

Rig Information

Rig Type:	Jack Up
Water Depth:	38.00 m
Air Gap:	15.00 m
RKB Height:	42.90 m
Ground Elevation:	80.85 m

Pump Type:	Triplex
Pulse Damp Press:	700 psi
Number of Pumps:	3
Pump Line ID:	6.50 in
Pump Output:	5.85 galUS/stroke
Pump Stroke Len:	14.00 in

Run Objective

Drill vertical hole to 2700m MD providing D&I, APWD, GR, Res & Sonic services in RT.

D&M Crew List:

Cell Manager: Joshua Seevaratnam

Crew: San thida Aung, LWD
David Gibson, MWD
Josh Seevaratnam, Cell Manager

DH Motor Information

Manufacturer:		Bit to Bend Dist:	m
Motor Type:		Bearing Play In:	in
Motor Size:		Bearing Play Out:	in
Serial No.:		Bent Sub Angle:	deg
Lobe Config:		Bent HSG Angle:	deg
Stage Length:	m		
Rubber:			
Sleeve Position:			
Sleeve Size:	in		
Bearing Type:			

RSS Information

RSS Manufacturer:	
RSS Type:	
RSS SN:	
RSS Size:	
Pulse Ht Threshold:	
Min Pulse Width:	
Max Pulse Width:	
Conn Phase Angle:	deg
Rise Time Const:	
Fall Time Const:	
Digit Time:	

MWD Configuration

Mod Type:	QPSK	Int Tool Face Offset:	deg	Bit Rate:	6 bps	Slimpulse Pulser Config:	
Mod Gap:	in	Turbine Config:	galUS/min	Frequency:	24 Hz	Pred Sig Strength @ TD:	psi
SPT Type:	HA						

Schlumberger

Equipment Run Summary Report

27-Dec-2008

1:39PM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Roussow, Peter Sheehan	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	2				

Drilling Parameters

	Min	Max	Avg
BH Temperature:	37.00 degC	65.00 degC	51.20 degC
Surface RPM:	99.00 rpm	235.00 rpm	168.60 rpm
ROP:	6.58 m/hr	20.08 m/hr	12.85 m/hr
Surface Torque:	0.03 kft.lbf	0.31 kft.lbf	0.17 kft.lbf
Flow Rate:	800.00 galUS/min	1,000.00 galUS/min	914.50 galUS/min
WOB Sliding:			

Total DH Shocks (k):	0 k
Max Shock Level:	3
Max Shock Duration:	900 sec
Checkshot Type:	
Checkshot Depth:	m
Checkshot Incl:	deg
Checkshot Azim:	deg
H2S In Well:	No

Average Pump Pressure:	46 psi				
Turbine RPM @ Min Flow Rate:	3,359 rpm	Min Flow Rate:	800.00galUS/min	SPP Off Bottom:	1,520.00 psi
Turbine RPM @ Max Flow Rate:	3,438 rpm	Max Flow Rate:	1,000.00galUS/min	SPP On Bottom:	1,600.00 psi

Mud Information

Mud Type:	Water Base	Mud Clean:	Yes	pH:	8.80
Mud Company:	Halliburton	LCM Type:		Chlorides:	80,387.00 ppm
Mud Brand:		LCM Size:		Sand Content:	%
Funnel Viscosity:	53.00 s/qt	LCM Concentration:	lbs/bbl	Solids:	5.10 %
Plastic Viscosity:	14.00 cp	Weighting Material:	Barite	Percent Oil:	%
Yield Point:	37.00 lbm/100ft2	Mud Weight:	9.70 lbm/galUS		
Mud Resistivity:	0.08 ohm-m				

IADC Bit Grading

Manufacturer:	Hycalog	Total Revs:		IADC Code:	
Model:		Stick/Slip:		Jets (lUS/stroke):	
Type:	PDC	Reason Pulled:	Change Bottom Hole Assembly	Bit TFA:	0.00 in2

Inner Row	Outer Row	Dull Char	Location	Bearings/Seals	Gauge	Other Chars
5.00	3.00	RO	A		I	LT

End of Run - Summary

Sync Hours:	92.16 hrs		Downhole Noise:	No	Run Failed:	No	
Jamming:	No	0.00 hrs	Surface System Failure:	No	D&M Trip:	No	
Surface Vibration:	No		Surface Noise:	No	Low Oil Flag:	No	0.00 hrs
Trans Fail:	No		H2S in Well:	No	Filter Screen/Plug Shear:	No	

Client Inconvenience: **No** Lost Time: hrs

Reason for POOH: Change Bottom Hole Assembly

D&M Run Obj Met? [DD and MWD/LWD]: **No**

Brief Run Summary:

Driling with good signal throughout the run and maximum ROP 40mphr. Experienced some very high shocks (Level3) and high stick slips. Informed Co-man & driller, and got the Co-man to sign & acknowledge the S&V notification letter. The maximum inclination for this run was 3.5deg and the client was concern about the well deviation. They would POOH for 3 reasons.

1) If the inclination is greater than 4.5 degrees
2) If the bit is bald
3) If they can drill up to 2400mMD.

They could drill up to 2400mMD and called TD for this run. Once TD, DL was successful for Sonic the trip out.

If not, why?:

Inclination built up to 3.5degrees, Client decided to POOH and go in with a corrective BHA (motor) to bring the well back to vertical

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Equipment Run Summary Report

27-Dec-2008

1:39PM

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton

Company Rep: Rocco Roussow, Peter Sheehan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1

Run Number: 2

Equipment on the Run

Equipment	Pump Hours Start	Pump Hours Cumulative	Software Version	Tool Size
ARC8D-BB-1957-SRPC	0.00 hrs	113.00 hrs	9.3b13	8.25 in
H524743-61934	0.00 hrs	113.00 hrs		8.25 in
H524743-61935	0.00 hrs	113.00 hrs		8.25 in
H524743-61943	0.00 hrs	113.00 hrs		8.25 in
H524743-61950	0.00 hrs	113.00 hrs		8.25 in
LFTSUB658-3157	hrs	hrs		8.25 in
MDC-DE-VR52	0.00 hrs	113.00 hrs	9.2c02	8.25 in
SD8D-CA-48648	0.00 hrs	113.00 hrs	6.6	8.25 in
SSTAB-12 3/16"-OSS041163B	hrs	hrs		8.25 in
SZSS-IBSP-12C-OSS 061170A	hrs	hrs		8.25 in

Services on the Run

Equipment	Service	Tool Name	Real Time Hours	Real Time Failed	Real Time Depth	Recorded Mode Hours	Recorded Mode Failed	Recorded Mode Depth	CAF
LWD	Resistivity	arcVision	113.00 hrs		1,376.0 m	148.00 hrs		1,376.0 m	
LWD	APWD	arcVision	113.00 hrs		1,376.0 m	148.00 hrs		1,376.0 m	
LWD	Gamma Ray	arcVision	113.00 hrs		1,376.0 m	148.00 hrs		1,376.0 m	
MWD	D&I	TeleScope	113.00 hrs		1,376.0 m	148.00 hrs		1,376.0 m	
LWD	Compressional DT	SonicVision	113.00 hrs		1,376.0 m	148.00 hrs		1,376.0 m	

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BHA Repor

27-Dec-20(

1:39F

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton

Company Rep: Rocco Roussow, Peter Sheehan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1

Run Number: 2 **BHA Type:** Rotary

Item	Description	Vendor	Tool Name	Serial Number	Length		OD	ID	Fishing Neck OD	Fishing Neck Len, m	Stab OD	Bottom Connection Size	Bottom Connection Type	Top Connection Size	Top Connection Type	Cumul Len	
1	BIT	Hycalog	PDC	212219	0.29	m	12.25							6 5/8"	REG PIN	0.29	n
2	FLOAT SUB			703984	2.08	m	12.25	2.88								2.37	n
3	LWD	D&M	arcVISION	1957-SRPC	5.92	m	9.13	3.00								8.29	n
4	MWD	D&M	TeleScope	VR52	8.97	m	11.75	4.25								17.26	n
5	LWD	D&M	SonicVISION	48648	8.19	m	11.25	4.25								25.45	n
6	STABILIZER			oss041163b	2.44	m	12.19	2.88								27.89	n
7	DRILL COLLAR			n/a	9.41	m	8.38	2.88								37.30	n
8	DRILL COLLAR			1t8	9.46	m	8.25	2.88								46.76	n
9	DRILL COLLAR			N/A	9.46	m	8.38	2.81								56.22	n
10	DRILL COLLAR			1t8250	9.45	m	8.38	2.88								65.67	n
11	DRILL COLLAR			7t8	9.46	m	8.31	2.88								75.13	n
12	JAR			1762-1380	9.86	m	8.00									84.99	n
13	DRILL COLLAR			5t8	9.46	m	8.31	2.88								94.45	n
14	SUB			sssd7132	0.93	m	8.25	2.75								95.38	n
15	HWDP			5120296	9.30	m	5.50	3.06								104.68	n
16	HWDP			5120330	9.31	m	5.50	3.06								113.99	n
17	HWDP			5120301	9.40	m	5.50	3.06								123.39	n
18	HWDP			5120406	9.41	m	5.50	3.06								132.80	n
19	HWDP			5120414	9.40	m	5.50	3.06								142.20	n
20	HWDP			5120319	9.41	m	5.50	6.06								151.61	n

Predicted BHA Tendency:

Hookload Out:

Pickup Out:

Slack Weight:

Wt Below Jars:

Wt Above Jars:

Total Air Wt:

Stab Description	Mid Pt to Bit	Blade Type	Blade Len	Blade Width	Gauge Len	Gauge In	Gauge Out

Bit to Read Out Port		
LWD-arcVISION	6.00	m
MWD-TeleScope	10.60	m
LWD-SonicVISION	22.00	m

Bit to Measurement Port		
arcVISION-APWD	4.14	m
arcVISION-Gamma Ray	4.90	m
arcVISION-Resistivity	4.85	m
TeleScope-D&I	12.96	m
SonicVISION-Compressional	22.37	m

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Daily Drilling Activity Report

27-Dec-2008

1:39PM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Roussow, Peter Shee	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run No:	2				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
20-Dec-2008						
00:00	02:00	2.00	999.0	1027.0	Drilling	Drilling & working junk basket
02:00	07:30	5.50	1027.0	0.0	PU / LD BHA / Tripping	POOH with Junk assembly
07:30	12:00	4.50	0.0	151.0	PU / LD BHA / Tripping	M/U 12.25in BHA
12:00	00:00	12.00	151.0	987.0	PU / LD BHA / Tripping	RIH
21-Dec-2008						
00:00	12:00	12.00	1027.0	1268.0	Drilling	Drilling ahead
12:00	00:00	12.00	1268.0	1478.0	Drilling	Drilling ahead
22-Dec-2008						
00:00	13:30	13.50	1478.0	1657.0	Drilling	Drilling ahead
13:30	14:30	1.00	1657.0	1678.0	Repair rig	Drawwork and mud pump fixed
14:30	00:00	9.50	1678.0	1792.0	Drilling	Drilling ahead
23-Dec-2008						
00:00	12:00	12.00	1792.0	1970.0	Drilling	Drilling ahead
12:00	00:00	12.00	1970.0	2104.0	Drilling	Drilling ahead
24-Dec-2008						
00:00	02:00	2.00	2104.0	2123.0	Drilling	Drilling ahead
02:00	03:00	1.00	2123.0	2123.0	Repair rig	Change wash pipe,supposed to called TD for this run
03:00	12:00	9.00	2123.0	2187.0	Drilling	Drilling ahead
12:00	00:00	12.00	2187.0	2266.0	Drilling	Drilling ahead
25-Dec-2008						
00:00	12:00	12.00	2266.0	2382.0	Drilling	Drilling ahead
12:00	13:30	1.50	2382.0	2396.0	Drilling	Drilling ahead
13:30	15:30	2.00	2396.0	2396.0	Circulate / Condition mud	Circulate with 1000gpm
15:30	20:30	5.00	2396.0	2101.0	PU / LD BHA / Tripping	Flow check
20:30	22:30	2.00	1356.0	1356.0	Repair rig	Trouble shoot drawworks
22:30	00:00	1.50	1333.0	1245.0	Reaming / Hole opener / Unc	Continue wash and ream

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Time Description Report

27-Dec-2008

1:39PM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Roussow, Peter Sheeh	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	2				

Date/Time	Depth		Description
18-Dec-2008 5:00PM	0.0	m	Battery for ARC initilize 5 pm for test , and back off , Sonic start @ 5:30pm and put magnet
20-Dec-2008 5:00AM	0.0	m	Reinitialized ARC & Sonic
20-Dec-2008 6:30AM	0.0	m	Start P/U tools to catwalk
20-Dec-2008 7:25AM	0.0	m	Torque up ARC & TeleScope
20-Dec-2008 7:45AM	0.0	m	ARC in Rotary table
20-Dec-2008 8:00AM	0.0	m	Torque up TeleScope & Sonic
20-Dec-2008 8:30AM	0.0	m	Torque up Sonic & String Stab
20-Dec-2008 9:30AM	30.0	m	SHT, 700gpm, SPP=800psi, Good SHT
20-Dec-2008 6:39PM	987.0	m	Start taking the wash down data with 1000gpm, 34ROP
20-Dec-2008 6:55PM	997.0	m	Reaming out of shoe..@987m MD
20-Dec-2008 9:29PM	1027.3	m	Finished ream down up to 1027 with rpm 99, rop 50, Reamed twice due to depth gap.
20-Dec-2008 9:53PM	1028.0	m	One pump down,no signal at that moment. drawworks has problme also, 600gpm, circulating and stop drilling a while
20-Dec-2008 11:15PM	1037.2	m	Dril ahead, tool survey
20-Dec-2008 11:59PM	1053.4	m	Midnight Depth
21-Dec-2008 12:00AM	1053.4	m	Midnight Depth
21-Dec-2008 12:30AM	1063.0	m	Change the drilling parameter to drop the inclination., WOB low and RPM high
21-Dec-2008 2:38AM	1102.0	m	got shock level 3 on all tools and informed driller and coman, reduce RPM, currnt rpm 150
21-Dec-2008 2:43AM	1104.0	m	RPM 130, shock level 0, tflow 3400,
21-Dec-2008 2:48AM	1107.0	m	arc got high shock level, so inform the co man and driller to reduce the rpm more and explained them.
21-Dec-2008 2:56AM	1112.0	m	Shock level zero for all tools , ROP 40,rpm 99, tflow 3077, with 69 stroks /min for each pump
21-Dec-2008 3:22AM	1125.0	m	Drilling ahead with rpm 99. rop 40,tflow 3011, no shock, circulate with high rpm every time before making connection to drop the inclination
21-Dec-2008 3:52AM	1130.0	m	Increase rpm to 110 ,
21-Dec-2008 6:19AM	1184.8	m	KD 0.93m, Ideal cs_depth file crush while appending the master file. Created new cs_depth file and got the data back from old cs depth files (master, cs). But cant splice back those cs depth files due the attribue error from cs depth file.
21-Dec-2008 7:48AM	1210.0	m	Losses into formation, reduce SPP
21-Dec-2008 1:16PM	1314.0	m	Very high StickSlip, inform driller reduce WOB
21-Dec-2008 7:01PM	1431.0	m	Still experiencing high stick slip, inform Driller & Co-man
21-Dec-2008 8:43PM	1453.0	m	Drill ahead with flow 3188, rop 14, rpm 140,
21-Dec-2008 9:30PM	1463.0	m	ROP slow down to 5mphr,
21-Dec-2008 10:15PM	1469.0	m	high stick slip, informed driller, increse RPM to reduce Stick slip
21-Dec-2008 10:26PM	1472.0	m	Reduce Stick slip with RPM 134, wob 6, and drilling ahead with rop 16
21-Dec-2008 11:35PM	1482.0	m	Drill ahead rop 8
21-Dec-2008 11:59PM	1485.0	m	Mid night depth
22-Dec-2008 12:00AM	1478.0	m	Midnight depth
22-Dec-2008 2:13AM	1512.0	m	Drill ahead with ROP 30, rpm 148
22-Dec-2008 3:02AM	1530.0	m	Continue drilling with rop 20, tflow 3400, surface torque 1.9, rpm 148,
22-Dec-2008 4:17AM	1545.0	m	Contine drilling with 18rop,tflow 3564, in 80st/min for each pump
22-Dec-2008 6:32AM	1585.0	m	Co-man decision to increase WOB to 15klbf & RPM to 160
22-Dec-2008 6:52AM	1590.0	m	Very high StickSlip, inform Co-man & driller to reduce WOB, increase RPM, pick up off-bottom, let torque unwind (inform Driller about StickSlip prevention methods)
22-Dec-2008 8:58AM	1619.0	m	StickSlip high, WOB=17 kft.lbf, asked driller to reduce to 16
22-Dec-2008 10:01AM	1640.0	m	Spoke to Co-man about current good drilling parameters (good ROP, low StickSlip)
22-Dec-2008 12:22PM	1675.0	m	Made formal Notification to Co-man regarding S&V (StickSlip), he acknowledged & signed it
22-Dec-2008 12:24PM	1675.0	m	TopDrive problems, fixing it

Date/Time	Depth		Description
22-Dec-2008 1:00PM	1678.0	m	TopDrive problems again, fixing it
22-Dec-2008 3:34PM	1710.0	m	Informed Driller of a long trend of high stick and slip. His response was "you have your job to do i have mine"
22-Dec-2008 3:38PM	1714.0	m	Demodulating a few bad words/bits
22-Dec-2008 5:59PM	1743.0	m	Bad signal, changed pump2 to pump3 (so P1 & P3 working now)
22-Dec-2008 6:40PM	1746.0	m	Drilling ahead with rop 7, tflow 3764, pump strokes 85 each.Did force retrain because of pmp stroke change, Should be entering skull creek mudstone formation
22-Dec-2008 7:44PM	1760.0	m	Drilling ahead with rop 20, rpm 196, tflow 3764, 1000gpm
22-Dec-2008 8:13PM	1766.0	m	Got shock level 2 for 1 minute ,and signal lost for 1 frame, when back on signal, no shck
22-Dec-2008 9:49PM	1777.0	m	Drilling ahead with rop 10,tflow 3741, rpm195
22-Dec-2008 11:11PM	1798.0	m	Drilling ahead with rop 20,rpm 190
22-Dec-2008 11:59PM	1804.0	m	Midnight depth
23-Dec-2008 12:00AM	1804.0	m	Midnight depth
23-Dec-2008 2:26AM	1834.0	m	Driling ahead with Rop30, 1000gpm
23-Dec-2008 3:06AM	1844.0	m	Drilling ahead with ROP 16, rpm 235, wob10
23-Dec-2008 4:02AM	1859.0	m	Drilling ahead with ROP 8, tflow 1000gpm, rpm 200
23-Dec-2008 4:50AM	1867.0	m	Drill ahead with ROP 10, tflow 1000gpm, rpm230, 86strok/min for each pump
23-Dec-2008 9:30AM	1930.0	m	Entering Belfast C&B Mudstone formation
23-Dec-2008 10:02AM	1940.0	m	Pump3 blew a piston, now just using Pump1 only
23-Dec-2008 10:42AM	1952.0	m	Drilling ahead with rpm 240,gpm 1000, rop 30
23-Dec-2008 2:55PM	1990.0	m	Back to P1 & P2
23-Dec-2008 7:07PM	2065.0	m	Driling ahead with ROP 34,mtflow 3808, 86strokes in each pump. now running with pump 1 and pump 2
23-Dec-2008 8:07PM	2073.0	m	Change the pump, run with only pump 1 and 3, 86strokes/min each, 1000gpm, IDEAL time changed since 8pm. Run back up ideal in HSPM. Depth file need to be edited for the RM processing.
23-Dec-2008 10:58PM	2104.0	m	(13pm in this ideal clock time) drilling ahead with rop 2mphr, tflow 1000pgm
23-Dec-2008 11:53PM	2104.0	m	(13:54) total flow drop down to 1904 liter per minute because of driling with one pump 86 strok/min. IDEAL system is not healty ,show error message.
23-Dec-2008 11:59PM	2104.0	m	(14:02) Midnight depht, driling with two pumps 86 stroke/min each.
24-Dec-2008 12:00AM	2104.0	m	Midnight depth
24-Dec-2008 1:04AM	2123.0	m	Rig repair
24-Dec-2008 1:40AM	2123.0	m	Stop driling and POOH, theydont allow to downlink to the tool becaus of pump problems
24-Dec-2008 2:15AM	2123.0	m	continue drilling
24-Dec-2008 2:33AM	2127.0	m	Drilling ahead with ROP 17,
24-Dec-2008 4:03AM	2135.0	m	(18:04) Drilling ahead with ROP 4, tflow 1000gpm,rpm 200
24-Dec-2008 4:18AM	2135.0	m	(18:19) Pump problem , fixing pumps
24-Dec-2008 4:24AM	2135.0	m	(18:25) Back on bottom with one pump 86 strokes/min and just above 600gpm
24-Dec-2008 9:40AM	2179.0	m	Experiencing High StickSlip & Shock, inform Driller, adjust drilling parameters
24-Dec-2008 9:45AM	2180.0	m	At approximate depth, should be enterting Belfast A Mudstone formation
24-Dec-2008 1:00PM	2196.0	m	Notify driller of high stickslip & shocks
24-Dec-2008 5:00PM	2218.0	m	High shocks on ARC (level 3), notify Driller
24-Dec-2008 6:42PM	2236.0	m	shock level 1, ROP 5,WOB 40
24-Dec-2008 7:24PM	2241.0	m	Shock level 3 on ARC for two seconds.
24-Dec-2008 7:44PM	2244.0	m	Got high shock level, informed driller to change drilling parameters.
24-Dec-2008 8:40PM	2248.0	m	Drilling ahead with ROP 6, tflow 1000gpm, wob 20,thkld 235, rpm 223
24-Dec-2008 10:16PM	2260.0	m	Drilling ahead with ROP 10, tflow 1000gpm, thkld 235, rpm 223, sometimes we have got shock level up to 2, informed driller and keep watching the situation
24-Dec-2008 11:47PM	2273.0	m	shock level 3, tell driller to reduce rpm, current rpm is 250
24-Dec-2008 11:59PM	2266.0	m	Midnight depth
25-Dec-2008 12:00AM	2266.0	m	Midnight depth.Drilling ahead with RPM173
25-Dec-2008 3:07AM	2297.0	m	Drilling ahead with RPM 199,rop 20, tflow1000gpm, 87 stroke per minute for each pump
25-Dec-2008 4:20AM	2307.0	m	Drilling ahead with RPM 216,tflow 1000gpm,rop 19, sppa 2367
25-Dec-2008 4:42AM	2314.0	m	Drilling ahead with rop 14, rpm 226, tflow 1000gpm, rpm 3477
25-Dec-2008 10:00AM	2372.0	m	Batteries loaded into Sonic (41229A), put magnet
25-Dec-2008 10:36AM			

Date/Time	Depth		Description
25-Dec-2008 11:00AM	2386.0	m	Inform Co-man & Driller that experiencing very high shocks on ARC (level 3), reduce RPM by 10%
25-Dec-2008 11:30AM	2389.0	m	Co-man increase RPM so can drill ahead to stand down (2397m)
25-Dec-2008 12:30PM	2396.0	m	Run 3 Total Depth @ 2396m MD, start circulating BU
25-Dec-2008 2:00PM	2396.0	m	DL to Sonic for Fast Config (tripping out), Successful
26-Dec-2008 2:00AM	919.0	m	Still Troubleshooting Topdrive

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Drilling Parameters Repor

27-Dec-200

1:39:41F

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton

Company Rep: Rocco Roussow, Peter Sheehan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1

Run Number: 2

	25-Dec-2008 10:00 AM	25-Dec-2008 2:45 AM	24-Dec-2008 9:44 AM	24-Dec-2008 4:32 AM	23-Dec-2008 11:10 AM	23-Dec-2008 12:37 AM	22-Dec-2008 2:20 AM
Field Engineer	Josh Seevaratnam	San thida Aung	Josh Seevaratnam	San thida Aung	Josh Seevaratnam	San thida Aung	San thida Aung
Depth	2,372.48 m	2,293.00 m	2,179.00 m	2,136.00 m	1,953.77 m	1,818.00 m	1,515.00 m
Avg ROP	5.42 m/hr	5.42 m/hr	6.75 m/hr	6.75 m/hr	13.00 m/hr	13.00 m/hr	12.21 m/hr
On Bottom ROP	6.72 m/hr	6.72 m/hr	8.73 m/hr	8.73 m/hr	17.89 m/hr	17.89 m/hr	18.49 m/hr
Flow Rate	1,000.00 galUS/min	1,000.00 galUS/min	1,000.00 galUS/min	1,000.00 galUS/min	850.00 galUS/min	800.00 galUS/min	1,000.00 galUS/min
Turbine RPM	3,438 rpm	3,438 rpm	3,438 rpm	3,438 rpm	3,438 rpm	3,359 rpm	3,398 rpm
Surface RPM	196 rpm	199 rpm	208 rpm	146 rpm	235 rpm	197 rpm	148 rpm
WOB Rotating				30.00 klbm	12.00 klbm	12.00 klbm	8.00 klbm
WOB Sliding							
DH WOB							
Surface Torque							
DH Torque							
Hookload	202 klbm	196 klbm	189 klbm	198 klbm	192 klbm	192 klbm	176 klbm
PickUp Weight							
Slack Weight							
Friction							
SPP On Bottom	2,384.00 psi	2,289.00 psi	2,245.00 psi	2,303.00 psi	2,216.00 psi	2,262.00 psi	2,212.00 psi
SPP Off Bottom	2,275.00 psi	2,280.00 psi	2,170.00 psi	2,290.00 psi	2,150.00 psi	2,258.00 psi	2,200.00 psi
Diff Pressure	109 psi	9 psi	75 psi	13 psi	66 psi	4 psi	12 psi
BH Temperature	65.00 degC	60.00 degC	62.00 degC	50.00 degC	56.00 degC	55.00 degC	49.00 degC
Total Shocks (k)							
Max Shock Level	3	3	2			2	
Max Shock Duration						2	
Torsional Vib							
Lateral Vib							
Axial Vib							
CRPM	199 rpm	200 rpm	209 rpm	200 rpm	233 rpm	197 rpm	149 rpm
Stick/Slip	24	27	36	75	12		30
Formation	Other	Siltstone	Siltstone	Other	Sandstone	Other	Claystone
Signal Strength	22.30 psi	17.00 psi	20.20 psi	21.80 psi	24.90 psi	24.00 psi	42.00 psi
Percent Signal Conf	86 %	82 %	78 %	45 %	36 %	82 %	90 %

	21-Dec-2008 11:51 AM	21-Dec-2008 5:04 AM	21-Dec-2008 2:32 AM
Field Engineer	Josh Seevaratnam	David Gibson	San thida Aung
Depth	1,285.85 m	1,154.00 m	1,125.00 m
Avg ROP	18.79 m/hr	18.79 m/hr	18.79 m/hr
On Bottom ROP	73.57 m/hr	73.57 m/hr	73.57 m/hr
Flow Rate	800.00 galUS/min	895.00 galUS/min	800.00 galUS/min
Turbine RPM	2,656 rpm	2,852 rpm	
Surface RPM	130 rpm	128 rpm	99 rpm
WOB Rotating	8.00 klbm	6.60 klbm	5.00 klbm
WOB Sliding			
DH WOB			
Surface Torque		.31 kft.lbf	.03 kft.lbf
DH Torque			
Hookload	168 klbm	163 klbm	152 klbm
PickUp Weight			
Slack Weight			
Friction			
SPP On Bottom	1,600.00 psi		
SPP Off Bottom	1,520.00 psi		
Diff Pressure	80 psi		
BH Temperature	41.00 degC	37.00 degC	37.00 degC
Total Shocks (k)			
Max Shock Level			3
Max Shock Duration			1,200
Torsional Vib			
Lateral Vib			
Axial Vib			
CRPM	128 rpm	130 rpm	
Stick/Slip	48		
Formation	Sandstone	Sandstone	Sandstone
Signal Strength	32.10 psi	28.00 psi	32.00 psi
Percent Signal Conf	87 %	86 %	79 %

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Equipment Run Summary Report

31-Dec-2008
9:24AM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Rossouw ,Peter Sheehan	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	3				

Run Information

	Date In		Date Out
	26-Dec-2008 3:50PM		29-Dec-2008 12:10AM
Depth (MD):	2396.0 m	to	2807.0 m
Depth (TVD):	2394.2 m	to	2804.4 m
Inclination:	3.26 deg	to	3.22 deg
Azimuth:	227.00 deg	to	72.75 deg

Drilling Distance:	333.00 m	Drilling Hours:	19.30 hrs
Rotary Drilling Distance:	255.00 m	Rotary Drilling Hrs:	10.40 hrs
Sliding Distance:	78.00 m	Sliding Hours:	8.90 hrs
Reaming Distance:	0.00 m	Reaming Hours:	0.00 hrs
		Hrs Below Rotary:	68.00 hrs
		Total Pumping Hrs:	29.70 hrs

Hole Size:	12.25 in		
Last Casing Size:	13.375 in		
Last Casing Depth:	987.0 m (MD)		
Tool Face Arc:	51.0 cm		
Total Face Angle:	274.03 deg		
		Min DLS:	0.07 deg/30 m
North Ref Used:	Grid North	Max DLS:	1.64 deg/30 m
Magnetic Dec:	9.870 deg	Max DLS Depth:	2,471.6 m
Grid Correction:	-0.030 deg	Surface Screen:	No
Total Correction:	9.902 deg	DFS Used:	No
Est. Mag. Int:	0.11 deg	Inline Filter:	No

Rig Information

Rig Type:	Jack Up	Pump Type:	Triplex
Water Depth:	38.00 m	Pulse Damp Press:	700 psi
Air Gap:	15.00 m	Number of Pumps:	3
RKB Height:	42.90 m	Pump Line ID:	6.50 in
Ground Elevation:	80.85 m	Pump Output:	5.85 galUS/stroke
		Pump Stroke Len:	14.00 in

Run Objective

Make correction run from 2400m to 2700m. Correct INC angle from 3.26 back to zero with no offset

D&M Crew List:

Cell Manager: Joshua Seevaratnam

Crew: San thida Aung, LWD
David Gibson, MWD
Josh Seevaratnam, Cell Manager
Chris Skiba, DD

DH Motor Information

Manufacturer:	D&M	Bit to Bend Dist:	m
Motor Type:	PowerPak	Bearing Play In:	in
Motor Size:	9.62	Bearing Play Out:	in
Serial No.:	02983	Bent Sub Angle:	deg
Lobe Config:	7:8	Bent HSG Angle:	1.1501 deg
Stage Length:	4.00 m		
Rubber:			
Sleeve Position:			
Sleeve Size:	12.13 in		
Bearing Type:	Mud Lubricated		

RSS Information

RSS Manufacturer:	
RSS Type:	
RSS SN:	
RSS Size:	
Pulse Ht Threshold:	
Min Pulse Width:	
Max Pulse Width:	
Conn Phase Angle:	deg
Rise Time Const:	
Fall Time Const:	
Digit Time:	

MWD Configuration

Mod Type:	QPSK	Int Tool Face Offset:	deg	Bit Rate:	6 bps	Slimpulse Pulser Config:	
Mod Gap:	in	Turbine Config:	galUS/min	Frequency:	24 Hz	Pred Sig Strength @ TD:	psi
SPT Type:	HA						

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Equipment Run Summary Report

31-Dec-2008
9:24AM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Rossouw ,Peter Sheehan	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	3				

Drilling Parameters

	Min	Max	Avg
BH Temperature:	60.00 degC	77.00 degC	68.50 degC
Surface RPM:	0.00 rpm	45.00 rpm	22.50 rpm
ROP:	8.12 m/hr	17.17 m/hr	17.25 m/hr
Surface Torque:	1.00 kft.lbf	3.05 kft.lbf	2.03 kft.lbf
Flow Rate:	888.00 galUS/min	900.00 galUS/min	894.00 galUS/min
WOB Sliding:	18.40 klbm	25.00 klbm	21.70 klbm

Total DH Shocks (k):	0 k
Max Shock Level:	0
Max Shock Duration:	0 sec
Checkshot Type:	
Checkshot Depth:	m
Checkshot Incl:	deg
Checkshot Azim:	deg
H2S In Well:	No

Average Pump Pressure: psi

Turbine RPM @ Min Flow Rate:	3,008 rpm	Min Flow Rate:	888.00galUS/min	SPP Off Bottom:	psi
Turbine RPM @ Max Flow Rate:	3,008 rpm	Max Flow Rate:	900.00galUS/min	SPP On Bottom:	psi

Mud Information

Mud Type:	Water Base	Mud Clean:	Yes	pH:	8.70
Mud Company:	Baroid	LCM Type:		Chlorides:	46,378.00 ppm
Mud Brand:		LCM Size:		Sand Content:	0.50 %
Funnel Viscosity:	47.00 s/qt	LCM Concentration:	lbs/bbl	Solids:	%
Plastic Viscosity:	14.00 cp	Weighting Material:	Barite	Percent Oil:	%
Yield Point:	35.00 lbm/100ft2	Mud Weight:	9.85 lbm/galUS		
Mud Resistivity:	0.09 ohm-m				

IADC Bit Grading

Manufacturer:	Hycalog	Total Revs:		IADC Code:	
Model:	RSX616M-A10	Stick/Slip:		Jets (/ 32 in):	3X13 3X15
Type:	PDC	Reason Pulled:	Total Depth/Casing Depth	Bit TFA:	0.91 in2

Inner Row	Outer Row	Dull Char	Location	Bearings/Seals	Gauge	Other Chars
1.00	1.00	LT	G		I	LT

End of Run - Summary

Sync Hours:	22.54 hrs	Downhole Noise:	No	Run Failed:	No
Jamming:	No 0.00 hrs	Surface System Failure:	No	D&M Trip:	No
Surface Vibration:	No	Surface Noise:	No	Low Oil Flag:	No 0.00 hrs
Trans Fail:	No	H2S in Well:	No	Filter Screen/Plug Shear:	No

Client Inconvenience: **No** Lost Time: hrs

Reason for POOH: Total Depth/Casing Depth

D&M Run Obj Met? [DD and MWD/LWD]: **Yes**

Brief Run Summary:

Reached Section TD @ 2807m MD. Brought Inc to 3.22deg with an Azimuth of 72deg compared to the start Inc of 3.26deg with Azimuth of 227deg.

Client happy with LWD Sonic data, didnt need to run Wireline. Logged with Sonic during tripout too.

If not, why?:

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Equipment Run Summary Report

31-Dec-2008
9:24AM

Job Number: 08ASQ0034
Company: BEACH PETROLEUM LTD
Rig Name: West Triton
Company Rep: Rocco Rossouw ,Peter Sheehan
Location: MEA-APG-ASQ
Well Name: Fermat-1
Run Number: 3

Equipment on the Run

Equipment	Pump Hours Start	Pump Hours Cumulative	Software Version	Tool Size
A962M-02983	0.00 hrs	29.70 hrs		9.63 in
ARC8D-BB-1948-SRPC	0.00 hrs	29.70 hrs	9.3B13	8.25 in
FS800-ASQ8038	0.00 hrs	29.70 hrs		8.00 in
H524743-61955	0.00 hrs	29.70 hrs		8.25 in
H524743-61956	0.00 hrs	29.70 hrs		8.25 in
H524743-61961	0.00 hrs	29.70 hrs		8.25 in
H524743-61962	0.00 hrs	29.70 hrs		8.25 in
MDC-DE-VR52	100.00 hrs	129.70 hrs	9.2C02	8.25 in
SD8D-CA-41229	0.00 hrs	29.70 hrs	6.6	8.25 in

Services on the Run

Equipment	Service	Tool Name	Real Time Hours	Real Time Failed	Real Time Depth	Recorded Mode Hours	Recorded Mode Failed	Recorded Mode Depth	CAF
LWD	Resistivity	arcVision	29.70 hrs		333.0 m	68.00 hrs		333.0 m	
LWD	APWD	arcVision	29.70 hrs		333.0 m	68.00 hrs		333.0 m	
LWD	Gamma Ray	arcVision	29.70 hrs		333.0 m	68.00 hrs		333.0 m	
MWD	D&I	TeleScope	29.70 hrs		333.0 m	68.00 hrs		333.0 m	
LWD	Compressional DT	SonicVision	29.70 hrs		333.0 m	68.00 hrs		333.0 m	
MOTORS	PowerPak	PowerPak	29.70 hrs		333.0 m	hrs			

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BHA Repo

31-Dec-2

9:2

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton

Company Rep: Rocco Rossouw ,Peter Sheehan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1

Run Number: 3 **BHA Type:** Steerable Motor

									Fishing Neck		Stab	Bottom Connection		Top Connection		
Item	Description	Vendor	Tool Name	Serial Number	Length		OD	ID	OD	Len, m	OD	Size	Type	Size	Type	Cumul Le
1	BIT	Hycalog	PDC	219736	0.30	m	12.25	3.75						6 5/8"	REG PIN	0.30
2	MOTORS	D&M	PowerPak	02983	9.73	m	9.63	7.85				6 5/8"	REG BOX	6 5/8"	REG BOX	10.03
3	FLOAT SUB	D&M		ASQ8038	0.79	m	8.00	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	10.82
4	LWD	D&M	arcVISION	1948-SRPC	5.92	m	8.25	3.00				6 5/8"	REG PIN	6 5/8"	FH BOX	16.74
5	MWD	D&M	TeleScope	VR52	8.97	m	11.75	4.25				6 5/8"	FH PIN	6 5/8"	FH BOX	25.71
6	LWD	D&M	SonicVISION	41229	8.09	m	8.25	4.25				6 5/8"	FH PIN	6 5/8"	REG BOX	33.80
7	STABILIZER			oss041163b	2.44	m	12.19	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	36.24
8	DRILL COLLAR			n/a	9.41	m	8.38	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	45.65
9	DRILL COLLAR			1t8	9.46	m	8.25	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	55.11
10	DRILL COLLAR			N/A	9.46	m	8.38	2.81				6 5/8"	REG PIN	6 5/8"	REG BOX	64.57
11	DRILL COLLAR			1t8250	9.45	m	8.38	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	74.02
12	DRILL COLLAR			7t8	9.46	m	8.31	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	83.48
13	JAR			1762-1380	9.86	m	8.00	2.81				6 5/8"	REG PIN	6 3/4"	REG BOX	93.34
14	DRILL COLLAR			5t8	9.46	m	8.31	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	102.80
15	SUB			sssd7132	0.93	m	8.25	2.75				5 1/2"	REG PIN	5 1/2"	REG BOX	103.73
16	HWDP			5120296	9.30	m	5.50	3.06				5 1/2"	REG PIN	5 1/2"	REG BOX	113.03
17	HWDP			5120330	9.31	m	5.50	3.06				5 1/2"	REG PIN	5 1/2"	REG BOX	122.34
18	HWDP			5120301	9.40	m	5.50	3.06				5 1/2"	REG PIN	5 1/2"	REG BOX	131.74
19	HWDP			5120406	9.41	m	5.50	3.06				5 1/2"	REG PIN	5 1/2"	REG BOX	141.15
20	HWDP			5120414	9.40	m	5.50	3.06				5 1/2"	REG PIN	5 1/2"	REG BOX	150.55
21	HWDP			5120319	9.41	m	5.50	6.06				5 1/2"	REG PIN	5 1/2"	REG BOX	159.96

Predicted BHA Tendency:

Hookload Out:

Pickup Out:

Slack Weight:

Wt Below Jars:

Wt Above Jars:

Total Air Wt:

Stab Description	Mid Pt to Bit	Blade Type	Blade Len	Blade Width	Gauge Len	Gauge In	Gauge Out

Bit to Read Out Port		
LWD-arcVISION	6.00	m
MWD-TeleScope	10.60	m
LWD-SonicVISION	22.00	m
MOTORS-PowerPak		

Bit to Measurement Port		
arcVISION-Resistivity	4.85	
arcVISION-APWD	4.14	
arcVISION-Gamma Ray	4.90	
TeleScope-D&I	12.96	
SonicVISION-Compressional	22.37	

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Daily Drilling Activity Report

31-Dec-2008
9:24AM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Rossouw ,Peter She	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run No:	3				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
26-Dec-2008						
00:00	10:00	10.00	1245.0	990.0	Repair rig	Fix Topdrive
10:00	13:00	3.00	990.0	50.0	PU / LD BHA / Tripping	POOH
13:00	15:40	2.67	50.0	0.0	PU / LD BHA / Tripping	L/D BHA
15:40	16:30	0.83	0.0	0.0	PU / LD BHA / Tripping	M/U BHA for Run3
16:30	17:00	0.50	0.0	0.0	DD service quality	Set bend on motor, Scribe Toolface
17:00	00:00	7.00	33.0	1000.0	PU / LD BHA / Tripping	Cont M/U BHA & RIH
27-Dec-2008						
00:00	03:00	3.00	1341.0	2346.0	PU / LD BHA / Tripping	Continue RIH
03:00	03:30	0.50	2346.0	2396.0	Reaming / Hole opener / Unc	wash down with 800gpm
03:30	12:00	8.50	2396.0	2465.0	Drilling	Drilling with 900gpm,wob15k
12:00	00:00	12.00	2465.0	2671.0	Drilling	Drilling and sliding
28-Dec-2008						
00:00	09:00	9.00	2671.0	2807.0	Drilling	Reached Section TD @ 2807m MD
09:00	10:00	1.00	2807.0	2807.0	MWD/LWD service quality	DL to Sonic for tripout
10:00	18:00	8.00	2807.0	1000.0	PU / LD BHA / Tripping	Start POOH
18:00	20:00	2.00	1000.0	1000.0	Slip and cut drill line	Slip & cut
20:00	23:00	3.00	1000.0	50.0	PU / LD BHA / Tripping	POOH
23:00	00:00	1.00	50.0	0.0	PU / LD BHA / Tripping	Start L/D BHA

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Time Description Report

31-Dec-2008
9:24AM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Rossouw ,Peter Sheeh	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	3				

Date/Time	Depth		Description
26-Dec-2008 12:30PM	0.0	m	Reintialize BU ARC (S/N#1948)
26-Dec-2008 2:00PM	0.0	m	L/D PR ARC + Sonic
26-Dec-2008 3:00PM	0.0	m	Reprogram TeleScope (Regular Inc switch)
26-Dec-2008 3:30PM	0.0	m	Reintialize BU Sonic
26-Dec-2008 3:40PM	0.0	m	M/U ARC with TeleScope
26-Dec-2008 4:00PM	0.0	m	M/U Bit & Motor
26-Dec-2008 4:30PM	0.0	m	Set bend on Motor (1.15deg)
26-Dec-2008 5:00PM	0.0	m	Scribe Toolface correction (274.03deg)
26-Dec-2008 7:00PM	33.0	m	SHT, 800gpm, SPP=690psi, Good SHT
26-Dec-2008 7:15PM	33.0	m	Continue M/U BHA & RIH
27-Dec-2008 7:55AM	2426.0	m	spoke with driller about high stick and slip.
27-Dec-2008 8:49AM			
27-Dec-2008 9:55AM	2445.0	m	check shot survey for DD prior to sliding
27-Dec-2008 10:27AM	2455.0	m	slidin at MTF 50 degrees
27-Dec-2008 6:27PM	2576.0	m	Drilling ahead with rop 40,rpm 79,
27-Dec-2008 7:20PM	2584.0	m	Drilling ahead with rop 30, rpm 79,
27-Dec-2008 8:32PM	2612.0	m	Drilling ahead with ROP 30, rpm 79, tflow 900gpm
27-Dec-2008 9:47PM	2641.0	m	Drilling ahead with rop 30, rpm 78, tflow 900gpm
27-Dec-2008 11:03PM	2671.0	m	Drilling ahead with rop 30, tflow 900gpm, rpm 82,76strokes per each pump
27-Dec-2008 11:39PM	2688.0	m	Drilling ahead with rop 40, rpm 82,tflow 900gpm, 76 stroke for each pump
28-Dec-2008 12:00AM	2671.0	m	Midnight depth.
28-Dec-2008 12:12AM	2695.0	m	Drilling ahead with ROP 12, tflow 900gpm,
28-Dec-2008 12:29AM	2695.0	m	Sliding, rop 13, SPPA 2255psi, tflow 900gpm
28-Dec-2008 12:39AM	2700.0	m	Finish sliding continue drilling with rpm 41, almost stand down
28-Dec-2008 1:11AM	2705.0	m	Sliding with 900 gpm, rop 9, sppa 2115, TRPMM 3047
28-Dec-2008 1:52AM	2711.0	m	Finish sliding and continue drilling with rpm 45, ROP 30, tflow 900gpm
28-Dec-2008 2:15AM	2721.0	m	Drilling ahead with rpm 45, rop 30, tflow 900gpm, sppa 2296
28-Dec-2008 2:30AM	2728.0	m	Drilling ahead with rpm 78,rop 30
28-Dec-2008 3:07AM	2732.0	m	Drilling ahead with rpm 80, rop 30, tflow 3365
28-Dec-2008 3:21AM	2740.0	m	Sliding with rop 10, tflow 3365,
28-Dec-2008 3:50AM	2748.0	m	Finish sliding and continue drilling with rop 36, rpm 41, 76 strokes per minute for each pump
28-Dec-2008 4:55AM	2767.0	m	Drilling ahead with rpm 81, tflow 900gpm, sppa 2292, rop 30, 76 strokes per minute for each pump .
28-Dec-2008 5:30AM	2783.0	m	High Stick & Slip, infrom Driller to reduce WOB
28-Dec-2008 6:57AM	2807.0	m	12.25in section TD @ 2807m MD
28-Dec-2008 9:00AM	2800.0	m	DL to Sonic to Fast Config for trip out
28-Dec-2008 10:00AM	2800.0	m	Start POOH
28-Dec-2008 10:14PM	0.0	m	break the connection between sonic and stabilizer
28-Dec-2008 10:36PM	0.0	m	break the connection between sonic and telescope
28-Dec-2008 11:19PM	0.0	m	Break the bit
28-Dec-2008 11:48PM	0.0	m	break the connection between arc and telescope
29-Dec-2008 12:10AM	0.0	m	break the connection between arc and stabilizer

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Drilling Parameters Repo

31-Dec-2

9:24:3

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton

Company Rep: Rocco Rossouw ,Peter Sheehan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1

Run Number: 3

	28-Dec-2008 2:16 AM	27-Dec-2008 10:14 AM
Field Engineer	San thida Aung	David Gibson
Depth	2,721.00 m	2,455.00 m
Avg ROP	5.67 m/hr	11.46 m/hr
On Bottom ROP	8.37 m/hr	474.14 m/hr
Flow Rate	900.00 galUS/min	888.00 galUS/min
Turbine RPM	3,008 rpm	3,008 rpm
Surface RPM	45 rpm	
WOB Rotating	27.00 klbm	
WOB Sliding	25.00 klbm	18.40 klbm
DH WOB		
Surface Torque	3.05 kft.lbf	1.00 kft.lbf
DH Torque		
Hookload	238 klbm	229 klbm
PickUp Weight		
Slack Weight		
Friction		
SPP On Bottom		
SPP Off Bottom		
Diff Pressure		
BH Temperature	60.00 degC	77.00 degC
Total Shocks (k)		
Max Shock Level		
Max Shock Duration		
Torsional Vib		
Lateral Vib		
Axial Vib		
CRPM	45 rpm	
Stick/Slip	102	
Formation	Siltstone	Siltstone
Signal Strength	10.30 psi	16.00 psi
Percent Signal Conf	94 %	52 %

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DOWN-HOLE MOTOR RUN REPORT

Ft, Mt

Motor Size :	9 5/8	Serial No :	2983	Run No :	5	BHA No:	5	Mt

Company	Beach Petroleum	Well	Fermat 1	Slot		Field	Fermat
		Location	Otway Basin	Country		Country	Australia
Operator	Seadrill	Rig	West Triton	Engineer	C Skiba	Date	29-Dec-08

Bit Size	Make	Type	IADC	Jets	Jets	Jets	Jets	TFA
12 1/4	Reed/Hycalog	PDC	M432	3 x 13	3 x 15			0.907

IADC CUTTING STRUCTURE

Inner Row	Outer Row	Dull Char'	Location	Brg/Seals	Gauge	Others	Reason for Trip
1	1	LT	G	X	IN	BU	TD

Motor Made By	Size	Model / Type	Rotor/Stator	Serial No	Hsg Stab OD	° Bent Hsg	° Bent Sub
Anadrill	9.625	A962GT	7:8	2983	12 1/8	1.15	N/A

Type							
2	1 = Straight; 2 = Steerable; 3 = Double Bend	Stator Ser Nº	14704	Rotor Ser Nº	5535	Drlg Cmt, Wash/Ream	10.4
		Drlg Hrs	19.30	Circ Hrs	29.7	Total Motor Circ Hrs	29.70

Purpose of Run Correct inclination to vertical, then to 3 degrees @ an azimuth of 47 degrees

BHA

Surveys					
MD IN	2396.00	Inclin	3.36	Azim	228.47
MD OUT	2807	Inclin	3.14	Azim	70.72

Flow Rate GPM	Off Bttm PSI	On Bttm PSI	RPM	WOB Klbs
900	2050	2400	80	20.00

Mud Type	KCl Polymer	Mud Wt	10.00	Mud Grad'	0.519	Vis	49
PV	16	Filtrate	5.60	% Solids	10.00	Aniline Pt	N/A
YP	37	% Oil	0	% Sand	0.25	Circ Temp	60.0

Depth In	2396	Depth Out	2807	Inter'l Drld	411
Date In	26-Dec-08	Date Out	29-Dec-08	ROP	20.00
Time In	17:00	Time Out	00:30	Time BRT	55.50 Hrs

FAILURE?	No	Slide Mts	78	Previous Hrs	0.00	Cumulative Hrs	29.70

Remarks / Failure Report.

Did Motor Stall	
Y	Y
Slide	Rty
N	N

Bearing Play	
In	1.1 mm
Out	3.2 mm
Condition	
Good	

Slide Sheet

BHA: 12 1/4" 962 PDM ARC PP SONIC Rev2

Client:	Beach Petroleum	Well:	Fermat-1	Directional Driller:	Chris Skiba
Field:	Otway Basin	Borehole:	Fermat-1	Directional Driller:	
Structure:	Fermat-1	UWI/API#:		Job #:	08ASQ0034

Depth In:	2376	Depth Out:	2807	Tot Distance:	431			Total Time:	21.5	Total ROP:	20.0
Inclination In:	3.36	Inclination Out:	3.22	SLIDE:	78	% SLIDE	18.1	SLIDE Time:	8.9	SLIDE ROP:	8.7
Azimuth In:	228.47	Azimuth Out:	72.34	ROTATE:	353	% ROTAT	81.9	ROTATE Time:	12.6	ROTATE ROP:	27.9

Comments:

Statistics:

None	Min	Max	Sum	Min	Max	Sum	Avg	Max	Avg	Avg	Avg	Avg	Avg	Avg	Avg	None	Max	Avg	Avg	Avg
	27/12/08 3:40	28/12/08 7:55	21.55	2376	2807	431	50.8	M	900	67	15.1	7.2	2033	2316	276		2783.95	2.32	93.94	0.58

Orienting Method	Start Time (d/m/yy h:mm)	End Time (d/m/yy h:mm)	Duration (hr)	Md From (m)	Md To (m)	Course (m)	TF Angle (°)	TF Mode (G/M)	Flow (GPM)	RPM (rpm)	WOB (klbs)	Torque (KFLB)	SPP Off Bot (PSI)	SPP On Bot (PSI)	Delta P (PSI)	Comment	Svy Md (m)	Incl (°)	Azmth (°)	DLS (° / 30 m)
ROTATE	27/12/08 3:40	27/12/08 4:00	0.33	2376	2397	21	0	M	900	60	3	3	2100	2200	100	Washed down, tagged at 2396m. Break in Bit. SCR	2382.7	3.36	228.47	0.07
SLIDE	*27/12/08 5:00*	*27/12/08 6:23*	*1.38*	*2397*	*2404*	*7*	*-150*	*M*	*900*		*12*		*2000*	*2200*	*200*	*Erratic slide. Could not establish a toolface in any direction.*				
SLIDE	*27/12/08 6:57*	*27/12/08 8:33*	*1.60*	*2404*	*2422*	*18*	*50*	*M*	*900*		*8*		*2000*	*2150*	*150*	*15 metres considered good slide.*	*2412.78*	*2.64*	*231.24*	*0.73*
ROTATE	27/12/08 8:38	27/12/08 9:05	0.45	2422	2434	12	0	M	900	40	15	7	2050	2450	400					
ROTATE	27/12/08 9:27	27/12/08 10:18	0.85	2434	2455	21	0	M	900	40	20	10	2000	2400	400		2441.9	1.53	213.4	1.31
SLIDE	*27/12/08 10:22*	*27/12/08 11:50*	*1.47*	*2455*	*2463*	*8*	*40*	*M*	*900*	*0*	*12*	*0*	*2000*	*2050*	*50*					
ROTATE	27/12/08 11:50	27/12/08 12:00	0.17	2463	2464	1	0	M	900	40	12	8	2000	2400	400					
ROTATE	27/12/08 12:18	27/12/08 12:35	0.28	2464	2469	5	0	M	900	40	20	10	2000	2400	400					
SLIDE	*27/12/08 12:41*	*27/12/08 14:12*	*1.52*	*2469*	*2484*	*15*	*60*	*M*	*900*		*7*		*2000*	*2100*	*100*	*Last 8 metres considered good slide.*	*2471.6*	*0.6*	*128.24*	*1.61*
ROTATE	27/12/08 14:12	27/12/08 14:42	0.50	2484	2493	9	0	M	900	40	20	10	2000	2400	400					
ROTATE	27/12/08 15:00	27/12/08 15:35	0.58	2493	2510	17	0	M	900	40	20	7	2000	2400	400		2500.84	1.41	69.21	1.25
ROTATE	27/12/08 15:35	27/12/08 15:43	0.13	2510	2514	4	0	M	900	80	20	7	2000	2400	400	Took Check survey				
ROTATE	27/12/08 15:50	27/12/08 16:14	0.40	2514	2523	9	0	M	900	80	20	7	2000	2400	400					
SLIDE	*27/12/08 16:30*	*27/12/08 17:45*	*1.25*	*2523*	*2533*	*10*	*60*	*M*	*900*		*8*		*2050*	*2100*	*50*		*2530.68*	*2.34*	*71.2*	*0.94*
ROTATE	27/12/08 17:45	27/12/08 18:25	0.67	2533	2552	19	0	M	900	40	12	5	2050	2250	200					
ROTATE	27/12/08 18:48	27/12/08 19:20	0.53	2552	2583	31	0	M	900	80	12	5	2050	2300	250		2559.85	2.34	72.69	0.06
ROTATE	27/12/08 19:27	27/12/08 20:15	0.80	2583	2612	29	0	M	900	80	15	7	2050	2400	350		2589.92	2.25	73.44	0.09
ROTATE	27/12/08 20:38	27/12/08 21:24	0.77	2612	2641	29	0	M	900	80	15	8	2050	2400	350					
ROTATE	27/12/08 21:54	27/12/08 22:40	0.77	2641	2671	30	0	M	900	80	15	8	2050	2400	350		2648.85	2.04	82.16	0.2
ROTATE	27/12/08 23:03	28/12/08 0:45	1.70	2671	2692	21	0	M	900	80	13	7	2050	2200	150		2678.97	2.05	86.3	0.15
SLIDE	*28/12/08 1:00*	*28/12/08 1:42*	*0.70*	*2692*	*2700*	*8*	*30*	*M*	*900*		*21*		*2050*	*2250*	*200*	*Could not achieve a consistant slide. Possible interbedded formation.*				
ROTATE	28/12/08 2:02	28/12/08 2:14	0.20	2700	2705	5	0	M	900	40	13	7	2050	2200	150					
SLIDE	*28/12/08 2:15*	*28/12/08 2:55*	*0.67*	*2705*	*2710*	*5*	*70*	*M*	*900*		*25*		*2050*	*2350*	*300*	*Could not achieve consistent slide at desired TF of 40 degrees MTF.*	*2708.38*	*2.63*	*86.65*	*0.59*
ROTATE	28/12/08 2:55	28/12/08 3:25	0.50	2710	2725	15	0	M	900	40	20	8	2050	2350	300					
ROTATE	28/12/08 3:25	28/12/08 3:37	0.20	2725	2730	5	0	M	900	80	20	8	2050	2350	300					
ROTATE	28/12/08 4:05	28/12/08 4:25	0.33	2730	2740	10	0	M	900	80	20	8	2050	2400	350		2737.95	2.75	86.68	0.12
SLIDE	*28/12/08 4:30*	*28/12/08 4:50*	*0.33*	*2740*	*2747*	*7*	*20*	*M*	*900*		*26*		*2050*	*2400*	*350*					
ROTATE	28/12/08 4:50	28/12/08 5:20	0.50	2747	2759	12	0	M	900	40	20	8	2050	2350	300					
ROTATE	28/12/08 5:40	28/12/08 6:50	1.17	2759	2789	30	0	M	900	80	20	8	2050	2350	300		2767.46	3.28	73.47	0.88

Orienting Method	Start Time (d/m/yy h:mm)	End Time (d/m/yy h:mm)	Duration (hr)	Md From (m)	Md To (m)	Course (m)	TF Angle (°)	TF Mode (G/M)	Flow (GPM)	RPM (rpm)	WOB (klbs)	Torque (KFLB)	SPP Off Bot (PSI)	SPP On Bot (PSI)	Delta P (PSI)	Comment	Svy Md (m)	Incl (°)	Azmth (°)	DLS (° / 30 m)
ROTATE	28/12/08 7:07	28/12/08 7:55	0.80	2789	2807	18	0	M	900	100	15	7	2050	2350	300	TD	2783.95	3.22	72.34	0.16

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Equipment Run Summary Report

9-Jan-2009
1:25PM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Rossouw, Peter Sheenhan	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	4				

Run Information

	Date In		Date Out
	2-Jan-2009 7:40PM		7-Jan-2009 8:00PM
Depth (MD):	2800.0 m	to	3585.0 m
Depth (TVD):	2798.5 m	to	3580.4 m
Inclination:	3.22 deg	to	7.28 deg
Azimuth:	72.75 deg	to	160.29 deg

Drilling Distance:	785.00 m	Drilling Hours:	42.40 hrs
Rotary Drilling Distance:	785.00 m	Rotary Drilling Hrs:	42.40 hrs
Sliding Distance:	0.00 m	Sliding Hours:	0.00 hrs
Reaming Distance:	875.00 m	Reaming Hours:	4.00 hrs
		Hrs Below Rotary:	120.33 hrs
		Total Pumping Hrs:	72.60 hrs

Hole Size:	8.50 in		
Last Casing Size:	9.630 in		
Last Casing Depth:	2800.5 m (MD)		
Tool Face Arc:			
Total Face Angle:	deg		
		Min DLS:	0.38 deg/30 m
North Ref Used:	Grid North	Max DLS:	0.65 deg/30 m
Magnetic Dec:	9.870 deg	Max DLS Depth:	3,569.4 m
Grid Correction:	-0.030 deg	Surface Screen:	No
Total Correction:	9.900 deg	DFS Used:	No
Est. Mag. Int:	deg	Inline Filter:	No

Rig Information

Rig Type:	Jack Up	Pump Type:	Triplex
Water Depth:	38.00 m	Pulse Damp Press:	700 psi
Air Gap:	15.00 m	Number of Pumps:	3
RKB Height:	42.90 m	Pump Line ID:	6.50 in
Ground Elevation:	80.85 m	Pump Output:	5.85 galUS/stroke
		Pump Stroke Len:	14.00 in

Run Objective

Drill to 3500m MD providing GR, Res, APWD, Sonic, Density, Porosity, Caliper services in RT.

D&M Crew List:

Cell Manager: Joshua Seevaratnam

Crew: San thida Aung, LWD
Rika Kartorahardjo, MWD
Josh Seevaratnam, Cell Manager

DH Motor Information

Manufacturer:		Bit to Bend Dist:	m
Motor Type:		Bearing Play In:	in
Motor Size:		Bearing Play Out:	in
Serial No.:		Bent Sub Angle:	deg
Lobe Config:		Bent HSG Angle:	deg
Stage Length:	m		
Rubber:			
Sleeve Position:			
Sleeve Size:	in		
Bearing Type:			

RSS Information

RSS Manufacturer:	
RSS Type:	
RSS SN:	
RSS Size:	
Pulse Ht Threshold:	
Min Pulse Width:	
Max Pulse Width:	
Conn Phase Angle:	deg
Rise Time Const:	
Fall Time Const:	
Digit Time:	

MWD Configuration

Mod Type:	QPSK	Int Tool Face Offset:	deg	Bit Rate:	6 bps	Slimpulse Pulser Config:	
Mod Gap:	0.08000 in	Turbine Config:	400-800 galUS/min	Frequency:	12 Hz	Pred Sig Strength @ TD:	psi
SPT Type:	HA						

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Equipment Run Summary Report

9-Jan-2009
1:25PM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Rossouw, Peter Sheenhan	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	4				

Drilling Parameters

	Min	Max	Avg
BH Temperature:	58.00 degC	80.00 degC	72.11 degC
Surface RPM:	30.00 rpm	103.00 rpm	81.89 rpm
ROP:	0.00 m/hr	18.08 m/hr	18.51 m/hr
Surface Torque:	0.01 kft.lbf	4.30 kft.lbf	2.92 kft.lbf
Flow Rate:	500.00 galUS/min	770.00 galUS/min	691.33 galUS/min
WOB Sliding:			

Total DH Shocks (k):	0 k
Max Shock Level:	0
Max Shock Duration:	0 sec
Checkshot Type:	
Checkshot Depth:	m
Checkshot Incl:	deg
Checkshot Azim:	deg
H2S In Well:	No

Average Pump Pressure:	51 psi				
Turbine RPM @ Min Flow Rate:	3,945 rpm	Min Flow Rate:	500.00galUS/min	SPP Off Bottom:	2,546.00 psi
Turbine RPM @ Max Flow Rate:	4,258 rpm	Max Flow Rate:	770.00galUS/min	SPP On Bottom:	2,552.00 psi

Mud Information

Mud Type:	Water Base	Mud Clean:	Yes	pH:	8.60
Mud Company:	Halliburton	LCM Type:		Chlorides:	68,109.00 ppm
Mud Brand:		LCM Size:		Sand Content:	0.75 %
Funnel Viscosity:	49.00 s/qt	LCM Concentration:	lbs/bbl	Solids:	8.20 %
Plastic Viscosity:	21.00 cp	Weighting Material:	Barite	Percent Oil:	0.00 %
Yield Point:	38.00 lbm/100ft2	Mud Weight:	10.60 lbm/galUS		
Mud Resistivity:	0.10 ohm-m				

IADC Bit Grading

Manufacturer:	Other	Total Revs:		IADC Code:	
Model:	SE36532	Stick/Slip:		Jets (/ 32 in):	6X14
Type:	PDC	Reason Pulled:	Total Depth/Casing Depth	Bit TFA:	0.90 in2

Inner Row	Outer Row	Dull Char	Location	Bearings/Seals	Gauge	Other Chars
2.00	1.00	CT	N		I	ER

End of Run - Summary

Sync Hours:	69.00 hrs	Downhole Noise:	No	Run Failed:	No
Jamming:	No 0.00 hrs	Surface System Failure:	No	D&M Trip:	No
Surface Vibration:	No	Surface Noise:	No	Low Oil Flag:	No 0.00 hrs
Trans Fail:	No	H2S in Well:	No	Filter Screen/Plug Shear:	No

Client Inconvenience: **No** Lost Time: hrs

Reason for POOH: Total Depth/Casing Depth

D&M Run Obj Met? [DD and MWD/LWD]: **Yes**

Brief Run Summary:

Overall good run with good RT data from LWD tools, however client decided to POOH and run wireline logs.

High stick slips observed throughout whole run, inform Co-man to try adjust drilling parameters (i.e. Reduce WOB, increase RPM) but he couldnt sacrifice ROP by reducing WOB.

Once BHA on surface, physical check on on tools, no signs of damage to ILS, transmitter shields, wearbands, ROP.

If not, why?:

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Equipment Run Summary Report

9-Jan-2009

1:25PM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Rossouw, Peter Sheenhan	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	4				

Equipment on the Run

Equipment	Pump Hours Start	Pump Hours Cumulative	Software Version	Tool Size
ADDC-CE-40778	0.00 hrs	72.60 hrs	8.3	6.75 in
ARC6D-BB-2056	0.00 hrs	72.60 hrs	9.3B13	6.75 in
H524743-61947	0.00 hrs	72.60 hrs		6.75 in
H524743-61957	0.00 hrs	72.60 hrs		6.75 in
H524743-62428	0.00 hrs	72.60 hrs		6.75 in
H524743-62429	0.00 hrs	72.60 hrs		6.75 in
H524743-62431	0.00 hrs	72.60 hrs		6.75 in
H524743-62433	0.00 hrs	72.60 hrs		6.75 in
MDC-AE-VC64	0.00 hrs	72.60 hrs	9.2C02	6.75 in
SWD6-BA-649	0.00 hrs	72.60 hrs	6.6	6.75 in

Services on the Run

Equipment	Service	Tool Name	Real Time Hours	Real Time Failed	Real Time Depth	Recorded Mode Hours	Recorded Mode Failed	Recorded Mode Depth	CAF
LWD	Resistivity	arcVision	72.60 hrs		785.0 m	120.33 hrs		785.0 m	
LWD	APWD	arcVision	72.60 hrs		785.0 m	120.33 hrs		785.0 m	
LWD	Gamma Ray	arcVision	72.60 hrs		785.0 m	120.33 hrs		785.0 m	
MWD	Shock and Vibration	TeleScope	72.60 hrs		785.0 m	120.33 hrs		785.0 m	
MWD	Cont D&I	TeleScope	72.60 hrs		785.0 m	hrs			
MWD	D&I	TeleScope	72.60 hrs		785.0 m	120.33 hrs		785.0 m	
LWD	Compressional DT	SonicVision	72.60 hrs		785.0 m	120.33 hrs		785.0 m	
LWD	Caliper	adnVision	72.60 hrs		785.0 m	120.33 hrs		785.0 m	
LWD	Density	adnVision	72.60 hrs		785.0 m	120.33 hrs		785.0 m	
LWD	Neutron	adnVision	72.60 hrs		785.0 m	120.33 hrs		785.0 m	

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BHA Repor

9-Jan-200

1:25P

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton

Company Rep: Rocco Rossouw, Peter Sheenhan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1

Run Number: 4 **BHA Type:** Steerable Motor

Item	Description	Vendor	Tool Name	Serial Number	Length		OD	ID	Fishing Neck OD	Fishing Neck Len, m	Stab OD	Bottom Connection Size	Bottom Connection Type	Top Connection Size	Top Connection Type	Cumul Len	
1	BIT	Other	PDC	11001928	0.26	m	8.50	3.50						4 1/2"	REG PIN	0.26	m
2	NEAR BIT STAB			228096	1.86	m	6.50	2.81				4 1/2"	REG BOX	4 1/2"	IF PIN	2.12	m
3	LWD	D&M	arcVISION	2056	5.83	m	6.75	3.13				4 1/2"	IF PIN	5 1/2"	FH BOX	7.95	m
4	MWD	D&M	TeleScope	VC64	9.00	m	6.75	3.88				5 1/2"	FH PIN	5 1/2"	FH BOX	16.95	m
5	LWD	D&M	SonicVISION	649	8.19	m	6.75	3.75				5 1/2"	FH PIN	5 1/2"	FH PIN	25.14	m
6	LWD	D&M	adnVISION	40778	6.24	m	6.75	3.75				5 1/2"	FH BOX	4 1/2"	IF BOX	31.38	m
7	DRILL COLLAR			1111	93.28	m	6.50	2.88				4 1/2"	IF PIN	4 1/2"	IF BOX	124.66	m
8	JAR			1416-1495	9.89	m	6.88	2.75				4 1/2"	IF PIN	4 5/8"	IF BOX	134.55	m
9	DRILL COLLAR			66571-1	9.36	m	6.50	2.88				4 1/2"	IF PIN	4 1/2"	IF BOX	143.91	m
10	CROSSOVER			7148.00	1.22	m	7.00	2.81				4 1/2"	IF PIN	5 1/2"	NC56 BOX	145.13	m
11	HWDP			2222	56.23	m	7.00	3.06				5 1/2"	NC56 PIN	5 1/2"	NC56 BOX	201.36	m

Predicted BHA Tendency:

Hookload Out:

Pickup Out:

Slack Weight:

Wt Below Jars:

Wt Above Jars:

Total Air Wt:

Stab Description	Mid Pt to Bit	Blade Type	Blade Len	Blade Width	Gauge Len	Gauge In	Gauge Out

Bit to Read Out Port		
LWD-arcVISION	5.60	m
MWD-TeleScope	10.30	m
LWD-SonicVISION	21.60	m
LWD-adnVISION	27.20	m

Bit to Measurement Port		
arcVISION-APWD	3.82	m
arcVISION-Gamma Ray	4.58	m
arcVISION-Resistivity	4.53	m
TeleScope-D&I	12.62	m
SonicVISION-Compressional	21.97	m
adnVISION-Caliper	27.93	m
adnVISION-Density	28.35	m
adnVISION-Neutron	29.35	m

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Daily Drilling Activity Report

9-Jan-2009
1:25PM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Rossouw, Peter She	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run No:	4				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
29-Dec-2008						
00:00	03:00	3.00	0.0	0.0	PU / LD BHA / Tripping	L/D BHA
03:00	00:00	21.00	0.0	0.0	Run casing / cement	Run 9 5/8in Csg
30-Dec-2008						
00:00	12:00	12.00	0.0	0.0	Run casing / cement	Cement job
12:00	00:00	12.00	0.0	0.0	Wait on cement	WOC & service rig
31-Dec-2008						
00:00	12:00	12.00			Repair rig	Still trying to un-latch running tool for Csg hanger
2-Jan-2009						
00:00	02:00	2.00	0.0	0.0	Other	M/U combination tool with cup tester and RIH with wearbushing to 17m
02:00	03:00	1.00	0.0	0.0	Nipple up BOPs	Lift BOP and change seal on quick connector b/w wellhead and BOPs
03:00	08:30	5.50	0.0	0.0	Test BOP	Set wear bushing at 18.4m, test BOP
08:30	09:00	0.50	0.0	0.0	Test BOP	POOH with test assembly and wear bushing run tool and L/D same
09:00	14:30	5.50	0.0	0.0	Test BOP	Test BOP
14:30	16:30	2.00	0.0	0.0	Rig up / Rig down	M/U overshot and diviter
16:30	18:00	1.50	0.0	0.0	Repair rig	Troubleshoot diverter
18:00	22:00	4.00	0.0	0.0	PU / LD BHA / Tripping	P/U HWDP, M/U BHA
22:00	22:30	0.50	0.0	31.0	DD service quality	SHT for MWD ,all good,used 500psi
22:30	00:00	1.50	31.0	31.0	Other	Load RA source per SLB instruction
3-Jan-2009						
00:00	12:30	12.50	0.0	2800.0	PU / LD BHA / Tripping	Tripping in
12:30	13:20	0.83	2800.0	2800.0	Repair rig	Rig repair
13:20	00:00	10.67	2800.0	2800.0	Drilling	Drilling out of shoe
4-Jan-2009						
00:00	03:32	3.53	2800.0	2803.0	Drilling	Drilling ahead
03:32	04:48	1.27	2803.0	2803.0	Other	Leak off test
04:48	22:30	17.70	2803.0	3005.0	Drilling	Drilling ahead
22:30	23:00	0.50	3005.0	3005.0	Circulate / Condition mud	Flow check
23:00	00:00	1.00	3005.0	3019.0	Drilling	Drilling ahead
5-Jan-2009						
00:00	01:00	1.00	3012.0	3019.0	Circulate / Condition mud	Drilling ahead,circulate to reduce gas level
01:00	12:00	11.00	3019.0	3170.0	Drilling	Drillnig ahead
12:00	00:00	12.00	3170.0	3350.0	Drilling	Drilling ahead
6-Jan-2009						
00:00	13:00	13.00	3350.0	3585.0	Drilling	Drilling ahead. Called TD at 13:00
13:00	15:00	2.00	3585.0	3585.0	Circulate / Condition mud	Circulate hole clean
15:00	00:00	9.00	3585.0	3585.0	Circulate / Condition mud	Circulate, found tight spots.
7-Jan-2009						
00:00	01:00	1.00	3585.0	2880.0	Reaming / Hole opener / Unc	Ream stab thru shoe

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Daily Drilling Activity Report

9-Jan-2009

1:25PM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Rossouw, Peter She	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run No:	4				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
01:00	03:00	2.00	2880.0	3451.0	PU / LD BHA / Tripping	RIH, drag observed
03:00	05:30	2.50	3451.0	3585.0	Reaming / Hole opener / Unc	Wash & Ream
05:30	07:00	1.50	3585.0	3585.0	Circulate / Condition mud	Circulatem B/U
07:00	07:30	0.50	3585.0	3549.0	PU / LD BHA / Tripping	TOOH, drag observed
07:30	08:00	0.50	3549.0	3585.0	Reaming / Hole opener / Unc	M/U TDS. Wash, ream back to bottom
08:00	09:30	1.50	3585.0	3585.0	Circulate / Condition mud	Circ
09:30	10:00	0.50	3585.0	3585.0	Repair rig	TDS SWL pkg leaked. repair
10:00	17:30	7.50	3585.0	614.0	PU / LD BHA / Tripping	POOH
17:30	18:00	0.50	614.0	614.0	Circulate / Condition mud	Pumped slug
18:00	20:00	2.00	614.0	31.4	PU / LD BHA / Tripping	continue to POOH
20:00	21:00	1.00	31.4	31.4	Other	Removed radioactive source
21:00	22:30	1.50	31.4	0.0	PU / LD BHA / Tripping	Break off bit, ND stab, MWD tools layed out
22:30	00:00	1.50	0.0	0.0	Wireline logs	Wireline starts to operate

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Time Description Report

9-Jan-2009

1:25PM

Job Number:	08ASQ0034	**Company:**	BEACH PETROLEUM LTD	**Rig Name:**	West Triton
Company Rep:	Rocco Rossouw, Peter Sheen	**Location:**	MEA-APG-ASQ	**Well Name:**	Fermat-1
Run Number:	4				

Date/Time	Depth		Description
29-Dec-2008 12:00AM	0.0	m	Cont L/D 12.25in BHA
29-Dec-2008 3:00AM	0.0	m	Process RM Sonic + ARC data, upload Sonic DLIS on InterAct for DCS processing
29-Dec-2008 6:00AM	0.0	m	Start running 9 5/8in csg
29-Dec-2008 7:00AM	0.0	m	Remove batteries from previous section tools
29-Dec-2008 8:30AM	0.0	m	Start preparing 6 3/4in for next section (programming, Depassivating batteries)
30-Dec-2008 12:00AM	0.0	m	Strap all tools (PR & BU)
30-Dec-2008 4:00AM	0.0	m	Create Final fishing diagrams
30-Dec-2008 5:00AM	0.0	m	Program all BU tools, check Extender resistance, go-no-go gauge
30-Dec-2008 8:00AM	0.0	m	Load batteries into Sonic + ADN
30-Dec-2008 10:00AM	0.0	m	Batteries inside Sonic (put magnet)
30-Dec-2008 10:45AM	0.0	m	Batteries inside ADN (put magnet)
30-Dec-2008 6:00PM	0.0	m	Batteries inside ARC, monitor tool, then back-off jamnut
31-Dec-2008 3:00AM	0.0	m	Still trying to un-latch running tool for Csg hanger
2-Jan-2009 9:05AM	2870.0	m	Re-initialise ADN. Replaced magnet with ROP.
2-Jan-2009 9:31AM	2870.0	m	Re-initialise ARC. Torqued up battery jamnut
2-Jan-2009 9:50AM	2870.0	m	Re-initialise Sonic. Replaced magnet with ROP. 10hrs trip-in time selected.
2-Jan-2009 12:38PM			
2-Jan-2009 6:35PM	2870.0	m	Sonic/ARC connection is made up. 23 kft/lbs
2-Jan-2009 7:07PM	2870.0	m	Sonic/Telescope connection is made up, 23 kft/lbs
2-Jan-2009 7:37PM	2870.0	m	M/U Bit.
2-Jan-2009 8:30PM	2870.0	m	M/U ADN/Sonic 23 kft/lbs
2-Jan-2009 8:33PM	2870.0	m	RA source loading Permit signed
2-Jan-2009 9:34PM	2870.0	m	Finish SHT.
2-Jan-2009 10:30PM	0.0	m	Bring Overpack to Catwalk, remove Transfer shield from Overpack to Rig floor
2-Jan-2009 10:40PM	0.0	m	Hold Safety meeting on Rig floor, ensure all personnel know their roles & responsibility, ensure barrier tapes at staircases, make PA Safety announcement (keeping all non-essential personnel clear of Rig floor & BOP area).
2-Jan-2009 10:50PM	0.0	m	Remove shipping cap from source receptacle, open four rods on Transfer shield, move Upper Transfer shield onto tool
2-Jan-2009 11:05PM	0.0	m	Latch source with Handling tool, and lower into tool, rotating anti-clockwise
2-Jan-2009 11:15PM	0.0	m	Tried to feel the threads engage (i.e. click) but don't get it. Try to lift up the handling tool by hand, unable too. Get help from Roughneck, still unable to free handling tool (with source).
2-Jan-2009 11:30PM	0.0	m	Called a time-out, explain to Driller current situation, informed Co-man too, decided to call town for other ideas/solutions.
2-Jan-2009 11:40PM	0.0	m	Spoke to Operations Support Centre and they suggested the following: i) Push handling tool downwards and turn anti-clockwise, try to free the source with handling tool, and bring up to Transfer shield once again. ii) Once source in Transfer shield, lock it and inspect the source fishing head, the handling tool head make sure the heads are correctly engaged. iii) Go down once again, and try to get the source correctly seated in the receptacle.
2-Jan-2009 11:50PM	0.0	m	Return to Rig floor, explain to crew what we're gonna do, and Rig night crew come on tour (crew change)
3-Jan-2009 12:00AM	0.0	m	We try to free the handling tool once again, new Driller (which just came on shift) came out to help us. He pulled the slack tugger line from the main tugger physically with his body strength (not using the air supply) and handling tool came loose.
3-Jan-2009 12:10AM	0.0	m	We bring the handling tool with the source back to the Transfer shield, lock the source back into the Transfer shield using both Primary & Secondary locks and check the handling tool head, check the source fishing head.

Date/Time	Depth		Description
3-Jan-2009 12:25AM	0.0	m	Once satisfied that the Handling tools head is fine & the source fishing head is fine & not damaged, go down again with the Handling tool & source, rotating anti-clockwise. Once in the receptacle, feel the threads engage (click) and torque it up 6 ½ turns clockwise. It tightens up exactly at 6 ½ turns and once confirmed, unlatch the handling tool from the source and remove the handling tool.
3-Jan-2009 12:35AM	0.0	m	Remove upper Transfer shield from tool, assemble it back together with the lower end, use Survey meter to confirm the source is not in the Transfer shield, survey around the Rig floor area to ensure all is safe, move back Transfer shield to Overpack, call Rig crew back to continue M/U BHA.
3-Jan-2009 12:40AM	0.0	m	Finish source loading. 55 microSievert = source in shield 9.5 microSievert = source in tool (before source unlatched from ADLT) 200 microSievert = double check source, after source unlatched from ADLT.
3-Jan-2009 12:30PM	2700.0	m	Drop in Standpipe pressure, troubleshooting
3-Jan-2009 2:30PM	2752.0	m	Tag TOC, start drilling cement
3-Jan-2009 7:30PM	2796.0	m	Drilling out cement.
3-Jan-2009 8:06PM	2798.0	m	Reduced the flow to less than 400gpm and stop getting signal
3-Jan-2009 11:59PM	2800.0	m	Midnight depth
4-Jan-2009 12:00AM	2800.0	m	Midnight depth and drilling out of shoe, with total flow 1749 l/m
4-Jan-2009 12:41AM	2803.0	m	Circulate bottoms up
4-Jan-2009 12:59AM	2804.0	m	Drill ahead with 51strokes par each pump, 600gpm, ROP 11m/h
4-Jan-2009 2:06AM	2810.0	m	Still drilling through rat hole. ROP 5m/h
4-Jan-2009 3:32AM	2811.0	m	LOT
4-Jan-2009 4:48AM	2811.0	m	Start circulate with 61strokes /min
4-Jan-2009 10:00AM	2851.0	m	Mud Test/Env Corr MW=10.3ppg Rm= 0.1054 ohm.m @ 24.6 degC Pottasium = 3.54% Dt = 186.82 us/ft Borehole salinity = 72.725 ppk PH = 10 PV = 14 cP FV = 44 s/qt YP = 32 lbm/100ft2
4-Jan-2009 10:18AM	2851.0	m	High stick slip, inform Co-man, he agreed to increase RPM, but not WOB (i.e need ROP)
4-Jan-2009 5:29PM	2947.0	m	SCR
4-Jan-2009 5:57PM	2949.0	m	Drilling ahead with avg rop 20,60strokes per each pump , tflow 700gpm,wob25,high stick slips,cant do anything, informed coman and driller
4-Jan-2009 7:41PM	2977.0	m	Drilling ahead with avg rop 20,tflow 700gpm, 60strokles per each pump. rpm 77,wob27
4-Jan-2009 8:51PM	3001.0	m	Flow check
4-Jan-2009 9:00PM	3001.0	m	Drill ahead ,change pump from 1 ,2 to 1,3..60strokes per each pump.600gpm
4-Jan-2009 10:31PM	3008.0	m	Drill ahead with rop 10, tflow 660gpm, 60 from pump 1and 2.
4-Jan-2009 10:48PM	3012.0	m	Drilling ahead ,formation change, gr low, resistivity high
4-Jan-2009 11:29PM	3019.0	m	Circulate about 30 minutes ,
4-Jan-2009 11:58PM	3019.6	m	On bottom drilling
5-Jan-2009 12:00AM	3019.0	m	Midnight depth
5-Jan-2009 1:18AM	3035.0	m	Drill ahead with rop 7, rpm 106,wob26, tflow 770gpm
5-Jan-2009 1:58AM	3037.0	m	Drill ahead with rop 10, rpm 130, tflow 770
5-Jan-2009 2:00AM	3040.9	m	Lost of signal. Signal came back at 02:17AM. Rig changed pump config. (Recycled pump & noise training)
5-Jan-2009 2:25AM	3049.0	m	antijam until 02:35 suspect: the addition of "Easy Mud", PHPA.
5-Jan-2009 3:11AM	3056.9	m	flow checking 6 minutes
5-Jan-2009 3:24AM	3058.2	m	drilling ahead ROP 13.65, RPM 94, TFLOW 678GPM, TRPM 3984 WOB29.3
5-Jan-2009 12:02PM	3189.0	m	Speak to Co-man again about high stick slip, try to mitigate. stick=200rpm, crpm= 60-120, srpm=92.
5-Jan-2009 5:50PM	3276.0	m	Drilling ahead , 61 strokes per minutes for each pump,, rpm 79, tflow 720gpm, , stick 180
5-Jan-2009 7:50PM	3304.0	m	Drilling ahead , 61 strokes per minute, rpm 79.,surface tourque 3.59,tflow 700gpm,stick 183
5-Jan-2009 9:44PM	3331.0	m	Drill ahead with good signal, tflow 700, rpm82

Date/Time	Depth		Description
5-Jan-2009 10:30PM	3340.0	m	Mud Test/Env Corr MW=10.6ppg Borehole Salinity=66.504ppk PV=16cP FV=54s/qt YP=36lbm/100ft2 Rm=0.1053 ohm.m @ 24.3degC Rf=0.0808 ohm.m @ 24degC Rmc=0.1216 ohm.m @ 25.1degC Pottasium=3.64% Dt=185.68us/ft Form Temp gradient = 0.9deg/100ft
5-Jan-2009 11:59PM	3360.0	m	Midnight depth
6-Jan-2009 12:00AM	3360.0	m	Midnight depth,Drilling ahead with rop 20, rpm 78, tflow 710gpm
6-Jan-2009 1:12AM	3387.0	m	Drilling ahead , rop 20, tflow 713gpm, stick slips 192, rpm 89
6-Jan-2009 2:18AM	3406.0	m	Drilling ahead ROP 25, Tflow 714GPM, stickslip 189, RPM 89
6-Jan-2009 3:53AM	3429.0	m	Drilling ahead, ROP 24.76, Tflow 714 stickslip 189 RPM 93
6-Jan-2009 9:30AM	3506.0	m	Mud test/Env Corr MW=10.6ppg Rm=0.1049 ohm.m @ 24.3degC Rf=0.0839 ohm.m @ 24.3degC Rmc=0.1968 ohm.m @ 24.1degC Pottasium=3.64% Dt=183.495us/ft Borehole Salinity=68.109ppk Form Temp Gradient=0.9deg/100ft PV=21cP FV=49s/qt YP=38lbm/100ft2
6-Jan-2009 1:00PM	3585.6	m	Run 4 TD @ 3585.63m MD. Client decide to run Wireline logs and rack-back current BHA so if decided to drill ahead further after running Wireline logs, will use same BHA.
6-Jan-2009 3:12PM	3500.0	m	Decided to POOH. If experience tight spots, do wiper trip. Circulate
7-Jan-2009 12:00AM	3585.6	m	midnight depth. Just have been circulating. Found tight spots.
7-Jan-2009 2:13AM	3585.6	m	start wiper trip
7-Jan-2009 9:00AM	3585.0	m	Increase MW to 11ppg and start POOH
7-Jan-2009 7:00PM	3585.0	m	Held JSA prior to source unloading
7-Jan-2009 7:15PM	3585.0	m	Transfer shield on rig floor
7-Jan-2009 7:19PM	3585.0	m	ADLT in the tool - unloading source
7-Jan-2009 7:25PM	3585.0	m	ADLT in tool - source latched
7-Jan-2009 7:36PM	3585.0	m	source in shield ~30 mS
7-Jan-2009 7:44PM	3585.0	m	put source cap back into tool
7-Jan-2009 7:55PM	3585.0	m	scanned ADN windows. ~ 1.5 mS
7-Jan-2009 8:00PM	3585.0	m	Bit on RT
7-Jan-2009 8:45PM	3585.0	m	Break up SLB tool connections + flush. 15 Minutes.
8-Jan-2009 7:00AM	0.0	m	Remove batteries from all tools

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Drilling Parameters Repor

9-Jan-200

1:25:14F

Job Number: 08ASQ0034 **Company:** BEACH PETROLEUM LTD **Rig Name:** West Triton

Company Rep: Rocco Rossouw, Peter Sheenhan **Location:** MEA-APG-ASQ **Well Name:** Fermat-1

Run Number: 4

	06-Jan-2009 6:15 AM	06-Jan-2009 4:12 AM	06-Jan-2009 1:58 AM	06-Jan-2009 12:04 AM	05-Jan-2009 11:23 AM	05-Jan-2009 1:59 AM	04-Jan-2009 7:54 PM
Field Engineer	Rika Kartorahardjo	Rika Kartorahardjo	Rika Kartorahardjo	San thida Aung	Josh Seevaratnam	Rika Kartorahardjo	San thida Aung
Depth	3,470.09 m	3,436.46 m	3,396.29 m	3,363.00 m	3,182.00 m	3,037.81 m	2,982.00 m
Avg ROP	9.79 m/hr	9.79 m/hr	9.79 m/hr	9.79 m/hr	13.79 m/hr	13.79 m/hr	9.13 m/hr
On Bottom ROP	18.08 m/hr	18.08 m/hr	18.08 m/hr	18.08 m/hr	17.38 m/hr	17.38 m/hr	15.87 m/hr
Flow Rate	714.00 galUS/min	714.00 galUS/min	714.00 galUS/min	710.00 galUS/min	700.00 galUS/min	770.00 galUS/min	700.00 galUS/min
Turbine RPM	4,023 rpm	4,023 rpm	4,023 rpm	3,984 rpm	3,984 rpm	4,258 rpm	3,906 rpm
Surface RPM	95 rpm	93 rpm	89 rpm	79 rpm	90 rpm	103 rpm	78 rpm
WOB Rotating	47.00 klbm				25.00 klbm	29.10 klbm	30.00 klbm
WOB Sliding							
DH WOB							
Surface Torque	4.30 kft.lbf	3.26 kft.lbf	4.12 kft.lbf				
DH Torque							
Hookload	250 klbm	248 klbm	244 klbm	290 klbm	242 klbm	240 klbm	232 klbm
PickUp Weight							
Slack Weight							
Friction							
SPP On Bottom	3,201.00 psi	3,281.00 psi	3,268.00 psi	3,210.00 psi	2,900.00 psi	2,880.00 psi	2,763.00 psi
SPP Off Bottom					2,850.00 psi		
Diff Pressure					50 psi		
BH Temperature	80.00 degC	79.00 degC	78.00 degC	77.00 degC	74.00 degC	71.00 degC	68.00 degC
Total Shocks (k)							
Max Shock Level							
Max Shock Duration							
Torsional Vib							
Lateral Vib							1
Axial Vib							1
CRPM	113 rpm	61 rpm	131 rpm	78 rpm	63 rpm	115 rpm	78 rpm
Stick/Slip	213	177	189	183	183	186	162
Formation	Siltstone	Siltstone	Siltstone	Siltstone	Siltstone	Siltstone	Siltstone
Signal Strength	21.90 psi	22.50 psi	24.00 psi	27.00 psi	31.90 psi	29.00 psi	29.00 psi
Percent Signal Conf	82 %	78 %	84 %	81 %	91 %	79 %	86 %

	04-Jan-2009 10:33 AM	04-Jan-2009 3:05 AM
Field Engineer	Josh Seevaratnam	San thida Aung
Depth	2,854.00 m	2,811.00 m
Avg ROP	9.13 m/hr	9.13 m/hr
On Bottom ROP	15.87 m/hr	15.87 m/hr
Flow Rate	700.00 galUS/min	500.00 galUS/min
Turbine RPM	3,867 rpm	3,945 rpm
Surface RPM	80 rpm	30 rpm
WOB Rotating	23.00 klbm	20.00 klbm
WOB Sliding		
DH WOB		
Surface Torque		.01 kft.lbf
DH Torque		
Hookload	232 klbm	227 klbm
PickUp Weight		
Slack Weight		
Friction		
SPP On Bottom	2,678.00 psi	2,552.00 psi
SPP Off Bottom	2,580.00 psi	2,546.00 psi
Diff Pressure	98 psi	6 psi
BH Temperature	64.00 degC	58.00 degC
Total Shocks (k)		
Max Shock Level		
Max Shock Duration		
Torsional Vib		1
Lateral Vib	1	1
Axial Vib	2	1
CRPM	74 rpm	50 rpm
Stick/Slip	105	
Formation	Sandstone	
Signal Strength	34.90 psi	38.00 psi
Percent Signal Conf	78 %	73 %

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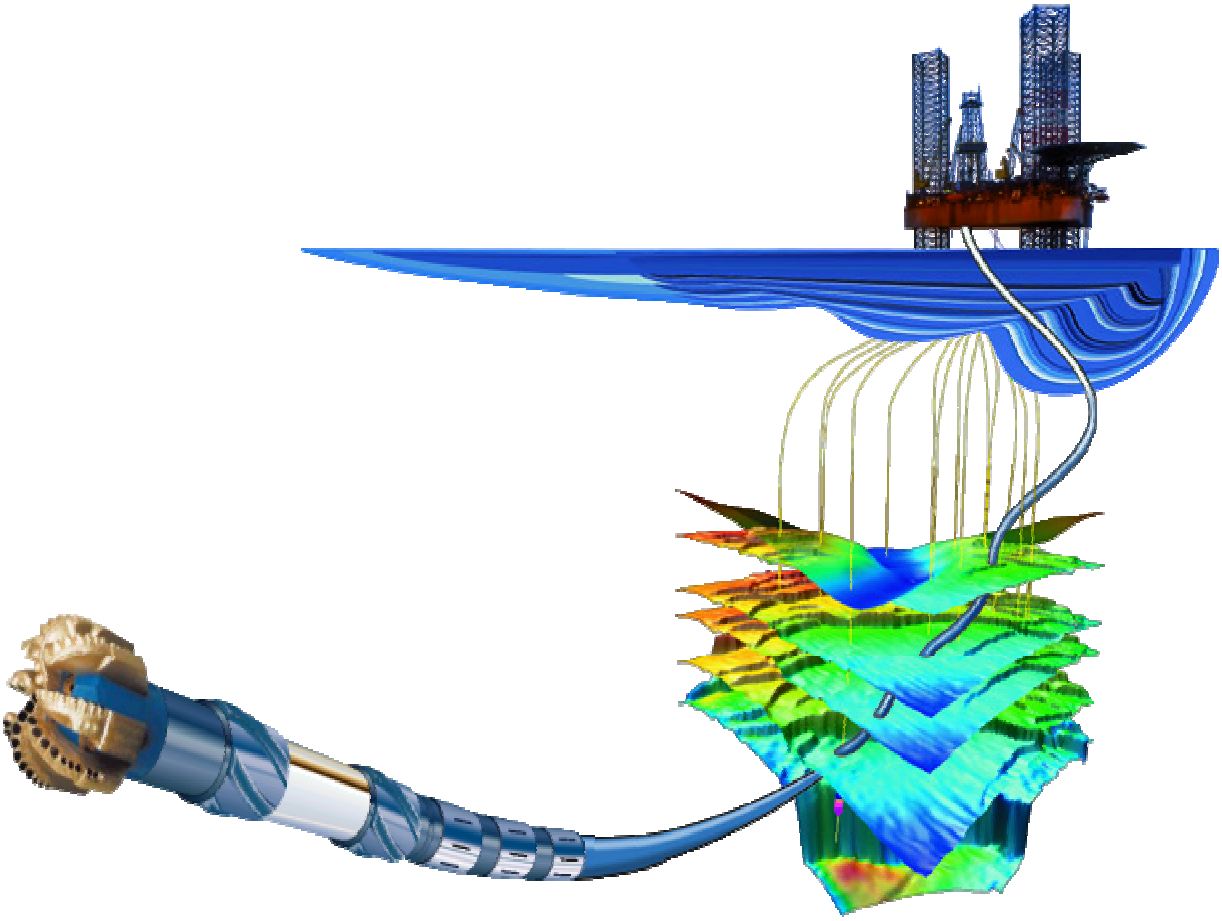
5. Service Quality Issues



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Failure Report

18-Dec-2008

7:04AM

Job Number: 08ASQ0034
Company: BEACH PETROLEUM LTD
Rig Name: West Triton
Company Rep: Sean Defreitas,Peter Sheehan
Location: MEA-APG-ASQ
Well Name: Fermat-1
Run Number: 1

Failure Number: 1

Fail Date: 17-Dec-2008
Pump Hour @ Fail: 30.00 **hrs**

Severity: Light
Drill Hours @ Fail: 20.00 **hrs**

CAF: NO
Hours BRT @ Fail: 20.00 **hrs**

Lost Rig Time: **hrs**
Depth @ Fail: 950.0 **m**

Failed Services:

SonicVision (Compressional DT)

Failed Equipment:

SD9C-AA - 42793

Failure Description and Symptoms

Completed By: San thida Aung

Date: 18-Dec-2008

Pressure and turbine rpm drop frequently while total flow still constant. Even pressure bing back, it still very less amount. Assumed wash out above MWD and informed coman, driller and OSC. The driller keep drilling to reach TD. When POOH, the bit lost teeth/cutter and nozzle. The sonic tool transmitter broken off. From the latest investigation, the pumps have also problems.

Remedial Action Attempted on Location

Completed By: San thida Aung

Date: 18-Dec-2008

Informed coman, driller whenever the pressure and trpm dropping and explained them the possible outcomes. Working with OSC throught the time. Client keep drilling to reach TD.

NON-CONFORMANCE FORM

Number: WT-BCH-FER-001

Supplier Details :	Schlumberger	**Contract No.:**	BSC-007	**Date :**	**05/01/2009**

Description of occurrence (including safety & cost implications) :
The radioactive source was loaded into the ADN tool whilst making up the 8.5in BHA on Fermat-1 . However there were problems associated with retrieving the source handling tool from the ADN.

Impact: A total of 2hrs of critical path rig time were lost (A$65,000).

Required investigative actions :	**Action Party :**	**Status :**	**Date Req'd :**
1. What caused this problem to occur?	Michael Mc Dermott	Open	1/9/2009
2. What willl be done in the future to avoid similar problems?	Michael Mc Dermott	Open	1/9/2009
3. Was there any risk to personnnel given the fact that the RA handling tool could not be released from the source?	Michael Mc Dermott	Open	1/9/2009
4. Why were no onshore personnel available to support the offshore crew?	Michael Mc Dermott	Open	1/9/2009

Identified root causes :

Actions taken to prevent a re-occurrence	**Action Party :**	**Status :**	**Date Req'd :**
1. Recommendations	Michael Mc Dermott	Open	1/9/2009
2.			
3.			
4.			
5.			
6.			
7.			
8.			

Comments :

Originator :	**Name :**	M.Nasarczyk	**Signature :**	**Date :**	1/5/2009
Supplier Close out :	**Name :**		**Signature :**	**Date :**	
Stuart/ADA Close out :	**Name :**		**Signature :**	**Date :**	

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Drilling & Measurements
Level 23 HWT Tower, 40 City Road
Southgate, Melbourne Vic.3006.

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NCR # WT-BCH-FER-001

Client:	Beach Petroleum	**Run No.:**	**4**
Rig:	West Triton	**Severity**:	Light
Location:	Bass Strait	**QUEST Number:**	
Well:	Fermat-1	**Incident Date:**	05-Jan-09
Author(s):	Femi Daramola	**Report Date:**	04-Feb-09
Job No.:	08ASQ0034		

Description	**Source Loading Difficulty**

Event Description

10:40PM Held Safety meeting on Rig floor, ensure all personnel know their roles & responsibility ensure barrier tapes at staircases, made PA Safety announcement (keeping all non-essential personnel clear of Rig floor & BOP area).

10:50PM Removed shipping cap from source receptacle, open four rods on Transfer shield, move Upper Transfer shield onto tool at the rotary

11:05PM Latch source with Handling tool, and lower into tool, rotating anti-clockwise.

11:15PM Tried to feel the threads engage (i.e. click) but don't get it. Try to lift up the handling tool by hand, unable to. Get help from Roughneck, still unable to free handling tool (with source).

11:30PM Called a time-out, explain to Driller current situation, informed Co-man too, decided to call town for other ideas/solutions.

11:40PM Spoke to Operations Support Centre and they suggested the following:

i) Push handling tool downwards and turn anti-clockwise, try to free the source with handling tool, and bring up to Transfer shield once again.

ii) Once source in Transfer shield, lock it and inspect the source fishing head, the handling tool head make sure the heads are correctly engaged.

iii) Go down once again, and try to get the source correctly seated in the receptacle.

11:50PM Return to Rig floor, explain to crew what we're gonna do, and Rig night crew come on tour (crew change)

12:00AM We try to free the handling tool once again; new Driller (which just came on shift) came out to help us. He pulled the slack tugger line from the main tugger physically with his body strength (not using the air supply) and handling tool came loose.

12:10AM We bring the handling tool with the source back to the Transfer shield, lock the source back into the Transfer shield using both Primary & Secondary locks and check the handling tool head, check the source fishing head.

12:25AM Once satisfied that the Handling tool s head is fine & the source fishing head is fine & not damaged, go down again with the Handling tool & source, rotating anti-clockwise. Once in the receptacle, feel the threads engage (click) and torque it up 6½ turns clockwise. It tightens up exactly at 6½ turns and once confirmed unlatched the handling tool from the source and removed the handling tool.

12:35AM Remove upper Transfer shield from tool, assemble it back together with the lower end, use Survey meter to confirm the source is not in the Transfer shield, survey around the Rig floor area to ensure all is safe, move back Transfer shield to Overpack, call Rig crew back to continue M/U BHA.

12:40AM Finish source loading
55 microSv = source in shield
9.5 microSv = source in tool (before source unlatched from ADLT)
200 microSv = double check source, after source unlatched from ADLT.

Event Analysis/Diagnosis

The normal source loading procedures requires the Top part of the transfer shield to be placed on the tool while the handling tool (ADLT) is attached with a swivel to the air line winch. The loading required good centralization of the shield and the handling tool which is usually achieved by placing the airline in the latched Topdrive pipe elevators. The airline is also kept in slight tension to ensure the ADLT is centred as much as possible.

Once the Source is engaged the, handling tool is lowered with the source into the tool while rotating the whole assembly counter clockwise to ensure the source gets into its receptacle. It's also a recommended best practice to allow the handling tool to seat under its own weight on the source fishing head. Once seated; the assembly is rotated counter-clockwise until it skips to locate the beginning of the thread. Once located, the source could then be threaded in and torque up correctly in specified number of turns and torque respectively. The ADLT is then unlatched, retrieved from the tool.

During this procedure a crew safety briefing is **mandatory** during which the Lead engineers assign role to the floor hands which is mainly to prevent access into the BOP/Moonpool area until the tool with source is being lowered below the safety datum (200ft below Mean sea Level). It is also mandatory for a PA announcement to be made **before** the procedures starts. The LWD crew are required to also conduct surveys of the tool/shield before and after the loading procedures. This ensures that the source is safely loaded or retrieved from the Tool.

Review the events on the Fermat-1 well indicates that the handling tool was off centre. For this single reason there were problems with locating the thread beginning point, good mesh which the source head; and last, not the least problem with removing the handling tool. The handling tool has only a snuggle-fit clearance in the hole through which the source is conveyed as such being off centre means being stuck. Giving that the crew was not able to pull free with **hands** meant that

may have jammed the threads on the way down since the handling tool was off-centre. Hence were unable to locate the thread as well as possibly started cross threading in the process. In that situation care had to be taken not to apply too much tension to the assembly as source may shear off leaving some parts in the tool. Had the source been sheared the tool would have to be laid out, repaired and the source redressed. Hence, the advice given by the OSC to try to free the radioactive source **with the handling Tool.**

On the radiation exposure concern raised in the NCR; the radioactive source was comfortably in its shield when the crew had troubles freeing the handling tool. The transfer shield offer good protection to the crew and risks of exposure are remote. In addition, the crew did right steps to ensure that the situation was not compounded to have put third-party personnel in the critical path.

Schlumberger (in-house) Operations Support Centre (OSC) is a support or crisis centre where Field crew could contact in the case of problems of any sort round the clock. The OSC is manned by very proficient, experience personnel to provide 24 hours support to field crew. As mentioned in the event chronology above, the crew contacted the OSC on the indications of problems with the loading process.

Finding & Recommendation

The root cause of the problem has been identified as the centralization of the handling tool relative to the transfer shield and the tool.

There was 24 hours support through the operations support centre.

The crew exercised caution in recovering from the problem, giving that; it was a first time problem for them and coupled with the risk exposure of themselves and worse still of third party personnel to radiation and possible escalation/compounding if the source had shear free. The crew had called for a time out to think and safely recover, although it was on the critical part but could have easily become a major or even worse; a catastrophic incident, had the source come apart in the tool. They further inspected the source head when it was brought back inside the shield for damages to the thread or other parts.

The following recommendations are proposed to forestall re-occurrence of such problems in the future:

- To ensure that the air line is centralized with the top drive elevator arms. Although the crew mentioned the elevator was used but the arms position relative to the transfer shield and tool may have needed to be adjusted to attain desired centralization.
- A swivel should be placed between the handling tool and the air line to ease the rotation of the handling tool.

SCHLUMBERGER

Client.....: Beach Petroleum
Field.....: Fermat

Well.....: Fermat-1
API number.....: 08ASQ0034
Engineer.....: Joshua Seevaratnam

Rig:.....: West Triton
STATE:.....: VIC

----- Survey calculation methods----------
Method for positions.....: Minimum curvature
Method for DLS.....: Mason & Taylor

----- Depth reference ----------
Permanent datum.....: Mean Sea Level
Depth reference.....: Driller's Depth
GL above permanent.....: -38.70 m
KB above permanent.....: 38.00 m
DF above permanent.....: 38.00 m

----- Vertical section origin----------
Latitude (+N/S-).....: 0.00 m
Departure (+E/W-).....: 0.00 m

----- Platform reference point----------
Latitude (+N/S-).....: 0.00 m
Departure (+E/W-).....: 0.00 m

Azimuth from Vsect Origin to target: 0.00 degrees

Spud date.....: 14-Dec-08
Last survey date.....: 06-Jan-09
Total accepted surveys...: 103
MD of first survey.....: 0.00 m
MD of last survey.....: 3569.38 m

----- Geomagnetic data ----------
Magnetic model.....: BGGM version 2008
Magnetic date.....: 15-Dec-2008
Magnetic field strength..: 1214.44 HCNT
Magnetic dec (+E/W-).....: 9.87 degrees
Magnetic dip.....: -69.62 degrees

----- MWD survey Reference Criteria ---------
Reference G.....: 1000.02 mGal
Reference H.....: 1214.44 HCNT
Reference Dip.....: -69.62 degrees
Tolerance of G.....: (+/-) 2.50 mGal
Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections ----------
Magnetic dec (+E/W-).....: 9.87 degrees
Grid convergence (+E/W-).: -0.03 degrees
Total az corr (+E/W-)....: 9.90 degrees
(Total az corr = magnetic dec - grid conv)
Survey Correction Type ...:
I=Sag Corrected Inclination
M=Schlumberger Magnetic Correction
S=Shell Magnetic Correction
F=Failed Axis Correction
R=Magnetic Resonance Tool Correction
D=Dmag Magnetic Correction

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIP	None
2	167.75	1.24	1.78	167.75	167.74	1.81	1.81	0.06	1.82	1.78	0.23	PUP	None
3	197.16	0.28	58.77	29.41	197.14	2.17	2.17	0.13	2.17	3.37	1.15	PUP	None
4	256.53	0.60	153.30	59.37	256.51	1.97	1.97	0.39	2.01	11.25	0.35	PUP	None
5	286.11	2.77	188.85	29.58	286.08	1.12	1.12	0.35	1.18	17.37	2.38	PUP	None
6	315.55	1.66	227.88	29.44	315.50	0.13	0.13	-0.07	0.15	330.76	1.88	PUP	None
7	345.27	0.27	15.10	29.72	345.21	-0.09	-0.09	-0.38	0.39	256.86	1.94	PUP	None
8	374.62	0.25	25.51	29.35	374.56	0.04	0.04	-0.33	0.33	276.37	0.05	PUP	None
9	404.16	1.88	211.90	29.54	404.10	-0.32	-0.32	-0.56	0.64	240.47	2.20	PUP	None
10	463.95	0.32	269.03	59.79	463.88	-1.15	-1.15	-1.24	1.70	227.20	0.88	PUP	None
11	493.39	0.43	249.60	29.44	493.32	-1.19	-1.19	-1.43	1.86	230.18	0.17	PUP	None
12	523.07	0.44	347.74	29.68	523.00	-1.12	-1.12	-1.56	1.92	234.31	0.68	PUP	None
13	552.74	0.22	270.06	29.67	552.67	-1.01	-1.01	-1.64	1.92	238.42	0.46	PUP	None
14	582.42	0.09	59.69	29.68	582.35	-1.00	-1.00	-1.68	1.95	239.28	0.31	PUP	None
15	611.99	0.51	339.54	29.57	611.92	-0.86	-0.86	-1.70	1.91	243.17	0.52	PUP	None
16	641.40	0.19	327.69	29.41	641.32	-0.70	-0.70	-1.77	1.91	248.54	0.34	PUP	None
17	670.88	0.49	288.55	29.48	670.80	-0.62	-0.62	-1.92	2.02	252.21	0.38	PUP	None
18	700.49	0.33	247.43	29.61	700.41	-0.61	-0.61	-2.12	2.20	253.98	0.33	PUP	None
19	729.55	0.46	275.90	29.06	729.47	-0.63	-0.63	-2.31	2.40	254.79	0.24	PUP	None
20	759.18	0.36	241.87	29.63	759.10	-0.66	-0.66	-2.51	2.60	255.28	0.27	PUP	None
21	788.76	0.65	163.00	29.58	788.68	-0.86	-0.86	-2.54	2.69	251.24	0.70	PUP	None
22	818.32	0.12	122.27	29.56	818.24	-1.04	-1.04	-2.47	2.68	247.14	0.58	PUP	None
23	848.13	0.24	67.63	29.81	848.05	-1.03	-1.03	-2.39	2.60	246.57	0.20	PUP	None
24	877.69	0.50	112.18	29.56	877.61	-1.06	-1.06	-2.21	2.45	244.38	0.38	PUP	None
25	906.92	0.33	214.11	29.23	906.84	-1.18	-1.18	-2.14	2.44	241.17	0.68	PUP	None
26	936.44	1.52	212.18	29.52	936.35	-1.58	-1.58	-2.39	2.87	236.60	1.23	PUP	None
27	966.55	2.74	216.55	30.11	966.44	-2.49	-2.49	-3.04	3.93	230.58	1.24	PUP	None
28	990.90	2.28	226.38	24.35	990.77	-3.30	-3.30	-3.73	4.98	228.55	0.79	PUP	None
29	1023.76	2.63	224.84	32.86	1023.60	-4.28	-4.28	-4.74	6.39	227.89	0.33	PUP	None
30	1053.62	2.63	224.67	29.86	1053.43	-5.26	-5.26	-5.70	7.75	227.34	0.01	PUP	None

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
31	1083.09	2.60	225.86	29.47	1082.87	-6.20	-6.20	-6.66	9.10	227.03	0.06	PUP	None
32	1112.27	2.75	224.69	29.18	1112.02	-7.16	-7.16	-7.62	10.46	226.80	0.17	PUP	None
33	1141.71	2.61	223.95	29.44	1141.42	-8.14	-8.14	-8.59	11.83	226.51	0.15	PUP	None
34	1171.39	2.66	223.44	29.68	1171.07	-9.13	-9.13	-9.53	13.20	226.22	0.06	PUP	None
35	1200.78	2.64	223.80	29.39	1200.43	-10.12	-10.12	-10.47	14.56	225.98	0.03	PUP	None
36	1230.79	2.72	225.15	30.01	1230.41	-11.12	-11.12	-11.45	15.96	225.85	0.10	PUP	None
37	1288.88	2.77	225.56	58.09	1288.43	-13.07	-13.07	-13.43	18.74	225.77	0.03	PUP	None
38	1318.86	2.69	226.89	29.98	1318.38	-14.06	-14.06	-14.46	20.17	225.81	0.10	PUP	None
39	1407.48	2.91	229.04	88.62	1406.89	-16.95	-16.95	-17.68	24.49	226.19	0.08	PUP	None
40	1436.37	2.94	228.54	28.89	1435.74	-17.93	-17.93	-18.79	25.97	226.34	0.04	PUP	None
41	1465.90	3.02	227.97	29.53	1465.23	-18.95	-18.95	-19.93	27.50	226.45	0.09	PUP	None
42	1495.44	3.02	228.27	29.54	1494.73	-19.99	-19.99	-21.09	29.06	226.54	0.02	PUP	None
43	1525.13	3.06	228.31	29.69	1524.38	-21.03	-21.03	-22.27	30.63	226.63	0.04	PUP	None
44	1554.71	3.12	227.55	29.58	1553.92	-22.10	-22.10	-23.45	32.22	226.69	0.07	PUP	None
45	1584.40	3.16	227.33	29.69	1583.56	-23.20	-23.20	-24.65	33.85	226.73	0.04	PUP	None
46	1614.18	3.15	227.26	29.78	1613.30	-24.31	-24.31	-25.85	35.49	226.75	0.01	PUP	None
47	1643.45	3.22	227.15	29.27	1642.52	-25.42	-25.42	-27.04	37.12	226.77	0.07	PUP	None
48	1732.53	3.23	229.06	89.08	1731.46	-28.77	-28.77	-30.77	42.12	226.93	0.04	PUP	None
49	1761.71	3.31	229.32	29.18	1760.59	-29.85	-29.85	-32.03	43.79	227.02	0.08	PUP	None
50	1791.33	3.27	229.40	29.62	1790.17	-30.96	-30.96	-33.32	45.49	227.11	0.04	PUP	None
51	1820.98	3.35	229.44	29.65	1819.77	-32.07	-32.07	-34.62	47.20	227.19	0.08	PUP	None
52	1880.19	3.46	227.97	59.21	1878.87	-34.40	-34.40	-37.27	50.71	227.29	0.07	PUP	None
53	1939.47	3.51	227.37	59.28	1938.04	-36.82	-36.82	-39.93	54.32	227.32	0.03	PUP	None
54	2028.16	3.39	229.51	88.69	2026.57	-40.36	-40.36	-43.92	59.65	227.42	0.06	PUP	None
55	2057.35	3.37	231.70	29.19	2055.71	-41.46	-41.46	-45.25	61.37	227.51	0.14	PUP	None
56	2086.92	3.34	227.82	29.57	2085.23	-42.57	-42.57	-46.57	63.10	227.57	0.24	PUP	None
57	2116.75	3.44	227.04	29.83	2115.01	-43.77	-43.77	-47.87	64.86	227.56	0.11	PUP	None
58	2146.40	3.29	227.47	29.65	2144.61	-44.95	-44.95	-49.15	66.60	227.56	0.16	PUP	None
59	2175.52	3.42	228.06	29.12	2173.68	-46.09	-46.09	-50.41	68.31	227.56	0.14	PUP	None
60	2235.00	3.46	227.38	59.48	2233.05	-48.49	-48.49	-53.05	71.87	227.57	0.03	PUP	None

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
61	2264.44	3.46	226.56	29.44	2262.44	-49.71	-49.71	-54.35	73.65	227.56	0.05	PUP	None
62	2323.60	3.26	226.76	59.16	2321.49	-52.09	-52.09	-56.87	77.12	227.51	0.10	PUP	None
63	2382.70	3.36	228.47	59.10	2380.49	-54.39	-54.39	-59.39	80.53	227.52	0.07	PUP	None
64	2412.00	2.64	231.24	29.30	2409.75	-55.38	-55.38	-60.56	82.06	227.56	0.76	MWD_M	None
65	2441.90	1.53	213.40	29.90	2439.63	-56.14	-56.14	-61.32	83.14	227.52	1.30	MWD_M	None
66	2471.60	0.60	128.24	29.70	2469.33	-56.57	-56.57	-61.41	83.50	227.35	1.64	MWD_M	None
67	2500.84	1.41	69.21	29.24	2498.57	-56.54	-56.54	-60.96	83.14	227.15	1.27	MWD_M	None
68	2530.68	2.34	71.20	29.84	2528.39	-56.21	-56.21	-60.04	82.24	226.89	0.95	MWD_M	None
69	2559.85	2.34	72.69	29.17	2557.54	-55.84	-55.84	-58.90	81.17	226.53	0.06	MWD_M	None
70	2589.92	2.25	73.44	30.07	2587.58	-55.49	-55.49	-57.75	80.09	226.15	0.10	MWD_M	None
71	2648.85	2.04	82.16	58.93	2646.47	-55.02	-55.02	-55.60	78.22	225.30	0.20	MWD_M	None
72	2678.97	2.05	86.30	30.12	2676.57	-54.91	-54.91	-54.54	77.39	224.81	0.15	MWD_M	None
73	2708.38	2.63	86.65	29.41	2705.96	-54.84	-54.84	-53.34	76.50	224.21	0.60	MWD_M	None
74	2737.95	2.75	86.68	29.57	2735.49	-54.75	-54.75	-51.95	75.48	223.50	0.12	MWD_M	None
75	2767.46	3.28	73.47	29.51	2764.96	-54.47	-54.47	-50.44	74.24	222.80	0.90	MWD_M	None
76	2783.95	3.22	72.34	16.49	2781.43	-54.20	-54.20	-49.54	73.43	222.43	0.16	MWD_M	None
77	2816.25	3.18	78.94	32.30	2813.68	-53.75	-53.75	-47.80	71.93	221.65	0.35	PUP	None
78	2845.87	3.21	82.42	29.62	2843.25	-53.48	-53.48	-46.17	70.66	220.80	0.20	PUP	None
79	2875.23	3.12	85.48	29.36	2872.57	-53.31	-53.31	-44.56	69.48	219.89	0.20	PUP	None
80	2904.72	3.04	88.56	29.49	2902.01	-53.23	-53.23	-42.98	68.41	218.92	0.19	PUP	None
81	2934.24	2.89	94.43	29.52	2931.49	-53.27	-53.27	-41.45	67.50	217.89	0.35	PUP	None
82	2963.69	2.77	103.77	29.45	2960.91	-53.49	-53.49	-40.02	66.81	216.80	0.49	PUP	None
83	2992.79	2.65	116.56	29.10	2989.98	-53.96	-53.96	-38.74	66.43	215.67	0.64	PUP	None
84	3022.28	2.80	118.01	29.49	3019.43	-54.61	-54.61	-37.49	66.24	214.47	0.17	PUP	None
85	3051.99	2.87	121.90	29.71	3049.11	-55.34	-55.34	-36.22	66.14	213.20	0.21	PUP	None
86	3081.57	2.92	130.18	29.58	3078.65	-56.22	-56.22	-35.01	66.23	211.92	0.43	PUP	None
87	3111.25	3.10	139.57	29.68	3108.29	-57.32	-57.32	-33.92	66.60	210.62	0.54	PUP	None
88	3140.79	3.39	147.97	29.54	3137.78	-58.66	-58.66	-32.94	67.28	209.31	0.57	PUP	None
89	3170.28	3.47	152.03	29.49	3167.22	-60.19	-60.19	-32.05	68.19	208.04	0.26	PUP	None
90	3199.75	3.55	146.04	29.47	3196.63	-61.74	-61.74	-31.13	69.14	206.76	0.39	PUP	None

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
91	3229.40	3.69	145.49	29.65	3226.22	-63.28	-63.28	-30.07	70.07	205.42	0.15	PUP	None
92	3259.28	3.79	146.43	29.88	3256.04	-64.90	-64.90	-28.98	71.08	204.06	0.12	PUP	None
93	3288.90	3.91	148.34	29.62	3285.59	-66.57	-66.57	-27.91	72.19	202.75	0.18	PUP	None
94	3318.10	4.02	150.54	29.20	3314.72	-68.31	-68.31	-26.89	73.41	201.48	0.20	PUP	None
95	3347.40	4.21	152.14	29.30	3343.95	-70.16	-70.16	-25.88	74.78	200.25	0.23	PUP	None
96	3376.97	4.39	156.43	29.57	3373.43	-72.15	-72.15	-24.92	76.34	199.05	0.38	PUP	None
97	3406.76	4.66	160.95	29.79	3403.13	-74.34	-74.34	-24.07	78.14	197.94	0.46	PUP	None
98	3436.14	5.16	162.03	29.38	3432.40	-76.73	-76.73	-23.27	80.18	196.87	0.53	PUP	None
99	3465.57	5.58	159.59	29.43	3461.70	-79.33	-79.33	-22.36	82.42	195.74	0.50	PUP	None
100	3495.57	6.02	157.91	30.00	3491.55	-82.15	-82.15	-21.26	84.86	194.51	0.48	PUP	None
101	3525.24	6.42	158.39	29.67	3521.05	-85.14	-85.14	-20.07	87.47	193.26	0.41	PUP	None
102	3555.17	6.99	159.59	29.93	3550.77	-88.40	-88.40	-18.81	90.38	192.02	0.60	PUP	None
103	3569.38	7.28	160.29	14.21	3564.87	-90.06	-90.06	-18.21	91.88	191.43	0.65	PUP	None

Attachment 8

Activity Summary Report

DFE above MSL : 38.00m	Lat : 38 Deg 11 Min 47.0284 Sec	Spud Date : 14 Dec 2008	Release Date : 18 Jan 2009
Water Depth : 39m	Long : 141 Deg 03 Min 13.7586 Sec	Spud Time : 00.00	Release Time : 10:00

Well History

Well: Fermat-1

#	Date	Depth	24 Hour Summary
1	10 Dec 2008		Rig under tow with Pacific Battler to Fermat-1 location. Offloaded supplies from Pacific Valkyrie. Connected Port/Bow pennant line to Pacific Valkyrie. Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location.
2	11 Dec 2008		Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location
3	12 Dec 2008		Arrived on location and soft pinned rig at 08.30 hrs. Pre loaded rig, held and dumped ballast. Jacked up to 15m air gap.
4	13 Dec 2008		Completed jacking rig and skidded out cantilever. Picked tubulars and BHA for spudding well. Prepared Texas deck for drilling operations. RIH to spud.
5	14 Dec 2008	119.0m	Drilled 36"/26" hole to RKB MD 119m . Picked up and ran 30" conductor, 20" shoe depth 116m. Installed Icon clamp on conductor and cut conductor above CTU. RIH with Davis Lynch stab in sub, stabbed into float shoe and prepared for cementing.
6	15 Dec 2008	166.0m	Cemented 30" conductor. Picked up drill pipe & L/D 26/36" BHA. Picked up 17 1/2" BHA , RIH and drilled out 20"shoe. Drilled 17 1/2" hole to 166m.
7	16 Dec 2008	824.0m	Drilled 17.5in hole from 434m to 824m.
8	17 Dec 2008	999.0m	Drilled 17 1/2" hole to section TD 999m. POOH with drilling assembly. Picked up and RIH with 13 3/8" casing.
9	18 Dec 2008	999.0m	RIH with 13 3/8" casing to shoe TD of 987m . Cemented Casing . Installed BOP's.
10	19 Dec 2008	1011.0m	Drilled out Shoe track and 3m new hole , performed LOT. Drilled 12.25in hole to 1011m working junk sub to clean hole.
11	20 Dec 2008	1037.0m	Drilled and cleaned out 12.25in hole to 1027m. POOH, changed BHA, RIH, drilled ahead with 12.25in hole.
12	21 Dec 2008	1478.0m	Drilled 12.25in hole from 1037.0m to 1478.0m
13	22 Dec 2008	1792.0m	Drilled 12.25in hole from 1478m to 1792m. One hour for rig repairs.
14	23 Dec 2008	2104.0m	Drilled 12.25in hole from 1792 m to 2104 m.
15	24 Dec 2008	2266.0m	Drilled 12 1/4" hole from 2104 m to 2266m. 1 hr repair time for washpipe.
16	25 Dec 2008	2396.0m	Drilled 12 1/4" hole from 2266m to TD 2396m . POOH from 2396m to 1245m
17	26 Dec 2008	2396.0m	POOH , changed out BHA for correction run. RIH to bit depth 1341m. 8 hr's trouble time due to cyber system problem.
18	27 Dec 2008	2671.0m	RIH . Continued to drill hole 12 1/4" from 2396m to 2671m.
19	28 Dec 2008	2807.0m	Drilled 12 1/4" hole from 2671m to 2807m . POOH .
20	29 Dec 2008	2807.0m	Retreived 13 3/8" well head wear bushing . Installed 9 5/8" dummy hanger in wellhead . RIH with 9 5/8" casing to 2743m
21	30 Dec 2008	2807.0m	RIH with 9 5/8" casing to shoe depth of 2800.27m. Cemented casing. Unsuccesfully attempted to back out casing hanger running tool.
22	31 Dec 2008	2807.0m	Retrieved 9.625in casing hanger running tool. Completed mill and flush run for seal assembly. RIH with seal assembly and set, not able to get pressure test . Reset and attempt to test second time, not able to get pressure test.

DFE above MSL : 38.00m	Lat : 38 Deg 11 Min 47.0284 Sec	Spud Date : 14 Dec 2008	Release Date : 18 Jan 2009
Water Depth : 39m	Long : 141 Deg 03 Min 13.7586 Sec	Spud Time : 00.00	Release Time : 10:00

23	01 Jan 2009	2807.0m	Picked up 28 std's DP. Installed and tested seal assembly.
24	02 Jan 2009	2807.0m	Installed 9.625in wellhead wear bushing. Pressure tested BOPs, casing and surface equipment. Laid out excess 12.25in BHA. Picked up 8.5in BHA.
25	03 Jan 2009	2807.0m	Picked up and RIH with 8.5in BHA . Drilled out cement and 9.625in casing shoe track from 2752m to 2798m.
26	04 Jan 2009	3012.0m	RIH and drilled out shoe track, rat hole and 3m new formation. Performed FIT . Drilled 8.5in hole from 2810m to 3012m.
27	05 Jan 2009	3352.0m	Drilled 8.5in hole from 3012m to 3352m
28	06 Jan 2009	3585.0m	Drilled 8.5in hole from 3352m to 3585m. Circulated hole clean. POOH to 9.625in casing shoe working clear tight spots.
29	07 Jan 2009	3585.0m	RIH washing and reaming from casing shoe to bottom as required. Increased mud weight from 10.5ppg to 11.0 ppg. POOH to run wireline logs.
30	08 Jan 2009	3585.0m	Made up PEX-DT logging tools and RIH with same. Completed logging run #1 PEX-DT. POOH with PEX-DT logging tools and laid down same. Made up MDT logging tools and RIH. Logging with MDT as per program.
31	09 Jan 2009	3585.0m	Logged Run #2 MDT, Run #3 VSI and Run #4 CST. Rigged down wireline logging equipment.
32	10 Jan 2009	3585.0m	Removed MWD sensor from standpipe line in derrick. Made up cement stand and racked same in derrick. Picked up and RIH with 3.5" cement stinger on 5.5" drill pipe. Took 15k weight at 3527m. Attempted to establish circulation. Drill string plugged. Worked and cleared same with 3500 psi. Difficulty working string up/down. Continued to establish free circulation and pipe movement. Hole packing off. Worked and cleared same. Pulled above and circulated bottoms up prior to setting a balanced cement plug #1A from 3327m to 3127m. POOH slowly (dry) from 3327m to 3305m.
33	11 Jan 2009	3585.0m	POOH from 3305m to 3069m and circulated bottoms up. POOH laying down excess 5.5" drill pipe from 3069m to 2274m. RIH and tagged top of cement at 3119m. Set balanced cement plug #1B (Part 1) from 3119m to 2969m. Pulled above and circulated bottoms up at 2969m. Set balanced cement plug 1B (Part 2) from 2969m to 2830m. Pulled above and circulated bottoms up at 2777m. POOH laying down excess tubulars from 2777m to 2451m. RIH to tag top of cement from 2451m to 2806m.
34	12 Jan 2009	3585.0m	RIH and tagged top of cement at 2835m. Set balanced cement plug #2 across shoe from 2835m to 2700m. Pulled above and circulated bottoms up at 2678m. POOH from 2678m to 2559m. POOH laying down excess tubulars from 2559m to surface. Closed BSR and pressure tested plug #2 to 2900 psi. Made up 9.625" casing cutter assembly and RIH and cut 9.625" casing at 110m. POOH with 9.625" casing cutter. RIH with ITCO casing spear and engaged same into 9.625" casing hanger. Pulled spear assembly and 9.625" casing hanger to surface.
35	13 Jan 2009	3585.0m	Released and laid down spear assembly. Recovered the seal assembly with the 9.625" casing hanger. Pulled and laid down the 9.625" casing. RIH and attempted to retrieve the dummy hanger. no success. Jetted BOPs. Nippled down diverter, riser mandrel, choke line and BOP. Removed BOP adapter from 18.75" HPWH. Made up 13.375" casing cutter assembly. RIH and cut casing at 105m. POOH and racked back 13.375" casing cutter. RIH and retrieved HPWH. POOH with 13.375" casing and laid down same.
36	14 Jan 2009	3585.0m	POOH with 13.375" casing and laid down same. Spotted a 25 bbl balanced hi-vis pill from 260m to 160m. Set balanced cement plug #3 from 160m to 100m. Pulled above and circulated bottoms up. Made up 30" casing cutter assembly and RIH to 79m. Cut 30" conductor at 79m - two attempts. POOH and laid out 30" casing cutter. Removed Icon clamp and CTU inserts. Commenced pulling and laying down 30" conductor. ROV completed final seabed survey of Fermat-1.
37	15 Jan 2009	3585.0m	Pulled and laid down 30" conductor pipe. Laid down excess tubulars from derrick. Picked up 18.75" wellhead and soft broke crossover on Dril-Quip clutch type running tool. Laid down same. Removed work platform from texas deck. Nippled down CTU and setback. Rigged down texas deck and secured same. Prepared to skid cantilever. Skidded cantilever forward, pinned and secured same. Prepared and secured sea fastenings in preparation for tow.
38	16 Jan 2009	3585.0m	WOW to commence jacking operations.
39	17 Jan 2009	3585.0m	WOW to commence jacking operations.
40	18 Jan 2009		WOW to commence jacking operations. Jacked rig down, performed water integrity checks and commenced move to Westernport Bay. Rig off contract to Beach Petroleum at 10:00hrs.

DFE above MSL : 38.00m	Lat : 38 Deg 11 Min 47.0284 Sec	Spud Date : 14 Dec 2008	Release Date : 18 Jan 2009
Water Depth : 39m	Long : 141 Deg 03 Min 13.7586 Sec	Spud Time : 00.00	Release Time : 10:00

Activity Report For Fermat-1

Date : 10 Dec 2008 **Daily Cost : AUD$ 8247823** **Report Number : 1**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M1		6	Rig under tow with Pacific Battler to Fermat-1 location. Rig position at 06:00 hrs : Latitude 40 deg 18' S. Longitiude 145 deg 34' E. Total distance travelled 17 nautical miles. Average speed 2.8 knots. Distance to go 251 nautical miles. ETA = 17:00 hrs 12th December 08 Note: Concurrently continued jacking up legs to 33m - no damage observed on legs to this point.
0.0	P1	P	M1		6	Rig under tow with Pacific Battler to Fermat-1 location. Rig position at 12:00 hrs : Latitude 40 deg 10' S. Longitiude 145 deg 7.0' E. Total distance travelled 44 nautical miles. Average speed 3.7 knots. Distance to go 224 nautical miles. ETA = 13:45 hrs 12th December 08 Note: Jacked up legs from 33m to 24m - one bent span breaker on fwd leg and two slightly bent span breakers on port leg.
0.0	P1	P	M1		3	Rig under tow with Pacific Battler to Fermat-1 location. Total distance travelled 58 nautical miles. Distance to go 205 nautical miles.
0.0	P1	P	M1		3	Rig tow slowed to 1 knot, whilst offloading supplies from Pacific Valkyrie. Connected Pacific Valkyrie to port/bow pennant line. Rig under tow with Pacific Battler & Pacific Valkyrie to Fermat-1 location. Rig position at 18:00 hrs : Latitude 39 deg 51' S. Longitiude 144 deg 52' E. Total distance travelled 60 nautical miles. Distance to go 209 nautical miles. ETA = 16:30 hrs 12th December 08
0.0	P1	P	M1		6	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 24:00 hrs : Latitude 39 deg 28' S. Longitiude 144 deg 17' E. Total distance travelled 95 nautical miles. Distance to go 174 nautical miles. Average speed 5.8 knots. ETA = 10:45 hrs 12th December 08

Date : 11 Dec 2008 **Daily Cost : AUD$ 754734** **Report Number : 2**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M1		6	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 06:00 hrs : Latitude 39 deg 10' S. Longitiude 143 deg 36.5' E. Total distance travelled 133 nautical miles. Average speed 4.4 knots. Distance to go 133 nautical miles. ETA = 09:12 hrs 12th December 08
0.0	P1	P	M1		6	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 12:00 hrs : Latitude 38 deg 59' S. Longitiude 142 deg 53' E. Total distance travelled 169 nautical miles. Average speed 4.7 knots. Distance to go 110 nautical miles. ETA = 06:15 hrs 12th December 08
0.0	P1	P	M1		6	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 18:00 hrs : Latitude 38 deg 53.5' S. Longitiude 142 deg 5.5' E. Total distance travelled 207 nautical miles. Average speed 4.9 knots. Distance to go 73 nautical miles. ETA = 05:12 hrs 12th December 08

DFE above MSL : 38.00m	Lat : 38 Deg 11 Min 47.0284 Sec	Spud Date : 14 Dec 2008	Release Date : 18 Jan 2009
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Date : 11 Dec 2008 **Daily Cost : AUD$ 754734** **Report Number : 2**

0.0	P1	P	M1		6	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 24:00 hrs : Latitude 38 deg 44.1' S. Longitiude 141 deg 19.4' E. Total distance travelled 245 nautical miles. Average speed 5.1 knots. Distance to go 34 nautical miles. ETA = 05:00 hrs 12th December 08

Date : 12 Dec 2008 **Daily Cost : AUD$ 740334** **Report Number : 3**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M1		6	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 06:00 hrs : One nautical mile from location. Latitude 38 deg 13.2' S. Longitiude 141 deg 03.0' E. Total distance travelled 278 nautical miles. Average speed 5.2 knots.
0.0	P1	P	M3		1.5	Commenced jacking down all legs to 49m. Released Pacific Valkyrie from tow wire and attached to port aft .
0.0	P1	P	M3		1	Made approach to location. Jacked down all legs and soft pinned rig. Rig 9.82m from intended location on a bearing of 249.8T. Rig Heading 128.52T.
0.0	P1	P	M3		1.5	Initial penetration Stb leg 0.53m. Bow leg 0.53m. Port leg 0.73m. Released Pacific Valkyrie from port aft tow wire. Released Pacific Battler from tow wire. Connected Pacific Valkyrie to bow tow wire.
0.0	P1	P	M3		0.5	Jacked up rig to 2.5m air gap.
0.0	P1	P	M3		9.5	Pre loaded rig to 75%. Jacked up rig additional 0.5m to 2.6m air gap. Pre loaded rig to 100%. Released Pacific Valkyrie from bow tow wire.
0.0	P1	P	M3		3	Held pre load at 100% for 3 hour's.
0.0	P1	P	M3		1	Dumped pre load. Penetration, Stb leg 1.0m. Port leg 1.0m. Bow leg 0.7m.

Date : 13 Dec 2008 **Daily Cost : AUD$ 771143** **Report Number : 4**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M3		0.5	Jacked up rig to 15m air gap.
0.0	P1	P	G1		1	Held JSA with all crew. Prepared to skid cantilever, removed chock's / wedges, securing pins and lift stairways, moved containers with chain hoists as unable to use cranes due to adverse weather - wind 52 knots gusting to 57 knots.
0.0	P1	P	G1		1.5	Skidded cantilever 25 ft into drilling position and lowered Texas deck with Travelling Blocks.
0.0	P1	P	G1		3.5	Secured cantilever & installed all service lines to starboard side. Installed access stairs to cantilever and removed sea fastenings.
0.0	P2	P	G2		1.5	Rigged up for picking up 5 1/2" drill pipe. Installed mousehole. Installed service lines.
0.0	P2	TP	G25	WOW	2.5	Waited on weather . Wind speed 45 to 50 knots, combined seas 5.5m. Concurrently mixed spud mud and installed flowline.
0.0	P2	P	G2		6.5	Held JSA for picking up of tubulars. Picked up 5 stands 5 1/2" D.P and racked in derrick. Made up Davis Lynch stab in sub to std D.P and rack in derrick. Made up cementing assembly to std D.P and rack in derrick. Picked up 3 stands HWDP and racked in derrick.
0.0	P2	P	G2		4	Picked up and made up 26"/36" BHA and ran in hole. RKB to sea level 38m. Air gap 15m.
0.0	P2	P	G1		1	Installed stairs to Texas deck. Removed 30T slings from Texas deck. Installed Texas deck handrails.
0.0	P2	TP	D2	RE	1	Replaced missing section of deck grate on Texas deck.

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Date : 13 Dec 2008 **Daily Cost : AUD$ 771143** **Report Number : 4**

0.0	P2	P	D2		1	Observed with ROV & taged seabed. RKB to seabed 76.76m. Took inclination survey - multiple attempts to tag with 1 deg inclination or less

Date : 14 Dec 2008 **Daily Cost : AUD$ 987833** **Report Number : 5**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
77.2	P2	P	D2		1.5	Tagged seabed and surveyed multiple times to achieve survey of less than 1 deg. Spud with survey of 0.5 deg. Check survey at 77.2m - 0.5m drilled - erratic survey readings varying from 1 deg to 5 deg inclination.
77.2	P2	TP	D2	WB	1	Launched ROV and observed bit spud area. Observed that bit had been "walking" on hard bottom in area 2 to 3 m diameter. Recoverd ROV to surface. ROV reported tidal surge on bottom.
77.2	P2	TP	D2	WB	1	Tagged bottom repeatedly re-checking survey until obtained 0.5 inclination. Increased weight to start bit, check suvey after 1 meter drilled 0.5 deg.
87.0	P2	P	D2		1.5	Continued drilling from 77.7m to 87m. Very hard surface - broke through after drilling approximately 2.5m. GPM 500. SPP 260. WOB 2/4k . RPM 60. Torque 2/4k
87.0	P2	TP	D2	WB	1	Reamed 3 times. Re-checked inclination at 87m - three readings at 1 deg inclination. Checked inclination at 87m - two readings at 2 deg inclination & one reading at 1 deg inclination. Reamed 3 times. Re-checked inclination at 87m - three readings at 1 deg inclination.
119.0	P2	P	D2		2.5	Continue to drill 26"/36" hole from 87m to 119m - casing point. GPM 1170. SPP 940 .WOB 4/5K . TQ 0/3K . RPM 90 . String wt up 99K . String wt down 97K . String wt rot 96K.
119.0	P2	P	F3		0.5	Take survey at 119m, 0.5 deg inclination. Swept hole with 200 bbl HI-VIS mud. Displaced hole with PHG mud .
119.0	P2	P	G8		1.5	POOH with 26"/36" BHA and racked in derrick.
119.0	P3	P	G1		2	Rigged up equipment for running 30" conductor. Installed CTU and work platform on Texas deck
119.0	P3	P	G9		4.5	Held JSA. Picked up and ran 30" conductor, 20" shoe TD set at 116m.
119.0	P3	P	G9		2.5	Installed Icon clamp on 30" conductor.
119.0	P3	P	G9		0.5	Cut 30" conductor 1.7m above CTU.
119.0	P3	P	G9		0.5	Laid down 30" conductor landing sting.
119.0	P3	P	G9		1	Rig down 30" conductor equipment. Rigged up to run drill pipe.
119.0	P3	P	G8		2	RIH with Davis Lynch stab in sub, picked up and spaced out cement assembly. Stabbed into float shoe. Filled casing with sea water, established circulation thru float shoe and confirmed visually with ROV.
119.0	P3	P	G9		0.5	Rig up cement lines and prepared for cementing. Held pre job JSA.

Date : 15 Dec 2008 **Daily Cost : AUD$ 867914** **Report Number : 6**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
119.0	P3	P	F3		1.5	Cemented 30" conductor as per program. Pumped 10 bbls seawater, pressure tested lines 1000k, followed by 90 bbl sea water. Mixed and pumped 190 bbl class "G" cement slurry at 15.9 ppg (200 % excess pumped). Displaced with 7 bbl sea water . Visibilty did not allow ROV to monitor returns once commenced pumping sea water ahead.
119.0	P3	P	F3		1.5	Stung out of float shoe and circulated bottoms up. POOH and laid out cement assembly pup joints & davis lynch sub.
119.0	P3	P	G13		1	Rig up and installed BOP test joint.

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Date : 15 Dec 2008 **Daily Cost : AUD$ 867914** **Report Number : 6**

119.0	P3	P	G2	6	Picked up 5 1/2" drill pipe.
119.0	P3	P	G2	3	Laid out 26"/36" BHA . Held pre job JSA . Made final cut on 30" conductor @ 19.3m below RKB.
119.0	P4	P	G6	1.5	Picked up 17 1/2" BHA and RIH to 17.87m
119.0	P4	P	G7	0.5	Performed shallow test on sonic tool, 700 GPM , 1700 PSI
119.0	P4	P	G2	3.5	Continued to RIH picking up 17 1/2" BHA from 17.87m to 115.37 m
119.0	P4	P	D2	0.5	Drilled out float shoe from 115.37m and cleaned out rathole to 119m. WOB 5-10k, RPM 60, GPM 600, Press 550psi, TQ 2-4K.
145.0	P4	P	D2	2	Drilled 17 1/2" hole from 119m to 145m. WOB 5-10k, RPM 60, GPM 1000, Press 2000psi, TQ 2-4K.
145.0	P4	P	G8	1	POOH with 2 std's HWDP and ran remaining stand of drill collars from derrick.
166.0	P4	P	D2	2	Continue to drill 17 1/2" hole from 145m to 166m. WOB 5-10k, RPM 60, GPM 1000, Press 2000psi, TQ 2-4K.

Date : 16 Dec 2008 **Daily Cost : AUD$ 768754** **Report Number : 7**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
233.0	P4	P	D2		6	Continued to drill 17.5in hole from 166m to 233m WOB 6/10K RPM 120/150 Torque 1/3k ft/lb GPM 1200 . SPP 2450 Vary parameters to optimize ROP and reduce vibrations on surface. Swept hole with 50 bbls Hi Vis mid stand and prior to connections.
824.0	P4	P	D2		18	Continued to drill 17.5in hole from 233m to 824m WOB 15/23K RPM 130/160 Torque 1/5k ft/lb GPM 1200 . SPP 2450 Vary parameters to optimize ROP. Swept hole with 50 bbls Hi Vis mid stand and prior to connections. String wt up 143k, String wt down 140k. Static losses at 499m = 25 bbl/hr approximate. Static losses at 795m = 148 bbl/hr approximate.

Date : 17 Dec 2008 **Daily Cost : AUD$ 710374** **Report Number : 8**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
999.0	P4	P	D2		5.5	Continued to drill 17 1/2" hole from 824m to 999m. WOB 15/23K RPM 130/160 Torque 1/5k ft/lb GPM 1200 . SPP 2450 Vary parameters to optimize ROP. Swept hole with 50 bbls Hi Vis mid stand and prior to connections. String wt up 143k, String wt down 140k. Static losses at 895m = 167 bbl/hr approximate
999.0	P4	P	F3		0.5	Pumped and swept hole with 100 bbl HI-VIS mud while working drill string.
999.0	P4	P	E5		0.5	Attemped to down link with Schlumberger MWD tools - no success. Observed 700 psi rapid pressure loss while down-linking MWD - equivalent to loosing one bit nozzle (circlip locked).
999.0	P4	P	F3		1	Pumped and swept hole with second 100 bbl HI-VIS mud pills, circulated hole clean while working drill string. Commenced displacing hole with HI-VIS mud. After 410 bbls pumped observed sudden and total loss in pump pressure (surface equipment). Shut down pumps, prepared to POOH.
999.0	P4	P	G8		4.5	POOH from 999m to 31m checking each connection for washout. Observed 50k overpull at 700m, worked thru twice and cleared. No further excess drag.

DFE above MSL : 38.00m	Lat : 38 Deg 11 Min 47.0284 Sec	Spud Date : 14 Dec 2008	Release Date : 18 Jan 2009
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Date : 17 Dec 2008 **Daily Cost : AUD$ 710374** **Report Number : 8**

					Note: Maintained hole full by topping up 30" casing with sea water.
999.0	P4	P	G6	2.5	Continued to POOH with 17 1/2" BHA. Inspected BHA: One jet nozzle missing from bit. Sonic shield missing from MWD tool. Note: Maintained hole full by topping up 30" casing with sea water.
999.0	P4	P	G1	1	Made up cement head and racked in derrick. Note: Maintained hole full by topping up 30" casing with sea water.
999.0	P4	P	G11	0.5	Performed top drive service and inspection for loose objects. Note: Maintained hole full by topping up 30" casing with sea water.
999.0	P5	P	G1	2	Rigged up to run 13 3/8" casing. Held JSA & pre job toolbox meeting. Note: Maintained hole full by topping up 30" casing with sea water.
999.0	P5	P	G9	6	Ran 13 3/8" casing as per program to 725m midnight depth. Bakerlocked shoe track and checked floats. Note: Maintained hole full by topping up 30" casing with sea water.

Date : 18 Dec 2008 **Daily Cost : AUD$ 1428715** **Report Number : 9**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
999.0	P5	P	G9		1.5	Continued RIH with 13 3/8" casing from 725m to 961m. Note: Maintained hole full by topping up 30" casing with sea water.
999.0	P5	P	G1		1	Rigged down casing handling equipment. Rigged up 5 1/2" handling equipment.
999.0	P5	P	G9		1	Picked up and made up 18 3/4" wellhead assembly.
999.0	P5	P	G9		0.5	Continued to RIH from 961m to 969m. String taking 30k weight at 969m.
999.0	P5	P	G9		1	Made up top drive, broke circulation and washed down casing to shoe setting depth at 987m, 6 bbl/min, 177 SPP.
999.0	P5	P	G9		1	Pulled back and broke off drill pipe stand. Picked up and made up cement stand assembly. RIH with casing string and 18 3/4" wellhead assembly and stopped with wellhead landing collar 3" above 30" casing. Held pre cementing JSA and prepared to cement casing.
999.0	P5	P	G9		3	Mixed and pumped cement for 13 3/8" casing as per program. Pumped 10 bbl freshwater, pressure tested lines to 3k/10 min, pumped 70 bbl freshwater , mixed and pumped 220 bbl cement slurry at 15.8 ppg. Released dart , displaced with 1.7 bbl freshwater,shear dart with 2500 psi, continue to dispalce with 10 bbl freshwater.Changed over to seawater and displaced with 460 bbl at 8 bbl/min. Last 10 bbl slowed pump rate to 2 bbl/min circulating pressure 360 psi, bump plug and pressure up to 800 psi , hold pressure for 10 min. Bleed pressure off and monitor floats , floats hold , 3.25 bbl returned.
999.0	P5	P	G12		1.5	Adjusted landing ring on wellhead , released well head running tool and laid out.
999.0	P5	P	G1		0.5	Broke out and laid out cement head .
999.0	P5	P	G12		1	Broke out and laid out X/O and pup joint on well head running tool.
999.0	P6	P	G13		1.5	Removed and laid out BOP test joint from BOP's.
999.0	P6	P	G13		4.5	Installed and nippled up BOP's to wellhead. Increased CTU pressure to 110 bar(150 ton).
999.0	P6	P	G13		4	Nippled up bell nipple , overshot and diverter housing , connected control lines , pressurized system , took 5k overpull to check diverter lockdown.
999.0	P6	P	G13		0.5	Function testeded BOP from drillers control panel , koomey control unit , toolpushers remote panel. Checked space out for rams.
999.0	P6	P	G13		1	Rigged up and tested 13 3/8" casing , BOP connector , choke and kill lines , Dril-Quip wellhead outlet valves against blind shear rams. 3700 PSI/10 min's. 8,3 bbl's pumped , 8.3 bbl's returned.
999.0	P6	P	G13		0.5	Removed outer diverter packer and made up wear bushing running tool to wear bushing.

DFE above MSL : 38.00m	Lat : 38 Deg 11 Min 47.0284 Sec	Spud Date : 14 Dec 2008	Release Date : 18 Jan 2009
Water Depth : 39m	Long : 141 Deg 03 Min 13.7586 Sec	Spud Time : 00.00	Release Time : 10:00

Date : 19 Dec 2008 **Daily Cost : AUD$ 809869** **Report Number : 10**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
999.0	P6	P	G12		1	Installed wellhead wear bushing.
999.0	P7	TP	G6	DH	4	Picked up 12.25in junk run BHA. Laid out 2 x 9.5in DCs from derrick. RIH to 126m.
999.0	P7	TP	G2	DH	7.5	Continued to RIH from 126m to 954m picking up DP singles from deck.
999.0	P7	TP	G8	DH	0.5	Changed out slips and elevators.
999.0	P7	TP	G8	DH	0.5	Picked up 1 stand drill pipe from derrick and RIH from 954m to 974m, top of float collar.
999.0	P7	P	D1		5.5	Drilled out float collar, shoe track and float shoe to 987m. RPM 60 . GPM 800 . SPP 1800 . WOB 6/8K . TORQUE 2/4K . Displaced hole to mud.
999.0	P7	P	D1		1	Drilled out rat hole from 987m to 999m. Worked junk sub through hole and at TD.
1002.0	P7	P	D2		0.5	Drilled 12.25in from 999m to 1002m . Worked junk sub.
1002.0	P7	P	F4		1	Circulated 1- 1/2 bottoms up to condition mud and hole for LOT.
1002.0	P7	P	P4		2	Rigged up and performed LOT. Tested surface lines 1k/5min. Test mud weight used 9.3ppg. surface pressure 960 psi . volume pumped 4.5 bbl . Volume returned 4.25 bbl. EMW 15ppg.
1011.0	P7	P	D2		0.5	Continued to drill 12.25in hole from 1002m to 1011m . Worked junk sub.

Date : 20 Dec 2008 **Daily Cost : AUD$ 922992** **Report Number : 11**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1027.0	P7	P	D2		1.5	Continued drilling 12.25in hole from 1011m to 1027m. Continued to work junk sub while drilling.
1027.0	P7	TP	F4	DH	0.5	Circulated bottoms up while rotating and reciprocating string. Worked junk sub prior to tripping.
1027.0	P7	TP	G8	DH	3	POOH from 1027m to 127m. Flow checked prior to commencing tripping
1027.0	P7	TP	G8	DH	2.5	POOH with BHA from 127m. Broke out laid down junk sub. Total weight of metal junk recovered from junk basket = 175 grams.
1027.0	P7	P	G6		4.5	Picked up and RIH with 12.25in BHA. Shallow tested MWD tools. 700GPM. 800 PSI - good test Held JSA prior to commencing job. Held one time out for safety due to lifting sub partially backing out .
1027.0	P7	P	G2		1.5	Changed out handling equipment and picked up 21 joints of Drill pipe and racked in derrick.
1027.0	P7	P	G2		6	Installed hydraulic slips and continued to pick up drill pipe from deck, RIH with same from 151m to 979m.
1027.0	P7	P	G1		0.5	Changed out hydraulic slips and handling equipment, calibrated Schlumberger depth sensor.
1027.0	P7	P	E8		3	Made up TDS and logged from casing shoe at TD 987m to 1027m. Parameters 40 m/hr , GPM 800 , RPM 40 , SPP 1800.
1027.0	P7	TP	G11	RE	0.5	Draworks alarm activated for "broken chain alarm" troubleshot draworks chain alarm. No problem found.
1037.0	P7	P	D2		0.5	Drill 12.25in hole from 1027m to 1037m.

Date : 21 Dec 2008 **Daily Cost : AUD$ 757680** **Report Number : 12**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1478.0	P7	P	D2		24	Drilled 12.25in hole from 1037m to 1478m. RPM 100/150. GPM 800/900. SPP1800. Torque 2k. WOB 5/12

Date : 22 Dec 2008 **Daily Cost : AUD$ 735836** **Report Number : 13**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1679.0	P7	P	D2		13.5	Continue to drill 12.25in hole from 1478.0m to 1679.0m. WOB 8/15klb. GPM 900/1000. SPP 1800/2300 psi. RPM 200. Torque 2/20k Str wt up 214k. Str wt down 199k. Str wt rot 202k.

DFE above MSL : 38.00m	Lat : 38 Deg 11 Min 47.0284 Sec	Spud Date : 14 Dec 2008	Release Date : 18 Jan 2009
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Date : 22 Dec 2008 **Daily Cost : AUD$ 735836** **Report Number : 13**

1679.0	P7	TP	D2	RE	1	Power failed to drillers cyber system. Draworks, TDS and mud pumps shut down. Trouble shot and rectified. Charge pump to mud pump 2 failed. Changed to mud pump 3.
1792.0	P7	P	D2		9.5	Continued to drill12.25in hole from 1679m to 1792m.

Date : 23 Dec 2008 **Daily Cost : AUD$ 767752** **Report Number : 14**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2104.0	P7	P	D2		24	Continued to drill 12.25in from 1792m to 2104m. GPM 1000 . SPP 2250 . RPM 240 . Torque 6/24k WOB 10/25k. String wt up 237k . String wt down 216k . String wt rot 220k

Date : 24 Dec 2008 **Daily Cost : AUD$ 789095** **Report Number : 15**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2123.0	P7	P	D2		2	Drilled 12 1/4" hole from 2104m to 2123m
2123.0	P7	TP	G11	RE	1	Replaced TDS washpipe assembly . Circulated with swedge and hose at 500GPm SPP 1000.
2266.0	P7	P	D2		21	Drilled 12 1/4" hole from 2123m to 2266 m. GPM 1000 . SPP 2300 . WOB 40K . RPM 240 . TORQUE 8/10K. String wt up 246k . String wt down 227k . String rotating 223k.

Date : 25 Dec 2008 **Daily Cost : AUD$ 756529** **Report Number : 16**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2396.0	P7	P	D2		13.5	Drilled 12 1/4" hole from 2266m to 2396 m.
2396.0	P7	P	D2		1.5	Circulated hole clean , 1.5 times bottom's up .
2396.0	P7	P	E8		0.5	Took TD survey , down linked Schlumberger/Anadril MWD data.
2396.0	P7	P	G8		5	POOH from 2396m to 1356m. Flow checked prior to commencing POOH. Pumped slug at 2101m.
2396.0	P7	P	D6		1	At 1356m, 25k overpull , attempted to work string through , no success, made up TDS and backreamed from 1356m to 1333m. 60/80 rpm . 600 GPM. TDS washpipe leaking. Greased washpipe
2396.0	P7	TP	G11	RE	1	Cyber system/Draw works brake problem , brakes set at rotary table pick up point , unable to release . Trouble shoot and rectify .
2396.0	P7	P	D6		0.5	Continued to backream from 1333m to 1303m. Attempted straight pull each stand , overpull increased each stand over first 10/20 m to 25k , repeated attempts to work string through with no success. 60/80 RPM 600 GPM.
2396.0	P7	TP	D6	RE	0.5	Continued backreaming from 1303m to 1274m , problem with cyber system floor saver / height calibration. Unable to run draw works at regular speed , 3 minutes to lower travelling blocks from racking board to rig floor. Continued POOH at reduced speed to casing shoe to correct problem.
2396.0	P7	TP	D6	RE	0.5	Continued backreaming from 1274m to 1245m at reduced speed due to cyber system error. Rebooted cyber chair P.C to correct system height adjustment error, no success. TDS washpipe leaking.

Date : 26 Dec 2008 **Daily Cost : AUD$ 867139** **Report Number : 17**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2396.0	P7	P	D6		3	Continued to backream out of hole from 1245m to 987m , casing shoe. At 1038m washpipe seals totally failed . Straight pull from 1038m to 987m 5/10k overpull. Attempted straight pull at 1067m , no success 25/30k overpull.
2396.0	P7	TP	G11	RE	0.5	Bit in casing shoe , trouble shot and re calibrated cyber system block height parameters.
2396.0	P7	TP	G11	RE	0.5	Replaced TDS wash pipe seal assembly.

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Date : 26 Dec 2008 **Daily Cost : AUD$ 867139** **Report Number : 17**

2396.0	P7	TP	G8	RE	3.5	Pumped slug , continued to POOH 2 stands , re-occuring problem with cyber system/draworks , travelling block speed okay for first 20m of stand then reverts to slow/crawl speed .Continued to trouble shoot problem.
2396.0	P7	TP	G8	RE	3	Continue to POOH slow/crawl mode from 920m to 409m
2396.0	P7	P	G8		1	Continue to POOH slow/crawl mode from 409m to 239.91m
2396.0	P7	TP	G11	RE	0.5	Trouble shot cyber/draworks slow mode issue in conjuction with live link to NOV Norway. Repair problem.
2396.0	P7	P	G6		2	POOH from 239m to surface with BHA.
2396.0	P7	P	G6		2	Broke out and layed out bit, stabiliser, sonic, telescope, ARC, N.B .
2396.0	P7	P	G11		0.5	Serviced Rig and TDS
2396.0	P7	P	G6		2.5	Picked up and made up BHA for correction run .
2396.0	P7	P	G6		1	RIH with BHA to 121m , shallow tested MWD,800 GPM , 1050 PSI . Good test.
2396.0	P7	P	G8		4	RIH from 121m to 1341m.

Date : 27 Dec 2008 **Daily Cost : AUD$ 762832** **Report Number : 18**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2396.0	P7	P	G8		3	Continued to RIH from 1341m to 2346m. Hole good condition .
2396.0	P7	P	F1		0.5	Made up TDS , precautionary washed and reamed to bottom from 2346m to 2396m, 800 GPM ,1700 PSI, 80 RPM.
2422.0	P7	P	D3		5	Drilled 12 1/4" sliding hole from 2396m to 2422m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K.
2455.0	P7	P	D2		2	Drilled 12 1/4" hole rotating from 2422m to 2455m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
2465.0	P7	P	D3		1.5	Drilled 12 1/4" sliding hole from 2455m to 2465m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K.
2469.0	P7	P	D2		0.5	Drilled 12 1/4" hole rotating from 2465m to 2469m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
2484.0	P7	P	D3		1.5	Drilled 12 1/4" sliding hole from 2469m to 2484m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K.
2523.0	P7	P	D2		2.5	Drilled 12 1/4" hole rotating from 2484m to 2523m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
2538.0	P7	P	D3		1	Drilled 12 1/4" sliding hole from 2523m to 2538m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K.
2671.0	P7	P	D2		6.5	Drilled 12 1/4" hole rotating from 2538m to 2671m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb

Date : 28 Dec 2008 **Daily Cost : AUD$ 801443** **Report Number : 19**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2692.0	P7	P	D2		1	Drilled 12 1/4" hole rotating from 2671m to 2692m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
2701.0	P7	P	D3		1	Drilled 12 1/4" sliding hole from 2692m to 2701m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K
2706.0	P7	P	D2		0.5	Drilled 12 1/4" hole rotating from 2701m to 2706m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
2709.0	P7	P	D3		0.5	Drilled 12 1/4" sliding hole from 2706m to 2709m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K
2740.0	P7	P	D2		1.5	Drilled 12 1/4" hole rotating from 2709m to 2740m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
2748.0	P7	P	D3		0.5	Drilled 12 1/4" sliding hole from 2740m to 2748m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K

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Date : 28 Dec 2008 **Daily Cost : AUD$ 801443** **Report Number : 19**

2807.0	P7	P	D2		3	Drilled 12 1/4" hole rotating from 2748m to 2807m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
2807.0	P7	P	F4		2	Circulated 2 bottoms up to clean hole at 900 GPM . SPP 2050 . RPM 80
2807.0	P7	P	E8		0.5	Down linked Schlumberger tools at 800/1000 GPM.
2807.0	P7	P	G8		5.5	POOH . flow checked prior to tripping. Hole in good condition.
2807.0	P7	TP	G8	WB	1	POOH ,tight spot at 1132 m , 14 k overpull ,hole swabbing. Made up TDS and pumped out one stand to 1103m - no backreaming. Worked string past 1132 with out pumps , hole O.K .
2807.0	P7	P	G8		0.5	Continued POOH to 958m
2807.0	P7	P	G11		3	Slipped and cut drilling line . Re calibrated heights for cyber system. Held PJSM .
2807.0	P7	P	G8		1.5	POOH from 958m to 159m . Pumped 30 bbl 12 ppg slug . Flow checked at casing shoe.
2807.0	P7	P	G6		2	POOH from 159m laying out Schlumberger BHA components

Date : 29 Dec 2008 **Daily Cost : AUD$ 1907580** **Report Number : 20**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2807.0	P7	P	G6		1.5	Continued to POOH and lay out Schlumberger BHA components
2807.0	P7	P	G12		0.5	Retrieved 13 3/8" wellhead wear bushing.
2807.0	P7	P	G12		2	RIH with dummy casing hanger and installed in wellhead.
2807.0	P9	P	G1		2	Rigged up for running 9 5/8" casing
2807.0	P9	P	G9		1.5	Picked up and made up shoe track joints (shoe joint, intermediate joint, float collar joint) Checked correct function and integrity of shoe and float collar valves. Held JSA & PJSM prior to commencing job.
2807.0	P9	P	G9		16.5	RIH with 9 5/8" casing to 2743m . Hole in good condition. Casing up wt 520klbs Casing down wt 300klbs

Date : 30 Dec 2008 **Daily Cost : AUD$ 820517** **Report Number : 21**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2807.0	P9	TP	G9	WB	1.5	Continued to RIH with 9 5/8" casing from 2743m to 2774m. At 2774m taking weight, 30k down . Commenced circulating at 120 GPM to fill string and establish circulation. Established circulation with 120 GPM, SPP 700, hole then packed off. Trapped pressure 2000 psi. Worked string, established circulation with 120 to 400 GPM, hole intermittently packing off. Continued to work string and establish circulation. Worked string from 2764m to 2778m until returns stable. No mud lost to hole.
2807.0	P9	P	G9		3	Continued to RIH, picked up casing hanger and landing string. Continued to wash to bottom from 2778m to2800m. Hole intermittently packing off below 2766m.
2807.0	P9	P	G1		0.5	Rig up Halliburton cement head and prepare for cementing
2807.0	P9	P	F3		1.5	Pressure tested surface lines to 1000 psi for 5min. Circulated bottoms up at 10 BPM, 900 psi.
2807.0	P9	P	F3		1.5	Mixed and pumped cement . Pumped spacer #1, 10 bbls drill water, tested lines to 4000 psi for 5min. Pumped 70 bbls drill water spacer, followed with spacer#2 , 60 bbls tuned spacer E+ at 13 ppg. Slurry pumped 230 bbls class "G" cement 15.8 ppg.
2807.0	P9	P	F3		1.5	Displaced cement with rig pump. Theoretical displacment 663 bbls, total pumped 666 bbls. Did not bump plug. Displacment rate 10 bbls/min. Final displacing pressure 980 psi. Bled off pressure and checked shoe track valves integrity.
2807.0	P9	P	G1		0.5	Rigged down cement head and cement lines.
2807.0	P9	TP	G12	TP	2	Attempted to back out casing hanger running tool and retrieve. Not successful. First joint of casing below rotary table backed out with 9000 ft/lb torque applied. Retrieved backed out joint to surface, applied threadlock (bakerlock) to pin end and and made same back up into the casing running string.
2807.0	P9	TP	G15	TP	4.5	Waited for bakerlock to harden.

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Date : 30 Dec 2008 **Daily Cost : AUD$ 820517** **Report Number : 21**

2807.0	P9	TP	G12	TP	0.5	Attemped to back out casing hanger running tool. Unsuccessful, same connection broke with 9000 ft/lb torque applied, first pup joint below rotary backed out, bakerlocked joint.
2807.0	P9	TP	G12	TP	3	Rigged down and pulled diverter and diverter overshot. JSA, toolbox meeting prior to commencing job.
2807.0	P9	TP	G12	TP	2.5	Picked up 9 5/8" casing pup and made up into the landing string, chain tong tight. Welded straps to connections. JSA
2807.0	P9	TP	G13	TP	1.5	Attempted to back out casing hanger running tool. Unsuccessful, straps broke with 13,000 ft/lb torque applied. Rewelded casing coupling direct to casing.

Date : 31 Dec 2008 **Daily Cost : AUD$ 734309** **Report Number : 22**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2807.0	P9	TP	G12	TP	0.5	Attempted to back out casing hanger running tool . First connection on top of running tool pup joint backed out . Applied torque with weatherford casing tong. Held torque from 10k ft/lb and increased in 2k graduations . At the same time 2 winches connected to casing that were working the casing in a circular motion trying to find a free point . Casing operator had multiple attempts at trying to "jolt" it to no avail. Final outcome was with two winches working the casing and torque held in the joint backed out with 25k ft/lb applied.
2807.0	P9	TP	G12	TP	1.5	Removed BOPs from wellhead and move aside.
2807.0	P9	TP	G12	TP	1	Picked up and made up backed up portion of landing string. Torqued up and prepared for welding.
2807.0	P9	TP	G12	TP	1	Welded second connection of running string. Welded four straps running tool to pup joint.
2807.0	P9	TP	G12	TP	1.5	Applied torque with rig tong to back out casing hanger running tool. Applied 40k ft/lb held in and hammered casing joint with sledge hammers 0.5m above top of running tool. Broke welded straps ,bakerlocked connection pup joint to running tool.
2807.0	P9	TP	G12	TP	0.5	Welded pup joint to casing hanger running tool.
2807.0	P9	TP	G12	TP	3	Broke out casing hanger running tool, 50k ft/lb torque applied. Retrieved running tool and landing string to surface, cut off welded 9.625in casing joints.
2807.0	P9	P	G12		1	Installed TDS drilling bails and and elevators, concurrently Drill Quip installed side entry flanges on wellhead.
2807.0	P9	P	G12		3.5	Made up Drill Quip mill and flush tool, 2 std's of DP and 1 std below. RIH, miledl and flushed 9.625in seal assembly seat area.
2807.0	P9	P	G12		1	Make up seal assembly running tool and set seal assembly in hanger as per Drill Quip procedure.
2807.0	P9	TP	G12	TP	0.5	Attempt to test seal assembly , no success.
2807.0	P9	TP	G12	TP	1	Rack back seal assembly running tool assembly.
2807.0	P9	TP	G12	TP	0.5	Nippled up BOP's . Held PJSM.
2807.0	P9	TP	G12	TP	2.5	Picked up seal assembly running tool assembly and RIH with seal asembly.
2807.0	P9	TP	G12	TP	1.5	Set seal assembly as per Drill Quip Procedure. Set down weight 10k. Rotated the string to the right to lock the seal assembly set nut thread. Maximum torque applied 5K ft/lb.Closed BOPs, pressured up to 2k psi, held for 5 min.
2807.0	P9	TP	G12	TP	0.5	Bled off pressure, open BOPs, Rotated string to right 1/2 to 1 turn to lock set nut of the seal assembly to the casing hanger. Maximum torque applied 5K ft/lb. Pressure tested seal assembly, no success, zero pressure build up.
2807.0	P9	TP	G12	TP	1	Attempted to renergise and reset seal assembly. Rotated string to left 2 turns, closed BOP's, pressured up to 3k, held for 10 min, pressure slowly bled from 3k to 2600 psi. Bled off pressure. Locked set nut to seal assembly of casing hanger.
2807.0	P9	TP	G12	TP	1.5	Pressure tested seal assembly. No success. No pressure build up.
2807.0	P9	TP	G12	TP	0.5	Decision to POOH and run second seal assembly. Release seal assembly and POOH.

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Activity Report For Fermat-1

Date : 01 Jan 2009 **Daily Cost : AUD$ 728224** **Report Number : 23**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2807.0	P9	TP	G12	TP	1.5	POOH with seal assembly. Split lock down ring of the hanger body recovered, broken in two pieces, bent and mangled, sitting on top of seal assembly running tool. All seal rings on seal assembly missing.
2807.0	P9	TP	G12	TP	1	Laid out seal assembly running tool and seal assembly. Racked back D.P stands below running tool.
2807.0	P9	TP	G12	TP	1	Waited on consultation between Drill Quip onsite and onshore engineers. Decision to remove BOP's and inspect wellhead for damage. Concurrent operation was jetting the BOPs.
2807.0	P9	TP	G12	TP	1.5	Nippled down BOPs and moved aside, cleaned seal assembly seating area and top of casing hanger for inspection.
2807.0	P9	P	G2		5.5	Picked up drill pipe pending forward plan for seal assembly. Picked up 26 std's 5.5in DP.
2807.0	P9	TP	G12	TP	3	RIH with mill and flush tool, 8 stds 5.5in D.P, 1 std 5.5in HWDP below. Milled and flushed 9.625in casing seal assembly seat area.
2807.0	P9	TP	G12	WB	0.5	Inspected seal assembly area, removed debris from around hanger and seal area.
2807.0	P9	TP	G12	TP	1	Laid out mill and flush assembly. Made up seal assembly running tool.
2807.0	P9	P	G12		1	RIH with seal assembly and set . Tested seal assembly test cavity to 2k 5/min , good test .
2807.0	P9	P	G12		1.5	POOH and laid out seal assembly running tool.
2807.0	P9	TP	G12	TP	1	Installed BOPs and nippled up.
2807.0	P9	P	G12		3	RIH with seal assembly running tool. Engaged seal assembly. Closed BOPs and applied 2k down pressure to top of seal assembly to fully energize seal assembly. Pressure leaked at radial bolt connection BOP to well head. Retorqued connection, reapplied pressure 2k 5/min, test OK. Bled of pressure, opened BOPs. Drill crew advised after test small leak visible on connector.
2807.0	P9	P	G12		0.5	Pressure tested seal assembly 7500 psi/5 min. Good test.
2807.0	P9	P	G12		1.5	POOH , laid out seal assembly running tool.
2807.0	P9	P	G12		0.5	Cleared exccess equipment from rig floor, made rig floor tidy and safe.

Date : 02 Jan 2009 **Daily Cost : AUD$ 894326** **Report Number : 24**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2807.0	P9	P	G12		2	Made up combination test tool/wear bushing with cup test below. RIH to 17m.
2807.0	P9	TP	G12	RE	1	Lifted BOPs off wellhead and replaced wellhead seal gasket. Held JSA and toolbox meeting prior to commencing job.
2807.0	P9	P	G12		2	Spaced out BOP test assembly, set wear bushing. Rigged up and pressure tested surface lines.
2807.0	P9	P	P1		3.5	Pressure tested BOPs. Pipe rams, C&K lines and valves 250 psi/5 min, 7500 psi/10min. Annular preventer 250 psi/5min, 5000 psi/10 min.
2807.0	P9	P	G12		0.5	POOH with test assembly and laid out tools.
2807.0	P9	P	P1		0.5	Pressure tested casing against blind shear rams 250 psi/5 min 6000 psi/10 min.
2807.0	P9	P	P1		5	Pessure tested choke and kill manifold 250 psi/5 min, 7500 psi/10 min. Pressure tested IBOPs, 250 psi/5 min, 7500 psi/10 min Pressure tested rotary hose 250 psi/5 min, 5000 psi 10/min Pressure tested stand pip manifold 250 psi 5/min, 5000 psi/10 min.
2807.0	P9	TP	G13	TP	2	Installed overshot and diverter. Unable to land out diverter.
2807.0	P9	TP	G13	RE	1.5	Trouble shot problem with diverter installation. Orientation pin damaged. Removed pin and landed out diverter.
2807.0	P9	P	G6		2	Re-arranged tubulars in derrick. Laid out 8in drilling jars. Picked up HWDP to make stand.
2807.0	P11	P	G6		2	Picked up 8.5in BHA.
2807.0	P11	P	G7		0.5	Shallow tested MWD at 500 gpm - good test.

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2807.0	P11	P	G7		0.5	Loaded radioactive source in ADN tool.
2807.0	P11	TP	G7	TP	1	Trouble retrieving source handling tool from ADN.

Date : 03 Jan 2009 **Daily Cost : AUD$ 774749** **Report Number : 25**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2807.0	P11	TP	G7	TP	1	Schlumberger/Anadrill continued to load radio active source. Trouble retrieving source handling tool from ADN.
2807.0	P11	P	G6		2	Continued to pick up 8.5in BHA .
2807.0	P11	P	G2		3	Picked up 35 joints of 5.5in drill pipe from deck and RIH.
2807.0	P11	P	G8		7	Continued to RIH from 495m to 2753m. Tagged top plug at 2753m.
2807.0	P11	P	D1		11	Drilled out top plug, cement and shoe track from 2753m to 2799m.

Date : 04 Jan 2009 **Daily Cost : AUD$ 793652** **Report Number : 26**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2807.0	P11	P	D1		2	Continued to drill float shoe from 2799m. No progress made from 00:00hrs to 00:45hrs. Suspect ADN stabiliser hanging up in float collar, worked bit back through float collar, 12 klbs overpull when working bit through float collar, work through 3 times - all OK. Ran back to float shoe and drilled out shoe with 40 rpm, 4Klbs WOB, 2400 SPP, 101 SPM. At 2802 m bit depth, NB stabiliser torqued up into float shoe, SPP increased 400 psi, 10kft-lb increase on torque, string weight altered 15klbs. Worked stabiliser through 4 times until OK.
2810.0	P11	P	D2		2.5	Drilled out 12.25in rathole to 2807m . Drilled 3m of new 8.5in hole from 2807m to 2810m. Circulated hole clean and conditioned mud to a consistent mw of 10.3 ppg.
2810.0	P11	P	E1		1	POOH to casing shoe and performed formation integrity test - 2720psi without breaking down. EMW=16ppg.
2810.0	P11	P	E1		0.5	Rig down from FIT.
3005.0	P11	P	D2		16.5	Drilled 8.5in hole from 2810m to 3005m. Increased torque and gas units. WOB 10/12Klbs, RPM 80, GPM 700, SPP 2550, TORQUE 8K FT-LB.
3005.0	P11	P	F4		0.5	Drilling break, flow checked and circualted bottoms up. Maximum gas 130 units.
3012.0	P11	P	D2		1	Continued to drill 8.5in hole from 3005m to 3012m.

Date : 05 Jan 2009 **Daily Cost : AUD$ 776427** **Report Number : 27**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3019.0	P11	P	D2		0.5	Drilled 8.5in hole from 3012m to 3019m.
3019.0	P11	P	D2		0.5	Drilling break at 3019m, torque fluctuations to 16k ft/lb. Flow checked well - static. Continued to circulate - maximum gas 150 units. Observed small amounts of cavings at shakers. Commenced increasing mud weight from 10.3 ppg to 10.5 ppg.
3352.0	P11	P	D2		23	Contiued to drill 8.5in hole from 3019m to 3352m. Drilling break at 3056m , flow check well , static. WOB 18K, RPM 90, GPM 700, SPP 2900, TORQUE 2/10 K FT-LB STR WT UP 310K, STR WT DOWN 267 K, STR WT ROT 290K Varied drilling parameters in an attempt to reduce Stick/Slip at MWD without much success. Stick/Slip values remain high.

Date : 06 Jan 2009 **Daily Cost : AUD$ 799105** **Report Number : 28**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P11	P	D2		14	Drilled 8.5in hole from 3352m to 3585m. WOB 18Klbs, RPM 90, GPM 700, SPP 2900, TORQUE 2/10 K FT-LB. Varied drilling parameters in an attempt to reduce Stick/Slip at MWD without much success. Stick/Slip

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						values remained high.
3585.0	P11	P	F4		1.5	Circulated hole clean. Took survey at TD - 3569.38MD, 7.3 deg Inc, 160.3 deg AZ.
3585.0	P11	P	G8		2	Flow checked well. POOH from 3585m. Overpull from 3539m to 3510m - 5/13klbs. Worked clear. Overpull from 3510m to 3480m - 10/25klbs. Worked clear. Overpull from 3480m to 3451m - 10/15klbs. Worked clear.
3585.0	P11	P	D6		0.5	Unable to work past 3415m with 30klbs overpull and taking weight going back down. Made up TDS and backreamed from 3415m to 3392m. After backreaming one time no drag or pull seen again. Backreamed with 550 GPM, SPP 2000, rpm 80, Max torque 14k ft-lb.
3585.0	P11	P	G8		2	POOH - straight pull on elevators from 3392m to 3081m. Worked clear tight spots of up to 20klbs overpull as required.
3585.0	P11	P	D6		1.5	Tight hole at 3081m to 2948m 15/20k overpull. Unable to work thru, made up TDS and backreamed. After backreaming one time no drag or overpull seen again. Backreamed with 550 GPM. SPP 2000. rpm 80. Max torque 14k ft/lb. No pressure increase or signs of packing of.
3585.0	P11	P	G8		0.5	POOH - straight pull on elevators from 2948m to 2900m. No excess drag.
3585.0	P11	P	D6		1.5	Tight hole at 2900m to 2830m. 15/20klbs overpull. Unable to work through. Made up TDS and backreamed. After backreaming one time no drag or overpull seen again. Pulled into shoe at 2800m.
3585.0	P11	P	G11		0.5	Serviced rig and TDS at shoe. Derrick man reported TDS washpipe leaking.

Date : 07 Jan 2009 **Daily Cost : AUD$ 789236** **Report Number : 29**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P11	TP	G8	DH	1	RIH. Stabilisers hung up in float shoe 20klb down weight. Had to ream all stabilisers through float shoe. After reaming through one time with 40 RPM no hang-up signs thereafter when working stabilisers back through.
3585.0	P11	P	G8		2	RIH from 2280m to 3451m. Took weight at 3451m - 20klb down weight.
3585.0	P11	P	F1		0.5	Made up TDS and broke circulation. Washed from 3451m to 3480m at 100 GPM. Took 5-10klb weight to wash past.
3585.0	P11	P	D6		2	Washed / light reamed from 3480m to 3576m. After connection at 3480m hole packed off. Broke string free and established full circulation. Washed and reamed from 3480m to 3576m. RPM 80, GPM 500, SPP 1900, average torque 3/6klb, torque fluctuations up to 19k ft-lb. Each connection attempted to slack of without pump and rotary to check hole condition. No success, 15k drag.
3585.0	P11	P	F4		1.5	Washed and reamed from 3576m to 3585m. Hole packing off and drill string torquing up to stall out when attempting to ream past 3576m. Circulated hole clean and completed reaming to bottom at 3585m. (Significant increase in cuttings and cavings observed on bottoms up)
3585.0	P11	P	G8		0.5	POOH from 3585m to 3549m. 20klb overpull at 3568m - worked clear. 30klb overpull at 3549m - unable to work through.
3585.0	P11	P	D6		0.5	Made up TDS. Washed and reamed back to bottom from 3549m to 3585m.
3585.0	P11	P	F4		1.5	Circulated and weighed up mud from 10.5 ppg to 11.0 ppg.
3585.0	P11	TP	G11	RE	0.5	Replaced grease nipple on TDS swivel packing due to nipple failing and leaking mud.
3585.0	P11	P	G8		7.5	POOH from 3585m to 614m. Hole in good condition. Flow checked on bottom and at shoe static.
3585.0	P11	P	F3		0.5	String started pulling wet at 614m. Pumped slug.

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3585.0	P11	P	G6	2	Continued POOH and racked back HWDP and drill collars.
3585.0	P11	P	G7	1	Retrieved radio active sources from MWD tools.
3585.0	P11	P	G7	1.5	Broke out and laid out MWD tools, bit, near bit stabiliser. Bit: 1,1,CT, N, X, I, NO, TD.
3585.0	P11	P	G1	0.5	Cleared & cleaned drill floor. Held PJSM for rigging up schlumberger wireline.
3585.0	P11	P	G1	1	Rigged up Schlumberger wireline. Commenced picking up tools for wireline log run #1 PEX-DT

Date : 08 Jan 2009 **Daily Cost : AUD$ 1886946** **Report Number : 30**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P11	P	G1		0.5	Made up Schlumberger wireline tools for wireline log run #1 PEX-DT.
3585.0	P11	P	G1		0.5	Performed calibration test of tools.
3585.0	P11	P	E3		3	RIH with wireline log run #1 PEX-DT to TD at 3585m. Tagged up at 2860m, 2996m, 3008m, 3205m, 3455m, 3569m. Able to work wireline tool string through without problems.
3585.0	P11	P	E3		3	Logged up from 3585m to 2800m.
3585.0	P11	P	E3		2	POOH with PEX-DT Tools.
3585.0	P11	P	E3		1.5	Tools at surface, laid down same.
3585.0	P11	P	E3		1.5	Made up MDT logging tools.
3585.0	P11	P	E3		2.5	RIH with wireline log run #2 MDT to 2800m.
3585.0	P11	P	E3		1.5	Correlated tool and logged from 2800m to 3200m.
3585.0	P11	P	E3		4.5	Took pressure points at 18 stations in total.
3585.0	P11	P	E3		2.5	Took first sample point at 2879.5m.
3585.0	P11	P	E3		1	Took second sample point at 3008m.

Date : 09 Jan 2009 **Daily Cost : AUD$ 926285** **Report Number : 31**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P11	P	E3		0.5	Continued taking second sample point at 3008m.
3585.0	P11	P	E3		0.5	RIH to 3450m to take pressure points.
3585.0	P11	P	E3		1	Took pressure points at 3 stations in total.
3585.0	P11	P	E3		2	POOH with MDT logging tools to surface.
3585.0	P11	P	E3		1	Laid down MDT logging tools.
3585.0	P11	P	E3		1.5	Made up seismic check shot tool string assembly and RIH to 3525m.
3585.0	P11	P	E3		7.5	Schlumberger performed seismic check shot logging operations as per program.
3585.0	P11	P	E3		0.5	POOH with seismic check shot tool assembly to surface.
3585.0	P11	P	E3		1.5	Laid down seismic check shot logging tools.
3585.0	P11	P	E3		0.5	Initiated Radio Silence and made up CST tool string.
3585.0	P11	P	E3		5	Schlumberger RIH with CST tool string and took 30 samples.
3585.0	P11	P	E3		1.5	POOH with CST tool string.
3585.0	P11	P	G1		1	Laid down tools and rigged down Schlumberger wireline logging equipment. Cleared drill floor. Recovered 27 samples at surface - 90% recovery. One bullet lost.

Date : 10 Jan 2009 **Daily Cost : AUD$ 789573** **Report Number : 32**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity

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Date : 10 Jan 2009 **Daily Cost : AUD$ 789573** **Report Number : 32**

3585.0	P21	P	G1		1.5	Rigged up and removed MWD sensor from between mud hose and stand pipe line at monkey board.
3585.0	P21	P	G5		0.5	Made up side entry sub with TIW above and below on stand of 5.5" drill pipe and racked same in derrick.
3585.0	P21	P	G2		2.5	Held JSA, prior to picking up 3.5" drill pipe. Changed out handling equipment from 5.5" drill pipe to 3.5" drill pipe. Made up 3.5" mule shoe on 3.5" drill pipe and RIH picking up a total of 21 joints of 3.5" drill pipe from catwalk. Drifted all the drill pipe picked up.
3585.0	P21	P	G8		1.5	RIH with 3.5" mule shoe on 5.5" drill pipe.
3585.0	P21	P	G8		5	RIH with 3.5" cement stinger on 5.5" drill pipe and took 15K weight at 3579m.
3585.0	P21	P	F4		1	Made up TDS and attempted to establish circulation. Drill string plugged. Worked and cleared same with 3500 psi.
3585.0	P21	TP	G8	WB	1	Attempted to establish circulation. Hole packing off. Difficulty working string up/down and string torquing up when attempting to rotate. Max overpull 30k, max down 15k, max torque 9500 ft-lbs. Worked string back from 3579m to 3542m but still not clear. Max gas on bottoms up 6.7%.
3585.0	P21	TP	G8	WB	3	Broke off TDS and racked back stand. Continued to establish free circulation and pipe movement. Unable to move string up or down or to rotate on several occasions. Found that hole would pack off at higher flow rates. Heavy cuttings coming back at shakers intermittently. Established free pipe movement both with and without circulation and rotation between 3543m and 3513m. Max overpull 40k, max down 15k, max torque 9500 ft-lbs. Pump rate: 635 GPM / 2100 psi, 750 GPM / 2800 psi.
3585.0	P21	TP	F3	WB	1	Pumped and displaced 20 bbls Hi Vis Pill (3542m to 3477m). Commenced POOH - 40k overpull at 3483m. Attempted to POOH rotating string - no success.
3585.0	P21	TP	G8	WB	1.5	Made up TDS and established circulation and rotation. POOH pumping and rotating from 3510m. Pulled free from 3453m and continued to POOH to 3286m.
3585.0	P21	TP	G8	WB	1	RIH from 3286m to 3364m - backflow over drill pipe. Made up TDS and washed down to 3453m.
3585.0	P21	P	G1		1	Prepared to set cement plug #1A. Picked up cement stand and spaced out to place mule shoe at 3453m. Rigged up cement lines. Attempted to break circulation with cement unit - hole packed off.
3585.0	P21	TP	F4	WB	1	Broke off and racked back cement stand. Made up TDS and established circulation. Worked stand back to 3424m and circulated bottoms up. Pump rate 750 GPM, 2730 psi.
3585.0	P21	P	F3		1	POOH from 3424m to 3327m. Picked up cement stand and spaced out to place mule shoe at 3327m. Rigged up cement lines. Cement unit pumped 5 bbls of drill water ahead. Tested surface lines to 3000 psi. Good test. Followed by another 8 bbls of drill water ahead.
3585.0	P21	P	F3		1	Set balanced cement plug #1A from 3327m to 3127m. Cement unit mixed and pumped 64 bbls (315 sx) of 15.8 ppg cement slurry at 5 bpm with 36 bbls of mix water. (13.5 MT HTB cement). Cement unit pumped 5 bbls of drill water spacer behind and displaced with 203 bbls of 11.0 ppg mud. (Under displaced by 5 bbls).
3585.0	P21	P	G8		0.5	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 3327m to 3305m.

Date : 11 Jan 2009 **Daily Cost : AUD$ 945556** **Report Number : 33**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P21	P	G8		0.5	Continued POOH (dry) slowly from 3305m to 3069m.
3585.0	P21	P	F4		1	Engaged TDS and circulated bottoms up at 750 GPM, 2300 psi. No cement observed at surface.
3585.0	P21	P	G1		0.5	Changed out handling equipment and bails.
3585.0	P21	P	G2		5.5	POOH laying down excess 5.5" drill pipe from 3069m to 2274m.
3585.0	P21	P	G1		0.5	Changed out handling equipment.
3585.0	P21	P	G8		2	RIH from 2274m to 3102m.
3585.0	P21	P	F1		1	Engaged TDS and broke circulation with 220 gpm. Washed down from 3102m and tagged top of cement at 3119m with 5 klbs.
3585.0	P21	P	F3		0.5	Spaced out to place mule shoe at 3119m. Rigged up cement lines. Cement unit pumped 5 bbls drill water ahead. Tested surface lines to 3000 psi. Good Test. Followed by another 8 bbls of drill water ahead.
3585.0	P21	P	F3		1	Set balanced cement plug #1B (Part 1) from 3119m to 2969m (150m).

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						Cement unit mixed and pumped 47 bbls (236 sx) of 15.8 ppg slurry at 5 bpm with 27 bbls of mix water. (10 MT HTB cement). Cement unit pumped 1 bbl drill water spacer behind and displaced with 197 bbls of 11.0 ppg mud. (Under displaced by 5 bbls).
3585.0	P21	P	G1		1	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 3119m to 2969m.
3585.0	P21	P	F4		1	Engaged TDS and circulated bottoms up at 750 GPM, 2290 psi. Dumped 30 bbls of cement contaminated mud at surface. Rigged up cement lines. Cement unit pumped 5 bbls drill water ahead. Tested surface lines to 3000 psi. Good Test. Followed by another 8 bbls of drill water ahead.
3585.0	P21	P	F3		1	Set balanced cement plug #1B (Part 2) from 2969m to 2830m (139m). Cement unit mixed and pumped 44 bbls (218 sx) of 15.8 ppg slurry at 5 bpm with 24 bbls of mix water. (9.3 MT HTB cement). Cement unit pumped 1 bbl drill water spacer behind and displaced with 187 bbls of 11.0 ppg mud. (Under displaced by 5 bbls).
3585.0	P21	P	G1		1	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 2969m to 2777m.
3585.0	P21	P	F4		0.5	Engaged TDS and circulated bottoms up at 750 GPM, 2120 psi. Dumped 8 bbls of cement contaminated mud at surface.
3585.0	P21	P	G1		0.5	Prepared to lay down excess 5.5" drill pipe. Adjusted clamps on link tilt.
3585.0	P21	P	G2		2	POOH laying down excess 5.5" drill pipe from 2777m to 2451m.
3585.0	P21	P	G1		0.5	Changed handling equipment to lay down 6 1/4" drill collars from derrick.
3585.0	P21	P	G2		1.5	Laid down from derrick 8 x 6.25" drill collars and 1 x 6.25" drilling jars.
3585.0	P21	P	G2		1.5	Changed out handling equipment and laid down 6 x 5.5" HWDP from derrick.
3585.0	P21	P	G8		1	RIH from 2451m to 2806m.

Date : 12 Jan 2009 **Daily Cost : AUD$ 920704** **Report Number : 34**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P21	P	F1		0.5	Engaged TDS and broke circulation with 300 GPM, 900 psi. Washed down from 2806m and tagged top of cement at 2835m with 5 klbs.
3585.0	P21	P	F3		0.5	Spaced out to place mule shoe at 2835m. Rigged up cement lines. Cement unit pumped 5 bbls drill water ahead. Tested surface lines to 3000 psi. Good Test. Followed by another 8 bbls of drill water ahead.
3585.0	P21	P	F3		1	Set balanced cement plug #2 across shoe, from 2835m to 2700m (135m). Cement unit mixed and pumped 37 bbls (165 sx) of 15.8 ppg slurry at 4 bpm with 19 bbls of mix water. (7.0 MT HTB cement). Cement unit pumped 3.5 bbl drill water spacer behind and displaced with 179 bbls of 11.0 ppg mud. (Under displaced by 5 bbls).
3585.0	P21	P	G8		1	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 2835m to 2678m.
3585.0	P21	P	F4		0.5	Engaged TDS and circulated bottoms up at 750 GPM, 2290 psi. No cement returns to surface.
3585.0	P21	P	G8		0.5	POOH from 2678m to 2559m to keep 10 stands of drill pipe in the derrick.
3585.0	P21	P	G2		10.5	POOH laying down excess 5.5" drill pipe from 2559m to 206m.
3585.0	P21	P	G1		0.5	Removed wiper rubbers and diverter plate. Changed handling equipment from 5.5" to 3.5".
3585.0	P21	P	G2		1.5	POOH laying down 3.5" cement stinger assembly from 206m to surface.
3585.0	P21	P	P1		0.5	Pressure tested 9.625" casing to 2900 psi against blind/shear rams. Held same for 10 minutes. Good test. Used 5.9 bbls to pressure up the casing.
3585.0	P21	P	G7		1	Made up 9.625" casing cutter assembly and RIH to 110m.
3585.0	P21	P	G17		1	Cut 9.625" casing at 110m. RPM 110, GPM 100, SPP 900 psi, Torque 1-2 K ft-lbs. POOH with 9.625" casing cutter assembly.
3585.0	P21	P	G7		0.5	Broke off 8.25" casing cutter and made up the 12" casing cutter fitted with 13.375" knives. Note: 9.625" knives in good condition.
3585.0	P21	P	G12		1	Made up wear bushing retrieval tool and RIH and retrieved 18.75" x 9.625" wear bushing at 18m. POOH to surface and laid down wear bushing retrieval tool.

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3585.0	P21	P	G1		1	Changed out handling equipment and bails.
3585.0	P21	P	G7		1	Made up 8.25" Itco spear assembly.
3585.0	P21	P	G7		0.5	Engaged 8.25" Itco spear assembly into 9.625" casing hanger. Picked up hanger and casing without any overpull. Block and casing weight 83 klbs.
3585.0	P21	TP	G7	WB	1	Attempted to pull spear assembly and 9.625" casing hanger to surface. Hanger hanging up in BOP. Rigged up air winches and attempted to work through without success. Bled down koomey unit to relax annular. Pulled spear assembly and 9.625" casing hanger to surface.

Date : 13 Jan 2009 **Daily Cost : AUD$ 793414** **Report Number : 35**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P21	P	G7		0.5	Set casing in slips and released spear assembly. Laid down 6.5" drill collar with the spear assembly complete. Note: Recovered the seal assembly with the 9.625" casing hanger.
3585.0	P21	P	G1		0.5	Held JSA. Rigged up 9.625" casing handling equipment.
3585.0	P21	P	G9		1.5	Pulled and laid down the 9.625" casing. Laid out 9.625" hanger, seal assembly, 7 x joints and cut off joint.
0.0	P21	P	G7		0.5	Picked up the 6.5" drill collar and broke off the spear assembly. Laid down same.
3585.0	P21	P	G12		1	Changed out handling equipment and made up seal assembly running tool to retrieve dummy hanger.
0.0	P21	TP	G12	TP	2	RIH and attempted to retrieve dummy hanger. Made several attempts to engage without success. POOH, checked tool and re-ran. No success. POOH and racked back tool.
3585.0	P21	P	G13		1.5	RIH and jetted BOPs. Flushed choke, kill and diverter lines with seawater.
3585.0	P21	P	G13		1.5	Rigged up to nipple down diverter system. Pulled diverter housing and laid down same.
3585.0	P21	P	G13		7	Nipple down diverter riser mandrel, choke line and BOP. Setback same on test stump. Reduced CTU to 110 bar = 152 MT While racking back BOP made up dummy hanger running tool and attempted to retrieve dummy hanger. No success.
3585.0	P21	P	G12		1.5	Removed annulus wing valves and blanks from HPWH. Replace same with plugs
3585.0	P21	P	G12		1.5	Removed BOP adapter from the 18.75" wellhead and setback on main deck.
3585.0	P21	P	G17		1.5	Made up 13.375" casing cutter assembly. RIH to 105m. Cut casing at 105m. RPM 110, GPM 112, SPP 950 psi, Torque 1-2 K ft-lbs. POOH with 13.375" cutter assembly. Knives heavily scoured.
3585.0	P21	P	G9		2	Made up Dril-Quip clutch type running tool. RIH and engaged 18.75" wellhead and 13.375" casing. POOH and laid out same.
3585.0	P21	P	G1		0.5	Changed out bails and rigged up 13.375" handling equipment.
3585.0	P21	P	G9		1	POOH with 13.375" casing. Laid down 4 x joints.

Date : 14 Jan 2009 **Daily Cost : AUD$ 786881** **Report Number : 36**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P21	P	G9		1	Continued to POOH with 13.375" casing. Laid down 2 x joints plus 5.2m cut off joint.
3585.0	P21	P	G1		0.5	Changed out handling equipment from 13.375" to 5.5"
3585.0	P21	P	G8		1	Made up mule shoe and RIH with 5.5" drill pipe to 260m.
3585.0	P21	P	F3		1	Engaged TDS and circulated out 11.0 ppg PHPA mud with seawater. Pumped 25 bbls of hi-vis mud and displaced with 10 bbls of seawater. POOH from 260m to 160m.
3585.0	P21	P	F3		0.5	Set balanced cement plug #3 from 160m to 100m (60m) Spaced out to place mule shoe at 160m. Rigged up cement lines. Cement unit broke circulation and pumped 5 bbls of seawater. Pressure tested lines to 1500 psi. Mixed and pumped 37 bbls (183 sx) of 15.9 ppg slurry at 4 bpm with 20 bbls of mix water. (7.8 MT of class G cement). Displaced with 3.5 bbls of seawater. (Under displaced by 3 bbls)
3585.0	P21	P	G8		0.5	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 160m to 100m.
3585.0	P21	P	F4		0.5	Engaged TDS and circulated bottoms up at maximum rate. POOH from 100m to surface.

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Water Depth : 39m	Long : 141 Deg 03 Min 13.7586 Sec	Spud Time : 00.00	Release Time : 10:00

Date : 14 Jan 2009 **Daily Cost : AUD$ 786881** **Report Number : 36**

3585.0	P21	P	G8		2.5	Change bails and handling equipment while cuting holes in 30" casing and prepared to pick up 30" casing cutting assembly. Made up 30" casing cutter assembly on 5.5" drill pipe and RIH to 79m.
3585.0	P21	P	G17		2.5	Cut 30" casing at 79m. 111 GPM, 850 psi / 140 GPM, 1200 psi. 1000-2500 ft-lb. 80 RPM. No indication of cutting after 1 hour. Continued cutting and jumped ROV and observed seabed. - silt turbulence indicated possible partial cut. Attempted 250k overpull with CTU - no movement of casing.
3585.0	P21	TP	G8	TP	0.5	POOH with casing cutter and inspected knives. Tungsten on tips of knives worn smooth - no cutting structure left. Suspect poorly laid tungsten on knives.
3585.0	P21	P	G7		2	Racked back casing cutter. RIH with 5.5" drill pipe from derrick and laid down same whilst re-dressing cutter.
3585.0	P21	TP	G8	TP	0.5	RIH with 30" casing cutter.
3585.0	P21	TP	G17	TP	3	Established circulation and located knives in previous cut at 79m. Continued cutting casing at 79m increasing parameters. 140 GPM, 1200 psi. 1000-3500 ft-lb. 80 RPM. At 16:00 hrs lost returns at surface. Continued cutting and CTU stroked up. Confirmed casing cut.
3585.0	P21	P	G8		1.5	POOH with 30" casing cutter and laid down same.
3585.0	P21	P	G1		1	Rigged up lifting slings and prepared to pull conductor.
3585.0	P21	P	G9		1.5	Pulled 30" conductor free and lifted 2m. Removed Icon clamp and conductor tensioner unit split inserts.
3585.0	P21	P	G9		2	Pulled 30" conductor from 77m to 58m. Unable to remove Dril-Quip anti rotation key. Welder cut and removed same. Attempted to break Dril-Quip D-60/MT connection with weatherford belt tongs. No success - unable to break connection. Cut off joint and laid down same.
3585.0	P21	P	G9		2	POOH with 30" conductor. Unable to remove anti rotation key. Welder cut and remove same. Attempted to break Dril-Quip D-60/MT connection with weatherford belt tongs. No success - unable to break connections. Cut off joint and laid down same.

Date : 15 Jan 2009 **Daily Cost : AUD$ 770070** **Report Number : 37**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P21	TP	G9	TP	3	POOH with 30" conductor. Unable to remove anti rotation key. Welder cut and remove same. Attempted to break Dril-Quip D-60/MT connections with weatherford belt tongs. No success - unable to break joints. Cut off joints and laid down same.
3585.0	P21	P	G1		0.5	Rigged down 30" handling equipment and cleared rig floor of excess equipment.
0.0	P1	P	G2		1.5	Rigged up 5.5" drill pipe handling equipment and laid down excess 5.5" tubulars from derrick.
3585.0	P1	P	G2		3	Laid down 1 x 5.5" cement stand, 6 x 8.25" drill collars and 3 x 6.5" drill collars.
3585.0	P1	P	G2		0.5	Changed out handling equipment and rotary bushings.
3585.0	P1	P	G9		1	Picked up 18.75" wellhead and soft broke crossover on Dril-Quip clutch type running tool. Laid out same.
3585.0	P1	P	G1		1.5	Rigged up lifting slings and picked up work platform and setback on main deck.
3585.0	P1	P	G1		2	Removed conductor tensioner unit - setback and secured same.
3585.0	P1	P	G1		2	Rigged down texas deck and secured same. Removed access stairs to texas deck. Commenced offloading P. Valkyrie and securing cargo on deck.
3585.0	P1	P	M2		5	Prepared to skid cantilever. Removed all stairways, service hoses and flow line. Completed offloading P. Valkyrie and securing cargo on deck.
3585.0	P1	P	M2		2.5	Held PJSM and reviewed skidding procedures. Skidded cantilever forward and pinned and secured same.
3585.0	P1	P	M2		1.5	Prepared and secured sea fastenings in preparation for tow.

Date : 16 Jan 2009 **Daily Cost : AUD$ 719283** **Report Number : 38**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P1	P	M2		1	Prepared and secured sea fastenings in preparation for tow.
3585.0	P1	TP	G25	WOW	5	Waited on weather to commence jacking operations.
						Weather: 01:00 hrs: Wind 24-25 knots, Swell 3.0m, Combined Seas 3.9m.

DFE above MSL : 38.00m	Lat : 38 Deg 11 Min 47.0284 Sec	Spud Date : 14 Dec 2008	Release Date : 18 Jan 2009
Water Depth : 39m	Long : 141 Deg 03 Min 13.7586 Sec	Spud Time : 00.00	Release Time : 10:00

Date : 16 Jan 2009 **Daily Cost : AUD$ 719283** **Report Number : 38**

					03:00 hrs: Wind 29-30 knots, Swell 3.0m, Combined Seas 3.6m. 05:00 hrs: Wind 27-30 knots, Swell 3.0m, Combined Seas 3.6m. 06:00 hrs: Wind 31-33 knots, Swell 3.0m, Combined Seas 3.6m.
3585.0	P1	TP	G25	WOW6	Waited on weather to commence jacking operations. Weather: 08:00 hrs: Wind 16-22 knots, Swell 3.0m, Combined Seas 3.6m. 10:00 hrs: Wind 14-20 knots, Swell 3.5m, Combined Seas 4.0m. 12:00 hrs: Wind 15-18 knots, Swell 4.0m, Combined Seas 4.5m.
3585.0	P1	TP	G25	WOW6	Waited on weather to commence jacking operations. Weather: 14:00 hrs: Wind 14-17 knots, Swell 4.0m, Combined Seas 4.5m. 16:00 hrs: Wind 14-20 knots, Swell 4.0m, Combined Seas 4.5m. 18:00 hrs: Wind 11-14 knots, Swell 4.0m, Combined Seas 4.5m.
3585.0	P1	TP	G25	WOW6	Waited on weather to commence jacking operations. Weather: 20:00 hrs: Wind 11-15 knots, Swell 4.0m, Combined Seas 4.5m. 22:00 hrs: Wind 24-27 knots, Swell 3.5m, Combined Seas 4.0m. 24:00 hrs: Wind 19-23 knots, Swell 3.5m, Combined Seas 4.0m.

Date : 17 Jan 2009 **Daily Cost : AUD$ 678079** **Report Number : 39**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P1	TP	G25	WOW6		Waited on weather to commence jacking operations. Weather: 02:00 hrs: Wind 19-23 knots, Swell 3.5m, Combined Seas 3.8m. 04:00 hrs: Wind 18-21 knots, Swell 3.0m, Combined Seas 3.2m. 06:00 hrs: Wind 14-17 knots, Swell 3.0m, Combined Seas 3.2m.
3585.0	P1	TP	G25	WOW6		Waited on weather to commence jacking operations. Weather: 08:00 hrs: Wind 6-9 knots, Swell 3.0m, Combined Seas 3.0m. 10:00 hrs: Wind 5-7 knots, Swell 3.0m, Combined Seas 3.0m. 12:00 hrs: Wind 9-12 knots, Swell 3.0m, Combined Seas 3.0m.
3585.0	P1	TP	G25	WOW4		Waited on weather to commence jacking operations. Weather: 14:00 hrs: Wind 16-18 knots, Swell 3.5m, Combined Seas 3.5m. 16:00 hrs: Wind 21-23 knots, Swell 3.0m, Combined Seas 3.0m. 18:00 hrs: Wind 23-26 knots, Swell 3.0m, Combined Seas 3.3m.
3585.0	P1	P	M3		0.5	Held PJSM. Jacked rig down to 6m air gap.
3585.0	P1	TP	G25	WOW1.5		Waited on weather to continue jacking operations. Weather: 18:00 hrs: Wind 23-26 knots, Swell 3.0m, Combined Seas 3.3m.
3585.0	P1	TP	G25	WOW6		Waited on weather to commence jacking operations. Weather: 20:00 hrs: Wind 13-18 knots, Swell 3.0m, Combined Seas 3.8m. 22:00 hrs: Wind 13-15 knots, Swell 2.5m, Combined Seas 2.7m. 24:00 hrs: Wind 11-14 knots, Swell 2.5m, Combined Seas 2.7m.

Date : 18 Jan 2009 **Daily Cost : AUD$ 3309973** **Report Number : 40**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3585.0	P1	TP	G25	WOW5		Waited on weather to continue jacking operations.

DFE above MSL : 38.00m	Lat : 38 Deg 11 Min 47.0284 Sec	Spud Date : 14 Dec 2008	Release Date : 18 Jan 2009
Water Depth : 39m	Long : 141 Deg 03 Min 13.7586 Sec	Spud Time : 00.00	Release Time : 10:00

Date : 18 Jan 2009 **Daily Cost : AUD$ 3309973** **Report Number : 40**

					Weather: 02:00 hrs: Wind 6-8 knots, Swell 2.0m, Combined Seas 2.2m. 04:00 hrs: Wind 8-10 knots, Swell 1.5-2.0m, Combined Seas 1.8-2.2m.
3585.0	P1	P	M3	1	Connected main tow bridle to Pacific Battler and port/bow pennant to Pacific Valkyrie.
3585.0	P1	P	M3	1.5	Held JSA with all relevant personnel and reviewed jacking procedures. Tested jacks on all legs. Jacked down hull to 2m draft.
3585.0	P1	P	M3	1	Conducted water tight integrity tests on all tanks, mud pits and sand traps.
3585.0	P1	P	M3	1.5	Jacked down hull to 4.5m draft. Rig afloat and all legs clear of seabed at 09:12 hrs. Note: ***END OF WELL: 18-JAN-09 @10:00 hrs, 1 nautical mile from Fermat-1 location***

Attachment 9

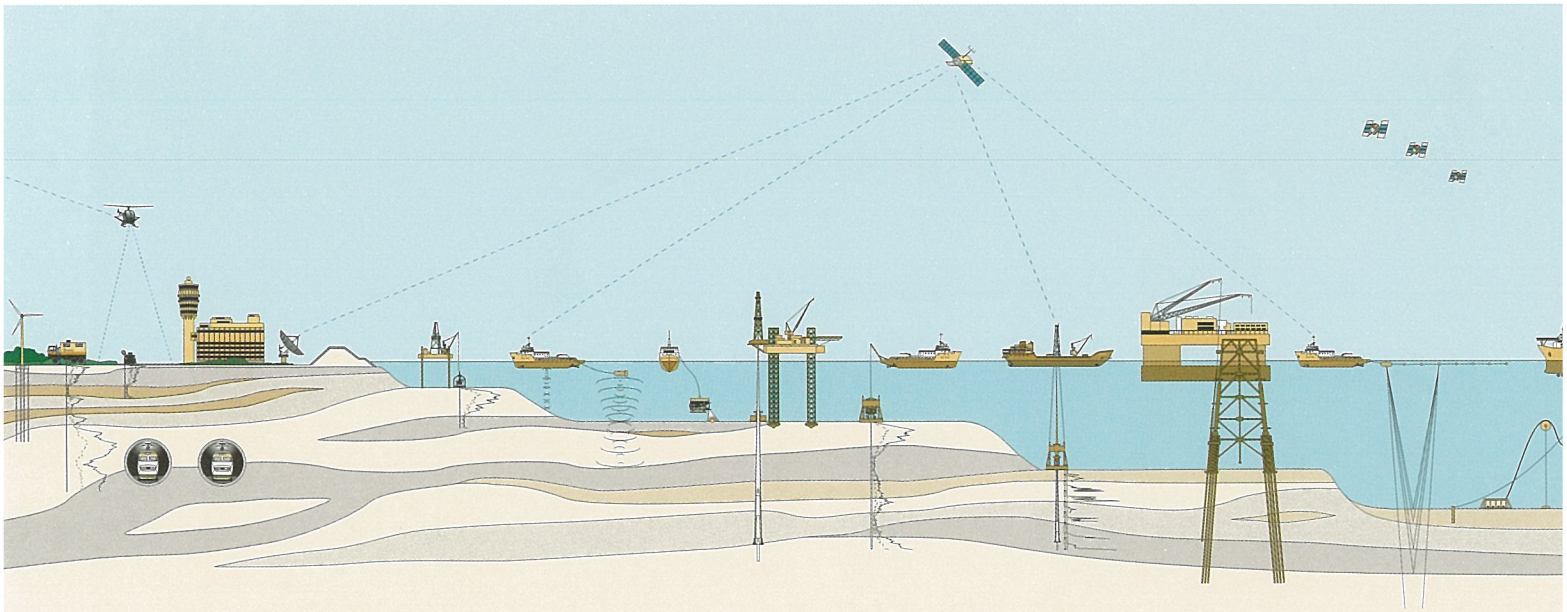
Fugro Final Fix

FUGRO BTW Ltd

REPORT FOR THE WEST TRITON RIG MOVE TO FERMAT -1 LOCATION

FUGRO BTW LTD JOB NO. 07066

Client	:	Australian Drilling Associates Pty Ltd
Date of Survey	:	10 December to 15 December 2008



14-22 Connett Rd West, Bell Block, PO Box 39, New Plymouth, NZ. Tel: 64 6 7695040 Fax: 64 6 7696262

REPORT FOR THE WEST TRITON RIG MOVE TO THE FERMAT - 1 LOCATION

FUGRO BTW JOB NO. – 07066

Client : AUSTRALIAN DRILLING ASSOCIATES PTY LTD

Date of Project : 10 December to 15 December 2008

1	Amended	SA	GM	17 Feb 2009
0	Final			
Rev	Description	Checked	Approved	Date

CONTENTS

FIGURES

TABLES

APPENDICES

1.0 EXECUTIVE SUMMARY

Between the 10 December and 15 December 2008 Fugro BTW Limited (Fugro) provided equipment and personnel for the Jack Up Mobile Offshore Drilling Unit (MODU) *West Triton*, rig move from Spikey Beach-1 to the Fermat-1 location.

Surface positioning was achieved utilising Fugro's Starfix Differential GPS (DGPS) interfaced to Fugro's SEIS navigation software.

The final position derived from DGPS observations of the *West Triton* Drill stem at the Fermat-1 location is:

Location Name	**West Triton : Drill stem**
MGA94, UTM Zone 54 S	
Easting	**504713.143 m**
Northing	**5772392.606 m**
GDA94-ITRF2008.50	
Latitude	**38º 11' 47.0287" S**
Longitude	**141º 03' 13.7734" E**
Rig Heading (True)	**128.46° (True)**
Height above Australian Height Datum (AHD)	
Rotary Table (RT)	**38.040 m**

TABLE 2-1 : FINAL COORDINATES AND HEADING

This position is 9.49 m at a bearing of 249.00°**True** FROM the proposed Fermat-1 location.

All coordinates in this report are quoted in terms of Geocentric Datum of Australia 1994 (GDA94) and Map Grid of Australia 1994, UTM Zone 54 S (MGA94) projection unless otherwise stated.

2.0 INTRODUCTION

Fugro BTW Ltd (Fugro) was contracted by Australian Drilling Associates Pty Ltd (ADA) to provide navigation and positioning survey services onboard the Jack Up Rig (JUR) West Triton, during the rig move to the Fermat-1 location in the Bass Strait, Australia.

A general location diagram is shown in Figure 1-1.

This report details the equipment used survey parameters adopted, procedures employed and the results achieved. A section on safety is included in Section 4.0 of this report.

2.1 Scope of Work

Personnel and equipment were provided on a 24 hour per day basis for:

- Final rig surface positioning at the Fermat-1 location using DGPS observations.
- Final reporting of the positioning results.

2.2 Sequence of Events

On 02 December 2008 G. Marshall and B. Harper joined the *West Triton* for the rig move from the Peejay-1 location to the Spikey Beach-1 location. Due to the rig being unable to complete preloading operations a decision to abandon the site was made at 1700 09 December 2008 and to proceed to the Fermat-1 location. The rig departed the Spikey Beach-1 location at 2335 and statement of facts was called at 2359 09 December 2008.

All navigational systems had been checked, calibrated and deemed operational prior to arrival at the Spikey Beach-1 location and remained so throughout the Fermat-1 campaign.

The rig was 1 nm from the Fermat-1 location and statement of facts called at 0600 12 December 2008. Jacking operations were commenced at 0620 12 December 2008 with the rig being soft pinned on location at 0830 12 December 2008. Jacking and preloading operations commenced at 1005 12 December 2008 and completed at 2310 12 December 2008.

Final jacking up to drilling draft commenced at 2348 12 December 2008 completing at 0021 13 December 2008. Logging for the final positioning and heighting commenced at 0030 13 December 2008 and was completed at 1030 13 December 2008.

G. Marshall and B. Harper departed the *West Triton* on 14 December 2008 returning to New Zealand on 15 December 2008.

Further details of Fugro's involvement in the rig move are presented in the daily operations reports included in **Appendix A.**

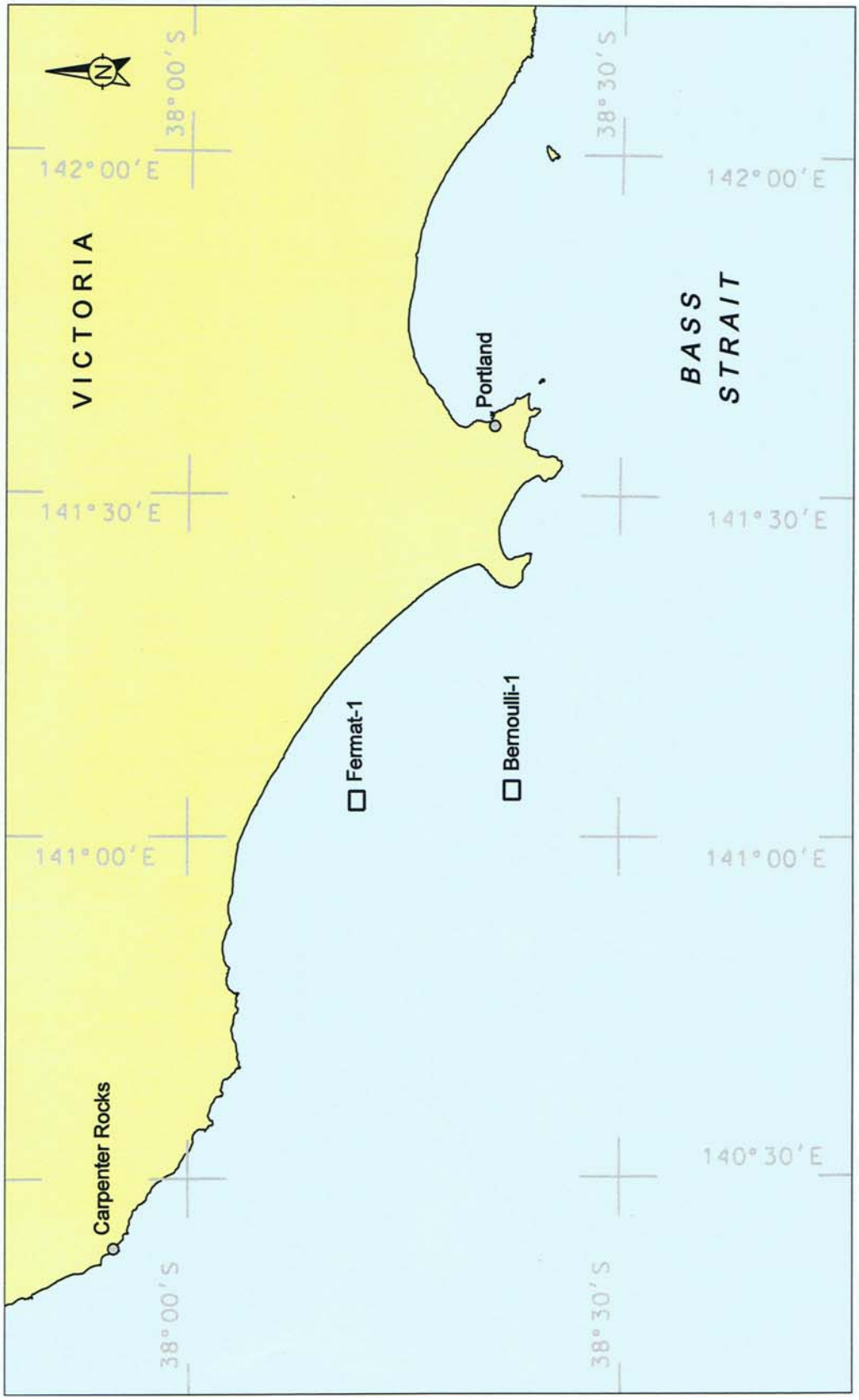


FIGURE 1 : FERMAT-1 GENERAL LOCATION DIAGRAM

3.0 RESULTS

3.1 Final Position

The final position of the *West Triton* drill stem at Fermat-1 was established by calculating the mean position from 10 hours of DGPS data logged between 0030 and 1030 on 13 December 2008. During this period, calculated drill stem coordinates from the primary positioning system were logged and the data used to calculate the final position.

Geocentric Datum of Australia 1994 geographical positions for the *West Triton* drill stem at the Fermat – 1 location are shown in Table 3-1.

Geocentric Datum of Australia 1994, ITRF2008.50			
Position	**Method**	**Latitude**	**Longitude**
West Triton Drill Stem	DGPS	38º 11' 47.0287" S	141º 03' 13.7734" E
Client Supplied Design for Fermat-1		38º 11' 46.9184" S	141º 03' 14.1375" E

TABLE 3-1 : GEOGRAPHICAL POSITIONS

Map Grid of Australia 1994 grid coordinates (UTM Zone 54 S, CM 141 E) for the *West Triton* drill stem at the Fermat – 1 location are shown in Table 3-2.

Map Grid of Australia 1994, UTM Zone 54 S			
Position	**Method**	**Easting**	**Northing**
West Triton Drill Stem	DGPS	504713.143 m	5772392.606 m
Client Supplied Design for Fermat-1		504722.000 m	5772396.000 m

TABLE 3-2 : GRID COORDINATES

The position is 9.49 m at a bearing of 249.00º True (249.03° G) from the design location.

A copy of the original rig position field report is contained in Appendix B.

3.2 Rig Heading

Gyro calibrations were undertaken prior to the rig move whilst at the Spikey Beach-1 location by sun azimuth to compute the C-O correction.

A copy of the Gyro calibration reports are shown in Appendix C.

The *West Triton's* heading at Fermat-1 is shown in Table 3-3.

Description	Method	True	Grid
West Triton heading at Fermat-1	GYRO	128.46°	128.49°
Client Supplied Design heading		135.00°	135.03°

TABLE 3-3 : FINAL HEADING

3.3 Height

The *West Triton* Rotary Table's (RT) height above Australian Height Datum (AHD) was determined from logging 10 hours of carrier phase GPS data between 0030 and 1059 on 13 December 2008. During this period, antenna heights from the primary positioning system were logged and the data used to calculate the final height of the RT.

The *West Triton's* Rotary Table height is shown in Table 3-4.

Description	Method	Height above AHD
West Triton Rotary Table at Fermat-1	Carrier Phase GPS	38.040 m

TABLE 3-4 : FINAL HEIGHT

4.0 SAFETY

All work undertaken by Fugro personnel during the project was preformed within the guidelines of Fugro's Safety policy, as defined in Fugro's Safety Manual (SMS – P01) and Offshore Survey Practices (SMS SP26).

Fugro personnel worked within all project safety guidelines and plans adopted by Seadrill and ADA.

No safety incidents involving Fugro personnel were reported during the project.

Fugro personnel attended a vessel induction, pre rig move meeting and weekly safety meeting whilst onboard.

5.0 GEODETIC PARAMETERS

5.1 Datum and Projection

All coordinates are referenced to the Geocentric Datum of Australia 1994 (GDA94) unless otherwise noted. The Global Positioning System (GPS) operates on the World Geodetic System 1984 (WGS84) datum. Fugro's Differential GPS Reference Stations are currently defined in the International Terrestrial Reference Frame 2000 (ITRF2000 Epoch 2008.50) datum. Due to the continual refinement of the WGS84 reference frame, for all cases, the transformation parameters indicate that the WGS84 and ITRF2000 reference frames are essentially identical.

Datum	**:**	**World Geodetic System 1984 (WGS84)**
Reference Spheroid	:	World Geodetic System 1984
Semi Major Axis	:	6378137.000m
Inverse flattening	:	298.257223563

Datum	**:**	**Geocentric Datum of Australia 1994 (GDA94)**
Reference Spheroid	:	Geodetic Reference System 1980 (GRS80)
Semi Major Axis	:	6378137.000m
Inverse flattening	:	298.257222101

The following seven parameter datum transformation was used in Fugro's software, to transform WGS84 (ITRF2000 Epoch 2008.50) coordinates to GDA94 coordinates. These parameters are calculated from the 14 parameter transformation defined by Geoscience Australia. Fugro follows the Coordinate Frame Rotation convention (as defined by UKOOA) for datum transformations.

Transformation Parameters from WGS84 (ITRF2000 Epoch 2008.50) to GDA94			
dX	+0.0174m	rX	+0.017554"
dY	-0.0484m	rY	+0.015065"
dZ	-0.1035m	rZ	+0.018157"
dS	+0.003362ppm		

TABLE 5-1 : TRANSFORMATION PARAMETERS

No transformation is needed in order to compute between WGS84 to GRS80.

Well grid coordinates are referenced to the Map Grid of Australia.

Grid	**:**	**Map Grid of Australia 1994 (MGA94)**
Projection	:	Universal Transverse Mercator (UTM)
Latitude of Origin	:	0°
Central Meridian	:	141° E (UTM Zone 54)
Central Scale Factor	:	0.9996
False Easting	:	500000m
False Northing	:	10000000m
Units	:	Metres

6.0 DIFFERENTIAL GPS REFERENCE STATIONS

Fugro's Differential GPS Reference Stations are currently defined in the ITRF2008.50 datum and shown in Table 6-1

Datum: ITRF 2000 Epoch 2008.50 Reference Ellipsoid: GRS80					
Station Name	**Station ID**	**Latitude**	**Longitude**	**Height (m)**	**Uplink**
Bathurst	336	33° 25′ 46.87667″	149° 34′ 01.97052″	756.671	PORH / OCSat
Brisbane	275	27° 28′ 38.48505″	153° 01′ 37.35341″	93.158	PORH / OCSat
Ceduna	355	32° 07′ 03.04625″	133° 41′ 22.85261″	7.282	PORH / OCSat
Cobar	316	31° 29′ 57.42871″	145° 50′ 20.34641″	270.178	PORH / OCSat
Melbourne	385	37° 47′ 59.26311″	144° 57′ 39.31183″	67.339	PORH / OCSat

TABLE 6-1 : GPS REFERENCE STATIONS

7.0 PROJECT COORDINATES AND TOLERANCES

Project target coordinates supplied by the client and surface tolerances for the *West Triton* Drill Stem at the Fermat-1 location are shown in Table 7.1

Map Grid of Australia 1994, UTM Zone 54 S			
Location	**Easting (m)**	**Northing (m)**	**Tolerance**
West Triton at Fermat-1	504722.000 m	5772396.000 m	±10 m

TABLE 7-1 : PROJECT DESIGN COORDINATES

8.0 PERSONNEL

8.1 Personnel Listing

G. Marshall	Project Manager / Surveyor in Charge	10 December 2008 – 15 December 2008
B. Harper	Surveyor	10 December 2008 – 15 December 2008

9.0 VESSELS

The vessels used for towing the *West Triton* were the Anchor Handling vessel *AHV Pacific Battler* and the *AHV Pacific Valkyrie*. Refer to Appendix D for the offset diagram of the West Triton.

10.0 CONCLUSIONS AND RECOMMENDATIONS

On reviewing the rig move and positioning operations undertaken by Fugro the *West Triton* was successfully positioned at the Fermat-1 location.

11.0 DISTRIBUTION

Australian Drilling Associates Pty Ltd	: 1 electronic copy
Fugro BTW Ltd	: 1 paper copy : 1 electronic copy

APPENDIX A
Daily Operations Reports

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 10/12/08
PROJECT: RIG MOVE TO FERMAT-1 LOCATION	VESSEL: WEST TRITON	JOB NO: 07066

FROM	TO	SUMMARY OF OPERATIONS
0000	2359	STATEMENT OF FACTS. Change from Spikey Beach-1 to Fermat-1. Continue tow to Fermat-1 location.
	0200	Complete jacking operations. 33m draft for tow.
0910	1038	Commence jacking legs fully up.
1130		Pacific Valkyrie arrived in vicinity of rig
1515	1620	Pacific Valkyrie along starboard side for cargo operations
1705		Pacific Valkyrie connected to port forward tow bridle

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	0	
HSE / Project Meetings	0	

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	3	B. Harper	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	3	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		07066-01

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 11/12/08
PROJECT: RIG MOVE TO FERMAT-1 LOCATION	VESSEL: WEST TRITON	JOB NO: 07066

FROM	TO	SUMMARY OF OPERATIONS
0001	2359	Continue tow to Fermat-1.
1530	1600	B. Harper attends rig move meeting.

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	0	
HSE / Project Meetings	0	

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	3	B. Harper	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	3	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		07066-02

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 12/12/08
PROJECT: RIG MOVE TO FERMAT-1 LOCATION	VESSEL: WEST TRITON	JOB NO: 07066

FROM	TO	SUMMARY OF OPERATIONS
0001	0600	Continue tow to Fermat-1.
0520	0630	Commence shortening up on tow.
0600		STATEMENT OF FACTS 1 NM FROM LOCATION.
0620	0745	Commence jacking down legs.
0630	0700	Pacific Valkyrie disconnected from port forward tow bridal.
0700	0925	Pacific Valkyrie connected to port aft tow bridal.
0745	0752	Stop jacking legs down.
0752	0843	Commence jacking legs down.
0830		Rig soft pinned on location.
0843	1005	Stop jacking.
0846	0946	Commence logging for prespud fix.
0925	0955	Pacific Valkyrie disconnected from port aft tow bridal.
0942	0955	Pacific Battler disconnected from main tow bridal. Pacific Battler departs for port.
0955	1924	Pacific Valkyrie connected to main tow bridal.
1005	2010	Commence jacking and filling of ballast tanks for preloading operations.
1924		Pacific Valkyrie disconnected from main tow bridal. Released to running standby.
2010	2310	At 100% preload. Commence holding preload.
2310	2348	Preloading complete. Commence dumping preload.
2348	2359	Commence jacking up to 15m air gap.

DAILY OPERATIONS REPORT

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	0	
HSE / Project Meetings	0	

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	3	B. Harper	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	3	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	2				

VEHICLES:		
CONSUMABLES:		
ACCOMMODATION:		

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		07066-03

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 13/12/08
PROJECT: RIG MOVE TO FERMAT-1 LOCATION	VESSEL: WEST TRITON	JOB NO: 07066

FROM	TO	SUMMARY OF OPERATIONS
0001	0021	Continue Jacking up to 15m air gap.
0030	1130	Commence logging data for final fix and rotary table heighting. (1330 UTC).
1130	1230	Stop logging and process data.
1300	1340	G. Marshall and B. Harper attend weekly safety meeting.
1340	2359	Standing by to depart rig.

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	0	
HSE / Project Meetings	1	Weekly safety meeting.

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	3	B. Harper	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	3	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	2				

VEHICLES:

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		07066-04

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 14/12/08
PROJECT: RIG MOVE TO FERMAT-1 LOCATION	VESSEL: WEST TRITON	JOB NO: 07066

FROM	TO	SUMMARY OF OPERATIONS
0001	1230	Standing by to depart rig.
1230	1245	G. Marshall and B. Harper attend helicopter safety briefing.
1345	1515	G. Marshall and B. Harper depart West Triton for Melbourne.
1515	2359	G. Marshall and B. Harper overnight Melbourne.

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	0	
HSE / Project Meetings	1	Helicopter safety briefing

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	3	B. Harper	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	3	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	2				

VEHICLES:

CONSUMABLES:

ACCOMMODATION: 2 x Hilton, Melbourne aiport

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		07066-05

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 15/12/08
PROJECT: RIG MOVE TO FERMAT-1 LOCATION	VESSEL: WEST TRITON	JOB NO: 07066

FROM	TO	SUMMARY OF OPERATIONS
0001	0930	G. Marshall and B. Harper overnight Melbourne.
0930	1130	G. Marshall and B. Harper check in at airport.
1130	1700 NZDT	G. Marshall and B. Harper fly to Auckland, New Zealand.
1830	1930	B. Harper fly to New Plymouth

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	0	
HSE / Project Meetings	0	

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	3	B. Harper	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	3	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	2				

VEHICLES:

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		07066-06

APPENDIX B
Final Positioning Data

Fermat-1 Starfix Final Fix Report

Fugro Job Number	07066 Fermat 1
Job Name	West Triton Rig Move
Fugro Personnel	G. Marshall - Surveyor in Charge
	B. Harper - Surveyor
Client Name	ADA
Client Representative	S. De Freitas
Sampling Started	12 Dec 2008 1:30:43 PM UTC
Sampling Ended	12 Dec 2008 11:28:43 PM UTC
Output File Name	"347 23 28 43(2).pdf"
Comment	Fermat-1 Final Position Fix and Rotary Table Heighting

West Triton At Fermat-1 - Final DGPS Position Fix Summary for DS

DS Offset From CRP

Starboard	0.000 m
Forward	0.000 m
Up	0.000 m

Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	38°11'47.0287"S
Longitude	141°03'13.7734"E
Projection	**Universal Transverse Mercator Zone: 54**
Easting	504713.143 m
Northing	5772392.606 m
Final Rig Heading	128.46 °T (Convergence 0.03° Aust/NZ)
Gyro C-O	65.13 °

DS Position is 9.49 m on a bearing of 249.00 °T (249.03 °G) FROM intended location

The Rotary Table is 38.040m Above the Australian Height Datum (AHD)

Intended Offset / Well Location

Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	38°11'46.9184"S
Longitude	141°03'14.1375"E
Projection	**Universal Transverse Mercator Zone: 54**
Easting	504722.000 m
Northing	5772396.000 m

Team Leader / Surveyor: _____

Client Representative : _____

Geodetic Parameters

Geodetic Datum	**GDA94-ITRF2008.50**		
Spheroid	**GRS80**		
Semi-Major Axis	6378137.000		
Inverse Flattening	298.2572221010		
Eccentricity^2	0.006694380022901		
DX	0.0174m	RX	0.0176 arc seconds
DY	-0.0484m	RY	0.0151 arc seconds
DZ	-0.1035m	RZ	0.0182 arc seconds
D Scale	0.0034ppm		
Rotation Convention +RZ=-RLongitude			
Projection	**Universal Transverse Mercator Zone: 54**		
Latitude of Origin	0°00'00.0000"N		
Longitude of Origin	141°00'00.0000"E		
False Easting	500000.000m		
False Northing	10000000.000m		
Convergence	0°02'01.9283"		

Final Primary Antenna Position (Port PORH.GGA)

3375 observations used out of a total of 3589

Primary Antenna Offset from CRP

Starboard	-13.704 m
Forward	94.883 m
Up	16.890 m

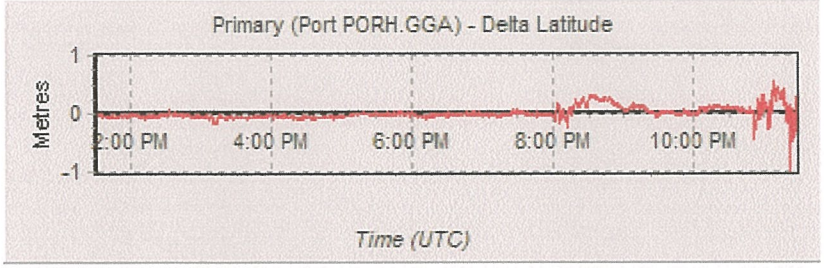
Mean

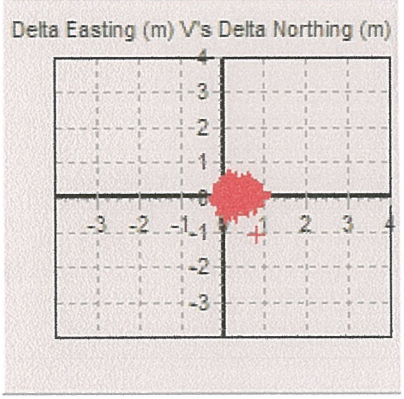
Geodetic Datum	**WGS84**
Latitude	38°11'48.5688"S
Longitude	141°03'17.1924"E
Spheroidal Ht	36.49 m
Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	38°11'48.5951"S
Longitude	141°03'17.1786"E
Spheroidal Ht	36.54 m
Projection	**Universal Transverse Mercator Zone: 54**
Easting	504795.938 m
Northing	5772344.278 m
HDOP	0.99
Heading	128.46 °T
Age Of Corrections	11.1 s
Satellites	9

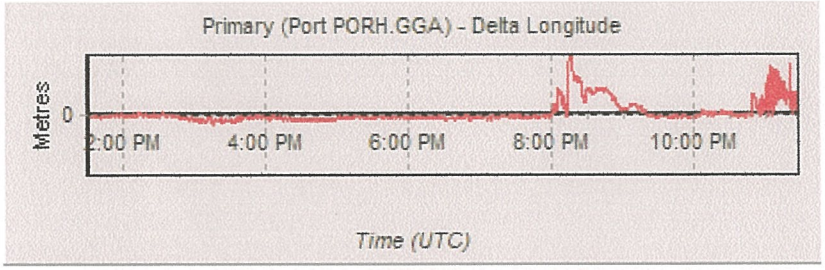
Standard Deviation

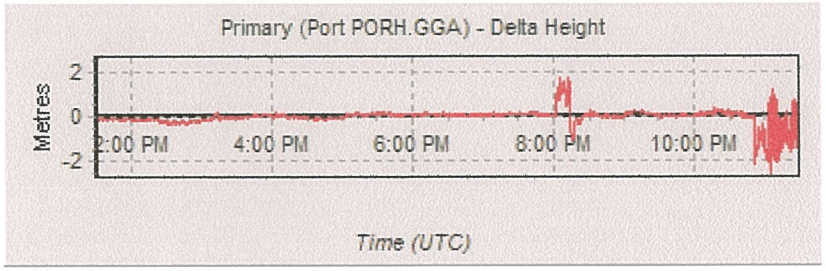
Latitude or Northing	0.08 m
Longitude or Easting	0.11 m
Spheroidal Height	0.26 m
HDOP	0.18
Heading	0.06 °T

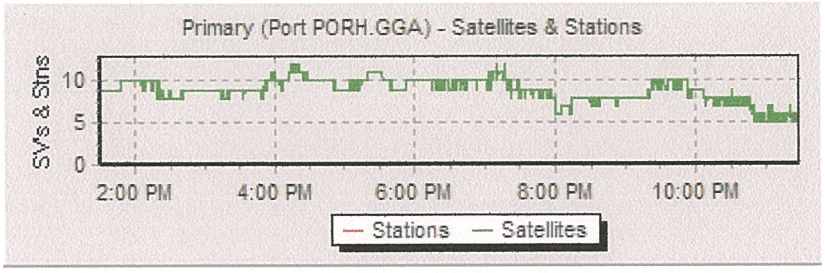
Fermat-1 Starfix Final Fix Report

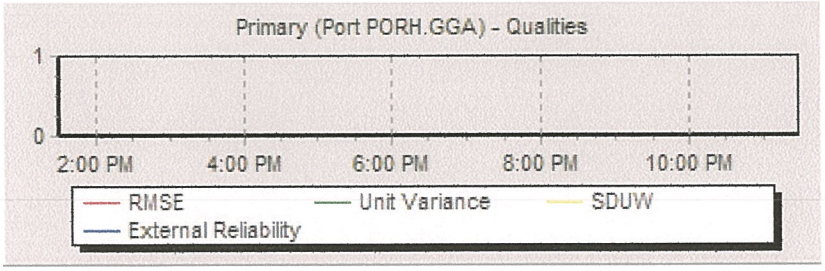












Final Secondary Antenna Position (Stbd OCSAT.GGA)
3329 observations used out of a total of 3589

Seconday Antenna Offset from CRP

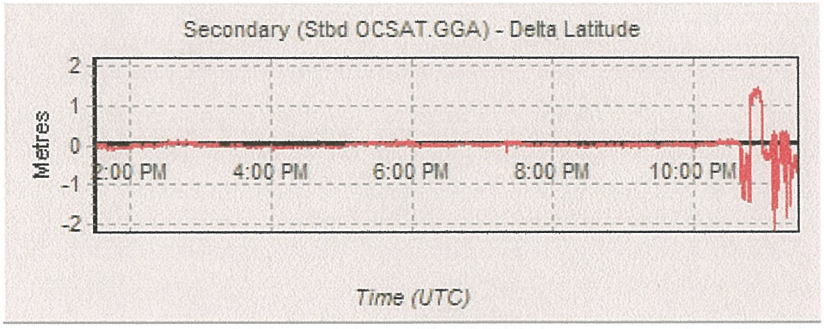
Starboard	13.616 m
Forward	94.893 m
Up	17.040 m

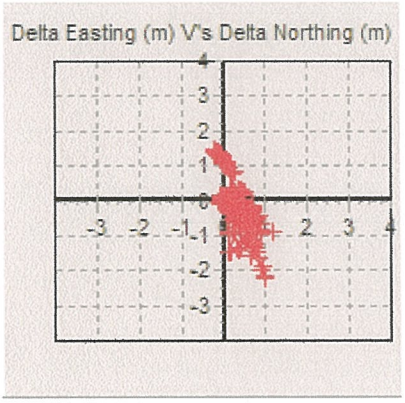
Mean

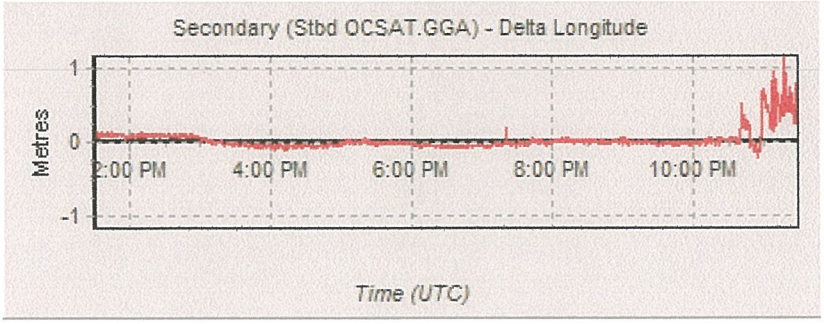
Geodetic Datum	**WGS84**
Latitude	38°11'49.2636"S
Longitude	141°03'16.4915"E
Spheroidal Ht	36.63 m
Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	38°11'49.2899"S
Longitude	141°03'16.4778"E
Spheroidal Ht	36.69 m
Projection	**Universal Transverse Mercator Zone: 54**
Easting	504778.880 m
Northing	5772322.876 m
HDOP	0.99
Age Of Corrections	12.7 s
Satellites	9

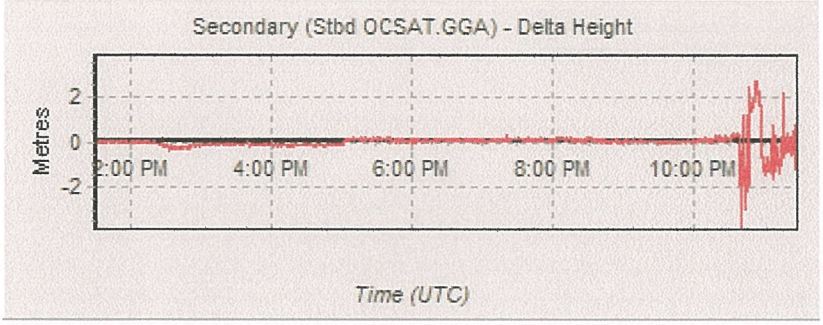
Standard Deviation

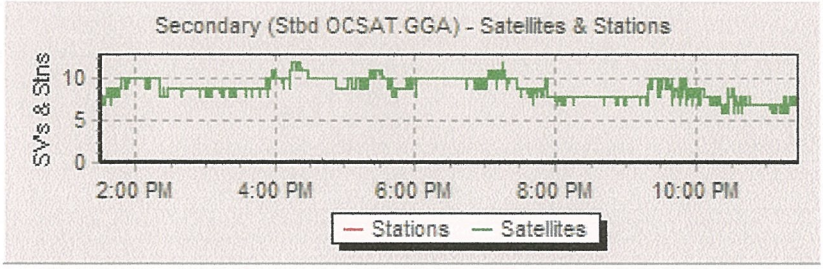
Latitude or Northing	0.05 m
Longitude or Easting	0.06 m
Spheroidal Height	0.17 m
HDOP	0.15

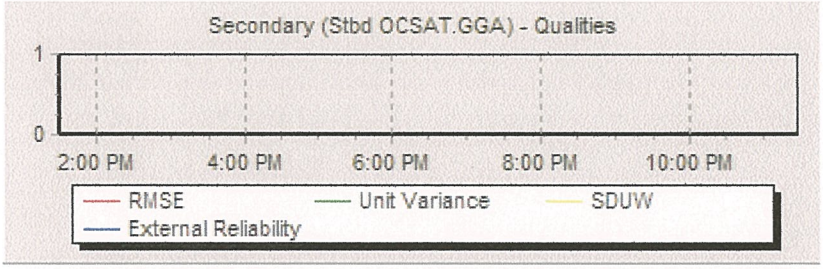


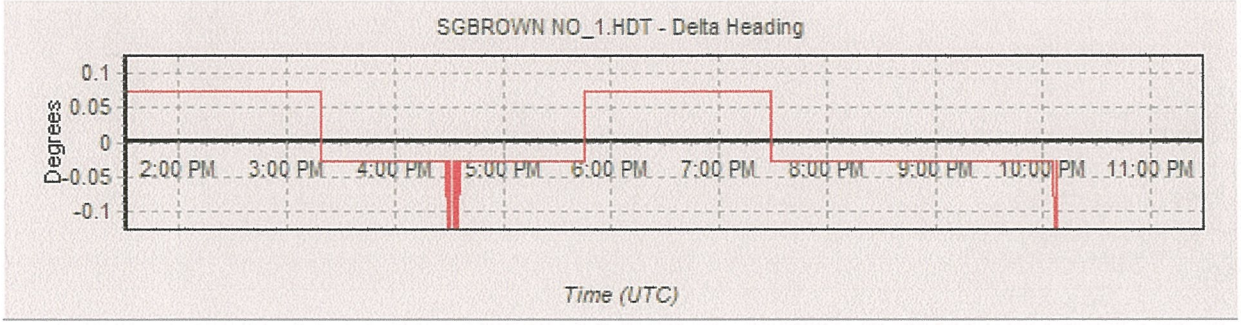





Secondary (Stbd OCSAT.GGA) - Delta Height
Metres
2
0
-2
2:00 PM
4:00 PM
6:00 PM
8:00 PM
10:00 PM
Time (UTC)


Secondary (Stbd OCSAT.GGA) - Satellites & Stations
SV's & Stns
10
5
0
2:00 PM
4:00 PM
6:00 PM
8:00 PM
10:00 PM
Stations
Satellites


Secondary (Stbd OCSAT.GGA) - Qualities
1
0
2:00 PM
4:00 PM
6:00 PM
8:00 PM
10:00 PM
RMSE
Unit Variance
SDUW
External Reliability


SGBROWN NO_1.HDT - Delta Heading
Degrees
0.1
0.05
0
-0.05
-0.1
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
Time (UTC)

Australian Government

Geoscience Australia

AUSPOS Online GPS Processing Report

Space Geodesy Analysis Centre
Geohazards Division, Geoscience Australia

December 13, 2008

This document is a report of the GPS data processing undertaken by the AUSPOS Online GPS Processing Service. The AUSPOS Online GPS Processing Service uses International GPS Service (IGS) products (final, rapid, ultra-rapid depending on availability) including Precise Orbits, Earth Orientation, Coordinate Solutions (IGS-SSC) to compute precise coordinates in ITRF anywhere on Earth. The Service is designed to process only dual frequency GPS phase data.

The AUSPOS Online GPS Processing Service is a free service and you are encouraged to use it for your projects. However, you may not charge others for this service. Geoscience Australia does not warrant that this service a) is error free; b) meets the customer's requirements. Geoscience Australia shall not be liable to the customer in respect of any loss, damage or injury (including consequential loss, damage or injury) however caused, which may arise directly or indirectly in respect of this service.

An overview of the GPS processing strategy is attached to this report. Please direct email correspondence to geodesy@ga.gov.au

AUSPOS Project Manager

Geohazards Division
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Geoscience Australia Home Page: www.ga.gov.au

Job number: #335210; User: `geoff@btw.co.nz` AUSPOS version 1.01.25

1 User and IGS GPS Data

All antenna heights refer to the vertical distance from the Ground Mark to the Antennna Reference Point (ARP).

User File	Antenna Type	Antenna Height (m)	Start Time	End Time
FMAT347N.080	DEFAULT(NONE)	0.0000	2008-12-12 13:30:59	2008-12-12 23:30:00

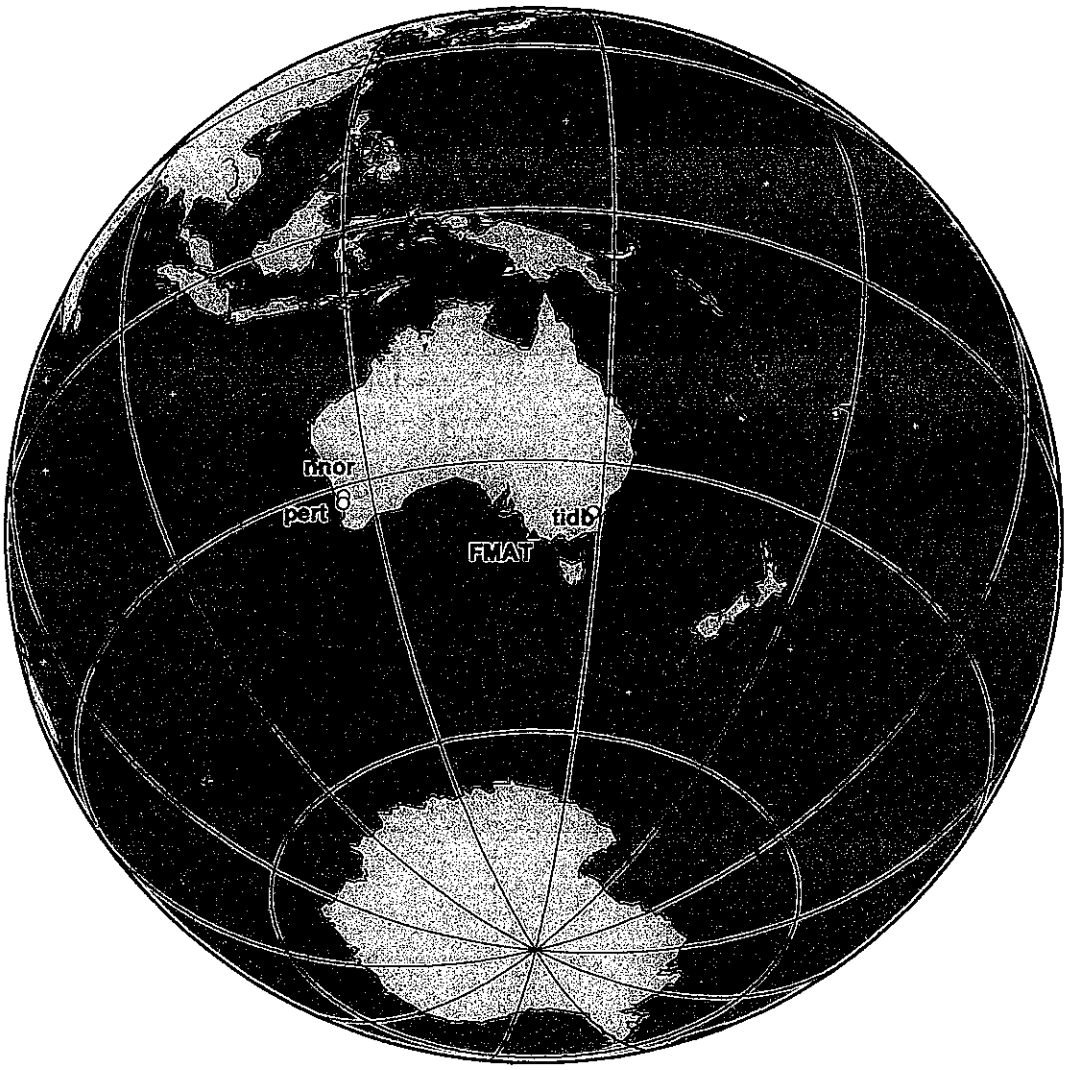


Figure 1: Global View – submitted GPS station(s) and nearby IGS GPS stations used in the processing; triangle(s) represent submitted user data; circle(s) represent the nearest available IGS stations.

2 Processing Summary

Date	IGS Data	User Data	Orbit Type
2008-12-12	tidb pert nnor	FMAT	IGS Ultra-Rapid

Warning: An IGS Ultra-Rapid orbit product has been used in this computation. For improved results please resubmit approximately 2 days after the observation session end to ensure the use of the IGS Rapid orbit product. For the highest quality coordinates please resubmit approximately 2 weeks after the observation session end to ensure the use of the IGS Final orbit product.

3 Computed Coordinates, GDA94

For Australian users Geocentric Datum of Australia (GDA94, ITRF92@1994.0) coordinates are provided. GDA94 coordinates are determined from ITRF coordinates by an Geoscience Australia (GA) derived coordinate transformation process. GA transformation parameters between ITRF and GDA94 are re-computed weekly, incorporating the latest available tectonic motions (determined from the GA GPS network). GA recommends that users within Australia use GDA94 coordinates. All coordinates refer to the Ground Mark. For general/technical information on GDA94 see www.ga.gov.au/nmd/geodesy/datums/gda.jsp and www.icsm.gov.au/icsm/gda/gdatm/

3.1 Cartesian, GDA94

	X(m)	Y(m)	Z(m)	
tidb	-4460996.066	2682557.136	-3674443.861	GDA94
nnor	-2414151.170	4907778.471	-3270645.530	GDA94
pert	-2368686.826	4881316.506	-3341796.290	GDA94
FMAT	-3903495.680	3154814.836	-3922659.956	GDA94

3.2 Geodetic, GRS80 Ellipsoid, GDA94

The height above the Geoid is computed using the GPS Ellipsoidal height and subtracting a Geoid-Ellipsoid separation. Geoid-Ellipsoidal separations are computed using a bilinear interpolation of the AUSGeoid98 grid. The height above the Geoid is only provided for sites within the AUSGeoid98 extents. For information on AUSGeoid98 see www.ga.gov.au/nmd/geodesy/ausgeoid/

	Latitude(DMS)	Longitude(DMS)	Ellipsoidal Height(m)	Above-Geoid Height(m)	
tidb	-35-23 -57.1560	148 58 47.9845	665.426	646.141	GDA94
nnor	-31 -2 -55.4672	116 11 33.7681	234.902	262.561	GDA94
pert	-31-48 -7.0968	115 53 6.8865	12.765	45.002	GDA94
FMAT	-38-11 -48.5966	141 3 17.1759	36.571	40.663	GDA94

3.3 MGA Grid, GRS80 Ellipsoid, GDA94

	East(M)	North(M)	Zone	Ellipsoidal Height(m)	Above-Geoid Height(m)	
tidb	679807.859	6080884.476	55	665.426	646.141	GDA94
nnor	422969.550	6564716.428	50	234.902	262.561	GDA94
pert	394476.889	6480972.936	50	12.765	45.002	GDA94
FMAT	504795.873	5772344.235	54	36.571	40.663	GDA94

4 Computed Coordinates, ITRF2000

All computed coordinates are based on the IGS realisation of the ITRF2000 reference frame, provided by the IGS cumulative solution. All the given ITRF2000 coordinates refer to a mean epoch of the site observation data. All coordinates refer to the Ground Mark.

4.1 Cartesian, ITRF2000

	X(m)	Y(m)	Z(m)	ITRF2000 @
tidb	-4460996.581	2682557.100	-3674443.180	2008/12/12
nnor	-2414151.866	4907778.557	-3270644.797	2008/12/12
pert	-2368687.526	4881316.604	-3341795.564	2008/12/12
FMAT	-3903496.264	3154814.873	-3922659.272	2008/12/12

4.2 Geodetic, GRS80 Ellipsoid, ITRF2000

The height above the Geoid is computed using the GPS Ellipsoidal height and subtracting a Geoid-Ellipsoid separation. Geoid-Ellipsoidal separations, in this section, are computed using a spherical harmonic synthesis of the global EGM96 geoid. More information on the EGM96 geoid can be found at earth-info.nga.mil/GandG/wgsegm/egm96.html

	Latitude(DMS)	Longitude(DMS)	Ellipsoidal Height(m)	Above-Geoid Height(m)
tidb	-35-23 -57.1301	148 58 47.9962	665.377	646.214
nnor	-31 -2 -55.4404	116 11 33.7902	234.854	263.496
pert	-31-48 -7.0700	115 53 6.9088	12.717	45.242
FMAT	-38-11 -48.5696	141 3 17.1898	36.523	41.117

5 Solution Information

To validate your solution you should check the :-

i. Antenna Reference Point (ARP) to Ground Mark records;

ii. Apriori Coordinate Updates (valid range is 0.000 - 15.000 m);

iii. Coordinate Precision (valid range is 0.001 - 0.025 m);

iv. Root Mean Square (RMS) (valid range is 0.0005 - 0.0250 m); and

v. % Observations Deleted (valid range is 0 - 25) %;

5.1 ARP to Ground Mark, per day

All heights refer to the vertical distance from the Ground Mark to the Antenna Reference Point (ARP). The Antenna Offsets refer to the vertical distance from the ARP to the L1 phase centre.

	Height(m)	Antenna Offsets(m)			
Station	Up	East	North	Up	yyyy/mm/dd
FMAT	0.0000	0.0000	0.0000	0.0000	2008/12/12

5.2 Apriori Coordinate Updates - Cartesian, per day

	dX(m)	dY(m)	dZ(m)	yyyy/mm/dd
FMAT	0.005	-0.049	0.043	2008/12/12

5.3 Coordinate Precision - Cartesian, per day

1 Sigma	sX(m)	sY(m)	sZ(m)	yyyy/mm/dd
FMAT	0.025	0.025	0.013	2008/12/12

5.4 RMS, Observations, Deletions per day

Data	RMS (m)	# Observations	% Obs. Deleted	Date
tidb	0.0225	8998	9 %	2008-12-12
nnor	0.0270	7668	11 %	2008-12-12
pert	0.0266	7589	12 %	2008-12-12
FMAT	0.0253	24255	11 %	2008-12-12

WARNING: This solution has modelling problems associated with the submitted GPS data. Please consider this solution with CAUTION.

A GPS Computation Standards

A.1 Measurement Modelling

Observable	Ionosphere corrected L1 double difference carrier phase, Psuedo-range only used for receiver clock estimation, Elevation cut-off 15°, Sampling rate 30 seconds, Weighting 1.0cm for double difference, elevation dependent 1/sin(E).
Troposphere	Hopfield, Niell mapping function
Preprocessing	Receiver clocks estimated using pseudo-range information
Satellite center of mass correction	Block II x,y,z: 0.2794, 0.0000, 1.0259 m Block IIA x,y,z: 0.2794, 0.0000, 1.2053 m
Satellite Antenna Phase centre calibration	Not applied
Ground Antenna phase centre calibrations	Elevation-dependent phase centre corrections are applied according to the model IGS01, the NGS antenna calibrations are used when the antenna used is not a recognised IGS type. The corrections are given relative to the Dorne Margolin T antenna.
Atmospheric Drag	Jachhia Model
Centre of Mass Correction / Attitude	Nil

A.2 Orbit Modelling

Earth's Gravitational (Static) Potential Model	EGM96 - degree and order 12
Solid Earth Tides (Dynamic) Potential	Love Model
Ocean Tide (Dynamic) Potential	Christodoulidis
Third Body Perturbations	Sun, Moon and Planets Values for physical constants - AU, Moon/Earth mass ratio, GM(moon, sun and planets) from JPL DE403 Planetary Ephemeris.
Direct Solar Radiation Pressure	Rock

A.3 Station Position Modelling and Reference Frame

Precession	IAU76/IERS96
Nutation	IAU80/IERS96 (including epsilon and psi corrections)
Sine terms added to accumulated precession and nutation in Right Ascension	As in IERS TN 21, p. 21
Geodesic Nutation	As in IERS TN 21, P. 37
Polar Motion	IGS Earth Orientation Parameters (Ultra-rapid, Rapid, Final) - apriori
Earth Rotation (UT1)	IGS Earth Orientation Parameters (Ultra-rapid, Rapid, Final) - apriori
Daily and Sub-daily tidal corrections to X, Y and UT1	Applied (IERS2000)
Plate Motion	IGS Cumulative SSC
Planetary and Lunar Ephemeris	JPL DE403
Station Displacement - Solid Earth Tide Loading	Williamson and Diamante (1972) + Wahr (1980) for the frequency dependent elastic response of the Earth's fluid interior.
Station Displacement - Ocean Tide Loading	not applied
Station Displacement - Pole Tide	applied
Station Displacement - Atmosphere Loading	not applied
Reference Frame	IGS Cumulative SSC

APPENDIX C
Calibrations and Checklists

FUGRO-BTW SEIS Setup for Project 07066 Rig Move to FERMAT-1 Location for ADA Ltd

Datum 1: Datum: GDA94-ITRF2008.50
Spheroid: GRS80
SemiMajor Axis: 6378137.000
1/Flattening: 298.2572221010
Eccentricity^2: 0.006694380022901

Projection: Universal Transverse Mercator
Grid Name: MGA
Lat. Origin: 0°00'00.0000"N
Lon. Origin: 141°00'00.0000"E
False East: 500000.000m
False North: 10000000.000m
Scale Factor: 0.9996
Convergence: Australia/New Zealand

Datum 2: Datum: WGS84
Spheroid: WGS84
SemiMajor Axis: 6378137.000
1/Flattening: 298.2572235630
Eccentricity^2: 0.006694379990141

Datum2 1:Parameters: From WGS84 to GDA94-ITRF2008.50
DX: 0.0174m RX: 0.0176"
DY: -0.0484m RY: 0.0151"
DZ: -0.1035m RZ: 0.0182"
D Scale: 0.0034ppm Rot Convention: +RZ=-RLongitude

Sundry : Vertical Datum: Fermat-1
Ell. Sep: -4.092m
Distances: Spheroidal
Bearings: True
Units: metres
Conversion: 1.0000000000

Nav. 1: System: Port PORH.GGA (In Use)
Type: Lat - Long
Priority: 1
Time-out: 5.0s
Offset Name: Port_PORH
X Offset: -13.70m
Y Offset: 94.88m
Ant. Height: 16.89m

Nav. 2: System: Stbd OCSAT.GGA
Type: Lat - Long
Priority: 2
Time-out: 5.0s
Offset Name: Stbd_OCSAT
X Offset: 13.62m
Y Offset : 94.89m
Ant. Height : 17.04m

Dead Reckoning: No Timeout: 30.0s

Heading 1 : System: SGBROWN No1.HDT (In Use)

Priority:	1
Time-out:	3.0s
Offset Name:	CRP
X Offset:	0.00m
Y Offset:	0.00m
Z Offset:	0.00m
Correction:	65.13 Degrees

Heading 2 : System: SGBROWN No2.HDT

Priority:	2
Time-out:	3.0s
Offset Name:	CRP
X Offset:	0.00m
Y Offset:	0.00m
Z Offset:	0.00m
Correction:	64.73 Degrees

Offsets: Name	X	Y	Z
Centre Transom	0.00	4.48	0.00
Port_TP	-5.86	79.76	0.00
Centre_TP	-1.10	79.76	0.00
Stbd_TP	5.80	79.76	0.00
DS	0.00	0.00	0.00
Port_Aft_TP	-32.38	4.48	0.00
Stbt_Aft_TP	32.28	4.48	0.00
Port_PORH	-13.70	94.88	16.89
Stbd_OCSAT	13.62	94.89	17.04
RT	0.00	0.00	14.27

Fairlead:Name	X	Y	Z
Port_Aft	-34.28	18.90	0.00
Stbd_Aft	34.28	18.92	0.00
Stbd_Fwd	10.69	73.46	0.00
Port_Fwd	-10.65	73.55	0.00

Signature:
Surveyor in Charge

Signature:
Client Representative

Fugro-BTW Ltd

FSHY31-3

GYRO COMPASS CALIBRATION BY SUN AZIMUTH - CALCULATION SUMMARY

Fugro Job Number:	07066	**Vessel:**	JUR West Triton
Job Description:	Move from Spikey Beach-1 to Fermat-1	**Instrument**	Wild T2
Client:	Australian Drilling Associates Pty Ltd	**Serial No.**	252357
Surveyor:	G. Marshall & B. Harper	**Observation Date:**	December 8, 2008
Gyro:	SG Brown No 1	**Time Zone:**	UTC + 11

Vessel Details

	D	M	S
Enter correction from RO to vessel centreline	230°	55 '	31 "

Enter approximate position of instrument

	D	M	S
Latitude	-40 °	28 '	58 "
Longitude	145 °	52 '	23 "

Observations

Obs. No.	Date	UTC	Instrument Position						Calculated Sun Azimuth at UTC				Observed Direction to Sun				Calc'd Vessel Hdg	Obs'd Vessel Hdg	Sun Semi Diameter	(C-O) Degrees
			Latitude			Longitude														
			Deg	Min	Sec	Deg	Min	Sec	Deg	Min	Sec	Dec. Deg	Deg	Min	Sec	Dec. Deg				
1	8-Dec-08	5:18:41	-040	28	58	145	52	23	279	10	08	279.169	14°	21'	55	14.365	135.729	70.60 °	0.2710	65.13
2	8-Dec-08	5:20:44	-040	28	58	145	52	23	278	46	21	278.773	13°	58'	15	13.971	135.727	70.60 °	0.2710	65.13
3	8-Dec-08	5:21:42	-040	28	58	145	52	23	278	35	13	278.587	13°	46'	16	13.771	135.741	70.60 °	0.2710	65.14
4	8-Dec-08	5:23:05	-040	28	58	145	52	23	278	19	22	278.323	13°	31'	35	13.526	135.722	70.60 °	0.2710	65.12
5	8-Dec-08	5:24:01	-040	28	58	145	52	23	278	08	43	278.145	13°	18'	24	13.307	135.764	70.60 °	0.2710	65.16
6	8-Dec-08	5:24:48	-040	28	58	145	52	23	277	59	49	277.997	13°	10'	30	13.175	135.747	70.60 °	0.2710	65.15
7	8-Dec-08	5:25:29	-040	28	58	145	52	23	277	52	05	277.868	13°	04'	26	13.074	135.719	70.60 °	0.2710	65.12
8	8-Dec-08	5:26:30	-040	28	58	145	52	23	277	40	37	277.677	12°	50'	58	12.849	135.753	70.60 °	0.2710	65.15
9	8-Dec-08	5:27:27	-040	28	58	145	52	23	277	29	56	277.499	12°	41'	58	12.699	135.725	70.60 °	0.2710	65.12
10	8-Dec-08	5:28:02	-040	28	58	145	52	23	277	23	24	277.390	12°	35'	40	12.594	135.721	70.60 °	0.2710	65.12
11	8-Dec-08	5:28:37	-040	28	58	145	52	23	277	16	53	277.281	12°	28'	52	12.481	135.725	70.60 °	0.2710	65.13
12	8-Dec-08	5:29:17	-040	28	58	145	52	23	277	09	27	277.157	12°	21'	44	12.362	135.720	70.60 °	0.2710	65.12
13	8-Dec-08	5:29:55	-040	28	58	145	52	23	277	02	24	277.040	12°	15'	11	12.253	135.712	70.60 °	0.2710	65.11
14	8-Dec-08	5:30:19	-040	28	58	145	52	23	276	57	58	276.966	12°	09'	24	12.157	135.735	70.60 °	0.2710	65.13
15	8-Dec-08	5:30:45	-040	28	58	145	52	23	276	53	10	276.886	12°	05'	15	12.087	135.724	70.60 °	0.2710	65.12
16	8-Dec-08	5:32:33	-040	28	58	145	52	23	276	33	19	276.555	11°	44'	43	11.745	135.735	70.60 °	0.2710	65.14
17	8-Dec-08	5:33:19	-040	28	58	145	52	23	276	24	54	276.415	11°	35'	52	11.598	135.743	70.60 °	0.2710	65.14
18	8-Dec-08	5:33:43	-040	28	58	145	52	23	276	20	31	276.342	11°	32'	45	11.546	135.721	70.60 °	0.2710	65.12
19	8-Dec-08	5:34:13	-040	28	58	145	52	23	276	15	03	276.251	11°	26'	58	11.449	135.727	70.60 °	0.2710	65.13
20	8-Dec-08	5:35:07	-040	28	58	145	52	23	276	05	15	276.087	11°	17'	04	11.284	135.728	70.60 °	0.2710	65.13

Mean	**65.13**
Std. Deviation	**0.01**
Maximum	**65.16**
Minimum	**65.11**
Range	**0.05**

Surveyor in Charge : _____
G. Marshall

Date 8 Dec 08

Approved by the Operations Manager, 15-Feb-2005
Note: To ensure that this is the latest version check the Online BMS.

Fugro-BTW Ltd

FSHY31-3

GYRO COMPASS CALIBRATION BY SUN AZIMUTH - CALCULATION SUMMARY

Fugro Job Number:	07066	**Vessel:**	JUR West Triton
Job Description:	Move from Spikey Beach-1 to Fermat-1	**Instrument**	Wild T2
Client:	Australian Drilling Associates Pty Ltd	**Serial No.**	252357
Surveyor:	G. Marshall & B. Harper	**Observation Date:**	December 8, 2008
Gyro:	SG Brown No 2	**Time Zone:**	UTC + 11

Vessel Details

	D	M	S
Enter correction from RO to vessel centreline	230°	55 '	31 "

Enter approximate position of instrument

	D	M	S
Latitude	-40 °	28 '	58 "
Longitude	145 °	52 '	23 "

Observations

Obs. No.	Date	UTC	Instrument Position						Calculated Sun Azimuth at UTC				Observed Direction to Sun				Calc'd Vessel Hdg	Obs'd Vessel Hdg	Sun Semi Diameter	(C-O) Degrees
			Latitude			Longitude														
			Deg	Min	Sec	Deg	Min	Sec	Deg	Min	Sec	Dec. Deg	Deg	Min	Sec	Dec. Deg				
1	8-Dec-08	5:18:41	-040	28	58	145	52	23	279	10	08	279.169	14°	21'	55	14.365	135.729	71.00 °	0.2710	64.73
2	8-Dec-08	5:20:44	-040	28	58	145	52	23	278	46	21	278.773	13°	58'	15	13.971	135.727	71.00 °	0.2710	64.73
3	8-Dec-08	5:21:42	-040	28	58	145	52	23	278	35	13	278.587	13°	46'	16	13.771	135.741	71.00 °	0.2710	64.74
4	8-Dec-08	5:23:05	-040	28	58	145	52	23	278	19	22	278.323	13°	31'	35	13.526	135.722	71.00 °	0.2710	64.72
5	8-Dec-08	5:24:01	-040	28	58	145	52	23	278	08	43	278.145	13°	18'	24	13.307	135.764	71.00 °	0.2710	64.76
6	8-Dec-08	5:24:48	-040	28	58	145	52	23	277	59	49	277.997	13°	10'	30	13.175	135.747	71.00 °	0.2710	64.75
7	8-Dec-08	5:25:29	-040	28	58	145	52	23	277	52	05	277.868	13°	04'	26	13.074	135.719	71.00 °	0.2710	64.72
8	8-Dec-08	5:26:30	-040	28	58	145	52	23	277	40	37	277.677	12°	50'	58	12.849	135.753	71.00 °	0.2710	64.75
9	8-Dec-08	5:27:27	-040	28	58	145	52	23	277	29	56	277.499	12°	41'	58	12.699	135.725	71.00 °	0.2710	64.72
10	8-Dec-08	5:28:02	-040	28	58	145	52	23	277	23	24	277.390	12°	35'	40	12.594	135.721	71.00 °	0.2710	64.72
11	8-Dec-08	5:28:37	-040	28	58	145	52	23	277	16	53	277.281	12°	28'	52	12.481	135.725	71.00 °	0.2710	64.73
12	8-Dec-08	5:29:17	-040	28	58	145	52	23	277	09	27	277.157	12°	21'	44	12.362	135.720	71.00 °	0.2710	64.72
13	8-Dec-08	5:29:55	-040	28	58	145	52	23	277	02	24	277.040	12°	15'	11	12.253	135.712	71.00 °	0.2710	64.71
14	8-Dec-08	5:30:19	-040	28	58	145	52	23	276	57	58	276.966	12°	09'	24	12.157	135.735	71.00 °	0.2710	64.73
15	8-Dec-08	5:30:45	-040	28	58	145	52	23	276	53	10	276.886	12°	05'	15	12.087	135.724	71.00 °	0.2710	64.72
16	8-Dec-08	5:32:33	-040	28	58	145	52	23	276	33	19	276.555	11°	44'	43	11.745	135.735	71.00 °	0.2710	64.74
17	8-Dec-08	5:33:19	-040	28	58	145	52	23	276	24	54	276.415	11°	35'	52	11.598	135.743	71.00 °	0.2710	64.74
18	8-Dec-08	5:33:43	-040	28	58	145	52	23	276	20	31	276.342	11°	32'	45	11.546	135.721	71.00 °	0.2710	64.72
19	8-Dec-08	5:34:13	-040	28	58	145	52	23	276	15	03	276.251	11°	26'	58	11.449	135.727	71.00 °	0.2710	64.73
20	8-Dec-08	5:35:07	-040	28	58	145	52	23	276	05	15	276.087	11°	17'	04	11.284	135.728	71.00 °	0.2710	64.73

Mean	**64.73**
Std. Deviation	**0.01**
Maximum	**64.76**
Minimum	**64.71**
Range	**0.05**

Surveyor in Charge : _____
G. Marshall

Date 8 Dec 08

Approved by the Operations Manager, 15-Feb-2005
Note: To ensure that this is the latest version check the Online BMS.

Fugro-BTW Ltd

FSHY31-3

GYRO COMPASS CALIBRATION BY SUN AZIMUTH - CALCULATION SUMMARY

Fugro Job Number:	07066	**Vessel:**	JUR West Triton
Job Description:	Move from Spikey Beach-1 to Fermat-1	**Instrument**	Wild T2
Client:	Australian Drilling Associates Pty Ltd	**Serial No.**	252357
Surveyor:	G. Marshall & B. Harper	**Observation Date:**	December 8, 2008
Gyro:	GPS Gyro	**Time Zone:**	UTC + 11

Vessel Details

	D	M	S
Enter correction from RO to vessel centreline	230°	55 '	31 "

Enter approximate position of instrument

	D	M	S
Latitude	-40 °	28 '	58 "
Longitude	145 °	52 '	23 "

Observations

Obs. No.	Date	UTC	Instrument Position						Calculated Sun Azimuth at UTC				Observed Direction to Sun				Calc'd Vessel Hdg	Obs'd Vessel Hdg	Sun Semi Diameter	(C-O) Degrees
			Latitude			Longitude														
			Deg	Min	Sec	Deg	Min	Sec	Deg	Min	Sec	Dec. Deg	Deg	Min	Sec	Dec. Deg				
1	8-Dec-08	5:18:41	-040	28	58	145	52	23	279	10	08	279.169	14°	21'	55	14.365	135.729	135.56 °	0.2710	0.17
2	8-Dec-08	5:20:44	-040	28	58	145	52	23	278	46	21	278.773	13°	58'	15	13.971	135.727	135.65 °	0.2710	0.07
3	8-Dec-08	5:21:42	-040	28	58	145	52	23	278	35	13	278.587	13°	46'	16	13.771	135.741	135.64 °	0.2710	0.10
4	8-Dec-08	5:23:05	-040	28	58	145	52	23	278	19	22	278.323	13°	31'	35	13.526	135.722	135.66 °	0.2710	0.07
5	8-Dec-08	5:24:01	-040	28	58	145	52	23	278	08	43	278.145	13°	18'	24	13.307	135.764	135.68 °	0.2710	0.08
6	8-Dec-08	5:24:48	-040	28	58	145	52	23	277	59	49	277.997	13°	10'	30	13.175	135.747	135.65 °	0.2710	0.10
7	8-Dec-08	5:25:29	-040	28	58	145	52	23	277	52	05	277.868	13°	04'	26	13.074	135.719	135.66 °	0.2710	0.06
8	8-Dec-08	5:26:30	-040	28	58	145	52	23	277	40	37	277.677	12°	50'	58	12.849	135.753	135.69 °	0.2710	0.06
9	8-Dec-08	5:27:27	-040	28	58	145	52	23	277	29	56	277.499	12°	41'	58	12.699	135.725	135.65 °	0.2710	0.07
10	8-Dec-08	5:28:02	-040	28	58	145	52	23	277	23	24	277.390	12°	35'	40	12.594	135.721	135.66 °	0.2710	0.06
11	8-Dec-08	5:28:37	-040	28	58	145	52	23	277	16	53	277.281	12°	28'	52	12.481	135.725	135.66 °	0.2710	0.06
12	8-Dec-08	5:29:17	-040	28	58	145	52	23	277	09	27	277.157	12°	21'	44	12.362	135.720	135.69 °	0.2710	0.04
13	8-Dec-08	5:29:55	-040	28	58	145	52	23	277	02	24	277.040	12°	15'	11	12.253	135.712	135.63 °	0.2710	0.08
14	8-Dec-08	5:30:19	-040	28	58	145	52	23	276	57	58	276.966	12°	09'	24	12.157	135.735	135.66 °	0.2710	0.07
15	8-Dec-08	5:30:45	-040	28	58	145	52	23	276	53	10	276.886	12°	05'	15	12.087	135.724	135.70 °	0.2710	0.02
16	8-Dec-08	5:32:33	-040	28	58	145	52	23	276	33	19	276.555	11°	44'	43	11.745	135.735	135.63 °	0.2710	0.10
17	8-Dec-08	5:33:19	-040	28	58	145	52	23	276	24	54	276.415	11°	35'	52	11.598	135.743	135.64 °	0.2710	0.11
18	8-Dec-08	5:33:43	-040	28	58	145	52	23	276	20	31	276.342	11°	32'	45	11.546	135.721	135.66 °	0.2710	0.06
19	8-Dec-08	5:34:13	-040	28	58	145	52	23	276	15	03	276.251	11°	26'	58	11.449	135.727	135.70 °	0.2710	0.02
20	8-Dec-08	5:35:07	-040	28	58	145	52	23	276	05	15	276.087	11°	17'	04	11.284	135.728	135.68 °	0.2710	0.05

Mean	**0.08**
Std. Deviation	**0.03**
Maximum	**0.17**
Minimum	**0.02**
Range	**0.14**

Surveyor in Charge : _____
G. Marshall

Date 8 Dec 08

Approved by the Operations Manager, 15-Feb-2005
Note: To ensure that this is the latest version check the Online BMS.

Fermat - 1 Pre Rig Move Report

Fugro Job Number	07066 Fermat 1
Job Name	West Triton Rig Move
Fugro Personnel	G. Marshall - Surveyor in Charge
	B. Harper - Surveyor
Client Name	ADA
Client Representative	S. De Freitas
Sampling Started	02 Dec 2008 5:42:21 AM UTC
Sampling Ended	02 Dec 2008 6:42:30 AM UTC
Output File Name	"337 06 42 30.pdf"
Comment	Survey Positioning System Check Fix

West Triton At Peejay - 1 - DGPS Positioning Check Fix

DS Offset From CRP

Starboard	0.000 m
Forward	0.000 m
Up	0.000 m

Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	40°29'47.9106"S
Longitude	146°21'35.4512"E
Projection	**Universal Transverse Mercator Zone: 55**
Easting	445754.531 m
Northing	5516921.226 m
Final Rig Heading	136.26 °T (Convergence -0.42° Aust/NZ)
Gyro C-O	-295.14°

DS Position is 0.18 m on a bearing of 241.32 °T (240.90 °G) FROM intended location

Intended Offset / Well Location

Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	40°29'47.9079"S
Longitude	146°21'35.4578"E
Projection	**Universal Transverse Mercator Zone: 55**
Easting	445754.686 m
Northing	5516921.312 m

Team Leader / Surveyor: _____

Client Representative : _____

Geodetic Parameters

Geodetic Datum	**GDA94-ITRF2008.50**		
Spheroid	**GRS80**		
Semi-Major Axis	6378137.000		
Inverse Flattening	298.2572221010		
Eccentricity^2	0.006694380022901		
DX	0.0174m	RX	0.0176 arc seconds
DY	-0.0484m	RY	0.0151 arc seconds
DZ	-0.1035m	RZ	0.0182 arc seconds
D Scale	0.0034ppm		
Rotation Convention	+RZ=-RLongitude		
Projection	**Universal Transverse Mercator Zone: 55**		
Latitude of Origin	0°00'00.0000"N		
Longitude of Origin	147°00'00.0000"E		
False Easting	500000.000m		
False Northing	10000000.000m		
Convergence	- 0°24'54.5516"		

Fermat-1 Pre Spud Report

Fugro Job Number	**07066 Fermat 1**
Job Name	**West Triton Rig Move**
Fugro Personnel	**G. Marshall - Surveyor in Charge**
	B. Harper - Surveyor
Client Name	**ADA**
Client Representative	**S. De Freitas**
Sampling Started	**11 Dec 2008 9:46:56 PM UTC**
Sampling Ended	**11 Dec 2008 10:44:55 PM UTC**
Output File Name	**"346 22 44 55.pdf"**
Comment	**Fermat-1 Pre Spud Fix**

West Triton At Fermat-1 - Final DGPS Position Fix Summary for DS

DS Offset From CRP

Starboard	0.000 m
Forward	0.000 m
Up	0.000 m

Geodetic Datum **GDA94-ITRF2008.50**

Latitude	38°11'47.0284"S
Longitude	141°03'13.7586"E

Projection **Universal Transverse Mercator Zone: 54**

Easting	504712.784 m
Northing	5772392.617 m

Final Rig Heading 128.52 °T (Convergence 0.03° Aust/NZ)
Gyro C-O 65.13 °
DS Position is 9.82 m on a bearing of 249.81 °T (249.84 °G) FROM intended location

Intended Offset / Well Location

Geodetic Datum **GDA94-ITRF2008.50**

Latitude	38°11'46.9184"S
Longitude	141°03'14.1375"E

Projection **Universal Transverse Mercator Zone: 54**

Easting	504722.000 m
Northing	5772396.000 m

Team Leader / Surveyor: _____

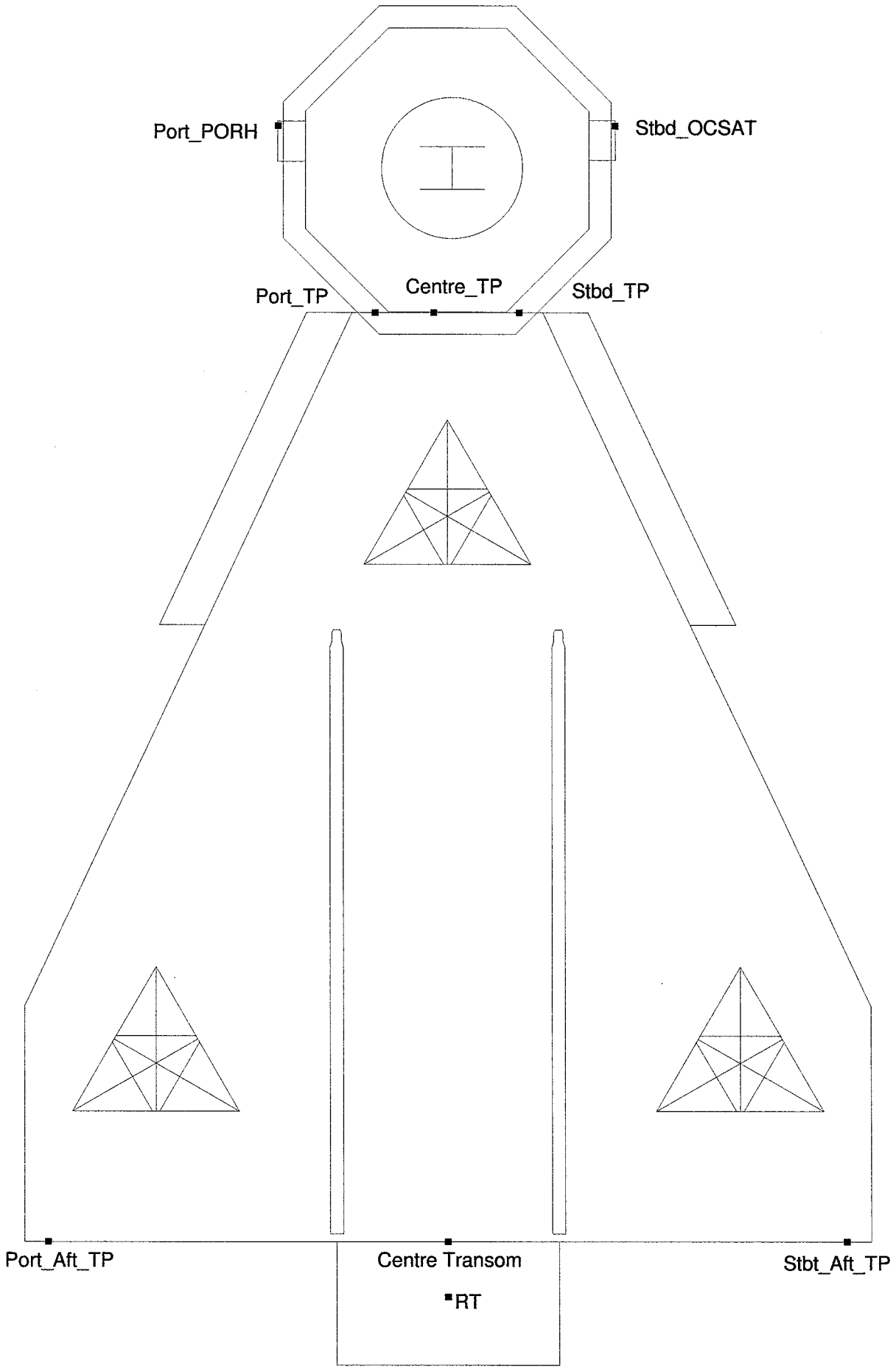
Client Representative : _____

Geodetic Parameters

Geodetic Datum	**GDA94-ITRF2008.50**		
Spheroid	**GRS80**		
Semi-Major Axis	6378137.000		
Inverse Flattening	298.2572221010		
Eccentricity^2	0.006694380022901		
DX	0.0174m	RX	0.0176 arc seconds
DY	-0.0484m	RY	0.0151 arc seconds
DZ	-0.1035m	RZ	0.0182 arc seconds
D Scale	0.0034ppm		
Rotation Convention	+RZ=-RLongitude		
Projection	**Universal Transverse Mercator Zone: 54**		
Latitude of Origin	0°00'00.0000"N		
Longitude of Origin	141°00'00.0000"E		
False Easting	500000.000m		
False Northing	10000000.000m		
Convergence	0°02'01.9178"		

APPENDIX D
Vessel Offset Diagram

West Triton


Port_PORH
Stbd_OCSAT
Port_TP
Centre_TP
Stbd_TP
Port_Aft_TP
Centre Transom
RT
Stbt_Aft_TP

APPENDIX E
Client Supplied Data

4.0 Well Data

4.1 General License and Field Data

Well Name	Fermat-1
Well Type	Exploration
Field Name	Fermat
License/Permit	VIC/P46
Field Operator	Beach Petroleum Ltd
Participants	Essential Petroleum Resources Ltd Mitsui E&P Australia Pty Ltd
Earliest Spud Date	December 2008
Latest Spud Date	January 2009
Total Depth	Base Case: 3640mTVDRT Contingent* Case: 4000mTVDRT
Well Type	Vertical
Water Depth	38m MSL

**Contingent on the presence of gas filled reservoir quality sands in either the Flaxman Formation or the Waarre C Unit and good hole conditions.*

4.2 Surface Location

Spheroid and Datum	GRS80, GDA94
Latitude	38° 11' 46.92" S
Longitude	141° 03' 14.14" E
Projection	UTM 54
Easting	504 722m E
Northing	5 772 396m N
Surface Tolerance	10m radius, centred on proposed well location

4.3 Total Depth Location

Latitude	38° 11' 46.92" S
Longitude	141° 03' 14.14" E
Projection	UTM 54
Easting	504 722m E
Northing	5 772 396m N

Appendix 2: Daily Drilling Reports

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 1

10 Dec 2008

From: Sean De Freitas / Peter Dane
To: Rob Oliver

Fermat-1

Well Data

Country	Australia	MDBRT	0.0m	Cur. Hole Size		AFE Cost	US$ 0
Field	Otway	TVDBRT	0.0m	Last Casing OD		AFE No.	
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT		Daily Cost	US$650,000
Rig	West Triton	Days from spud		Shoe MDBRT		Cum Cost	US$650,000
Wtr Dpth (MSL)	38.000m	Days on well	1.00	FIT/LOT:	/		
RT-MSL	m	Planned TD MD		Current Op @ 0600	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location.		
RT-ML	NaNm	Planned TD TVDRT		Planned Op	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location.		

Summary of Period 0000 to 2400 Hrs

Rig under tow with Pacific Battler to Fermat-1 location.
Offloaded supplies from Pacific Valkyrie.
Connected Port/Bow pennant line to Pacific Valkyrie.
Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	8 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	2	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	2	0 Days	PTW issued for the day.	
Safety Meeting	2	4 Days	Weekly safety meeting	
STOP Card	28	0 Days	Stop cards submitted for the day.	

Operations For Period 0000 Hrs to 2400 Hrs on 10 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M1	0000	0600	6.00	0.0m	Rig under tow with Pacific Battler to Fermat-1 location. Rig position at 06:00 hrs : Latitude 40 deg 18' S. Longitiude 145 deg 34' E. Total distance travelled 17 nautical miles. Average speed 2.8 knots. Distance to go 251 nautical miles. ETA = 17:00 hrs 12th December 08 Note: Concurrently continued jacking up legs to 33m - no damage observed on legs to this point.
P1	P	M1	0600	1200	6.00	0.0m	Rig under tow with Pacific Battler to Fermat-1 location. Rig position at 12:00 hrs : Latitude 40 deg 10' S. Longitiude 145 deg 7.0' E. Total distance travelled 44 nautical miles. Average speed 3.7 knots. Distance to go 224 nautical miles. ETA = 13:45 hrs 12th December 08 Note: Jacked up legs from 33m to 24m - one bent span breaker on fwd leg and two slightly bent span breakers on port leg.
P1	P	M1	1200	1500	3.00	0.0m	Rig under tow with Pacific Battler to Fermat-1 location. Total distance travelled 58 nautical miles. Distance to go 205 nautical miles.
P1	P	M1	1500	1800	3.00	0.0m	Rig tow slowed to 1 knot, whilst offloading supplies from Pacific Valkyrie. Connected Pacific Valkyrie to port/bow pennant line. Rig under tow with Pacific Battler & Pacific Valkyrie to Fermat-1 location. Rig position at 18:00 hrs : Latitude 39 deg 51' S. Longitiude 144 deg 52' E. Total distance travelled 60 nautical miles. Distance to go 209 nautical miles. ETA = 16:30 hrs 12th December 08
P1	P	M1	1800	2400	6.00	0.0m	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 24:00 hrs : Latitude 39 deg 28' S. Longitiude 144 deg 17' E.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							Total distance travelled 95 nautical miles. Distance to go 174 nautical miles. Average speed 5.8 knots. ETA = 10:45 hrs 12th December 08

Operations For Period 0000 Hrs to 0600 Hrs on 11 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M1	0000	0600	6.00	0.0m	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 06:00 hrs : Latitude 39 deg 10' S. Longitiude 143 deg 36.5' E. Total distance travelled 133 nautical miles. Average speed 4.4 knots. Distance to go 133 nautical miles. ETA = 09:12 hrs 12th December 08

Phase Data to 2400hrs, 10 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	24	10 Dec 2008	10 Dec 2008	24.00	1.000	0.0m

General Comments

00:00 TO 24:00 Hrs ON 10 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Remote controller for Iron Roughneck not operational - waiting on new control switch 3) Need new BOP test tool mandrel. Ordered on the 24/10/08.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	340.0
Rig Fuel	m3	0	2	0	193.0
POTABLE WATER	MT	0	23	0	189.0
Cement class G	MT	0	0	0	88.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	51.0
Barite	MT	0	0	0	82.0
Brine	m3	0	0	0	184.0
Helifuel	ltr	0	0	0	4,997.0

Personnel On Board

Company	Pax
ADA	4
Seadrill	14
Catering	9
Seadrill Services	27
Tamboritha	2
Halliburton	1
Falconer Bryan	1
Fugro Survey	2
Go Offshore	1
Go Offshore	2
Total	63

Marine

Australian Drilling Associates Pty Ltd ADA

Weather on 10 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	8kn	350.0deg	1005.0mbar	13C°	0.3m	280.0deg	5s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
135.5deg		2242.00klb	0.7m	280.0deg	11s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks
Pacific Battler	11:06 hrs 28/11/08		Towing rig on main tow bridle to Fermat-1.	

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	35.4	0	0	293.2
Potable Water	m3	0	5	0	0	285
Drill Water	m3	0	0	0	0	365
Barite	Mt	0	0	0	0	42
CEMENT G	Mt	0	0	0	0	0
Bentonite	Mt	0	0	0	0	42
Brine	m3	0	0	0	0	0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks
Pacific Valkyrie		12:43 hrs 08/12/08	Towing rig on port/bow pennant line to Fermat-1.	

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	19	0	0	647.5
Potable Water	Mt	0	5	0	0	418
Drill Water	m3	0	100	0	0	633
Barite	Mt	0	0	0	0	0
Bentonite	Mt	0	0	0	0	22
CEMENT G	Mt	0	0	0	0	58

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 2
Fermat-1

11 Dec 2008

From: Sean De Freitas / Peter Sheehan
To: Rob Oliver

Well Data

Country	Australia	MDBRT	0.0m	Cur. Hole Size		AFE Cost	US$ 0
Field	Otway	TVDBRT	0.0m	Last Casing OD		AFE No.	
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT		Daily Cost	US$ 0
Rig	West Triton	Days from spud		Shoe MDBRT		Cum Cost	US$650,000
Wtr Dpth (MSL)	38.000m	Days on well	2.00	FIT/LOT:	/		
RT-MSL	m	Planned TD MD		Current Op @ 0600	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location - making approach to location.		
RT-ML	NaNm	Planned TD TVDRT		Planned Op	Make approach to location. Pin rig at Fermat-1. Preload and jack up rig.		

Summary of Period 0000 to 2400 Hrs

Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	9 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	3	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	1 Day	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	3	0 Days	PTW issued for the day.	
Safety Meeting	2	5 Days	Weekly safety meeting	
STOP Card	22	0 Days	Stop cards submitted for the day.	7 positive 15 negative

Operations For Period 0000 Hrs to 2400 Hrs on 11 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M1	0000	0600	6.00	0.0m	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 06:00 hrs : Latitude 39 deg 10' S. Longitiude 143 deg 36.5' E. Total distance travelled 133 nautical miles. Average speed 4.4 knots. Distance to go 133 nautical miles. ETA = 09:12 hrs 12th December 08
P1	P	M1	0600	1200	6.00	0.0m	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 12:00 hrs : Latitude 38 deg 59' S. Longitiude 142 deg 53' E. Total distance travelled 169 nautical miles. Average speed 4.7 knots. Distance to go 110 nautical miles. ETA = 06:15 hrs 12th December 08
P1	P	M1	1200	1800	6.00	0.0m	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 18:00 hrs : Latitude 38 deg 53.5' S. Longitiude 142 deg 5.5' E. Total distance travelled 207 nautical miles. Average speed 4.9 knots. Distance to go 73 nautical miles. ETA = 05:12 hrs 12th December 08
P1	P	M1	1800	2400	6.00	0.0m	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 24:00 hrs : Latitude 38 deg 44.1' S. Longitiude 141 deg 19.4' E. Total distance travelled 245 nautical miles. Average speed 5.1 knots. Distance to go 34 nautical miles. ETA = 05:00 hrs 12th December 08

Operations For Period 0000 Hrs to 0600 Hrs on 12 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M1	0000	0600	6.00	0.0m	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 06:00 hrs : On location Latitude 38 deg 13.2' S. Longitiude 141 deg 03.0' E. Total distance travelled 278 nautical miles. Average speed 5.2 knots.

Australian Drilling Associates Pty Ltd ADA

Phase Data to 2400hrs, 11 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	48	10 Dec 2008	11 Dec 2008	48.00	2.000	0.0m

General Comments

00:00 TO 24:00 Hrs ON 11 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Remote controller for Iron Roughneck not operational - waiting on new control switch 3) Need new BOP test tool mandrel. Ordered on the 24/10/08.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	20	0	320.0
Rig Fuel	m3	0	3	0	190.0
POTABLE WATER	MT	0	31	0	158.0
Cement class G	MT	0	0	0	88.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	51.0
Barite	MT	0	0	0	82.0
Brine	m3	0	0	0	184.0
Helifuel	ltr	0	0	0	4,997.0

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	28
Tamboritha	2
Halliburton	1
Falconer Bryan	1
Fugro Survey	2
Go Offshore	1
Go Offshore	2
Total	62

Marine

Weather on 11 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.0nm	18kn	135.0deg	1013.0mbar	13C°	1.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
338.0deg		2578.00klb	2.5m	190.0deg	13s	cloud cover 4/8

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	11:06 hrs 28/11/08		Towing rig on main tow bridle to Fermat-1.

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	41.7	0	0	251.5
Potable Water	m3	0	5	0	0	280
Drill Water	m3	0	0	0	0	365
Barite	Mt	0	0	0	0	42
CEMENT G	Mt	0	0	0	0	0
Bentonite	Mt	0	0	0	0	42
Brine	m3	0	0	0	0	0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		12:43 hrs 08/12/08	Towing rig on port/bow pennant line to Fermat-1.

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	25.934	0	0	621

Australian Drilling Associates Pty Ltd ADA

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Potable Water	Mt	0	5	0	0	418
Drill Water	m3	0	100	0	0	633
Barite	Mt	0	0	0	0	0
Bentonite	Mt	0	0	0	0	22
CEMENT G	Mt	0	0	0	0	58

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
BWJ	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	0858 / 0914	8 / 9	No Fuel

Australian Drilling Associates Pty Ltd ADA

12 Dec 2008

From: Sean De Freitas / Peter Sheehan
To: Rob Oliver

DRILLING MORNING REPORT # 3
Fermat-1

Well Data

Country	Australia	MDBRT	0.0m	Cur. Hole Size		AFE Cost	AUD$48,496,377
Field	Otway	TVDBRT	0.0m	Last Casing OD		AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT		Daily Cost	AUD$6,353,782
Rig	West Triton	Days from spud	0.00	Shoe MDBRT		Cum Cost	AUD$6,353,782
Wtr Dpth (MSL)	39m	Days on well	1.00	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Connecting service lines to drilling package and preparing rig for drilling.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Rig up hand rail and stairs to Texas deck. Pick up tubulars and mix spud mud. Pick up BHA and spud well. Drill 26"/36" hole to section TD.		

Summary of Period 0000 to 2400 Hrs

Arrived on location and soft pinned rig at 08.30 hrs.
Pre loaded rig, held and dumped ballast.
Jacked up to 15m air gap.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	10 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	2	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	2	0 Days	PTW issued for the day.	
Safety Meeting	2	6 Days	Weekly safety meeting	
STOP Card	12	0 Days	Stop cards submitted for the day.	6 positive 6 negative

Operations For Period 0000 Hrs to 2400 Hrs on 12 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M1	0000	0600	6.00	0.0m	Rig under tow with Pacific Battler and Pacific Valkyrie to Fermat-1 location. Rig position at 06:00 hrs : One nautical mile from location. Latitude 38 deg 13.2' S. Longitiude 141 deg 03.0' E. Total distance travelled 278 nautical miles. Average speed 5.2 knots.
P1	P	M3	0600	0730	1.50	0.0m	Commenced jacking down all legs to 49m. Released Pacific Valkyrie from tow wire and attached to port aft .
P1	P	M3	0730	0830	1.00	0.0m	Made approach to location. Jacked down all legs and soft pinned rig. Rig 9.82m from intended location on a bearing of 249.8T. Rig Heading 128.52T.
P1	P	M3	0830	1000	1.50	0.0m	Initial penetration Stb leg 0.53m. Bow leg 0.53m. Port leg 0.73m. Released Pacific Valkyrie from port aft tow wire. Released Pacific Battler from tow wire. Connected Pacific Valkyrie to bow tow wire.
P1	P	M3	1000	1030	0.50	0.0m	Jacked up rig to 2.5m air gap.
P1	P	M3	1030	2000	9.50	0.0m	Pre loaded rig to 75%. Jacked up rig additional 0.5m to 2.6m air gap. Pre loaded rig to 100%. Released Pacific Valkyrie from bow tow wire.
P1	P	M3	2000	2300	3.00	0.0m	Held pre load at 100% for 3 hour's.
P1	P	M3	2300	2400	1.00	0.0m	Dumped pre load. Penetration, Stb leg 1.0m. Port leg 1.0m. Bow leg 0.7m.

Operations For Period 0000 Hrs to 0600 Hrs on 13 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M3	0000	0030	0.50	0.0m	Jacked up rig to 15m air gap.
P1	P	G1	0030	0130	1.00	0.0m	Held JSA with all crew. Prepared to skid cantilever, removed chock's / wedges, securing pins and lift stairways, moved containers with chain hoists as unable to use cranes due to adverse weather - wind 52 knots gusting to 57 knots.
P1	P	G1	0130	0300	1.50	0.0m	Skidded cantilever 25 ft into drilling position and lowered Texas deck with Travelling Blocks.

Australian Drilling Associates Pty Ltd ADA

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	G1	0300	0600	3.00	0.0m	(IN PROGRESS) Secured cantilever & installed all service lines to starboard side. Installed access stairs to cantilever and removed sea fastenings.

Phase Data to 2400hrs, 12 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	24	12 Dec 2008	12 Dec 2008	24.00	1.000	0.0m

General Comments

00:00 TO 24:00 Hrs ON 12 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Remote controller for Iron Roughneck not operational - waiting on new control switch 3) Need new BOP test tool mandrel. Ordered on the 24/10/08.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	320.0
Rig Fuel	m3	0	20	0	170.0
POTABLE WATER	MT	0	20	0	138.0
Cement class G	MT	0	0	0	88.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	51.0
Barite	MT	0	0	0	82.0
Brine	m3	0	0	0	184.0
Helifuel	ltr	0	0	0	4,997.0

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	28
Tamboritha	2
Halliburton	1
Falconer Bryan	1
Fugro Survey	2
Go Offshore	1
Go Offshore	2
Total	62

Marine

Weather on 12 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	45kn	135.0deg	1013.0mbar	13C°	2.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2547.00klb	2.0m	190.0deg	13s	stormy, rain squalls

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	11:06 hrs 28/11/08		In Portland

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	17.7	0	0	233.8
Potable Water	m3	180	5	0	0	455
Drill Water	m3	0	0	0	0	365
Barite	Mt	0	0	0	0	42
CEMENT G	Mt	0	0	0	0	0

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Bentonite	Mt	0	0	0	0	42
Brine	m3	0	0	0	0	0

Pacific Valkyrie | 12:43 hrs 08/12/08 | Standing by on location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	23.386	0	0	598.67
Potable Water	Mt	0		0	20	443
Drill Water	m3	0	100	0	0	633
Barite	Mt	0	0	0	0	0
Bentonite	Mt	0	0	0	0	22
CEMENT G	Mt	0	0	0	0	58

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 4

13 Dec 2008 **From:** Sean De Freitas / Peter Sheehan
To: Rob Oliver

Fermat-1

Well Data

Country	Australia	MDBRT	0.0m	Cur. Hole Size		AFE Cost	AUD$48,496,377
Field	Otway	TVDBRT	0.0m	Last Casing OD		AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT		Daily Cost	AUD$766,726
Rig	West Triton	Days from spud	0.00	Shoe MDBRT		Cum Cost	AUD$7,120,508
Wtr Dpth (MSL)	39m	Days on well	2.00	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 26"/36" top hole at 87m.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Drill 26"/36" top hole to 26" bit TD of 119m. Circ hole clean & displace to spud mud. POOH. Run 30" casing.		

Summary of Period 0000 to 2400 Hrs

Completed jacking rig and skidded out cantilever.
Picked tubulars and BHA for spudding well.
Prepared Texas deck for drilling operations.
RIH to spud.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	11 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	3	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	3	0 Days	PTW issued for the day.	
Safety Meeting	2	0 Days	Weekly safety meeting	
STOP Card	14	0 Days	Stop cards submitted for the day.	

Operations For Period 0000 Hrs to 2400 Hrs on 13 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M3	0000	0030	0.50	0.0m	Jacked up rig to 15m air gap.
P1	P	G1	0030	0130	1.00	0.0m	Held JSA with all crew. Prepared to skid cantilever, removed chock's / wedges, securing pins and lift stairways, moved containers with chain hoists as unable to use cranes due to adverse weather - wind 52 knots gusting to 57 knots.
P1	P	G1	0130	0300	1.50	0.0m	Skidded cantilever 25 ft into drilling position and lowered Texas deck with Travelling Blocks.
P1	P	G1	0300	0630	3.50	0.0m	Secured cantilever & installed all service lines to starboard side. Installed access stairs to cantilever and removed sea fastenings.
P2	P	G2	0630	0800	1.50	0.0m	Rigged up for picking up 5 1/2" drill pipe. Installed mousehole. Installed service lines.
P2	U	G25	0800	1030	2.50	0.0m	Waited on weather . Wind speed 45 to 50 knots, combined seas 5.5m. Concurrently mixed spud mud and installed flowline.
P2	P	G2	1030	1700	6.50	0.0m	Held JSA for picking up of tubulars. Picked up 5 stands 5 1/2" D.P and racked in derrick. Made up Davis Lynch stab in sub to std D.P and rack in derrick. Made up cementing assembly to std D.P and rack in derrick. Picked up 3 stands HWDP and racked in derrick.
P2	P	G2	1700	2100	4.00	0.0m	Picked up and made up 26"/36" BHA and ran in hole. RKB to sea level 38m. Air gap 15m.
P2	P	G1	2100	2200	1.00	0.0m	Installed stairs to Texas deck. Removed 30T slings from Texas deck. Installed Texas deck handrails.
P2	TP (RE)	D2	2200	2300	1.00	0.0m	Replaced missing section of deck grate on Texas deck.
P2	P	D2	2300	2400	1.00	0.0m	Observed with ROV & taged seabed. RKB to seabed 76.76m. Took inclination survey - multiple attempts to tag with 1 deg inclination or less

Operations For Period 0000 Hrs to 0600 Hrs on 14 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P2	P	D2	0000	0130	1.50	77.2m	Tagged seabed and surveyed multiple times to achieve survey of less than 1 deg. Spud with survey of 0.5 deg. Check survey at 77.2m - 0.5m drilled - erratic survey readings varying from 1 deg to 5 deg inclination.
P2	TP (WB)	D2	0130	0230	1.00	77.2m	Launched ROV and observed bit spud area. Observed that bit had been "walking" on hard bottom in area 2 to 3 m diameter. Recoverd ROV to surface. ROV reported tidal surge on bottom.
P2	TP (WB)	D2	0230	0330	1.00	77.7m	Tagged bottom repeatedly re-checking survey until obtained 0.5 inclination. Increased weight to start bit, check suvey after 1 meter drilled - 77.7m, 0.5 deg.
P2	TP (WB)	D2	0230	0330	1.00	77.2m	Tagged bottom repeatedly re-checking survey until obtained 0.5 inclination. Increased weight to start bit, check suvey after 1 meter drilled 0.5 deg.
P2	P	D2	0330	0500	1.50	87.0m	Continued drilling from 77.7m to 87m. Very hard surface - broke through after drilling approximately 2.5m. GPM 500. SPP 260. WOB 2/4k . RPM 60. Torque 2/4k
P2	TP (WB)	D2	0500	0600	1.00	87.0m	Reamed 3 times. Re-checked inclination at 87m - three readings at 1 deg inclination.
P2	TP (WB)	D2	0500	0600	1.00	87.0m	Checked inclination at 87m - two readings at 2 deg inclination & one reading at 1 deg inclination. Reamed 3 times. Re-checked inclination at 87m - three readings at 1 deg inclination.

Phase Data to 2400hrs, 13 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	30.5	12 Dec 2008	13 Dec 2008	30.50	1.271	0.0m
Conductor Hole(P2)	17.5	13 Dec 2008	13 Dec 2008	48.00	2.000	0.0m

General Comments

00:00 TO 24:00 Hrs ON 13 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Remote controller for Iron Roughneck not operational - waiting on new control switch 3) Need new BOP test tool mandrel. Ordered on the 24/10/08.

Bit # 1 R/R

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	26.00in	IADC#		**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	REED	WOB(avg)	2.00klb	No.	Size	Progress	Cum. Progress 0.0m
Type:	tri	RPM(avg)	50	1	16/32nd"	On Bottom Hrs	Cum. On Btm Hrs 0.0h
Serial No.:	D74635R	F.Rate	500gpm	3	22/32nd"	IADC Drill Hrs	Cum IADC Drill Hrs 0.0h
Bit Model	Y11C	SPP	250psi			Total Revs	Cum Total Revs 0
Depth In	76.8m	HSI				ROP(avg) N/A	ROP(avg) 0.00 m/hr
Depth Out		TFA	1.310				

Bit Comment

BHA # 1

Weight(Wet)	39.00klb	Length	119.0m	Torque(max)	4ft-lbs	D.C. (1) Ann Velocity	0fpm
Wt Below Jar(Wet)		String	100.00klb	Torque(Off.Btm)	1ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	100.00klb	Torque(On.Btm)	2ft-lbs	H.W.D.P. Ann Velocity	0fpm
		Slack-Off	100.00klb			D.P. Ann Velocity	0fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.26m	26.00in		D74635R	
Hole Opener	2.65m	36.00in		TOT-36-HO2	

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Equipment	Length	OD	ID	Serial #	Comment
Float Sub	1.22m	9.50in	3.00in	SSSD7207	
Anderdrift	3.18m	9.63in	3.00in	ADB9113	
Drill Collar	28.26m	9.50in	3.00in		
X/O	1.22m	9.50in	3.00in	SSSD7125	
Drill Collar	37.78m	8.25in	2.88in		
X/O	0.93m	8.25in	2.81in	1T8250	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	207	0	113.0
Rig Fuel	m3	0	13	0	157.0
POTABLE WATER	MT	0	16	0	122.0
Cement class G	MT	0	0	0	88.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	51.0
Barite	MT	0	0	0	82.0
Brine	m3	0	0	0	184.0
Helifuel	ltr	0	840	0	4,157.0

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	9
Seadrill Services	33
Tamboritha	2
Halliburton	2
Weatherford	3
Halliburton - Cementing	2
Baker Hughes Inteq	2
Dril-Quip	1
Fugro	2
Total	71

Marine

Weather on 13 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	45kn	135.0deg	1013.0mbar	13C°	2.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2133.00klb	2.0m	190.0deg	13s	stormy, rain squalls

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	11:06 hrs 28/11/08		In Portland

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	154.3	5.065	0	0	383
Potable Water	m3		3	0	0	452
Drill Water	m3	0	0	0	-5	360
Barite	Mt	0	0	0	0	42
CEMENT G	Mt	0	0	0	0	0
Bentonite	Mt	0	0	0	0	42
Brine	m3	0	0	0	0	0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		12:43 hrs 08/12/08	Standing by on location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	11.1	0	0	587.6
Potable Water	Mt	0	5	0	20	438
Drill Water	m3	0	100	0	0	633
Barite	Mt	0	0	0	0	0
Bentonite	Mt	0	0	0	0	22
CEMENT G	Mt	0	0	0	0	58

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
BWJ	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1146 / 1207	14 / 5	840 Fuel Ltrs

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 5
Fermat-1

14 Dec 2008

From: Sean De Freitas / Peter Sheehan
To: Rob Oliver

Well Data

Country	Australia	MDBRT	119.0m	Cur. Hole Size	36.000in	AFE Cost	AUD$48,496,377
Field	Otway	TVDBRT	119.0m	Last Casing OD	30.000in	AFE No.	07/002
Drill Co.	Seadrill	Progress	42.2m	Shoe TVDBRT	116.0m	Daily Cost	AUD$1,011,097
Rig	West Triton	Days from spud	0.00	Shoe MDBRT	116.0m	Cum Cost	AUD$8,131,605
Wtr Dpth (MSL)	39m	Days on well	3.08	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Picking up 5 1/2" drill pipe.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	L/D 36/26" BHA. Pick up and RIH with 17 1/2" BHA and drill ahead		

Summary of Period 0000 to 2400 Hrs

Drilled 36"/26" hole to RKB MD 119m .
Picked up and ran 30" conductor, 20" shoe depth 116m.
Installed Icon clamp on conductor and cut conductor above CTU.
RIH with Davis Lynch stab in sub, stabbed into float shoe and prepared for cementing.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	12 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	3	1 Day	JSA's conducted for the day.	
Pre-tour Meeting	4	1 Day	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	1 Day	PTW issued for the day.	
Safety Meeting	2	1 Day	Weekly safety meeting	
STOP Card	45	1 Day	Stop cards submitted for the day.	

Operations For Period 0000 Hrs to 2400 Hrs on 14 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P2	P	D2	0000	0130	1.50	77.2m	Tagged seabed and surveyed multiple times to achieve survey of less than 1 deg. Spud with survey of 0.5 deg. Check survey at 77.2m - 0.5m drilled - erratic survey readings varying from 1 deg to 5 deg inclination.
P2	TP (WB)	D2	0130	0230	1.00	77.2m	Launched ROV and observed bit spud area. Observed that bit had been "walking" on hard bottom in area 2 to 3 m diameter. Recoverd ROV to surface. ROV reported tidal surge on bottom.
P2	TP (WB)	D2	0230	0330	1.00	77.2m	Tagged bottom repeatedly re-checking survey until obtained 0.5 inclination. Increased weight to start bit, check suvey after 1 meter drilled 0.5 deg.
P2	TP (WB)	D2	0230	0330	1.00	77.7m	Tagged bottom repeatedly re-checking survey until obtained 0.5 inclination. Increased weight to start bit, check suvey after 1 meter drilled - 77.7m, 0.5 deg.
P2	P	D2	0330	0500	1.50	87.0m	Continued drilling from 77.7m to 87m. Very hard surface - broke through after drilling approximately 2.5m. GPM 500. SPP 260. WOB 2/4k . RPM 60. Torque 2/4k
P2	TP (WB)	D2	0500	0600	1.00	87.0m	Reamed 3 times. Re-checked inclination at 87m - three readings at 1 deg inclination.
P2	TP (WB)	D2	0500	0600	1.00	87.0m	Checked inclination at 87m - two readings at 2 deg inclination & one reading at 1 deg inclination. Reamed 3 times. Re-checked inclination at 87m - three readings at 1 deg inclination.
P2	P	D2	0600	0830	2.50	119.0m	Continue to drill 26"/36" hole from 87m to 119m - casing point. GPM 1170. SPP 940 .WOB 4/5K . TQ 0/3K . RPM 90 . String wt up 99K . String wt down 97K . String wt rot 96K.
P2	P	F3	0830	0900	0.50	119.0m	Take survey at 119m, 0.5 deg inclination. Swept hole with 200 bbl HI-VIS mud. Displaced hole with PHG mud .
P2	P	G8	0900	1030	1.50	119.0m	POOH with 26"/36" BHA and racked in derrick.
P3	P	G1	1030	1230	2.00	119.0m	Rigged up equipment for running 30" conductor. Installed CTU and work platform on Texas deck
P3	P	G9	1230	1700	4.50	119.0m	Held JSA. Picked up and ran 30" conductor, 20" shoe TD set at 116m.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P3	P	G9	1700	1930	2.50	119.0m	Installed Icon clamp on 30" conductor.
P3	P	G9	1930	2000	0.50	119.0m	Cut 30" conductor 1.7m above CTU.
P3	P	G9	2000	2030	0.50	119.0m	Laid down 30" conductor landing sting.
P3	P	G9	2030	2130	1.00	119.0m	Rig down 30" conductor equipment. Rigged up to run drill pipe.
P3	P	G8	2130	2330	2.00	119.0m	RIH with Davis Lynch stab in sub, picked up and spaced out cement assembly. Stabbed into float shoe. Filled casing with sea water, established circulation thru float shoe and confirmed visually with ROV.
P3	P	G9	2330	2400	0.50	119.0m	Rig up cement lines and prepared for cementing. Held pre job JSA.

Operations For Period 0000 Hrs to 0600 Hrs on 15 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P3	P	F3	0000	0130	1.50	119.0m	Cemented 30" conductor as per program. Pumped 10 bbls seawater, pressure tested lines 1000k, followed by 90 bbl sea water. Mixed and pumped 190 bbl class "G" cement slurry at 15.9 ppg (200 % excess pumped). Displaced with 7 bbl sea water . Visibilty did not allow ROV to monitor returns once commenced pumping sea water ahead.
P3	P	F3	0130	0300	1.50	119.0m	Stung out of float shoe and circulated bottoms up. POOH and laid out cement assembly pup joints & davis lynch sub.
P3	P	G13	0300	0400	1.00	119.0m	Rig up and installed BOP test joint.
P3	P	G2	0400	0600	2.00	119.0m	Picked up 5 1/2" drill pipe

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 14 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	30.5	12 Dec 2008	13 Dec 2008	30.50	1.271	0.0m
Conductor Hole(P2)	30	13 Dec 2008	14 Dec 2008	60.50	2.521	119.0m
Conductor Casing(P3)	13.5	14 Dec 2008	14 Dec 2008	74.00	3.083	119.0m

General Comments

00:00 TO 24:00 Hrs ON 14 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	PHB	API FL:	Cl:	Solids(%vol):	Viscosity	488sec/qt
Sample-From:	4	Filter-Cake:	K+C*1000:	Low-Gravity Solids:	PV	10cp
Time:	22:30	HTHP-FL:	Hard/Ca:	H2O:	YP	76lb/100ft²
Weight:	73.44ppg	HTHP-cake:	MBT:	Oil(%):	Gels 10s	44
Temp:			PM:	Sand:	Gels 10m	47
			PF:	pH:	Fann 003	42
				PHPA:	Fann 006	44
					Fann 100	66
					Fann 200	74
					Fann 300	86
					Fann 600	96

Cost Today

Comment

Bit # 1 R/R

Wear	I	O1	D	L	B	G	O2	R
	1	1	NO	A	E	I	NO	TD

Bitwear Comments:

Size (''):	26.00in	IADC#	Nozzles	Drilled over last 24 hrs	Calculated over Bit Run

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Mfr:	REED	WOB(avg)	4.00klb	No.	Size	Progress	42.2m	Cum. Progress	42.2m
Type:	tri	RPM(avg)	60	1	16/32nd"	On Bottom Hrs	2.5h	Cum. On Btm Hrs	2.5h
Serial No.:	D74635R	F.Rate	1000gpm	3	22/32nd"	IADC Drill Hrs		Cum IADC Drill Hrs	0.0h
Bit Model	Y11C	SPP	900psi			Total Revs		Cum Total Revs	0
Depth In	76.8m	HSI				ROP(avg)	16.88 m/hr	ROP(avg)	16.88 m/hr
Depth Out	119.0m	TFA	1.310						

Bit Comment

BHA # 1

Weight(Wet)	39.00klb	Length	119.0m	Torque(max)	4ft-lbs	D.C. (1) Ann Velocity	42fpm
Wt Below Jar(Wet)		String	100.00klb	Torque(Off.Btm)	1ft-lbs	D.C. (2) Ann Velocity	40fpm
		Pick-Up	100.00klb	Torque(On.Btm)	2ft-lbs	H.W.D.P. Ann Velocity	38fpm
		Slack-Off	100.00klb			D.P. Ann Velocity	38fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.26m	26.00in		D74635R	
Hole Opener	2.65m	36.00in		TOT-36-HO2	
Float Sub	1.22m	9.50in	3.00in	SSSD7207	
Anderdrift	3.18m	9.63in	3.00in	ADB9113	
Drill Collar	28.26m	9.50in	3.00in		
X/O	1.22m	9.50in	3.00in	SSSD7125	
Drill Collar	37.78m	8.25in	2.88in		
X/O	0.93m	8.25in	2.81in	1T8250	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	250	108	0	255.0
Rig Fuel	m3	0	2	0	155.0
POTABLE WATER	MT	162	14	0	270.0
Cement class G	MT	0	0	0	88.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	21	28	0	44.0
Barite	MT	0	0	0	82.0
Brine	m3	0	0	0	184.0
Helifuel	ltr	0	549	0	3,608.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50		97	85	1000	900										
2	National / 14 P-220	6.50		97	85	1000	900										
3	National / 14 P-220	6.50		97													

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	9
Seadrill Services	33
Tamboritha	2
Halliburton	2
Weatherford	3

Australian Drilling Associates Pty Ltd ADA

Personnel On Board

Halliburton - Cementing	2
Baker Hughes Inteq	2
Dril-Quip	2
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Total	75

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	2055.0bbl	Losses	251.0bbl
Active	341.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole Slug	1.0bbl	Dumped De-Gasser	
Reserve	1713.0bbl	De-Sander	
Kill		De-Silter Centrifuge	
		Sea Bed	251.0bbl

Equipment	Description	Mesh Size	Comments

Marine

Weather on 14 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	10kn	225.0deg	1008.0mbar	13C°	1.0m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2386.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	14/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		12.53	0	0	370
Potable Water	m3		3	0	0	449
Drill Water	m3	0	0	0	-5	360
Barite	Mt	0	0	0	0	42
CEMENT G	Mt	0	0	0	0	0
Bentonite	Mt	0	0	0	0	42
Brine	m3	0	0	0	0	0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		12:43 hrs 08/12/08	Standing by on location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	12.7	0	0	574.8
Potable Water	Mt	0		150		283
Drill Water	m3	0		230	0	403
Barite	Mt	0	0	0	0	0
Bentonite	Mt	0	0	22	0	0
CEMENT G	Mt	0	0	58	0	0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
BWJ	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1506 / 1525	6 / 2	549 Fuel Ltrs

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 6
Fermat-1

15 Dec 2008

From: Sean De Freitas / Peter Sheehan
To: Rob Oliver

Well Data

Country	Australia	MDBRT	166.0m	Cur. Hole Size	17.500in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	166.0m	Last Casing OD	30.000in	AFE No.	07/002
Drill Co.	Seadrill	Progress	47.0m	Shoe TVDBRT	116.0m	Daily Cost	AUD$856,163
Rig	West Triton	Days from spud	0.00	Shoe MDBRT	116.0m	Cum Cost	AUD$12,353,418
Wtr Dpth (MSL)	39m	Days on well	4.04	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 17 1/2" hole at 233m.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Continue to drill 171/2" hole.		

Summary of Period 0000 to 2400 Hrs

Cemented 30" conductor.
Picked up drill pipe & L/D 26/36" BHA.
Picked up 17 1/2" BHA , RIH and drilled out 20"shoe.
Drilled 17 1/2" hole to 166m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	24	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	7	0 Days	PTW issued for the day.	
Safety Meeting	2	2 Days	Weekly safety meeting	
STOP Card	54	0 Days	Stop cards submitted for the day.	

Operations For Period 0000 Hrs to 2400 Hrs on 15 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P3	P	F3	0000	0130	1.50	119.0m	Cemented 30" conductor as per program. Pumped 10 bbls seawater, pressure tested lines 1000k, followed by 90 bbl sea water. Mixed and pumped 190 bbl class "G" cement slurry at 15.9 ppg (200 % excess pumped). Displaced with 7 bbl sea water . Visibilty did not allow ROV to monitor returns once commenced pumping sea water ahead.
P3	P	F3	0130	0300	1.50	119.0m	Stung out of float shoe and circulated bottoms up. POOH and laid out cement assembly pup joints & davis lynch sub.
P3	P	G13	0300	0400	1.00	119.0m	Rig up and installed BOP test joint.
P3	P	G2	0400	1000	6.00	119.0m	Picked up 5 1/2" drill pipe.
P3	P	G2	1000	1300	3.00	119.0m	Laid out 26"/36" BHA . Held pre job JSA . Made final cut on 30" conductor @ 19.3m below RKB.
P4	P	G6	1300	1430	1.50	119.0m	Picked up 17 1/2" BHA and RIH to 17.87m
P4	P	G7	1430	1500	0.50	119.0m	Performed shallow test on sonic tool, 700 GPM , 1700 PSI
P4	P	G2	1500	1830	3.50	119.0m	Continued to RIH picking up 17 1/2" BHA from 17.87m to 115.37 m
P4	P	D2	1830	1900	0.50	119.0m	Drilled out float shoe from 115.37m and cleaned out rathole to 119m. WOB 5-10k, RPM 60, GPM 600, Press 550psi, TQ 2-4K.
P4	P	D2	1900	2100	2.00	145.0m	Drilled 17 1/2" hole from 119m to 145m. WOB 5-10k, RPM 60, GPM 1000, Press 2000psi, TQ 2-4K.
P4	P	G8	2100	2200	1.00	145.0m	POOH with 2 std's HWDP and ran remaining stand of drill collars from derrick.
P4	P	D2	2200	2400	2.00	166.0m	Continue to drill 17 1/2" hole from 145m to 166m. WOB 5-10k, RPM 60, GPM 1000, Press 2000psi, TQ 2-4K.

Operations For Period 0000 Hrs to 0600 Hrs on 16 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P2	P	D2	0000	0600	6.00	233.0m	Continued to drill 17 1/2" hole from 166m to 233m WOB 6/10k RPM 130/150 Torque 1/3k ft/lb GPM 1200 . SPP 2450 String wt up 143k, String wt down 140k.

Australian Drilling Associates Pty Ltd ADA

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 15 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	30.5	12 Dec 2008	13 Dec 2008	30.50	1.271	0.0m
Conductor Hole(P2)	29	13 Dec 2008	14 Dec 2008	59.50	2.479	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	86.00	3.583	119.0m
Surface Hole(P4)	11	15 Dec 2008	15 Dec 2008	97.00	4.042	166.0m

General Comments

00:00 TO 24:00 Hrs ON 15 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.
Operational Comments	Pressure testing BOP on Stump - Rams and Failsafes to 250/10,000 psi, Annular 250/5,000 psi.

WBM Data

Mud Type:	PHB	API FL:	Cl:	Solids(%vol):	Viscosity	488sec/qt
Sample-From:	4	Filter-Cake:	K+C*1000:	Low-Gravity Solids:	PV	10cp
Time:	22:00	HTHP-FL:	Hard/Ca:	H2O:	YP	76lb/100ft²
Weight:	73.44ppg	HTHP-cake:	MBT:	Oil(%):	Gels 10s	44
Temp:			PM:	Sand:	Gels 10m	47
			PF:	pH:	Fann 003	42
				PHPA:	Fann 006	44
					Fann 100	66
					Fann 200	74
					Fann 300	86
					Fann 600	96

Cost Today

Comment

Bit # 2

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	17.50in	IADC#	415	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	HUGHES	WOB(avg)	7.00klb	No.	Size	Progress 47.0m	Cum. Progress 47.0m
Type:	tri	RPM(avg)	140	3	20/32nd"	On Bottom Hrs 2.2h	Cum. On Btm Hrs 2.2h
Serial No.:	6060161	F.Rate	1100gpm			IADC Drill Hrs 2.2h	Cum IADC Drill Hrs 2.2h
Bit Model	MXL-T00	SPP	1150psi			Total Revs	Cum Total Revs 0
Depth In	119.0m	HSI	3.45HSI			ROP(avg) 21.36 m/hr	ROP(avg) 21.36 m/hr
Depth Out		TFA	0.920				

Bit Comment

BHA # 2

Weight(Wet)	60.00klb	Length	174.8m	Torque(max)	3ft-lbs	D.C. (1) Ann Velocity	125fpm
Wt Below Jar(Wet)	58.00klb	String	141.00klb	Torque(Off.Btm)	2ft-lbs	D.C. (2) Ann Velocity	113fpm
		Pick-Up	143.00klb	Torque(On.Btm)	2ft-lbs	H.W.D.P. Ann Velocity	98fpm
		Slack-Off	140.00klb			D.P. Ann Velocity	98fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.39m	17.50in		6060161	
Bit Sub	1.22m	9.50in	3.00in	SSSD7202	
Power Pulse	8.54m	9.75in		YX06	
LWD Tools	7.72m	10.00in		42793	
Stabiliser	2.17m	17.50in	3.06in	207A210	
Drill Collar	9.40m	9.50in	3.00in	16523	

Equipment	Length	OD	ID	Serial #	Comment
Stabiliser	1.71m	17.50in	3.00in	205A37	
Drill Collar	18.86m	9.50in	3.00in		
X/O	1.22m	9.50in	3.00in	SSSD7125	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
167.75	1.2	1.7	167.75					
197.16	0.3	58.8	197.16					

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	255.0
Rig Fuel	m3	0	15	0	140.0
POTABLE WATER	MT	12	22	0	260.0
Cement class G	MT	0	37	54	105.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	12	0	32.0
Barite	MT	0	0	0	82.0
Brine	m3	0	0	0	184.0
Helifuel	ltr	0	239	0	3,369.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50		97	70	2500	1200										
2	National / 14 P-220	6.50		97	70	2500	1200										
3	National / 14 P-220	6.50		97													

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	9
Seadrill Services	33
Tamboritha	2
Halliburton	2
Weatherford	3
Halliburton - Cementing	2
Baker Hughes Inteq	2
Dril-Quip	2
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Schlumberger (Wireline)	3
Total	78

Australian Drilling Associates Pty Ltd ADA

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	2726.0bbl	Losses	242.1bbl	Equipment	Description	Mesh Size	Comments
Active	335.0bbl	Downhole					
Mixing		Surf+ Equip	0.0bbl				
Hole Slug	1.0bbl	Dumped De-Gasser					
Reserve	2390.0bbl	De-Sander					
Kill		De-Silter Centrifuge					
		Sea Bed	242.1bbl				

Marine

Weather on 15 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	10kn	270.0deg	1006.0mbar	14C°	1.0m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2404.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	15/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		14.31	0	0	356.2
Potable Water	m3		3	0	0	446
Drill Water	m3	0	0	260		100
Barite	Mt	0	0	0	0	42
CEMENT G	Mt	0	0	0	0	0
Bentonite	Mt	0	0	25	0	17
Brine	m3	0	0	0	0	0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie	15/12/08		Standing by on location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	8.63	0	0	566.3
Potable Water	Mt	96				379
Drill Water	m3	132			0	535
Barite	Mt	0	0	0	0	42
Bentonite	Mt	0	0	0	0	0
CEMENT G	Mt	0	0		0	0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
BWJ	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1019 / 1035	9 / 6	No Fuel

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 7

16 Dec 2008 **From:** Sean De Freitas / Peter Sheehan
To: Rob Oliver

Fermat-1

Well Data

Country	Australia	MDBRT	824.0m	Cur. Hole Size	17.500in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	824.0m	Last Casing OD	30.000in	AFE No.	07/002
Drill Co.	Seadrill	Progress	777.0m	Shoe TVDBRT	116.0m	Daily Cost	AUD$768,408
Rig	West Triton	Days from spud	0.00	Shoe MDBRT	116.0m	Cum Cost	AUD$13,133,230
Wtr Dpth (MSL)	39m	Days on well	7.00	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilled 17.5in hole to casing point at 999m. Circulating and conditioning hole.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Circulate, condition and displace hole with HI-VIS mud. POOH . Run 13.375in casing.		

Summary of Period 0000 to 2400 Hrs

Drilled 17.5in hole from 434m to 824m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	1 Day	Abandon rig drill.	All personnel mustered at life boats.
JSA	24	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	12	0 Days	PTW issued for the day.	
Safety Meeting	2	3 Days	Weekly safety meeting.	
STOP Card	43	0 Days	Stop cards submitted for the day.	21 positive 22 negative

Operations For Period 0000 Hrs to 2400 Hrs on 16 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P4	P	D2	0000	0600	6.00	233.0m	Continued to drill 17.5in hole from 166m to 233m WOB 6/10K RPM 120/150 Torque 1/3k ft/lb GPM 1200 . SPP 2450 Vary parameters to optimize ROP and reduce vibrations on surface. Swept hole with 50 bbls Hi Vis mid stand and prior to connections.
P4	P	D2	0600	2400	18.00	824.0m	Continued to drill 17.5in hole from 233m to 824m WOB 15/23K RPM 130/160 Torque 1/5k ft/lb GPM 1200 . SPP 2450 Vary parameters to optimize ROP. Swept hole with 50 bbls Hi Vis mid stand and prior to connections. String wt up 143k, String wt down 140k. Static losses at 499m = 25 bbl/hr approximate. Static losses at 795m = 148 bbl/hr approximate.

Operations For Period 0000 Hrs to 0600 Hrs on 17 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P4	P	D2	0000	0530	5.50	999.0m	Continue to drill 17.5in hole from 824m to 999m. WOB 15/23K RPM 130/160 Torque 1/5k ft/lb GPM 1200 . SPP 2450 Vary parameters to optimize ROP. Swept hole with 50 bbls Hi Vis mid stand and prior to connections. String wt up 143k, String wt down 140k. Static losses at 895m = 167 bbl/hr approximate

Operations For Period Hrs to Hrs on

Australian Drilling Associates Pty Ltd ADA

Phase Data to 2400hrs, 16 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	35	15 Dec 2008	16 Dec 2008	168.00	7.000	824.0m

General Comments

00:00 TO 24:00 Hrs ON 16 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	PHB	API FL:	Cl:	Solids(%vol):		Viscosity	488sec/qt
Sample-From:	4	Filter-Cake:	K+C*1000:	Low-Gravity Solids:		PV	10cp
Time:	23:00	HTHP-FL:	Hard/Ca:	H2O:		YP	76lb/100ft²
Weight:	73.44ppg	HTHP-cake:	MBT:	Oil(%):		Gels 10s	44
Temp:			PM:	Sand:		Gels 10m	47
			PF:	pH:		Fann 003	42
				PHPA:		Fann 006	44
						Fann 100	66
						Fann 200	74
						Fann 300	86
						Fann 600	96

Comment

Cost Today

Bit # 2

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	17.50in	IADC#	415	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	HUGHES	WOB(avg)	7.00klb	No.	Size	Progress	777.0m	Cum. Progress	824.0m
Type:	tri	RPM(avg)	140	3	20/32nd"	On Bottom Hrs	15.4h	Cum. On Btm Hrs	17.6h
Serial No.:	6060161	F.Rate	1100gpm			IADC Drill Hrs	15.4h	Cum IADC Drill Hrs	17.6h
Bit Model	MXL-T00	SPP	1150psi			Total Revs	133	Cum Total Revs	133
Depth In	119.0m	HSI	3.45HSI			ROP(avg)	50.45 m/hr	ROP(avg)	46.82 m/hr
Depth Out		TFA	0.920						

Bit Comment

BHA # 2

Weight(Wet)	60.00klb	Length	174.8m	Torque(max)	3ft-lbs	D.C. (1) Ann Velocity	125fpm
Wt Below Jar(Wet)	58.00klb	String	141.00klb	Torque(Off.Btm)	2ft-lbs	D.C. (2) Ann Velocity	113fpm
		Pick-Up	143.00klb	Torque(On.Btm)	2ft-lbs	H.W.D.P. Ann Velocity	98fpm
		Slack-Off	140.00klb			D.P. Ann Velocity	98fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.39m	17.50in		6060161	
Bit Sub	1.22m	9.50in	3.00in	SSSD7202	
Power Pulse	8.54m	9.75in		YX06	
LWD Tools	7.72m	10.00in		42793	
Stabiliser	2.17m	17.50in	3.06in	207A210	
Drill Collar	9.40m	9.50in	3.00in	16523	
Stabiliser	1.71m	17.50in	3.00in	205A37	
Drill Collar	18.86m	9.50in	3.00in		
X/O	1.22m	9.50in	3.00in	SSSD7125	

Equipment	Length	OD	ID	Serial #	Comment
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
315.55	1.7	227.9	315.50	0.1	0.1	-0.1	0.6	MWD
404.16	1.9	211.9	404.10	-0.3	-0.3	-0.6	0.7	MWD
523.07	0.4	347.7	523.00	-1.1	-1.1	-1.6	0.2	MWD
611.99	0.5	339.5	611.92	-0.9	-0.9	-1.7	0.2	MWD
700.49	0.3	247.4	700.41	-0.6	-0.6	-2.1	0.1	MWD
788.76	0.7	163.0	788.68	-0.9	-0.9	-2.5	0.2	MWD
877.69	0.5	112.2	877.61	-1.1	-1.1	-2.2	0.1	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	150	0	115	520.0
Rig Fuel	m3	150	35	0	255.0
POTABLE WATER	MT	12	23	0	249.0
Cement class G	MT	0	0	0	105.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	25	19	12	50.0
Barite	MT	42	0	0	124.0
Brine	m3	0	0	0	184.0
Helifuel	ltr	0	179	0	3,190.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50		97	70	2500	1200										
2	National / 14 P-220	6.50		97	70	2500	1200										
3	National / 14 P-220	6.50		97													

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	35
Tamboritha	2
Halliburton	2
Weatherford	6
Halliburton - Cementing	2
Baker Hughes Inteq	4
Dril-Quip	2
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Schlumberger (Wireline)	3
Total	86

Australian Drilling Associates Pty Ltd ADA

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	2295.0bbl	Losses	1200.0bbl
Active	335.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole Slug	2.0bbl	Dumped De-Gasser	
Reserve	1958.0bbl	De-Sander	
Kill		De-Silter Centrifuge	
		Sea Bed	1200.0bbl

Equipment	Description	Mesh Size	Comments

Marine

Weather on 16 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	7kn	170.0deg	1007.0mbar	14C°	1.0m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2735.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler		16/15/08	Alongside Portland

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		8.57	0	0	347.6
Potable Water	m3	10	3	0	0	453
Drill Water	m3	236	0	260		336
Barite	Mt	0	0	42	0	0
CEMENT G	Mt	82	0	0	0	82
Bentonite	Mt	0	0	25	0	17
Brine	m3	0	0	0	0	0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie	16/12/08		Standing by on location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	2.72	150	0	413
Potable Water	Mt		10			369
Drill Water	m3	132		100	0	435
Barite	Mt	0	0	0	0	42
Bentonite	Mt	0	0	0	0	0
CEMENT G	Mt	0	0		0	0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
BWJ	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	0954 / 1007	8 / 0	179 ltrs Fuel

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 8
Fermat-1

17 Dec 2008

From: Sean De Freitas / Peter Sheehan
To: Rob Oliver

Well Data

Country	Australia	MDBRT	999.0m	Cur. Hole Size	17.500in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	999.0m	Last Casing OD	30.000in	AFE No.	07/002
Drill Co.	Seadrill	Progress	165.0m	Shoe TVDBRT	116.0m	Daily Cost	AUD$710,460
Rig	West Triton	Days from spud	0.00	Shoe MDBRT	116.0m	Cum Cost	AUD$13,849,596
Wtr Dpth (MSL)	39m	Days on well	8.00	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Rigging up cementing lines and preparing to cement.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Cement casing. Install BOP's. Perform Junk run.		

Summary of Period 0000 to 2400 Hrs

Drilled 17 1/2" hole to section TD 999m.
POOH with drilling assembly.
Picked up and RIH with 13 3/8" casing.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	2 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	10	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	8	0 Days	PTW issued for the day.	
Safety Meeting	2	4 Days	Weekly safety meeting.	
STOP Card	22	0 Days	Stop cards submitted for the day.	21 positive 22 negative

Operations For Period 0000 Hrs to 2400 Hrs on 17 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P4	P	D2	0000	0530	5.50	999.0m	Continued to drill 17 1/2" hole from 824m to 999m. WOB 15/23K RPM 130/160 Torque 1/5k ft/lb GPM 1200 . SPP 2450 Vary parameters to optimize ROP. Swept hole with 50 bbls Hi Vis mid stand and prior to connections. String wt up 143k, String wt down 140k. Static losses at 895m = 167 bbl/hr approximate
P4	P	F3	0530	0600	0.50	999.0m	Pumped and swept hole with 100 bbl HI-VIS mud while working drill string.
P4	P	E5	0600	0630	0.50	999.0m	Attemped to down link with Schlumberger MWD tools - no success. Observed 700 psi rapid pressure loss while down-linking MWD - equivalent to loosing one bit nozzle (circlip locked).
P4	P	F3	0630	0730	1.00	999.0m	Pumped and swept hole with second 100 bbl HI-VIS mud pills, circulated hole clean while working drill string. Commenced displacing hole with HI-VIS mud. After 410 bbls pumped observed sudden and total loss in pump pressure (surface equipment). Shut down pumps, prepared to POOH.
P4	P	G8	0730	1200	4.50	999.0m	POOH from 999m to 31m checking each connection for washout. Observed 50k overpull at 700m, worked thru twice and cleared. No further excess drag. Note: Maintained hole full by topping up 30" casing with sea water.
P4	P	G6	1200	1430	2.50	999.0m	Continued to POOH with 17 1/2" BHA. Inspected BHA: One jet nozzle missing from bit. Sonic shield missing from MWD tool. Note: Maintained hole full by topping up 30" casing with sea water.
P4	P	G1	1430	1530	1.00	999.0m	Made up cement head and racked in derrick. Note: Maintained hole full by topping up 30" casing with sea water.
P4	P	G11	1530	1600	0.50	999.0m	Performed top drive service and inspection for loose objects. Note: Maintained hole full by topping up 30" casing with sea water.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P5	P	G1	1600	1800	2.00	999.0m	Rigged up to run 13 3/8" casing. Held JSA & pre job toolbox meeting. Note: Maintained hole full by topping up 30" casing with sea water.
P5	P	G9	1800	2400	6.00	999.0m	Ran 13 3/8" casing as per program to 725m midnight depth. Bakerlocked shoe track and checked floats. Note: Maintained hole full by topping up 30" casing with sea water.

Operations For Period 0000 Hrs to 0600 Hrs on 18 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P5	P	G9	0000	0130	1.50	999.0m	Continued RIH with 13 3/8" casing from 725m to 961m. Note: Maintained hole full by topping up 30" casing with sea water.
P5	P	G1	0130	0230	1.00	999.0m	Rigged down casing handling equipment. Rigged up 5 1/2" handling equipment.
P5	P	G9	0230	0330	1.00	999.0m	Picked up and made up 18 3/4" wellhead assembly.
P5	P	G9	0330	0400	0.50	999.0m	Continued to RIH from 961m to 969m. String taking 30k weight at 969m.
P5	P	G9	0400	0500	1.00	999.0m	Made up top drive, broke circulation and washed down casing to shoe setting depth at 987m, 6 bbl/min, 177 SPP.
P5	P	G9	0500	0600	1.00	999.0m	Pulled back and broke off drill pipe stand. Picked up and made up cement stand assembly. RIH with casing string and 18 3/4" wellhead assembly and stopped with wellhead landing collar 3" above 30" casing. Held pre cementing JSA and prepared to cement casing.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 17 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	8	17 Dec 2008	17 Dec 2008	192.00	8.000	999.0m

General Comments

00:00 TO 24:00 Hrs ON 17 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	PHB	API FL:	
Sample-From:	3	Filter-Cake:	
Time:	15:00	HTHP-FL:	
Weight:	8.80ppg	HTHP-cake:	
Temp:			

Cost Today

Cl:		Solids(%vol):	
K+C*1000:		Low-Gravity Solids:	
Hard/Ca:		H2O:	
MBT:		Oil(%):	
PM:		Sand:	
PF:		pH:	
		PHPA:	

Viscosity	488sec/qt
PV	10cp
YP	76lb/100ft²
Gels 10s	44
Gels 10m	47
Fann 003	42
Fann 006	44
Fann 100	66
Fann 200	74
Fann 300	86
Fann 600	96

Comment

Bit # 2

Wear	I	O1	D	L	B	G	O2	R
	2	2	LT	G	E	I	LN	TD

Bitwear Comments: Lost one nozzle , no errosion or damage to bit .
Lost one tooth on the outer gauge . Bit is in good condition .

Size (''):	17.50in	IADC#	415	**Nozzles**	**Drilled over last 24 hrs**	**Calculated over Bit Run**

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Mfr:	HUGHES	WOB(avg)	7.00klb	No.	Size	Progress	165.0m	Cum. Progress	989.0m
Type:	tri	RPM(avg)	140	3	20/32nd"	On Bottom Hrs	3.6h	Cum. On Btm Hrs	21.2h
Serial No.:	6060161	F.Rate	1100gpm			IADC Drill Hrs	3.6h	Cum IADC Drill Hrs	21.2h
Bit Model	MXL-T00	SPP	1150psi			Total Revs	30	Cum Total Revs	163
Depth In	119.0m	HSI	3.45HSI			ROP(avg)	45.83 m/hr	ROP(avg)	46.65 m/hr
Depth Out	999.0m	TFA	0.920						

Bit Comment

BHA # 2

Weight(Wet)	60.00klb	Length	174.8m	Torque(max)	3ft-lbs	D.C. (1) Ann Velocity	125fpm
Wt Below Jar(Wet)	58.00klb	String	141.00klb	Torque(Off.Btm)	2ft-lbs	D.C. (2) Ann Velocity	113fpm
		Pick-Up	143.00klb	Torque(On.Btm)	2ft-lbs	H.W.D.P. Ann Velocity	98fpm
		Slack-Off	140.00klb			D.P. Ann Velocity	98fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.39m	17.50in		6060161	
Bit Sub	1.22m	9.50in	3.00in	SSSD7202	
Power Pulse	8.54m	9.75in		YX06	
LWD Tools	7.72m	10.00in		42793	
Stabiliser	2.17m	17.50in	3.06in	207A210	
Drill Collar	9.40m	9.50in	3.00in	16523	
Stabiliser	1.71m	17.50in	3.00in	205A37	
Drill Collar	18.86m	9.50in	3.00in		
X/O	1.22m	9.50in	3.00in	SSSD7125	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
966.55	2.7	216.6	966.44	-2.5	-2.5	-3.0	0.4	MWD
990.90	2.3	226.4	990.77	-3.3	-3.3	-3.7	0.3	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	300	70	0	750.0
Rig Fuel	m3	3	7	0	251.0
POTABLE WATER	MT	12	21	0	240.0
Cement class G	MT	0	0	0	105.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	8	0	42.0
Barite	MT	38	0	0	162.0
Brine	m3	0	0	0	184.0
Helifuel	ltr	0	387	0	2,803.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50		97	70	2500	1200										
2	National / 14 P-220	6.50		97	70	2500	1200										

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data										
3	National / 14 P-220	6.50		97														

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	9
Seadrill Services	35
Tamboritha	2
Halliburton	2
Weatherford	6
Halliburton - Cementing	2
Baker Hughes Inteq	4
Dril-Quip	2
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Total	82

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	1298.0bbl	Losses	617.0bbl
Active	275.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole		Dumped	
Slug	47.0bbl	De-Gasser	
Reserve	976.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Sea Bed	617.0bbl

Equipment	Description	Mesh Size	Comments

Marine

Weather on 17 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	12kn	118.0deg	1002.0mbar	14C°	1.0m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2638.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler		16/15/08	Alongside Portland

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	152.5	1	0	0	499.1
Potable Water	m3		3	0	0	450
Drill Water	m3		0			336
Barite	Mt	0	0	42	0	0
CEMENT G	Mt		0	0	2	84
Bentonite	Mt	0	0	25	0	17
Brine	m3	0	0	0	0	0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie	16/12/08		Standing by on location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	2.72	150	0	413
Potable Water	Mt		10			369
Drill Water	m3	132		100	0	435
Barite	Mt	0	0	0	0	42
Bentonite	Mt	0	0	0	0	0
CEMENT G	Mt	0	0		0	0

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Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
BWJ	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	0932 / 0949	8 / 12	387 ltrs Fuel

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 9

18 Dec 2008 **From:** Rocco Rossouw / Peter Sheehan
To: Rob Oliver

Fermat-1

Well Data

Country	Australia	MDBRT	999.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	999.0m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$1,427,201
Rig	West Triton	Days from spud	0.00	Shoe MDBRT	987.0m	Cum Cost	AUD$15,276,797
Wtr Dpth (MSL)	39m	Days on well	9.00	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	RIH with 12 1/4" assembly , picking up drill pipe.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	RIH , drill out casing shoe , clean out junk from hole . Perform LOT POOH , pick up new BHA , RIH , drill 12 1/4" hole.		

Summary of Period 0000 to 2400 Hrs

RIH with 13 3/8" casing to shoe TD of 987m . Cemented Casing .
Installed BOP's.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	3 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	23	0 Days	JSA's conducted for the day.	
Non Recordable Case	1	0 Days	Bump on head	Person bumped head while trying to loosen a bolt on the BOP. No first aid required - Medic observed person to ensure nothing wrong.
Pre-tour Meeting	4	1 Day	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	15	0 Days	PTW issued for the day.	
Safety Meeting	2	5 Days	Weekly safety meeting.	
STOP Card	36	0 Days	Stop cards submitted for the day.	26 positive 10 negative

Operations For Period 0000 Hrs to 2400 Hrs on 18 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P5	P	G9	0000	0130	1.50	999.0m	Continued RIH with 13 3/8" casing from 725m to 961m. Note: Maintained hole full by topping up 30" casing with sea water.
P5	P	G1	0130	0230	1.00	999.0m	Rigged down casing handling equipment. Rigged up 5 1/2" handling equipment.
P5	P	G9	0230	0330	1.00	999.0m	Picked up and made up 18 3/4" wellhead assembly.
P5	P	G9	0330	0400	0.50	999.0m	Continued to RIH from 961m to 969m. String taking 30k weight at 969m.
P5	P	G9	0400	0500	1.00	999.0m	Made up top drive, broke circulation and washed down casing to shoe setting depth at 987m, 6 bbl/min, 177 SPP.
P5	P	G9	0500	0600	1.00	999.0m	Pulled back and broke off drill pipe stand. Picked up and made up cement stand assembly. RIH with casing string and 18 3/4" wellhead assembly and stopped with wellhead landing collar 3" above 30" casing. Held pre cementing JSA and prepared to cement casing.
P5	P	G9	0600	0900	3.00	999.0m	Mixed and pumped cement for 13 3/8" casing as per program. Pumped 10 bbl freshwater, pressure tested lines to 3k/10 min, pumped 70 bbl freshwater , mixed and pumped 220 bbl cement slurry at 15.8 ppg. Released dart , displaced with 1.7 bbl freshwater,shear dart with 2500 psi, continue to dispalce with 10 bbl freshwater.Changed over to seawater and displaced with 460 bbl at 8 bbl/min. Last 10 bbl slowed pump rate to 2 bbl/min circulating pressure 360 psi, bump plug and pressure up to 800 psi , hold pressure for 10 min. Bleed pressure off and monitor floats , floats hold , 3.25 bbl returned.
P5	P	G12	0900	1030	1.50	999.0m	Adjusted landing ring on wellhead , released well head running tool and laid out.
P5	P	G1	1030	1100	0.50	999.0m	Broke out and laid out cement head .
P5	P	G12	1100	1200	1.00	999.0m	Broke out and laid out X/O and pup joint on well head running tool.
P6	P	G13	1200	1330	1.50	999.0m	Removed and laid out BOP test joint from BOP's.
P6	P	G13	1330	1800	4.50	999.0m	Installed and nippled up BOP's to wellhead. Increased CTU pressure to 110 bar(150 ton).

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P6	P	G13	1800	2200	4.00	999.0m	Nippled up bell nipple , overshot and diverter housing , connected control lines , pressurized system , took 5k overpull to check diverter lockdown.
P6	P	G13	2200	2230	0.50	999.0m	Function testeded BOP from drillers control panel , koomey control unit , toolpushers remote panel. Checked space out for rams.
P6	P	G13	2230	2330	1.00	999.0m	Rigged up and tested 13 3/8" casing , BOP connector , choke and kill lines , Dril-Quip wellhead outlet valves against blind shear rams. 3700 PSI/10 min's. 8,3 bbl's pumped , 8.3 bbl's returned.
P6	P	G13	2330	2400	0.50	999.0m	Removed outer diverter packer and made up wear bushing running tool to wear bushing.

Operations For Period 0000 Hrs to 0600 Hrs on 19 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P6	P	G13	0000	0100	1.00	999.0m	Installed wellhead wear bushing.
P7	P	G6	0100	0500	4.00	999.0m	Picked up 12 1/4" junk run BHA (Bit 1-1-7). Laid out 2 9 1/2" D.C's from derrick.RIH to 126m.
P7	P	G8	0500	0600	1.00	999.0m	Continued to RIH from 126m picking up D.P singles from deck.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 18 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	12	18 Dec 2008	18 Dec 2008	216.00	9.000	999.0m

General Comments

00:00 TO 24:00 Hrs ON 18 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Cost Today

Mud Type: KCl	API FL:	Cl:	Solids(%vol):	Viscosity	
Sample-From:	Filter-Cake:	K+C*1000:	Low-Gravity Solids:	PV	
Time:	HTHP-FL:	Hard/Ca:	H2O:	YP	
Weight:	HTHP-cake:	MBT:	Oil(%):	Gels 10s	
Temp:		PM:	Sand:	Gels 10m	
		PF:	pH:	Fann 003	
			PHPA:	Fann 006	
				Fann 100	
				Fann 200	
				Fann 300	
				Fann 600	

Comment: 5 pits KCLPolymer Fluid being mixed. 60 bbl Guar Gum Hi-Vis in Slug Pit.
All Chemicals and Volumes will be Charged off tomorrow.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	595	0	155.0
Rig Fuel	m3	0	8	0	243.0
POTABLE WATER	MT	172	20	0	392.0
Cement class G	MT	0	53	0	52.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	8	8	42.0
Barite	MT	38	0	0	200.0
Brine	m3	0	0	0	184.0
Helifuel	ltr	0	424	0	2,379.0

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50		97	70	2500	1200										
2	National / 14 P-220	6.50		97	70	2500	1200										
3	National / 14 P-220	6.50		97													

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	33
Tamboritha	2
Halliburton	2
Weatherford	3
Halliburton - Cementing	2
Baker Hughes Inteq	6
Dril-Quip	2
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Baker Hughes	1
Total	81

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	335.0bbl	Losses	0.0bbl
Active	275.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole Slug	60.0bbl	Dumped	
Reserve		De-Gasser	
Kill		De-Sander	
		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size

Comments

Currently mixing in pits 1, 2, 3, 5 and 6. All Chemicals and voluumes will be charged off tomorrow. 60 bbls of Guar Gum Hi-Vis in Slug pit.

Marine

Weather on 18 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	21kn	198.0deg	1007.0mbar	13C°	1.0m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		1939.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	18/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	152.5	1	0	0	499.1
Potable Water	m3		3	0	0	450
Drill Water	m3		0			336
Barite	Mt	0	0	42	0	0
CEMENT G	Mt		0	0	2	84
Bentonite	Mt	0	0	25	0	17
Brine	m3	0	0	0	0	0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		18/12/08	In transit to Portland

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	4.2		0	407

Australian Drilling Associates Pty Ltd ADA

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Potable Water	Mt			160		209
Drill Water	m3	13		435	0	0
Barite	Mt	0	0	42	0	0
Bentonite	Mt	0	0	0	0	0
CEMENT G	Mt	0	0		0	0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
BWJ	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	0947 / 1002	8 / 9	424 ltrs Fuel

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 10
Fermat-1

19 Dec 2008

From: Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

Well Data

Country	Australia	MDBRT	1011.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	1011.0m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	12.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$803,998
Rig	West Triton	Days from spud	6.00	Shoe MDBRT	987.0m	Cum Cost	AUD$16,080,795
Wtr Dpth (MSL)	39m	Days on well	10.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	POOH out of hole with shoe drill out and junk run assembly.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Make up BHA, RIH, drill 12.25in hole.		

Summary of Period 0000 to 2400 Hrs

Drilled out Shoe track and 3m new hole , performed LOT.
Drilled 12.25in hole to 1011m working junk sub to clean hole.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	4 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	21	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	13	0 Days	PTW issued for the day.	
Safety Meeting	2	6 Days	Weekly safety meeting.	
STOP Card	36	0 Days	Stop cards submitted for the day.	20 positive 16 negative

Operations For Period 0000 Hrs to 2400 Hrs on 19 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P6	P	G12	0000	0100	1.00	999.0m	Installed wellhead wear bushing.
P7	TP (DH)	G6	0100	0500	4.00	999.0m	Picked up 12.25in junk run BHA. Laid out 2 x 9.5in DCs from derrick. RIH to 126m.
P7	TP (DH)	G2	0500	1230	7.50	999.0m	Continued to RIH from 126m to 954m picking up DP singles from deck.
P7	TP (DH)	G8	1230	1300	0.50	999.0m	Changed out slips and elevators.
P7	TP (DH)	G8	1300	1330	0.50	999.0m	Picked up 1 stand drill pipe from derrick and RIH from 954m to 974m, top of float collar.
P7	P	D1	1330	1900	5.50	999.0m	Drilled out float collar, shoe track and float shoe to 987m. RPM 60 . GPM 800 . SPP 1800 . WOB 6/8K . TORQUE 2/4K . Displaced hole to mud.
P7	P	D1	1900	2000	1.00	999.0m	Drilled out rat hole from 987m to 999m. Worked junk sub through hole and at TD.
P7	P	D2	2000	2030	0.50	1002.0m	Drilled 12.25in from 999m to 1002m . Worked junk sub.
P7	P	F4	2030	2130	1.00	1002.0m	Circulated 1- 1/2 bottoms up to condition mud and hole for LOT.
P7	P	P4	2130	2330	2.00	1002.0m	Rigged up and performed LOT. Tested surface lines 1k/5min. Test mud weight used 9.3ppg. surface pressure 960 psi . volume pumped 4.5 bbl . Volume returned 4.25 bbl. EMW 15ppg.
P7	P	D2	2330	2400	0.50	1011.0m	Continued to drill 12.25in hole from 1002m to 1011m . Worked junk sub.

Operations For Period 0000 Hrs to 0600 Hrs on 20 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	0130	1.50	1027.0m	Continued drilling 12.25in hole from 1011m to 1027m. Continued to work junk sub while drilling.
P7	TP (DH)	F4	0130	0200	0.50	1027.0m	Circulated bottoms up while rotating and reciprocating string. Worked junk sub prior to tripping.
P7	TP (DH)	G8	0200	0500	3.00	1027.0m	POOH from 1027m to 127m. Flow checked prior to commencing tripping
P7	TP (DH)	G8	0500	0600	1.00	1027.0m	(IN PROGRESS) POOH with BHA from 127m. Broke out laid down junk sub. Total weight of metal junk recovered from junk basket = 175 grams.

Australian Drilling Associates Pty Ltd ADA

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 19 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	23	19 Dec 2008	19 Dec 2008	240.00	10.000	1011.0m

General Comments

00:00 TO 24:00 Hrs ON 19 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl	API FL:	5.8cc/30min	Cl:	45000mg/l	Solids(%vol):	3%	Viscosity	177sec/qt
Sample-From:	Pit 6	Filter-Cake:	1/32nd"	K+C*1000:		Low-Gravity Solids:	3.7%vol	PV	17cp
Time:	20:45	HTHP-FL:		Hard/Ca:	240mg/l	H2O:	94%	YP	25lb/100ft²
Weight:	9.40ppg	HTHP-cake:		MBT:	2.5	Oil(%):		Gels 10s	10
Temp:	25C°			PM:	0.1	Sand:	0	Gels 10m	13
				PF:	0.05	pH:	10.5	Fann 003	7
						PHPA:		Fann 006	9
								Fann 100	25
								Fann 200	35
								Fann 300	42
								Fann 600	59

Comment

Cost Today

Bit # 3

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments: Only used to drill out shoe track and clean any potential junk of bottom.

Size (''):	12.25in	IADC#	117	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	HUGHES	WOB(avg)	6.00klb	No.	Size	Progress	12.0m	Cum. Progress	12.0m
Type:	tri	RPM(avg)	60	3	16/32nd"	On Bottom Hrs	0.5h	Cum. On Btm Hrs	0.5h
Serial No.:	5149536	F.Rate	800gpm			IADC Drill Hrs	0.5h	Cum IADC Drill Hrs	0.5h
Bit Model	GT-1	SPP	1800psi			Total Revs		Cum Total Revs	0
Depth In	987.0m	HSI				ROP(avg)	24.00 m/hr	ROP(avg)	24.00 m/hr
Depth Out		TFA	0.589						

Bit Comment: Shoe drill out and junk run assembly

BHA # 3

Weight(Wet)	37.00klb	Length	126.8m	Torque(max)	4000ft-lbs	D.C. (1) Ann Velocity	239fpm
Wt Below Jar(Wet)	32.00klb	String	150.00klb	Torque(Off.Btm)	1000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	152.00klb	Torque(On.Btm)	2000ft-lbs	H.W.D.P. Ann Velocity	164fpm
		Slack-Off	150.00klb			D.P. Ann Velocity	164fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		5149536	
Junk Sub	0.90m	9.63in	2.81in	227460	
Near Bit Stab	2.08m	12.25in	2.88in	703984	
Drill Collar	47.24m	8.25in	2.88in		

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Equipment	Length	OD	ID	Serial #	Comment
Drilling Jars	9.68m	8.00in		17621380	
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	7.00in	2.88in	sssd7132	
HWDP	56.23m	5.50in	3.25in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	320	101	0	374.0
Rig Fuel	m3	0	17	-3	223.0
POTABLE WATER	MT	12	39	0	365.0
Cement class G	MT	0	0	0	52.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	15	-38	147.0
Brine	m3	0	70	-66	48.0
Helifuel	ltr	0	179	0	2,200.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	77.61	97	68	1800	800	987.0	30	200	175	40	210	233	50	300	292
2	National / 14 P-220	6.50	77.61	97													
3	National / 14 P-220	6.50		97	68	1800	800	987.0	30	200	175	40	220	233	50	310	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	33
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	6
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Total	75

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	**1974.1bbl**	**Losses**	**253.0bbl**
Active	207.0bbl	Downhole	
Mixing	450.0bbl	Surf+ Equip	0.0bbl
Hole	483.1bbl	Dumped	
Slug	60.0bbl	De-Gasser	
Reserve	774.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	253.0bbl

Equipment	Description	Mesh Size	Comments

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Marine

Weather on 19 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	6kn	128.0deg	1014.0mbar	13C°	1.0m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2380.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler		19/12/08	On location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		12.4	0	0	479.6
Potable Water	m3		3	0	0	281
Drill Water	m3		0			16
Barite	Mt	0	0		0	0
CEMENT G	Mt		0	0		84
Bentonite	Mt	0	0	25	0	17
Brine	m3	0	0	0	0	0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		18/12/08	In Portland

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	8.32		0	395.4
Potable Water	Mt					304
Drill Water	m3				0	200
Barite	Mt	0	0		0	0
Bentonite	Mt	0	0	0	0	0
CEMENT G	Mt	0	0		0	0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
BWJ	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	0927 / 0941	0 / 6	179 ltrs Fuel

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 11
Fermat-1

20 Dec 2008

From: Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

Well Data

Country	Australia	MDBRT	1037.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	1036.8m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	36.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$921,522
Rig	West Triton	Days from spud	7.00	Shoe MDBRT	987.0m	Cum Cost	AUD$17,002,317
Wtr Dpth (MSL)	39m	Days on well	11.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 12.25in hole At 06:00hrs depth of 1156m.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Continue to drill 12.25in hole.		

Summary of Period 0000 to 2400 Hrs

Drilled and cleaned out 12.25in hole to 1027m.
POOH, changed BHA, RIH, drilled ahead with
12.25in hole.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	5 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	6	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	0 Days	PTW issued for the day.	
Safety Meeting	2	0 Days	Weekly safety meeting.	
STOP Card	37	0 Days	Stop cards submitted for the day.	27 positive 10 negative
Time Out For Safety	1	0 Days	Drill Crew	Partial backing out of tubular in derrick

Operations For Period 0000 Hrs to 2400 Hrs on 20 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	0130	1.50	1027.0m	Continued drilling 12.25in hole from 1011m to 1027m. Continued to work junk sub while drilling.
P7	TP (DH)	F4	0130	0200	0.50	1027.0m	Circulated bottoms up while rotating and reciprocating string. Worked junk sub prior to tripping.
P7	TP (DH)	G8	0200	0500	3.00	1027.0m	POOH from 1027m to 127m. Flow checked prior to commencing tripping
P7	TP (DH)	G8	0500	0730	2.50	1027.0m	POOH with BHA from 127m. Broke out laid down junk sub. Total weight of metal junk recovered from junk basket = 175 grams.
P7	P	G6	0730	1200	4.50	1027.0m	Picked up and RIH with 12.25in BHA. Shallow tested MWD tools. 700GPM. 800 PSI - good test Held JSA prior to commencing job. Held one time out for safety due to lifting sub partially backing out .
P7	P	G2	1200	1330	1.50	1027.0m	Changed out handling equipment and picked up 21 joints of Drill pipe and racked in derrick.
P7	P	G2	1330	1930	6.00	1027.0m	Installed hydraulic slips and continued to pick up drill pipe from deck, RIH with same from 151m to 979m.
P7	P	G1	1930	2000	0.50	1027.0m	Changed out hydraulic slips and handling equipment, calibrated Schlumberger depth sensor.
P7	P	E8	2000	2300	3.00	1027.0m	Made up TDS and logged from casing shoe at TD 987m to 1027m. Parameters 40 m/hr , GPM 800 , RPM 40 , SPP 1800.
P7	TP (RE)	G11	2300	2330	0.50	1027.0m	Draworks alarm activated for "broken chain alarm" troubleshot draworks chain alarm. No problem found.
P7	P	D2	2330	2400	0.50	1037.0m	Drill 12.25in hole from 1027m to 1037m.

Operations For Period 0000 Hrs to 0600 Hrs on 21 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	0600	6.00	1478.0m	(IN PROGRESS) Drilled 12.25in hole from 1037m to 1478m. RPM 100/150. GPM 800/900. SPP1800. Torque 2k. WOB 5/12

Operations For Period Hrs to Hrs on

Australian Drilling Associates Pty Ltd ADA

Phase Data to 2400hrs, 20 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	47	19 Dec 2008	20 Dec 2008	264.00	11.000	1037.0m

General Comments

00:00 TO 24:00 Hrs ON 20 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl	API FL:	4.4cc/30min	Cl:	38000mg/l	Solids(%vol):	3%	Viscosity	155sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	20%	Low-Gravity Solids:	0.2%vol	PV	30cp
Time:	22:25	HTHP-FL:		Hard/Ca:	320mg/l	H2O:	94%	YP	42lb/100ft²
Weight:	9.50ppg	HTHP-cake:		MBT:	2.5	Oil(%):		Gels 10s	10
Temp:	25C°			PM:	0.13	Sand:		Gels 10m	15
				PF:	0.08	pH:	9.5	Fann 003	9
						PHPA:	3ppb	Fann 006	11
								Fann 100	41
								Fann 200	59
								Fann 300	72
								Fann 600	102

Comment

Cost Today

Bit # 3

Wear	I	O1	D	L	B	G	O2	R
	0	0	NO	A	E	I	NO	BHA

Bitwear Comments: Only used to drill out shoe track and clean any potential junk of bottom.

Size (''):	12.25in	IADC#	117	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	HUGHES	WOB(avg)	6.00klb	No.	Size	Progress 26.0m	Cum. Progress 38.0m
Type:	tri	RPM(avg)	60	3	16/32nd"	On Bottom Hrs 1.5h	Cum. On Btm Hrs 2.0h
Serial No.:	5149536	F.Rate	800gpm			IADC Drill Hrs 1.5h	Cum IADC Drill Hrs 2.0h
Bit Model	GT-1	SPP	1800psi			Total Revs	Cum Total Revs 0
Depth In	987.0m	HSI				ROP(avg) 17.33 m/hr	ROP(avg) 19.00 m/hr
Depth Out	1027.0m	TFA	0.589				

Bit Comment: Shoe drill out and junk run assembly

Bit # 4

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	REED-HYCALOG	WOB(avg)	4.00klb	No.	Size	Progress 10.0m	Cum. Progress 10.0m
Type:	PDC	RPM(avg)	150	3	13/32nd"	On Bottom Hrs 1.0h	Cum. On Btm Hrs 1.0h
Serial No.:	212219	F.Rate	1000gpm	3	14/32nd"	IADC Drill Hrs 1.0h	Cum IADC Drill Hrs 1.0h
Bit Model	RSR616M-A10	SPP	1800psi			Total Revs	Cum Total Revs 0
Depth In	1027.0m	HSI				ROP(avg) 10.00 m/hr	ROP(avg) 10.00 m/hr
Depth Out		TFA	0.840				

Bit Comment

BHA # 3

Weight(Wet)	37.00klb	Length	126.8m	Torque(max)	4000ft-lbs	D.C. (1) Ann Velocity	239fpm
Wt Below Jar(Wet)	32.00klb	String	150.00klb	Torque(Off.Btm)	1000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	152.00klb	Torque(On.Btm)	2000ft-lbs	H.W.D.P. Ann Velocity	164fpm
		Slack-Off	150.00klb			D.P. Ann Velocity	164fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		5149536	
Junk Sub	0.90m	9.63in	2.81in	227460	
Near Bit Stab	2.08m	12.25in	2.88in	703984	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		17621380	
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	7.00in	2.88in	sssd7132	
HWDP	56.23m	5.50in	3.25in		

BHA # 4

Weight(Wet)	51.00klb	Length	151.4m	Torque(max)	3000ft-lbs	D.C. (1) Ann Velocity	299fpm
Wt Below Jar(Wet)	34.00klb	String	154.00klb	Torque(Off.Btm)	1000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	155.00klb	Torque(On.Btm)	2000ft-lbs	H.W.D.P. Ann Velocity	205fpm
		Slack-Off	155.00klb			D.P. Ann Velocity	205fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	12.25in		212219	
Near Bit Stab	2.08m	12.25in	2.88in	703984	
ARC8	5.92m	9.13in		1957	
Tele Scope	8.97m	11.75in		VR52	
SonicVISION 825	8.19m	11.25in		48648	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	Jar hr's 60
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
1023.76	2.6	224.8	1023.57	-6.2	-6.2	-6.5	0.9	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	15	0	359.0
Rig Fuel	m3	0	16	0	207.0
POTABLE WATER	MT	12	23	0	354.0
Cement class G	MT	79	0	0	131.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	3	0	144.0
Brine	m3	77	0	0	125.0
Helifuel	ltr	2957	0	0	5,157.0

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	79.28	97	70	1800	800	987.0	30	140	175	40	190	233	50	270	292
2	National / 14 P-220	6.50	77.61	97													
3	National / 14 P-220	6.50		97	670	1800	800	1025.0	30	140	175	40	200	233	50	280	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	32
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	6
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Total	74

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	**1225.0bbl**	**Losses**	**0.0bbl**
Active	262.0bbl	Downhole	
Mixing	450.0bbl	Surf+ Equip	0.0bbl
Hole	494.0bbl	Dumped	
Slug	19.0bbl	De-Gasser	
Reserve		De-Sander	
Kill		De-Sllter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Weather on 20 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	23kn	98.0deg	1011.0mbar	15C°	1.0m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2232.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	20/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		12.15	0	0	467.6
Potable Water	m3		3	0	0	281
Drill Water	m3		0			16
Barite	Mt	0	0		0	0
CEMENT G	Mt		0	0		84
Bentonite	Mt	0	0	25	0	17
Brine	m3	0	0	0	0	0

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Pacific Valkyrie	20/12/08		On location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	0	6.66		0	388.7
Potable Water	Mt					451
Drill Water	m3	533			0	733
Barite	Mt	42	0		0	42
Bentonite	Mt	0	0	0	0	0
CEMENT G	Mt	0	0		0	0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	12.11 / 12.17	0 / 1	Unscheduled due to crew member family bereavement

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 12
Fermat-1

21 Dec 2008

From: Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

Well Data

Country	Australia	MDBRT	1478.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	1477.3m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	442.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$756,210
Rig	West Triton	Days from spud	8.00	Shoe MDBRT	987.0m	Cum Cost	AUD$17,758,527
Wtr Dpth (MSL)	39m	Days on well	12.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 12.25in hole At 06:00hrs TD 1563m		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Continue to drill 12.25in hole.		

Summary of Period 0000 to 2400 Hrs

Drilled 12.25in hole from 1037.0m to 1478.0m

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	7	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	0 Days	PTW issued for the day.	
Safety Meeting	2	1 Day	Weekly safety meeting.	
STOP Card	40	0 Days	Stop cards submitted for the day.	23 positive 17 negative
Time Out For Safety	2	0 Days	Review flash alert , wrist sprain	

Operations For Period 0000 Hrs to 2400 Hrs on 21 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	2400	24.00	1478.0m	Drilled 12.25in hole from 1037m to 1478m. RPM 100/150. GPM 800/900. SPP1800. Torque 2k. WOB 5/12

Operations For Period 0000 Hrs to 0600 Hrs on 22 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	0600	6.00	1563.0m	Continue to drill 12.25in hole from 1478.0m to 1563.0m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 21 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	71	19 Dec 2008	21 Dec 2008	288.00	12.000	1478.0m

General Comments

00:00 TO 24:00 Hrs ON 21 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

Australian Drilling Associates Pty Ltd ADA

WBM Data

Cost Today

Mud Type:	KCl	API FL:	6.2cc/30min	Cl:	43000mg/l	Solids(%vol):	5%	Viscosity	76sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	20%	Low-Gravity Solids:	2.9%vol	PV	12cp
Time:	20:45	HTHP-FL:		Hard/Ca:	240mg/l	H2O:	92%	YP	25lb/100ft²
Weight:	9.70ppg	HTHP-cake:		MBT:	25	Oil(%):		Gels 10s	9
Temp:	36C°			PM:	0.75	Sand:		Gels 10m	14
				PF:	0.14	pH:	9.5	Fann 003	7
						PHPA:	3ppb	Fann 006	9
								Fann 100	31
								Fann 200	43
								Fann 300	61
								Fann 600	73

Comment

Bit # 4

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	REED-HYCALOG	WOB(avg)	10.00klb	No.	Size	Progress	442.0m	Cum. Progress	452.0m
Type:	PDC	RPM(avg)	130	3	13/32nd"	On Bottom Hrs	17.6h	Cum. On Btm Hrs	18.6h
Serial No.:	212219	F.Rate	850gpm	3	14/32nd"	IADC Drill Hrs	17.6h	Cum IADC Drill Hrs	18.6h
Bit Model	RSR616M-A10	SPP	1800psi			Total Revs	144	Cum Total Revs	144
Depth In	1027.0m	HSI	5.26HSI			ROP(avg)	25.11 m/hr	ROP(avg)	24.30 m/hr
Depth Out		TFA	0.840						

Bit Comment

BHA # 4

Weight(Wet)	51.00klb	Length	151.4m	Torque(max)	5ft-lbs	D.C. (1) Ann Velocity	254fpm
Wt Below Jar(Wet)	34.00klb	String	179.00klb	Torque(Off.Btm)	3ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	189.00klb	Torque(On.Btm)	3ft-lbs	H.W.D.P. Ann Velocity	174fpm
		Slack-Off	181.00klb			D.P. Ann Velocity	174fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	12.25in		212219	
Near Bit Stab	2.08m	12.25in	2.88in	703984	
ARC8	5.92m	9.13in		1957	
Tele Scope	8.97m	11.75in		VR52	
SonicVISION 825	8.19m	11.25in		48648	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	Jar hr's 60
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
			0.00	0.0	0.0	0.0	0.0	
			0.00	0.0	0.0	0.0	0.0	
1053.62	2.6	224.7	1053.40	-7.2	-7.2	-7.4	0.0	MWD
1053.62	2.6	224.7	1053.40	-7.2	-7.2	-7.4	0.0	MWD
1083.09	2.6	225.9	1082.84	-8.2	-8.2	-8.4	0.0	MWD
1083.09	2.6	225.9	1082.84	-8.2	-8.2	-8.4	0.2	MWD
1112.27	2.8	224.7	1111.99	-9.1	-9.1	-9.3	0.0	MWD
1112.27	2.8	224.7	1111.99	-9.1	-9.1	-9.3	0.7	MWD
1141.71	2.6	224.0	1141.39	-10.1	-10.1	-10.3	0.0	MWD

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Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
1141.71	2.6	224.0	1141.39	-10.1	-10.1	-10.3	0.7	MWD
1171.39	2.7	233.4	1171.04	-11.0	-11.0	-11.3	1.5	MWD
1200.78	2.6	223.8	1200.40	-11.9	-11.9	-12.4	1.5	MWD
1230.79	2.7	225.2	1230.38	-12.9	-12.9	-13.3	0.4	MWD
1319.00	2.7	226.9	1318.49	-15.8	-15.8	-16.3	0.1	MWD
1407.00	2.9	229.0	1406.39	-18.7	-18.7	-19.5	0.3	MWD
1495.00	3.0	228.3	1494.27	-21.6	-21.6	-22.9	0.1	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	200	116	0	443.0
Rig Fuel	m3	98	17	0	288.0
POTABLE WATER	MT	15	19	1	351.0
Cement class G	MT	0	0	0	131.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	6	0	138.0
Brine	m3	53	110	0	68.0
Helifuel	ltr	0	0	0	5,157.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	80.11	97	70	1800	800	1353.0	30	200	175	40	240	233	50	320	292
2	National / 14 P-220	6.50	80.11	97	70	1800	800	1353.0	30	200	175	40	240	240	50	320	320
3	National / 14 P-220																

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	32
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	6
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Total	74

Australian Drilling Associates Pty Ltd ADA

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	1479.0bbl	Losses	389.0bbl
Active	327.0bbl	Downhole	
Mixing	450.0bbl	Surf+ Equip	389.0bbl
Hole	685.0bbl	Dumped	
Slug	17.0bbl	De-Gasser	
Reserve		De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Weather on 21 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	35kn	0.0deg	994.0mbar	25C°	1.0m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2285.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	20/12/08		On location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		2.5			465
Potable Water	m3		3			278
Drill Water	m3					16
Barite	Mt					
CEMENT G	Mt			84		
Bentonite	Mt			25		17
Brine	m3					

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		18/12/08	On location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		3.3	100		285.3
Potable Water	Mt		5			446
Drill Water	m3			200		533
Barite	Mt					42
Bentonite	Mt					
CEMENT G	Mt					

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 13
Fermat-1

22 Dec 2008

From: Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

Well Data

Country	Australia	MDBRT	1792.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	1790.8m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	314.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$739,475
Rig	West Triton	Days from spud	9.00	Shoe MDBRT	987.0m	Cum Cost	AUD$18,498,002
Wtr Dpth (MSL)	39m	Days on well	13.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 12.25in hole At 06:00hrs TD 1869.0 m		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Continue to drill 12.25in hole		

Summary of Period 0000 to 2400 Hrs

Drilled 12.25in hole from 1478m to 1792m.
One hour for rig repairs.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	1 Day	Abandon rig drill.	All personnel mustered at life boats.
JSA	8	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	0 Days	PTW issued for the day.	
Safety Meeting	2	2 Days	Weekly safety meeting.	
STOP Card	41	0 Days	Stop cards submitted for the day.	25 positive 16 negative

Operations For Period 0000 Hrs to 2400 Hrs on 22 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	1330	13.50	1679.0m	Continue to drill 12.25in hole from 1478.0m to 1679.0m. WOB 8/15klb. GPM 900/1000. SPP 1800/2300 psi. RPM 200. Torque 2/20k Str wt up 214k. Str wt down 199k. Str wt rot 202k.
P7	TP (RE)	D2	1330	1430	1.00	1679.0m	Power failed to drillers cyber system. Draworks, TDS and mud pumps shut down. Trouble shot and rectified. Charge pump to mud pump 2 failed. Changed to mud pump 3.
P7	P	D2	1430	2400	9.50	1792.0m	Continued to drill12.25in hole from 1679m to 1792m.

Operations For Period 0000 Hrs to 0600 Hrs on 23 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	0600	6.00	1869.0m	Continued to drill 12.25in hole from 1792m to 1869.0m

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 22 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	95	19 Dec 2008	22 Dec 2008	312.00	13.000	1792.0m

General Comments

00:00 TO 24:00 Hrs ON 22 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

Australian Drilling Associates Pty Ltd ADA

WBM Data

Cost Today

Mud Type:	KCl	API FL:	4.4cc/30min	Cl:	48000mg/l	Solids(%vol):	6%	Viscosity	76sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	20%	Low-Gravity Solids:	6.2%vol	PV	21cp
Time:	22:45	HTHP-FL:		Hard/Ca:	240mg/l	H2O:	90%	YP	34lb/100ft²
Weight:	9.65ppg	HTHP-cake:		MBT:	2.5	Oil(%):		Gels 10s	10
Temp:	45C°			PM:	0.7	Sand:		Gels 10m	14
				PF:	0.12	pH:	9	Fann 003	9
						PHPA:	3ppb	Fann 006	11
								Fann 100	34
								Fann 200	46
								Fann 300	55
								Fann 600	76

Comment

Bit # 4

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	REED-HYCALOG	WOB(avg)	13.00klb	No.	Size	Progress	314.0m	Cum. Progress	766.0m
Type:	PDC	RPM(avg)	200	3	13/32nd"	On Bottom Hrs	18.1h	Cum. On Btm Hrs	36.7h
Serial No.:	212219	F.Rate	1000gpm	3	14/32nd"	IADC Drill Hrs	18.1h	Cum IADC Drill Hrs	36.7h
Bit Model	RSR616M-A10	SPP	2300psi			Total Revs		Cum Total Revs	144
Depth In	1027.0m	HSI	5.26HSI			ROP(avg)	17.35 m/hr	ROP(avg)	20.87 m/hr
Depth Out		TFA	0.840						

Bit Comment

BHA # 4

Weight(Wet)	51.00klb	Length	151.4m	Torque(max)	20000ft-lbs	D.C. (1) Ann Velocity	299fpm
Wt Below Jar(Wet)	34.00klb	String	202.00klb	Torque(Off.Btm)	3000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	214.00klb	Torque(On.Btm)	5000ft-lbs	H.W.D.P. Ann Velocity	205fpm
		Slack-Off	199.00klb			D.P. Ann Velocity	205fpm

BHA Run Description

BHA Run Comment Jar hrs 78

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	12.25in		212219	
Near Bit Stab	2.08m	12.25in	2.88in	703984	
ARC8	5.92m	9.13in		1957	
Tele Scope	8.97m	11.75in		VR52	
SonicVISION 825	8.19m	11.25in		48648	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	Jar hr's 78
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
			0.00	0.0	0.0	0.0	0.0	
1525.13	3.1	228.3	1524.20	-32.9	-32.9	-34.0	0.3	MWD
1614.18	3.2	227.3	1613.11	-36.2	-36.2	-37.6	0.1	MWD
1761.71	3.3	229.3	1760.40	-41.8	-41.8	-43.9	0.1	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	21	0	422.0
Rig Fuel	m3	0	23	0	265.0

Australian Drilling Associates Pty Ltd ADA

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
POTABLE WATER	MT	12	25	0	338.0
Cement class G	MT	0	0	0	131.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	0	0	138.0
Brine	m3	0	0	0	68.0
Helifuel	ltr	0	777	0	4,380.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	80.11	97	85	2300	800	1705.0	30	200	175	40	280	233	50	320	292
2	National / 14 P-220	6.50	80.11	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	80.11	97	85	2300	1000	1705.0	30	200	175	40	260	233	50	320	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	32
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	6
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Total	74

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	**1629.0bbl**	**Losses**	**25.7bbl**
Active	327.0bbl	Downhole	
Mixing	450.0bbl	Surf+ Equip	25.7bbl
Hole	835.0bbl	Dumped	
Slug	17.0bbl	De-Gasser	
Reserve		De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Australian Drilling Associates Pty Ltd ADA

Weather on 22 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	18kn	210.0deg	1006.0mbar	15C°	1.0m	135.0deg	13s
Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments	
128.5deg		2285.00klb	1.0m	190.0deg	13s	mainly fine	
Comments							

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	20/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		2.8			462.2
Potable Water	m3		6			272
Drill Water	m3					16
Barite	Mt					
CEMENT G	Mt					
Bentonite	Mt			25		17
Brine	m3					

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie	19/12/08		On location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1			284.3
Potable Water	Mt		5			441
Drill Water	m3		0			533
Barite	Mt		0			42
Bentonite	Mt					
CEMENT G	Mt					

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1004 / 1019	7 / 7	TMS & ADA Crew Change

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 14
Fermat-1

23 Dec 2008

From: Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

Well Data

Country	Australia	MDBRT	2104.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2102.3m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	312.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$767,752
Rig	West Triton	Days from spud	10.00	Shoe MDBRT	987.0m	Cum Cost	AUD$19,265,754
Wtr Dpth (MSL)	39m	Days on well	14.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 12.25in hole. At 06:00hrs TD 2138 m.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Drill 12.25in hole.		

Summary of Period 0000 to 2400 Hrs

Drilled 12.25in hole from 1792 m to 2104 m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	2 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	8	1 Day	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	8	0 Days	PTW issued for the day.	
Safety Meeting	2	3 Days	Weekly safety meeting.	
STOP Card	33	0 Days	Stop cards submitted for the day.	21 positive 12 negative

Operations For Period 0000 Hrs to 2400 Hrs on 23 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	2400	24.00	2104.0m	Continued to drill 12.25in from 1792m to 2104m. GPM 1000 . SPP 2250 . RPM 240 . Torque 6/24k WOB 10/25k. String wt up 237k . String wt down 216k . String wt rot 220k

Operations For Period 0000 Hrs to 0600 Hrs on 24 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	0200	2.00	2123.0m	Drilled 12.25in hole from 2104m to 2123m
P7	TP (RE)	D2	0200	0300	1.00	2123.0m	Replaced TDS washpipe assembly. Circulated with swedge and hose at 500GPm SPP 1000.
P7	P	D2	0300	0600	3.00	2138.0m	Drilled 12.25in hole from 2123m to 2138 m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 23 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	119	19 Dec 2008	23 Dec 2008	336.00	14.000	2104.0m

General Comments

00:00 TO 24:00 Hrs ON 23 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

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WBM Data

Cost Today

Mud Type:	KCl	API FL:	4.4cc/30min	Cl:	50000mg/l	Solids(%vol):	5%	Viscosity	53sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	2.5%vol	PV	13cp
Time:	22:00	HTHP-FL:	9.2cc/30min	Hard/Ca:	240mg/l	H2O:	92%	YP	38lb/100ft²
Weight:	9.65ppg	HTHP-cake:	2/32nd"	MBT:	2	Oil(%):		Gels 10s	11
Temp:	47C°			PM:	0.1	Sand:	1	Gels 10m	17
				PF:	0.2	pH:	9	Fann 003	10
						PHPA:	1ppb	Fann 006	12
								Fann 100	33
								Fann 200	44
								Fann 300	51
								Fann 600	64

Comment

Bit # 4

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	REED-HYCALOG	WOB(avg)	13.00klb	No.	Size	Progress	312.0m	Cum. Progress	1078.0m
Type:	PDC	RPM(avg)	200	3	13/32nd"	On Bottom Hrs	16.7h	Cum. On Btm Hrs	53.4h
Serial No.:	212219	F.Rate	1000gpm	3	14/32nd"	IADC Drill Hrs	24.0h	Cum IADC Drill Hrs	60.7h
Bit Model	RSR616M-A10	SPP	2300psi			Total Revs		Cum Total Revs	144
Depth In	1027.0m	HSI	5.26HSI			ROP(avg)	18.68 m/hr	ROP(avg)	20.19 m/hr
Depth Out		TFA	0.840						

Bit Comment

BHA # 4

Weight(Wet)	51.00klb	Length	151.4m	Torque(max)	6000ft-lbs	D.C. (1) Ann Velocity	299fpm
Wt Below Jar(Wet)	34.00klb	String	220.00klb	Torque(Off.Btm)	4000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	237.00klb	Torque(On.Btm)	5000ft-lbs	H.W.D.P. Ann Velocity	205fpm
		Slack-Off	216.00klb			D.P. Ann Velocity	205fpm

BHA Run Description

BHA Run Comment Jar hrs 95

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	12.25in		212219	
Near Bit Stab	2.08m	12.25in	2.88in	703984	
ARC8	5.92m	9.13in		1957	
Tele Scope	8.97m	11.75in		VR52	
SonicVISION 825	8.19m	11.25in		48648	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	Jar hr's 95
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
1791.33	3.3	229.4	1790.17	-31.0	-31.0	-33.3	0.0	MWD
1939.47	3.5	227.4	1938.04	-36.8	-36.8	-39.9	0.0	MWD
2086.92	3.3	227.8	2085.23	-42.6	-42.6	-46.6	0.0	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	422.0
Rig Fuel	m3	0	0	0	265.0
POTABLE WATER	MT	0	0	0	338.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Cement class G	MT	0	0	0	131.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	0	0	138.0
Brine	m3	0	0	0	68.0
Helifuel	ltr	0	156	-100	4,124.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	80.11	97	85	2300	1000	2090.0	30	230	175	40	280	233	50	350	292
2	National / 14 P-220	6.50	80.11	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	80.11	97	85	2300	1000	2090.0	30	230	175	40	280	233	50	350	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	9
Seadrill Services	32
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	6
Beach Petroleum Ltd	1
Schlumberger MWD/LWD	3
Total	72

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	**2889.0bbl**	**Losses**	**220.0bbl**
Active	490.0bbl	Downhole	11.0bbl
Mixing	450.0bbl	Surf+ Equip	209.0bbl
Hole	952.0bbl	Dumped	
Slug	23.0bbl	De-Gasser	
Reserve	974.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Australian Drilling Associates Pty Ltd ADA

Weather on 23 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	11kn	108.0deg	1008.0mbar	14C°	1.0m	135.0deg	13s
Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments	
128.5deg		2285.00klb	1.0m	190.0deg	13s	mainly fine	
Comments							

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler		10.30 23/12/08	Alongside Portland

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		7.21			455.19
Potable Water	m3	184	4			452
Drill Water	m3	266				282
Barite	Mt					
CEMENT G	Mt					
Bentonite	Mt					17
Brine	m3	20				20

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		18/12/08	On location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		4.74			279.56
Potable Water	Mt		5			436
Drill Water	m3			300		233
Barite	Mt			42		0
Bentonite	Mt					
CEMENT G	Mt					

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	0935 / 0951	7 / 9	TMS Crew Change

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 15
Fermat-1

24 Dec 2008

From: Rocco Rossouw/ Peter Sheehan
To: Texas Richards

Well Data

Country	Australia	MDBRT	2266.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2263.9m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	162.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$789,095
Rig	West Triton	Days from spud	11.00	Shoe MDBRT	987.0m	Cum Cost	AUD$20,060,848
Wtr Dpth (MSL)	39m	Days on well	15.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 12 1/4" hole . At 06.00 TD 2317.0m.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Continue to drill 12 1/4" hole.		

Summary of Period 0000 to 2400 Hrs

Drilled 12 1/4" hole from 2104 m to 2266m. 1 hr repair time for washpipe.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	3 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	12	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	14,238 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	8	0 Days	PTW issued for the day.	
Safety Meeting	2	4 Days	Weekly safety meeting.	
STOP Card	20	0 Days	Stop cards submitted for the day.	12 positive 8 negative

Operations For Period 0000 Hrs to 2400 Hrs on 24 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	0200	2.00	2123.0m	Drilled 12 1/4" hole from 2104m to 2123m
P7	TP (RE)	G11	0200	0300	1.00	2123.0m	Replaced TDS washpipe assembly . Circulated with swedge and hose at 500GPm SPP 1000.
P7	P	D2	0300	2400	21.00	2266.0m	Drilled 12 1/4" hole from 2123m to 2266 m. GPM 1000 . SPP 2300 . WOB 40K . RPM 240 . TORQUE 8/10K. String wt up 246k . String wt down 227k . String rotating 223k.

Operations For Period 0000 Hrs to 0600 Hrs on 25 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	0600	6.00	2396.0m	(IN PROGRESS) Drilled 12 1/4" hole from 2266m to 2396 m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 24 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	143	19 Dec 2008	24 Dec 2008	360.00	15.000	2266.0m

General Comments

00:00 TO 24:00 Hrs ON 24 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

Australian Drilling Associates Pty Ltd ADA

WBM Data

Mud Type:	KCl / Polymer	API FL:	4.6cc/30min	Cl:	49000mg/l	Solids(%vol):	5%	Viscosity	47sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	3.6%vol	PV	13cp
Time:	22:00	HTHP-FL:	10.5cc/30min	Hard/Ca:	32014mg/l	H2O:	91%	YP	34lb/100ft²
Weight:	9.70ppg	HTHP-cake:	2/32nd"	MBT:	2.5	Oil(%):		Gels 10s	11
Temp:	47C°			PM:	0.2	Sand:	.75	Gels 10m	17
				PF:	0.2	pH:	9	Fann 003	10
						PHPA:	2ppb	Fann 006	12
								Fann 100	32
								Fann 200	41
								Fann 300	48
								Fann 600	62

Cost Today

Comment

Bit # 4

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	REED-HYCALOG	WOB(avg)	40.00klb	No.	Size	Progress	162.0m	Cum. Progress	1240.0m
Type:	PDC	RPM(avg)	220	3	13/32nd"	On Bottom Hrs	18.6h	Cum. On Btm Hrs	72.0h
Serial No.:	212219	F.Rate	1000gpm	3	14/32nd"	IADC Drill Hrs	23.0h	Cum IADC Drill Hrs	83.7h
Bit Model	RSR616M-A10	SPP	2300psi			Total Revs		Cum Total Revs	144
Depth In	1027.0m	HSI	5.26HSI			ROP(avg)	8.71 m/hr	ROP(avg)	17.22 m/hr
Depth Out		TFA	0.840						

Bit Comment

BHA # 4

Weight(Wet)	51.00klb	Length	151.4m	Torque(max)	11000ft-lbs	D.C. (1) Ann Velocity	299fpm
Wt Below Jar(Wet)	34.00klb	String	227.00klb	Torque(Off.Btm)	8000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	246.00klb	Torque(On.Btm)	8000ft-lbs	H.W.D.P. Ann Velocity	205fpm
		Slack-Off	223.00klb			D.P. Ann Velocity	205fpm

BHA Run Description

BHA Run Comment Jar hrs 127

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	12.25in		212219	
Near Bit Stab	2.08m	12.25in	2.88in	703984	
ARC8	5.92m	9.13in		1957	
Tele Scope	8.97m	11.75in		VR52	
SonicVISION 825	8.19m	11.25in		48648	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	Jar hr's 127
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2175.52	3.4	228.1	2172.93	-71.9	-71.9	-75.2	0.1	MWD
2235.00	3.5	227.4	2232.31	-74.3	-74.3	-77.9	0.2	MWD
2264.00	3.5	226.6	2261.25	-75.6	-75.6	-79.2	0.2	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	220	0	202.0
Rig Fuel	m3	0	21	0	244.0
POTABLE WATER	MT	12	23	0	327.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Cement class G	MT	0	0	0	131.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	8	0	130.0
Brine	m3	0	0	0	68.0
Helifuel	ltr	0	1678	0	2,446.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	80.95	97	85	2300	1000	2187.0	30	280	175	40	300	233	50	400	292
2	National / 14 P-220	6.50	80.95	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	80.95	97	85	2300	1000	2187.0	30	260	175	40	300	233	50	400	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	33
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	6
Beach Petroleum Ltd	1
Schlumberger MWD/LWD	3
Schlumberger (Wireline)	3
Dril-Quip	2
Weatherford	6
Total	85

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	**2475.0bbl**	**Losses**	**196.0bbl**
Active	454.0bbl	Downhole	16.0bbl
Mixing		Surf+ Equip	180.0bbl
Hole	1024.0bbl	Dumped	
Slug	46.0bbl	De-Gasser	
Reserve	951.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Australian Drilling Associates Pty Ltd ADA

Weather on 24 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	10kn	188.0deg	1009.0mbar	15C°	1.0m	135.0deg	13s
Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments	
128.5deg		4059.00klb	1.0m	190.0deg	13s	mainly fine	
Comments							

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	18.15 24/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		9.77			445.5
Potable Water	m3		5	80		367
Drill Water	m3			160		122
Barite	Mt					
CEMENT G	Mt					
Bentonite	Mt					17
Brine	m3	28		48		0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			On location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		0.8			278.7
Potable Water	Mt		5			431
Drill Water	m3					233
Barite	Mt					0
Bentonite	Mt					
CEMENT G	Mt					

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1010 / 1034	12 / 9	TMS Crew Change
2	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1458 / 1534	12 / 1	Weatherford / Dril-Quip / Schlumberger

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 16

25 Dec 2008 **From:** Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

Fermat-1

Well Data

Country	Australia	MDBRT	2396.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2393.8m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	130.5m	Shoe TVDBRT	987.0m	Daily Cost	AUD$756,529
Rig	West Triton	Days from spud	12.00	Shoe MDBRT	987.0m	Cum Cost	AUD$20,817,377
Wtr Dpth (MSL)	39m	Days on well	16.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Trouble shooting cyber system/draw works problem . Pulled out of hole to bit depth 920m.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Pick up BHA for correction run and RIH , drill ahead 12 1/4" hole		

Summary of Period 0000 to 2400 Hrs

Drilled 12 1/4" hole from 2266m to TD 2396m .
POOH from 2396m to 1245m

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	4 Days	Abandon rig drill.	All personnel mustered at life boats.
First Aid Case		0 Days	Pinched finger	Finger jammed in door while closing . Minor bruising , first aid applied.
JSA	9	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	6	0 Days	PTW issued for the day.	
Safety Meeting	2	5 Days	Weekly safety meeting.	
STOP Card	24	0 Days	Stop cards submitted for the day.	13 positive 11 negative
Time Out For Safety		0 Days	Moving loads	Discussion on hazards of moving X/O subs on rig floor. I.E pinch points

Operations For Period 0000 Hrs to 2400 Hrs on 25 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	1330	13.50	2396.0m	Drilled 12 1/4" hole from 2266m to 2396 m.
P7	P	D2	1330	1500	1.50	2396.0m	Circulated hole clean , 1.5 times bottom's up .
P7	P	E8	1500	1530	0.50	2396.0m	Took TD survey , down linked Schlumberger/Anadril MWD data.
P7	P	G8	1530	2030	5.00	2396.0m	POOH from 2396m to 1356m. Flow checked prior to commencing POOH. Pumped slug at 2101m.
P7	P	D6	2030	2130	1.00	2396.0m	At 1356m, 25k overpull , attempted to work string through , no success, made up TDS and backreamed from 1356m to 1333m. 60/80 rpm . 600 GPM. TDS washpipe leaking. Greased washpipe
P7	TP (RE)	G11	2130	2230	1.00	2396.0m	Cyber system/Draw works brake problem , brakes set at rotary table pick up point , unable to release . Trouble shoot and rectify .
P7	P	D6	2230	2300	0.50	2396.0m	Continued to backream from 1333m to 1303m. Attempted straight pull each stand , overpull increased each stand over first 10/20 m to 25k , repeated attempts to work string through with no success. 60/80 RPM 600 GPM.
P7	TP (RE)	D6	2300	2330	0.50	2396.0m	Continued backreaming from 1303m to 1274m , problem with cyber system floor saver / height calibration. Unable to run draw works at regular speed , 3 minutes to lower travelling blocks from racking board to rig floor. Continued POOH at reduced speed to casing shoe to correct problem.
P7	TP (RE)	D6	2330	2400	0.50	2396.0m	Continued backreaming from 1274m to 1245m at reduced speed due to cyber system error. Rebooted cyber chair P.C to correct system height adjustment error, no success. TDS washpipe leaking.

Operations For Period 0000 Hrs to 0600 Hrs on 26 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D6	0000	0300	3.00	2396.0m	Continued to backream out of hole from 1245m to 987m , casing shoe.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							At 1038m washpipe seals totally failed . Straight pull from 1038m to 987m 5/10k overpull. Attempted straight pull at 1067m , no success 25/30k overpull.
P7	TP (RE)	G11	0300	0330	0.50	2396.0m	Bit in casing shoe , trouble shot and re calibrated cyber system block height parameters.
P7	TP (RE)	G11	0330	0400	0.50	2396.0m	Replaced TDS wash pipe seal assembly.
P7	TP (RE)	G8	0400	0600	2.00	2396.0m	(IN PROGRESS) Pumped slug , continued to POOH 2 stands , re-occuring problem with cyber system/draworks , travelling block speed okay for first 20m of stand then reverts to slow/crawl speed .Continued to trouble shoot problem.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 25 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	167	19 Dec 2008	25 Dec 2008	384.00	16.000	2396.0m

General Comments

00:00 TO 24:00 Hrs ON 25 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Cost Today

Mud Type:	KCl / Polymer	API FL:	4.4cc/30min	Cl:	48000mg/l	Solids(%vol):	5%	Viscosity	48sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	3.7%vol	PV	15cp
Time:	11:00	HTHP-FL:	10.6cc/30min	Hard/Ca:	380mg/l	H2O:	91%	YP	33lb/100ft²
Weight:	9.70ppg	HTHP-cake:	2/32nd"	MBT:	3	Oil(%):		Gels 10s	14
Temp:	52C°			PM:	0.08	Sand:	.5	Gels 10m	22
				PF:	0.1	pH:	8.9	Fann 003	11
						PHPA:	2ppb	Fann 006	13
								Fann 100	33
								Fann 200	42
								Fann 300	48
								Fann 600	63

Comment

Bit # 4

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	REED-HYCALOG	WOB(avg)	13.00klb	No.	Size	Progress 130.5m	Cum. Progress 1370.5m
Type:	PDC	RPM(avg)	220	3	13/32nd"	On Bottom Hrs 11.3h	Cum. On Btm Hrs 83.3h
Serial No.:	212219	F.Rate	1000gpm	3	14/32nd"	IADC Drill Hrs 13.5h	Cum IADC Drill Hrs 97.2h
Bit Model	RSR616M-A10	SPP	2300psi			Total Revs 945	Cum Total Revs 1089
Depth In	1027.0m	HSI	5.26HSI			ROP(avg) 11.55 m/hr	ROP(avg) 16.45 m/hr
Depth Out		TFA	0.840				

Bit Comment

BHA # 4

Weight(Wet)	51.00klb	Length	151.4m	Torque(max)	11000ft-lbs	D.C. (1) Ann Velocity	299fpm
Wt Below Jar(Wet)	34.00klb	String	238.00klb	Torque(Off.Btm)	8000ft-lbs	D.C. (2) Ann Velocity	0fpm

	Pick-Up	255.00klb	Torque(On.Btm)	8000ft-lbs	H.W.D.P. Ann Velocity	205fpm
	Slack-Off	224.00klb			D.P. Ann Velocity	205fpm

BHA Run Description

BHA Run Comment Jar hrs 127

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	12.25in		212219	
Near Bit Stab	2.08m	12.25in	2.88in	703984	
ARC8	5.92m	9.13in		1957	
Tele Scope	8.97m	11.75in		VR52	
SonicVISION 825	8.19m	11.25in		48648	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	Jar hr's 127
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2323.60	3.3	226.8	2320.75	-78.0	-78.0	-81.7	0.3	MWD
2382.70	3.4	228.5	2379.75	-80.3	-80.3	-84.3	0.2	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	240	212	0	230.0
Rig Fuel	m3	0	20	0	224.0
POTABLE WATER	MT	12	26	0	313.0
Cement class G	MT	0	0	0	131.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	15	0	115.0
Brine	m3	48	63	0	53.0
Helifuel	ltr	2959	0	0	5,405.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	81.78	97	85	2300	1000	2337.0	30	280	175	40	300	233	50	400	292
2	National / 14 P-220	6.50	81.78	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	81.78	97	85	2300	1000	2337.0	30	260	175	40	300	233	50	400	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	33
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2

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Personnel On Board

Baker Hughes Inteq	6
Beach Petroleum Ltd	1
Schlumberger MWD/LWD	3
Schlumberger (Wireline)	4
Dril-Quip	2
Weatherford	6
Total	86

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	2315.0bbl	Losses	170.0bbl
Active	397.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	170.0bbl
Hole	1131.0bbl	Dumped	
Slug	46.0bbl	De-Gasser	
Reserve	741.0bbl	De-Sander	
Kill		De-Silter Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Weather on 25 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	11kn	70.0deg	1006.0mbar	15C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		4098.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	18.15 24/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		5			440.4
Potable Water	m3		5			362
Drill Water	m3			160		122
Barite	Mt					
CEMENT G	Mt					
Bentonite	Mt					17
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		0.88			277.8
Potable Water	Mt		5			426
Drill Water	m3					233
Barite	Mt					0
Bentonite	Mt					
CEMENT G	Mt					

Australian Drilling Associates Pty Ltd ADA

26 Dec 2008

From: Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

DRILLING MORNING REPORT # 17
Fermat-1

Well Data

Country	Australia	MDBRT	2396.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2393.8m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$867,139
Rig	West Triton	Days from spud	13.00	Shoe MDBRT	987.0m	Cum Cost	AUD$21,684,516
Wtr Dpth (MSL)	39m	Days on well	17.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 12 1/4" directional hole. At 06.00 TD 2402m		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Continue to drill 12 1/4" correctional hole.		

Summary of Period 0000 to 2400 Hrs

POOH , changed out BHA for correction run.
RIH to bit depth 1341m.
8 hr's trouble time due to cyber system problem.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	5 Days	Abandon rig drill.	All personnel mustered at life boats.
First Aid Case		1 Day	Pinched finger	Finger jammed in door while closing . Minor bruising , first aid applied.
JSA	5	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	0 Days	PTW issued for the day.	
Safety Meeting	2	6 Days	Weekly safety meeting.	
STOP Card	21	0 Days	Stop cards submitted for the day.	12 positive 9 negative

Operations For Period 0000 Hrs to 2400 Hrs on 26 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D6	0000	0300	3.00	2396.0m	Continued to backream out of hole from 1245m to 987m , casing shoe. At 1038m washpipe seals totally failed . Straight pull from 1038m to 987m 5/10k overpull. Attempted straight pull at 1067m , no success 25/30k overpull.
P7	TP (RE)	G11	0300	0330	0.50	2396.0m	Bit in casing shoe , trouble shot and re calibrated cyber system block height parameters.
P7	TP (RE)	G11	0330	0400	0.50	2396.0m	Replaced TDS wash pipe seal assembly.
P7	TP (RE)	G8	0400	0730	3.50	2396.0m	Pumped slug , continued to POOH 2 stands , re-occuring problem with cyber system/draworks , travelling block speed okay for first 20m of stand then reverts to slow/crawl speed .Continued to trouble shoot problem.
P7	TP (RE)	G8	0730	1030	3.00	2396.0m	Continue to POOH slow/crawl mode from 920m to 409m
P7	P	G8	1030	1130	1.00	2396.0m	Continue to POOH slow/crawl mode from 409m to 239.91m
P7	TP (RE)	G11	1130	1200	0.50	2396.0m	Trouble shot cyber/draworks slow mode issue in conjuction with live link to NOV Norway. Repair problem.
P7	P	G6	1200	1400	2.00	2396.0m	POOH from 239m to surface with BHA.
P7	P	G6	1400	1600	2.00	2396.0m	Broke out and layed out bit, stabiliser, sonic, telescope, ARC, N.B .
P7	P	G11	1600	1630	0.50	2396.0m	Serviced Rig and TDS
P7	P	G6	1630	1900	2.50	2396.0m	Picked up and made up BHA for correction run .
P7	P	G6	1900	2000	1.00	2396.0m	RIH with BHA to 121m , shallow tested MWD,800 GPM , 1050 PSI . Good test.
P7	P	G8	2000	2400	4.00	2396.0m	RIH from 121m to 1341m.

Operations For Period 0000 Hrs to 0600 Hrs on 27 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	G8	0000	0300	3.00	2396.0m	Continued to RIH from 1341m to 2346m. Hole good condition .
P7	P	F1	0300	0330	0.50	2396.0m	Made up TDS , precautionary washed and reamed to bottom from 2346m to 2396m, 800 GPM ,1700 PSI, 80 RPM.
P7	P	D3	0330	0600	2.50	2422.0m	(IN PROGRESS) Drilled 12 1/4" sliding hole from 2396m to 2422m

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 26 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	191	19 Dec 2008	26 Dec 2008	408.00	17.000	2396.0m

WBM Data

Mud Type:	KCl / Polymer	API FL:	4.5cc/30min	Cl:	47500mg/l	Solids(%vol):	5%
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	3.8%vol
Time:	15:30	HTHP-FL:	10.6cc/30min	Hard/Ca:	200mg/l	H2O:	91%
Weight:	9.80ppg	HTHP-cake:	2/32nd"	MBT:	3	Oil(%):	
Temp:	25C°			PM:	0.1	Sand:	.5
				PF:	0.1	pH:	8.5
						PHPA:	2ppb

Cost Today

Viscosity	57sec/qt
PV	14cp
YP	32lb/100ft²
Gels 10s	11
Gels 10m	17
Fann 003	10
Fann 006	13
Fann 100	30
Fann 200	40
Fann 300	46
Fann 600	60

Comment

Bit # 4

Wear	I	O1	D	L	B	G	O2	R
	5	3	RO	C		I	LT	BHA

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	REED-HYCALOG	WOB(avg)	13.00klb	No.	Size	Progress 0.0m	Cum. Progress 1370.5m
Type:	PDC	RPM(avg)	220	3	13/32nd"	On Bottom Hrs 0.0h	Cum. On Btm Hrs 83.3h
Serial No.:	212219	F.Rate	1000gpm	3	14/32nd"	IADC Drill Hrs 0.0h	Cum IADC Drill Hrs 97.2h
Bit Model	RSR616M-A10	SPP	2300psi			Total Revs 945	Cum Total Revs 2034
Depth In	1027.0m	HSI	5.26HSI			ROP(avg) N/A	ROP(avg) 16.45 m/hr
Depth Out	2396.0m	TFA	0.840				

Bit Comment

Bit # 5

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	REED-HYCALOG	WOB(avg)		No.	Size	Progress	Cum. Progress 0.0m
Type:	PDC	RPM(avg)		3	13/32nd"	On Bottom Hrs	Cum. On Btm Hrs 0.0h
Serial No.:	219736	F.Rate		3	15/32nd"	IADC Drill Hrs	Cum IADC Drill Hrs 0.0h
Bit Model	RSX616M-A10	SPP				Total Revs	Cum Total Revs 0
Depth In	2396.0m	HSI				ROP(avg) N/A	ROP(avg) 0.00 m/hr
Depth Out		TFA	0.907				

Bit Comment

BHA # 4

Weight(Wet)	51.00klb	Length	151.4m	Torque(max)	11000ft-lbs	D.C. (1) Ann Velocity	299fpm
Wt Below Jar(Wet)	34.00klb	String	238.00klb	Torque(Off.Btm)	8000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	255.00klb	Torque(On.Btm)	8000ft-lbs	H.W.D.P. Ann Velocity	205fpm

	Slack-Off 224.00klb		D.P. Ann Velocity 205fpm
BHA Run Description			
BHA Run Comment	Jar hrs 127		

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	12.25in		212219	
Near Bit Stab	2.08m	12.25in	2.88in	703984	
ARC8	5.92m	9.13in		1957	
Tele Scope	8.97m	11.75in		VR52	
SonicVISION 825	8.19m	11.25in		48648	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	Jar hr's 127
Drill Collar	9.46m	8.25in	2.88in	5T8	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

BHA # 5

Weight(Wet)	48.00klb	Length	159.8m	Torque(max)		D.C. (1) Ann Velocity	0fpm
Wt Below Jar(Wet)	28.00klb	String		Torque(Off.Btm)		D.C. (2) Ann Velocity	0fpm
		Pick-Up		Torque(On.Btm)		H.W.D.P. Ann Velocity	0fpm
		Slack-Off				D.P. Ann Velocity	0fpm
BHA Run Description							
BHA Run Comment		Jar hr's 146					

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		219736	
Motor	9.72m	12.13in	2.33in	1470WO	
Float Sub	0.79m	7.94in	2.88in	ASQ8038	
ARC8	5.92m	9.13in		1948	
Tele Scope	8.97m	11.75in		VR52	
SonicVISION 825	8.09m	11.13in		41229A	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	jar hr's 146
Drill Collar	9.46m	8.25in	2.88in	5TB	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	300	80	0	450.0
Rig Fuel	m3	0	17	0	207.0
POTABLE WATER	MT	12	25	0	300.0
Cement class G	MT	0	0	0	131.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	0	0	115.0
Brine	m3	0	0	0	53.0
Helifuel	ltr	0	0	0	5,405.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	81.78	97	85	2300	1000	2337.0	30	280	175	40	300	233	50	400	292
2	National / 14 P-220	6.50	81.78	97								40	240	240	50	320	320
3	National / 14	6.50	81.78	97	85	2300	1000	2337.0	30	260	175	40	300	233	50	400	292

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
	P-220																

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	33
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	6
Beach Petroleum Ltd	1
Schlumberger MWD/LWD	3
Schlumberger (Wireline)	4
Dril-Quip	2
Weatherford	6
Total	86

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	2261.0bbl	Losses	42.0bbl
Active	416.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	42.0bbl
Hole	1125.0bbl	Dumped	
Slug	0.0bbl	De-Gasser	
Reserve	720.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Weather on 26 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	14kn	50.0deg	999.0mbar	16C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		4991.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	18.15 24/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		2.72			437.6
Potable Water	m3		6			356
Drill Water	m3					122
Barite	Mt					
CEMENT G	Mt					
Bentonite	Mt					17
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		5.13			272.7

Australian Drilling Associates Pty Ltd ADA

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Potable Water	Mt		5	80		341
Drill Water	m3					233
Barite	Mt					0
Bentonite	Mt					
CEMENT G	Mt					

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 18

27 Dec 2008

From: Rocco Rossouw/ Peter Sheehan
To: Texas Richards

Fermat-1

Well Data

Country	Australia	MDBRT	2671.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2668.6m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	274.5m	Shoe TVDBRT	987.0m	Daily Cost	AUD$762,832
Rig	West Triton	Days from spud	14.00	Shoe MDBRT	987.0m	Cum Cost	AUD$22,447,348
Wtr Dpth (MSL)	39m	Days on well	18.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 12 1/4" hole. At 06.00 TD 2766m		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Continue to drill 12 1/4" correctional hole to section TD 2800m, circulate and condition hole. POOH. Run 9 5/8" casing.		

Summary of Period 0000 to 2400 Hrs

RIH . Continued to drill hole 12 1/4" from 2396m to 2671m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	6 Days	Abandon rig drill.	All personnel mustered at life boats.
First Aid Case		2 Days	Pinched finger	Finger jammed in door while closing . Minor bruising , first aid applied.
JSA	11	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	0 Days	PTW issued for the day.	
Safety Meeting	2	0 Days	Weekly safety meeting.	
STOP Card	22	0 Days	Stop cards submitted for the day.	12 positive 10 negative

Operations For Period 0000 Hrs to 2400 Hrs on 27 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	G8	0000	0300	3.00	2396.0m	Continued to RIH from 1341m to 2346m. Hole good condition .
P7	P	F1	0300	0330	0.50	2396.0m	Made up TDS , precautionary washed and reamed to bottom from 2346m to 2396m, 800 GPM ,1700 PSI, 80 RPM.
P7	P	D3	0330	0830	5.00	2422.0m	Drilled 12 1/4" sliding hole from 2396m to 2422m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K.
P7	P	D2	0830	1030	2.00	2455.0m	Drilled 12 1/4" hole rotating from 2422m to 2455m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
P7	P	D3	1030	1200	1.50	2465.0m	Drilled 12 1/4" sliding hole from 2455m to 2465m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K.
P7	P	D2	1200	1230	0.50	2469.0m	Drilled 12 1/4" hole rotating from 2465m to 2469m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
P7	P	D3	1230	1400	1.50	2484.0m	Drilled 12 1/4" sliding hole from 2469m to 2484m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K.
P7	P	D2	1400	1630	2.50	2523.0m	Drilled 12 1/4" hole rotating from 2484m to 2523m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
P7	P	D3	1630	1730	1.00	2538.0m	Drilled 12 1/4" sliding hole from 2523m to 2538m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K.
P7	P	D2	1730	2400	6.50	2671.0m	Drilled 12 1/4" hole rotating from 2538m to 2671m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb

Operations For Period 0000 Hrs to 0600 Hrs on 28 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	0100	1.00	2692.0m	Drilled 12 1/4" hole rotating from 2671m to 2692m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
P7	P	D3	0100	0200	1.00	2701.0m	Drilled 12 1/4" sliding hole from 2692m to 2701m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K
P7	P	D2	0200	0230	0.50	2706.0m	Drilled 12 1/4" hole rotating from 2701m to 2706m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
P7	P	D3	0230	0300	0.50	2709.0m	Drilled 12 1/4" sliding hole from 2706m to 2709m

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K
P7	P	D2	0300	0430	1.50	2740.0m	Drilled 12 1/4" hole rotating from 2709m to 2740m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
P7	P	D3	0430	0500	0.50	2748.0m	Drilled 12 1/4" sliding hole from 2740m to 2748m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K
P7	P	D2	0500	0600	1.00	2807.0m	(IN PROGRESS) Drilled 12 1/4" hole rotating from 2748m to 2807m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 27 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	215	19 Dec 2008	27 Dec 2008	432.00	18.000	2671.0m

General Comments

00:00 TO 24:00 Hrs ON 27 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	4.8cc/30min	Cl:	47000mg/l	Solids(%vol):	6%	Viscosity	48sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	3.3%vol	PV	16cp
Time:	22:00	HTHP-FL:	11.4cc/30min	Hard/Ca:	320mg/l			YP	35lb/100ft²
Weight:	9.90ppg	HTHP-cake:	2/32nd"	MBT:	2.5	H2O:	91%	Gels 10s	14
Temp:	30C°			PM:	0.1	Oil(%):		Gels 10m	21
				PF:	0.1	Sand:	.5	Fann 003	12
						pH:	9	Fann 006	15
						PHPA:	2ppb	Fann 100	35
								Fann 200	45
								Fann 300	51
								Fann 600	67

Comment

Cost Today

Bit # 5

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	REED-HYCALOG	WOB(avg)	12.00klb	No.	Size	Progress	274.5m	Cum. Progress	274.5m
Type:	PDC	RPM(avg)	80	3	13/32nd"	On Bottom Hrs	13.2h	Cum. On Btm Hrs	13.2h
Serial No.:	219736	F.Rate	9000gpm	3	15/32nd"	IADC Drill Hrs	20.5h	Cum IADC Drill Hrs	20.5h
Bit Model	RSX616M-A10	SPP	2350psi			Total Revs	107	Cum Total Revs	107
Depth In	2396.0m	HSI	3.50HSI			ROP(avg)	20.80 m/hr	ROP(avg)	20.80 m/hr
Depth Out		TFA	0.907						

Bit Comment

BHA # 5

Weight(Wet)	48.00klb	Length	159.8m	Torque(max)	12000ft-lbs	D.C. (1) Ann Velocity	2690fpm
Wt Below Jar(Wet)	28.00klb	String	259.00klb	Torque(Off.Btm)	3000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	271.00klb	Torque(On.Btm)	6000ft-lbs	H.W.D.P. Ann Velocity	1841fpm
		Slack-Off	249.00klb			D.P. Ann Velocity	1841fpm

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BHA Run Description					
BHA Run Comment	Jar hr's 146				
Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		219736	
Motor	9.72m	12.13in	2.33in	1470WO	
Float Sub	0.79m	7.94in	2.88in	ASQ8038	
ARC8	5.92m	9.13in		1948	
Tele Scope	8.97m	11.75in		VR52	
SonicVISION 825	8.09m	11.13in		41229A	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	jar hr's 146
Drill Collar	9.46m	8.25in	2.88in	5TB	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2471.60	0.6	128.1	2469.33	-56.6	-58.6	-61.4	1.6	MWD
2530.67	2.3	71.5	2528.39	-56.1	-56.1	-60.0	0.9	MWD
2589.92	2.3	73.5	2587.58	-55.4	-55.4	-57.7	0.1	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	149	0	301.0
Rig Fuel	m3	0	6	-1	200.0
POTABLE WATER	MT	12	23	0	289.0
Cement class G	MT	0	0	0	131.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	0	0	115.0
Brine	m3	0	23	0	30.0
Helifuel	ltr	0	0	0	5,405.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	82.62	97	77	2450	900	2582.0	30	380	175	40	420	233	50	460	292
2	National / 14 P-220	6.50	81.78	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	82.62	97	77	2450	900	2582.0	30	350	175	40	400	233	50	480	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	33
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2

Australian Drilling Associates Pty Ltd ADA

Personnel On Board

Baker Hughes Inteq	6
Beach Petroleum Ltd	1
Schlumberger MWD/LWD	3
Schlumberger (Wireline)	4
Dril-Quip	2
Weatherford	6
Total	86

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	2417.0bbl	Losses	173.0bbl
Active	435.0bbl	Downhole	26.0bbl
Mixing		Surf+ Equip	147.0bbl
Hole	1103.0bbl	Dumped	
Slug	0.0bbl	De-Gasser	
Reserve	879.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Weather on 27 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	21kn	310.0deg	998.0mbar	16C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		4252.00klb	1.5m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	18.15 24/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1.62			436
Potable Water	m3		6			350
Drill Water	m3					122
Barite	Mt					
CEMENT G	Mt					
Bentonite	Mt					17
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		0.83			271.84
Potable Water	Mt		5			336
Drill Water	m3			233		0
Barite	Mt					0
Bentonite	Mt					
CEMENT G	Mt					

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 19

28 Dec 2008 **From:** Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

Fermat-1

Well Data

Country	Australia	MDBRT	2807.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2804.4m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	136.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$796,301
Rig	West Triton	Days from spud	15.00	Shoe MDBRT	987.0m	Cum Cost	AUD$23,243,649
Wtr Dpth (MSL)	39m	Days on well	19.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Final stages of rigging up for casing , about to pick up 9 5/8" shoe track.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	RIH with 9 5/8" casing.		

Summary of Period 0000 to 2400 Hrs

Drilled 12 1/4" hole from 2671m to 2807m .
POOH .

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Abandon rig drill.	All personnel mustered at life boats.
First Aid Case		3 Days	Pinched finger	Finger jammed in door while closing . Minor bruising , first aid applied.
JSA	4	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	0 Days	PTW issued for the day.	
Safety Meeting	2	1 Day	Weekly safety meeting.	
STOP Card	60	0 Days	Stop cards submitted for the day.	25 positive 35 negative

Operations For Period 0000 Hrs to 2400 Hrs on 28 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	D2	0000	0100	1.00	2692.0m	Drilled 12 1/4" hole rotating from 2671m to 2692m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
P7	P	D3	0100	0200	1.00	2701.0m	Drilled 12 1/4" sliding hole from 2692m to 2701m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K
P7	P	D2	0200	0230	0.50	2706.0m	Drilled 12 1/4" hole rotating from 2701m to 2706m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
P7	P	D3	0230	0300	0.50	2709.0m	Drilled 12 1/4" sliding hole from 2706m to 2709m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K
P7	P	D2	0300	0430	1.50	2740.0m	Drilled 12 1/4" hole rotating from 2709m to 2740m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
P7	P	D3	0430	0500	0.50	2748.0m	Drilled 12 1/4" sliding hole from 2740m to 2748m GPM 900 . SPP 2000 OFF BTM .SPP 2400 ON BTM . WOB 7/12K
P7	P	D2	0500	0800	3.00	2807.0m	Drilled 12 1/4" hole rotating from 2748m to 2807m. GPM 900 . SPP 2350 . WOB 15K . Torque 5/10 k/ft/lb
P7	P	F4	0800	1000	2.00	2807.0m	Circulated 2 bottoms up to clean hole at 900 GPM . SPP 2050 . RPM 80
P7	P	E8	1000	1030	0.50	2807.0m	Down linked Schlumberger tools at 800/1000 GPM.
P7	P	G8	1030	1600	5.50	2807.0m	POOH . flow checked prior to tripping. Hole in good condition.
P7	TP (WB)	G8	1600	1700	1.00	2807.0m	POOH ,tight spot at 1132 m , 14 k overpull ,hole swabbing. Made up TDS and pumped out one stand to 1103m - no backreaming. Worked string past 1132 with out pumps , hole O.K .
P7	P	G8	1700	1730	0.50	2807.0m	Continued POOH to 958m
P7	P	G11	1730	2030	3.00	2807.0m	Slipped and cut drilling line . Re calibrated heights for cyber system. Held PJSM .
P7	P	G8	2030	2200	1.50	2807.0m	POOH from 958m to 159m . Pumped 30 bbl 12 ppg slug . Flow checked at casing shoe.
P7	P	G6	2200	2400	2.00	2807.0m	POOH from 159m laying out Schlumberger BHA components

Operations For Period 0000 Hrs to 0600 Hrs on 29 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	G6	0000	0130	1.50	2807.0m	Continued to POOH and lay out schlumberger BHA components

Australian Drilling Associates Pty Ltd ADA

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	G12	0130	0200	0.50	2807.0m	Retrieved 13 3/8" wellhead wear bushing.
P7	P	G12	0200	0400	2.00	2807.0m	RIH with dummy casing hanger and installed in wellhead.
P7	P	G1	0400	0600	2.00	2807.0m	Rigged up for running 9 5/8" casing

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 28 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	239	19 Dec 2008	28 Dec 2008	456.00	19.000	2807.0m

General Comments

00:00 TO 24:00 Hrs ON 28 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	5.2cc/30min	Cl:	46000mg/l	Solids(%vol):	7%
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	4.1%vol
Time:	09:30	HTHP-FL:	11.4cc/30min	Hard/Ca:	320mg/l	H2O:	90%
Weight:	10.00ppg	HTHP-cake:	2/32nd"	MBT:	5	Oil(%):	
Temp:	52C°			PM:	0.1	Sand:	.25
				PF:	0.1	pH:	8.8
						PHPA:	2ppb

Cost Today

Viscosity	47sec/qt
PV	15cp
YP	35lb/100ft²
Gels 10s	10
Gels 10m	25
Fann 003	13
Fann 006	15
Fann 100	34
Fann 200	43
Fann 300	50
Fann 600	65

Comment

Bit # 5

Wear	I	O1	D	L	B	G	O2	R
	1	1	LT	G	X	I	BU	TD

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	REED-HYCALOG	WOB(avg)	12.00klb	No.	Size	Progress 136.0m	Cum. Progress 410.5m
Type:	PDC	RPM(avg)	80	3	13/32nd"	On Bottom Hrs 6.1h	Cum. On Btm Hrs 19.3h
Serial No.:	219736	F.Rate	9000gpm	3	15/32nd"	IADC Drill Hrs 8.0h	Cum IADC Drill Hrs 28.5h
Bit Model	RSX616M-A10	SPP	2350psi			Total Revs 161	Cum Total Revs 268
Depth In	2396.0m	HSI	3.50HSI			ROP(avg) 22.30 m/hr	ROP(avg) 21.27 m/hr
Depth Out	2807.0m	TFA	0.907				

Bit Comment

BHA # 5

Weight(Wet)	48.00klb	Length	159.8m	Torque(max)	12000ft-lbs	D.C. (1) Ann Velocity	2690fpm
Wt Below Jar(Wet)	28.00klb	String	259.00klb	Torque(Off.Btm)	3000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	271.00klb	Torque(On.Btm)	6000ft-lbs	H.W.D.P. Ann Velocity	1841fpm
		Slack-Off	249.00klb			D.P. Ann Velocity	1841fpm

BHA Run Description

BHA Run Comment Jar hr's 146

Australian Drilling Associates Pty Ltd ADA

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		219736	
Motor	9.72m	12.13in	2.33in	1470WO	
Float Sub	0.79m	7.94in	2.88in	ASQ8038	
ARC8	5.92m	9.13in		1948	
Tele Scope	8.97m	11.75in		VR52	
SonicVISION 825	8.09m	11.13in		41229A	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	jar hr's 146
Drill Collar	9.46m	8.25in	2.88in	5TB	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2783.95	3.2	72.3	2781.43	73.2	-54.2	-49.6	0.2	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	200	164	0	337.0
Rig Fuel	m3	0	18	0	182.0
POTABLE WATER	MT	12	22	0	279.0
Cement class G	MT	0	0	0	131.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	30	-7	78.0
Brine	m3	0	0	0	30.0
Helifuel	ltr	0	0	0	5,405.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	82.62	97	77	2450	900	2730.0	30	290	175	40	320	233	50	400	292
2	National / 14 P-220	6.50	81.78	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	82.62	97	77	2450	900	2730.0	30	280	175	40	320	233	50	400	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Catering	9
Seadrill Services	33
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	6
Beach Petroleum Ltd	1
Schlumberger MWD/LWD	3
Schlumberger (Wireline)	4

Australian Drilling Associates Pty Ltd ADA

Personnel On Board

Dril-Quip	2
Weatherford	6
Total	86

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	2400.0bbl	Losses	106.0bbl
Active	407.0bbl	Downhole	
Mixing		Surf+ Equip	106.0bbl
Hole	1307.0bbl	Dumped	
Slug	0.0bbl	De-Gasser	
Reserve	686.0bbl	De-Sander	
Kill		De-Silter Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Weather on 28 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	25kn	250.0deg	1000.0mbar	14C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		4045.00klb	2.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	18.15 24/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		9.8			426.2
Potable Water	m3		6	130		220
Drill Water	m3			70		52
Barite	Mt					
CEMENT G	Mt					
Bentonite	Mt					17
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		09.15 28/12/08	At anchor , Portland.

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		6.84			265
Potable Water	Mt		5			331
Drill Water	m3					
Barite	Mt					
Bentonite	Mt					
CEMENT G	Mt					

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 20
Fermat-1

29 Dec 2008

From: Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

Well Data

Country	Australia	MDBRT	2807.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2804.4m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$1,900,170
Rig	West Triton	Days from spud	16.00	Shoe MDBRT	987.0m	Cum Cost	AUD$25,148,961
Wtr Dpth (MSL)	39m	Days on well	20.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Cementing 95/8" casing.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Cement 9 5/8" casing . Install 9 5/8" seal assembly. Pressure Test BOP's and casing. Make up 8 1/2" BHA and RIH.		

Summary of Period 0000 to 2400 Hrs

Retreived 13 3/8" well head wear bushing .
Installed 9 5/8" dummy hanger in wellhead .
RIH with 9 5/8" casing to 2743m

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	1 Day	Abandon rig drill.	All personnel mustered at life boats.
First Aid Case		4 Days	Pinched finger	Finger jammed in door while closing . Minor bruising , first aid applied.
JSA	6	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	0 Days	PTW issued for the day.	
Safety Meeting	2	2 Days	Weekly safety meeting.	
STOP Card	26	0 Days	Stop cards submitted for the day.	13 positive 13 negative

Operations For Period 0000 Hrs to 2400 Hrs on 29 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P7	P	G6	0000	0130	1.50	2807.0m	Continued to POOH and lay out Schlumberger BHA components
P7	P	G12	0130	0200	0.50	2807.0m	Retrieved 13 3/8" wellhead wear bushing.
P7	P	G12	0200	0400	2.00	2807.0m	RIH with dummy casing hanger and installed in wellhead.
P9	P	G1	0400	0600	2.00	2807.0m	Rigged up for running 9 5/8" casing
P9	P	G9	0600	0730	1.50	2807.0m	Picked up and made up shoe track joints (shoe joint, intermediate joint, float collar joint) Checked correct function and integrity of shoe and float collar valves. Held JSA & PJSM prior to commencing job.
P9	P	G9	0730	2400	16.50	2807.0m	RIH with 9 5/8" casing to 2743m . Hole in good condition. Casing up wt 520klbs Casing down wt 300klbs

Operations For Period 0000 Hrs to 0600 Hrs on 30 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P9	TP (WB)	G9	0000	0130	1.50	2807.0m	Continued to RIH with 9 5/8" casing from 2743m to 2774m . At 2774m taking weight , 30k down . Commenced circulating at 120 GPM to fill string and establish circulation . Established circulation with 120 GPm, SPP 700, hole then packed off. Trapped pressure 2000psi. Worked string , established circulation with 120 to 400 GPM , hole intermittently packing off. Continued to work string and establish circulation . Worked string from 2764m to 2778m until returns stable. No mud lost to hole.
P9	P	G9	0130	0430	3.00	2807.0m	Continued to RIH , picked up casing hanger and landing string . Continued to wash to bottom from 2778m to 2807m. Hole intermittently packing off below 2766m. Shoe at 2800m.
P9	P	G1	0430	0500	0.50	2807.0m	Rig up Halliburton cement head and prepared for cementing
P9	P	F4	0500	0600	1.00	2807.0m	Circulated casing contents.

Operations For Period Hrs to Hrs on

Australian Drilling Associates Pty Ltd ADA

Phase Data to 2400hrs, 29 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	20	29 Dec 2008	29 Dec 2008	480.00	20.000	2807.0m

General Comments

00:00 TO 24:00 Hrs ON 29 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	5.0cc/30min	Cl:	46000mg/l	Solids(%vol):	7%	Viscosity	47sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	4.1%vol	PV	14cp
Time:	09:30	HTHP-FL:	11.0cc/30min	Hard/Ca:	320mg/l	H2O:	90%	YP	36lb/100ft²
Weight:	10.00ppg	HTHP-cake:	2/32nd"	MBT:	5	Oil(%):		Gels 10s	14
Temp:	31C°			PM:	0.1	Sand:	.25	Gels 10m	25
				PF:	0.1	pH:	8.8	Fann 003	13
						PHPA:	2ppb	Fann 006	15
								Fann 100	34
								Fann 200	43
								Fann 300	50
								Fann 600	64

Cost Today

Comment

Bit # 5

Wear	I	O1	D	L	B	G	O2	R
	1	1	LT	G	X	I	BU	TD

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	REED-HYCALOG	WOB(avg)	12.00klb	No.	Size	Progress 0.0m	Cum. Progress 410.5m
Type:	PDC	RPM(avg)	80	3	13/32nd"	On Bottom Hrs 0.0h	Cum. On Btm Hrs 19.3h
Serial No.:	219736	F.Rate	9000gpm	3	15/32nd"	IADC Drill Hrs 0.0h	Cum IADC Drill Hrs 28.5h
Bit Model	RSX616M-A10	SPP	2350psi			Total Revs 161	Cum Total Revs 429
Depth In	2396.0m	HSI	3.50HSI			ROP(avg) N/A	ROP(avg) 21.27 m/hr
Depth Out	2807.0m	TFA	0.907				

Bit Comment

BHA # 5

Weight(Wet)	48.00klb	Length	159.8m	Torque(max)	12000ft-lbs	D.C. (1) Ann Velocity	2690fpm
Wt Below Jar(Wet)	28.00klb	String	259.00klb	Torque(Off.Btm)	3000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	271.00klb	Torque(On.Btm)	6000ft-lbs	H.W.D.P. Ann Velocity	1841fpm
		Slack-Off	249.00klb			D.P. Ann Velocity	1841fpm

BHA Run Description

BHA Run Comment Jar hr's 146

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		219736	
Motor	9.72m	12.13in	2.33in	1470WO	
Float Sub	0.79m	7.94in	2.88in	ASQ8038	
ARC8	5.92m	9.13in		1948	
Tele Scope	8.97m	11.75in		VR52	

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Equipment	Length	OD	ID	Serial #	Comment
SonicVISION 825	8.09m	11.13in		41229A	
String Stabiliser	2.44m	12.19in	2.88in	OSS041163B	
Drill Collar	47.24m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		1762-1380	jar hr's 146
Drill Collar	9.46m	8.25in	2.88in	5TB	
X/O	0.93m	8.25in	2.81in	SSSD7132	
HWDP	56.23m	5.50in	3.06in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	337.0
Rig Fuel	m3	0	11	0	171.0
POTABLE WATER	MT	12	25	0	266.0
Cement class G	MT	0	0	0	131.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	0	0	78.0
Brine	m3	0	0	0	30.0
Helifuel	ltr	0	0	0	5,405.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	82.62	97				2730.0	30	290	175	40	320	233	50	400	292
2	National / 14 P-220	6.50	81.78	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	82.62	97				2730.0	30	280	175	40	320	233	50	400	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	9
Seadrill Services	32
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	6
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Dril-Quip	2
Weatherford	6
Total	81

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	2479.0bbl	Losses	0.0bbl
Active	532.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	1228.0bbl	Dumped	
Slug	0.0bbl	De-Gasser	
Reserve	719.0bbl	De-Sander	
Kill		De-Silter Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Weather on 29 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	34kn	310.0deg	998.0mbar	14C°	1.8m	240.0deg	6s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		4017.00klb	4.4m	240.0deg	13s	Windy

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	18.15 24/12/08		On location Fermat-1
Pacific Valkyrie		09.15 28/12/08	At anchor , Portland.

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		12.16			414
Potable Water	m3		3			217
Drill Water	m3					52
Barite	Mt					
CEMENT G	Mt					
Bentonite	Mt					17
Brine	m3					0

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		4.5			260.5
Potable Water	Mt		5			326
Drill Water	m3					
Barite	Mt					
Bentonite	Mt					
CEMENT G	Mt					

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	0945 / 0958	7 / 12	TMS & Halliburton Crew Change

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 21

30 Dec 2008 **From:** Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

Fermat-1

Well Data

Country	Australia	MDBRT	2807.0m	Cur. Hole Size	12.250in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2804.4m	Last Casing OD	13.375in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	987.0m	Daily Cost	AUD$820,517
Rig	West Triton	Days from spud	17.00	Shoe MDBRT	987.0m	Cum Cost	AUD$25,976,888
Wtr Dpth (MSL)	39m	Days on well	21.00	FIT/LOT:	/ 1.80sg		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Welding pup joint to casing hanger running tool . All joints now welded in running string.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Back out casing hanger running tool. RIH with mill and flush tool and mill and flush. Install seal assembly. Test BOP's. Pick up and RIH with 8 1/2" BHA.		

Summary of Period 0000 to 2400 Hrs

RIH with 9 5/8" casing to shoe depth of 2800.27m.
Cemented casing.
Unsuccesfully attempted to back out casing hanger running tool.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	2 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	11	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	2 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	0 Days	PTW issued for the day.	
Safety Meeting	2	3 Days	Weekly safety meeting.	
STOP Card	14	0 Days	Stop cards submitted for the day.	14 positive 10 negative

Operations For Period 0000 Hrs to 2400 Hrs on 30 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P9	TP (WB)	G9	0000	0130	1.50	2807.0m	Continued to RIH with 9 5/8" casing from 2743m to 2774m. At 2774m taking weight, 30k down . Commenced circulating at 120 GPM to fill string and establish circulation. Established circulation with 120 GPM, SPP 700, hole then packed off. Trapped pressure 2000 psi. Worked string, established circulation with 120 to 400 GPM, hole intermittently packing off. Continued to work string and establish circulation. Worked string from 2764m to 2778m until returns stable. No mud lost to hole.
P9	P	G9	0130	0430	3.00	2807.0m	Continued to RIH, picked up casing hanger and landing string. Continued to wash to bottom from 2778m to2800m. Hole intermittently packing off below 2766m.
P9	P	G1	0430	0500	0.50	2807.0m	Rig up Halliburton cement head and prepare for cementing
P9	P	F3	0500	0630	1.50	2807.0m	Pressure tested surface lines to 1000 psi for 5min. Circulated bottoms up at 10 BPM, 900 psi.
P9	P	F3	0630	0800	1.50	2807.0m	Mixed and pumped cement . Pumped spacer #1, 10 bbls drill water, tested lines to 4000 psi for 5min. Pumped 70 bbls drill water spacer, followed with spacer#2 , 60 bbls tuned spacer E+ at 13 ppg. Slurry pumped 230 bbls class "G" cement 15.8 ppg.
P9	P	F3	0800	0930	1.50	2807.0m	Displaced cement with rig pump. Theoretical displacment 663 bbls, total pumped 666 bbls. Did not bump plug. Displacment rate 10 bbls/min. Final displacing pressure 980 psi. Bled off pressure and checked shoe track valves integrity.
P9	P	G1	0930	1000	0.50	2807.0m	Rigged down cement head and cement lines.
P9	TP (TP)	G12	1000	1200	2.00	2807.0m	Attempted to back out casing hanger running tool and retrieve. Not successful. First joint of casing below rotary table backed out with 9000 ft/lb torque applied. Retrieved backed out joint to surface, applied threadlock (bakerlock) to pin end and and made same back up into the casing running string.
P9	TP (TP)	G15	1200	1630	4.50	2807.0m	Waited for bakerlock to harden.
P9	TP (TP)	G12	1630	1700	0.50	2807.0m	Attemped to back out casing hanger running tool. Unsuccessful, same connection broke with 9000 ft/lb torque applied, first pup joint below rotary backed out, bakerlocked joint.
P9	TP	G12	1700	2000	3.00	2807.0m	Rigged down and pulled diverter and diverter overshot. JSA, toolbox meeting prior to

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
	(TP)						commencing job.
P9	TP (TP)	G12	2000	2230	2.50	2807.0m	Picked up 9 5/8" casing pup and made up into the landing string, chain tong tight. Welded straps to connections. JSA
P9	TP (TP)	G13	2230	2400	1.50	2807.0m	Attempted to back out casing hanger running tool. Unsuccessful, straps broke with 13,000 ft/lb torque applied. Rewelded casing coupling direct to casing.

Operations For Period 0000 Hrs to 0600 Hrs on 31 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P9	TP (TP)	G12	0000	0030	0.50	2807.0m	Attempted to back out casing hanger running tool. First connection on top of running tool pup joint backed out. Applied torque with weatherford casing tong, held torque in from 10,000 ft/lb and increased in 2,000 ft/lb graduations . At the same time 2 winches connected to casing that were working the casing in a circular motion trying to find a free point. Casing operator had multiple attempts at trying to "jolt" it to no avail. Final outcome was with two winches working the casing and torque held in the joint backed out with 25k ft/lb applied.
P9	TP (TP)	G13	0030	0200	1.50	2807.0m	Removed BOPs from wellhead and moved aside.
P9	TP (TP)	G12	0200	0300	1.00	2807.0m	Picked up and installed backed out landing string to landing string, tonged up and prepare for welding.
P9	TP (TP)	G12	0300	0400	1.00	2807.0m	Welded second connection of running string. Welded four straps running tool to pup joint.
P9	TP (TP)	G12	0400	0530	1.50	2807.0m	Applied torque with rig tong to back out casing hanger running tool. Applied 40,000 ft/lb held in and hammered casing joint with sledge hammers 0.5m above top of running tool. Broke welded straps, Baker-locked connection pup joint to running tool.
P9	TP (TP)	G12	0530	0600	0.50	2807.0m	Welded pup joint to casing hanger running tool.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 30 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	44	29 Dec 2008	30 Dec 2008	504.00	21.000	2807.0m

General Comments

00:00 TO 24:00 Hrs ON 30 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Cyber chair pressure gauges for the standpipe & choke manifolds require calibration. 2) Need new BOP test tool mandrel. Ordered on the 24/10/08. 3) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	5.0cc/30min	Cl:	46000mg/l	Solids(%vol):	6%	Viscosity	48sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	3.7%vol	PV	15cp
Time:	09:30	HTHP-FL:	11.0cc/30min	Hard/Ca:	320mg/l	H2O:	90%	YP	39lb/100ft²
Weight:	10.00ppg	HTHP-cake:	2/32nd"	MBT:	5	Oil(%):		Gels 10s	14
Temp:	31C°			PM:	0.1	Sand:	.25	Gels 10m	25
				PF:	0.1	pH:	8.5	Fann 003	14
						PHPA:	2ppb	Fann 006	16
								Fann 100	36
								Fann 200	46
								Fann 300	54
								Fann 600	69

Cost Today

Comment

Australian Drilling Associates Pty Ltd ADA

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	92	0	245.0
Rig Fuel	m3	0	24	0	147.0
POTABLE WATER	MT	12	23	0	255.0
Cement class G	MT	0	42	0	89.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	8	0	70.0
Brine	m3	0	0	0	30.0
Helifuel	ltr	0	890	-25	4,490.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	82.62	97				2730.0	30	290	175	40	320	233	50	400	292
2	National / 14 P-220	6.50	81.78	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	82.62	97				2730.0	30	280	175	40	320	233	50	400	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	8
Seadrill Services	32
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	6
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Dril-Quip	2
Weatherford	6
Total	80

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	**2015.0bbl**	**Losses**	**470.0bbl**
Active	465.0bbl	Downhole	58.0bbl
Mixing		Surf+ Equip	257.0bbl
Hole	697.0bbl	Dumped	
Slug	24.0bbl	De-Gasser	
Reserve	829.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	155.0bbl

Equipment	Description	Mesh Size	Comments

Marine

Australian Drilling Associates Pty Ltd ADA

Weather on 30 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	26kn	250.0deg	1000.0mbar	14C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		3467.00klb	3.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	18.15 24/12/08		On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		11.49			402.6
Potable Water	m3		3			214
Drill Water	m3					52
Barite	Mt					
CEMENT G	Mt					
Bentonite	Mt					17
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		09.15 28/12/08	Enroute to Location Fermat-1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	163	1			422.5
Potable Water	Mt	76	3			399
Drill Water	m3	560				560
Barite	Mt	42				42
Bentonite	Mt					
CEMENT G	Mt	65				65
Brine	m3	45.6				45.6

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1004 / 1025	12 / 13	TMS & Seadrill Crew Change

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 22

31 Dec 2008 **From:** Rocco Rossouw/ Peter Sheehan
To: Rob Oliver

Fermat-1

Well Data

Country	Australia	MDBRT	2807.0m	Cur. Hole Size		AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2804.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$734,309
Rig	West Triton	Days from spud	18.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$26,711,197
Wtr Dpth (MSL)	39m	Days on well	22.00	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Picking up drill pipe pending decision on forward plan for seal assmbly.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Consult with shore in regards forward plan for seal assmbly . Continue to pick up tubulars.		

Summary of Period 0000 to 2400 Hrs

Retrieved 9.625in casing hanger running tool.
Completed mill and flush run for seal assembly.
RIH with seal assembly and set, not able to get pressure test . Reset and attempt to test second time, not able to get pressure test.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	3 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	7	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	10 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	6	0 Days	PTW issued for the day.	
Safety Meeting	2	4 Days	Weekly safety meeting.	
STOP Card	32	-280 Days	Stop cards submitted for the day.	22 positive 10 negative

Operations For Period 0000 Hrs to 2400 Hrs on 31 Dec 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P9	TP (TP)	G12	0000	0030	0.50	2807.0m	Attempted to back out casing hanger running tool . First connection on top of running tool pup joint backed out . Applied torque with weatherford casing tong. Held torque from 10k ft/lb and increased in 2k graduations . At the same time 2 winches connected to casing that were working the casing in a circular motion trying to find a free point . Casing operator had multiple attempts at trying to "jolt" it to no avail. Final outcome was with two winches working the casing and torque held in the joint backed out with 25k ft/lb applied.
P9	TP (TP)	G12	0030	0200	1.50	2807.0m	Removed BOPs from wellhead and move aside.
P9	TP (TP)	G12	0200	0300	1.00	2807.0m	Picked up and made up backed up portion of landing string. Torqued up and prepared for welding.
P9	TP (TP)	G12	0300	0400	1.00	2807.0m	Welded second connection of running string. Welded four straps running tool to pup joint.
P9	TP (TP)	G12	0400	0530	1.50	2807.0m	Applied torque with rig tong to back out casing hanger running tool. Applied 40k ft/lb held in and hammered casing joint with sledge hammers 0.5m above top of running tool. Broke welded straps ,bakerlocked connection pup joint to running tool.
P9	TP (TP)	G12	0530	0600	0.50	2807.0m	Welded pup joint to casing hanger running tool.
P9	TP (TP)	G12	0600	0900	3.00	2807.0m	Broke out casing hanger running tool, 50k ft/lb torque applied. Retrieved running tool and landing string to surface, cut off welded 9.625in casing joints.
P9	P	G12	0900	1000	1.00	2807.0m	Installed TDS drilling bails and and elevators, concurrently Drill Quip installed side entry flanges on wellhead.
P9	P	G12	1000	1330	3.50	2807.0m	Made up Drill Quip mill and flush tool, 2 std's of DP and 1 std below. RIH, miledl and flushed 9.625in seal assembly seat area.
P9	P	G12	1330	1430	1.00	2807.0m	Make up seal assembly running tool and set seal assembly in hanger as per Drill Quip procedure.
P9	TP (TP)	G12	1430	1500	0.50	2807.0m	Attempt to test seal assembly , no success.
P9	TP (TP)	G12	1500	1600	1.00	2807.0m	Rack back seal assembly running tool assembly.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P9	TP (TP)	G12	1600	1630	0.50	2807.0m	Nippled up BOP's . Held PJSM.
P9	TP (TP)	G12	1630	1900	2.50	2807.0m	Picked up seal assembly running tool assembly and RIH with seal asembly.
P9	TP (TP)	G12	1900	2030	1.50	2807.0m	Set seal assembly as per Drill Quip Procedure. Set down weight 10k. Rotated the string to the right to lock the seal assembly set nut thread. Maximum torque applied 5K ft/lb.Closed BOPs, pressured up to 2k psi, held for 5 min.
P9	TP (TP)	G12	2030	2100	0.50	2807.0m	Bled off pressure, open BOPs, Rotated string to right 1/2 to 1 turn to lock set nut of the seal assembly to the casing hanger. Maximum torque applied 5K ft/lb. Pressure tested seal assembly, no success, zero pressure build up.
P9	TP (TP)	G12	2100	2200	1.00	2807.0m	Attempted to renergise and reset seal assembly. Rotated string to left 2 turns, closed BOP's, pressured up to 3k, held for 10 min, pressure slowly bled from 3k to 2600 psi. Bled off pressure. Locked set nut to seal assembly of casing hanger.
P9	TP (TP)	G12	2200	2330	1.50	2807.0m	Pressure tested seal assembly. No success. No pressure build up.
P9	TP (TP)	G12	2330	2400	0.50	2807.0m	Decision to POOH and run second seal assembly. Release seal assembly and POOH.

Operations For Period 0000 Hrs to 0600 Hrs on 01 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P9	TP (TP)	G12	0000	0130	1.50	2807.0m	POOH with seal assembly. Split lock down ring of the hanger body recovered, broken in two pieces, bent and mangled, sitting on top of seal assembly running tool. All seal rings on seal assembly missing.
P9	TP (TP)	G12	0130	0230	1.00	2807.0m	Laid out seal assembly running tool and seal assembly. Racked back D.P stands below running tool.
P9	TP (TP)	G12	0230	0330	1.00	2807.0m	Waited on consultation between Drill Quip onsite and onshore engineers. Decision to remove BOP's and inspect wellhead for damage. Concurrent operation was jetting the BOPs.
P9	TP (TP)	G12	0330	0500	1.50	2807.0m	Nippled down BOPs and moved aside, cleaned seal assembly seating area and top of casing hanger for inspection.
P9	P	G2	0500	0600	1.00	2807.0m	(IN PROGRESS) Picked up drill pipe pending forward plan for seal assembly. Picked up 26 std's 5.5in DP.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 31 Dec 2008

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	68	29 Dec 2008	31 Dec 2008	528.00	22.000	2807.0m

General Comments

00:00 TO 24:00 Hrs ON 31 Dec 2008

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

Australian Drilling Associates Pty Ltd ADA

WBM Data

Mud Type:	KCl / Polymer	API FL:	5.0cc/30min	Cl:	46000mg/l	Solids(%vol):	6%	Viscosity	55sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	3.0%vol	PV	15cp
Time:	19:00	HTHP-FL:	11.0cc/30min	Hard/Ca:	320mg/l	H2O:	90%	YP	40lb/100ft²
Weight:	10.10ppg	HTHP-cake:	2/32nd"	MBT:	5	Oil(%):		Gels 10s	14
Temp:	31C°			PM:	0.1	Sand:	.1	Gels 10m	24
				PF:	0.1	pH:	8.5	Fann 003	13
						PHPA:	2ppb	Fann 006	16
								Fann 100	37
								Fann 200	47
								Fann 300	55
								Fann 600	70

Cost Today

Comment

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	298	0	0	543.0
Rig Fuel	m3	105	4	0	248.0
POTABLE WATER	MT	12	22	0	245.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	0	0	70.0
Brine	m3	42	0	20	92.0
Helifuel	ltr	0	0	0	4,490.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	82.62	97				2730.0	30	290	175	40	320	233	50	400	292
2	National / 14 P-220	6.50	81.78	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	82.62	97				2730.0	30	280	175	40	320	233	50	400	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	8
Seadrill Services	32
Tamboritha	2
Halliburton	1
Halliburton - Cementing	2
Baker Hughes Inteq	7
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Dril-Quip	2
Total	74

Australian Drilling Associates Pty Ltd ADA

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	2015.0bbl	Losses	0.0bbl	Equipment	Description	Mesh Size	Comments
Active	465.0bbl	Downhole	0.0bbl				
Mixing		Surf+ Equip	0.0bbl				
Hole	697.0bbl	Dumped					
Slug	24.0bbl	De-Gasser					
Reserve	829.0bbl	De-Sander					
Kill		De-Silter					
		Centrifuge					
		Behind casing					

Marine

Weather on 31 Dec 2008

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	31kn	280.0deg	997.0mbar	15C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		4398.00klb	3.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler		03.15 31.12.08	Alongside Portland
Pacific Valkyrie	03.11 31.12.08		On location Fermat -1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		6.6			396
Potable Water	m3	240	6			448
Drill Water	m3	214				266
Barite	Mt					
CEMENT G	Mt					
Bentonite	Mt					
Brine	m3					

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		13.4	100		309
Potable Water	Mt					394
Drill Water	m3			270	-20	270
Barite	Mt					42
Bentonite	Mt					
CEMENT G	Mt					65
Brine	m3			45.6		0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1512 / 1521	1 / 7	Weatherford Casing Crew

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 23
Fermat-1

01 Jan 2009

From: Rocco Rossouw/ Peter Sheehan
To: Paul Barrett

Well Data

Country	Australia	MDBRT	2807.0m	Cur. Hole Size		AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2804.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$728,224
Rig	West Triton	Days from spud	19.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$27,439,421
Wtr Dpth (MSL)	39m	Days on well	23.00	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Testing BOPs		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Test BOPs. Install diverter. Lay down 12.25in BHA Make 8.5in BHA, RIH.		

Summary of Period 0000 to 2400 Hrs

Picked up 28 std's DP.
Installed and tested seal assembly.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	4 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	6	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	3	0 Days	PTW issued for the day.	
Safety Meeting	2	5 Days	Weekly safety meeting.	
STOP Card	30	0 Days	Stop cards submitted for the day.	17 positive 10 negative

Operations For Period 0000 Hrs to 2400 Hrs on 01 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P9	TP (TP)	G12	0000	0130	1.50	2807.0m	POOH with seal assembly. Split lock down ring of the hanger body recovered, broken in two pieces, bent and mangled, sitting on top of seal assembly running tool. All seal rings on seal assembly missing.
P9	TP (TP)	G12	0130	0230	1.00	2807.0m	Laid out seal assembly running tool and seal assembly. Racked back D.P stands below running tool.
P9	TP (TP)	G12	0230	0330	1.00	2807.0m	Waited on consultation between Drill Quip onsite and onshore engineers. Decision to remove BOP's and inspect wellhead for damage. Concurrent operation was jetting the BOPs.
P9	TP (TP)	G12	0330	0500	1.50	2807.0m	Nippled down BOPs and moved aside, cleaned seal assembly seating area and top of casing hanger for inspection.
P9	P	G2	0500	1030	5.50	2807.0m	Picked up drill pipe pending forward plan for seal assembly. Picked up 26 std's 5.5in DP.
P9	TP (TP)	G12	1030	1330	3.00	2807.0m	RIH with mill and flush tool, 8 stds 5.5in D.P, 1 std 5.5in HWDP below. Milled and flushed 9.625in casing seal assembly seat area.
P9	TP (WB)	G12	1330	1400	0.50	2807.0m	Inspected seal assembly area, removed debris from around hanger and seal area.
P9	TP (TP)	G12	1400	1500	1.00	2807.0m	Laid out mill and flush assembly. Made up seal assembly running tool.
P9	P	G12	1500	1600	1.00	2807.0m	RIH with seal assembly and set . Tested seal assembly test cavity to 2k 5/min , good test .
P9	P	G12	1600	1730	1.50	2807.0m	POOH and laid out seal assembly running tool.
P9	TP (TP)	G12	1730	1830	1.00	2807.0m	Installed BOPs and nippled up.
P9	P	G12	1830	2130	3.00	2807.0m	RIH with seal assembly running tool. Engaged seal assembly. Closed BOPs and applied 2k down pressure to top of seal assembly to fully energize seal assembly. Pressure leaked at radial bolt connection BOP to well head. Retorqued connection, reapplied pressure 2k 5/min, test OK. Bled of pressure, opened BOPs. Drill crew advised after test small leak visible on connector.
P9	P	G12	2130	2200	0.50	2807.0m	Pressure tested seal assembly 7500 psi/5 min. Good test.
P9	P	G12	2200	2330	1.50	2807.0m	POOH , laid out seal assembly running tool.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P9	P	G12	2330	2400	0.50	2807.0m	Cleared exccess equipment from rig floor, made rig floor tidy and safe.

Operations For Period 0000 Hrs to 0600 Hrs on 02 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P9	P	G12	0000	0200	2.00	2807.0m	Made up combination test tool /wear bushing with cup test below. RIH to 17m.
P9	TP (RE)	G12	0200	0300	1.00	2807.0m	Lifted BOPs off wellhead and replaced wellhead seal gasket . Held JSA and toolbox meeting prior to commencing job.
P9	P	P3	0300	0500	2.00	2807.0m	Spaced out BOP test assembly, set wear bushing. Rigged up surface lines and pressure tested same.
P9	P	P3	0500	0600	1.00	2807.0m	Pressure tested BOPs. Test #1 Annular preventer 250 psi/5 min ,5000 psi/10 min , good test. Test # 2 Middle pipe rams 250 psi/5 min ,7500/10 min good test.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 01 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	92	29 Dec 2008	01 Jan 2009	552.00	23.000	2807.0m

General Comments

00:00 TO 24:00 Hrs ON 01 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	5.0cc/30min	Cl:	46000mg/l	Solids(%vol):	6%
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	3.0%vol
Time:	19:00	HTHP-FL:	11.0cc/30min	Hard/Ca:	320mg/l	H2O:	90%
Weight:	10.10ppg	HTHP-cake:	2/32nd"	MBT:	5	Oil(%):	
Temp:	25C°			PM:	0.05	Sand:	.1
				PF:	0.05	pH:	8.5
						PHPA:	2ppb

Cost Today

Viscosity	55sec/qt
PV	15cp
YP	40lb/100ft²
Gels 10s	14
Gels 10m	24
Fann 003	13
Fann 006	16
Fann 100	37
Fann 200	47
Fann 300	55
Fann 600	70

Comment

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	109	0	434.0
Rig Fuel	m3	0	10	0	238.0
POTABLE WATER	MT	12	22	0	235.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	0	0	70.0
Brine	m3	0	0	0	92.0
Helifuel	ltr	0	0	-230	4,260.0

Australian Drilling Associates Pty Ltd ADA

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	82.62	97				2730.0	30	290	175	40	320	233	50	400	292
2	National / 14 P-220	6.50	81.78	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	82.62	97				2730.0	30	280	175	40	320	233	50	400	292

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	8
Seadrill Services	32
Tamboritha	2
Halliburton	1
Halliburton - Cementing	2
Baker Hughes Inteq	7
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Dril-Quip	2
Total	74

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	**2015.0bbl**	**Losses**	**0.0bbl**
Active	465.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	0.0bbl
Hole	697.0bbl	Dumped	
Slug	24.0bbl	De-Gasser	
Reserve	829.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	

Equipment	Description	Mesh Size	Comments

Marine

Weather on 01 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	26kn	210.0deg	1009.0mbar	12C°	2.0m	210.0deg	7s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg	330.00klb	4404.00klb	4.6m	230.0deg	13s	windy

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler		03.15 31.12.08	Alongside Portland

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1.4			394.6
Potable Water	m3		2			449

				Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
				Drill Water	m3					266
				Barite	Mt					
				CEMENT G	Mt					
				Bentonite	Mt					
				Brine	m3					

				Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Pacific Valkyrie	03.11 31.12.08		On location Fermat -1	Rig Fuel	m3		10.1			298.9
				Potable Water	Mt		5			389
				Drill Water	m3					270
				Barite	Mt					42
				Bentonite	Mt					
				CEMENT G	Mt					65
				Brine	m3			45.6		0

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 24
Fermat-1

02 Jan 2009

From: Rocco Rossouw/ Peter Sheehan
To: Paul Barrett

Well Data

Country	Australia	MDBRT	2807.0m	Cur. Hole Size		AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2804.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$894,326
Rig	West Triton	Days from spud	20.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$28,333,747
Wtr Dpth (MSL)	39m	Days on well	24.00	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Running in hole with 8.5in BHA		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Drill out shoe track. Perform FIT. Drill ahead 8.5in hole section.		

Summary of Period 0000 to 2400 Hrs

Installed 9.625in wellhead wear bushing.
Pressure tested BOPs, casing and surface equipment.
Laid out excess 12.25in BHA.
Picked up 8.5in BHA.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	5 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	9	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	5	0 Days	PTW issued for the day.	
Safety Meeting	2	6 Days	Weekly safety meeting.	
STOP Card	24	0 Days	Stop cards submitted for the day.	19 positive 5 negative

Operations For Period 0000 Hrs to 2400 Hrs on 02 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P9	P	G12	0000	0200	2.00	2807.0m	Made up combination test tool/wear bushing with cup test below. RIH to 17m.
P9	TP (RE)	G12	0200	0300	1.00	2807.0m	Lifted BOPs off wellhead and replaced wellhead seal gasket. Held JSA and toolbox meeting prior to commencing job.
P9	P	G12	0300	0500	2.00	2807.0m	Spaced out BOP test assembly, set wear bushing. Rigged up and pressure tested surface lines.
P9	P	P1	0500	0830	3.50	2807.0m	Pressure tested BOPs. Pipe rams, C&K lines and valves 250 psi/5 min, 7500 psi/10min. Annular preventer 250 psi/5min, 5000 psi/10 min.
P9	P	G12	0830	0900	0.50	2807.0m	POOH with test assembly and laid out tools.
P9	P	P1	0900	0930	0.50	2807.0m	Pressure tested casing against blind shear rams 250 psi/5 min 6000 psi/10 min.
P9	P	P1	0930	1430	5.00	2807.0m	Pessure tested choke and kill manifold 250 psi/5 min, 7500 psi/10 min. Pressure tested IBOPs, 250 psi/5 min, 7500 psi/10 min Pressure tested rotary hose 250 psi/5 min, 5000 psi 10/min Pressure tested stand pip manifold 250 psi 5/min, 5000 psi/10 min.
P9	TP (TP)	G13	1430	1630	2.00	2807.0m	Installed overshot and diverter. Unable to land out diverter.
P9	TP (RE)	G13	1630	1800	1.50	2807.0m	Trouble shot problem with diverter installation. Orientation pin damaged. Removed pin and landed out diverter.
P9	P	G6	1800	2000	2.00	2807.0m	Re-arranged tubulars in derrick. Laid out 8in drilling jars. Picked up HWDP to make stand.
P11	P	G6	2000	2200	2.00	2807.0m	Picked up 8.5in BHA.
P11	P	G7	2200	2230	0.50	2807.0m	Shallow tested MWD at 500 gpm - good test.
P11	P	G7	2230	2300	0.50	2807.0m	Loaded radioactive source in ADN tool.
P11	TP (TP)	G7	2300	2400	1.00	2807.0m	Trouble retrieving source handling tool from ADN.

Operations For Period 0000 Hrs to 0600 Hrs on 03 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	TP	G7	0000	0100	1.00	2807.0m	Schlumberger/Anadrill continued to load radio active source.

Australian Drilling Associates Pty Ltd ADA

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
	(TP)						Trouble retrieving source handling tool from ADN.
P11	P	G6	0100	0300	2.00	2807.0m	Continued to pick up 8.5in BHA .
P11	P	G2	0300	0600	3.00	2807.0m	Picked up 35 joints of 5.5in drill pipe from deck and RIH.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 02 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	4	02 Jan 2009	02 Jan 2009	576.00	24.000	2807.0m

General Comments

00:00 TO 24:00 Hrs ON 02 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	5.0cc/30min	Cl:	45000mg/l	Solids(%vol):	6%	Viscosity	55sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	3.1%vol	PV	14cp
Time:	19:00	HTHP-FL:	11.0cc/30min	Hard/Ca:	360mg/l	H2O:	90%	YP	36lb/100ft²
Weight:	10.10ppg	HTHP-cake:	2/32nd"	MBT:	5	Oil(%):		Gels 10s	14
Temp:	25C°			PM:	0.1	Sand:	.1	Gels 10m	19
				PF:	0.1	pH:	8.5	Fann 003	11
						PHPA:	2ppb	Fann 006	14
								Fann 100	35
								Fann 200	42
								Fann 300	50
								Fann 600	64

Comment

Cost Today

Bit # 6

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	8.50in	IADC#	M423	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	Security	WOB(avg)		No.	Size	Progress	Cum. Progress 0.0m
Type:	PDC	RPM(avg)		6	14/32nd"	On Bottom Hrs	Cum. On Btm Hrs 0.0h
Serial No.:	11001928	F.Rate				IADC Drill Hrs	Cum IADC Drill Hrs 0.0h
Bit Model	SE3653Z	SPP				Total Revs	Cum Total Revs 0
Depth In	2807.2m	HSI				ROP(avg) N/A	ROP(avg) 0.00 m/hr
Depth Out		TFA	0.902				

Bit Comment

BHA # 6

Weight(Wet)	34.00klb	Length	201.4m	Torque(max)		D.C. (1) Ann Velocity	0fpm
Wt Below Jar(Wet)	28.00klb	String		Torque(Off.Btm)		D.C. (2) Ann Velocity	0fpm
		Pick-Up		Torque(On.Btm)		H.W.D.P. Ann Velocity	0fpm
		Slack-Off				D.P. Ann Velocity	0fpm

BHA Run Description

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BHA Run Comment	Jar hours 14.2				
Equipment	Length	OD	ID	Serial #	Comment
Bit	0.26m	8.50in		11001928	
Near Bit Stab	1.86m	8.80in	2.81in	228096	
ARC 6	5.83m	6.81in		2056	
Tele Scope	9.00m	6.75in		VC64	
SonicVISION 825	8.19m	6.88in		649	
ADN Tool	6.24m	6.81in		40778	
Drill Collar	93.28m	6.50in	2.88in		
Drilling Jars	9.89m	6.88in	2.75in	1416-1495	jar hr's 14.2
Drill Collar	9.36m	6.50in	2.75in	66571-1	
X/O	1.22m	7.00in	2.81in	7148	
HWDP	56.23m	5.50in	3.50in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	434.0
Rig Fuel	m3	0	6	0	232.0
POTABLE WATER	MT	12	18	0	229.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	42.0
Barite	MT	0	0	0	70.0
Brine	m3	0	33	0	59.0
Helifuel	ltr	0	10	0	4,250.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	82.62	97				2730.0	30	290	175	40	320	233	50	400	292
2	National / 14 P-220	6.50	81.78	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	82.62	97				2730.0	30	280	175	40	320	233	50	400	292

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	8
Seadrill Services	32
Tamboritha	2
Halliburton	1
Halliburton - Cementing	2
Baker Hughes Inteq	7
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Dril-Quip	2
Total	74

Australian Drilling Associates Pty Ltd ADA

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	1996.0bbl	Losses	19.0bbl
Active	465.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	0.0bbl
Hole	697.0bbl	Dumped	19.0bbl
Slug	24.0bbl	De-Gasser	
Reserve	810.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	

Equipment	Description	Mesh Size	Comments

Marine

Weather on 02 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	6kn	100.0deg	1015.0mbar	12C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		4356.00klb	3.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler		03.15 31.12.08	Alongside Portland

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1.3			393.6
Potable Water	m3		2			447
Drill Water	m3					266
Barite	Mt	42				42
CEMENT G	Mt					
Bentonite	Mt					
Brine	m3	48				48

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie	03.11 31.12.08		On location Fermat -1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		10			288
Potable Water	Mt		5			384
Drill Water	m3					270
Barite	Mt					42
Bentonite	Mt					
CEMENT G	Mt					65
Brine	m3					

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 25
Fermat-1

03 Jan 2009

From: Rocco Rossouw/ Peter Sheehan
To: Paul Barrett

Well Data

Country	Australia	MDBRT	2807.0m	Cur. Hole Size		AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	2804.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$774,749
Rig	West Triton	Days from spud	21.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$29,108,496
Wtr Dpth (MSL)	39m	Days on well	25.00	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Rigging down from FIT.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Drill ahead 8.5in hole section from 2810m.		

Summary of Period 0000 to 2400 Hrs

Picked up and RIH with 8.5in BHA .
Drilled out cement and 9.625in casing shoe track from 2752m to 2798m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	6 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	9	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	7	0 Days	PTW issued for the day.	
Safety Meeting	2	0 Days	Weekly safety meeting.	
STOP Card	24	0 Days	Stop cards submitted for the day.	19 positive 5 negative

Operations For Period 0000 Hrs to 2400 Hrs on 03 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	TP (TP)	G7	0000	0100	1.00	2807.0m	Schlumberger/Anadrill continued to load radio active source. Trouble retrieving source handling tool from ADN.
P11	P	G6	0100	0300	2.00	2807.0m	Continued to pick up 8.5in BHA .
P11	P	G2	0300	0600	3.00	2807.0m	Picked up 35 joints of 5.5in drill pipe from deck and RIH.
P11	P	G8	0600	1300	7.00	2807.0m	Continued to RIH from 495m to 2753m. Tagged top plug at 2753m.
P11	P	D1	1300	2400	11.00	2807.0m	Drilled out top plug, cement and shoe track from 2753m to 2799m.

Operations For Period 0000 Hrs to 0600 Hrs on 04 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D1	0000	0200	2.00	2807.0m	Continued to drill float shoe from 2799m. No progress made from 00:00hrs to 00:45hrs. Suspect ADN stabiliser hanging up in float collar, worked bit back through float collar, 12 klbs overpull when working bit through float collar, work through 3 times - all OK. Ran back to float shoe and drilled out shoe with 40 rpm, 4Klbs WOB, 2400 SPP, 101 SPM. At 2802 m bit depth, NB stabiliser torqued up into float shoe, SPP increased 400 psi, 10kft-lb increase on torque, string weight altered 15klbs. Worked stabiliser through 4 times until OK.
P11	P	D2	0200	0430	2.50	2810.0m	Drilled out 12.25in rathole to 2807m . Drilled 3m of new 8.5in hole from 2807m to 2810m. Circulated hole clean and conditioned mud to a consistent mw of 10.3 ppg.
P11	P	E1	0430	0530	1.00	2810.0m	POOH to casing shoe and performed formation integrity test - 2720psi without breaking down. EMW=16ppg.
P11	P	E1	0530	0600	0.50	2810.0m	Rig down from FIT.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 03 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m

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Phase Data to 2400hrs, 03 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	28	02 Jan 2009	03 Jan 2009	600.00	25.000	2807.0m

General Comments

00:00 TO 24:00 Hrs ON 03 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	5.6cc/30min	Cl:	45000mg/l	Solids(%vol):	6%	Viscosity	55sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	3.1%vol	PV	11cp
Time:	19:00	HTHP-FL:	11.0cc/30min	Hard/Ca:	360mg/l	H2O:	90%	YP	33lb/100ft²
Weight:	10.30ppg	HTHP-cake:	2/32nd"	MBT:	5	Oil(%):		Gels 10s	13
Temp:	30C°			PM:	0.1	Sand:	.25	Gels 10m	18
				PF:	0.1	pH:	8.5	Fann 003	10
						PHPA:	2ppb	Fann 006	13
								Fann 100	30
								Fann 200	36
								Fann 300	44
								Fann 600	55

Cost Today

Comment: Cement contamination observed when drilling cement. Treated with Bicarb and Citric

Bit # 6

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	8.50in	IADC#	M423	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	Security	WOB(avg)		No.	Size	Progress	Cum. Progress 0.0m
Type:	PDC	RPM(avg)		6	14/32nd"	On Bottom Hrs	Cum. On Btm Hrs 0.0h
Serial No.:	11001928	F.Rate				IADC Drill Hrs	Cum IADC Drill Hrs 0.0h
Bit Model	SE3653Z	SPP				Total Revs	Cum Total Revs 0
Depth In	2807.2m	HSI				ROP(avg) N/A	ROP(avg) 0.00 m/hr
Depth Out		TFA	0.902				

Bit Comment

BHA # 6

Weight(Wet)	34.00klb	Length	201.4m	Torque(max)		D.C. (1) Ann Velocity	0fpm
Wt Below Jar(Wet)	28.00klb	String		Torque(Off.Btm)		D.C. (2) Ann Velocity	0fpm
		Pick-Up		Torque(On.Btm)		H.W.D.P. Ann Velocity	0fpm
		Slack-Off				D.P. Ann Velocity	0fpm

BHA Run Description

BHA Run Comment: Jar hours 14.2

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.26m	8.50in		11001928	
Near Bit Stab	1.86m	8.80in	2.81in	228096	
ARC 6	5.83m	6.81in		2056	
Tele Scope	9.00m	6.75in		VC64	
SonicVISION 825	8.19m	6.88in		649	
ADN Tool	6.24m	6.81in		40778	
Drill Collar	93.28m	6.50in	2.88in		
Drilling Jars	9.89m	6.88in	2.75in	1416-1495	jar hr's 14.2

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Equipment	Length	OD	ID	Serial #	Comment
Drill Collar	9.36m	6.50in	2.75in	66571-1	
X/O	1.22m	7.00in	2.81in	7148	
HWDP	56.23m	5.50in	3.50in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	18	0	416.0
Rig Fuel	m3	0	10	0	222.0
POTABLE WATER	MT	162	21	0	370.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	-38	4.0
Barite	MT	0	0	0	70.0
Brine	m3	0	0	0	59.0
Helifuel	ltr	0	0	-10	4,240.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	82.62	97				2730.0	30	290	175	40	320	233	50	400	292
2	National / 14 P-220	6.50	81.78	97								40	240	240	50	320	320
3	National / 14 P-220	6.50	82.62	97				2730.0	30	280	175	40	320	233	50	400	292

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	8
Seadrill Services	32
Tamboritha	2
Halliburton	1
Halliburton - Cementing	2
Baker Hughes Inteq	7
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Dril-Quip	2
Total	74

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	**1922.0bbl**	**Losses**	**80.8bbl**
Active	458.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	61.8bbl
Hole	560.0bbl	Dumped	19.0bbl
Slug		De-Gasser	
Reserve	904.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	

Equipment	Description	Mesh Size	Comments

Marine

Australian Drilling Associates Pty Ltd ADA

Weather on 03 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	17kn	110.0deg	1010.0mbar	13C°	0.5m	135.0deg	13s
Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments	
128.5deg		4430.00klb	2.0m	190.0deg	13s	mainly fine	
Comments							

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	19.40 03/01/09		On location Fermat - 1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		6.41			386.9
Potable Water	m3		2			445
Drill Water	m3					266
Barite	Mt	42				42
CEMENT G	Mt					
Bentonite	Mt					
Brine	m3	48				48

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		19.50 03/01/09	In transit Portland

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		13.5			275
Potable Water	Mt		2	153		229
Drill Water	m3					270
Barite	Mt			42		0
Bentonite	Mt					38.5
CEMENT G	Mt					
Brine	m3					

Recieved 38.5 bentonite from Rig

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 26

04 Jan 2009 **From:** Rocco Rossouw/ Peter Sheehan
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	3012.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	3009.2m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	205.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$793,652
Rig	West Triton	Days from spud	22.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$29,902,148
Wtr Dpth (MSL)	39m	Days on well	26.00	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 8.5in hole. At 06:00hrs depth of 3070m.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Continue to drill 8.5in hole.		

Summary of Period 0000 to 2400 Hrs

RIH and drilled out shoe track, rat hole and 3m new formation.
Performed FIT .
Drilled 8.5in hole from 2810m to 3012m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	6	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	0 Days	PTW issued for the day.	
Safety Meeting	2	1 Day	Weekly safety meeting.	
STOP Card	43	0 Days	Stop cards submitted for the day.	23 positive 20 negative

Operations For Period 0000 Hrs to 2400 Hrs on 04 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D1	0000	0200	2.00	2807.0m	Continued to drill float shoe from 2799m. No progress made from 00:00hrs to 00:45hrs. Suspect ADN stabiliser hanging up in float collar, worked bit back through float collar, 12 klbs overpull when working bit through float collar, work through 3 times - all OK. Ran back to float shoe and drilled out shoe with 40 rpm, 4Klbs WOB, 2400 SPP, 101 SPM. At 2802 m bit depth, NB stabiliser torqued up into float shoe, SPP increased 400 psi, 10kft-lb increase on torque, string weight altered 15klbs. Worked stabiliser through 4 times until OK.
P11	P	D2	0200	0430	2.50	2810.0m	Drilled out 12.25in rathole to 2807m . Drilled 3m of new 8.5in hole from 2807m to 2810m. Circulated hole clean and conditioned mud to a consistent mw of 10.3 ppg.
P11	P	E1	0430	0530	1.00	2810.0m	POOH to casing shoe and performed formation integrity test - 2720psi without breaking down. EMW=16ppg.
P11	P	E1	0530	0600	0.50	2810.0m	Rig down from FIT.
P11	P	D2	0600	2230	16.50	3005.0m	Drilled 8.5in hole from 2810m to 3005m. Increased torque and gas units. WOB 10/12Klbs, RPM 80, GPM 700, SPP 2550, TORQUE 8K FT-LB.
P11	P	F4	2230	2300	0.50	3005.0m	Drilling break, flow checked and circualted bottoms up. Maximum gas 130 units.
P11	P	D2	2300	2400	1.00	3012.0m	Continued to drill 8.5in hole from 3005m to 3012m.

Operations For Period 0000 Hrs to 0600 Hrs on 05 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0030	0.50	3019.0m	Drilled 8.5in hole from 3012m to 3019m.
P11	P	D2	0030	0100	0.50	3019.0m	Drilling break at 3019m, torque fluctuations to 16k ft-lb. Flow check well, static. Continued to circulate - maximum gas 150 units. Increased mud weight from 10.3 ppg to 10.5 ppg.
P11	P	D2	0100	0600	5.00	3070.0m	Contiued to drill 8.5in hole from 3019m to 3070m. Drilling break at 3056m, flow check well, static.

Operations For Period Hrs to Hrs on

Australian Drilling Associates Pty Ltd ADA

Phase Data to 2400hrs, 04 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	52	02 Jan 2009	04 Jan 2009	624.00	26.000	3012.0m

General Comments

00:00 TO 24:00 Hrs ON 04 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	6.0cc/30min	Cl:	43000mg/l	Solids(%vol):	8%	Viscosity	55sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	3.4%vol	PV	15cp
Time:	23:00	HTHP-FL:	11.8cc/30min	Hard/Ca:	600mg/l	H2O:	89%	YP	34lb/100ft²
Weight:	10.35ppg	HTHP-cake:	2/32nd"	MBT:	5	Oil(%):		Gels 10s	11
Temp:	41C°			PM:	0.1	Sand:	1.0	Gels 10m	19
				PF:	0.6	pH:	9.5	Fann 003	10
						PHPA:	2ppb	Fann 006	13
								Fann 100	33
								Fann 200	42
								Fann 300	49
								Fann 600	64

Comment

Cost Today

Bit # 6

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	8.50in	IADC#	M423	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	Security	WOB(avg)	12.00klb	No.	Size	Progress 205.0m	Cum. Progress 205.0m
Type:	PDC	RPM(avg)	100	6	14/32nd"	On Bottom Hrs 14.2h	Cum. On Btm Hrs 14.2h
Serial No.:	11001928	F.Rate	700gpm			IADC Drill Hrs 20.0h	Cum IADC Drill Hrs 20.0h
Bit Model	SE3653Z	SPP	2750psi			Total Revs	Cum Total Revs 0
Depth In	2807.2m	HSI	4.86HSI			ROP(avg) 14.44 m/hr	ROP(avg) 14.44 m/hr
Depth Out		TFA	0.902				

Bit Comment

BHA # 6

Weight(Wet)	34.00klb	Length	201.4m	Torque(max)	14000ft-lbs	D.C. (1) Ann Velocity	572fpm
Wt Below Jar(Wet)	28.00klb	String	265.00klb	Torque(Off.Btm)	4000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	282.00klb	Torque(On.Btm)	7000ft-lbs	H.W.D.P. Ann Velocity	408fpm
		Slack-Off	256.00klb			D.P. Ann Velocity	408fpm

BHA Run Description

BHA Run Comment Jar hours 14.2

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.26m	8.50in		11001928	
Near Bit Stab	1.86m	8.80in	2.81in	228096	
ARC 6	5.83m	6.81in		2056	
Tele Scope	9.00m	6.75in		VC64	

Equipment	Length	OD	ID	Serial #	Comment
SonicVISION 825	8.19m	6.88in		649	
ADN Tool	6.24m	6.81in		40778	
Drill Collar	93.28m	6.50in	2.88in		
Drilling Jars	9.89m	6.88in	2.75in	1416-1495	jar hr's 14.2
Drill Collar	9.36m	6.50in	2.75in	66571-1	
X/O	1.22m	7.00in	2.81in	7148	
HWDP	56.23m	5.50in	3.50in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2816.25	3.2	78.9	2813.68	-53.8	-53.8	-47.8	0.4	MWD
2904.72	3.0	88.6	2902.01	-53.2	-53.2	-43.0	0.2	MWD
2992.79	2.7	116.6	2989.98	-54.0	-54.0	-38.7	0.6	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	416.0
Rig Fuel	m3	0	21	0	201.0
POTABLE WATER	MT	12	21	0	361.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	4.0
Barite	MT	0	0	30	100.0
Brine	m3	48	0	0	107.0
Helifuel	ltr	0	6	0	4,234.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	88.46	97	60	2650	700	2944.0	20	420	117	30	530	175	40	640	233
2	National / 14 P-220	6.50	88.46	97	60	2650	700	2944.0	20	420	117	30	540	175	40	630	233
3	National / 14 P-220	6.50	88.46	97													

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	8
Seadrill Services	32
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	7
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Dril-Quip	1
Schlumberger (Wireline)	6
Total	80

Australian Drilling Associates Pty Ltd ADA

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	1816.0bbl	Losses	137.0bbl	Equipment	Description	Mesh Size	Comments
Active	488.0bbl	Downhole	0.0bbl				
Mixing		Surf+ Equip	137.0bbl				
Hole	600.0bbl	Dumped					
Slug		De-Gasser					
Reserve	728.0bbl	De-Sander					
Kill		De-Silter					
		Centrifuge					
		Behind casing					

Marine

Weather on 04 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	9kn	100.0deg	1008.0mbar	14C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		4430.00klb	2.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	19.40 03/01/09		On location Fermat - 1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		8.24			378.6
Potable Water	m3		6			439
Drill Water	m3					266
Barite	Mt	42				42
CEMENT G	Mt					
Bentonite	Mt					17
Brine	m3			48		0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		19.50 03/01/09	In transit Portland

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		2.22			273
Potable Water	Mt		5			224
Drill Water	m3					270
Barite	Mt			42		0
Bentonite	Mt					38.5
CEMENT G	Mt					65
Brine	m3					

Recieved 38.5 bentonite from Rig

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1513 / 1523	7 / 1	Schlumberger Wireline

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 27
Fermat-1

05 Jan 2009

From: Sean De Freitas / Peter Sheehan
To: Paul Barrett

Well Data

Country	Australia	MDBRT	3352.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	3348.5m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	340.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$776,427
Rig	West Triton	Days from spud	23.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$30,678,575
Wtr Dpth (MSL)	39m	Days on well	27.00	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Drilling 8.5in hole. 06:00hrs depth at 3450m.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Drill 8.5in hole.		

Summary of Period 0000 to 2400 Hrs

Drilled 8.5in hole from 3012m to 3352m

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	1 Day	Abandon rig drill.	All personnel mustered at life boats.
JSA	8	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	3	0 Days	PTW issued for the day.	
Safety Meeting	2	2 Days	Weekly safety meeting.	
STOP Card	21	0 Days	Stop cards submitted for the day.	14 positive 7 negative

Operations For Period 0000 Hrs to 2400 Hrs on 05 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0030	0.50	3019.0m	Drilled 8.5in hole from 3012m to 3019m.
P11	P	D2	0030	0100	0.50	3019.0m	Drilling break at 3019m, torque fluctuations to 16k ft/lb. Flow checked well - static. Continued to circulate - maximum gas 150 units. Observed small amounts of cavings at shakers. Commenced increasing mud weight from 10.3 ppg to 10.5 ppg.
P11	P	D2	0100	2400	23.00	3352.0m	Contiued to drill 8.5in hole from 3019m to 3352m. Drilling break at 3056m , flow check well , static. WOB 18K, RPM 90, GPM 700, SPP 2900, TORQUE 2/10 K FT-LB STR WT UP 310K, STR WT DOWN 267 K, STR WT ROT 290K Varied drilling parameters in an attempt to reduce Stick/Slip at MWD without much success. Stick/Slip values remain high.

Operations For Period 0000 Hrs to 0600 Hrs on 06 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0600	6.00	3450.0m	Drilled 8.5in hole from 3352m to 3450m. WOB 18K, RPM 90, GPM 700, SPP 2900, TORQUE 2/10 K FT-LB Varied drilling parameters in an attempt to reduce Stick/Slip at MWD without much success. Stick/Slip values remain high.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 05 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	76	02 Jan 2009	05 Jan 2009	648.00	27.000	3352.0m

Australian Drilling Associates Pty Ltd ADA

General Comments

00:00 TO 24:00 Hrs ON 05 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Cost Today

Mud Type:	KCl / Polymer	API FL:	5.8cc/30min	Cl:	41000mg/l	Solids(%vol):	8%	Viscosity	55sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	1.7%vol	PV	16cp
Time:	22:30	HTHP-FL:	11.8cc/30min	Hard/Ca:	480mg/l	H2O:	89%	YP	36lb/100ft²
Weight:	10.60ppg	HTHP-cake:	2/32nd"	MBT:	7.5	Oil(%):		Gels 10s	11
Temp:	41C°			PM:	0.1	Sand:	.75	Gels 10m	19
				PF:	0.1	pH:	9	Fann 003	10
						PHPA:	3ppb	Fann 006	13
								Fann 100	34
								Fann 200	45
								Fann 300	52
								Fann 600	68

Comment

Bit # 6

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	8.50in	IADC#	M423	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	Security	WOB(avg)	18.00klb	No.	Size	Progress	340.0m	Cum. Progress	545.0m
Type:	PDC	RPM(avg)	90	6	14/32nd"	On Bottom Hrs	17.9h	Cum. On Btm Hrs	32.1h
Serial No.:	11001928	F.Rate	700gpm			IADC Drill Hrs	23.5h	Cum IADC Drill Hrs	43.5h
Bit Model	SE3653Z	SPP	2900psi			Total Revs	96	Cum Total Revs	96
Depth In	2807.2m	HSI	4.86HSI			ROP(avg)	18.99 m/hr	ROP(avg)	16.98 m/hr
Depth Out		TFA	0.902						

Bit Comment

BHA # 6

Weight(Wet)	34.00klb	Length	201.4m	Torque(max)	14000ft-lbs	D.C. (1) Ann Velocity	572fpm
Wt Below Jar(Wet)	28.00klb	String	265.00klb	Torque(Off.Btm)	4000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	282.00klb	Torque(On.Btm)	7000ft-lbs	H.W.D.P. Ann Velocity	408fpm
		Slack-Off	256.00klb			D.P. Ann Velocity	408fpm

BHA Run Description

BHA Run Comment Jar hours 32.1

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.26m	8.50in		11001928	
Near Bit Stab	1.86m	8.80in	2.81in	228096	
ARC 6	5.83m	6.81in		2056	
Tele Scope	9.00m	6.75in		VC64	
SonicVISION 825	8.19m	6.88in		649	
ADN Tool	6.24m	6.81in		40778	
Drill Collar	93.28m	6.50in	2.88in		
Drilling Jars	9.89m	6.88in	2.75in	1416-1495	jar hr's 32.1
Drill Collar	9.36m	6.50in	2.75in	66571-1	
X/O	1.22m	7.00in	2.81in	7148	
HWDP	56.23m	5.50in	3.50in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
3081.57	2.9	130.8	3078.65	-56.2	-56.2	-35.0	0.4	MWD

Australian Drilling Associates Pty Ltd ADA

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
3170.28	3.5	152.0	3167.22	-60.2	-60.2	-32.1	0.3	MWD
3259.28	3.8	146.4	3256.04	-64.9	-64.9	-28.9	0.1	MWD
3347.40	4.2	152.1	3343.95	-70.2	-70.2	-25.9	0.2	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	15	0	401.0
Rig Fuel	m3	0	14	0	187.0
POTABLE WATER	MT	12	29	0	344.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	4.0
Barite	MT	0	9	0	91.0
Brine	m3	0	0	0	107.0
Helifuel	ltr	0	0	0	4,234.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	10.50	97	60	2900	700	3300.0	20	460	117	30	550	175	40	680	233
2	National / 14 P-220	6.50	10.50	97	60	2900	700	3300.0	20	450	117	30	550	175	40	700	233
3	National / 14 P-220	6.50	88.46	97													

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	11
Catering	8
Seadrill Services	33
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	7
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Dril-Quip	1
Schlumberger (Wireline)	6
Baker Oil Tools	2
Total	83

Australian Drilling Associates Pty Ltd ADA

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	1593.0bbl	Losses	177.0bbl
Active	478.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	177.0bbl
Hole	600.0bbl	Dumped	
Slug		De-Gasser	
Reserve	515.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	

Equipment	Description	Mesh Size
Shaker 1	VSM 300	145
Shaker 2	VSM 300	255
Shaker 3	VSM 300	255
Shaker 4	VSM 300	145

Comments

Marine

Weather on 05 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	14kn	260.0deg	1005.0mbar	15C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		4430.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	19.40 03/01/09		On location Fermat - 1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1.2			377.5
Potable Water	m3		7			423
Drill Water	m3					266
Barite	Mt					42
CEMENT G	Mt					
Bentonite	Mt					17
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie		19.50 03/01/09	In transit Portland

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		2.22			273
Potable Water	Mt		5			224
Drill Water	m3					270
Barite	Mt			42		0
Bentonite	Mt					38.5
CEMENT G	Mt					65
Brine	m3					

Recieved 38.5 bentonite from Rig

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	0952 / 1014	12 / 9	TMS Crew Change

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 28

06 Jan 2009 **From:** Sean De Freitas / Peter Sheehan
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	233.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$799,105
Rig	West Triton	Days from spud	24.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$31,477,680
Wtr Dpth (MSL)	39m	Days on well	28.00	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Circulating bottoms up after running back in hole from 9.625in casing shoe.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	POOH. Run electric line logs.		

Summary of Period 0000 to 2400 Hrs

Drilled 8.5in hole from 3352m to 3585m.
Circulated hole clean.
POOH to 9.625in casing shoe working clear tight spots.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	2 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	6	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	4	0 Days	PTW issued for the day.	
Safety Meeting	2	3 Days	Weekly safety meeting.	
STOP Card	31	0 Days	Stop cards submitted for the day.	23positive 8 negative

Operations For Period 0000 Hrs to 2400 Hrs on 06 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	1400	14.00	3585.0m	Drilled 8.5in hole from 3352m to 3585m. WOB 18Klbs, RPM 90, GPM 700, SPP 2900, TORQUE 2/10 K FT-LB. Varied drilling parameters in an attempt to reduce Stick/Slip at MWD without much success. Stick/Slip values remained high.
P11	P	F4	1400	1530	1.50	3585.0m	Circulated hole clean. Took survey at TD - 3569.38MD, 7.3 deg Inc, 160.3 deg AZ.
P11	P	G8	1530	1730	2.00	3585.0m	Flow checked well. POOH from 3585m. Overpull from 3539m to 3510m - 5/13klbs. Worked clear. Overpull from 3510m to 3480m - 10/25klbs. Worked clear. Overpull from 3480m to 3451m - 10/15klbs. Worked clear.
P11	P	D6	1730	1800	0.50	3585.0m	Unable to work past 3415m with 30klbs overpull and taking weight going back down. Made up TDS and backreamed from 3415m to 3392m. After backreaming one time no drag or pull seen again. Backreamed with 550 GPM, SPP 2000, rpm 80, Max torque 14k ft-lb.
P11	P	G8	1800	2000	2.00	3585.0m	POOH - straight pull on elevators from 3392m to 3081m. Worked clear tight spots of up to 20klbs overpull as required.
P11	P	D6	2000	2130	1.50	3585.0m	Tight hole at 3081m to 2948m 15/20k overpull. Unable to work thru, made up TDS and backreamed. After backreaming one time no drag or overpull seen again. Backreamed with 550 GPM. SPP 2000. rpm 80. Max torque 14k ft/lb. No pressure increase or signs of packing of.
P11	P	G8	2130	2200	0.50	3585.0m	POOH - straight pull on elevators from 2948m to 2900m. No excess drag.
P11	P	D6	2200	2330	1.50	3585.0m	Tight hole at 2900m to 2830m. 15/20klbs overpull. Unable to work through. Made up TDS and backreamed. After backreaming one time no drag or overpull seen again. Pulled into shoe at 2800m.
P11	P	G11	2330	2400	0.50	3585.0m	Serviced rig and TDS at shoe. Derrick man reported TDS washpipe leaking.

Operations For Period 0000 Hrs to 0600 Hrs on 07 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	TP (DH)	G8	0000	0100	1.00	3585.0m	RIH. Stabilisers hung up in float shoe 20klbs down weight. Reamed all stabilisers through float shoe. After reaming through one time with 40 RPM no signs thereafter when working stabilisers back through.
P11	P	G8	0100	0300	2.00	3585.0m	RIH from 2280m to 3451m. Took weight at 3451m - 20klbs down weight.
P11	P	F1	0300	0330	0.50	3585.0m	Made up TDS and broke circulation. Washed from 3451m to 3480m at 100 GPM. Took 5-10klbs weight to wash past.
P11	P	D6	0330	0500	1.50	3585.0m	Washed / light reamed from 3480m to 3576m. After connection at 3480m hole packed off. Broke string free and established full circulation. Washed and reamed from 3480m to 3576m. RPM 80, GPM 500, SPP 1900, Average torque 3/6k. Torque fluctuations up to 19k ft-lb. At each connection attempted to slack off without pump and rotary to check hole condition - no success, 15klbs drag.
P11	P	F4	0500	0600	1.00	3585.0m	Hole packed off and drill string torqued up to stall out when attempting to ream past 3576m. Circulated bottoms up and cleaned hole at 720 GPM, 3150 psi. Significant increase in cuttings and cavings on bottoms up.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 06 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	100	02 Jan 2009	06 Jan 2009	672.00	28.000	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 06 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	5.2cc/30min	Cl:	42000mg/l	Solids(%vol):	8%	Viscosity	50sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	2.6%vol	PV	20cp
Time:	15:00	HTHP-FL:	11.0cc/30min	Hard/Ca:	480mg/l	H2O:	89%	YP	40lb/100ft²
Weight:	10.60ppg	HTHP-cake:	2/32nd"	MBT:	11.25	Oil(%):		Gels 10s	12
Temp:	49C°			PM:	0.1	Sand:	.5	Gels 10m	26
				PF:	0.05	pH:	8.2	Fann 003	11
						PHPA:	2ppb	Fann 006	14
								Fann 100	36
								Fann 200	49
								Fann 300	58
								Fann 600	80

Comment

Cost Today

Bit # 6

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	8.50in	IADC#	M423	**Nozzles**	**Drilled over last 24 hrs**	**Calculated over Bit Run**

Australian Drilling Associates Pty Ltd ADA

Mfr:	Security	WOB(avg)	18.00klb	No.	Size	Progress	233.0m	Cum. Progress	778.0m
Type:	PDC	RPM(avg)	90	6	14/32nd"	On Bottom Hrs	10.3h	Cum. On Btm Hrs	42.4h
Serial No.:	11001928	F.Rate	700gpm			IADC Drill Hrs	14.0h	Cum IADC Drill Hrs	57.5h
Bit Model	SE3653Z	SPP	2900psi			Total Revs	57	Cum Total Revs	153
Depth In	2807.2m	HSI	4.86HSI			ROP(avg)	22.62 m/hr	ROP(avg)	18.35 m/hr
Depth Out		TFA	0.902						

Bit Comment

BHA # 6

Weight(Wet)	34.00klb	Length	201.4m	Torque(max)	10000ft-lbs	D.C. (1) Ann Velocity	572fpm
Wt Below Jar(Wet)	28.00klb	String	283.00klb	Torque(Off.Btm)	4000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	319.00klb	Torque(On.Btm)	7000ft-lbs	H.W.D.P. Ann Velocity	408fpm
		Slack-Off	273.00klb			D.P. Ann Velocity	408fpm

BHA Run Description

BHA Run Comment Jar hours 42.4

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.26m	8.50in		11001928	
Near Bit Stab	1.86m	8.80in	2.81in	228096	
ARC 6	5.83m	6.81in		2056	
Tele Scope	9.00m	6.75in		VC64	
SonicVISION 825	8.19m	6.88in		649	
ADN Tool	6.24m	6.81in		40778	
Drill Collar	93.28m	6.50in	2.88in		
Drilling Jars	9.89m	6.88in	2.75in	1416-1495	jar hr's 42.4
Drill Collar	9.36m	6.50in	2.75in	66571-1	
X/O	1.22m	7.00in	2.81in	7148	
HWDP	56.23m	5.50in	3.50in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
3436.14	5.2	162.0	3432.40	-76.7	-76.7	-23.3	0.5	MWD
3525.24	6.4	158.4	3521.05	-85.1	-85.1	-20.1	0.4	MWD
3569.38	7.3	160.3	3564.87	-90.1	-90.1	-18.2	0.7	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	6	0	395.0
Rig Fuel	m3	75	26	0	236.0
POTABLE WATER	MT	14	20	7	345.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	4.0
Barite	MT	0	0	0	91.0
Brine	m3	0	0	0	107.0
Helifuel	ltr	0	468	0	3,766.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	10.60	97	60	2900	700	3300.0	20	520	117	30	640	175	40	800	233
2	National / 14 P-220	6.50	10.60	97	60	2900	700	3300.0	20	500	117	30	620	175	40	780	233
3	National / 14 P-220																

Australian Drilling Associates Pty Ltd ADA

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	10
Catering	8
Seadrill Services	33
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	7
Beach Petroleum Ltd	2
Schlumberger MWD/LWD	3
Dril-Quip	1
Schlumberger (Wireline)	9
Baker Oil Tools	2
Total	85

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	**1567.0bbl**	**Losses**	**116.0bbl**
Active	478.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	116.0bbl
Hole	739.0bbl	Dumped	
Slug		De-Gasser	
Reserve	350.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	

Equipment	Description	Mesh Size
Shaker 1	VSM 300	145
Shaker 2	VSM 300	255
Shaker 3	VSM 300	255
Shaker 4	VSM 300	145

Comments

Marine

Weather on 06 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	9kn	135.0deg	1004.0mbar	15C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		4714.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler	19.40 03/01/09		On location Fermat - 1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		3.7			373.8
Potable Water	m3		22			410
Drill Water	m3					266
Barite	Mt			42		0
CEMENT G	Mt					
Bentonite	Mt			17		0
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie	14.53 06/01/09		On location Fermat - 1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	155	7.4	75		345.7
Potable Water	Mt	175	5			394
Drill Water	m3	202				472
Barite	Mt			42		0

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Bentonite	Mt					38.5
CEMENT G	Mt					65
Brine	m3					

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1535 / 1557	3 / 1	Seadrill SCH Wireline

Australian Drilling Associates Pty Ltd ADA

07 Jan 2009

From: Sean De Freitas / Peter Sheehan
To: Paul Barrett

DRILLING MORNING REPORT # 29
Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$789,236
Rig	West Triton	Days from spud	25.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$32,266,916
Wtr Dpth (MSL)	39m	Days on well	29.00	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Logging up with wireline log run #1 PEX-DT from 3585m.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Continue to run wireline logs.		

Summary of Period 0000 to 2400 Hrs

RIH washing and reaming from casing shoe to bottom as required.
Increased mud weight from 10.5ppg to 11.0 ppg.
POOH to run wireline logs.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	3 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	15	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	12	0 Days	PTW issued for the day.	
Safety Meeting	2	4 Days	Weekly safety meeting.	
STOP Card	20	0 Days	Stop cards submitted for the day.	14 positive 6 negative

Operations For Period 0000 Hrs to 2400 Hrs on 07 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	TP (DH)	G8	0000	0100	1.00	3585.0m	RIH. Stabilisers hung up in float shoe 20klb down weight. Had to ream all stabilisers through float shoe. After reaming through one time with 40 RPM no hang-up signs thereafter when working stabilisers back through.
P11	P	G8	0100	0300	2.00	3585.0m	RIH from 2280m to 3451m. Took weight at 3451m - 20klb down weight.
P11	P	F1	0300	0330	0.50	3585.0m	Made up TDS and broke circulation. Washed from 3451m to 3480m at 100 GPM. Took 5-10klb weight to wash past.
P11	P	D6	0330	0530	2.00	3585.0m	Washed / light reamed from 3480m to 3576m. After connection at 3480m hole packed off. Broke string free and established full circulation. Washed and reamed from 3480m to 3576m. RPM 80, GPM 500, SPP 1900, average torque 3/6klb, torque fluctuations up to 19k ft-lb. Each connection attempted to slack of without pump and rotary to check hole condition. No success, 15k drag.
P11	P	F4	0530	0700	1.50	3585.0m	Washed and reamed from 3576m to 3585m. Hole packing off and drill string torquing up to stall out when attempting to ream past 3576m. Circulated hole clean and completed reaming to bottom at 3585m. (Significant increase in cuttings and cavings observed on bottoms up)
P11	P	G8	0700	0730	0.50	3585.0m	POOH from 3585m to 3549m. 20klb overpull at 3568m - worked clear. 30klb overpull at 3549m - unable to work through.
P11	P	D6	0730	0800	0.50	3585.0m	Made up TDS. Washed and reamed back to bottom from 3549m to 3585m.
P11	P	F4	0800	0930	1.50	3585.0m	Circulated and weighed up mud from 10.5 ppg to 11.0 ppg.
P11	TP (RE)	G11	0930	1000	0.50	3585.0m	Replaced grease nipple on TDS swivel packing due to nipple failing and leaking mud.
P11	P	G8	1000	1730	7.50	3585.0m	POOH from 3585m to 614m. Hole in good condition. Flow checked on bottom and at shoe static.
P11	P	F3	1730	1800	0.50	3585.0m	String started pulling wet at 614m. Pumped slug.
P11	P	G6	1800	2000	2.00	3585.0m	Continued POOH and racked back HWDP and drill collars.
P11	P	G7	2000	2100	1.00	3585.0m	Retrieved radio active sources from MWD tools.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	G7	2100	2230	1.50	3585.0m	Broke out and laid out MWD tools, bit, near bit stabiliser. Bit: 1,1,CT, N, X, I, NO, TD.
P11	P	G1	2230	2300	0.50	3585.0m	Cleared & cleaned drill floor. Held PJSM for rigging up schlumberger wireline.
P11	P	G1	2300	2400	1.00	3585.0m	Rigged up Schlumberger wireline. Commenced picking up tools for wireline log run #1 PEX-DT

Operations For Period 0000 Hrs to 0600 Hrs on 08 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	G1	0000	0030	0.50	3585.0m	Made up Schlumberger wireline tools for wireline log run #1 PEX-DT.
P11	P	G1	0030	0100	0.50	3585.0m	Schlumberger performed calibration test of tools.
P11	P	E3	0100	0400	3.00	3585.0m	RIH with wireline log run #1 PEX-DT to TD at 3585m. Tagged up at 2860m, 2996m, 3008m, 3205m, 3455m, 3569m. Able to work wireline tool string through without problems.
P11	P	E3	0400	0600	2.00	3585.0m	Logged up from 3585m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 07 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	124	02 Jan 2009	07 Jan 2009	696.00	29.000	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 07 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	6.0cc/30min	Cl:	40000mg/l	Solids(%vol):	11%	Viscosity	59sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	4.9%vol	PV	23cp
Time:	15:00	HTHP-FL:	12.0cc/30min	Hard/Ca:	440mg/l	H2O:	89%	YP	28lb/100ft²
Weight:	11.00ppg	HTHP-cake:	2/32nd"	MBT:	11.25	Oil(%):		Gels 10s	12
Temp:	47C°			PM:	0.05	Sand:	1	Gels 10m	30
				PF:	0.05	pH:	8.5	Fann 003	13
						PHPA:	2ppb	Fann 006	16
								Fann 100	32
								Fann 200	45
								Fann 300	51
								Fann 600	74

Comment

Cost Today

Bit # 6

Wear	I	O1	D	L	B	G	O2	R
	1	1	CT	N	X	I	NO	TD

Bitwear Comments: 7 chipped teeth on inner row.Apart from that bit in good condition.

Size (''):	8.50in	IADC#	M423	Nozzles	Drilled over last 24 hrs	Calculated over Bit Run

Australian Drilling Associates Pty Ltd ADA

Mfr:	Security	WOB(avg)	18.00klb	No.	Size	Progress	0.0m	Cum. Progress	778.0m
Type:	PDC	RPM(avg)	90	6	14/32nd"	On Bottom Hrs	0.0h	Cum. On Btm Hrs	42.4h
Serial No.:	11001928	F.Rate	700gpm			IADC Drill Hrs	0.0h	Cum IADC Drill Hrs	57.5h
Bit Model	SE3653Z	SPP	2900psi			Total Revs	0	Cum Total Revs	153
Depth In	2807.2m	HSI	4.86HSI			ROP(avg)	N/A	ROP(avg)	18.35 m/hr
Depth Out	3585.0m	TFA	0.902						

Bit Comment

BHA # 6

Weight(Wet)	34.00klb	Length	201.4m	Torque(max)	10000ft-lbs	D.C. (1) Ann Velocity	572fpm
Wt Below Jar(Wet)	28.00klb	String	283.00klb	Torque(Off.Btm)	4000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	319.00klb	Torque(On.Btm)	7000ft-lbs	H.W.D.P. Ann Velocity	408fpm
		Slack-Off	273.00klb			D.P. Ann Velocity	408fpm

BHA Run Description

BHA Run Comment Jar hours 42.4

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.26m	8.50in		11001928	
Near Bit Stab	1.86m	8.50in	2.81in	228096	
ARC 6	5.83m	6.81in		2056	
Tele Scope	9.00m	6.75in		VC64	8" Integral Stabalizer on bottom of tool
SonicVISION 825	8.19m	6.88in		649	7 7/8" Integral Stabalizer on botom of tool
ADN Tool	6.24m	6.81in		40778	8 1/8" Integral Stabalizer in middle of tool
Drill Collar	93.28m	6.50in	2.88in		
Drilling Jars	9.89m	6.88in	2.75in	1416-1495	
Drill Collar	9.36m	6.50in	2.75in	66571-1	
X/O	1.22m	7.00in	2.81in	7148	
HWDP	56.23m	5.50in	3.50in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	7	0	388.0
Rig Fuel	m3	0	15	0	221.0
POTABLE WATER	MT	12	28	0	329.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	16	0	0	20.0
Barite	MT	40	18	0	113.0
Brine	m3	0	0	0	107.0
Helifuel	ltr	0	938	0	2,828.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (ppg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	National / 14 P-220	6.50	10.60	97	60	2900	700	3300.0	20	520	117	30	640	175	40	800	233
2	National / 14 P-220	6.50	10.60	97	60	2900	700	3300.0	20	500	117	30	620	175	40	780	233
3	National / 14 P-220																

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m /	

Australian Drilling Associates Pty Ltd ADA

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
		2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	10
Catering	8
Seadrill Services	34
Tamboritha	2
Halliburton	2
Halliburton - Cementing	2
Baker Hughes Inteq	7
Beach Petroleum Ltd	3
Schlumberger MWD/LWD	3
Dril-Quip	1
Schlumberger (Wireline)	9
Baker Oil Tools	2
Beach Petroleum Ltd	1
OPC	1
Total	89

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer :

Available	**1531.0bbl**	**Losses**	**59.0bbl**
Active	463.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	59.0bbl
Hole	876.0bbl	Dumped	
Slug		De-Gasser	
Reserve	192.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	

Equipment	Description	Mesh Size
Shaker 1	VSM 300	145
Shaker 2	VSM 300	255
Shaker 3	VSM 300	255
Shaker 4	VSM 300	145

Comments

Marine

Weather on 07 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	14kn	220.0deg	1011.0mbar	14C°	0.5m	135.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		5044.00klb	1.0m	190.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler		16.45 07/01/09	Alongside Anderson wharf Portland
Pacific Valkyrie	14.53 06/01/09		On location Fermat - 1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		9.9			363.9
Potable Water	m3	40	3			447
Drill Water	m3					266
Barite	Mt					0
CEMENT G	Mt					
Bentonite	Mt					0
Brine	m3					0

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		4.9			340.8
Potable Water	Mt		5			389
Drill Water	m3					472
Barite	Mt					
Bentonite	Mt					38.5

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Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
CEMENT G	Mt					65
Brine	m3					

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	1157 / 1223	14 / 10	TMS, Dril-Quip, BHI & Tamboritha Crew Change

Australian Drilling Associates Pty Ltd ADA

08 Jan 2009

From: Sean De Freitas / Peter Dane
To: Paul Barrett

DRILLING MORNING REPORT # 30
Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$51,857,377
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$1,886,446
Rig	West Triton	Days from spud	26.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$34,153,362
Wtr Dpth (MSL)	39m	Days on well	30.00	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	RIH seismic check shot logging assembly.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Complete seismic check shot logging run. Run CST log as per program. Commence plug and abandonment program.		

Summary of Period 0000 to 2400 Hrs

Made up PEX-DT logging tools and RIH with same.
Completed logging run #1 PEX-DT.
POOH with PEX-DT logging tools and laid down same.
Made up MDT logging tools and RIH.
Logging with MDT as per program.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	4 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	9	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	11	0 Days	PTW issued for the day.	
Safety Meeting	2	5 Days	Weekly safety meeting.	
STOP Card	18	0 Days	Stop cards submitted for the day.	11 positive 7 negative

Operations For Period 0000 Hrs to 2400 Hrs on 08 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	G1	0000	0030	0.50	3585.0m	Made up Schlumberger wireline tools for wireline log run #1 PEX-DT.
P11	P	G1	0030	0100	0.50	3585.0m	Performed calibration test of tools.
P11	P	E3	0100	0400	3.00	3585.0m	RIH with wireline log run #1 PEX-DT to TD at 3585m. Tagged up at 2860m, 2996m, 3008m, 3205m, 3455m, 3569m. Able to work wireline tool string through without problems.
P11	P	E3	0400	0700	3.00	3585.0m	Logged up from 3585m to 2800m.
P11	P	E3	0700	0900	2.00	3585.0m	POOH with PEX-DT Tools.
P11	P	E3	0900	1030	1.50	3585.0m	Tools at surface, laid down same.
P11	P	E3	1030	1200	1.50	3585.0m	Made up MDT logging tools.
P11	P	E3	1200	1430	2.50	3585.0m	RIH with wireline log run #2 MDT to 2800m.
P11	P	E3	1430	1600	1.50	3585.0m	Correlated tool and logged from 2800m to 3200m.
P11	P	E3	1600	2030	4.50	3585.0m	Took pressure points at 18 stations in total.
P11	P	E3	2030	2300	2.50	3585.0m	Took first sample point at 2879.5m.
P11	P	E3	2300	2400	1.00	3585.0m	Took second sample point at 3008m.

Operations For Period 0000 Hrs to 0600 Hrs on 09 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	E3	0000	0030	0.50	3585.0m	Continued taking second sample point at 3008m.
P11	P	E3	0030	0100	0.50	3585.0m	RIH to 3450m to take pressure points.
P11	P	E3	0100	0200	1.00	3585.0m	Took pressure points at 3 stations in total.
P11	P	E3	0200	0400	2.00	3585.0m	POOH with MDT logging tools to surface.
P11	P	E3	0400	0500	1.00	3585.0m	Laid down MDT logging tools.
P11	P	E3	0500	0600	1.00	3585.0m	Made up seismic check shot tool string assembly and RIH.

Operations For Period Hrs to Hrs on

Australian Drilling Associates Pty Ltd ADA

Phase Data to 2400hrs, 08 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	148	02 Jan 2009	08 Jan 2009	720.00	30.000	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 08 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	5.2cc/30min	Cl:	42000mg/l	Solids(%vol):	8%	Viscosity	50sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	2.6%vol	PV	20cp
Time:	15:00	HTHP-FL:	11.0cc/30min	Hard/Ca:	480mg/l	H2O:	89%	YP	40lb/100ft²
Weight:	11.00ppg	HTHP-cake:	2/32nd"	MBT:	11.25	Oil(%):		Gels 10s	12
Temp:	49C°			PM:	0.1	Sand:	.5	Gels 10m	26
				PF:	0.05	pH:	8.2	Fann 003	11
						PHPA:	2ppb	Fann 006	14
								Fann 100	36
								Fann 200	49
								Fann 300	58
								Fann 600	80

Comment

Cost Today

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	388.0
Rig Fuel	m3	0	9	0	212.0
POTABLE WATER	MT	0	0	0	329.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	74	0	0	74.0
Bentonite	MT	0	0	0	20.0
Barite	MT	0	0	0	113.0
Brine	m3	0	0	0	107.0
Helifuel	ltr	0	984	0	1,844.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Beach Petroleum Ltd	3
Beach Petroleum Ltd	1
Seadrill	12
Seadrill Services	33
Catering	9

Australian Drilling Associates Pty Ltd ADA

Personnel On Board

Baker Hughes Inteq	4
Baker Hughes Inteq	2
Baker Hughes Inteq	2
Baker Oil Tools	2
Halliburton	2
Halliburton - Cementing	2
Dril-Quip	1
Schlumberger MWD/LWD	3
Schlumberger (Wireline)	9
Tamboritha	2
OPC	1
Core IRM	2
Total	94

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Eugene Edwards / Kosta Georgiou

Available	**1534.0bbl**	**Losses**	**0.0bbl**
Active	463.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	0.0bbl
Hole	876.0bbl	Dumped	
Slug		De-Gasser	
Reserve	195.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	

Equipment	Description	Mesh Size
Shaker 1	VSM 300	215
Shaker 2	VSM 300	255
Shaker 3	VSM 300	255
Shaker 4	VSM 300	255

Comments

Marine

Weather on 08 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	8kn	170.0deg	1016.0mbar	13C°	0.5m	240.0deg	13s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2298.00klb	1.0m	240.0deg	13s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler		16.45 07/01/09	Alongside Anderson wharf Portland

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1.1			362.8
Potable Water	m3		5			442
Drill Water	m3	54				320
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie	14.53 06/01/09		On location Fermat - 1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		2.3			338.5
Potable Water	Mt		5			384
Drill Water	m3					472
Barite	Mt					0
Bentonite	Mt					38.5
CEMENT G	Mt					0
Brine	m3					0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	0957 / 1027	14 / 9	Seadrill Crew Change

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 31

09 Jan 2009 **From:** Sean De Freitas / Peter Dane
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$48,230,000
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$926,285
Rig	West Triton	Days from spud	27.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$35,080,147
Wtr Dpth (MSL)	39m	Days on well	31.00	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	RIH with 3.5" mule shoe on 5.5" drill pipe.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	RIH with 3.5" mule shoe on 5.5" drill pipe and continue with abandonment program.		

Summary of Period 0000 to 2400 Hrs

Logged Run #2 MDT, Run #3 VSI and Run #4 CST.
Rigged down wireline logging equipment.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	5 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	7	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	11	0 Days	PTW issued for the day.	
Safety Meeting	2	6 Days	Weekly safety meeting.	
STOP Card	18	0 Days	Stop cards submitted for the day.	14 positive 4 negative

Operations For Period 0000 Hrs to 2400 Hrs on 09 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	E3	0000	0030	0.50	3585.0m	Continued taking second sample point at 3008m.
P11	P	E3	0030	0100	0.50	3585.0m	RIH to 3450m to take pressure points.
P11	P	E3	0100	0200	1.00	3585.0m	Took pressure points at 3 stations in total.
P11	P	E3	0200	0400	2.00	3585.0m	POOH with MDT logging tools to surface.
P11	P	E3	0400	0500	1.00	3585.0m	Laid down MDT logging tools.
P11	P	E3	0500	0630	1.50	3585.0m	Made up seismic check shot tool string assembly and RIH to 3525m.
P11	P	E3	0630	1400	7.50	3585.0m	Schlumberger performed seismic check shot logging operations as per program.
P11	P	E3	1400	1430	0.50	3585.0m	POOH with seismic check shot tool assembly to surface.
P11	P	E3	1430	1600	1.50	3585.0m	Laid down seismic check shot logging tools.
P11	P	E3	1600	1630	0.50	3585.0m	Initiated Radio Silence and made up CST tool string.
P11	P	E3	1630	2130	5.00	3585.0m	Schlumberger RIH with CST tool string and took 30 samples.
P11	P	E3	2130	2300	1.50	3585.0m	POOH with CST tool string.
P11	P	G1	2300	2400	1.00	3585.0m	Laid down tools and rigged down Schlumberger wireline logging equipment. Cleared drill floor. Recovered 27 samples at surface - 90% recovery. One bullet lost.

Operations For Period 0000 Hrs to 0600 Hrs on 10 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G1	0000	0130	1.50	3585.0m	Rigged up and removed MWD sensor from between mud hose and stand pipe line at monkey board.
P21	P	G5	0130	0200	0.50	3585.0m	Made up side entry sub with TIW above and below on stand of 5.5" drill pipe and racked same in derrick.
P21	P	G2	0200	0430	2.50	3585.0m	Held JSA, prior to picking up 3.5" drill pipe. Changed out handling equipment from 5.5" drill pipe to 3.5" drill pipe. Made up 3.5" mule shoe on 3.5" drill pipe and RIH picking up a total of 21 joints of 3.5" drill pipe from catwalk. Drifted all the drill pipe picked up.
P21	P	G8	0430	0600	1.50	3585.0m	RIH with 3.5" mule shoe on 5.5" drill pipe.
P21	P	G8	0430	0600	1.50	3585.0m	(IN PROGRESS) RIH with 3.5" cement stinger on 5.5" drill pipe and took 15K weight at 3579m.

Australian Drilling Associates Pty Ltd ADA

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 09 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	172	02 Jan 2009	09 Jan 2009	744.00	31.000	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 09 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	6.0cc/30min	Cl:	40000mg/l	Solids(%vol):	11%	Viscosity	64sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	5.0%vol	PV	22cp
Time:	15:00	HTHP-FL:	11.0cc/30min	Hard/Ca:	440mg/l	H2O:	86%	YP	30lb/100ft²
Weight:	10.90ppg	HTHP-cake:	2/32nd"	MBT:	11.25	Oil(%):		Gels 10s	12
Temp:	49C°			PM:	0.05	Sand:	.75	Gels 10m	26
				PF:	0.05	pH:	8.5	Fann 003	12
						PHPA:	2ppb	Fann 006	13
								Fann 100	32
								Fann 200	43
								Fann 300	50
								Fann 600	72

Comment

Cost Today

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	60	0	328.0
Rig Fuel	m3	0	6	0	206.0
POTABLE WATER	MT	0	39	0	290.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	74.0
Bentonite	MT	35	0	0	55.0
Barite	MT	0	16	0	97.0
Brine	m3	0	0	0	107.0
Helifuel	ltr	0	381	0	1,463.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Beach Petroleum Ltd	2
Seadrill	12
Seadrill Services	33
Catering	9

Australian Drilling Associates Pty Ltd ADA

Personnel On Board

Baker Hughes Inteq	4
Baker Hughes Inteq	2
Halliburton	2
Halliburton - Cementing	2
Dril-Quip	1
Schlumberger MWD/LWD	1
Schlumberger (Wireline)	9
Tamboritha	2
Weatherford	4
Weatherford	1
Core IRM	2
Total	90

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Eugene Edwards / Kosta Georgiou

Available	**1534.0bbl**	**Losses**	**0.0bbl**
Active	463.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	0.0bbl
Hole	876.0bbl	Dumped	
Slug		De-Gasser	
Reserve	195.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	

Equipment	Description	Mesh Size
Shaker 1	VSM 300	215
Shaker 2	VSM 300	255
Shaker 3	VSM 300	255
Shaker 4	VSM 300	255

Comments

Marine

Weather on 09 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	13kn	120.0deg	1010.0mbar	14C°	0.6m	240.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2275.00klb	2.5m	240.0deg	14s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler		16.45 07/01/09	On location Fermat - 1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1.1			362.8
Potable Water	m3		5		13	450
Drill Water	m3	54				320
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie	14.53 06/01/09		On location Fermat - 1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		5.7			332.8
Potable Water	Mt		5			379
Drill Water	m3					472
Barite	Mt					0
Bentonite	Mt			38.5		0
CEMENT G	Mt					0
Brine	m3					0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	1437 / 1458	5 / 9	Weatherford SCH MWD BHI Baker

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 32

10 Jan 2009 **From:** Sean De Freitas / Peter Dane
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$48,230,000
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$789,573
Rig	West Triton	Days from spud	28.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$35,869,720
Wtr Dpth (MSL)	39m	Days on well	32.06	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	POOH laying down excess 5.5" drill pipe whilst WOC.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Continue laying down excess tubulars whilst WOC. RIH and wash down and tag TOC with 5000 lbs to verify. Continue with abandonment program.		

Summary of Period 0000 to 2400 Hrs

Removed MWD sensor from standpipe line in derrick. Made up cement stand and racked same in derrick. Picked up and RIH with 3.5" cement stinger on 5.5" drill pipe. Took 15k weight at 3527m. Attempted to establish circulation. Drill string plugged. Worked and cleared same with 3500 psi. Difficulty working string up/down. Continued to establish free circulation and pipe movement. Hole packing off. Worked and cleared same. Pulled above and circulated bottoms up prior to setting a balanced cement plug #1A from 3327m to 3127m. POOH slowly (dry) from 3327m to 3305m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	6 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	8	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	10	0 Days	PTW issued for the day.	
Safety Meeting	2	0 Days	Weekly safety meeting.	
STOP Card	26	0 Days	Stop cards submitted for the day.	20 positive 6 negative

Operations For Period 0000 Hrs to 2400 Hrs on 10 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G1	0000	0130	1.50	3585.0m	Rigged up and removed MWD sensor from between mud hose and stand pipe line at monkey board.
P21	P	G5	0130	0200	0.50	3585.0m	Made up side entry sub with TIW above and below on stand of 5.5" drill pipe and racked same in derrick.
P21	P	G2	0200	0430	2.50	3585.0m	Held JSA, prior to picking up 3.5" drill pipe. Changed out handling equipment from 5.5" drill pipe to 3.5" drill pipe. Made up 3.5" mule shoe on 3.5" drill pipe and RIH picking up a total of 21 joints of 3.5" drill pipe from catwalk. Drifted all the drill pipe picked up.
P21	P	G8	0430	0600	1.50	3585.0m	RIH with 3.5" mule shoe on 5.5" drill pipe.
P21	P	G8	0430	1100	6.50	3585.0m	RIH with 3.5" cement stinger on 5.5" drill pipe and took 15K weight at 3579m.
P21	P	F4	1100	1200	1.00	3585.0m	Made up TDS and attempted to establish circulation. Drill string plugged. Worked and cleared same with 3500 psi.
P21	TP (WB)	G8	1200	1300	1.00	3585.0m	Attempted to establish circulation. Hole packing off. Difficulty working string up/down and string torquing up when attempting to rotate. Max overpull 30k, max down 15k, max torque 9500 ft-lbs. Worked string back from 3579m to 3542m but still not clear. Max gas on bottoms up 6.7%.
P21	TP (WB)	G8	1300	1600	3.00	3585.0m	Broke off TDS and racked back stand. Continued to establish free circulation and pipe movement. Unable to move string up or down or to rotate on several occasions. Found that hole would pack off at higher flow rates. Heavy cuttings coming back at shakers intermittently. Established free pipe movement both with and without circulation and rotation between 3543m and 3513m. Max overpull 40k, max down 15k, max torque 9500 ft-lbs. Pump rate: 635 GPM / 2100 psi, 750 GPM / 2800 psi.
P21	TP (WB)	F3	1600	1700	1.00	3585.0m	Pumped and displaced 20 bbls Hi Vis Pill (3542m to 3477m). Commenced POOH - 40k overpull at 3483m. Attempted to POOH rotating string - no success.
P21	TP (WB)	G8	1700	1830	1.50	3585.0m	Made up TDS and established circulation and rotation. POOH pumping and rotating from 3510m. Pulled free from 3453m and continued to POOH to 3286m.
P21	TP (WB)	G8	1830	1930	1.00	3585.0m	RIH from 3286m to 3364m - backflow over drill pipe. Made up TDS and washed down to 3453m.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G1	1930	2030	1.00	3585.0m	Prepared to set cement plug #1A. Picked up cement stand and spaced out to place mule shoe at 3453m. Rigged up cement lines. Attempted to break circulation with cement unit - hole packed off.
P21	TP (WB)	F4	2030	2130	1.00	3585.0m	Broke off and racked back cement stand. Made up TDS and established circulation. Worked stand back to 3424m and circulated bottoms up. Pump rate 750 GPM, 2730 psi.
P21	P	F3	2130	2230	1.00	3585.0m	POOH from 3424m to 3327m. Picked up cement stand and spaced out to place mule shoe at 3327m. Rigged up cement lines. Cement unit pumped 5 bbls of drill water ahead. Tested surface lines to 3000 psi. Good test. Followed by another 8 bbls of drill water ahead.
P21	P	F3	2230	2330	1.00	3585.0m	Set balanced cement plug #1A from 3327m to 3127m. Cement unit mixed and pumped 64 bbls (315 sx) of 15.8 ppg cement slurry at 5 bpm with 36 bbls of mix water. (13.5 MT HTB cement). Cement unit pumped 5 bbls of drill water spacer behind and displaced with 203 bbls of 11.0 ppg mud. (Under displaced by 5 bbls).
P21	P	G8	2330	2400	0.50	3585.0m	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 3327m to 3305m.

Operations For Period 0000 Hrs to 0600 Hrs on 11 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G8	0000	0030	0.50	3585.0m	Continued POOH (dry) slowly from 3305m to 3069m.
P21	P	F4	0030	0130	1.00	3585.0m	Engaged TDS and circulated bottoms up at 750 GPM, 2300 psi. No cement observed at surface.
P21	P	G1	0130	0200	0.50	3585.0m	Changed out handling equipment and bails.
P21	P	G2	0200	0600	4.00	3585.0m	(IN PROGRESS) POOH laying down excess 5.5" drill pipe from 3069m to 2274m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 10 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	172	02 Jan 2009	09 Jan 2009	744.00	31.000	3585.0m
Suspend and Abandon(P21)	25.5	10 Jan 2009	10 Jan 2009	769.50	32.063	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 10 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.

WBM Data

Mud Type:	KCl / Polymer	API FL:	6.0cc/30min	Cl:	40000mg/l	Solids(%vol):	9%	Viscosity	69sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	5.0%vol	PV	23cp
Time:	20:00	HTHP-FL:	12.0cc/30min	Hard/Ca:	440mg/l	H2O:	88%	YP	27lb/100ft²
Weight:	11.00ppg	HTHP-cake:	1/32nd"	MBT:	10	Oil(%):		Gels 10s	13
Temp:				PM:	0.05	Sand:	.75	Gels 10m	30
				PF:	0.05	pH:	8.3	Fann 003	12
						PHPA:	2ppb	Fann 006	14
								Fann 100	32
								Fann 200	44
								Fann 300	50
								Fann 600	73

Cost Today

Comment

Australian Drilling Associates Pty Ltd ADA

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	12	0	316.0
Rig Fuel	m3	0	6	0	200.0
POTABLE WATER	MT	8	25	0	273.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	74.0
Bentonite	MT	0	0	0	55.0
Barite	MT	0	3	0	94.0
Brine	m3	0	0	0	107.0
Helifuel	ltr	0	395	0	1,068.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Seadrill Services	33
Catering	9
Baker Hughes Inteq	4
Baker Hughes Inteq	2
Halliburton	2
Halliburton - Cementing	2
Dril-Quip	1
Schlumberger (Wireline)	1
Tamboritha	2
Weatherford	4
Weatherford	1
Core IRM	2
OPC	1
Total	80

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Eugene Edwards / Kosta Georgiou

Available	**2037.0bbl**	**Losses**	**0.0bbl**
Active	607.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	0.0bbl
Hole	876.0bbl	Dumped	
Slug		De-Gasser	
Reserve	554.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	

Equipment	Description	Mesh Size
Shaker 1	VSM 300	215
Shaker 2	VSM 300	255
Shaker 3	VSM 300	255
Shaker 4	VSM 300	255

Comments

Marine

Weather on 10 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	8kn	150.0deg	1007.0mbar	14C°	0.4m	240.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		2184.00klb	1.9m	240.0deg	14s	mainly fine

Comments

Printed on 12 Jan 2009

Australian Drilling Associates Pty Ltd ADA

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks
Pacific Battler		23:00 10/01/09	On location Fermat - 1	

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		12.5			362.8
Potable Water	m3		5			445
Drill Water	m3					320
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Pacific Valkyrie	14.53 06/01/09		On location Fermat - 1	

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		14.3			318.5
Potable Water	Mt	68	5			442
Drill Water	m3					472
Barite	Mt					0
Bentonite	Mt					0
CEMENT G	Mt					0
Brine	m3					0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	1416 / 1435	1 / 11	SCH Wireline

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 33
Fermat-1

11 Jan 2009

From: Sean De Freitas / Peter Dane
To: Paul Barrett

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$48,230,000
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$945,556
Rig	West Triton	Days from spud	29.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$36,815,276
Wtr Dpth (MSL)	39m	Days on well	33.06	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	POOH laying down excess 5.5" drill pipe.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	POOH laying down excess 5.5" drill pipe. Pressure test plug #2. Make up 9.625" casing cutter assembly. Cut 9.625" casing. Retrieve wear bushing. Spear casing and POOH laying down casing. Flush diverter and BOPs. Nipple down diverter and BOPs.		

Summary of Period 0000 to 2400 Hrs

POOH from 3305m to 3069m and circulated bottoms up. POOH laying down excess 5.5" drill pipe from 3069m to 2274m. RIH and tagged top of cement at 3119m. Set balanced cement plug #1B (Part 1) from 3119m to 2969m. Pulled above and circulated bottoms up at 2969m. Set balanced cement plug 1B (Part 2) from 2969m to 2830m. Pulled above and circulated bottoms up at 2777m. POOH laying down excess tubulars from 2777m to 2451m. RIH to tag top of cement from 2451m to 2806m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	9	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	9	0 Days	PTW issued for the day.	
Safety Meeting	2	1 Day	Weekly safety meeting.	
STOP Card	15	0 Days	Stop cards submitted for the day.	11 positive 4 negative

Operations For Period 0000 Hrs to 2400 Hrs on 11 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G8	0000	0030	0.50	3585.0m	Continued POOH (dry) slowly from 3305m to 3069m.
P21	P	F4	0030	0130	1.00	3585.0m	Engaged TDS and circulated bottoms up at 750 GPM, 2300 psi. No cement observed at surface.
P21	P	G1	0130	0200	0.50	3585.0m	Changed out handling equipment and bails.
P21	P	G2	0200	0730	5.50	3585.0m	POOH laying down excess 5.5" drill pipe from 3069m to 2274m.
P21	P	G1	0730	0800	0.50	3585.0m	Changed out handling equipment.
P21	P	G8	0800	1000	2.00	3585.0m	RIH from 2274m to 3102m.
P21	P	F1	1000	1100	1.00	3585.0m	Engaged TDS and broke circulation with 220 gpm. Washed down from 3102m and tagged top of cement at 3119m with 5 klbs.
P21	P	F3	1100	1130	0.50	3585.0m	Spaced out to place mule shoe at 3119m. Rigged up cement lines. Cement unit pumped 5 bbls drill water ahead. Tested surface lines to 3000 psi. Good Test. Followed by another 8 bbls of drill water ahead.
P21	P	F3	1130	1230	1.00	3585.0m	Set balanced cement plug #1B (Part 1) from 3119m to 2969m (150m). Cement unit mixed and pumped 47 bbls (236 sx) of 15.8 ppg slurry at 5 bpm with 27 bbls of mix water. (10 MT HTB cement). Cement unit pumped 1 bbl drill water spacer behind and displaced with 197 bbls of 11.0 ppg mud. (Under displaced by 5 bbls).
P21	P	G1	1230	1330	1.00	3585.0m	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 3119m to 2969m.
P21	P	F4	1330	1430	1.00	3585.0m	Engaged TDS and circulated bottoms up at 750 GPM, 2290 psi. Dumped 30 bbls of cement contaminated mud at surface. Rigged up cement lines. Cement unit pumped 5 bbls drill water ahead. Tested surface lines to 3000 psi. Good Test. Followed by another 8 bbls of drill water ahead.
P21	P	F3	1430	1530	1.00	3585.0m	Set balanced cement plug #1B (Part 2) from 2969m to 2830m (139m). Cement unit mixed and pumped 44 bbls (218 sx) of 15.8 ppg slurry at 5 bpm with 24 bbls of mix water. (9.3 MT HTB cement). Cement unit pumped 1 bbl drill water spacer behind and displaced with 187 bbls of 11.0 ppg mud. (Under displaced by 5 bbls).

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G1	1530	1630	1.00	3585.0m	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 2969m to 2777m.
P21	P	F4	1630	1700	0.50	3585.0m	Engaged TDS and circulated bottoms up at 750 GPM, 2120 psi. Dumped 8 bbls of cement contaminated mud at surface.
P21	P	G1	1700	1730	0.50	3585.0m	Prepared to lay down excess 5.5" drill pipe. Adjusted clamps on link tilt.
P21	P	G2	1730	1930	2.00	3585.0m	POOH laying down excess 5.5" drill pipe from 2777m to 2451m.
P21	P	G1	1930	2000	0.50	3585.0m	Changed handling equipment to lay down 6 1/4" drill collars from derrick.
P21	P	G2	2000	2130	1.50	3585.0m	Laid down from derrick 8 x 6.25" drill collars and 1 x 6.25" drilling jars.
P21	P	G2	2130	2300	1.50	3585.0m	Changed out handling equipment and laid down 6 x 5.5" HWDP from derrick.
P21	P	G8	2300	2400	1.00	3585.0m	RIH from 2451m to 2806m.

Operations For Period 0000 Hrs to 0600 Hrs on 12 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	F1	0000	0030	0.50	3585.0m	Engaged TDS and broke circulation with 300 GPM, 900 psi. Washed down from 2806m and tagged top of cement at 2835m with 5 klbs.
P21	P	F3	0030	0100	0.50	3585.0m	Spaced out to place mule shoe at 2835m. Rigged up cement lines. Cement unit pumped 5 bbls drill water ahead. Tested surface lines to 3000 psi. Good Test. Followed by another 8 bbls of drill water ahead.
P21	P	F3	0100	0200	1.00	3585.0m	Set balanced cement plug #2 across shoe, from 2835m to 2700m (135m). Cement unit mixed and pumped 37 bbls (165 sx) of 15.8 ppg slurry at 4 bpm with 19 bbls of mix water. (7.0 MT HTB cement). Cement unit pumped 3.5 bbl drill water spacer behind and displaced with 179 bbls of 11.0 ppg mud. (Under displaced by 5 bbls).
P21	P	G8	0200	0300	1.00	3585.0m	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 2835m to 2678m.
P21	P	F4	0300	0330	0.50	3585.0m	Engaged TDS and circulated bottoms up at 750 GPM, 2290 psi. No cement returns to surface.
P21	P	G8	0330	0400	0.50	3585.0m	POOH from 2678m to 2559m to keep 10 stands of drill pipe in the derrick.
P21	P	G2	0400	0600	2.00	3585.0m	POOH laying down excess 5.5" drill pipe from 2559m to 2156m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 11 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	172	02 Jan 2009	09 Jan 2009	744.00	31.000	3585.0m
Suspend and Abandon(P21)	49.5	10 Jan 2009	11 Jan 2009	793.50	33.063	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 11 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.
Operational Comments	De-Mob Activities: Schlumberger MWD unit and equipment all rigged down and backloaded Completed rigging down and backloading all Schlumberger Wireline unit and equipment. Continued rigging down centrifuge units. Continued cutting free flare boom bases. Backloaded mud chemicals from sack room. OPC completed inspection of all third party lifting equipment prior to backload. Commenced pack up of BHI mud logging unit equipment. Diluted and discharged brine. Continued mixing and discharging barite.

Australian Drilling Associates Pty Ltd ADA

WBM Data

Mud Type:	KCl / Polymer	API FL:	6.0cc/30min	Cl:	40000mg/l	Solids(%vol):	9%	Viscosity	69sec/qt
Sample-From:	6	Filter-Cake:	1/32nd"	K+C*1000:	7%	Low-Gravity Solids:	5.0%vol	PV	23cp
Time:	20:00	HTHP-FL:	12.0cc/30min	Hard/Ca:	440mg/l	H2O:	88%	YP	27lb/100ft²
Weight:	11.00ppg	HTHP-cake:	1/32nd"	MBT:	10	Oil(%):		Gels 10s	13
Temp:				PM:	0.05	Sand:	.75	Gels 10m	30
				PF:	0.05	pH:	8.3	Fann 003	12
						PHPA:	2ppb	Fann 006	14
								Fann 100	32
								Fann 200	44
								Fann 300	50
								Fann 600	73

Cost Today

Comment

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	69	0	247.0
Rig Fuel	m3	0	6	0	194.0
POTABLE WATER	MT	8	26	0	255.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	49	0	25.0
Bentonite	MT	0	5	0	50.0
Barite	MT	0	52	0	42.0
Brine	m3	0	107	0	0.0
Helifuel	ltr	29	0	0	1,097.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Seadrill Services	33
Catering	9
Baker Hughes Inteq	4
Baker Hughes Inteq	2
Halliburton	2
Halliburton - Cementing	2
Dril-Quip	1
Schlumberger (Wireline)	1
Tamboritha	2
Weatherford	4
Weatherford	1
Core IRM	2
OPC	1
Total	80

Australian Drilling Associates Pty Ltd ADA

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Eugene Edwards / Kosta Georgiou

Available	2696.0bbl	Losses	60.0bbl
Active	1363.0bbl	Downhole	0.0bbl
Mixing		Surf+ Equip	0.0bbl
Hole	756.0bbl	Dumped	60.0bbl
Slug		De-Gasser	
Reserve	577.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Behind casing	

Equipment	Description	Mesh Size
Shaker 1	VSM 300	215
Shaker 1	VSM 300	215
Shaker 2	VSM 300	255
Shaker 2	VSM 300	255
Shaker 3	VSM 300	255
Shaker 3	VSM 300	255
Shaker 4	VSM 300	255
Shaker 4	VSM 300	255

Comments

Marine

Weather on 11 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	8kn	240.0deg	1010.0mbar	17C°	0.3m	240.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		1974.00klb	2.2m	240.0deg	11s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler			Portland

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		22.3			340.5
Potable Water	m3	15	5			455
Drill Water	m3					320
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			On location Fermat - 1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		8.2			310.3
Potable Water	Mt		5			437
Drill Water	m3					472
Barite	Mt					0
Bentonite	Mt					0
CEMENT G	Mt					0
Brine	m3					0

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 34

12 Jan 2009 **From:** Sean De Freitas / Peter Dane
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$48,230,000
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$913,004
Rig	West Triton	Days from spud	30.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$37,728,280
Wtr Dpth (MSL)	39m	Days on well	34.06	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Unable to retrieve dummy hanger. Making up jetting tool to jet BOP prior to pulling same.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Jet BOP and nipple down same. Remove the BOP adapter from the 18.75" wellhead. Recover dummy hanger.Cut 13 3/8" casing and retrieve wellhead and casing.		

Summary of Period 0000 to 2400 Hrs

RIH and tagged top of cement at 2835m. Set balanced cement plug #2 across shoe from 2835m to 2700m. Pulled above and circulated bottoms up at 2678m. POOH from 2678m to 2559m. POOH laying down excess tubulars from 2559m to surface. Closed BSR and pressure tested plug #2 to 2900 psi. Made up 9.625" casing cutter assembly and RIH and cut 9.625" casing at 110m. POOH with 9.625" casing cutter. RIH with ITCO casing spear and engaged same into 9.625" casing hanger. Pulled spear assembly and 9.625" casing hanger to surface.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	1 Day	Abandon rig drill.	All personnel mustered at life boats.
JSA	14	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	7	0 Days	PTW issued for the day.	
Safety Meeting	2	2 Days	Weekly safety meeting.	
STOP Card	20	0 Days	Stop cards submitted for the day.	16 positive 4 negative

Operations For Period 0000 Hrs to 2400 Hrs on 12 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	F1	0000	0030	0.50	3585.0m	Engaged TDS and broke circulation with 300 GPM, 900 psi. Washed down from 2806m and tagged top of cement at 2835m with 5 klbs.
P21	P	F3	0030	0100	0.50	3585.0m	Spaced out to place mule shoe at 2835m. Rigged up cement lines. Cement unit pumped 5 bbls drill water ahead. Tested surface lines to 3000 psi. Good Test. Followed by another 8 bbls of drill water ahead.
P21	P	F3	0100	0200	1.00	3585.0m	Set balanced cement plug #2 across shoe, from 2835m to 2700m (135m). Cement unit mixed and pumped 37 bbls (165 sx) of 15.8 ppg slurry at 4 bpm with 19 bbls of mix water. (7.0 MT HTB cement). Cement unit pumped 3.5 bbl drill water spacer behind and displaced with 179 bbls of 11.0 ppg mud. (Under displaced by 5 bbls).
P21	P	G8	0200	0300	1.00	3585.0m	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 2835m to 2678m.
P21	P	F4	0300	0330	0.50	3585.0m	Engaged TDS and circulated bottoms up at 750 GPM, 2290 psi. No cement returns to surface.
P21	P	G8	0330	0400	0.50	3585.0m	POOH from 2678m to 2559m to keep 10 stands of drill pipe in the derrick.
P21	P	G2	0400	1430	10.50	3585.0m	POOH laying down excess 5.5" drill pipe from 2559m to 206m.
P21	P	G1	1430	1500	0.50	3585.0m	Removed wiper rubbers and diverter plate. Changed handling equipment from 5.5" to 3.5".
P21	P	G2	1500	1630	1.50	3585.0m	POOH laying down 3.5" cement stinger assembly from 206m to surface.
P21	P	P1	1630	1700	0.50	3585.0m	Pressure tested 9.625" casing to 2900 psi against blind/shear rams. Held same for 10 minutes. Good test. Used 5.9 bbls to pressure up the casing.
P21	P	G7	1700	1800	1.00	3585.0m	Made up 9.625" casing cutter assembly and RIH to 110m.
P21	P	G17	1800	1900	1.00	3585.0m	Cut 9.625" casing at 110m. RPM 110, GPM 100, SPP 900 psi, Torque 1-2 K ft-lbs. POOH with 9.625" casing cutter assembly.
P21	P	G7	1900	1930	0.50	3585.0m	Broke off 8.25" casing cutter and made up the 12" casing cutter fitted with 13.375" knives. Note: 9.625" knives in good condition.
P21	P	G12	1930	2030	1.00	3585.0m	Made up wear bushing retrieval tool and RIH and retrieved 18.75" x 9.625" wear

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							bushing at 18m. POOH to surface and laid down wear bushing retrieval tool.
P21	P	G1	2030	2130	1.00	3585.0m	Changed out handling equipment and bails.
P21	P	G7	2130	2230	1.00	3585.0m	Made up 8.25" Itco spear assembly.
P21	P	G7	2230	2300	0.50	3585.0m	Engaged 8.25" Itco spear assembly into 9.625" casing hanger. Picked up hanger and casing without any overpull. Block and casing weight 83 klbs.
P21	TP (WB)	G7	2300	2400	1.00	3585.0m	Attempted to pull spear assembly and 9.625" casing hanger to surface. Hanger hanging up in BOP. Rigged up air winches and attempted to work through without success. Bled down koomey unit to relax annular. Pulled spear assembly and 9.625" casing hanger to surface.

Operations For Period 0000 Hrs to 0600 Hrs on 13 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G7	0000	0030	0.50	3585.0m	Set casing in slips and released spear assembly. Laid down 6.5" drill collar with the spear assembly complete. Note: Recovered the seal assembly with the 9.625" casing hanger.
P21	P	G9	0030	0100	0.50	3585.0m	Held JSA. Rigged up 9.625" casing handling equipment.
P21	P	G9	0100	0230	1.50	3585.0m	Pulled and laid down the 9.625" casing. Laid out 9.625" hanger, seal assembly, 7 x joints and cut off joint.
P21	P	G7	0230	0300	0.50	0.0m	Picked up the 6.5" drill collar and broke off the spear assembly. Laid down same.
P21	P	G12	0300	0400	1.00	3585.0m	Changed out handling equipment and made up seal assembly running tool for retrieving dummy hanger.
P21	TP (TP)	G12	0400	0600	2.00	0.0m	RIH and attempted to retrieve dummy hanger. Made several attempts to engage without success. POOH, checked tool and re-ran. No success. POOH and racked back tool.

Phase Data to 2400hrs, 12 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	172	02 Jan 2009	09 Jan 2009	744.00	31.000	3585.0m
Suspend and Abandon(P21)	73.5	10 Jan 2009	12 Jan 2009	817.50	34.063	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 12 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.
Operational Comments	De-Mob Activities: Continued rigging down centrifuge units and preparing for backload. Continued cutting free flare boom bases - stbd complete, port 80% complete. Completed pack up of BHI mud logging unit equipment. Completed mixing and discharging of barite and gel. Preparing to install scaffold in pre-load tanks for paint repair. Performing service on Halliburton Cement Unit.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	24	0	223.0
Rig Fuel	m3	0	6	0	188.0
POTABLE WATER	MT	0	22	0	233.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	25	0	0.0
Bentonite	MT	0	33	0	17.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barite	MT	0	0	0	42.0
Brine	m3	0	0	0	0.0
Helifuel	ltr	0	510	0	587.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Seadrill Services	33
Catering	9
Baker Hughes Inteq	2
Baker Hughes Inteq	2
Halliburton	1
Halliburton - Cementing	2
Dril-Quip	1
Tamboritha	2
Weatherford	4
Weatherford	1
OPC	3
Adam Blackwoods	1
Core IRM	2
Total	79

Marine

Weather on 12 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	8kn	40.0deg	1010.0mbar	17C°	0.5m	240.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		1928.00klb	2.3m	240.0deg	11s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler			Portland

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		4.9			335.6
Potable Water	m3		5			450
Drill Water	m3	40				360
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			On location Fermat - 1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		9.7			300.6
Potable Water	Mt		5			432
Drill Water	m3					472
Barite	Mt					0
Bentonite	Mt					0
CEMENT G	Mt					0
Brine	m3					0

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Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	1051 / 1115	10 / 11	TMS Crew Change

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 35

13 Jan 2009 **From:** Sean De Freitas / Peter Dane
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$48,230,000
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$793,414
Rig	West Triton	Days from spud	31.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$38,529,394
Wtr Dpth (MSL)	39m	Days on well	35.06	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	RIH with 30" casing cutter assembly on 5.5" drill pipe.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	RIH and cut 30" conductor at 78m. POOH and lay down 30" casing cutter and 30" conductor. Lay down excess tubulars from derrick. Conduct final seabed survey. Prepare to skid cantilever.		

Summary of Period 0000 to 2400 Hrs

Released and laid down spear assembly. Recovered the seal assembly with the 9.625" casing hanger. Pulled and laid down the 9.625" casing. RIH and attempted to retrieve the dummy hanger. no success. Jetted BOPs. Nippled down diverter, riser mandrel, choke line and BOP. Removed BOP adapter from 18.75" HPWH. Made up 13.375" casing cutter assembly. RIH and cut casing at 105m. POOH and racked back 13.375" casing cutter. RIH and retrieved HPWH. POOH with 13.375" casing and laid down same.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	2 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	9	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	8	0 Days	PTW issued for the day.	
Safety Meeting	2	3 Days	Weekly safety meeting.	
STOP Card	10	0 Days	Stop cards submitted for the day.	7 positive 3 negative

Operations For Period 0000 Hrs to 2400 Hrs on 13 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G7	0000	0030	0.50	3585.0m	Set casing in slips and released spear assembly. Laid down 6.5" drill collar with the spear assembly complete. Note: Recovered the seal assembly with the 9.625" casing hanger.
P21	P	G1	0030	0100	0.50	3585.0m	Held JSA. Rigged up 9.625" casing handling equipment.
P21	P	G9	0100	0230	1.50	3585.0m	Pulled and laid down the 9.625" casing. Laid out 9.625" hanger, seal assembly, 7 x joints and cut off joint.
P21	P	G7	0230	0300	0.50	0.0m	Picked up the 6.5" drill collar and broke off the spear assembly. Laid down same.
P21	P	G12	0300	0400	1.00	3585.0m	Changed out handling equipment and made up seal assembly running tool to retrieve dummy hanger.
P21	TP (TP)	G12	0400	0600	2.00	0.0m	RIH and attempted to retrieve dummy hanger. Made several attempts to engage without success. POOH, checked tool and re-ran. No success. POOH and racked back tool.
P21	P	G13	0600	0730	1.50	3585.0m	RIH and jetted BOPs. Flushed choke, kill and diverter lines with seawater.
P21	P	G13	0730	0900	1.50	3585.0m	Rigged up to nipple down diverter system. Pulled diverter housing and laid down same.
P21	P	G13	0900	1600	7.00	3585.0m	Nipple down diverter riser mandrel, choke line and BOP. Setback same on test stump. Reduced CTU to 110 bar = 152 MT While racking back BOP made up dummy hanger running tool and attempted to retrieve dummy hanger. No success.
P21	P	G12	1600	1730	1.50	3585.0m	Removed annulus wing valves and blanks from HPWH. Replace same with plugs
P21	P	G12	1730	1900	1.50	3585.0m	Removed BOP adapter from the 18.75" wellhead and setback on main deck.
P21	P	G17	1900	2030	1.50	3585.0m	Made up 13.375" casing cutter assembly. RIH to 105m. Cut casing at 105m. RPM 110, GPM 112, SPP 950 psi, Torque 1-2 K ft-lbs. POOH with 13.375" cutter assembly. Knives heavily scoured.
P21	P	G9	2030	2230	2.00	3585.0m	Made up Dril-Quip clutch type running tool. RIH and engaged 18.75" wellhead and 13.375" casing. POOH and laid out same.
P21	P	G1	2230	2300	0.50	3585.0m	Changed out bails and rigged up 13.375" handling equipment.
P21	P	G9	2300	2400	1.00	3585.0m	POOH with 13.375" casing. Laid down 4 x joints.

Operations For Period 0000 Hrs to 0600 Hrs on 14 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G9	0000	0100	1.00	3585.0m	Continued to POOH with 13.375" casing. Laid down 2 x joints plus 5.2m cut off joint.
P21	P	G1	0100	0130	0.50	3585.0m	Changed out handling equipment from 13.375" to 5.5"
P21	P	G8	0130	0230	1.00	3585.0m	Made up mule shoe and RIH with 5.5" drill pipe to 260m.
P21	P	F3	0230	0330	1.00	3585.0m	Engaged TDS and circulated out 11.0 ppg PHPA mud with seawater. Pumped 25 bbls of hi-vis mud and displaced with 10 bbls of seawater. POOH from 260m to 160m.
P21	P	F3	0330	0400	0.50	3585.0m	Set balanced cement plug #3 from 160m to 100m (60m) Spaced out to place mule shoe at 160m. Rigged up cement lines. Cement unit broke circulation and pumped 5 bbls of seawater. Pressure tested lines to 1500 psi. Mixed and pumped 37 bbls (183 sx) of 15.9 ppg slurry at 4 bpm with 20 bbls of mix water. (7.8 MT of class G cement). Displaced with 3.5 bbls of seawater. (Under displaced by 3 bbls)
P21	P	G8	0400	0430	0.50	3585.0m	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 160m to 100m.
P21	P	F4	0430	0500	0.50	3585.0m	Engaged TDS and circulated bottoms up at maximum rate. POOH from 100m to surface.
P21	P	G1	0500	0600	1.00	3585.0m	Change bails and handling equipment while cuting holes in 30" casing and prepared to pick up 30" casing cutting assembly.

Phase Data to 2400hrs, 13 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	172	02 Jan 2009	09 Jan 2009	744.00	31.000	3585.0m
Suspend and Abandon(P21)	97.5	10 Jan 2009	13 Jan 2009	841.50	35.063	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 13 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.
Operational Comments	De-Mob Activities: Completed rigging down of centrifuge units and backload. Completed cutting free flare boom bases. Installed scaffold in pre-load tanks #18 and completed paint repair. Removed scaffolding. Started installing scaffolding in pre-load tank #19. Completed service on Halliburton Cement Unit. Cleaning mud pits.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	223.0
Rig Fuel	m3	0	6	0	182.0
POTABLE WATER	MT	10	22	0	221.0
Cement class G	MT	0	0	0	89.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	17	0	0.0
Barite	MT	0	80	0	-38.0
Brine	m3	0	0	0	0.0
Helifuel	ltr	0	200	0	387.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	

Australian Drilling Associates Pty Ltd ADA

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
13.38 9.63	15.00ppg / / 16.00ppg	987.00m / 987.00m 2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	6
Seadrill	12
Seadrill Services	33
Catering	9
Halliburton - Cementing	2
Dril-Quip	1
Tamboritha	2
Weatherford	4
Weatherford	1
OPC	3
Core IRM	2
Fugro Survey	2
Total	77

Marine

Weather on 13 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	8kn	40.0deg	998.0mbar	26C°	0.8m	240.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		1671.00klb	1.5m	240.0deg	11s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler			On location Femat - 1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1			334.6
Potable Water	m3		5			445
Drill Water	m3	40				360
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			Portland

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3					300.6
Potable Water	Mt		5			427
Drill Water	m3					472
Barite	Mt					0
Bentonite	Mt					0
CEMENT G	Mt					0
Brine	m3					0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	0955 / 1015	9 / 11	TMS Crew Change BHI

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 36

14 Jan 2009 **From:** Sean De Freitas / Peter Dane
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$48,230,000
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$781,181
Rig	West Triton	Days from spud	32.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$39,310,575
Wtr Dpth (MSL)	39m	Days on well	36.06	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Laying down excess tubulars from derrick.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Complete laying down excess tubulars from derrick. Prepare and skid cantilever forward and pin same. Secure rig and prepare for tow. Jack down rig and commence tow to Westernport.		

Summary of Period 0000 to 2400 Hrs

POOH with 13.375" casing and laid down same. Spotted a 25 bbl balanced hi-vis pill from 260m to 160m. Set balanced cement plug #3 from 160m to 100m. Pulled above and circulated bottoms up. Made up 30" casing cutter assembly and RIH to 79m. Cut 30" conductor at 79m - two attempts. POOH and laid out 30" casing cutter. Removed Icon clamp and CTU inserts. Commenced pulling and laying down 30" conductor. ROV completed final seabed survey of Fermat-1.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	3 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	10	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	10	0 Days	PTW issued for the day.	
Safety Meeting	2	4 Days	Weekly safety meeting.	
STOP Card	12	0 Days	Stop cards submitted for the day.	6 positive 6 negative

Operations For Period 0000 Hrs to 2400 Hrs on 14 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G9	0000	0100	1.00	3585.0m	Continued to POOH with 13.375" casing. Laid down 2 x joints plus 5.2m cut off joint.
P21	P	G1	0100	0130	0.50	3585.0m	Changed out handling equipment from 13.375" to 5.5"
P21	P	G8	0130	0230	1.00	3585.0m	Made up mule shoe and RIH with 5.5" drill pipe to 260m.
P21	P	F3	0230	0330	1.00	3585.0m	Engaged TDS and circulated out 11.0 ppg PHPA mud with seawater. Pumped 25 bbls of hi-vis mud and displaced with 10 bbls of seawater. POOH from 260m to 160m.
P21	P	F3	0330	0400	0.50	3585.0m	Set balanced cement plug #3 from 160m to 100m (60m) Spaced out to place mule shoe at 160m. Rigged up cement lines. Cement unit broke circulation and pumped 5 bbls of seawater. Pressure tested lines to 1500 psi. Mixed and pumped 37 bbls (183 sx) of 15.9 ppg slurry at 4 bpm with 20 bbls of mix water. (7.8 MT of class G cement). Displaced with 3.5 bbls of seawater. (Under displaced by 3 bbls)
P21	P	G8	0400	0430	0.50	3585.0m	Rigged down cement lines. Broke off and racked back cement stand. POOH (dry) slowly from 160m to 100m.
P21	P	F4	0430	0500	0.50	3585.0m	Engaged TDS and circulated bottoms up at maximum rate. POOH from 100m to surface.
P21	P	G8	0500	0730	2.50	3585.0m	Change bails and handling equipment while cuting holes in 30" casing and prepared to pick up 30" casing cutting assembly. Made up 30" casing cutter assembly on 5.5" drill pipe and RIH to 79m.
P21	P	G17	0730	1000	2.50	3585.0m	Cut 30" casing at 79m. 111 GPM, 850 psi / 140 GPM, 1200 psi. 1000-2500 ft-lb. 80 RPM. No indication of cutting after 1 hour. Continued cutting and jumped ROV and observed seabed. - silt turbulence indicated possible partial cut. Attempted 250k overpull with CTU - no movement of casing.
P21	TP (TP)	G8	1000	1030	0.50	3585.0m	POOH with casing cutter and inspected knives. Tungsten on tips of knives worn smooth - no cutting structure left. Suspect poorly laid tungsten on knives.
P21	P	G7	1030	1230	2.00	3585.0m	Racked back casing cutter. RIH with 5.5" drill pipe from derrick and laid down same whilst re-dressing cutter.
P21	TP (TP)	G8	1230	1300	0.50	3585.0m	RIH with 30" casing cutter.
P21	TP (TP)	G17	1300	1600	3.00	3585.0m	Established circulation and located knives in previous cut at 79m. Continued cutting casing at 79m increasing parameters. 140 GPM, 1200 psi. 1000-3500 ft-lb. 80 RPM. At

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							16:00 hrs lost returns at surface. Continued cutting and CTU stroked up. Confirmed casing cut.
P21	P	G8	1600	1730	1.50	3585.0m	POOH with 30" casing cutter and laid down same.
P21	P	G1	1730	1830	1.00	3585.0m	Rigged up lifting slings and prepared to pull conductor.
P21	P	G9	1830	2000	1.50	3585.0m	Pulled 30" conductor free and lifted 2m. Removed Icon clamp and conductor tensioner unit split inserts.
P21	P	G9	2000	2200	2.00	3585.0m	Pulled 30" conductor from 77m to 58m. Unable to remove Dril-Quip anti rotation key. Welder cut and removed same. Attempted to break Dril-Quip D-60/MT connection with weatherford belt tongs. No success - unable to break connection. Cut off joint and laid down same.
P21	P	G9	2200	2400	2.00	3585.0m	POOH with 30" conductor. Unable to remove anti rotation key. Welder cut and remove same. Attempted to break Dril-Quip D-60/MT connection with weatherford belt tongs. No success - unable to break connections. Cut off joint and laid down same.

Operations For Period 0000 Hrs to 0600 Hrs on 15 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	TP (TP)	G9	0000	0300	3.00	3585.0m	POOH with 30" conductor. Unable to remove anti rotation key. Welder cut and remove same. Attempted to break Dril-Quip D-60/MT connections with weatherford belt tongs. No success - unable to break joints. Cut off joints and laid down same.
P21	P	G1	0300	0330	0.50	3585.0m	Rigged down 30" handling equipment and cleared rig floor of excess equipment.
P21	P	G2	0330	0500	1.50	0.0m	Rigged up 5.5" drill pipe handling equipment and laid down excess 5.5" tubulars from derrick.
P21	P	G2	0500	0600	1.00	3585.0m	Laid down 1 x 5.5" cement stand and 6 x 8.25" drill collars.

Phase Data to 2400hrs, 14 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	78.5	10 Dec 2008	13 Dec 2008	78.50	3.271	0.0m
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	106.50	4.438	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	133.00	5.542	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	184.00	7.667	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	204.00	8.500	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	217.00	9.042	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	460.00	19.167	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	572.00	23.833	2807.0m
Production Hole (1)(P11)	172	02 Jan 2009	09 Jan 2009	744.00	31.000	3585.0m
Suspend and Abandon(P21)	121.5	10 Jan 2009	14 Jan 2009	865.50	36.063	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 14 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.
Operational Comments	De-Mob Activities: Cleaned mud pits. Completed pack up of Halliburton Cement Unit. Continued pack up of third party equipment - to be backloaded in Westernport. Stab-master still to be removed. ROV to be de-mobbed. Paint repair in two pre-load tanks to be completed.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	35	0	188.0
Rig Fuel	m3	0	15	0	167.0
POTABLE WATER	MT	6	34	0	193.0
Cement class G	MT	0	89	0	0.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	0.0
Barite	MT	0	0	0	-38.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Brine	m3	0	0	0	0.0
Helifuel	ltr	0	387	0	0.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Seadrill Services	35
Catering	9
Halliburton - Cementing	2
Dril-Quip	1
Tamboritha	2
Weatherford	4
Weatherford	1
OPC	3
Core IRM	2
Fugro Survey	2
Total	77

Marine

Weather on 14 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	8kn	210.0deg	1008.0mbar	16C°	1.0m	240.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		1441.00klb	1.6m	240.0deg	11s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler			On location Femat - 1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1.1			331.5
Potable Water	m3		5			440
Drill Water	m3					360
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3	99.2	4.6			383.2
Potable Water	Mt		7			420
Drill Water	m3					472
Barite	Mt					0
Bentonite	Mt					0
CEMENT G	Mt					0
Brine	m3					0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	1031 / 1050	13 / 0	TMS Crew Change
2	Bristow Helicopters	1201 / 1212	0 / 13	TMS Crew Change

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 37

15 Jan 2009 **From:** Sean De Freitas / Peter Dane
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$48,230,000
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$770,070
Rig	West Triton	Days from spud	33.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$40,086,345
Wtr Dpth (MSL)	39m	Days on well	37.06	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	WOW to commence jacking operations.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	WOW to commence jacking operations. Prepare to connect Pacific Battler to main tow bridle, prior to commencing jacking operations. Jack down to a 2m draft. Conduct integrity tests on all tanks, mud pits and sand traps. Commence jacking up all legs.		

Summary of Period 0000 to 2400 Hrs

Pulled and laid down 30" conductor pipe. Laid down excess tubulars from derrick. Picked up 18.75" wellhead and soft broke crossover on Dril-Quip clutch type running tool. Laid down same. Removed work platform from texas deck. Nippled down CTU and setback. Rigged down texas deck and secured same. Prepared to skid cantilever. Skidded cantilever forward, pinned and secured same. Prepared and secured sea fastenings in preparation for tow.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	4 Days	Abandon rig drill.	All personnel mustered at life boats.
First Aid Case	1	0 Days	Wrist Injury on P. Valkyrie	When preparing towing equipment Chief Officer tripped on tow wire and fell, spraining wrist.
JSA	10	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	7	0 Days	PTW issued for the day.	
Safety Meeting	2	5 Days	Weekly safety meeting.	
STOP Card	25	0 Days	Stop cards submitted for the day.	

Operations For Period 0000 Hrs to 2400 Hrs on 15 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	TP (TP)	G9	0000	0300	3.00	3585.0m	POOH with 30" conductor. Unable to remove anti rotation key. Welder cut and remove same. Attempted to break Dril-Quip D-60/MT connections with weatherford belt tongs. No success - unable to break joints. Cut off joints and laid down same.
P21	P	G1	0300	0330	0.50	3585.0m	Rigged down 30" handling equipment and cleared rig floor of excess equipment.
P1	P	G2	0330	0500	1.50	0.0m	Rigged up 5.5" drill pipe handling equipment and laid down excess 5.5" tubulars from derrick.
P1	P	G2	0500	0800	3.00	3585.0m	Laid down 1 x 5.5" cement stand, 6 x 8.25" drill collars and 3 x 6.5" drill collars.
P1	P	G2	0800	0830	0.50	3585.0m	Changed out handling equipment and rotary bushings.
P1	P	G9	0830	0930	1.00	3585.0m	Picked up 18.75" wellhead and soft broke crossover on Dril-Quip clutch type running tool. Laid out same.
P1	P	G1	0930	1100	1.50	3585.0m	Rigged up lifting slings and picked up work platform and setback on main deck.
P1	P	G1	1100	1300	2.00	3585.0m	Removed conductor tensioner unit - setback and secured same.
P1	P	G1	1300	1500	2.00	3585.0m	Rigged down texas deck and secured same. Removed access stairs to texas deck. Commenced offloading P. Valkyrie and securing cargo on deck.
P1	P	M2	1500	2000	5.00	3585.0m	Prepared to skid cantilever. Removed all stairways, service hoses and flow line. Completed offloading P. Valkyrie and securing cargo on deck.
P1	P	M2	2000	2230	2.50	3585.0m	Held PJSM and reviewed skidding procedures. Skidded cantilever forward and pinned and secured same.
P1	P	M2	2230	2400	1.50	3585.0m	Prepared and secured sea fastenings in preparation for tow.

Operations For Period 0000 Hrs to 0600 Hrs on 16 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M2	0000	0100	1.00	3585.0m	Prepared and secured sea fastenings in preparation for tow.
P1	TP	G25	0100	0600	5.00	3585.0m	Waiting on weather to commence jacking operations.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
	(WOW)						Weather: 01:00 hrs: Wind 24-25 knots, Swell 3.0m, Combined Seas 3.6 to 3.9m. 03:00 hrs: Wind 29-30 knots, Swell 3.0m, Combined Seas 3.6m. 05:00 hrs: Wind 27-30 knots, Swell 3.0m, Combined Seas 3.6m. 06:00 hrs: Wind 31-33 knots, Swell 3.0m, Combined Seas 3.6m.

Phase Data to 2400hrs, 15 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	28.00	1.167	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	54.50	2.271	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	105.50	4.396	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	125.50	5.229	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	138.50	5.771	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	381.50	15.896	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	493.50	20.563	2807.0m
Production Hole (1)(P11)	172	02 Jan 2009	09 Jan 2009	665.50	27.729	3585.0m
Mob/Demob(P1)	99	10 Dec 2008	15 Jan 2009	764.50	31.854	3585.0m
Suspend and Abandon(P21)	125	10 Jan 2009	15 Jan 2009	889.50	37.063	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 15 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.
Operational Comments	De-Mob Activities: Completed cleaning sand traps. Continued pack up of third party equipment - to be backloaded in Westernport. Stab-master still to be removed. Commenced de-mob of ROV. Continued paint repair in pre-load tank #19.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	188.0
Rig Fuel	m3	0	12	0	155.0
POTABLE WATER	MT	0	33	0	160.0
Cement class G	MT	0	0	0	0.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	0.0
Barite	MT	0	0	0	-38.0
Brine	m3	0	0	0	0.0
Helifuel	ltr	0	0	0	0.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Seadrill Services	34
Catering	9
Tamboritha	2

Australian Drilling Associates Pty Ltd ADA

Personnel On Board

OPC	3
Core IRM	2
Fugro Survey	2
Total	68

Marine

Weather on 15 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	25kn	250.0deg	1012.0mbar	16C°	2.5m	240.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		1683.00klb	3.0m	240.0deg	11s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler			On location Femat - 1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1.1			332.4
Potable Water	m3		5			435
Drill Water	m3					360
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		10.5			372.7
Potable Water	Mt		5			415
Drill Water	m3					472
Barite	Mt					0
Bentonite	Mt					0
CEMENT G	Mt					0
Brine	m3					0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	0943 / 0958	2 / 11	Fuel at Portland Inbound

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 38

16 Jan 2009 **From:** Sean De Freitas / Peter Dane
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$48,230,000
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$719,283
Rig	West Triton	Days from spud	34.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$40,805,628
Wtr Dpth (MSL)	39m	Days on well	38.06	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	WOW to commence jacking operations.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	WOW to commence jacking operations. Prepare to connect Pacific Battler to main tow bridle, prior to commencing jacking operations. Jack down to a 2m draft. Conduct integrity tests on all tanks, mud pits and sand traps. Commence jacking up all legs.		

Summary of Period 0000 to 2400 Hrs

WOW to commence jacking operations.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	5 Days	Abandon rig drill.	All personnel mustered at life boats.
JSA	5	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	8	0 Days	PTW issued for the day.	
Safety Meeting	2	6 Days	Weekly safety meeting.	
STOP Card	22	0 Days	Stop cards submitted for the day.	16 positive 6 negative

Operations For Period 0000 Hrs to 2400 Hrs on 16 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M2	0000	0100	1.00	3585.0m	Prepared and secured sea fastenings in preparation for tow.
P1	TP (WOW)	G25	0100	0600	5.00	3585.0m	Waited on weather to commence jacking operations. Weather: 01:00 hrs: Wind 24-25 knots, Swell 3.0m, Combined Seas 3.9m. 03:00 hrs: Wind 29-30 knots, Swell 3.0m, Combined Seas 3.6m. 05:00 hrs: Wind 27-30 knots, Swell 3.0m, Combined Seas 3.6m. 06:00 hrs: Wind 31-33 knots, Swell 3.0m, Combined Seas 3.6m.
P1	TP (WOW)	G25	0600	1200	6.00	3585.0m	Waited on weather to commence jacking operations. Weather: 08:00 hrs: Wind 16-22 knots, Swell 3.0m, Combined Seas 3.6m. 10:00 hrs: Wind 14-20 knots, Swell 3.5m, Combined Seas 4.0m. 12:00 hrs: Wind 15-18 knots, Swell 4.0m, Combined Seas 4.5m.
P1	TP (WOW)	G25	1200	1800	6.00	3585.0m	Waited on weather to commence jacking operations. Weather: 14:00 hrs: Wind 14-17 knots, Swell 4.0m, Combined Seas 4.5m. 16:00 hrs: Wind 14-20 knots, Swell 4.0m, Combined Seas 4.5m. 18:00 hrs: Wind 11-14 knots, Swell 4.0m, Combined Seas 4.5m.
P1	TP (WOW)	G25	1800	2400	6.00	3585.0m	Waited on weather to commence jacking operations. Weather: 20:00 hrs: Wind 11-15 knots, Swell 4.0m, Combined Seas 4.5m. 22:00 hrs: Wind 24-27 knots, Swell 3.5m, Combined Seas 4.0m. 24:00 hrs: Wind 19-23 knots, Swell 3.5m, Combined Seas 4.0m.

Operations For Period 0000 Hrs to 0600 Hrs on 17 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	TP (WOW)	G25	0000	0600	6.00	3585.0m	Waited on weather to commence jacking operations. Weather:

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							02:00 hrs: Wind 19-23 knots, Swell 3.5m, Combined Seas 3.8m. 04:00 hrs: Wind 18-21 knots, Swell 3.0m, Combined Seas 3.2m. 06:00 hrs: Wind 14-17 knots, Swell 3.0m, Combined Seas 3.2m.

Phase Data to 2400hrs, 16 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	28.00	1.167	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	54.50	2.271	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	105.50	4.396	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	125.50	5.229	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	138.50	5.771	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	381.50	15.896	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	493.50	20.563	2807.0m
Production Hole (1)(P11)	172	02 Jan 2009	09 Jan 2009	665.50	27.729	3585.0m
Suspend and Abandon(P21)	125	10 Jan 2009	15 Jan 2009	790.50	32.938	3585.0m
Mob/Demob(P1)	123	10 Dec 2008	16 Jan 2009	913.50	38.063	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 16 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.
Operational Comments	De-Mob Activities: Stab-master still to be removed. Commenced de-mob of ROV. Continued paint repair in pre-load tank #19. Commenced pack up of ADA equipment and supplies.
Operational Comments	Rig Activities: Continued with general rig maintenance and housekeeping. Washpipe removed from TDS. Overboard line removed. Screens and scrap removed from shaker house. Cleaning of shaker house and pump room ongoing.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	188.0
Rig Fuel	m3	0	12	0	143.0
POTABLE WATER	MT	12	24	0	148.0
Cement class G	MT	0	0	0	0.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	0.0
Barite	MT	0	0	0	-38.0
Brine	m3	0	0	0	0.0
Helifuel	ltr	0	0	0	0.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Seadrill Services	34

Australian Drilling Associates Pty Ltd ADA

Personnel On Board

Catering	9
Tamboritha	2
OPC	3
Core IRM	2
Fugro Survey	2
Total	68

Marine

Weather on 16 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	19kn	210.0deg	1008.0mbar	14C°	2.0m	240.0deg	5s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		1765.00klb	3.5m	240.0deg	11s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler			On location Femat - 1

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		6.3			326.1
Potable Water	m3		5			430
Drill Water	m3					360
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			At Anchor Portland Bay

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		11.6			361.1
Potable Water	Mt		5			410
Drill Water	m3					472
Barite	Mt					0
Bentonite	Mt					0
CEMENT G	Mt					0
Brine	m3					0

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 39

17 Jan 2009 **From:** Sean De Freitas / Peter Dane
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	3585.0m	Cur. Hole Size	8.500in	AFE Cost	AUD$48,230,000
Field	Otway	TVDBRT	3580.4m	Last Casing OD	9.625in	AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT	2797.7m	Daily Cost	AUD$678,079
Rig	West Triton	Days from spud	35.00	Shoe MDBRT	2800.3m	Cum Cost	AUD$41,483,707
Wtr Dpth (MSL)	39m	Days on well	39.06	FIT/LOT:	1.92sg /		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600	Preparing to jack down to 2m draft.		
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op	Jack down to a 2m draft. Conduct integrity tests on all tanks, mud pits and sand traps. Connect Port pennant to Pacific Valkyrie. Complete jacking operations until legs clear of seabed. Release rig from Fermat-1.		

Summary of Period 0000 to 2400 Hrs

WOW to commence jacking operations.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Abandon rig drill.	All personnel mustered at life boats.
First Aid Case	1	0 Days	Strained Shoulder	MO-47 Seaman strained shoulder when attempting to move a 80T shackle.
JSA	6	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	13	0 Days	PTW issued for the day.	
Safety Meeting	2	0 Days	Weekly safety meeting.	
STOP Card	10	0 Days	Stop cards submitted for the day.	5 positive 5 negative

Operations For Period 0000 Hrs to 2400 Hrs on 17 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	TP (WOW)	G25	0000	0600	6.00	3585.0m	Waited on weather to commence jacking operations. Weather: 02:00 hrs: Wind 19-23 knots, Swell 3.5m, Combined Seas 3.8m. 04:00 hrs: Wind 18-21 knots, Swell 3.0m, Combined Seas 3.2m. 06:00 hrs: Wind 14-17 knots, Swell 3.0m, Combined Seas 3.2m.
P1	TP (WOW)	G25	0600	1200	6.00	3585.0m	Waited on weather to commence jacking operations. Weather: 08:00 hrs: Wind 6-9 knots, Swell 3.0m, Combined Seas 3.0m. 10:00 hrs: Wind 5-7 knots, Swell 3.0m, Combined Seas 3.0m. 12:00 hrs: Wind 9-12 knots, Swell 3.0m, Combined Seas 3.0m.
P1	TP (WOW)	G25	1200	1600	4.00	3585.0m	Waited on weather to commence jacking operations. Weather: 14:00 hrs: Wind 16-18 knots, Swell 3.5m, Combined Seas 3.5m. 16:00 hrs: Wind 21-23 knots, Swell 3.0m, Combined Seas 3.0m. 18:00 hrs: Wind 23-26 knots, Swell 3.0m, Combined Seas 3.3m.
P1	P	M3	1600	1630	0.50	3585.0m	Held PJSM. Jacked rig down to 6m air gap.
P1	TP (WOW)	G25	1630	1800	1.50	3585.0m	Waited on weather to continue jacking operations. Weather: 18:00 hrs: Wind 23-26 knots, Swell 3.0m, Combined Seas 3.3m.
P1	TP (WOW)	G25	1800	2400	6.00	3585.0m	Waited on weather to commence jacking operations. Weather: 20:00 hrs: Wind 13-18 knots, Swell 3.0m, Combined Seas 3.8m. 22:00 hrs: Wind 13-15 knots, Swell 2.5m, Combined Seas 2.7m. 24:00 hrs: Wind 11-14 knots, Swell 2.5m, Combined Seas 2.7m.

Operations For Period 0000 Hrs to 0600 Hrs on 18 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	TP (WOW)	G25	0000	0500	5.00	3585.0m	Waited on weather to continue jacking operations. Weather: 02:00 hrs: Wind 6-8 knots, Swell 2.0m, Combined Seas 2.2m. 04:00 hrs: Wind 8-10 knots, Swell 1.5-2.0m, Combined Seas 1.8-2.2m.
P1	P	M3	0500	0600	1.00	3585.0m	Held JSA with all relevant personnel and reviewed jacking procedures. Connected main tow bridle to Pacific Battler. Tested jacks on all legs. Prepared to jack down hull to 2m draft.

Phase Data to 2400hrs, 17 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	28.00	1.167	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	54.50	2.271	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	105.50	4.396	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	125.50	5.229	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	138.50	5.771	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	381.50	15.896	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	493.50	20.563	2807.0m
Production Hole (1)(P11)	172	02 Jan 2009	09 Jan 2009	665.50	27.729	3585.0m
Suspend and Abandon(P21)	125	10 Jan 2009	15 Jan 2009	790.50	32.938	3585.0m
Mob/Demob(P1)	147	10 Dec 2008	17 Jan 2009	937.50	39.063	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 17 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns 1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.
Operational Comments	De-Mob Activities: Stab-master still to be removed. ROV equipment ready for removal. Continued paint repair in pre-load tank #19. Commenced pack up of ADA equipment and supplies.
Operational Comments	Rig Activities: Continued with general rig maintenance and housekeeping. Removed all pistons and liners from all 3 mud pumps. Pulled all discharge and suction caps. Greased all valves and seats. Greased and re-instated discharge and suction caps. Cleared pump room of all excess equipment. Barite and cement tanks currently being cleaned. Commence clearing and cleaning top of shaker house roof.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	0	0	188.0
Rig Fuel	m3	0	11	0	132.0
POTABLE WATER	MT	12	20	0	140.0
Cement class G	MT	0	0	0	0.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	0.0
Barite	MT	0	0	0	-38.0
Brine	m3	0	0	0	0.0
Helifuel	ltr	0	0	0	0.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	151.00m / 151.00m	
13.38	15.00ppg /	987.00m / 987.00m	
9.63	/ 16.00ppg	2800.27m / 2797.72m	

Australian Drilling Associates Pty Ltd ADA

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Seadrill Services	34
Catering	9
Tamboritha	2
OPC	3
Core IRM	2
Fugro Survey	2
Total	68

Marine

Weather on 17 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	9kn	210.0deg	1016.0mbar	14C°	1.0m	240.0deg	2s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
128.5deg		1762.00klb	2.2m	240.0deg	11s	mainly fine

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler			On location Femat - 1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		6			320.1
Potable Water	m3		5			425
Drill Water	m3					360
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Valkyrie			On location Fermat-1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		9.3			351.8
Potable Water	Mt		8			403
Drill Water	m3					472
Barite	Mt					0
Bentonite	Mt					0
CEMENT G	Mt					0
Brine	m3					0

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 40

18 Jan 2009 **From:** Sean De Freitas / Peter Dane
To: Paul Barrett

Fermat-1

Well Data

Country	Australia	MDBRT	0.0m	Cur. Hole Size		AFE Cost	AUD$48,230,000
Field	Otway	TVDBRT	0.0m	Last Casing OD		AFE No.	07/002
Drill Co.	Seadrill	Progress	0.0m	Shoe TVDBRT		Daily Cost	AUD$3,309,973
Rig	West Triton	Days from spud	35.42	Shoe MDBRT		Cum Cost	AUD$44,793,680
Wtr Dpth (MSL)	39m	Days on well	39.42	FIT/LOT:	/		
RT-MSL	38.00m	Planned TD MD	3640m	Current Op @ 0600			
RT-ML	77m	Planned TD TVDRT	3640m	Planned Op			

Summary of Period 0000 to 2400 Hrs

WOW to commence jacking operations.
Jacked rig down, performed water integrity checks and commenced move to Westernport Bay.

Rig off contract to Beach Petroleum at 10:00hrs.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	1 Day	Abandon rig drill.	All personnel mustered at life boats.
JSA	6	0 Days	JSA's conducted for the day.	
Pre-tour Meeting	4	0 Days	Safety Meeting.	Held Pretour and pre job safety meetings with crews.
PTW issued	11	0 Days	PTW issued for the day.	
Safety Meeting	2	1 Day	Weekly safety meeting.	
STOP Card	10	0 Days	Stop cards submitted for the day.	5 positive 5 negative

Operations For Period 0000 Hrs to 2400 Hrs on 18 Jan 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	TP (WOW)	G25	0000	0500	5.00	3585.0m	Waited on weather to continue jacking operations. Weather: 02:00 hrs: Wind 6-8 knots, Swell 2.0m, Combined Seas 2.2m. 04:00 hrs: Wind 8-10 knots, Swell 1.5-2.0m, Combined Seas 1.8-2.2m.
P1	P	M3	0500	0600	1.00	3585.0m	Connected main tow bridle to Pacific Battler and port/bow pennant to Pacific Valkyrie.
P1	P	M3	0600	0730	1.50	3585.0m	Held JSA with all relevant personnel and reviewed jacking procedures. Tested jacks on all legs. Jacked down hull to 2m draft.
P1	P	M3	0730	0830	1.00	3585.0m	Conducted water tight integrity tests on all tanks, mud pits and sand traps.
P1	P	M3	0830	1000	1.50	3585.0m	Jacked down hull to 4.5m draft. Rig afloat and all legs clear of seabed at 09:12 hrs. Note: ***END OF WELL: 18-JAN-09 @10:00 hrs, 1 nautical mile from Fermat-1 location***

Phase Data to 2400hrs, 18 Jan 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Conductor Hole(P2)	28	13 Dec 2008	14 Dec 2008	28.00	1.167	119.0m
Conductor Casing(P3)	26.5	14 Dec 2008	15 Dec 2008	54.50	2.271	119.0m
Surface Hole(P4)	51	15 Dec 2008	17 Dec 2008	105.50	4.396	999.0m
Surface Casing(P5)	20	17 Dec 2008	18 Dec 2008	125.50	5.229	999.0m
BOPs/Risers(P6)	13	18 Dec 2008	19 Dec 2008	138.50	5.771	999.0m
Intermediate Hole (1)(P7)	243	19 Dec 2008	29 Dec 2008	381.50	15.896	2807.0m
Intermediate Casing (1)(P9)	112	29 Dec 2008	02 Jan 2009	493.50	20.563	2807.0m
Production Hole (1)(P11)	172	02 Jan 2009	09 Jan 2009	665.50	27.729	3585.0m
Suspend and Abandon(P21)	123.5	10 Jan 2009	15 Jan 2009	789.00	32.875	3585.0m
Mob/Demob(P1)	157	10 Dec 2008	18 Jan 2009	946.00	39.417	3585.0m

General Comments

00:00 TO 24:00 Hrs ON 18 Jan 2009

Operational Comments	West Triton Rig Equipment Concerns

Printed on 20 Jan 2009

Australian Drilling Associates Pty Ltd ADA

General Comments

	1) Need new BOP test tool mandrel. Ordered on the 24/10/08. 2) TDS IBOP is required to be opened before being able to operate rotating head and link tilt functions. Ongoing intermittent issue.
Operational Comments	De-Mob Activities: Stab-master still to be removed. ROV equipment ready for removal. Continued paint repair in pre-load tank #19. Continued to pack up ADA equipment and supplies.
Operational Comments	Rig Activities: Continued with general rig maintenance and housekeeping. Continued cleaning out bulk silos.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	MT	0	14	0	174.0
Rig Fuel	m3	0	4	0	128.0
POTABLE WATER	MT	3	22	0	121.0
Cement class G	MT	0	0	0	0.0
BLENDED CEMENT	MT	0	0	0	0.0
Bentonite	MT	0	0	0	0.0
Barite	MT	0	0	0	-38.0
Brine	m3	0	0	0	0.0
Helifuel	ltr	0	0	0	0.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing

Personnel On Board

Company	Pax
ADA	4
Seadrill	12
Seadrill Services	34
Catering	9
Tamboritha	2
OPC	3
Core IRM	2
Fugro Survey	2
Total	68

Marine

Weather on 18 Jan 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
1.0nm	9kn	210.0deg	1016.0mbar	14C°	1.0m	240.0deg	2s
Rig Dir.	**Ris. Tension**	**VDL**	**Swell Height**	**Swell Dir.**	**Swell Period**	**Weather Comments**	
128.5deg		1762.00klb	2.2m	240.0deg	11s	mainly fine	
Comments							

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Pacific Battler			On location Femat - 1

Bulks

Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
Rig Fuel	m3		1.9			318.2
Potable Water	m3		2			423
Drill Water	m3					360
Barite	Mt					0
CEMENT G	Mt					0
Bentonite	Mt					0
Brine	m3					0

Australian Drilling Associates Pty Ltd ADA

Pacific Valkyrie			On location Fermat-1	Item	Unit	In	Used	Transfer to Rig	Adjust	Quantity
				Rig Fuel	m3		2.8			349
				Potable Water	Mt		0			403
				Drill Water	m3					472
				Barite	Mt					0
				Bentonite	Mt					0
				CEMENT G	Mt					0
				Brine	m3					0

Appendix 3: MDT Table

Company	**Beach Petroleum Ltd**
Well Name	**Fermat-1**
Field Name	**Fermat**
Field Location	**E: 504713.1M**
Unique Well Identification	**N:5772393.6M**
Engineer's Name	**M.Dawson/Jiabei Wu**
Date	**8-Jan-2009**
Report Date	**12-Jan-2009**

Schlumberger

Modular Formation Dynamics Tester

Level-0 Quicklook Interpretation Report

Innovations in Formation Testing

PD Plot 7
Ver 7.1.44

Table of Contents

MDT JOB OBJECTIVES:

- to measure the formation pressure
- to identify potential hydrocarbon bearing zones
- to determine formation fluid type from the pressure gradients
- to establish fluid contacts through pressure-depth plotting
- to retrieve formation fluid samples monitoring sample contamination with AFA module

QUICKLOOK AND RESULTS:

To complete the objectives 18 pretests were attempted with the large diameter probe. Of these 4 were valid, 5 were tight, 5 were supercharged and 4 had seal issues. In addition, 2 pretests were performed prior to the sampling stations to confirm mobility. The valid tests enabled a water gradient to be fitted in the upper sand: 1.365 psi/m (0.960 g/cc).

For sampling, 2 PVT water samples were retrieved at each of the two stations. The resistivity plots of the cleanup have also been concluded along with a detailed table summary.

Pressure Gradients

Schlumberger

Formation Gradients

Gradient Error %	Gradient PSI/M	Density g/cc		Contact Depth M	RI	STD psia
Formation Pressure Lines						
4.7% (0.915 to 1.005 g/cc)	-1.365	0.960			0.9998	0.1100

Mud Column Gradients

Gradient Error %	Gradient PSI/M	Density g/cc		RI	STD psia
Mud Before Lines					
0.7% (1.309 to 1.327 g/cc)	-1.874	1.318		0.9995	8.5200
Mud After Lines					
0.7% (1.307 to 1.325 g/cc)	-1.872	1.316		0.9994	9.0500

Test Point Table

Schlumberger

File No.	Test No.	Run	Test MD	Test TVD	Test Subsea	Formation Pressure	Drawdown Mobility	Test Type	Mud After	Mud Before	Temp.	Gauge Name	Gauge Serial#	Pretest Volume	Pretest Time	Pretest Flowrate
			M	M	M	psia	md/cp		psia	psia	DEGC			cc	s	cc/s
80	3	2	2876.52	2873.86	-2835.86			Dry Test	5441.28	5442.82	91.23	PQQP1	4670	6.9	19.5	0.35
81	5	2	2877.36	2874.69	-2836.69			Dry Test	5441.35	5443.05	91.04	PQQP1	4670	6.89	18	0.38
86	15	2	2879.50	2876.83	-2838.83	4148.85	460.73	Volumetric Limited draw-down	5461.74	5467.19	89.2	PQQP1	4670	9.61	5.4	1.78
87	17	2	2886.50	2883.82	-2845.82	4158.42	47.01	Volumetric Limited draw-down	5469.43	5474.95	90.25	PQQP1	4670	9.92	5.7	1.74
89	21	2	2890.49	2887.81	-2849.81	4163.86	178.67	Volumetric Limited draw-down	5467.92	5471.25	91.25	PQQP1	4670	9.72	6	1.62
90	23	2	3001.45	2998.63	-2960.63	4405.42	0.85	Supercharged	5686.97	5696.9	92.32	PQQP1	4670	9.28	7.5	1.24
91	27	2	3003.50	3000.67	-2962.67	4354.07	38.43	Supercharged	5676.73	5687.09	94.5	PQQP1	4670	9.85	6.6	1.49
92	29	2	3008.02	3005.19	-2967.19	4359.08	62.64	Volumetric Limited draw-down	5685.66	5688.95	94.93	PQQP1	4670	9.86	10.8	0.91
93	33	2	3010.50	3007.66	-2969.66	4371.22	9.65	Supercharged	5687.44	5692.46	95.5	PQQP1	4670	9.76	5.7	1.71
94	37	2	3014.48	3011.64	-2973.64	4404.01	10.9	Supercharged	5695.11	5699.35	95.8	PQQP1	4670	9.73	6.9	1.41
95	41	2	3020.99	3018.14	-2980.14	4395.48	5.63	Supercharged	5707.8	5714.01	95.99	PQQP1	4670	9.43	6.3	1.5
96	47	2	3064.01	3061.11	-3023.11			Lost Seal	5800.5	5817.8	96.75	PQQP1	4670	9.83	5.4	1.82
97	51	2	3065.49	3062.59	-3024.59			Dry Test	5793.08	5802	96.96	PQQP1	4670	8.17	21	0.39
98	54	2	3067.01	3064.11	-3026.11			Dry Test	5795.03	5798.25	97.37	PQQP1	4670	6.9	17.7	0.39
103	56	2	2879.50	2876.84	-2838.84	4155.94	10.17	Sampling	5467.62	5446.25	92.73	PQQP1	4670	9.53	10.2	0.93
104	58	2	3008.02	3005.19	-2967.19	4358.48	77.08	Sampling	5711.61	5698.3	94.13	PQQP1	4670	9.41	9.6	0.98
107	59	2	3410.50	3406.86	-3368.86			Lost Seal	6453.9	6455.47	107.7	PQQP1	4670	9.93	11.4	0.87
108	61	2	3413.51	3409.85	-3371.85			Dry Test	6453.35	6455.92	107.53	PQQP1	4670	6.94	18	0.39
109	62	2	3414.49	3410.84	-3372.84			Lost Seal	6448.8	6450.2	108.63	PQQP1	4670	9.84	24.6	0.4
110	63	2	3416.50	3412.84	-3374.84			Lost Seal	6449.63	6451.02	108.71	PQQP1	4670	9.85	24.3	0.41

Schlumberger

COMPANY:	Beach Petroleum Ltd		
WELL:	Fermat-1		
FIELD:	Fermat		
Rig:	West Triton	State:	Victoria

Rig: West Triton
Field: Fermat
Location: VIC/P46
Well: Fermat-1
Company: Beach Petroleum Ltd

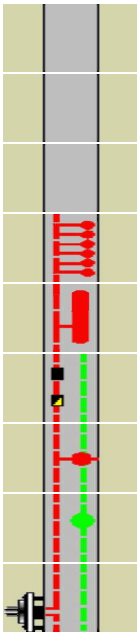
Schlumberger

MDT-Sampling
MDT-GR
Suite-1 Run-2

Location	VIC/P46 E: 504713.1M N:5772393.6M		Elev: K.B. 0 M G.L. 38.7 M D.F. 38 M	
	Permanent Datum: Log Measured From: Drilling Measured From:	MSL D.F. D.F.	Elev: 0 M 38M above Perm. Datum	
	State: Victoria	Max Deviation 7.28 deg	Latitude 38 11' 47.0287 S	Longitude 141 03' 13.7734 E

Logging Date				8/01/2009							
Run Number				2							
Depth Driller				3585 M							
Schlumberger Depth				TD not tagged							
Bottom Log Interval				3416.5 M							
Top Log Interval				2876.5 M							
Casing Drilling Size			@ Depth	9.625 in		2800.3 M					
Casing Schlumberger				Not detected							
Bit Size				8.500 in							
Type Fluid in Hole				KCL/Polymer							
Mud	Density	Viscosity		11.0 lbm/gal		59 s					
	Fluid Loss	PH		6 cc		8.5					
	Source of Sample			Flowline							
RM	@ Measured Temperature			0.107		@ 24 DEGC				@	
RMF	@ Measured Temperature			0.087		@ 23 DEGC				@	
RMC	@ Measured Temperature			0.109		@ 24 DEGC				@	
Source RMF		Source RMC		Press		Press					
RM	@ MRT	RMF	@ MRT	0.037	109 DEG	0.030	109 DEG				
Maximum Recorded Temperatures				110 DEGC		110 DEG	110 DEG				
Circulation Stopped			Time	7/01/2009		9:30					
Logger On Bottom			Time	9/01/2009		2:00					
Unit Number		Location		41	AUSL						
Recorded By				M.Dawson/Jiabei Wu							
Witnessed By				G.Clota/B.Ricketts							

Tool String Diagram



CTS Telemetry Tool (TCC-BF)

Scintillation Gamma-Ray - L (SGT-L)

Power Cartridge (MRPC)

MDT Multi-Sample (MRMS) 1

Sample Chamber Module (MRSC) 01

Advanced Fluid Analyzer (AFA)

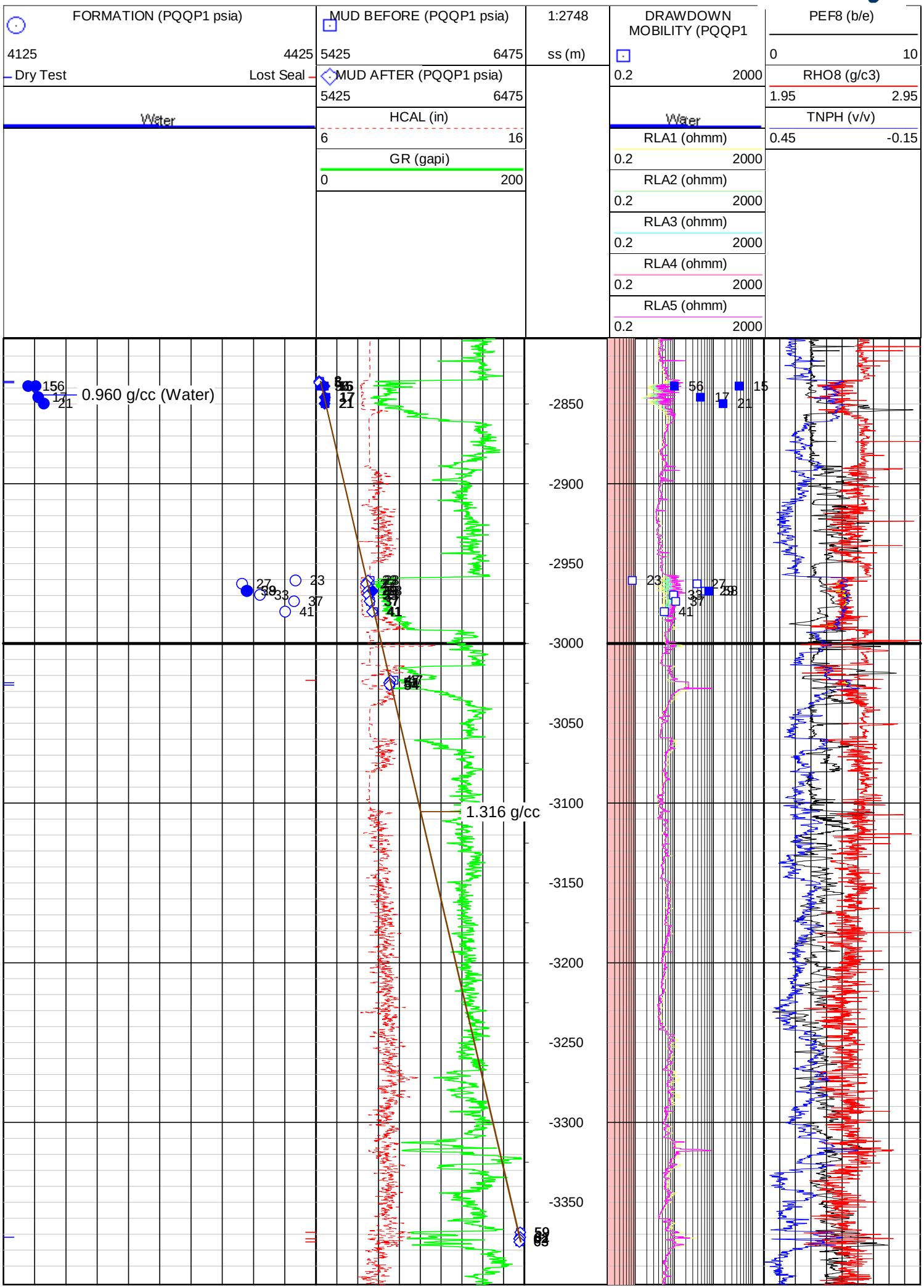
Dual Up-down Pumpout Module (MRPOUD)

Hydraulic Module (MRHY) 1

Quick Probe Module (MRPQ) 1

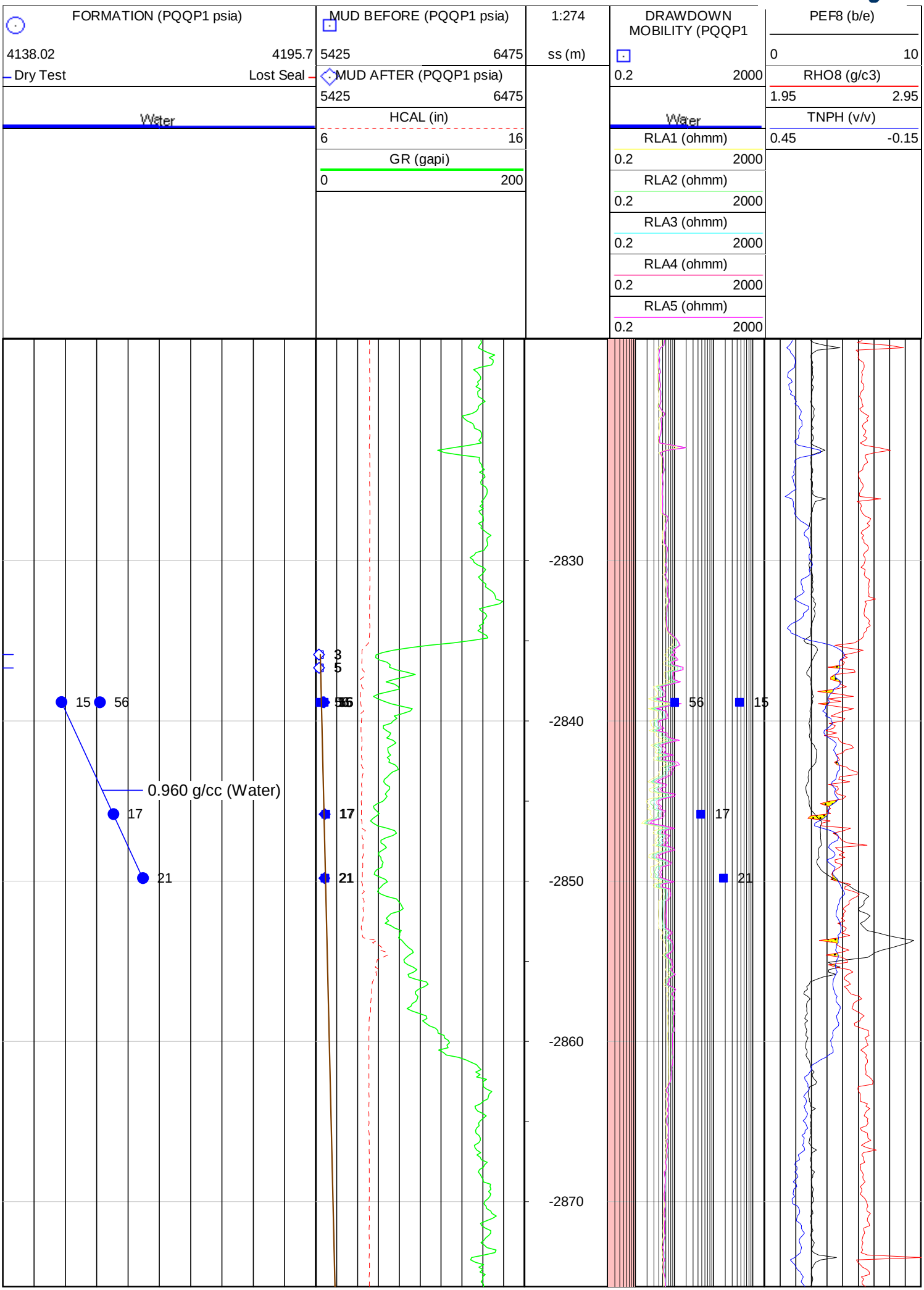
Plot 1 - All Data

Schlumberger



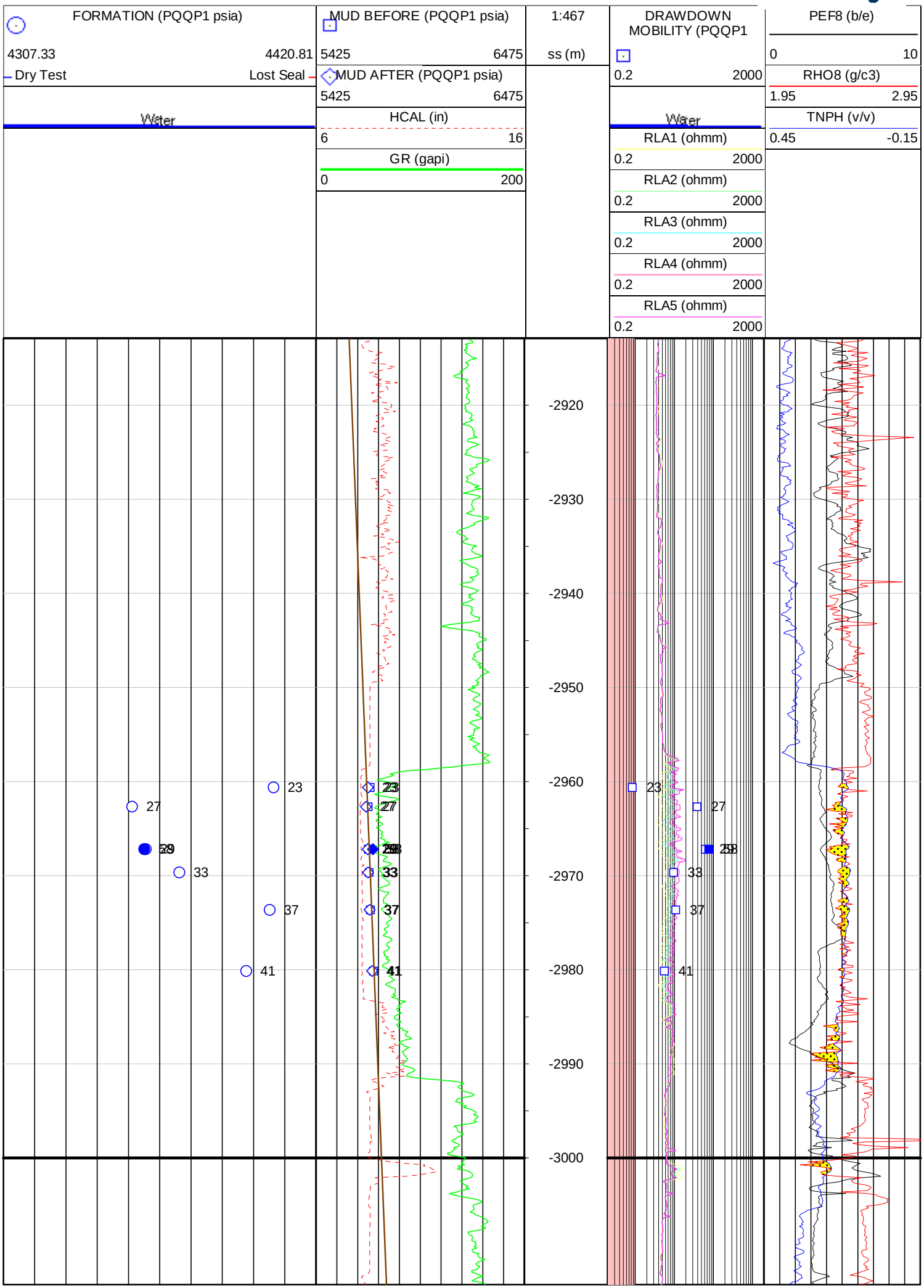
Plot 2 - Zoom of Upper Sand

Schlumberger



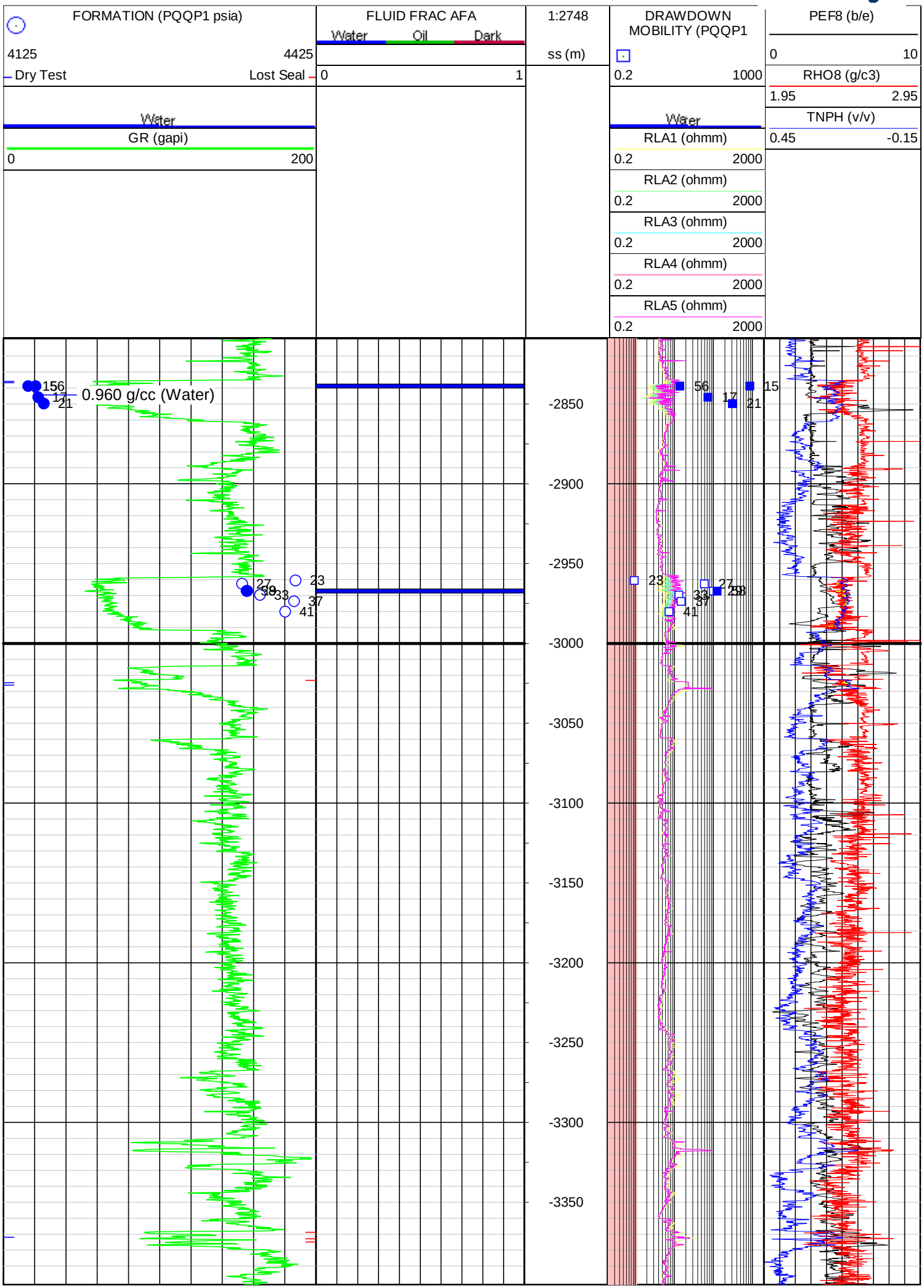
Plot 3 - Zoom of Lower Sand

Schlumberger



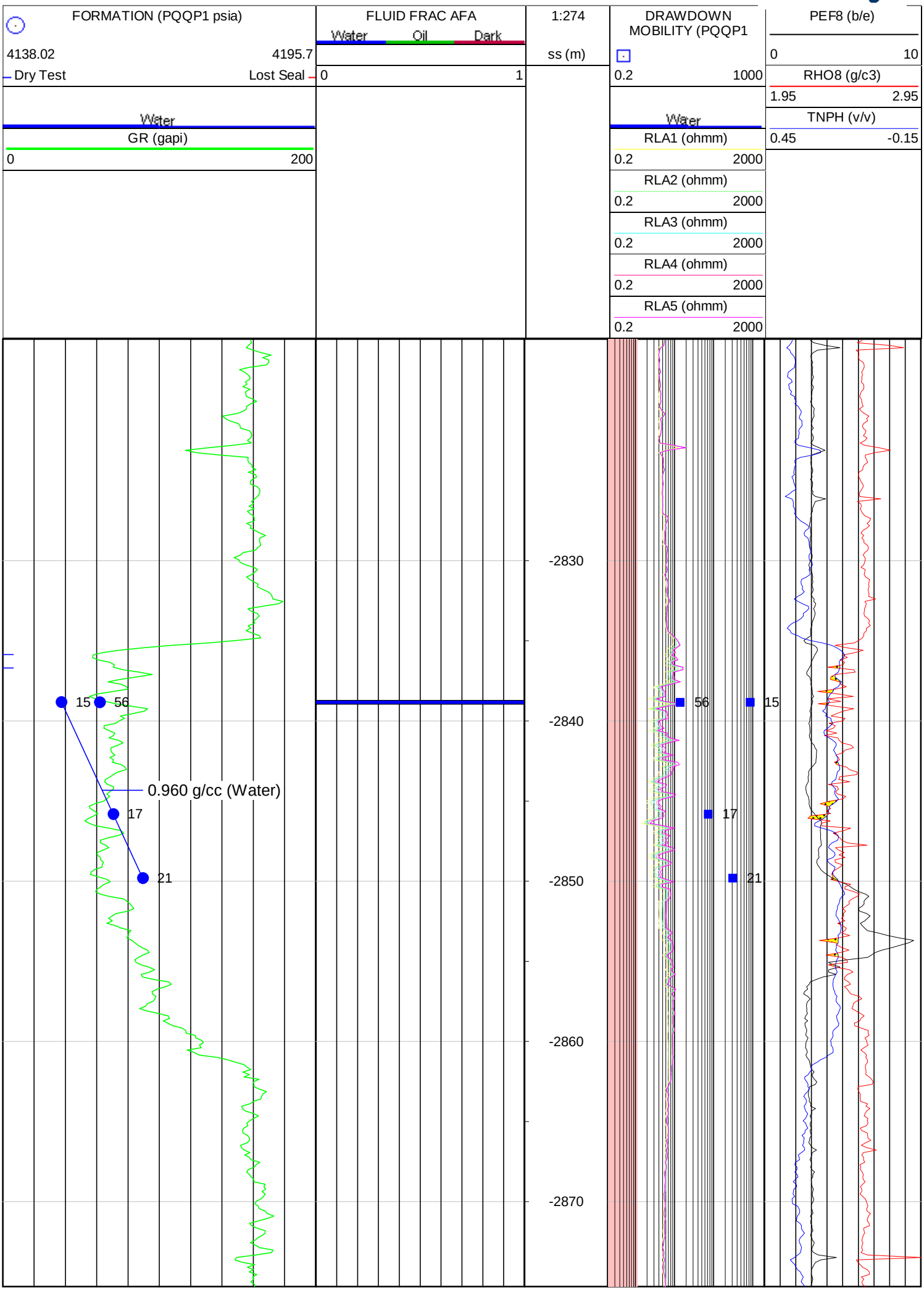
Plot 4 - AFA All Data

Schlumberger



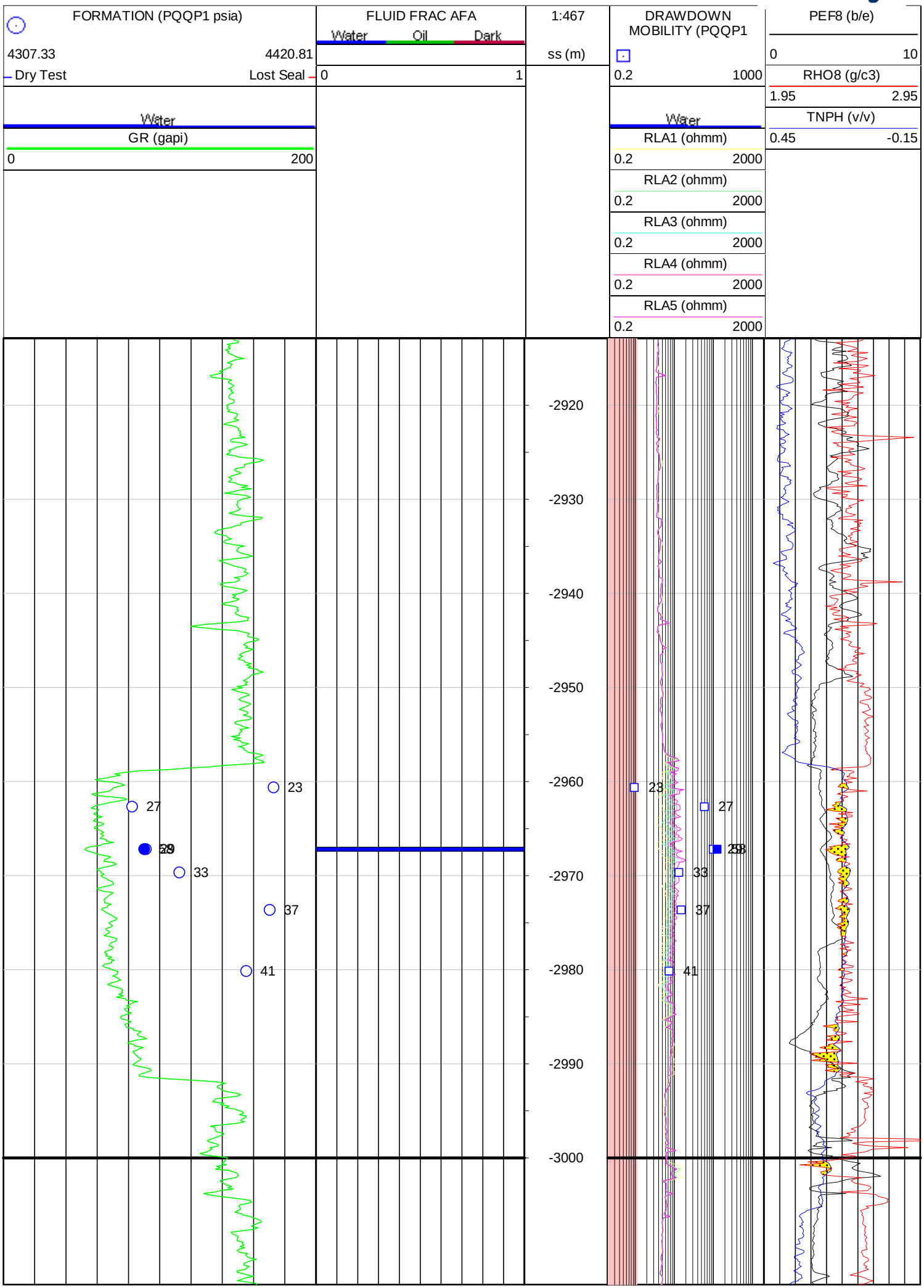
Plot 5 - AFA Zoom of Upper Sand

Schlumberger



Plot 6 - AFA Zoom of Lower Sand

Schlumberger



Schlumberger

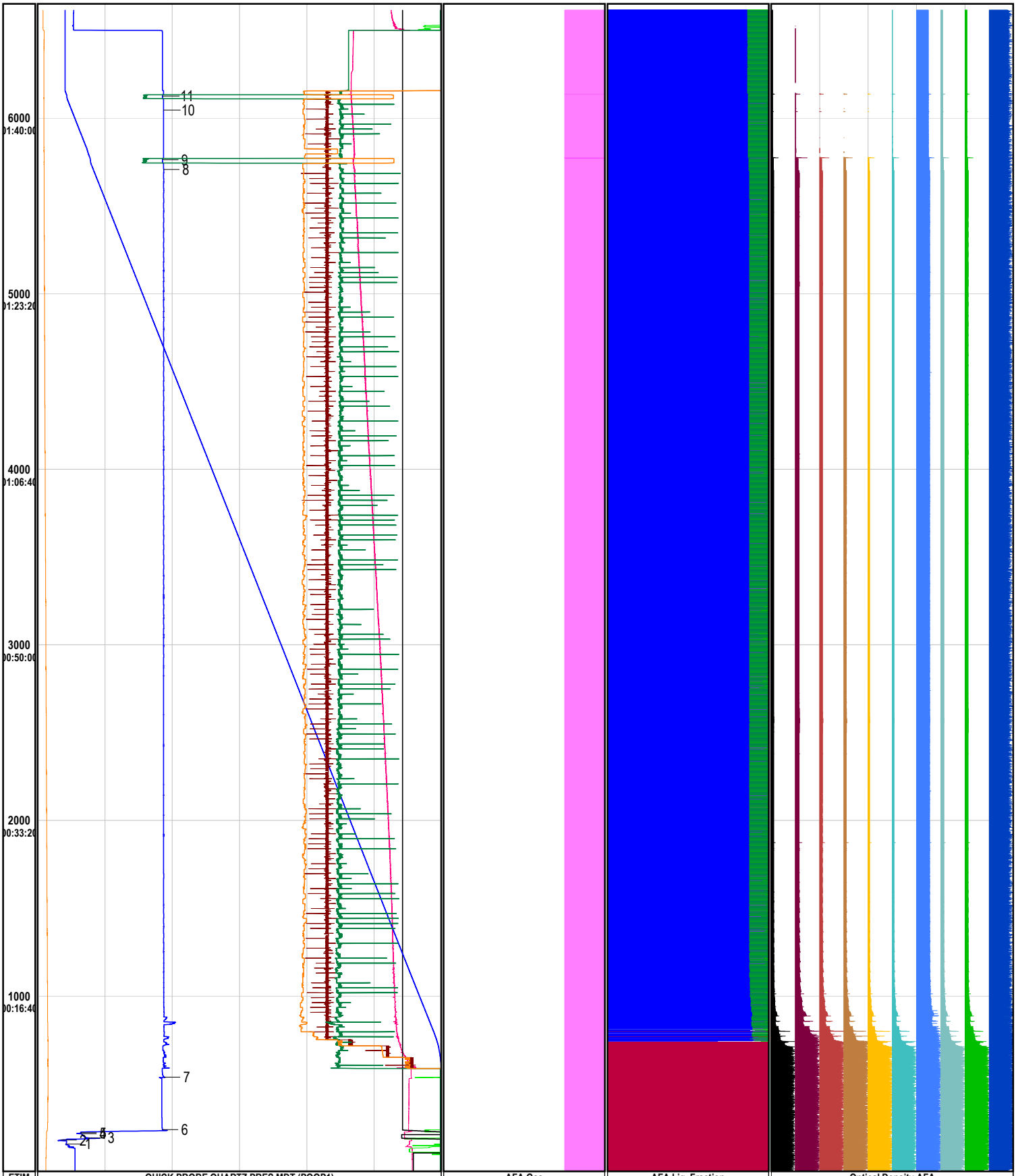
Sample Summary

Sample	Chamber Type/Serial Number	Test/File Number	Sample Depth (MTVD)	Sample Date/Time	Fluid Type	DH Sample Pressure (psia)	Contamination (%)	Pump Out Time/Vol	Sample Begin/End (sec)	Remarks
1	MPSR-1719	56/103	2876.84	8/01/2009 20:41	Water	8388	Not Measured	85.4min - 86800cc	5707.2-5761.8	
2	MPSR-2421	56/103	2876.84	8/01/2009 20:41	Water	8388	Not Measured	91min - 92618cc	6045.6-6125.7	
3	MPSR-2489	58/104	3005.19	8/01/2009 22:49	Water	8616	Not Measured	60.1min - 53400cc	4880.1-4967.7	
4	MPSR-2499	58/104	3005.19	8/01/2009 22:49	Water	8616	Not Measured	67.7min - 58098cc	5334.3-5406.9	

General Sample Remarks

All Available Data File 103 Test 56 2879.50 M (MD) 2876.84 M (TVD)

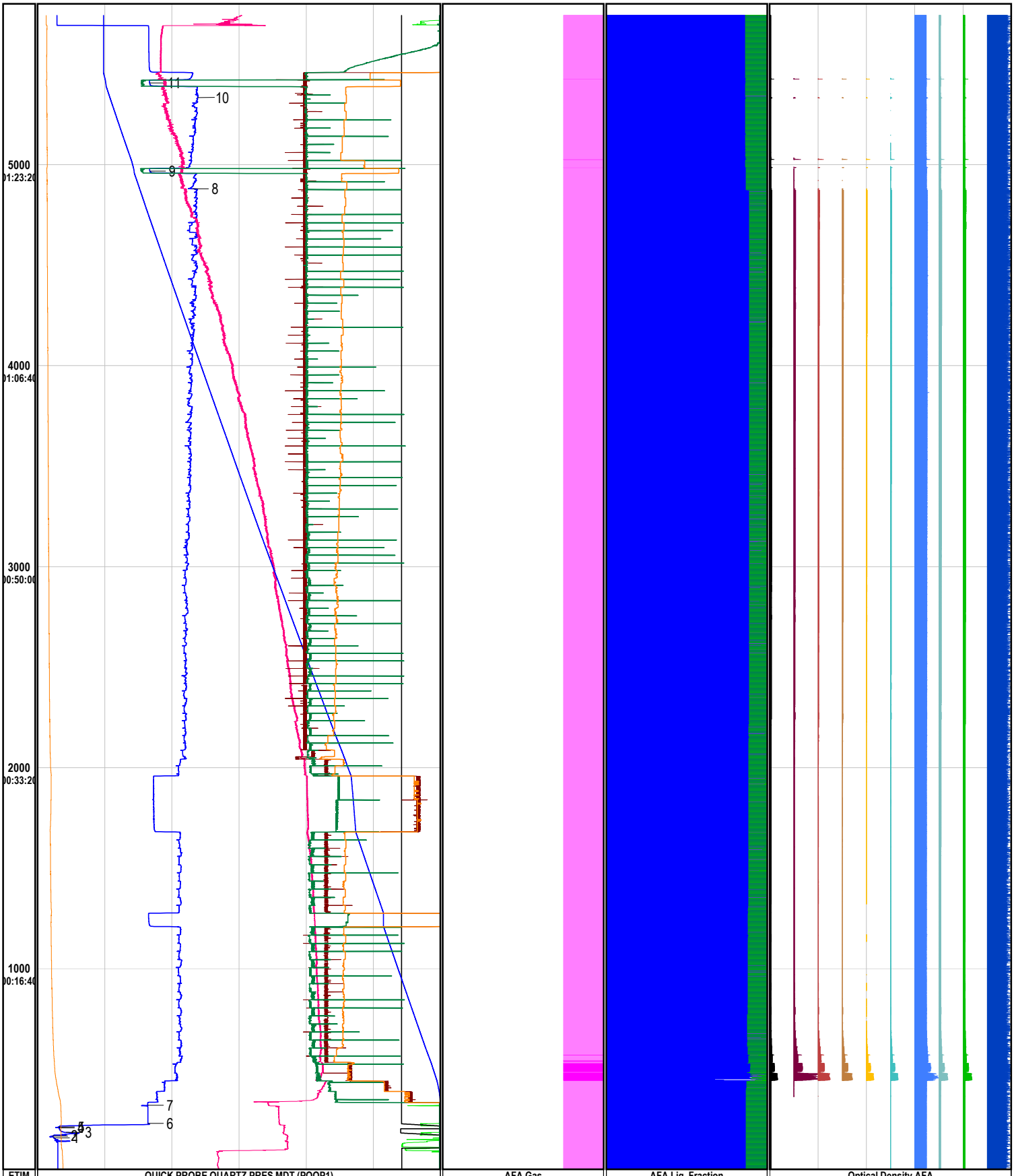
Schlumberger



Event Tables for: File 103 Test 56 2879.50 M (MD) 2876.84 M (TVD)
from : F103T55T56.las

#	Time (s)	Comment	Value
1	156.6	Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	5577.93 psia (PQQP1)
2	180	Pretest at Vert Probe|Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	5655.67 psia (PQQP1)
3	191.7	Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	5239.65 psia (PQQP1)
4	216	Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	5359.62 psia (PQQP1)
5	221.4	Pretest at Vert Probe|Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	5360.25 psia (PQQP1)
6	238.8	Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	4145.30 psia (PQQP1)
7	538.2	Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	4116.58 psia (PQQP1)
8	5707.2	Open Multi-Sample Module, bottle 1	4127.52 psia (PQQP1)
9	5761.8	Seal Multi-Sample Module, bottle 1	4144.52 psia (PQQP1)
10	6045.6	Open Multi-Sample Module, bottle 2	4128.63 psia (PQQP1)
11	6125.7	Seal Multi-Sample Module, bottle 2	4144.37 psia (PQQP1)

All Available Data File 104 Test 58 3008.02 M (MD) 3005.19 M (TVD)



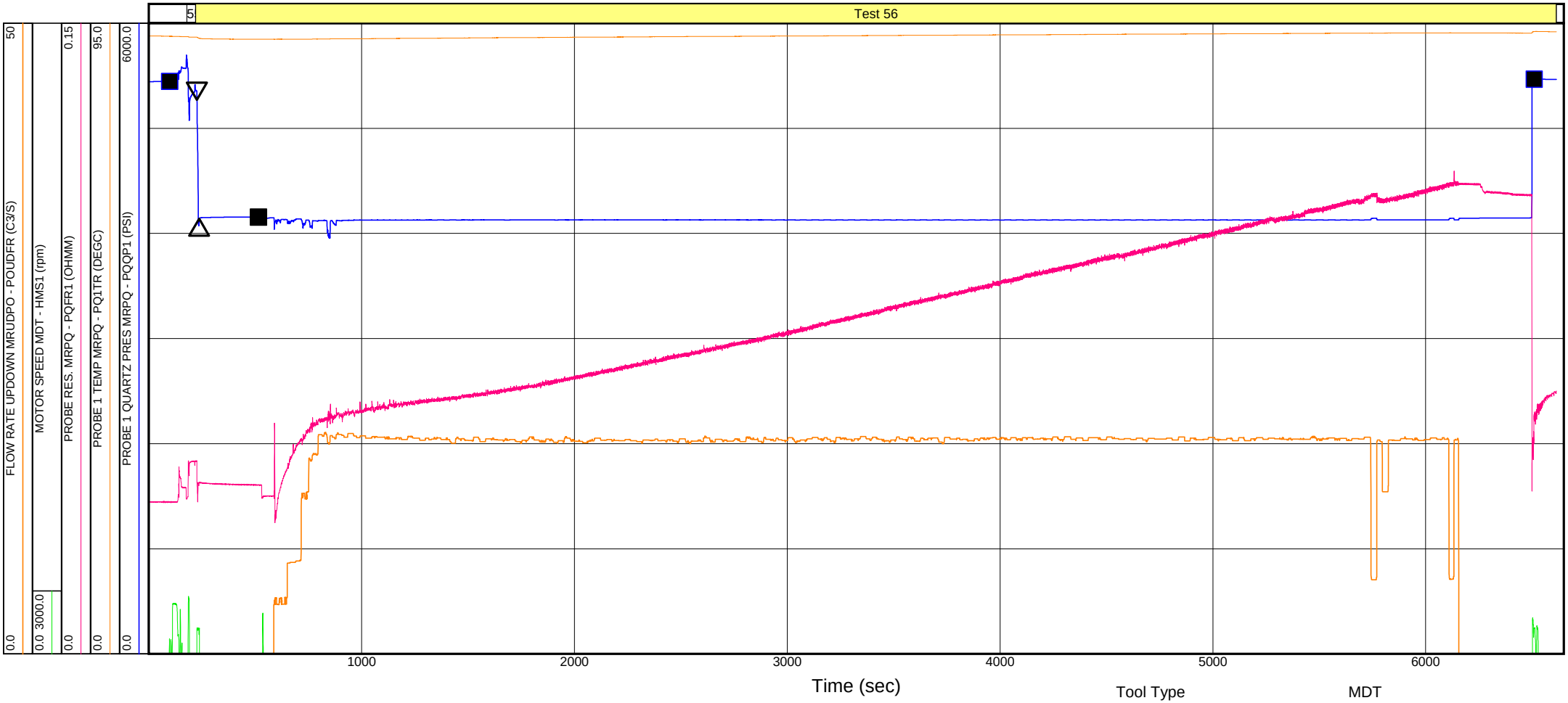
Event Tables for: File 104 Test 58 3008.02 M (MD) 3005.19 M (TVD)
from : F104T57T58.las

#	Time (s)	Comment	Value
1	158.1	Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	5758.14 psia (PQQP1)
2	166.8	Pretest at Vert Probe|Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	5781.46 psia (PQQP1)
3	185.1	Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	5572.10 psia (PQQP1)
4	207.9	Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	5682.67 psia (PQQP1)
5	212.4	Pretest at Vert Probe|Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	5684.97 psia (PQQP1)
6	229.8	Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	4358.42 psia (PQQP1)
7	320.1	Automatic Reset Enabled|Probe Set|Hydraulic Power Source, Hydraulic Module 1|	4358.74 psia (PQQP1)
8	4880.1	Open Multi-Sample Module, bottle 3	3688.48 psia (PQQP1)
9	4967.7	Seal Multi-Sample Module, bottle 3	4327.20 psia (PQQP1)
10	5334.3	Open Multi-Sample Module, bottle 4	3614.86 psia (PQQP1)
11	5406.9	Seal Multi-Sample Module, bottle 4	4332.00 psia (PQQP1)

Pressure Vs Time Plot : File 103 Test 56 2879.50 M (MD) 2876.84 M (TVD)

Fermat-1

Schlumberger



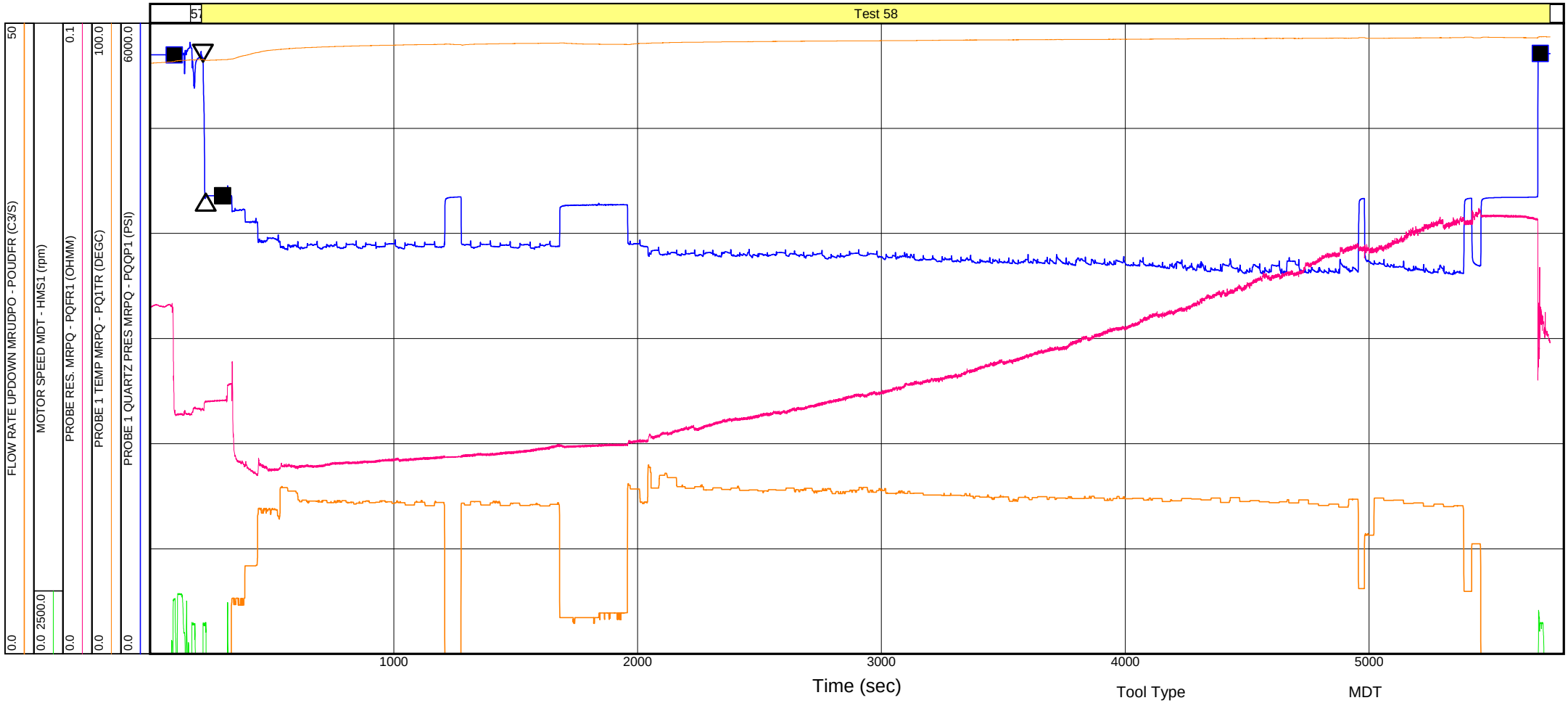
- Mud Before
- Drawdown Start
- Buildup Start
- End Buildup
- Mud After

Tool Type	MDT
Test Type	Sampling
Packer	Large-Diameter Probe
Gauge	PQQP1
Formation Pressure	4155.94 psia
Last Read	4155.94 psia
Drawdown Mobility	10.169 md/cp (3.49 of 9.53 cc)
Mud Pressure Before	5446.25 psia
Mud Pressure After	5467.62 psia
Temperature Before/After	92.73 DEGC / 92.59 DEGC
Pretest Rate	0.93 c3/s
Pretet Volume	9.53 cc

Pressure Vs Time Plot : File 104 Test 58 3008.02 M (MD) 3005.19 M (TVD)

Fermat-1

Schlumberger



- Mud Before
- Drawdown Start
- Buildup Start
- End Buildup
- Mud After

Tool Type	MDT
Test Type	Sampling
Packer	Large-Diameter Probe
Gauge	PQQP1
Formation Pressure	4358.48 psia
Last Read	4358.48 psia
Drawdown Mobility	84.085 md/cp (3.01 of 9.66 cc)
Mud Pressure Before	5698.3 psia
Mud Pressure After	5711.61 psia
Temperature Before/After	94.12 DEGC / 94.2 DEGC
Pretest Rate	0.89 c3/s
Pretet Volume	9.66 cc

Fermat-1

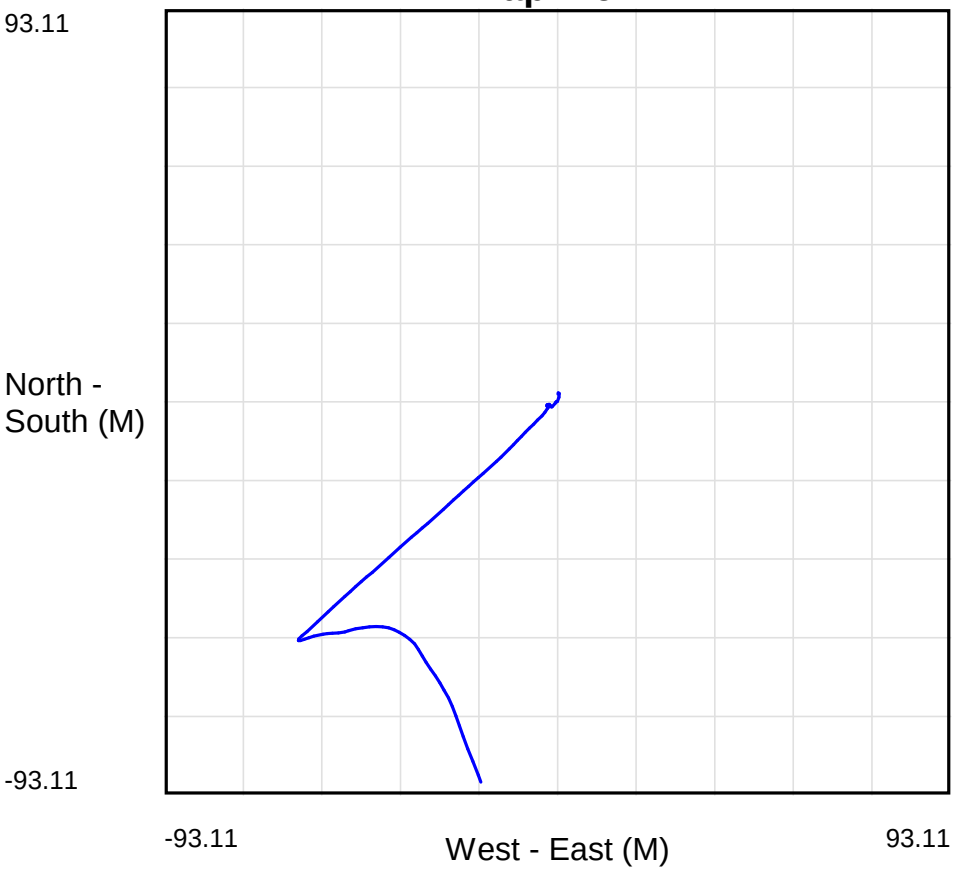
Source :Supplied Survey table

MD	TVD	Devi	Azimuth	North	East	Departure	Departure Azimuth	Dogleg Severity
M	M	Deg	Deg	M	M	M	Deg	Deg/100f
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
167.75	167.74	1.24	1.78	1.81	0.06	1.81	1.90	
197.16	197.14	0.28	58.77	2.17	0.13	2.17	3.43	
256.53	256.51	0.60	153.30	1.97	0.39	2.01	11.20	0.16
286.11	286.08	2.77	188.85	1.12	0.35	1.17	17.35	2.24
315.55	315.50	1.66	227.88	0.13	-0.07	0.15	331.69	1.15
345.27	345.21	0.27	15.10	-0.09	-0.38	0.39	256.67	1.43
374.62	374.56	0.25	25.51	0.04	-0.33	0.33	276.91	0.02
404.16	404.10	1.88	211.90	-0.32	-0.56	0.64	240.25	1.68
463.95	463.88	0.32	269.03	-1.15	-1.24	1.69	227.16	0.80
493.39	493.32	0.43	249.60	-1.19	-1.43	1.86	230.23	0.11
523.07	523.00	0.44	347.74	-1.12	-1.56	1.92	234.32	0.01
552.74	552.67	0.22	270.06	-1.01	-1.64	1.93	238.37	0.23
582.42	582.35	0.09	59.69	-1.00	-1.68	1.96	239.24	0.13
611.99	611.92	0.51	339.54	-0.86	-1.70	1.91	243.17	0.43
641.40	641.32	0.19	327.69	-0.70	-1.77	1.90	248.42	0.33
670.88	670.80	0.49	288.55	-0.62	-1.92	2.02	252.10	0.31
700.49	700.41	0.33	247.43	-0.61	-2.12	2.21	253.95	0.16
729.55	729.47	0.46	275.90	-0.63	-2.31	2.39	254.75	0.14
759.18	759.10	0.36	241.87	-0.66	-2.51	2.60	255.27	0.10
788.76	788.68	0.65	163.00	-0.86	-2.54	2.68	251.29	0.30
818.32	818.24	0.12	122.27	-1.04	-2.47	2.68	247.17	0.55
848.13	848.05	0.24	67.63	-1.03	-2.39	2.60	246.69	0.12
877.69	877.61	0.50	112.18	-1.06	-2.21	2.45	244.38	0.27
906.92	906.84	0.33	214.11	-1.18	-2.14	2.44	241.13	0.18
936.44	936.35	1.52	212.18	-1.58	-2.39	2.87	236.53	1.23
966.55	966.44	2.74	216.55	-2.49	-3.04	3.93	230.68	1.23
990.90	990.77	2.28	226.38	-3.30	-3.73	4.98	228.50	0.58
1023.76	1023.60	2.63	224.84	-4.28	-4.74	6.39	227.92	0.32
1053.62	1053.43	2.63	224.67	-5.26	-5.70	7.76	227.30	0.00
1083.09	1082.87	2.60	225.86	-6.20	-6.66	9.10	227.05	0.03
1112.27	1112.02	2.75	224.69	-7.16	-7.62	10.46	226.78	0.16
1141.71	1141.42	2.61	223.95	-8.14	-8.59	11.83	226.54	0.14
1171.39	1171.07	2.66	223.44	-9.13	-9.53	13.20	226.23	0.05
1200.78	1200.43	2.64	223.80	-10.12	-10.47	14.56	225.97	0.02
1230.79	1230.41	2.72	225.15	-11.12	-11.45	15.96	225.84	0.08
1288.88	1288.43	2.77	225.56	-13.07	-13.43	18.74	225.78	0.03
1318.86	1318.38	2.69	226.89	-14.06	-14.46	20.17	225.80	0.08
1407.48	1406.89	2.91	229.04	-16.95	-17.68	24.49	226.21	0.08
1436.37	1435.74	2.94	228.54	-17.93	-18.79	25.97	226.34	0.03
1465.90	1465.23	3.02	227.97	-18.95	-19.93	27.50	226.44	0.08
1495.44	1494.73	3.02	228.27	-19.99	-21.09	29.06	226.53	0.00
1525.13	1524.38	3.06	228.31	-21.03	-22.27	30.63	226.64	0.04
1554.71	1553.92	3.12	227.55	-22.10	-23.45	32.22	226.70	0.06
1584.40	1583.56	3.16	227.33	-23.20	-24.65	33.85	226.74	0.04
1614.18	1613.30	3.15	227.26	-24.31	-25.85	35.49	226.76	0.01
1643.45	1642.52	3.22	227.15	-25.42	-27.04	37.11	226.77	0.07
1732.53	1731.46	3.23	229.06	-28.77	-30.77	42.12	226.92	0.00
1761.71	1760.59	3.31	229.32	-29.85	-32.03	43.78	227.02	0.08
1791.33	1790.17	3.27	229.40	-30.96	-33.32	45.48	227.10	0.04
1820.98	1819.77	3.35	229.44	-32.07	-34.62	47.19	227.19	0.08
1880.19	1878.87	3.46	227.97	-34.40	-37.27	50.72	227.29	0.06
1939.47	1938.04	3.51	227.37	-36.82	-39.93	54.31	227.32	0.03
2028.16	2026.57	3.39	229.51	-40.36	-43.92	59.65	227.42	0.04
2057.35	2055.71	3.37	231.70	-41.46	-45.25	61.37	227.50	0.02
2086.92	2085.23	3.34	227.82	-42.57	-46.57	63.09	227.57	0.03
2116.75	2115.01	3.44	227.04	-43.77	-47.87	64.86	227.56	0.10
2146.40	2144.61	3.29	227.47	-44.95	-49.15	66.61	227.56	0.15
2175.52	2173.68	3.42	228.06	-46.09	-50.41	68.30	227.56	0.14
2235.00	2233.05	3.46	227.38	-48.49	-53.05	71.87	227.57	0.02

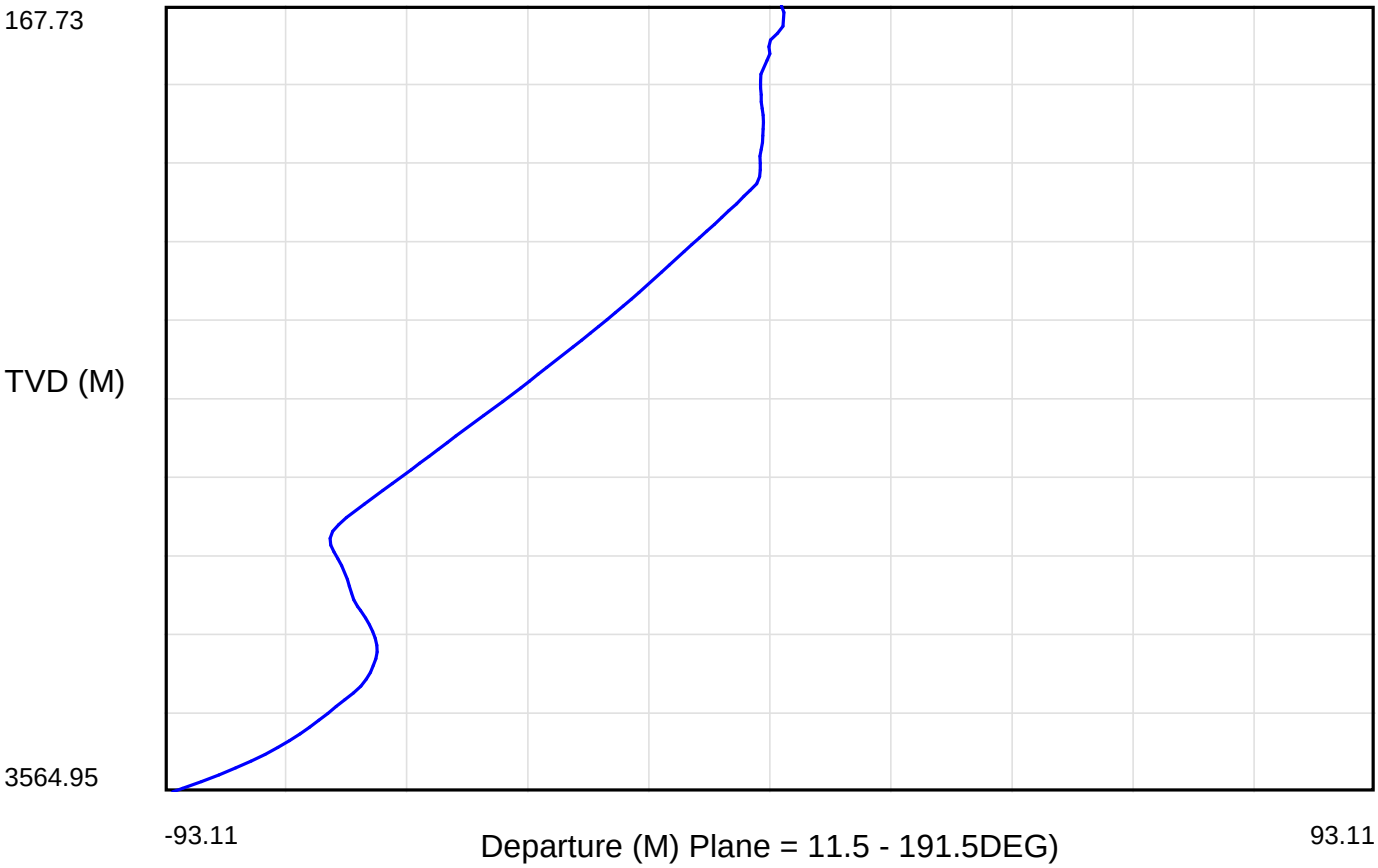
2264.44	2262.44	3.46	226.56	-49.71	-54.35	73.65	227.55	0.00
2323.60	2321.49	3.26	226.76	-52.09	-56.87	77.12	227.51	0.10
2382.70	2380.50	3.36	228.47	-54.39	-59.39	80.53	227.52	0.05
2412.00	2409.76	2.64	231.24	-55.38	-60.56	82.06	227.56	0.75
2441.90	2439.64	1.53	213.40	-56.14	-61.32	83.14	227.53	1.13
2471.60	2469.33	0.60	128.24	-56.57	-61.41	83.49	227.35	0.95
2500.84	2498.57	1.41	69.21	-56.54	-60.96	83.14	227.15	0.84
2530.68	2528.39	2.34	71.20	-56.21	-60.04	82.25	226.89	0.95
2559.85	2557.54	2.34	72.69	-55.84	-58.90	81.16	226.53	0.00
2589.92	2587.58	2.25	73.44	-55.49	-57.75	80.09	226.14	0.09
2648.85	2646.47	2.04	82.16	-55.02	-55.60	78.22	225.30	0.11
2678.97	2676.57	2.05	86.30	-54.91	-54.54	77.39	224.81	0.01
2708.38	2705.96	2.63	86.65	-54.84	-53.34	76.50	224.21	0.60
2737.95	2735.49	2.75	86.68	-54.75	-51.95	75.47	223.50	0.12
2767.46	2764.96	3.28	73.47	-54.47	-50.44	74.24	222.80	0.55
2783.95	2781.43	3.22	72.34	-54.20	-49.54	73.43	222.43	0.11
2816.25	2813.68	3.18	78.94	-53.75	-47.80	71.93	221.65	0.04
2845.87	2843.25	3.21	82.42	-53.48	-46.17	70.65	220.80	0.03
2875.23	2872.57	3.12	85.48	-53.31	-44.56	69.48	219.89	0.09
2904.72	2902.01	3.04	88.56	-53.23	-42.98	68.42	218.92	0.08
2934.24	2931.49	2.89	94.43	-53.27	-41.45	67.50	217.89	0.15
2963.69	2960.91	2.77	103.77	-53.49	-40.02	66.80	216.80	0.12
2992.79	2989.98	2.65	116.56	-53.96	-38.74	66.43	215.68	0.13
3022.28	3019.43	2.80	118.01	-54.61	-37.49	66.24	214.47	0.16
3051.99	3049.11	2.87	121.90	-55.34	-36.22	66.14	213.20	0.07
3081.57	3078.65	2.92	130.18	-56.22	-35.01	66.23	211.91	0.05
3111.25	3108.29	3.10	139.57	-57.32	-33.92	66.60	210.62	0.18
3140.79	3137.78	3.39	147.97	-58.66	-32.94	67.28	209.32	0.30
3170.28	3167.22	3.47	152.03	-60.19	-32.05	68.19	208.03	0.08
3199.75	3196.63	3.55	146.04	-61.74	-31.13	69.14	206.76	0.08
3229.40	3226.22	3.69	145.49	-63.28	-30.07	70.06	205.42	0.14
3259.28	3256.04	3.79	146.43	-64.90	-28.98	71.08	204.06	0.10
3288.90	3285.59	3.91	148.34	-66.57	-27.91	72.18	202.75	0.12
3318.10	3314.72	4.02	150.54	-68.31	-26.89	73.41	201.49	0.11
3347.40	3343.95	4.21	152.14	-70.16	-25.88	74.78	200.25	0.20
3376.97	3373.44	4.39	156.43	-72.15	-24.92	76.33	199.05	0.19
3406.76	3403.13	4.66	160.95	-74.34	-24.07	78.14	197.94	0.28
3436.14	3432.40	5.16	162.03	-76.73	-23.27	80.18	196.87	0.52
3465.57	3461.71	5.58	159.59	-79.33	-22.36	82.42	195.74	0.43
3495.57	3491.55	6.02	157.91	-82.15	-21.26	84.86	194.51	0.45
3525.24	3521.05	6.42	158.39	-85.14	-20.07	87.47	193.26	0.41
3555.17	3550.77	6.99	159.59	-88.40	-18.81	90.38	192.01	0.58
3569.38	3564.87	7.28	160.29	-90.06	-18.21	91.88	191.43	0.62

Schlumberger

Map View



Cross Section View



Appendix 4: Mudlogging End of Well Report

FINAL WELL REPORT

Beach Petroleum Ltd

Fermat-1

14 December 2008 – 12 January 2009

by

BAKER HUGHES INTEQ

Fermat-1

Final Well Report

SECTION 1

WELL SUMMARY

1 Well Data Summary

Well Name	Fermat-1
Rig Name:	West Triton
Rig Type:	Jack up
Drilling Contractor:	Seadrill
Drilling Datum:	Rotary Table
RT to AHD:	38.0 mMDRT
RT to Seabed:	76.7 mMDRT
Surface Coordinates:	Lat 38° 11' 74.03" S Long 141° 03' 13.77" E
Grid Coordinates: (GDA94, Zone 55)	E 504 713.1m N 5 772 392.6m
Block:	VIC / P46
Well Type:	Exploration
Spud Date:	14 December 2008
Spud Depth:	76.7 mMDRT
Total Depth:	3585.0 mMDRT / 3580.4 mTVDRT
TD Date:	06 January 2009
Well Status:	Plugged and Abandoned

Baker Hughes INTEQ Crew:

Data Engineers:	Deelip Mahajan, Alexis Cabanlit, Ilyas A. Khan, Yeong Chen Wong
Logging Geologists:	Amit Saxena, Wayne Talbot, Anil Jaiswara
Sample Technicians:	Ronald Simpson, Jamie Reeves

1.1 Well Summary

Baker Hughes INTEQ SLS provided formation evaluation, drill monitoring services for Fermat-1 from 76.7 mMDRT, on 14 December 2008 to 3585.0 mMDRT / 3580.4 mTVD reached on 06 January 2009. Data was processed and stored using **Advantage version 2.10U2** software. All depths were measured depth below Rotary Table (mMDRT) and referenced to Australian Height Datum (AHD) unless otherwise stated.

The Fermat-1 prospect is located in the offshore Otway Basin Permit VIC/P46, 11km from the coast, 50km West Northwest of the coastal town of Portland and in a water depth of 39.0m. The aim of this well was to test a large stratigraphic trap on the flanks of the Normanby High, downdip from Normanby-1.

The primary objective of the well was the Turonian-aged sand, Waare Formation, and shale sequence deposited from the event associated with the initial separation of Australia and Antarctica in the Mid-Cretaceous. The second primary target was the Flaxman Formation overlying the Waare Formation.

The well was spudded at 76.7 m using 660 mm (26”) bit with a 914mm (36”) hole opener. The 914mm (36”) hole section was drilled from 76.7 to 119.0 mMDRT using sea water, pumping hi-vis pill as per program while returns were dumped to sea bed. After reaching section TD and the hole was circulated clean, the BHA was pulled out of the hole and 762 mm (30”) casings were ran in hole. The casing shoe was set at 116.0 mMDRT.

The 444mm (17-1/2”) BHA was made up with MWD tools then the shoe track and rathole were drilled from 116.0 to 119.0 mMDRT. Drilling continued until section TD at 999.0 mMDRT, reaming and taking a survey with every stand drilled. While circulating the hole clean, a drop in standpipe pressure was observed. The bit was pulled out of the hole to surface and was found to be suffering one broken nozzle. The 340mm (13-3/8”) casing was run in and the shoe was set at 987.0 mMDRT. 11.13 m^3 (70 bbl) of freshwater was pumped followed by a total of 34.98 m^3 (220 bbl) of 1.90 sg (15.8 ppg) Class G cement which was mixed and pumped. The cement was displaced with 1.58 m^3 (10 bbls) of freshwater and 73.13 m^3 (460 bbl) of seawater with plugs, bumping pressure of 5515 kPa (800 psi) which held for 10 minutes.

The 311mm (12-1/4”) BHA was made up with a junk sub and was run, before drilling out the float collar, shoe track, float shoe, and 3m of new formation to 1002.0 mMDRT. A LOT was conducted with 1.11 sg (9.30 ppg) mud yielding 1.79 sg (15.00 ppg) EMW at 6619 kPa (960 psi). The bit continued drilling from 1002.0 to 1027.0 mMDRT while working on the junk sub after which it was pulled out of the hole. A PDC bit was run in the hole with MWD tools and drilling was continued from 1027.0 to 2396.0 mMDRT. Due to continuous deviation from the vertical path, the bit was pulled out of the hole. The third 311mm (12-1/4”) bit run was a PDC bit made up with a mud motor and MWD tools. The hole was directionally drilled, sliding when instructed by the Directional Driller until section TD at 2807.0 mMDRT. A total of 223 joints of 244 mm (9-5/8”) casing were run in the hole and the shoe was set at 2800.3 mMDRT. A total of 36.56 m^3 (230 bbl) of 1.90 sg (15.8 ppg) Class G cement was mixed and pumped. The cement was displaced with a total of 105.88 m^3 (666 bbl) of mud (105.41 m^3, 663 bbl theoretical) with the plugs failing to bump.

The 216 mm (8-1/2”) BHA was made up with MWD tools and was run in the hole. The bit tagged the top of the plug at 2753.0 mMDRT and drilled out the top plug, cement, shoe track and float shoe to 2807.0 mMDRT. After drilling the shoe track and the rat hole, 3.0 m of new formation was drilled and the BHA was pulled back to the shoe for a FIT which yielded 1.92 sg (16.00 ppg) EMW using a 1.23 sg (10.3 ppg) mud at 18754 kPa (2720 psi). The bit was run back to the bottom and drilling continued until well TD at 3585.0 mMDRT. There were several tight spots while pulling out of the hole to the shoe. The bit was run back in to bottom (wiper trip) and the mud weight was weighted up from 1.26sg (10.5ppg) to 1.32sg (11.0ppg). The BHA was then pulled out and laid down to run the wireline logs.

Cement plug #1A was set from 3327.0 to 3127.0 mMDRT. Cement plug #1B (Part 1) was set from 3119.0 to 2969.0 mMDRT while cement plug #1B (Part 2) was set from 2969.0 to 2830.0 mMDRT. Cement plug #2 was set across the 244mm (9-5/8”) casing shoe from 2835.0 to 2700.0 mMDRT.

SECTION 2

DRILLING & ENGINEERING

2.1 Drilling Summary

Fermat-1
914mm (36”) x 660mm (26”) Hole Section
13 - 14 December 2008

Bit Run No. 1 Summary

Bit No.	1RR
Bit Size	660 mm
Bit Type	Reed Y11C
Serial Number	D74635R
Jets	3x22, 1x16
Depth In, mMDRT	76.7
Depth Out, mMDRT	119.0
Bit Grading	1-1-NO-A-E-I-NO-TD

Drilling Parameters

WOB kN	8	-	26
RPM Surf	19	-	100
Pump Pressure kPa	690	-	6205
Flow In lpm	1522	-	4546
Torque kN.m	0.03	-	0.67

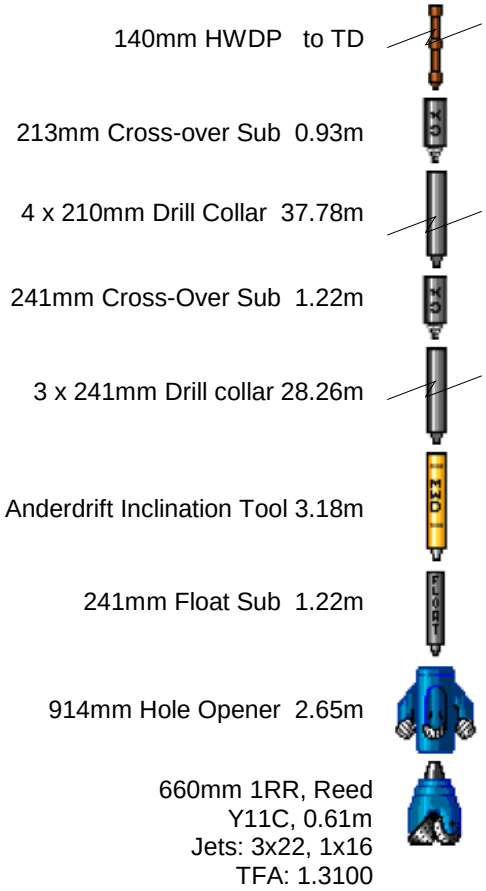
Mud
Sea water / hi-vis sweep 1.04 sg (8.7 ppg)

Lithology
Returns to Seabed

Drilling Summary

The 914 mm (36”) BHA was made up on 660 mm (26”) bit and a 914 mm (36") hole opener. It was run in the hole and tagged the seabed at 76.7 mMDRT. Fermat-1 was spudded at 0000 hrs on 14 December 2008. The bit drilled from 76.7 to 120.0 mMDRT and surveys were taken as per program. Upon reaching the section TD, the hole was swept with a 31.80 m^3 (200 bbl) hi-vis pill and was displaced with PHG mud. After circulating the hole clean the BHA was then pulled out for running in the 762 mm (30”) x 508 mm (20”) casing.

BHA No. 1: 75.96m



Fermat-1
444 mm (17-1/2”) Hole Section
15 - 17 December 2008

Bit Run No. 2 Summary

Bit No.	NB2
Bit Size	444 mm
Bit Type	Hughes MXL-T00
Serial Number	6060161
Jets	3x20
Depth In, mMDRT	119.0
Depth Out, mMDRT	999.0
Bit Grading	2-2-LT-G-E-I-LN-TD

Drilling Parameters

WOB kN	4	-	133
RPM Surf	74	-	163
Pump Pressure kPa	3206	-	20339
Flow In lpm	2139	-	4581
Torque kN.m	0.13	-	17.5

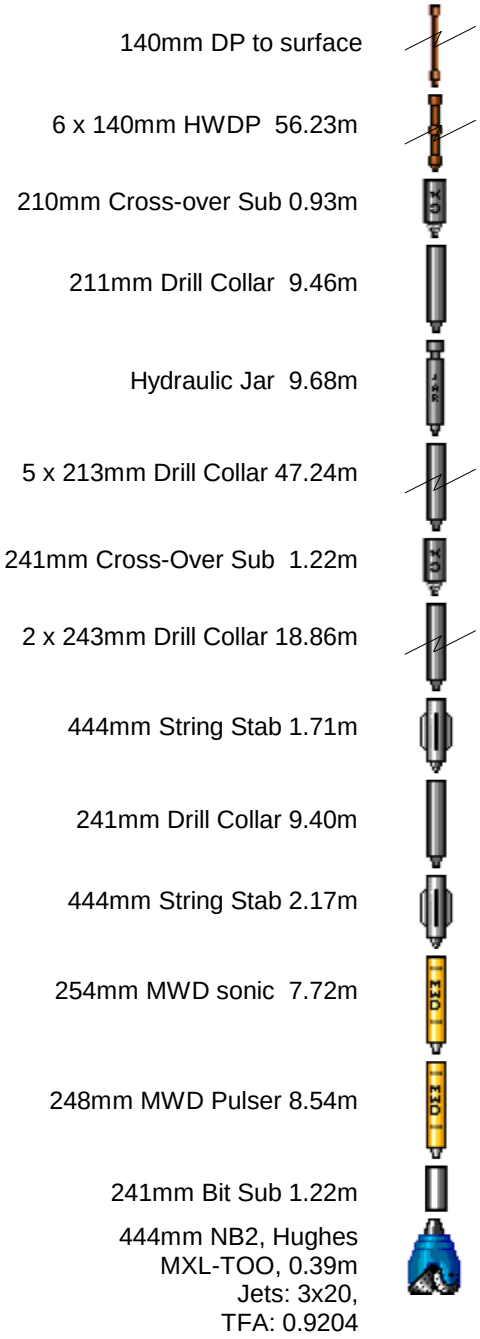
Mud
Sea water / hi-vis sweep 1.04 sg (8.7 ppg)

Lithology
Returns to seabed

Drilling Summary

The 444mm (17-1/2”) BHA was made up with MWD tools and was run in the hole. The MWD tools were shallow tested and found to be serviceable. The 444 mm (17-1/2”) BHA was run in and the top of the cement was tagged at 115.4 mMDRT. The shoe track was drilled followed by the cleaning out of the rat hole to 119.0 mMDRT. After performing high pressure testing for the BOPs, the hole was drilled, reaming every stand done, taking surveys and pumping 7.95 m^3 (50 bbl) hi-vis at mid-stand. Static losses were encountered at 499.0 mMDRT (3.97 m^3/hr, 25bbl/hr), 795.0 mMDRT (23.53 m^3/hr, 148bbl/hr), and 895.0 mMDRT (26.55 m^3/hr, 167bbl/hr). The bit drilled from 119.0 to section TD at 999.0 mMDRT. While reaming the hole and circulating bottoms up, a sudden drop of 4830 kPa (700 psi) in pump pressure was observed. A broken bit nozzle was suspected. A hi-viscosity pill was spotted on the bottom and the hole was circulated clean. The BHA was then pulled out of the hole slowly until surface. The bit had suffered one broken nozzle.

BHA No. 2: 174.77m



Fermat-1
311mm (12-1/4") Hole Section
19 - 20 December 2008

Bit Run No. 3 Summary

Bit No.	NB 3
Bit Size	311 mm
Bit Type	Hughes GT-1
Serial Number	5149536
Jets	3 x 16
Depth In, mMDRT	999.0
Depth Out, mMDRT	1027.0
Bit Grading	0-0-NO-A-E-I-NO-BHA

Drilling Parameters

WOB kN	6	-	36
RPM Surf	40	-	80
Pump Pressure kPa	6288	-	13058
Flow In lpm	1093	-	3051
Torque kN.m	0.05	-	2.25

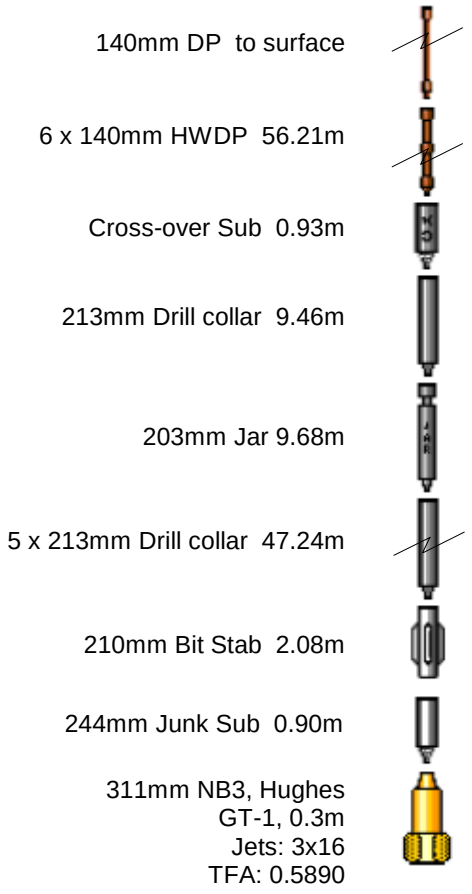
Mud
KCl / Polymer 1.11 sg (9.3 ppg)

Lithology
Claystone, Sandstone

Drilling Summary

The 311 mm (12-1/4") BHA was made up with a junk sub and stabilizer and was run in the hole. The bit tagged the top of the cement at 974.4 mMDRT and the shoe was drilled. After drilling the shoe track and the rat hole, 3.0 m of new formation was drilled. The BHA was pulled back to the shoe for a FIT which yielded 1.78 sg EMW (15.0 ppg EMW) using a 1.11 sg (9.3 ppg) mud at 6624 kPa (960 psi). The bit was run back to bottom and drilling continued until 1027.0 mMDRT after which the bit was pulled out of the hole to change the BHA.

BHA No. 3: 126.82m



Fermat-1
311mm (12-1/4") Hole Section
20 - 25 December 2008

Bit Run No. 4 Summary

Bit No.	NB4
Bit Size	311 mm
Bit Type	Reed RSR616M-A10
Serial Number	212219
Jets	3x13, 3x14
Depth In, mMDRT	1027.0
Depth Out, mMDRT	2396.0
Bit Grading	5-3-RO-C--I-LT-BHA

Drilling Parameters

WOB kN	4	-	93
RPM Surf	80	-	320
Pump Pressure kPa	7866	-	17864
Flow In lpm	2903	-	4773
Torque kN.m	1.0	-	21.2

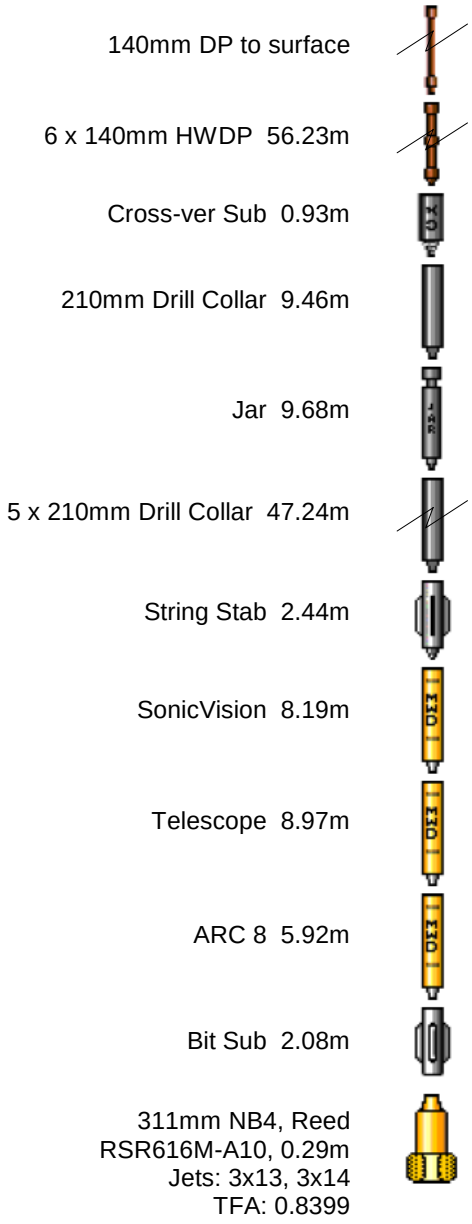
Mud
KCl / Polymer 1.11 - 1.17 sg (9.3 - 9.8 ppg)

Lithology
Claystone, Sandstone Siltstone.

Drilling Summary

The 311mm (12-1/4") Reed PDC bit was run in the hole with the MWD tools. After shallow testing the MWD tools, drilling was continued from 1027.0 mMDRT taking surveys per stand drilled and pumping hi-vis as per program. The angle of inclination continued to build up from the prognosed vertical path of the bit and the BHA was pulled out of the hole after drilling to 2396.0 mMDRT. The hole was circulated clean and the bit was pulled from it. Tight spots were encountered from 1356.0 mMDRT so the string was backreamed with 2271 lpm (600 gpm) and 60-80 rpm until the casing shoe at 987.0 mMDRT. The High-Vis was pumped and the bit was pulled out to surface where the MWD tools were laid down.

BHA No. 4: 151.43m



Fermat-1
311mm (12-1/4") Hole Section
27 - 28 December 2008

Bit Run No. 5 Summary

Bit No.	NB5
Bit Size	311 mm
Bit Type	Reed RSX616M-A10
Serial Number	219736
Jets	3x13, 3x15
Depth In, mMDRT	2396.0
Depth Out, mMDRT	2807.0
Bit Grading	1-1-LT-G-X-I-B4-TD

Drilling Parameters

WOB kN	11	-	174
RPM Surf	0	-	206
Pump Pressure kPa	13410	-	18029
Flow In lpm	3043	-	3861
Torque kN.m	0	-	11.9

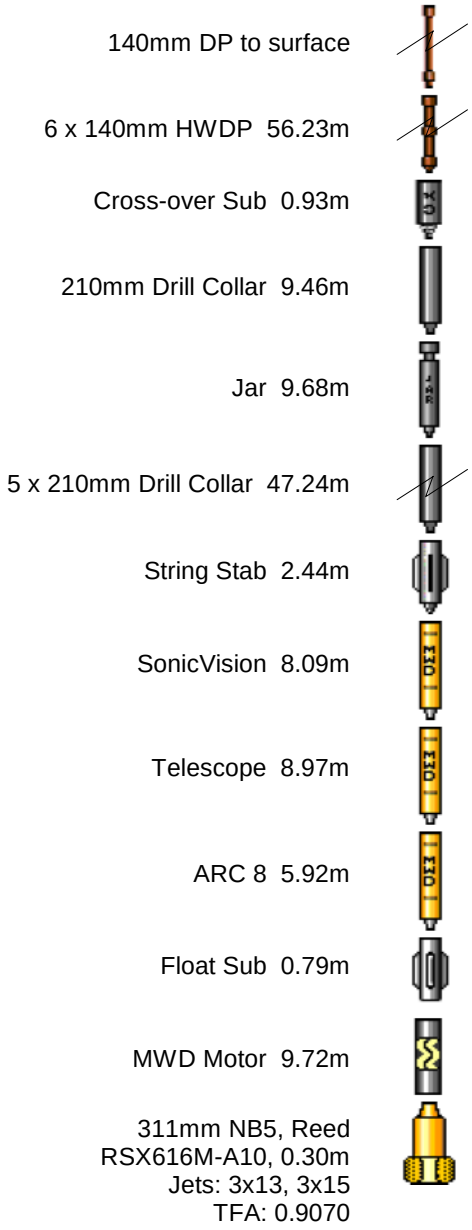
Mud
KCl / Polymer 1.17 - 1.19 sg (9.8 - 10.0ppg)

Lithology
Claystone, Sandstone, Siltstone.

Drilling Summary

The 311mm (12-1/4") Reed PDC bit was run in the hole with MWD tools and a mud motor. After shallow testing of MWD tools, run in the hole to 2346.0 mMDRT and washed down to 2396.0 mMDRT. The angle started dropping to vertical by sliding and rotating to the section TD at 2807.0 mMDRT. The intervals of sliding were 2396.0 - 2422.0, 2455.0 - 2465.0, 2469.0 - 2484.0, 2523.0 - 2538.0, 2692.0 - 2701.0, 2706.0 - 2709.0 and 2740.0 - 2748.0 mMDRT. At TD two bottoms up were circulated and the string pulled out to the casing shoe without any downhole losses or gains. The tight spot at 1132.0 mMDRT was pumped out without backreaming. The string was pulled out of the hole and the MWD tools were laid out with the BHA components.

BHA No. 5: 159.77m



Fermat-1
216mm (8-1/2") Hole Section
02 - 07 January 2009

Bit Run No. 6 Summary

Bit No.	NB6
Bit Size	216 mm
Bit Type	Security SE3653Z
Serial Number	11001928
Jets	6x14
Depth In, mMDRT	2807.0
Depth Out, mMDRT	3585.0
Bit Grading	1-1-CT-N-X-I-NO-TD

Drilling Parameters

WOB kN	4	-	167
RPM Surf	59	-	147
Pump Pressure kPa	13024	-	22773
Flow In lpm	2044	-	2907
Torque kN.m	0.03	-	9.96

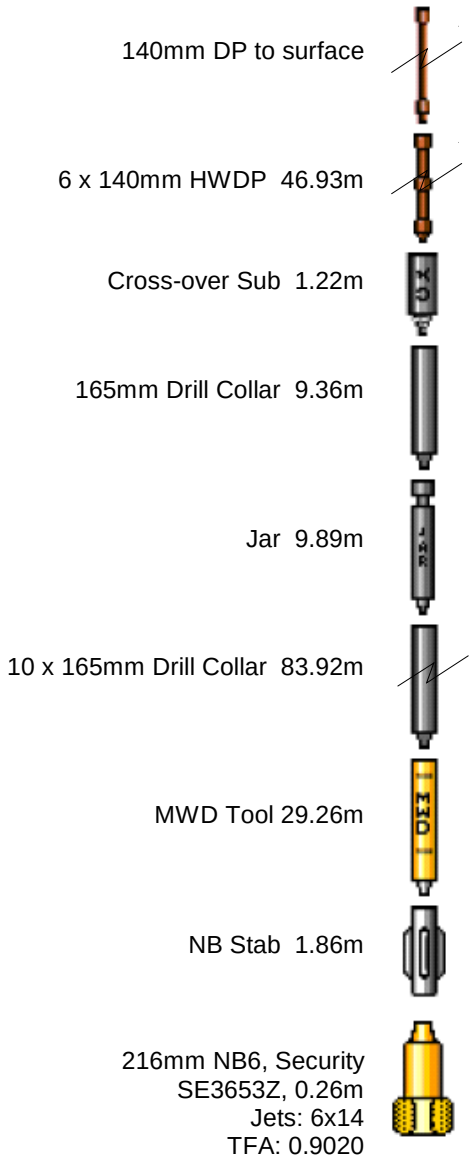
Mud
KCl / Polymer 1.23 - 1.26 sg (10.3 - 10.5ppg)

Lithology
Siltstone, Sandstone, Claystone & Limestone.

Drilling Summary

The 216mm (8-1/2") Security PDC bit was run in the hole with the MWD tools. After shallow testing the MWD tools, the string was run in the hole to the top of the plug at 2753.0 mMDRT. The top plug, cement, shoe track and float shoe to 2807.0 mMDRT. After drilling the shoe track and the rat hole, 3.0 m of new formation was drilled and the BHA was pulled back to the shoe for a FIT which yielded 1.92 sg (16.00 ppg) EMW using a 1.23 sg (10.3 ppg) mud at 18754 kPa (2720 psi). The bit was run back to the bottom and drilling continued until the well TD at 3585.0 mMDRT. The hole was circulated clean before the string was pulled from the hole. Overpull was encountered at 3539.0 - 3451.0 mMDRT. The bit was unable to work past 3415.0 mMDRT. The drill-string was made up to the TDS and backreamed from 3415.0 to 3392.0 mMDRT. Two more tight-spot zones were found at 3081.0 to 2948.0 and 2900.0 to 2830.0 mMDRT. After pulling out into the shoe at 2800.3 mMDRT, the bit was run in the hole to 3451.0 mMDRT. It was then washed and reamed down to 3585.0 mMDRT whilst encountered pack-off at 3480.0 and 3576.0 mMDRT. Mud weight was circulated and weighted up from 1.26sg (10.5ppg) to 1.32sg (11.0ppg) before pulling out of the hole to make way for wireline logging.

BHA No. 6: 201.36m



2.2 Casing and Cementing

Fermat-1
762 mm (30”) x 508 mm (20”) Conductor
15 December 2008

Hole Size:	914 mm (36")
Depth:	120.0 mMDRT

Casing Details

ID	711 mm (28”)
Grade / Wt:	X-52: 310 kg/m
Joints:	11 x 762mm Jt
Shoe:	116.0 mMDRT

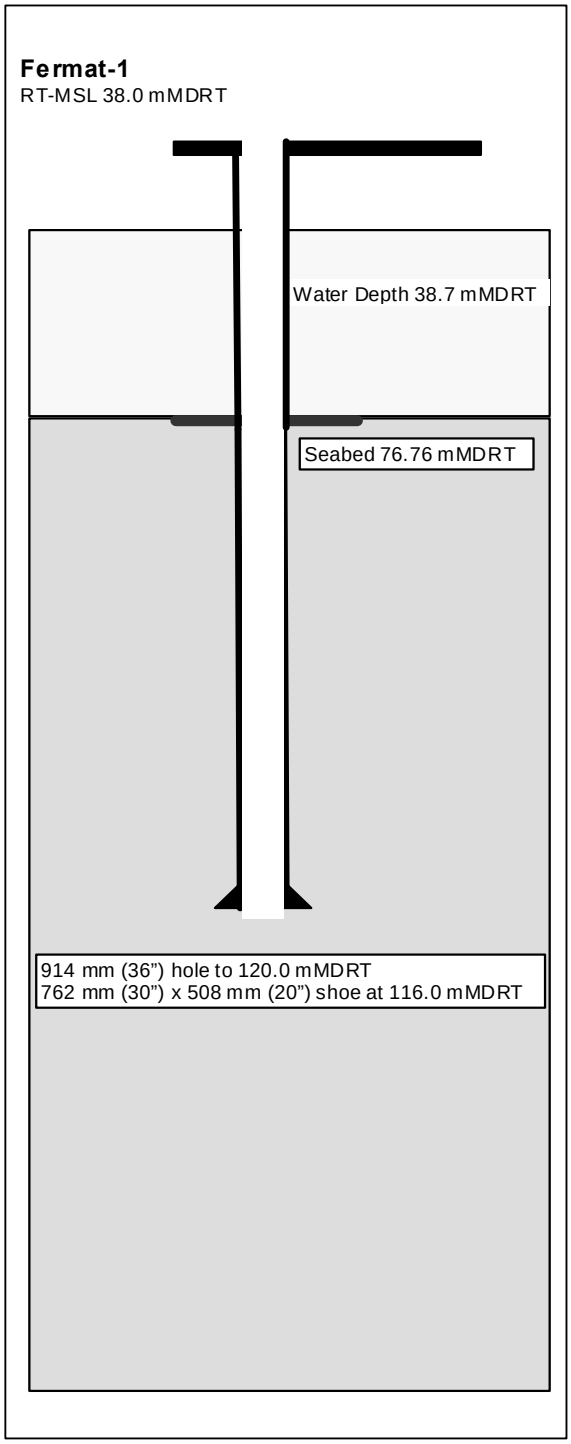
Cement Details

SLURRY:

Type:	Class G
Weight:	1.90 sg (15.9 ppg)
Slurry Vol:	30.21 m^3 (190 bbl)

Summary

A total of 11 joints of 762 mm (30”) casing were run in the hole with the shoe set at 116.0 mMDRT. Upon setting the casing shoe, the hole was circulated clean prior to cementing. 1.59 m^3 (10 bbl) of seawater spacer was pumped and the cement lines were pressure tested to 6895 kPa (1000 psi), followed by pumping another 14.31 m^3 (90 bbl) of the seawater spacer. 30.21 m^3 (190 bbls) of class “G” cement slurry was pumped and was displaced with 1.1 m^3 (7 bbls) of sea water. After circulating bottoms up, the cementing assembly was pulled out and laid down.



Fermat-1
340 mm (13-3/8”) Casing
17 - 18 December 2008

Hole Size:	444 mm (17-1/2")
Depth:	999.0 mMDRT

Casing Details

OD	340 mm (13 3/8”)
Grade / Wt:	N80: 101 kg/m
Joints:	1 Shoe joint
	1 Float joint
	75 x 340mm Casing joints
Shoe:	987.0 mMDRT

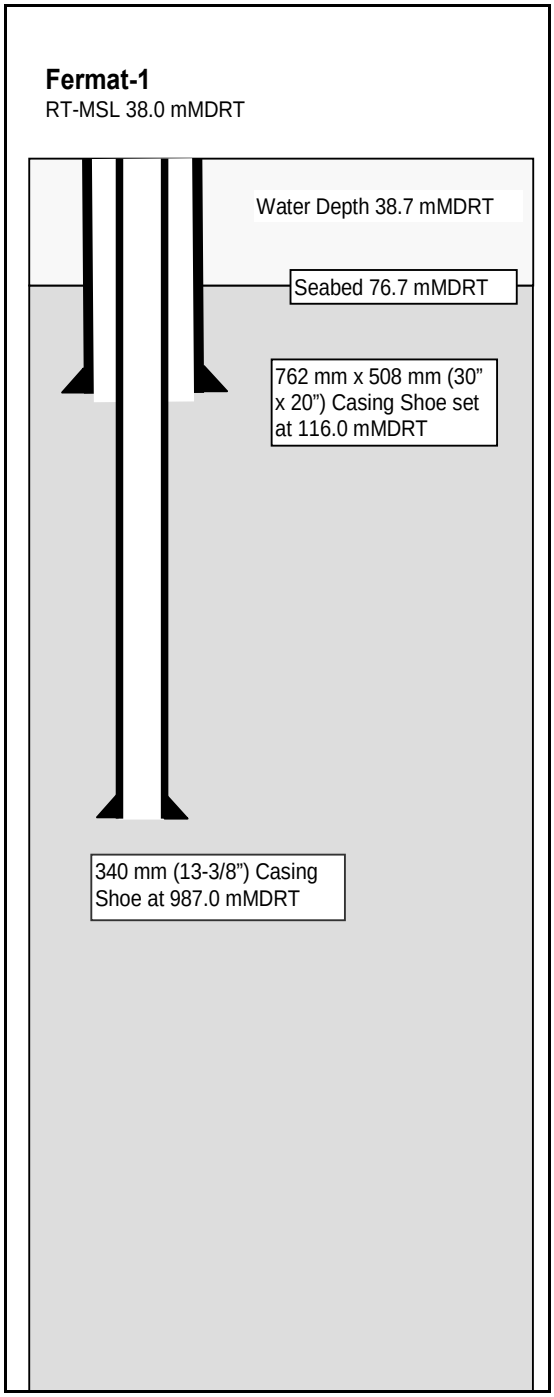
Cement Details

SLURRY:

Type:	Class G
Weight:	1.89 sg (15.8 ppg)
Slurry Vol:	34.98 m^3 (220 bbl)

Summary

A total of 75 joints of 340mm (13-3/8”) casing, shoe and float collar joints were ran in hole with the shoe set at 987.0 mMDRT. The casing was run as per tally, filling up every joint with sea water. The casing string took 30k weights at 969.0 mMDRT. The string was then made up to the top drive and washed down to the casing shoe setting depth at 987.0 mMDRT. The cement lines were pressure tested to 20684 kPa (3000 psi) prior to the cement job. 11.13 m^3 (70 bbl) of fresh water was pumped after that. 34.98 m^3 (220 bbl) of 1.90 sg (15.8 ppg) Class G cement was mixed and pumped. The cement was displaced with 1.58 m^3 (10 bbls) of freshwater and 73.13 m^3 (460 bbl) of seawater with plugs bumping pressure of 5515 kPa (800 psi) held up to 10 minutes.



Fermat-1
244 mm (9-5/8”) Casing
29 - 30 December 2008

Hole Size:	311 mm (12-1/4")
Depth:	2807.0 mMDRT

Casing Details

OD	244 mm (9 5/8”)
Grade / Wt:	P110: 77 kg/m
Joints:	1 Shoe joint
	1 Float Collar joint
	223 x Casing joints
Shoe:	2800.3 mMDRT

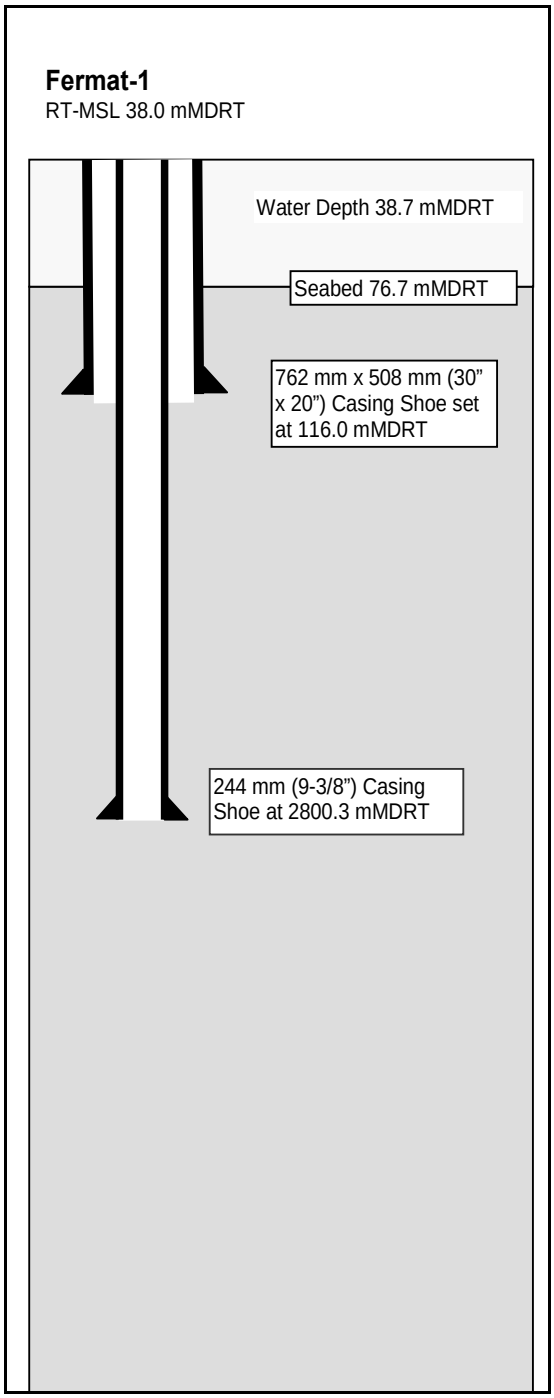
Cement Details

SLURRY:

Type:	Class G
Weight:	1.89 sg (15.8 ppg)
Slurry Vol:	36.56 m^3 (230 bbl)

Summary

A total of 223 joints of 244mm (9-5/8”) casing, float collar joint, pup joints and shoe track were run in the hole with the shoe set at 2800.3 mMDRT. The casing was run as per tally, filling up every joint with mud. The casing reached bottom then was run down with circulation. 1.59 m^3 (10 bbl) of drill water (spacer #1) was pumped prior to pressure testing. The cement lines were pressure tested to 27579 kPa (4000 psi) for 5 minutes prior to the cement job. 11.13 m^3 (70 bbl) of drill water was pumped followed by 9.54 m^3 (60 bbl) of 1.56 sg (13.0 ppg) tuned spacer E+ (spacer #2). 36.56 m^3 (230 bbl) of 1.89 sg (15.8 ppg) Class G cement was mixed and pumped. The cement was displaced with a total of 105.88 m^3 (666 bbl) of mud (105.41 m^3, 663 bbl theoretical) where the plugs failed to bump. The final displacing pressure was 6757 kPa (980 psi).



Fermat-1
Cement Plug
10 - 12 January 2009

Hole Size: 216 mm (8.5")
Depth: 3585.0 MDRT

Cement Details

CEMENT PLUG #1A:
- Type: Class HTB
- Weight: 1.89 sg (15.8 ppg)
- Slurry Vol: 5.81 m^3 (64 bbl)

CEMENT PLUG #1B (Part 1):
- Type: Class HTB
- Weight: 1.89 sg (15.8 ppg)
- Slurry Vol: 7.47 m^3 (47 bbl)

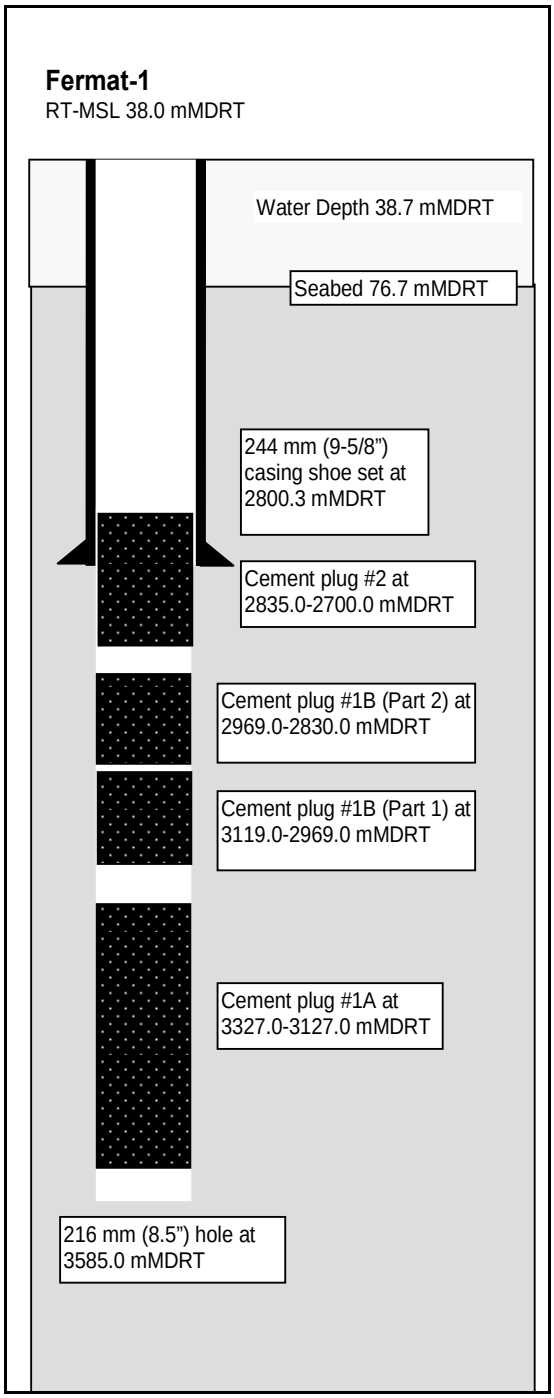
CEMENT PLUG #1B (Part 2):
- Type: Class HTB
- Weight: 1.89 sg (15.8 ppg)
- Slurry Vol: 7.00 m^3 (44 bbl)

CEMENT PLUG #2:
- Type: Class HTB
- Weight: 1.89 sg (15.8 ppg)
- Slurry Vol: 5.88 m^3 (37 bbl)

Summary:

The cement stinger made up of 140 mm (5-1/2") drill pipe was run in the hole to 3579.0 mMDRT. Circulation was attempted but the hole packed off. 2.42 m^3 (20 bbl) was pumped and displaced. The string was made up to the TDS. Circulation and rotation were able to pull free the string.

Cement plug #1A was set from 3327.0 to 3127.0 mMDRT. Cement plug #1B (Part 1) was set from 3119.0 to 2969.0 mMDRT while cement plug #1B (Part 2) was set from 2969.0m to 2830.0 mMDRT. Cement plug #2 was set across the 244mm (9-5/8") casing shoe from 2835.0 to 2700.0 mMDRT.



SECTION 3

GEOLOGY & SHOWS

3.1 ROP, Gas and Shows

Geological logging for Fermat-1 commenced at 1000.0 mMDRT, below the 340 mm (13-3/8'') casing shoe at 987.0 m to the total depth of 3585.0 m. (All depths given in this section are measured from the Rotary Table, unless otherwise specified).

During the course of the well all gas equipment were checked and calibrated regularly, and spot samples were taken during drilling breaks and other changes in drilling parameters to better assess lithological change. Drilled gas, trip gas, connection gas, re-circulated gas and swab gas levels were monitored.

The lithology of Fermat-1 is described below. For more detailed descriptions, see Appendix 1: Formation Evaluation Log. Please note that the descriptions on the Formation Evaluation Log were provided by the Beach Petroleum Wellsite Geologists.

DITCH CUTTING SAMPLING INTERVAL

Depth (mMDRT)	Sample interval	Sample Type
999.0 – 1100.0	5m	normal
1100.0 – 1750.0	10m	normal
1750.0 – 1950.0	5m	normal
1950.0 – 2800.0	10m	normal
2800.0 – 2807.0	7m	normal
2807.0 – 2810.0	3m	normal
2810.0 – 3585.0	5m	normal

Missed samples: 1090.0 mMDRT

FORMATION DESCRIPTION

999.0 to 1228.0 mMDRT / ROP 0.8 - 69.2 m/hr (Ave 31.2)

CLAYSTONE (0-75%): Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous.

SILTSTONE (0-25%): Dark olive-grey to dusky brown to light grey, moderately calcareous, commonly pyritic, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micro micaceous common lithic fragments, soft to very hard, blocky to subfissile

LIMESTONE (Tr): Echinoderm/coralline fragments and amorphous limestone

1228.0 to 1708.0 mMDRT / ROP 2.7 – 51.6 m/hr (Ave 27.0)

CLAYSTONE (0-80%): Medium grey to dark grey, occasionally brow grey to olive grey, locally moderately silty, grades to argillaceous siltstone in part, moderately abundant carbonaceous material, locally white kaolinitic/arenaceous inclusions, trace lithic fragments, micro micaceous, soft to plastic, massive to amorphous

SILTSTONE (0-45%): Dark grey to olive grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micro micaceous, trace carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile.

SANDSTONE (20-90%): Quartzose, clear to translucent, frosted, grey brown in part, fine to predominantly medium, coarse in part, subangular to subrounded, rounded in part, moderate sorting, predominantly clean, silty/argillaceous matrix in part, trace pyritic cement and pyrite nodules, trace limonite stained quartz, trace carbonaceous material, common coarse milky quartz float, disaggregated, poor to fair porosity, no fluorescence.

COAL (0-10%): Black, sub bituminous, dull to subvitreous lustre, platy to uneven fracture, brittle, blocky to platy in part.

1708.0 to 1883.0 mMDRT / ROP 7.7 - 45.0 m/hr (Ave 19.0)

CLAYSTONE (5-90%): Medium dark grey to olive grey, locally very silty grades to argillaceous siltstone in part, locally slightly arenaceous, trace carbonaceous specks, micro micaceous, soft to plastic, slightly dispersive, massive to amorphous.

SILTSTONE (0-15%): Dark grey to olive grey to yellowish grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micro micaceous, moderately abundant carbonaceous specks, trace lithic fragments, firm, blocky to subfissile.

SANDSTONE (10-95%): Quartzose, clear to translucent, frosted, very fine to coarse, subangular to subrounded, moderate sorting, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, predominantly disaggregated, with minor hard to very hard dolomite cemented very fine to fine sand aggregates very poor to fair porosity, no fluorescence.

1883.0 to 2200.0 mMDRT / ROP 2.4 - 41.4 m/hr (Ave 20.8)

CLAYSTONE (5-90%): Light grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.

SILTSTONE (0-65%): Light grey to olive grey to medium grey, occasionally dark grey to black, locally very argillaceous, moderately arenaceous, micro micaceous, moderately abundant carbonaceous specks, trace lithic fragments, firm, blocky to subfissile.

SANDSTONE (5-95%): Quartzose, clear to translucent, frosted, light grey, fine to coarse, angular to subangular, moderately to well sorted, predominantly clean, moderate to strong siliceous, calcareous and dolomitic cement in part, argillaceous matrix dispersing in mud, trace nodular pyrite, trace to common carbonaceous fragments, trace muscovite, trace dolomitic calcarenite, trace blocky firm siltstone, disaggregated with minor hard cemented fine to medium sand aggregates, fair to good porosity, no fluorescence.

2200.0 to 2807.0 mMDRT / ROP 1.6 - 97.1 m/hr (Ave 23.5)

CLAYSTONE (0-95%): Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micro micaceous, soft to firm to slightly dispersive, massive to amorphous.

SILTSTONE (10-90%): Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm to hard, blocky to subfissile.

SANDSTONE (0-75%): Quartzose, clear to translucent, occasionally minor feldspathic component, frosted, light olive grey to light grey to brownish grey, very fine to fine, subangular to subrounded, well sorted, common silty matrix, common firm carbonate and silica cemented aggregates, common pyrite trace to common carbonaceous fragments, trace dolomite, trace glauconite, trace quartz granules, fair porosity, no fluorescence.

2807.0 to 2943.0 mMDRT / ROP 1.0 - 86.6 m/hr (Ave 16.0)

CLAYSTONE (0-20%): Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to dispersive, massive to amorphous.

SILTSTONE (0-100%): Dark grey to brown black, locally very argillaceous grades to silty claystone, trace llithic fragments, trace carbonaceous specks, micro micaceous, trace glauconite/chlorite, slightly arenaceous in part, moderately hard, blocky.

SANDSTONE (0-100%): Quartzose, clear to translucent, frosted, fine to medium, subangular to subround, moderate to good sorting, moderately strong dolocalcareous cement in part, predominantly clean, locally coarse milky quartz float, trace glauconite, trace nodular pyrite, moderately hard aggregates, predominantly disaggregated, fair porosity, no fluorescence.

LIMESTONE (0-35%): Calcisiltite to Calcilutite, grey brown to dusky brown, micritic, slightly dolomitic, moderately to very argillaceous, trace fine calcareous sand, trace carbonaceous stylolites, hard, brittle in part, blocky to platy, no porosity, no fluorescence.

2943.0 to 3233.0 mMDRT / ROP 3.7 - 38.0 m/hr (Ave 20.4)

CLAYSTONE (0-10%): Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micro micaceous, soft to dispersive, massive to amorphous.

SILTSTONE (5-100%): Dark grey to brown black, locally v argillaceous grades to silty claystone in part, trace carbonaceous specks, trace lithic fragments, locally very fine grained arenaceous inclusions, slightly chloritic in part, firm, moderately hard, blocky to massive.

SANDSTONE (0-85%): Quartzose, clear to translucent to yellowish grey, frosted, very fine to medium, predominantly fine, subangular to subrounded, well sorted, moderately strong silica cement with weaker calcareous cement in part, predominantly clean with minor Fe-oxide stained quartz, trace glauconite, predominantly disaggregated with minor hard silica cemented fine to medium sand aggregates, good porosity, no fluorescence.

LIMESTONE (0-10%): Calcilutite, dusky yellow brown, micritic, cryptocrystalline in part, slightly dolomitic, trace carbonaceous material, trace fine calcareous sand, hard, brittle, blocky, no porosity, dull orange mineral fluorescence only.

3233.0 to 3585.0 mMDRT / ROP 3.4 - 36.7m/hr (Ave 22.4)

CLAYSTONE (0-70%): Dark grey to olive black, slightly silty, micro micaceous, trace carbonaceous material, smooth texture, moderately hard, blocky to subfissile in part.

SILTSTONE (20-90%): Dark grey to olive brown, very argillaceous grades to silty claystone in part, trace disseminated pyrite, common carbonaceous material, micromicaceous, common fine grained arenaceous inclusions, slightly chloritic in part, trace lithic fragments, firm to moderately hard, blocky.

SANDSTONE (0-80%): Quartz-litharenite, quartz 60-70%/lithics 30-40%; medium grey to olive grey, range very fine to medium, predominantly very fine to fine grained, silty in part, subangular, poorly sorted, slight to moderate calcareous cement, silty/argillaceous matrix, trace lithic fragments, trace biotite, friable to moderately hard, very poor porosity, no fluorescence.

Gas and ROP Readings for Fermat-1

Interval (mMDRT)	Total Gas range Min-max (unit)	Total Gas Average (unit)	ROP Range (m/hr)	ROP Average (m/hr)
999.0 – 1228.0	0 – 0.09	0.02	0.8 – 69.2	31.2
1228.0 – 1708.0	0 – 0.87	0.13	2.7 – 51.6	27.0
1708.0 – 1883.0	0 – 0.59	0.13	7.7 – 45.0	19.0
1883.0 – 2200.0	0.02 – 10.21	3.15	2.4 – 41.4	20.8
2200.0 – 2807.0	3.91 – 60.90	23.65	1.6 – 97.1	23.5
2807.0 – 2943.0	0.54 – 105.58	13.30	1.0 – 86.6	16.0
2943.0 – 3233.0	1.17 – 154.19	17.23	3.7 – 38.0	20.4
3233.0 – 3585.0	4.39 – 142.37	20.37	3.4 – 36.7	22.4

Gas Peak readings for Fermat-1

311mm (12-1/4”) Hole Section

Depth Interval (mMDRT)	Total Gas (unit)	Depth Max Gas (mMDRT)	C1 Range (ppm)	C2 Range (ppm)	C3 Range (ppm)	iC4 Range (ppm)	nC4 Range (ppm)	iC5 Range (ppm)	nC5 Range (ppm)
999.0 – 1228.0	0 – 0.09	1227.0	0 – 8	0	0	0	0	0	0
1228.0 – 1708.0	0 – 0.87	1439.0	1 – 32	0	0	0	0	0	0
1708.0 – 1883.0	0 – 0.59	1879.0	3 – 28	0 – 6	0 – 1	0	0	0	0
1883.0 – 2200.0	0.02 – 10.21	2052.0	2 – 1609	0 – 179	0 – 61	0 – 14	0 – 20	0 – 6	0 – 4
2200.0 – 2807.0	3.91 – 60.90	2671.0	175 – 11465	4 – 283	2 – 95	0 – 16	0 – 25	0 – 5	0 – 4

216mm (8-1/2”) Hole Section

Depth Interval (mMDRT)	Total Gas (unit)	Depth Max Gas (mMDRT)	C1 Range (ppm)	C2 Range (ppm)	C3 Range (ppm)	iC4 Range (ppm)	nC4 Range (ppm)	iC5 Range (ppm)	nC5 Range (ppm)
2807.0 – 2943.0	0.54 – 105.58	2875.0	7 – 16369	0 – 579	0 – 335	0 – 49	0 – 66	0 – 18	0 – 13
2943.0 – 3233.0	1.17 – 154.19	3012.0	38 – 22258	1 – 638	3 – 430	0 – 76	0 – 86	0 – 25	0 – 17
3233.0 – 3585.0	4.39 – 142.37	3350.0	358 – 19575	15 – 681	19 – 585	3 – 75	2 – 108	1 – 23	1 - 18

Sampling Summary and Record of Distribution for Fermat-1:

Well: Fermat-1

Rig: West Triton

From: BHI Unit 86010

Total of 47 Boxes

47 Big Boxes

1 Wooden Box (Samplex Trays)

To be consigned to

Beach Petroleum
C/o Challenger Geological Services Pty Ltd.
13 A Weaver St, Edwardstown SA 5039

Items being shipped: Geological Samples

Date Shipped: 13-Jan-2009

Method of Shipment: Boat

Container No: FM032

Consignee signature: Date: 13/01/2009

Geological Sample Summary

SAMPLES TO BE SPLITTED

Sample Type	Large Box No.	Interval (mMDRT)
Washed and dried Cutting Samples **To be split into 3 x 200g samples** **Samples missed: 1090m**	Box 1	1000.0 – 1035.0
	Box 2	1040.0 – 1075.0
	Box 3	1080.0 – 1140.0
	Box 4	1150.0 – 1220.0
	Box 5	1230.0 – 1300.0
	Box 6	1310.0 – 1380.0
	Box 7	1390.0 – 1460.0
	Box 8	1470.0 – 1540.0
	Box 9	1550.0 – 1620.0
	Box 10	1630.0 – 1700.0
	Box 11	1710.0 – 1765.0
	Box 12	1770.0 – 1805.0
	Box 13	1810.0 – 1845.0
	Box 14	1850.0 – 1885.0
	Box 15	1890.0 – 1925.0
	Box 16	1930.0 – 1980.0
	Box 17	1990.0 – 2060.0
	Box 18	2070.0 – 2140.0
	Box 19	2150.0 – 2220.0
	Box 20	2230.0 – 2300.0
	Box 21	2310 0.– 2380.0
	Box 22	2390.0 – 2460.0
	Box 23	2470.0 – 2540.0
	Box 24	2550.0 – 2620.0
	Box 25	2630.0 – 2700.0
	Box 26	2710.0 – 2780.0
	Box 27	2790.0 – 2830.0
	Box 28	2835.0 – 2870.0
	Box 29	2875.0 – 2910.0
	Box 30	2915.0 – 2950.0
	Box 31	2955.0 – 2990.0
	Box 32	2995.0 – 3030.0
	Box 33	3035.0 – 3070.0
	Box 34	3075.0 – 3110.0
	Box 35	3115.0 – 3150.0
	Box 36	3155.0 – 3190.0
	Box 37	3195.0 – 3230.0
	Box 38	3235.0 – 3270.0
	Box 39	3275.0 – 3305.0
	Box 40	3310.0 – 3345.0
	Box 41	3350.0 – 3385.0
	Box 42	3390.0 – 3425.0
	Box 43	3430.0 – 3465.0
	Box 44	3470.0 – 3505.0
	Box 45	3510.0 – 3545.0
	Box 46	3550.0 – 3585.0
	Box 47	ZIP LOCK BAGS (3 SETS) – 999.0 to 3585.0

Total Box 47

Samples final destination:

DESTINATION
Beach Petroleum C/o Challenger Geological Services Pty Ltd. 13 A Weaver St , Edwardstown SA 5039

SECTION 4

PRESSURE EVALUATION

4.1 Pore Pressure Evaluation

Fermat-1

In drilling Fermat-1, a seawater density of 1.04 sg (8.7 ppg) was assumed as normal saline pressure gradient for all calculations. The equivalent depth method was applied in the Dxc analysis, with all the relevant data, such as connection gas, trip gas, background gas, hole condition, and mud flowline temperature all taken into consideration in the analysis of the formation pore pressure.

914mm (36”) / 660mm (26”) Hole section: 76.7 – 119.0 mMDRT
This hole section was drilled riserless utilizing seawater and Pre-hydrated Gel sweeps. Pore pressure analysis was based roughly on hole condition and observations by the ROV for the presence of shallow gas. No hole problem was encountered in drilling this section while the ROV did not report any indication of shallow gas. The hole was drilled vertically in this section and drilling initially made use of jetting prior to setting the 762 mm (30”) x 508 mm (20”) conductor.

444mm (17-1/2”) Hole Section: 119.0 – 999.0 mMDRT
This hole section was drilled with riser (returns to seabed) utilizing seawater and Pre-hydrated Gel sweeps to 999.0 mMDRT. Pore pressure analysis was based roughly on hole condition and observations by the ROV for the presence of shallow gas. No hole problem was encountered in drilling this section while the ROV did not report any indication of shallow gas. The hole was drilled vertically. The resulting Dxc values showed a general increasing value with depth which indicates a normally pressurised formation.

311mm (12-1/4”) Hole Section: 999.0 – 2807.0 mMDRT
This hole section was drilled using WBM until the section TD. It was drilled with the initial mud weight of 1.16 sg (9.7 ppg) and was increased gradually to 1.19 sg (10.0 ppg) at TD. One Tricone bit and two PDC bits were used to drill this section. The tri-cone bit only drilled 28.0m from the casing shoe so there was not sufficient data for Dxc analysis in this interval. The first PDC bit drilled from 1027.0 to 2396.0 mMDRT with an average ROP of 23 m/hr. The ROP was largely affected by the controlling parameters used to attain as straight a hole as possible. The second PDC bit drilled from 2396.0 to section TD at 2807.0 mMDRT with an average of 28 m/hr. The faster ROP was attributed to the use of the mud motor.

The Dxc plot for this section shows a general increase in values with respect to depth and shows a general trendline to the right as is expected for a normally pressured formation. Occasional deviations to the normal trend, however, are observed which might possibly point to a slight increase in pore pressure. But these Dxc trend reversals might be attributed to the changes in lithology and also to occasional wide variations in the drilling parameters. Few amounts of cavings were observed in some intervals but no connection gasses were recorded. The background gas was generally steady and no large amount of formation gas (60 units was the maximum) was recorded; nevertheless the mud weight was gradually increased from 1.16 sg (9.7 ppg) to 1.19 sg (10.0 ppg) until section TD, sufficient in countering any abnormal pressure that may have been encountered in the well.

The flowline temperature in this section ranged from 24 degC to 53 degC. This temperature reading was largely affected by the cooling effect of seawater to the mud column in the riser. Occasional addition of drilling water and newly mixed mud to the active pits system also contributed to the limitation of temperature analysis in predicting pore pressure increase. Nevertheless, there was no abnormal high temperature increase observed in this section that may have been caused by a possible increase in pore pressure.

216mm (8-1/2”) Hole Section: 2807.0 – 3585.0 mMDRT
Using WBM, this hole section was drilled to the well’s total depth using one PDC bit. The rate of penetration averaged at 18.3m/hr from 2807.0 to 3585.0 mMDRT. The resulting Dxc values were well scattered but nevertheless showed a general increasing value with depth which indicated a normally pressured formation.

The flowline temperature ranged from 28.2 degC to 59.9 degC in the hole section. The low mud temperature reading is attributed to the cooling effect of seawater into the mud column in the riser. This and the occasional addition of fresh mud from the mixing and reserve pits rendered this tool of limited use in predicting pore pressure increase.

The Dxc plot of this hole section showed a general increasing trend with depth, and the data points were less scattered and the trend steeper compared to the 311mm (12-1/4”) hole section. Occasional deviations

to the normal trend which would point to an increase in pore pressure can be attributed to some changes in lithology and also to occasional wide variations in the drilling parameters.

Based on the Dxc signature and supported by a steady background gas and no connection gas there is no indication of an increase in pore pressure. The WBM mud, with a density range from 1.23 sg (10.3 ppg) to 1.26 sg (10.5 ppg), used in drilling the section, was therefore sufficient in countering any abnormal pressure in the well.

4.2 Fracture Pressure Evaluation

The well was spudded at 76.7 mMDRT using a 914mm (36”) hole opener made up on 660 mm (26”) bit. The 660 mm (26”) hole section was drilled from 76.7 m to 119.0 m with sea water followed by Hi-Vis sweeps and returns to sea bed. The 762 mm (30”) x 508 mm (20”) casing was set at 116.0 mMDRT and cemented. No LOT/FIT being conducted at the 762 mm (30”) x 508 mm (20”) casing shoe.

The 444 mm (17-1/2”) BHA was made up on MWD tools and drilled out shoe at 116.0 mMDRT and cement to 119.0 mMDRT. The 444 mm (17-1/2”) hole was drilled to 999.0 mMDRT while pumping 7.95 m^3 (50 bbl) Hi-vis sweeps at mid stand and returns to seabed. The 340 mm (13-3/8”) casing shoe was set at 987.0 mMDRT and cemented as per plan.

The 311 mm (12-1/4”) BHA was made up on MWD tools and shallow tested. BHA 3 was run in the hole and tagged the top of the collar at 974.0 mMDRT, drilled out the float collar, shoe track and float shoe to 999.0 mMDRT. Drilled 3.0 m new formation to 1002.0 mMDRT, circulated and conditioned the mud to 1.11 sg (9.3 ppg). Lined up and performed the LOT. The formation broke down at 6619 kPa (960 psi) - EMW 1.79 sg (15.00 ppg).

The 311mm (12-1/4”) hole was drilled from 999.0 to 2807.0 mMDRT using 3 bits with mud weight gradually increased from 1.11 sg (9.3ppg) to 1.19 sg (10.0ppg).

The following is a summary of the Leak off Test (LOT) conducted in this well:

Hole Size	Hole Depth	Casing	Shoe Depth	Pressure	Mud Weight	EMW
311mm (12-1/4”)	1002.0 mMDRT 1001.8 mTVDRT	13-3/8” 340mm	987.0 mMDRT 986.8 mTVDRT	6619 kPa 960 psi	1.11 sg 9.3 ppg	1.79 sg 15.00 ppg

The 216 mm (8-1/2”) BHA was made up on MWD tools and shallow tested. BHA 6 was run in the hole and tagged the top of the plug at 2753.0 mMDRT, then drilled out the top plug, cement, shoe track and float shoe to 2807.0 mMDRT. 3 m new formation was drilled to 2810.0 mMDRT, circulated and conditioned mud to 1.23 sg (10.3 ppg). Lined up and performed FIT. The formation was tested up to 18754 kPa (2720 psi) - EMW 1.92 sg (16.00 ppg).

Drilled 216 mm (8-1/2”) hole from 2807.0 to 3585.0 mMDRT using 1 bit with the mud weight gradually increasing from 1.23 sg (10.3ppg) to 1.26sg (10.5 ppg).

The following is a summary of the Formation Integrity Test (FIT) conducted in this well:

Hole Size	Hole Depth	Casing	Shoe Depth	Pressure	Mud Weight	EMW
216mm (8-1/2”)	2810.0 mMDRT 2807.4 mTVDRT	9-5/8” 244mm	2800.3 mMDRT 2797.7 mTVDRT	18754 kPa 2720 psi	1.23 sg 10.3 ppg	1.92 sg 16.00 ppg

TABLES

&

TIME DEPTH CURVE

OPERATOR	Beach Petroleum Ltd	WELL NAME	Fermat-1	LOCATION	VIC/P46	CONTRACTOR	Seadrill	RIG	West Triton

Mud Pump Data

Pumps 1, 2, and 3
165 mm 6.5" Liners
355 mm 14" Stroke
97% Efficiency, 26.5 litre/stk
(0.139 bbl/stk)

BIT DULL CHARACTERISTICS

BC - Broken Cone	CI - Cone Interference	JD - Junk Damage	PB - Pinched Bit	SS - Self-Sharpening
BT - Broken Teeth	CR - Cored	LC - Lost Cone	PN - Plugged Nozzle	TR - Tracking
BU - Balled Up	CT - Chipped Teeth	LN - Lost Nozzle	RG - Rounded Gauge	WO - Washed-Out Bit
CC - Cracked Cone	FC - Flat Crested Wear	LT - Lost Teeth	RO - Ring Out	WT - Worn Teeth
CD - Cone Dragged	HC - Heat Checking	OC - Off-Center Wear	SD - Shirttail Damage	NO - No Dull Characs.

REASONS PULLED

BHA - Bottomhole Assembly	LOG - Run Logs	FM - Formation Change	TD - Total / Csg depth
DMF - Downhole Motor failure	RIG - Rig repair	HP - Hole Problems	TQ - Torque
DSF - Drill String failure	CM - Condition Mud	HR - Hours	TW - Twist-Off
DST - Drill Stem Test	CP - Core Point	PF - Pump Pressure	WC - Weather Conditions
DTF - Downhole Tool Failure	DP - Drill Plug	PR - Penetration rate	WO - Washout - Drill String

BHA #	BIT No.	MAKE	TYPE	TFA sq.in.	JETS x 1/32"	SERIAL No.	DEPTH IN m	METRES ON BIT	HRS ON BOTTOM	AV ROP m/hr	CIRC HRS	WOB kN	RPM Surf/Motor	TBR krev	SPP kPa	FLOW lpm	TQ kN.m	GRADE I	O	D	L	B	G	O	R	MW sg	REMARKS
			Fermat-1																								
	914mm (36") Hole section 76.7 - 119.0 mMDRT																										
1	RR1	Reed	Tricone / Y11C	1.3100	3x22, 1x16	D74635R	76.7	42.3	3.2	13.2	6.5	8.0 - 26.0	19 - 100	12.0	690 - 6205	1522-4546	0.03 - 0.67	1	1	NO	A	E	I	NO	TD	1.04 (SW)	30" Casing Point
	444mm (17-1/2") Hole Section 119.0 - 999.0 mMDRT																										
2	NB2	Hughes	Milltooth / MXL-TOO	0.9204	3x20	6060161	119.0	880.0	21.2	41.5	31.3	4.0 - 133.0	74 - 163	175.0	3206 - 20339	2139-4581	0.13 - 17.5	2	2	LT	G	E	I	LN	TD	1.04 (SW)	13-3/8" Casing Point
	311mm (12-1/4") Hole Section 999.0 - 2807.0 mMDRT																										
3	NB3	Hughes	Tricone / GT-1	0.5889	3x16	5149536	999.0	28.0	1.1	25.5	9.4	6.0 - 36.0	40 - 80	4.2	6288 - 13058	1093-3051	0.05-2.25	0	0	NO	A	E	I	NO	BHA	1.11 - 1.17	Change BHA
4	NB4	Reed	PDC / RSR616M-A10	0.8397	3x13, 3x14	212219	1027.0	1369.0	83.3	16.4	106.0	4.0 - 93.0	80 - 320	945.0	7866 - 17864	2903-4773	1.0 - 21.2	5	3	RO		C	I	LT	BHA	1.17 - 1.19	Change BHA
5	NB5	Reed	PDC / RSX616M-A10	0.9070	3x13, 3x15	219736	2396.0	411.0	19.3	21.3	29.8	11.0 - 171.0	0 - 102 / 99-101	161.0	13410 - 18029	3043-3861	0.0 - 11.9	1	1	LT	G	X	I	B4	TD	1.17 - 1.19	9-5/8" Casing Point
	216mm (8-1/2") Hole Section 2807.0 - 3585.0 mMDRT																										
6	NB6	Security	PDC / SE3653Z	0.9020	6x14	11001928	2807.0	778.0	42.4	18.3	72.6	4.0 - 167.0	59 - 147	216.2	13024-22773	2044-2907	0.03 - 9.96	1	1	CT	N	X	I	NO	TD	1.23 - 1.26	Well TD

RT-AHD (m) 38.00 mMDRT

BAKER HUGHES INTEQ

Bit Hydraulics Summary

BEACH PETROLEUM

Operator	Well Name	Location	Drilling Contractor	Rig
Beach Petroleum Ltd	**Fermat-1**	**VIC/P46**	**Seadrill**	**West Triton**

Drillstring Abbreviations

N Normal **P** Positive Displacement Motor **S** Powerdrive
M MWD **A** Adjustable Gauge Stabilizer **T** TRACS Tool **C** Core

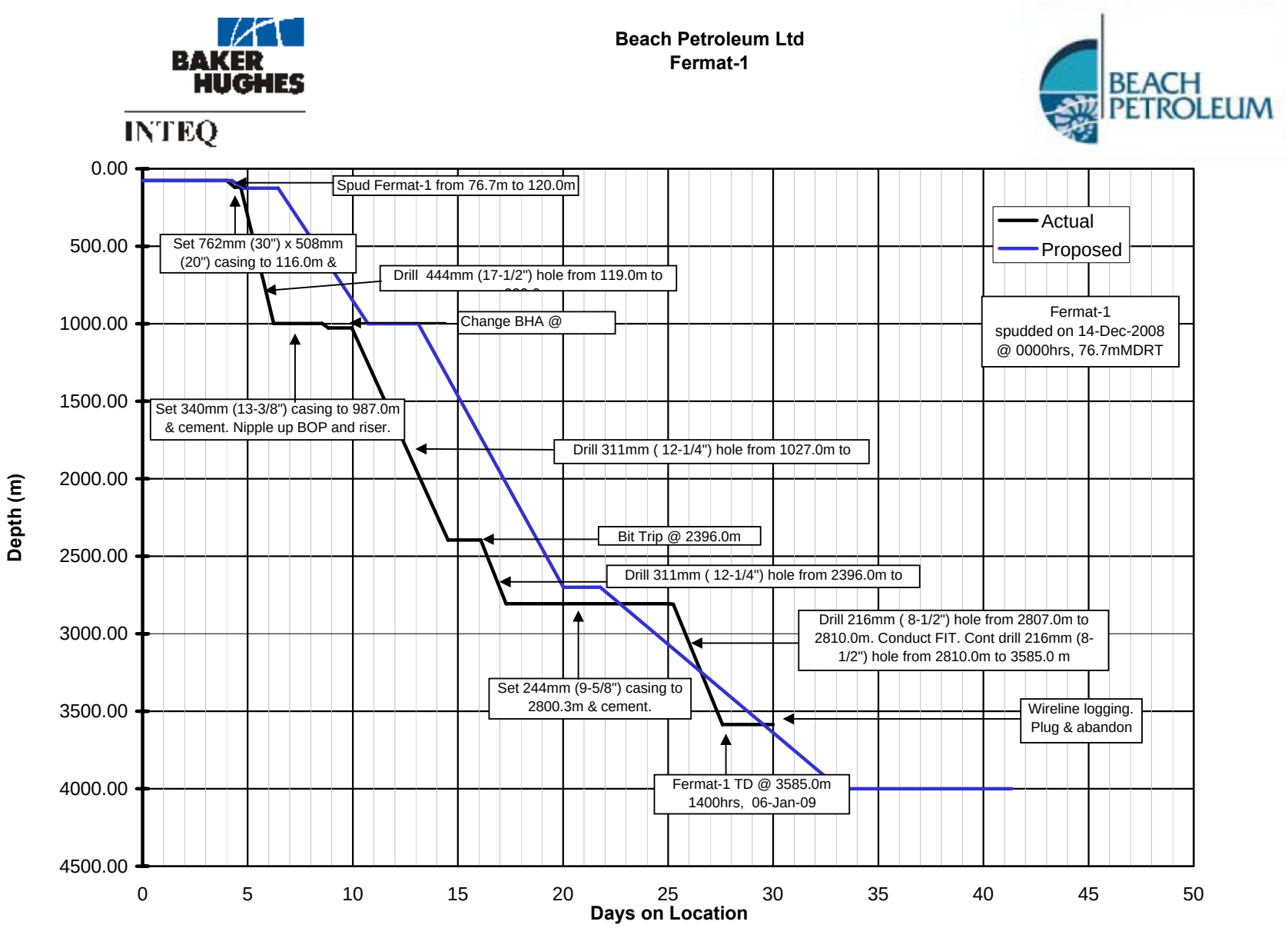
Hydraulics Models

Power Law Model used for drilling with Mud
Bingham Model used for coring and drilling with seawater

Bit No.	Depth AHD (m)	Hole Size mm	Jets x 1/32"	Drill String Type	Mud Type	Mud Density sg	PV mPa.s	YP Pa	Flow Rate lpm	Jet Vel m/sec	Impact Force kN/ m^2	Hydraulic Power kW	Power/ Area kW/ m^2	Bit Loss kPa	Bit Loss %	Pipe* Loss kPa	ECD sg	Annular Velocities DP OH m/min	Annular Velocities DC OH m/min	Annular Velocities DP Max Dia m/min
			Fermat-1																	
444 mm (17-1/2") Hole Section 119.0 - 999.0 mMDRT																				
NB2	170.0	444	3x20	**M**	Sea water	1.04	-	-	5455	127.5	64130	1265	3988	8060	48.2	7045	1.03	-	38.32	11.89
NB2	840.0	444	3x20	**M**	Sea water	1.04	-	-	5455	127.5	64130	1421	3988	8060	42.8	18803	1.03	32.48	42.45	11.89
311 mm (12-1/4") Hole Section 999.0 - 2807.0 mMDRT																				
NB3	1011.0	311	3x16	**M**	KCL / PHPA	1.12	20	30	3066	134.0	102746	755	6704	9902	66.0	4906	1.16	48.80	75.70	8.00
NB4	1028.0	311	3x13, 3x14	**M**	KCL / PHPA	1.13	17	25	3785	116.0	108952	950	6126	7342	48.0	7742	1.15	60.30	93.40	9.90
NB4	1438.0	311	3x13, 3x14	**M**	KCL / PHPA	1.15	18	12	3407	104.0	89644	845	4508	6079	40.0	8770	1.18	54.20	100.60	8.90
NB4	1792.0	311	3x13, 3x14	**M**	KCL / PHPA	1.15	12	49	3785	116.0	111021	981	6242	7500	48.0	8080	1.19	60.30	93.40	9.90
NB4	2130.0	311	3x13, 3x14	**M**	KCL / PHPA	1.15	15	34	3785	116.0	111021	1157	6299	7500	40.0	10881	1.19	60.30	93.40	9.90
NB4	2266.0	311	3x13, 3x14	**M**	KCL / PHPA	1.16	14	34	3861	118.0	116537	1242	6299	7887	40.0	11440	1.20	61.50	95.30	10.10
NB4	2396.0	311	3x13, 3x14	**M**	KCL / PHPA	1.16	14	34	3861	118.0	116537	1276	6762	7887	39.0	11972	1.20	61.50	95.30	10.10
NB5	2671.0	311	3x13, 3x15	**P**	KCL / PHPA	1.18	14	36	3407	97.0	86196	1076	4045	5375	28.0	13648	1.22	54.20	81.90	8.90
NB5	2807.0	311	3x13, 3x15	**P**	KCL / PHPA	1.20	16	35	3407	97.0	86886	1084	4045	5430	28.0	13690	1.23	54.20	60.50	8.90
216 mm (8-1/2") Hole Section 2807.0 - 3585.0 mMDRT																				
NB6	3012.0	216	6x14	**M**	KCL / PHPA	1.23	17	21.1	2688	77.0	116537	823	4358	3519	19.1	14890	1.40	126.29	228.13	14.35
NB6	3352.0	216	6x14	**M**	KCL / PHPA	1.26	15	16.3	2725	78.1	122054	960	4635	3685	17.4	17478	1.39	128.07	231.35	14.55
NB6	3585.0	216	6x14	**M**	KCL / PHPA	1.26	16	17.3	2725	78.1	122054	1010	4635	3685	16.6	18589	1.40	128.07	231.35	14.55

* Note: Pipe Loss includes DP,HWDP, DC, MWD, Motor

Table: 3 Time and Depth Curve



APPENDICES

PLOTS

FORMATION EVALUATION LOG

1:500

DRILLING DATA PLOT

1:1000

PRESSURE EVALUATION PLOT

1:1000

GAS RATIO PLOT

1:500

SCHLUMBERGER

Client.....: Beach Petroleum
Field.....: Fermat

Well.....: Fermat-1
API number.....: 08ASQ0034
Engineer.....: Joshua Seevaratnam

Rig:.....: West Triton
STATE:.....: VIC

----- Survey calculation methods----------
Method for positions.....: Minimum curvature
Method for DLS.....: Mason & Taylor

----- Depth reference ----------
Permanent datum.....: Mean Sea Level
Depth reference.....: Driller's Depth
GL above permanent.....: -38.70 m
KB above permanent.....: 38.00 m
DF above permanent.....: 38.00 m

----- Vertical section origin----------
Latitude (+N/S-).....: 0.00 m
Departure (+E/W-).....: 0.00 m

----- Platform reference point----------
Latitude (+N/S-).....: 0.00 m
Departure (+E/W-).....: 0.00 m

Azimuth from Vsect Origin to target: 0.00 degrees

Spud date.....: 14-Dec-08
Last survey date.....: 06-Jan-09
Total accepted surveys...: 103
MD of first survey.....: 0.00 m
MD of last survey.....: 3569.38 m

----- Geomagnetic data ----------
Magnetic model.....: BGGM version 2008
Magnetic date.....: 15-Dec-2008
Magnetic field strength..: 1214.44 HCNT
Magnetic dec (+E/W-).....: 9.87 degrees
Magnetic dip.....: -69.62 degrees

----- MWD survey Reference Criteria ---------
Reference G.....: 1000.02 mGal
Reference H.....: 1214.44 HCNT
Reference Dip.....: -69.62 degrees
Tolerance of G.....: (+/-) 2.50 mGal
Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections ----------
Magnetic dec (+E/W-).....: 9.87 degrees
Grid convergence (+E/W-).: -0.03 degrees
Total az corr (+E/W-)....: 9.90 degrees
(Total az corr = magnetic dec - grid conv)
Survey Correction Type ...:
I=Sag Corrected Inclination
M=Schlumberger Magnetic Correction
S=Shell Magnetic Correction
F=Failed Axis Correction
R=Magnetic Resonance Tool Correction
D=Dmag Magnetic Correction

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIP	None
2	167.75	1.24	1.78	167.75	167.74	1.81	1.81	0.06	1.82	1.78	0.23	PUP	None
3	197.16	0.28	58.77	29.41	197.14	2.17	2.17	0.13	2.17	3.37	1.15	PUP	None
4	256.53	0.60	153.30	59.37	256.51	1.97	1.97	0.39	2.01	11.25	0.35	PUP	None
5	286.11	2.77	188.85	29.58	286.08	1.12	1.12	0.35	1.18	17.37	2.38	PUP	None
6	315.55	1.66	227.88	29.44	315.50	0.13	0.13	-0.07	0.15	330.76	1.88	PUP	None
7	345.27	0.27	15.10	29.72	345.21	-0.09	-0.09	-0.38	0.39	256.86	1.94	PUP	None
8	374.62	0.25	25.51	29.35	374.56	0.04	0.04	-0.33	0.33	276.37	0.05	PUP	None
9	404.16	1.88	211.90	29.54	404.10	-0.32	-0.32	-0.56	0.64	240.47	2.20	PUP	None
10	463.95	0.32	269.03	59.79	463.88	-1.15	-1.15	-1.24	1.70	227.20	0.88	PUP	None
11	493.39	0.43	249.60	29.44	493.32	-1.19	-1.19	-1.43	1.86	230.18	0.17	PUP	None
12	523.07	0.44	347.74	29.68	523.00	-1.12	-1.12	-1.56	1.92	234.31	0.68	PUP	None
13	552.74	0.22	270.06	29.67	552.67	-1.01	-1.01	-1.64	1.92	238.42	0.46	PUP	None
14	582.42	0.09	59.69	29.68	582.35	-1.00	-1.00	-1.68	1.95	239.28	0.31	PUP	None
15	611.99	0.51	339.54	29.57	611.92	-0.86	-0.86	-1.70	1.91	243.17	0.52	PUP	None
16	641.40	0.19	327.69	29.41	641.32	-0.70	-0.70	-1.77	1.91	248.54	0.34	PUP	None
17	670.88	0.49	288.55	29.48	670.80	-0.62	-0.62	-1.92	2.02	252.21	0.38	PUP	None
18	700.49	0.33	247.43	29.61	700.41	-0.61	-0.61	-2.12	2.20	253.98	0.33	PUP	None
19	729.55	0.46	275.90	29.06	729.47	-0.63	-0.63	-2.31	2.40	254.79	0.24	PUP	None
20	759.18	0.36	241.87	29.63	759.10	-0.66	-0.66	-2.51	2.60	255.28	0.27	PUP	None
21	788.76	0.65	163.00	29.58	788.68	-0.86	-0.86	-2.54	2.69	251.24	0.70	PUP	None
22	818.32	0.12	122.27	29.56	818.24	-1.04	-1.04	-2.47	2.68	247.14	0.58	PUP	None
23	848.13	0.24	67.63	29.81	848.05	-1.03	-1.03	-2.39	2.60	246.57	0.20	PUP	None
24	877.69	0.50	112.18	29.56	877.61	-1.06	-1.06	-2.21	2.45	244.38	0.38	PUP	None
25	906.92	0.33	214.11	29.23	906.84	-1.18	-1.18	-2.14	2.44	241.17	0.68	PUP	None
26	936.44	1.52	212.18	29.52	936.35	-1.58	-1.58	-2.39	2.87	236.60	1.23	PUP	None
27	966.55	2.74	216.55	30.11	966.44	-2.49	-2.49	-3.04	3.93	230.58	1.24	PUP	None
28	990.90	2.28	226.38	24.35	990.77	-3.30	-3.30	-3.73	4.98	228.55	0.79	PUP	None
29	1023.76	2.63	224.84	32.86	1023.60	-4.28	-4.28	-4.74	6.39	227.89	0.33	PUP	None
30	1053.62	2.63	224.67	29.86	1053.43	-5.26	-5.26	-5.70	7.75	227.34	0.01	PUP	None

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
31	1083.09	2.60	225.86	29.47	1082.87	-6.20	-6.20	-6.66	9.10	227.03	0.06	PUP	None
32	1112.27	2.75	224.69	29.18	1112.02	-7.16	-7.16	-7.62	10.46	226.80	0.17	PUP	None
33	1141.71	2.61	223.95	29.44	1141.42	-8.14	-8.14	-8.59	11.83	226.51	0.15	PUP	None
34	1171.39	2.66	223.44	29.68	1171.07	-9.13	-9.13	-9.53	13.20	226.22	0.06	PUP	None
35	1200.78	2.64	223.80	29.39	1200.43	-10.12	-10.12	-10.47	14.56	225.98	0.03	PUP	None
36	1230.79	2.72	225.15	30.01	1230.41	-11.12	-11.12	-11.45	15.96	225.85	0.10	PUP	None
37	1288.88	2.77	225.56	58.09	1288.43	-13.07	-13.07	-13.43	18.74	225.77	0.03	PUP	None
38	1318.86	2.69	226.89	29.98	1318.38	-14.06	-14.06	-14.46	20.17	225.81	0.10	PUP	None
39	1407.48	2.91	229.04	88.62	1406.89	-16.95	-16.95	-17.68	24.49	226.19	0.08	PUP	None
40	1436.37	2.94	228.54	28.89	1435.74	-17.93	-17.93	-18.79	25.97	226.34	0.04	PUP	None
41	1465.90	3.02	227.97	29.53	1465.23	-18.95	-18.95	-19.93	27.50	226.45	0.09	PUP	None
42	1495.44	3.02	228.27	29.54	1494.73	-19.99	-19.99	-21.09	29.06	226.54	0.02	PUP	None
43	1525.13	3.06	228.31	29.69	1524.38	-21.03	-21.03	-22.27	30.63	226.63	0.04	PUP	None
44	1554.71	3.12	227.55	29.58	1553.92	-22.10	-22.10	-23.45	32.22	226.69	0.07	PUP	None
45	1584.40	3.16	227.33	29.69	1583.56	-23.20	-23.20	-24.65	33.85	226.73	0.04	PUP	None
46	1614.18	3.15	227.26	29.78	1613.30	-24.31	-24.31	-25.85	35.49	226.75	0.01	PUP	None
47	1643.45	3.22	227.15	29.27	1642.52	-25.42	-25.42	-27.04	37.12	226.77	0.07	PUP	None
48	1732.53	3.23	229.06	89.08	1731.46	-28.77	-28.77	-30.77	42.12	226.93	0.04	PUP	None
49	1761.71	3.31	229.32	29.18	1760.59	-29.85	-29.85	-32.03	43.79	227.02	0.08	PUP	None
50	1791.33	3.27	229.40	29.62	1790.17	-30.96	-30.96	-33.32	45.49	227.11	0.04	PUP	None
51	1820.98	3.35	229.44	29.65	1819.77	-32.07	-32.07	-34.62	47.20	227.19	0.08	PUP	None
52	1880.19	3.46	227.97	59.21	1878.87	-34.40	-34.40	-37.27	50.71	227.29	0.07	PUP	None
53	1939.47	3.51	227.37	59.28	1938.04	-36.82	-36.82	-39.93	54.32	227.32	0.03	PUP	None
54	2028.16	3.39	229.51	88.69	2026.57	-40.36	-40.36	-43.92	59.65	227.42	0.06	PUP	None
55	2057.35	3.37	231.70	29.19	2055.71	-41.46	-41.46	-45.25	61.37	227.51	0.14	PUP	None
56	2086.92	3.34	227.82	29.57	2085.23	-42.57	-42.57	-46.57	63.10	227.57	0.24	PUP	None
57	2116.75	3.44	227.04	29.83	2115.01	-43.77	-43.77	-47.87	64.86	227.56	0.11	PUP	None
58	2146.40	3.29	227.47	29.65	2144.61	-44.95	-44.95	-49.15	66.60	227.56	0.16	PUP	None
59	2175.52	3.42	228.06	29.12	2173.68	-46.09	-46.09	-50.41	68.31	227.56	0.14	PUP	None
60	2235.00	3.46	227.38	59.48	2233.05	-48.49	-48.49	-53.05	71.87	227.57	0.03	PUP	None

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
61	2264.44	3.46	226.56	29.44	2262.44	-49.71	-49.71	-54.35	73.65	227.56	0.05	PUP	None
62	2323.60	3.26	226.76	59.16	2321.49	-52.09	-52.09	-56.87	77.12	227.51	0.10	PUP	None
63	2382.70	3.36	228.47	59.10	2380.49	-54.39	-54.39	-59.39	80.53	227.52	0.07	PUP	None
64	2412.00	2.64	231.24	29.30	2409.75	-55.38	-55.38	-60.56	82.06	227.56	0.76	MWD_M	None
65	2441.90	1.53	213.40	29.90	2439.63	-56.14	-56.14	-61.32	83.14	227.52	1.30	MWD_M	None
66	2471.60	0.60	128.24	29.70	2469.33	-56.57	-56.57	-61.41	83.50	227.35	1.64	MWD_M	None
67	2500.84	1.41	69.21	29.24	2498.57	-56.54	-56.54	-60.96	83.14	227.15	1.27	MWD_M	None
68	2530.68	2.34	71.20	29.84	2528.39	-56.21	-56.21	-60.04	82.24	226.89	0.95	MWD_M	None
69	2559.85	2.34	72.69	29.17	2557.54	-55.84	-55.84	-58.90	81.17	226.53	0.06	MWD_M	None
70	2589.92	2.25	73.44	30.07	2587.58	-55.49	-55.49	-57.75	80.09	226.15	0.10	MWD_M	None
71	2648.85	2.04	82.16	58.93	2646.47	-55.02	-55.02	-55.60	78.22	225.30	0.20	MWD_M	None
72	2678.97	2.05	86.30	30.12	2676.57	-54.91	-54.91	-54.54	77.39	224.81	0.15	MWD_M	None
73	2708.38	2.63	86.65	29.41	2705.96	-54.84	-54.84	-53.34	76.50	224.21	0.60	MWD_M	None
74	2737.95	2.75	86.68	29.57	2735.49	-54.75	-54.75	-51.95	75.48	223.50	0.12	MWD_M	None
75	2767.46	3.28	73.47	29.51	2764.96	-54.47	-54.47	-50.44	74.24	222.80	0.90	MWD_M	None
76	2783.95	3.22	72.34	16.49	2781.43	-54.20	-54.20	-49.54	73.43	222.43	0.16	MWD_M	None
77	2816.25	3.18	78.94	32.30	2813.68	-53.75	-53.75	-47.80	71.93	221.65	0.35	PUP	None
78	2845.87	3.21	82.42	29.62	2843.25	-53.48	-53.48	-46.17	70.66	220.80	0.20	PUP	None
79	2875.23	3.12	85.48	29.36	2872.57	-53.31	-53.31	-44.56	69.48	219.89	0.20	PUP	None
80	2904.72	3.04	88.56	29.49	2902.01	-53.23	-53.23	-42.98	68.41	218.92	0.19	PUP	None
81	2934.24	2.89	94.43	29.52	2931.49	-53.27	-53.27	-41.45	67.50	217.89	0.35	PUP	None
82	2963.69	2.77	103.77	29.45	2960.91	-53.49	-53.49	-40.02	66.81	216.80	0.49	PUP	None
83	2992.79	2.65	116.56	29.10	2989.98	-53.96	-53.96	-38.74	66.43	215.67	0.64	PUP	None
84	3022.28	2.80	118.01	29.49	3019.43	-54.61	-54.61	-37.49	66.24	214.47	0.17	PUP	None
85	3051.99	2.87	121.90	29.71	3049.11	-55.34	-55.34	-36.22	66.14	213.20	0.21	PUP	None
86	3081.57	2.92	130.18	29.58	3078.65	-56.22	-56.22	-35.01	66.23	211.92	0.43	PUP	None
87	3111.25	3.10	139.57	29.68	3108.29	-57.32	-57.32	-33.92	66.60	210.62	0.54	PUP	None
88	3140.79	3.39	147.97	29.54	3137.78	-58.66	-58.66	-32.94	67.28	209.31	0.57	PUP	None
89	3170.28	3.47	152.03	29.49	3167.22	-60.19	-60.19	-32.05	68.19	208.04	0.26	PUP	None
90	3199.75	3.55	146.04	29.47	3196.63	-61.74	-61.74	-31.13	69.14	206.76	0.39	PUP	None

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
91	3229.40	3.69	145.49	29.65	3226.22	-63.28	-63.28	-30.07	70.07	205.42	0.15	PUP	None
92	3259.28	3.79	146.43	29.88	3256.04	-64.90	-64.90	-28.98	71.08	204.06	0.12	PUP	None
93	3288.90	3.91	148.34	29.62	3285.59	-66.57	-66.57	-27.91	72.19	202.75	0.18	PUP	None
94	3318.10	4.02	150.54	29.20	3314.72	-68.31	-68.31	-26.89	73.41	201.48	0.20	PUP	None
95	3347.40	4.21	152.14	29.30	3343.95	-70.16	-70.16	-25.88	74.78	200.25	0.23	PUP	None
96	3376.97	4.39	156.43	29.57	3373.43	-72.15	-72.15	-24.92	76.34	199.05	0.38	PUP	None
97	3406.76	4.66	160.95	29.79	3403.13	-74.34	-74.34	-24.07	78.14	197.94	0.46	PUP	None
98	3436.14	5.16	162.03	29.38	3432.40	-76.73	-76.73	-23.27	80.18	196.87	0.53	PUP	None
99	3465.57	5.58	159.59	29.43	3461.70	-79.33	-79.33	-22.36	82.42	195.74	0.50	PUP	None
100	3495.57	6.02	157.91	30.00	3491.55	-82.15	-82.15	-21.26	84.86	194.51	0.48	PUP	None
101	3525.24	6.42	158.39	29.67	3521.05	-85.14	-85.14	-20.07	87.47	193.26	0.41	PUP	None
102	3555.17	6.99	159.59	29.93	3550.77	-88.40	-88.40	-18.81	90.38	192.02	0.60	PUP	None
103	3569.38	7.28	160.29	14.21	3564.87	-90.06	-90.06	-18.21	91.88	191.43	0.65	PUP	None

Appendix 5: Daily Geological Reports

Date:	14 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	0	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	914mm (36")	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	87m MDRT 87m TVDRT -49.0m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress:	10m		
06:00 – 06:00 EST			
Current Operation:	Drilling 660/914mm (26"/36") hole.		

AFE Cost **(Drill)$** **(C&S)$** **(P&A)$** **Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")		762mm (30")		X52		

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
01:52	SW & Prehydrated Bentonite	8.8	488					10/75	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	1 RR	Reed	Rock	Y11C	660mm (26")	1	10.3	

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	Anderdrift	87	1.0				

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

P/U drillpipe and BHA for spudding well.
Prepared Texas Deck for drilling.
RIH and tagged seabed. Spud well at 00:00hrs 14/12/2008. Drilled 660/914mm (26"/36") hole from 76.7-87m

Anticipated operations:

Drill 660/914mm (26"/36") hole to casing point. Displace hole to Spud Mud. POH. Run and cement 762mm (30") casing.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Offset	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*		*76.7*	*-38.7*
Nirranda Group					*443.0*	*-405.0*
Dilwyn Formation					*538.0*	*-500.0*
Pember Mudstone					*948.0*	*-910.0*
Pebble Point Formation					*1028.0*	*-990.0*
Timboon Sandstone					*1048.0*	*-1010.0*
Paarratte Formation					*1223.0*	*-1185.0*
Skull Creek Mudstone					*1703.0*	*-1665.0*
Nullawarre Greensand					*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
76.7-87m	Returns to seabed	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
76.7-87m Av 10m/hr	Returns to seabed	

REMARKS:

DGR 1 links to DDR 4

Spud Fermat-1 at 00:00hrs 14 December 2008.

Final Rig Position: LAT: 38° 11' 47.0287"S
LONG:141° 03' 13.7734"E

EAST: 504713.143m
NORTH: 5772392.606m

Final location is 9.49m on a bearing of 249° T from the called location.

Geologists: Roman Leslie / Greg Clota

Date:	15 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs EST	**Rig:**	Seadrill: West Triton
Days From Spud:	2	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	914mm (36")	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	119m MDRT 119m TVDRT -81.0m SS	**PTD:** **Spud Date:**	4000.0 m MDRT 13 December 2008
24 Hr Progress:	32m		
06:00 – 06:00 EST			
Current Operation:	**P/U drill pipe**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:30	SW & Prehydrated Bentonite	8.8	488					10/76	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Last	1 RR	Reed	Rock	Y11C	660mm (26")	2.5	42.3	1 1 NO A E I NO TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	Anderdrift	119	0.5				

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Drilled 660/914mm (26"/36") hole from 87-119m
CBU & displaced hole to spud mud.
POH.
R/U & ran 762mm (30") casing. Cut casing above CTU.
Ran cementing string. Stung into float shoe and cemented casing. POH cementing string
P/U Drillpipe.

Anticipated operations:

P/U drillpipe. L/D 660/914mm (26"/36") BHA. MU 444mm (17.5") BHA. RIH and drill ahead

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Offset	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*		*76.7*	*-38.7*
Nirranda Group					*443.0*	*-405.0*
Dilwyn Formation					*538.0*	*-500.0*
Pember Mudstone					*948.0*	*-910.0*
Pebble Point Formation					*1028.0*	*-990.0*
Timboon Sandstone					*1048.0*	*-1010.0*
Paarratte Formation					*1223.0*	*-1185.0*
Skull Creek Mudstone					*1703.0*	*-1665.0*
Nullawarre Greensand					*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
87-119m	Returns to seabed	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
87-119m Av 17m/hr	Returns to seabed	

REMARKS:

DGR 1 links to DDR 5

2x Geologists onboard 14 Dec. 3x Schlumberger MWD onboard 14 Dec.

Final Rig Position: LAT: 38° 11' 47.0287"S
LONG:141° 03' 13.7734"E

EAST: 504713.143m
NORTH: 5772392.606m

Final location is 9.49m on a bearing of 249° T from the called location.

LWD Offsets from Bit:

TBA once Sonic-MWD picked up.

Geologists: **Roman Leslie / Greg Clota**

Date:	15 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs EST	**Rig:**	Seadrill: West Triton
Days From Spud:	1	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	914mm (36")	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	119m MDRT 119m TVDRT -81.0m SS	**PTD:** **Spud Date:**	4000.0 m MDRT 14 December 2008
24 Hr Progress:	32m		
06:00 – 06:00 EST			
Current Operation:	**P/U drill pipe**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:30	SW & Prehydrated Bentonite	8.8	488					10/76	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Last	1 RR	Reed	Rock	Y11C	660mm (26")	2.5	42.3	1 1 NO A E I NO TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	Anderdrift	119	0.5				

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Drilled 660/914mm (26"/36") hole from 87-119m
CBU & displaced hole to spud mud.
POH.
R/U & ran 762mm (30") casing. Cut casing above CTU.
Ran cementing string. Stung into float shoe and cemented casing. POH cementing string
P/U Drillpipe.

Anticipated operations:

P/U drillpipe. L/D 660/914mm (26"/36") BHA. M/U 444mm (17.5") BHA. RIH and drill ahead

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Offset	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*		*76.7*	*-38.7*
Nirranda Group					*443.0*	*-405.0*
Dilwyn Formation					*538.0*	*-500.0*
Pember Mudstone					*948.0*	*-910.0*
Pebble Point Formation					*1028.0*	*-990.0*
Timboon Sandstone					*1048.0*	*-1010.0*
Paarratte Formation					*1223.0*	*-1185.0*
Skull Creek Mudstone					*1703.0*	*-1665.0*
Nullawarre Greensand					*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
87-119m	Returns to seabed	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
87-119m Av 17m/hr	Returns to seabed	

REMARKS:

DGR 2 links to DDR 5

2x Geologists onboard 14 Dec. 3x Schlumberger MWD onboard 14 Dec.

Final Rig Position: LAT: 38° 11' 47.0287"S
LONG:141° 03' 13.7734"E

EAST: 504713.143m
NORTH: 5772392.606m

Final location is 9.49m on a bearing of 249° T from the called location.

LWD Offsets from Bit:

TBA once Sonic-MWD picked up.

Geologists: **Roman Leslie / Greg Clota**

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 3

Date:	16 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	2	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	444mm (17.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	233m MDRT 233m TVDRT -195m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	114m		
Current Operation:	**Drilling 444mm (17.5”)**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:00	SW & Prehydrated Bentonite	8.8	488					10/75	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	2	Hughes	Rock	MXL-T00	444mm (17.5”)	6.2	114	
Last	1 RR	Reed	Rock	Y11C	660mm (26”)	2.5	42.3	1 1 NO A E I NO TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
1	MWD	167.75	1.24	1.78	167.74	1.82	1.78
2	MWD	197.16	0.28	58.77	197.16	2.17	3.37

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Picked up 5 1/2" drill pipe, Laid out 26"/36" BHA . Held pre job JSA . Made final cut on 30' conductor @ 19.3m below RKB. Picked up 17 1/2" BHA and RIH to 17.87m. Performed shallow test on sonic tool, 700 GPM , 1700 PSI. Continued to RIH picking up 17 1/2" BHA from 17.87m to 115.37 m. Drilled out float shoe from 115.37m and cleaned out rathole to 119m. Drilled 17 1/2" hole from 119m to 233m.

Anticipated operations:

Drill ahead 444mm (17.5”) to casing point in Pember Mudstone.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Offset	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*		*76.7*	*-38.7*
Nirranda Group					*443.0*	*-405.0*
Dilwyn Formation					*538.0*	*-500.0*
Pember Mudstone					*948.0*	*-910.0*
Pebble Point Formation					*1028.0*	*-990.0*
Timboon Sandstone					*1048.0*	*-1010.0*
Paarratte Formation					*1223.0*	*-1185.0*
Skull Creek Mudstone					*1703.0*	*-1665.0*
Nullawarre Greensand					*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
119-233m	Returns to seabed	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
119-233m 5-60m/hr Av 18m/hr	Returns to seabed	

REMARKS:

DGR 3 links to DDR 6

3x Schlumberger Wireline personnel to rig 15 Dec

LWD Offsets from Bit:

Gamma: 5.10m
Survey: 5.75m.
Sonic: 14.74m

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 4

Date:	17 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	3	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	444mm (17.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	999m MDRT 999m TVDRT -961m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress:	766m		
06:00 – 06:00 EST			
Current Operation:	**Circ and condition hole at section TD in the Pember Mudstone.**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**	**Cost To Date:**	

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
23:00	SW & Prehydrated Bentonite	8.8	490					10/77	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	2	Hughes	Rock	MXL-T00	444mm (17.5”)	21	880	
Last	1 RR	Reed	Rock	Y11C	660mm (26”)	2.5	42.3	1 1 NO A E I NO TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
25	MWD	906.92	0.33	214.11	906.92	2.44	241.17
26	MWD	936.44	1.52	212.18	936.35	2.87	236.6
27	MWD	966.55	2.74	216.55	966.55	3.93	230.58

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
Mud	499-999	25-167bbl/hr	Approx static losses down hole

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled ahead 444mm (17.5”) hole 233-999m (casing point). Circulated and conditioned hole

Anticipated operations:

Circulate and condition hole. Displace to Hi-Vis mud. POH. Run and cmt 340mm (13.375”) casing.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Offset	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*		*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*		*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*		*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*		*948.0*	*-910.0*
Pebble Point Formation					*1028.0*	*-990.0*
Timboon Sandstone					*1048.0*	*-1010.0*
Paarratte Formation					*1223.0*	*-1185.0*
Skull Creek Mudstone					*1703.0*	*-1665.0*
Nullawarre Greensand					*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
233-999m	Returns to seabed	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
233-999m 10-90m/hr Av 32m/hr	Returns to seabed	

REMARKS:

DGR 4 links to DDR 7

LWD Offsets from Bit:

Gamma: 5.10m
Survey: 5.75m.
Sonic: 14.74m

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 5

Date:	18 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	4	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	444mm (17.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	999m MDRT 999m TVDRT -961m SS	**PTD:** **Spud Date:**	4000.0 m MDRT 14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		

Current Operation: **Heading up to cement 340mm (13 3/8”) Casing.**

AFE Cost **(Drill)$** **(C&S)$** **(P&A)$** **Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
15:00	SW & Prehydrated Bentonite	8.8	488					10/76	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Last	2	Hughes	Rock	MXL-T00	444mm (17.5”)	21	880	2 2 LT G E I LN TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
28	MWD	990.9	2.28	226.4	990.77	4.98	228.55

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
Mud	999	Up to 160bbl/hr	Topping hole with SW line

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Pumped and swept hole with 100 bbl HI-VIS mud while working drill string. Attempted to down link with Schlumberger MWD tools - no success. Circulated and conditioned hole. POOH from 999m to 31m checking each connection for washout. Continued to POOH with 17 1/2" BHA. Inspected BHA: One jet nozzle missing from bit. Sonic shield missing from MWD tool. Made up cement head and racked in derrick. Rigged up to run 13 3/8" casing. Ran 340mm (13 3/8") casing as per program. Picked up and made up 18 3/4" wellhead assembly. String taking 30k weight at 969m. Made up top drive, broke circulation and washed down casing to shoe setting depth at 987m, Picked up and made up cement stand head and lines.

Anticipated operations:

Cement 340mm (13.375”) casing. N/U and pressure test BOPs. P/U 311mm (12.25”) drilling assembly.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Offset	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*		*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*+49m*		*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*+38m*		*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*+15m*		*948.0*	*-910.0*
Pebble Point Formation					*1028.0*	*-990.0*
Timboon Sandstone					*1048.0*	*-1010.0*
Paarratte Formation					*1223.0*	*-1185.0*
Skull Creek Mudstone					*1703.0*	*-1665.0*
Nullawarre Greensand					*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
999m	No new formation drilled.	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
999m	No new formation drilled.	

REMARKS:

DGR 5 links to DDR 8

LWD Offsets from Bit:

Sonic transmitter cover left in hole from Run1. Sonic memory data recovered and currently at Processing Centre.

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 6

Date:	19 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	5	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	444mm (17.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	999m MDRT 999m TVDRT -961m SS	**PTD:** **Spud Date:**	4000.0 m MDRT 14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		
Current Operation:	**RIH with 311mm (12.25”) junk clean out assembly**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Last	2	Hughes	Rock	MXL-T00	444mm (17.5”)	21	880	2 2 LT G E I LN TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
28	MWD	990.9	2.28	226.4	990.77	4.98	228.55

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
Mud	999	Up to 160bbl/hr	Topping hole with SW – losses decreasing over time

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Cemented 340mm (13.375”) casing. Bumped plug and held pressure. Bled off pressure – floats held. Adjust landing ring on wellhead – release running tool. POH and laid out running tool. Nippled up BOP. Increased tension on CTU. Nippled up riser, overshot, diverter and control lines – pressure tested surface lines. Function test BOP from Driller’s, Koomey and Toolpusher’s panels. Pressure tested 340mm (13.375”) casing against shear rams. Run wear bushing. Made up 311mm (12.25”) bit and junk run BHA. RIH to 126m. Picked up DP whilst RIH from 126m.

Anticipated operations:

RIH. Drill out 340mm (13.375”) casing. Work junk basket. Drill 999-1002m. Perform LOT. Drill ahead 311mm (12.25”) hole +/-25m working junk basket. POH. P/U PDC bit and new 311mm (12.25”) drilling assembly.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Offset	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*		*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*		*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*		*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*		*948.0*	*-910.0*
Pebble Point Formation					*1028.0*	*-990.0*
Timboon Sandstone					*1048.0*	*-1010.0*
Paarratte Formation					*1223.0*	*-1185.0*
Skull Creek Mudstone					*1703.0*	*-1665.0*
Nullawarre Greensand					*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
999m	No new formation drilled.	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
999m	No new formation drilled.	

REMARKS:

DGR 6 links to DDR 9

LWD Offsets from Bit:

Memory data from Run 1 indicates the Sonic tool failed at 750m.

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 7

Date:	20 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	6	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	444mm (17.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	1027m MDRT 1027m TVDRT -989m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	28m		
Current Operation:	**POH 311mm (12.25”) drillout/junk run assembly**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**	**Cost To Date:**	

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	14.9ppg EMW

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
20:45	KCl Polymer	9.4	177	5.8	10.5	9.0%	42k	17/25	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	3	Hughes	Rock	GT-1	311 (12.25”)	2	28	
Last	2	Hughes	Rock	MXL-T00	444mm (17.5”)	21	880	2 2 LT G E I LN TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
28	MWD	990.9	2.28	226.4	990.77	4.98	228.55

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Continued to pick up drillpipe whilst RIH. Drilled out float collar, shoe track and 340mm (13.375”) casing shoe from 974-987m. Displaced to KCl Polymer mud from 984m. Cleaned rat hole from 987-999m. Worked junk basket. Drilled 3m new formation to 1002m. Circulated hole clean and worked junk basket. Performed FIT with 9.3ppg mud - 960psi (15.0ppg EMW). Drilled ahead 311mm (12.25”) hole 1002-1027m. Worked junk basket. POH.

Anticipated operations:

Make up new 311mm (12.25”) drilling assembly. RIH. Drill ahead.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Offset	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*		*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*		*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*		*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*		*948.0*	*-910.0*
Pebble Point Formation					*1028.0*	*-990.0*
Timboon Sandstone					*1048.0*	*-1010.0*
Paarratte Formation					*1223.0*	*-1185.0*
Skull Creek Mudstone					*1703.0*	*-1665.0*
Nullawarre Greensand					*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
999-1027m	LIMESTONE: Dull yellow green mineral fluorescence only. No cut no residue.	0.025u

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
999-1027m 2.9-69.2m/hr 35.5m/h avg	**Sandstone with interbedded Siltstone** SANDSTONE: (80-85%) Quartzose, clear to translucent to light grey (smokey quartz), frosted, with minor yellow-white milky quartz and trace to moderately abundant muscovite (up to ~2%), fine to granular, subangular to subrounded, poorly sorted (bimodal), trace pyrite cement on grain boundaries, trace microcrystalline pyrite granules, disaggregated with minor pyrite-cemented fine to medium sandstone aggregates, no fluorescence. SILTSTONE: (15-20%) Dark olive-grey to dusky brown to light grey, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile. LIMESTONE: (Tr) Echinoderm/coralline fragments and amorphous limestone, dull yellow green mineral fluorescence only, no cut, no residue.	0.025U BG 100

REMARKS:

DGR 7 links to DDR 10

Pieces of ground bit nozzle recovered form Junk Basket.

LWD Offsets from Bit:

Run 2: TBA

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 8

Date:	21 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	7	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	1156m MDRT 1156m TVDRT -1118m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	129m		
Current Operation:	**Drilling ahead 12.25” hole in the Timboon Sandstone at 35m/hr.**		

AFE Cost (Drill)$ (C&S)$ (P&A)$ **Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)		244mm(9.675”)				

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:25	KCl Polymer	9.5	153	4.4	9.5	8.5%	38k	30/42	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	4	Reed	PDC	RSR616M -A10	311mm (12.25”)	7	129	
Last	3	Hughes	Rock	GT-1	311mm (12.25”)	2	28	0 0 NO A E I NO BHA

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
29	MWD	1023.76	2.63	224.84	1023.6	6.39	227.89
30	MWD	1053.62	2.63	224.67	1053.43	7.75	227.34
33	MWD	1141.71	2.61	223.95	1141.42	11.83	226.51

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
Mud	1027-1156	Up to 40bbl/hr	Losses over shakers

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Broke out Junk Basket – recovered 175gm metal. Made up new 311mm (12.25”) drilling assembly – shallow tested MWD. Picked up and racked back 21 joints of drill pipe. RIH 151-979m whilst picking up drill pipe. Calibrated LWD depth at casing shoe. Washed and logged with LWD 987-1027m. Drilled ahead 311mm (12.25”) hole 1027-1156m.

Anticipated operations:

Drill ahead 311mm (12.25”)

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Offset	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m Low*		*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*		*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*		*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*		*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*		*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*		*1048.0*	*-1010.0*
Paarratte Formation					*1223.0*	*-1185.0*
Skull Creek Mudstone					*1703.0*	*-1665.0*
Nullawarre Greensand					*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
1027-1156m	Nil	0.02u

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
1027-1040m 5-48m/hr 25m/h avg	**Sandstone with interbedded Siltstone and Claystone** SANDSTONE: (50-80%) Quartzose, clear to translucent to light smokey grey, frosted, with trace yellow-white milky quartz, fine to very coarse, subangular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence SILTSTONE: (20-25%) Dark olive-grey to dusky brown to light grey, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile. CLAYSTONE: (0-25%) Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous.	0.02u BG 100

1040-1075m 11-39m/hr 22m/h avg	**Claystone with interbedded Sandstone and Siltstone** CLAYSTONE: (50-90%) Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous. SANDSTONE: (10-30%) Quartzose, clear to translucent, frosted, very fine to fine, subrounded, well sorted, pyrite cement on grain boundaries, trace microcrystalline pyrite granules, disaggregated with minor pyrite cemented fine sand aggregates, no fluorescence SILTSTONE: (10-25%) Dark olive-grey to dusky brown, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.	0.03u BG 100
1075-1092m 15-40m/hr 35m/hr avg	**Pebble Point Formation** **Sandstone with interbedded Siltstone and Claystone** SANDSTONE: (50-85%) Quartzose-feldspathic, clear to translucent to light smokey grey, frosted, with moderately abundant K-feldspar (microcline), fine to very coarse, angular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence. SILTSTONE: (5-45%) Dark olive-grey to dusky brown to light grey, moderately to strongly calcareous, commonly pyritic, common lithic fragments, soft, blocky. CLAYSTONE: (5-15%) Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous.	0.02u BG 100
1092-1056 16-40m/hr 35m/hr avg	**Timboon Sandstone** **Sandstone with Interbedded Siltstone** SANDSTONE: (70-90%) Quartzose-feldspathic, clear to translucent to light smokey grey, frosted, with moderately abundant K-feldspar (microcline), fine to very coarse, subangular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence. SILTSTONE: (10-30%) Dark grey to olive, slightly calcareous in part, commonly carbonaceous, common lithic fragments, soft, blocky.	0.01u BG 100

REMARKS:

DGR 8 links to DDR 11

<u>LWD Offsets from Bit:</u>

Run 2:

GR: 4.9m
Res: 4.85m
ECD: 4.14m
Survey: 12.96m
Sonic: 22.37m

<u>Geologists</u>: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 9

Date:	22 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	8	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	1563m MDRT 1562.25m TVDRT -1524.25m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	407m		
Current Operation:	**Drilling ahead 12 ¼” hole in the Paaratte Formation at 20m/hr.**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**	**Cost To Date:**	

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)		244mm(9.675”)				

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
16:00	KCl Polymer	9.6	78	4.4	8.5	8.5%	44k	21/27	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	4	Reed	PDC	RSR616M -A10	311mm (12.25”)	23.5	536	
Last	3	Hughes	Rock	GT-1	311mm (12.25”)	2	28	0 0 NO A E I NO BHA

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
36	MWD	1230.79	2.72	225.15	1230.41	15.96	225.85
40	MWD	1436.37	2.94	228.54	1435.74	25.97	226.34
43	MWD	1525.13	3.06	228.31	1524.38	30.63	226.63

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
Mud	1156-1563	Up to 60bbl/hr	Losses over shakers.

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled ahead 311mm (12.25”) hole 1156-1563m.

Anticipated operations:

Drill ahead 311mm (12.25”) hole.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone					*1703.0*	*-1665.0*
Nullawarre Greensand					*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
1156-1530m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
1156-1245 10-41.6m/hr 31.5m/hr avg	**Timboon Sandstone** **Sandstone with interbedded Claystone and Siltstone** SANDSTONE: (40-80%) Quartzose, clear to translucent, frosted, medium light grey in part, medium to predominantly coarse to very coarse, angular to subrounded, poor to moderate sorting, clean, common coarse nodular pyrite, trace limonite stained quartz, common carbonaceous fragments, common smoky/coarse milky quartz float, disaggregated, fair porosity, no fluorescence. CLAYSTONE: (60-20%) Dark grey to brown black, moderately silty, slightly calcareous in part, common carbonaceous/coaly fragments, micromicaceous, trace muscovite, soft to plastic, massive to blocky in part SILTSTONE: (10-30%) Dark grey to olive, slightly calcareous in part, commonly carbonaceous, common lithic fragments, soft, blocky.	0.04u BG 100

1245-1440m 5-48m/hr 32m/hr avg	**Paaratte Formation** **Interbedded Sandstone, Claystone and Siltstone with occasionally thin Coal seams.** SANDSTONE: (30-90%) Quartzose, clear to translucent, frosted, grey brown in part, fine to predominantly medium, coarse in part, subangular to subround, rounded in part, moderate sorting, predominantly clean, silty/argillaceous matrix in part, trace pyritic cement and pyrite nodules, trace carbonaceous material, common coarse milky quartz float, disaggregated, poor to fair porosity, no fluorescence. SILTSTONE: (0-45%) Dark grey to olive grey to yellowish grey, locally very argillaceous grades to silty claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile. CLAYSTONE: (10-70%) Dark grey to brown black, locally moderately to very silty grades to argillaceous siltstone in part, locally common carbonaceous material and carbonaceous microlaminae, occasionally white kaolinitic/arenaceous inclusions, micromicaceous, soft, massive to amorphous. COAL: (0-10%) Black, subbituminous, dull to subvitreous lustre, occasionally disseminated pyrite, platy to uneven fracture, brittle, blocky to platy in part.	0.17u BG 100
1440-1530m 3-42m/hr 18.5m/hr avg	**Thinly interbedded Sandstone, Siltstone and Claystone** SANDSTONE: (50-90%) Quartzose, clear to translucent, frosted, grey brown in part, fine to predominantly medium, coarse in part, subangular to subround, rounded in part, moderate sorting, predominantly clean, silty/argillaceous matrix in part, trace pyritic cement and pyrite nodules, trace carbonaceous material, trace coal, common coarse milky quartz float, disaggregated, with minor silica cement, occasionally carbonate cemented very fine sandstone aggregates poor to fair porosity, no fluorescence. SILTSTONE: (5-45%) Dark grey to olive grey to yellowish grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile. CLAYSTONE: (0-45%) Dark grey to brown black, locally moderately to very silty grades to argillaceous siltstone in part, locally common carbonaceous material and carbonaceous microlaminae, occasionally white kaolinitic/arenaceous inclusions, micromicaceous, soft, massive to amorphous.	0.09u BG 100

REMARKS:

DGR 9 links to DDR 12

Carbide lag check @ 1421m, hole in gauge. 18u TG

<u>LWD Offsets from Bit:</u>

Run 2:

GR: 4.9m
Res: 4.85m
ECD: 4.14m
Survey: 12.96m
Sonic: 22.37m

<u>Geologists</u>: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 10

Date:	23 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	9	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	1869m MDRT 1867.75m TVDRT -1829.75m SS	**PTD:** **Spud Date:**	4000.0 m MDRT 14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	306m		
Current Operation:	**Drilling ahead 12 ¼” hole in the Nullawarre Greensand at 20m/hr.**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**	**Cost To Date:**	

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)		244mm(9.675”)				

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:45	KCl Polymer	9.65	76	4.4	9.0	7.5%	48k	21/34	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	4	Reed	PDC	RSR616M -A10	311mm (12.25”)	41.2	842	
Last	3	Hughes	Rock	GT-1	311mm (12.25”)	2	28	0 0 NO A E I NO BHA

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
44	MWD	1554.71	3.12	227.55	1553.92	32.22	226.69
47	MWD	1643.45	3.22	227.15	1642.52	37.12	226.77
51	MWD	1820.98	3.35	229.19	1819.77	47.2	227.19

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
	1563-1869	Nil	

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled ahead 311mm (12.25”) hole 1563-1679m. Power failed to driller’s consol – Draw works, Top Drive System and Mud Pumps stopped – trouble shoot problem. Drilled ahead 311mm (12.25”) hole 1679-1869m.

Anticipated operations:

Drill ahead 311mm (12.25”) hole.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone					*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
1530-1860m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
1530-1705m 7-52m/hr 25m/hr avg	**Interbedded and interlaminated Sandstone, Claystone and minor Siltstone** SANDSTONE: (20-90%) Quartzose, clear to translucent, light grey, fine to medium, subangular to subround, well sorted, locally moderately strong dolocalcareous/siliceous cement, occasionally pyritic cement, predominantly clean (argillaceous matrix dispersing in mud), trace medium to coarse milky quartz float, trace medium nodular pyrite, locally carbonaceous/coaly fragments, trace muscovite in part, disaggregated, occasionally hard aggregates, poor to fair porosity, no fluorescence. SILTSTONE: (0-20%) Dark grey to olive grey to pale yellow brown, moderately siliceous, moderately argillaceous, trace carbonaceous fragments, trace lithic fragments, trace muscovite, slightly chloritic, hard, blocky to subfissile. CLAYSTONE: (10-80%) Dark grey to olive black, silty, occasionally slightly arenaceous, trace carbonaceous material, micromicaceous, trace lithic fragments, soft to plastic, massive to blocky.	0.07u BG 100

1705-1850m 9-37m/hr 19m/hr avg	**Skull Creek Mudstone** **Sandstone with interbedded, interlaminated Claystone and Siltstone** SANDSTONE: (10-90%) Quartzose, clear to translucent, light grey, fine to coarse, subangular to subrounded, moderate to well sorted, locally moderately strong dolocalcareous/siliceous cement, minor pyritic cement, predominantly clean (argillaceous matrix dispersing in mud), trace medium to coarse milky quartz float, trace medium nodular pyrite, locally carbonaceous/coaly fragments, disaggregated with minor hard to very hard dolomite-cemented fine to medium sand aggregates, poor to fair porosity, no fluorescence. SILTSTONE: (5-10%) Dark grey to olive grey to pale yellow brown, moderately siliceous, moderately argillaceous, trace carbonaceous fragments, trace lithic fragments, trace muscovite, slightly chloritic, firm to hard, blocky to subfissile. CLAYSTONE: (10-85%) Medium grey to dark grey to olive black, silty, occasionally slightly arenaceous, trace carbonaceous material, micromicaceous, trace lithic fragments, soft to plastic, massive to blocky.	0.1 u BG 100
1850-1860m 9-31m/hr 20m/hr avg	**Nullawarre Greensand** **Sandstone with interbedded Claystone** SANDSTONE: (60-70%) Quartzose, clear to translucent, frosted, light grey, very fine to predominantly fine, subangular to subround, well sorted, locally weak to moderately strong siliceous cement, common medium clear quartz float, trace muscovite, trace carbonaceous specks, trace fine to medium nodular pyrite, locally kaolinitic inclusions, moderately hard to disaggregated, poor to fair porosity, no fluorescence. CLAYSTONE: (30-40%) Medium dark grey to olive grey, locally very silty grades to argillaceous siltstone in part, trace carbonaceous specks, micromicaceous, soft to plastic, slightly dispersive, massive.	0.15 u BG 100

REMARKS:

DGR 10 links to DDR 13

LWD Offsets from Bit:

There was an increase in the stick slip on downhole tools with increased WOB.

Run 2:

GR: 4.9m
Res: 4.85m
ECD: 4.14m
Survey: 12.96m
Sonic: 22.37m

Geologists: Roman Leslie / Greg Clota

Date:	24 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	10	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2138m MDRT 2136.23m TVDRT -2098.23m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	269m		
Current Operation:	**Drilling ahead 12 ¼” hole in the Upper Belfast Mudstone at 25m/hr.**		

AFE Cost (Drill)$ (C&S)$ Cost To Date:
(P&A)$

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)		244mm(9.675”)				

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:00	KCl Polymer	9.70	53	4.4	9.0	7.0%	50k	13/38	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	4	Reed	PDC	RSR616M -A10	311mm (12.25”)	57.1	1111	
Last	3	Hughes	Rock	GT-1	311mm (12.25”)	2	28	0 0 NO A E I NO BHA

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
52	MWD	1880.19	3.46	227.97	1878.87	47.20	227.19
55	MWD	2057.35	3.37	231.70	2055.71	61.37	227.51
57	MWD	2116.75	3.44	227.04	2115.01	64.86	227.56

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
	1869-2138m	190 total	

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled ahead 311mm (12.25”) hole 1869-2138m. 02:00-03:00hrs replaced TDS washpipe assembly.

Anticipated operations:

Drill ahead 311mm (12.25”) hole.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1867*	*27m Low*	*220 High*	*1878.0*	*-1840.0*
Belfast A Mudstone					*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
1860-2120m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
1860-1905m 9-39m/hr 24m/hr Avg	**Nullawarre Greensand** **Sandstone with interbedded Claystone** SANDSTONE: (20-90%) Quartzose, clear to translucent, frosted, light grey, very fine to predominantly fine, subangular to subround, well sorted, locally weak to moderately strong siliceous cement, common medium clear quartz float, trace muscovite, trace carbonaceous specks, trace fine to medium nodular pyrite, locally kaolinitic inclusions, moderately hard to disaggregated, poor to fair porosity, no fluorescence. CLAYSTONE: (10-80%) Medium dark grey to olive grey, locally very silty grades to argillaceous siltstone in part, trace carbonaceous specks, micromicaceous, soft to plastic, slightly dispersive, massive.	0.28 u BG 92/7/1/0/0

1905-2060m 4-41m/hr 23m/hr avg	**Belfast Unit C and B Mudstone** **Sandstone with interbedded Claystone and minor Siltstone** SANDSTONE: (15-95%) Quartzose, clear to translucent, frosted, light grey, very fine to coarse, subangular to subrounded, moderately to well sorted, predominantly clean, moderate to strong siliceous, calcareous and dolomitic cement, argillaceous matrix dispersing in mud, trace nodular pyrite, trace to common carbonaceous fragments, trace hard siltstone, disaggregated with common hard cemented fine to medium sand aggregates, fair to good porosity, no fluorescence. SILTSTONE: (0-15%) Dark grey to olive grey, locally very argillaceous grades to silty claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, firm, blocky to subfissile. CLAYSTONE: (5-85%) Light grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.	10.2 u PK 88/7/3/2/0 at 2053m 2.5 u BG 86/8/4/1/1
2060-2120m 2-41m/hr 25m/hr avg	**Sandstone with minor interlaminated Claystone and Siltstone** SANDSTONE: (50-90%) Quartzose, clear to translucent, frosted, light grey, very fine to coarse, subangular to subrounded, moderately to well sorted, predominantly clean, moderate to strong siliceous, calcareous and dolomitic cement, argillaceous matrix dispersing in mud, trace nodular pyrite, trace muscovite, trace to common carbonaceous fragments, trace hard siltstone, disaggregated with common hard cemented fine to medium sand aggregates, fair to good porosity, no fluorescence. SILTSTONE: (0-15%) Dark grey to olive grey, locally very argillaceous grades to silty claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, firm, blocky to subfissile. CLAYSTONE: (5-50%) Light grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.	3.8 u BG 88/7/3/1/1

REMARKS:

Carbide lag check at 1982m. In gauge, 30u total gas.

DGR 11 links to DDR 14

<u>LWD Offsets from Bit:</u>

.

Run 2:

GR: 4.9m
Res: 4.85m
ECD: 4.14m
Survey: 12.96m
Sonic: 22.37m

<u>Geologists</u>: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 12

Date:	25 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	11	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2317m MDRT 2314.90m TVDRT -2276.90m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	179m		
Current Operation:	**Drilling ahead 12 ¼” hole in the Belfast Mudstone.**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**	**Cost To Date:**	

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)		244mm(9.675”)				

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
04:00	KCl Polymer	9.70	53	4.4	9.0	7.0%	50k	16/30	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	4	Reed	PDC	RSR616M -A10	311mm (12.25”)	77.2	1290	
Last	3	Hughes	Rock	GT-1	311mm (12.25”)	2	28	0 0 NO A E I NO BHA

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
56	MWD	2086.92	3.34	227.82	2085.23	63.10	227.57
58	MWD	2146.40	3.29	227.47	2144.61	66.60	227.56
61	MWD	2264.44	3.46	226.56	2262.44	73.65	227.56

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
	2138-2317m	235 total	

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled ahead 311mm (12.25”) hole 2138-2317m.

Anticipated operations:

Drill ahead 311mm (12.25”) hole.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1867*	*27m Low*	*220 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2122*	*3m High*	*240 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2138-2317m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2120-2160m 4-41m/hr 14m/hr avg	**Sandstone with minor interlaminated Claystone and Siltstone** SANDSTONE: (30-70%) Quartzose, clear to translucent, frosted, light grey, very fine to coarse, subangular to subrounded, moderately to well sorted, predominantly clean, moderate to strong siliceous, calcareous and dolomitic cement, argillaceous matrix dispersing in mud, trace nodular pyrite, trace muscovite, trace to common carbonaceous fragments, trace hard siltstone, disaggregated with common hard cemented fine to medium sand aggregates, fair to good porosity, no fluorescence. SILTSTONE: (5-60%) Dark grey to olive grey, locally very argillaceous grades to silty claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, firm, blocky to subfissile. CLAYSTONE: (5-45%) Light grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.	4.1 u BG 88/8/3/2/0

2160-2302m 4-26m/hr 8.5m/hr avg	**Belfast Mudstone Unit A** **Claystone with minor interbedded Siltstone and Sandstone** SANDSTONE (tr-70%) Quartzose, clear to translucent, frosted, light grey, fine to coarse, angular to subrounded, moderately to very well sorted, predominantly clean, with argillaceous to silty matrix dispersing in mud, moderate to strong siliceous, calcareous and dolomitic cement in part, trace nodular pyrite, trace to common carbonaceous fragments, trace muscovite, locally trace dolomitic calcarenite, predominantly disaggregated with common firm to hard cemented aggregates, fair to good porosity, no fluorescence. SILTSTONE (5-65%) Light grey to olive grey to dark grey to black, arenaceous to argillaceous, moderately to non calcareous, firm to very hard, blocky to fissile (black shale). CLAYSTONE (20-90%) Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.	7.2 u BG 91/6/3/0/0 31.5 u PK at 2302m 96/3/1/0/0

REMARKS:

DGR 12 links to DDR 15

<u>LWD Offsets from Bit:</u>

.

Run 2:

GR: 4.9m
Res: 4.85m
ECD: 4.14m
Survey: 12.96m
Sonic: 22.37m

<u>Geologists</u>: Roman Leslie / Greg Clota

Date:	26 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	12	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2396.5m MDRT 2394.30m TVDRT -2356.30m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	79.5m		
Current Operation:	**Drilling ahead 311mm (12.25”)**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)		244mm(9.675”)				

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:00	KCl Polymer	9.70	53	4.6	9.0	6.9%	48k	14/37	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	4	Reed	PDC	RSR616M -A10	311mm (12.25”)	83.3	1369.5	
Last	3	Hughes	Rock	GT-1	311mm (12.25”)	2	28	0 0 NO A E I NO BHA

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
62	MWD	2323.60	3.26	226.76	2321.49	77.12	227.51
63	MWD	2382.70	3.36	228.47	2380.49	80.53	227.52

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
	2317-2396.5m	144	

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled ahead 311mm (12.25”) hole 2317-2396.5m. POOH to 920m. Trouble shooting cyber system/draw-works problems.

Anticipated operations:

Pick up BHA for correction run and RIH. Drill ahead 311mm (12.25”) hole.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1867*	*27m Low*	*220 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2122*	*3m High*	*240 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2302-2396.5m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2302-2396.5m 6.5-31.7m/hr 15m/hr avg	**Claystone and Siltstone with minor interbedded Sandstone** SANDSTONE (15-65%) Quartzose, clear to translucent, frosted, light grey, very fine to coarse, predominantly fine, subangular to subrounded, moderately to well sorted, common silty matrix, carbonate cement, predominantly disaggregated, with common firm carbonate cemented aggregates, trace dolomite, trace limestone, fair to good porosity, no fluorescence SILTSTONE (10-50%) Dark grey to olive grey, argillaceous, micaceous, commonly pyritic, firm, blocky to subfissile, trace to 10% dark grey to black, hard to very hard, subfissile to fissile silty shale. CLAYSTONE (15-75%) Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.	23 u PK at 2387m 92/5/2/1/0 14 u BG 92/5/2/1/0

REMARKS:

DGR 13 links to DDR 16

The Belfast Unit A encountered in Fermat-1 contains sandstone lenses from 2295m ~ 5-10m thick and appear to be broadly equidistant with ~30m spacing (see GR log). Note these sandstone lenses were not encountered in Normanby-1.

LWD Offsets from Bit:

.

Run 2:

GR: 4.9m
Res: 4.85m
ECD: 4.14m
Survey: 12.96m
Sonic: 22.37m

Geologists: Roman Leslie / Greg Clota

Date:	27 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	13	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2402m MDRT 2399.78m TVDRT -2361.78m SS	**PTD:** **Spud Date:**	4000.0 m MDRT 14 December 2008
24 Hr Progress:	5.5m		
06:00 – 06:00 EST			
Current Operation:	**Drilling ahead 12 ¼” hole (deviation correction run) in the Belfast Mudstone**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**	**Cost To Date:**	

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)		244mm(9.675”)				

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:00	KCl Polymer	9.80	57	4.5	8.5	7.1%	47.5k	14/32	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	0.8	5.5	
Last	4	Reed	PDC	RSR616M -A10	311mm (12.25”)	83.3	1369.5	5 3 RO C I LT BHA

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
62	MWD	2323.60	3.26	226.76	2321.49	77.12	227.51
63	MWD	2382.70	3.36	228.47	2380.49	80.53	227.52

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
	2396.5-2402m	42	

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Trouble shot cyber/draworks slow mode issue in conjunction with live link to NOV Norway. Repair problem. RIH with BHA to 121m, shallow tested MWD, 800 GPM, 1050 PSI. Good test. Made up TDS, precautionary washed and reamed to bottom from 2346m to 2396m Drilled ahead 311mm (12.25”) correctional hole 2396.5-2402m.

Anticipated operations:

Drill ahead 311mm (12.25”) correctional hole.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1867*	*27m Low*	*220 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2122*	*3m High*	*240 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2396.5-2400m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas	2386.5	41 u		96/3/1/0/0
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2396.5-2400m 1.6-15m/hr 9m/hr avg	**Sandstone with interbedded Siltstone and Claystone** SANDSTONE (75%) Quartzose, clear to translucent, frosted, light olive grey to brownish grey to medium light grey, very fine to medium, predominantly fine, subangular to subrounded, well sorted, common carbonate cemented aggregates, trace dolomite, fair to porosity, no fluorescence SILTSTONE (15%) Dark grey to olive grey, argillaceous, micaceous, commonly pyritic, firm, blocky to subfissile, trace to dark grey to black, hard to very hard, subfissile to fissile silty shale. CLAYSTONE (10%) Light grey to light olive, silty in part, micromicaceous, soft to slightly dispersive, massive to amorphous.	4 u BG 94/4/1/1/0

REMARKS:

DGR 14 links to DDR 17

LWD Offsets from Bit:

.

Run 3:

GR: 13.37m
Res: 13.32m
ECD: 12.61m
Survey: 21.42m
Sonic: 30.82m

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 15

Date:	28 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	14	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2766m MDRT 2763.5m TVDRT -2725.5m SS	**PTD:** **Spud Date:**	4000.0 m MDRT 14 December 2008
24 Hr Progress:	364m		
06:00 – 06:00 EST			
Current Operation:	**Drilling ahead 12 ¼” hole in the basal Belfast Mudstone at 30m/hr.**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**	**Cost To Date:**	

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)		244mm(9.675”)				

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:00	KCl Polymer	9.90	48	4.8	9.0	6.9%	47k	16/35	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	17.7	371.5	
Last	4	Reed	PDC	RSR616M-A10	311mm (12.25”)	83.3	1369.5	5 3 RO C I LT BHA

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
66	MWD	2471.60	0.59	128.12	2469.33	83.51	227.35
69	MWD	2559.85	2.35	73.02	2557.54	81.19	226.53
74	MWD	2737.95	2.76	86.66	2735.49	75.49	223.48

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
	2402-2766m	226	

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled ahead 311mm (12.25”) correctional hole 2402-2766m.

Anticipated operations:

Continue to drill 311mm (12.25”) correctional hole to section TD 2800m, circulate and condition hole. POOH.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1867*	*27m Low*	*220 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2122*	*3m High*	*240 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2400-2750m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2400-2470m 5-41m/hr 22m/hr avg	**Interbedded Siltstone, Claystone and Sandstone** SANDSTONE (10-75%) Quartzose, clear to translucent, frosted, light olive grey to light grey to brownish grey, very fine to medium, subangular to subrounded, well sorted, common silty matrix, common firm carbonate and silica cemented aggregates, trace to common carbonaceous fragments, trace dolomite, fair to good porosity, no fluorescence. SILTSTONE (40-80%) Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm, blocky to subfissile, with trace dark grey to black, hard to very hard, subfissile to fissile shale. CLAYSTONE (5-50%) Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous	34 u PK at 2454.5m 95/4/1/0/0 20 u BG 95/4/1/0/0

2470-2580m 4-97m/hr 29m/h avg	**Siltstone with interlaminated Claystone and Sandstone** SANDSTONE (Tr-30%) Quartzose, clear to translucent, frosted, medium grey to brownish grey, very fine to medium, subangular to subrounded, well sorted, common silty matrix, disaggregated, with minor carbonate cemented aggregates, trace pyrite, trace carbonaceous fragments, trace dolomite, fair to good porosity, no fluorescence. SILTSTONE (50-80%) Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm, blocky to subfissile. CLAYSTONE (10-40%) Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.	48 u PK at 2521.5m 97/2/1/0/0 29 u BG 96/3/1/0/0
2580-2750m 5-52m/hr 33m/hr avg	**Thinly interlaminated Siltstone and Claystone with minor Sandstone** SANDSTONE (Tr-15%) Quartzose, clear to translucent, frosted, medium grey to brownish grey, very fine to fine, subangular, well sorted, common silty matrix, weak carbonate cement, trace pyrite, trace carbonaceous fragments, trace dolomite, fair to good porosity, no fluorescence. SILTSTONE (60-90%) Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm to hard, blocky to subfissile. CLAYSTONE (10-30%) Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.	60 u PK at 2675m 97/2/1/0/0 33 u BG 97/2/1/0/0

REMARKS:

DGR 14 links to DDR 17

LWD Offsets from Bit:

.

Run 3:

GR: 13.37m
Res: 13.32m
ECD: 12.61m
Survey: 21.42m
Sonic: 30.82m

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 16

Date:	29 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	15	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2807.2m MDRT 2804.6m TVDRT -2766.6m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	41.2m		
Current Operation:	**Rigging to run 9 5/8” intermediate casing , picking up shoe track.**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**	**Cost To Date:**	

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36")	119m	762mm (30")		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)		244mm(9.675”)				

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
09:30	KCl Polymer	10.0	47	5.2	8.8	7.0%	46k	15/35	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD
Last	4	Reed	PDC	RSR616M-A10	311mm (12.25”)	83.3	1369.5	5 3 RO C I LT BHA

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
74	MWD	2737.95	2.76	86.66	2735.49	75.49	223.48
75	MWD	2767.46	3.28	73.47	2764.96	74.24	222.80
76	MWD	2783.95	3.22	72.34	2781.43	73.43	222.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
	2766-2807.2m	53 total	

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled ahead 311mm (12.25”) correctional hole 2766-2807.2m. Circulate and condition hole. POOH. Slipped and cut drilling line at 958m. POOH laid out BHA.

Anticipated operations:

RIH with 9 5/8" casing.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1867*	*27m Low*	*220 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2122*	*3m High*	*240 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2750-2807.2m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2750-2807.2m 7-41m/hr 27m/hr avg	**Siltstone and with minor interbedded Sandstone** SANDSTONE (10%) Quartzose with minor feldspathic component, clear to translucent to milky white, frosted, medium grey, very fine to fine, subangular, well sorted, common silty matrix, weak silica cement, common carbonaceous fragments trace pyrite, trace dolomite, trace calcarenite, poor porosity, no fluorescence. SILTSTONE (90%) Dark grey to olive grey, arenaceous, carbonaceous, micaceous, commonly pyritic, firm to hard, blocky. Trace Claystone.	26 u BG 96/3/1/0/0

REMARKS:

DGR 16 links to DDR 19

LWD Offsets from Bit:

.

Run 3:

GR: 13.37m
Res: 13.32m
ECD: 12.61m
Survey: 21.42m
Sonic: 30.82m

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 17

Date:	30 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	16	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2807m MDRT 2804.4m TVDRT -2766.4m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		
Current Operation:	**Circulating, preparing to cement 244mm (9.675”) casing**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**	**Cost To Date:**	

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110		

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
12:00	KCl Polymer	10.0	55	5.0	8.8	6.9%	46k	14/36	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
76	MWD	2783.95	3.22	72.34	2781.43	73.43	222.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
Mud	2807	nil	No losses whilst running casing

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Made up 244mm (9.675”) casing shoe track joints. Ran 244mm (9.675”) casing to 2774m Casing took 30klb weight. Attempted to circulate casing – hole packed off. Worked casing 2764-2778m and established circulation – no mud losses. Made up casing hanger to landing string and washed 244mm (9.675”) casing 2778-2807m. Made up cementing head and circulated casing.

Anticipated operations:

Cement 244mm (9.675”) casing. Run seal assembly. Pressure test BOP. Make up 216mm (8.5”) Drilling Assembly and RIH.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2807m	No new formation drilled	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2807	No new formation drilled	

REMARKS:

DGR 17 links to DDR 20

Run3 LWD Sonic and Resistivity memory data was downloaded and is of good quality.

LWD Offsets from Bit:

Run 4:

TBA

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 18

Date:	31 December 2008	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	17	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2807m MDRT 2804.4m TVDRT -2766.4m SS	**PTD:** **Spud Date:**	4000.0 m MDRT 14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		
Current Operation:	**Attempting to release casing hanger running tool.**		
AFE Cost (Drill)$	**(C&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800m	

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
14:00	KCl Polymer	10.0	50	5.0	8.5	7.0%	46k	15/39	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
76	MWD	2783.95	3.22	72.34	2781.43	73.43	222.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks
Mud	2807	58bbl	Total downhole losses while displacing cement.

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Circulated bottoms up through 244mm (9.675”) casing. Mixed, pumped and displaced cement – did not bump plug. Floats held. Rigged down cementing head and lines. First joint of 244mm (9.675”) casing landing string below rotary table backed off whilst attempting to release casing hanger running tool. Applied threadlock to pin and made up backed off joint to landing string. Waited on threadlock to set. Attempted to release running tool – no go – landing string backed off at the same threadlocked joint. Rigged down and pulled the diverter package. Made up 244mm (9.675”) casing landing string joint and welded straps across coupling – straps broke when attempting to release running tool. Welded coupling direct to casing. Casing landing string backed off at top of running tool whilst attempting to release from casing hanger. Multiple attempts were made to release running tool – no go. Rigged down and removed BOP. Remade up 244mm (9.675”) casing landing string to running tool. Applied threadlock and welded straps across connection – straps broke whilst attempting to release running tool. Bead welded connection between casing landing string and casing hanger running tool.

Anticipated operations:

Release 244mm (9.675”) casing hanger running tool. RIH with mill and flush tool – jet wellhead. Run seal assembly. Pressure test BOP. Make up 216mm (8.5”) Drilling Assembly and RIH.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2807m	No new formation drilled	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2807	No new formation drilled	

REMARKS:

DGR 18 links to DDR 21

LWD Offsets from Bit:

Run 4:

TBA

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 19

Date:	1 January 2009	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	18	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2807m MDRT 2804.4m TVDRT -2766.4m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		
Current Operation:	**Pick up drill pipe for 216mm (8.5”) hole section.**		

AFE Cost (Drill)$ (Coal&S)$ (P&A)$ Cost To Date:

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800.3m	

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
19:00	KCl Polymer	10.1	55	5.0	8.5	7.0%	46k	15/40	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
76	MWD	2783.95	3.22	72.34	2781.43	73.43	222.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Released casing hanger running tool with 50k ft/lb torque. Retrieved casing hanger running tool and cut welded joints of landing string. Ran mill and flush tool to clear wellhead. Made up and ran seal assembly – would not pressure test. Laid out seal assembly. Nippled up BOP. Ran seal assembly – would not pressure test after multiple attempts. POH seal assembly. Broken lock ring off 244mm (9.675”) casing hanger recovered on top of seal assembly running tool. Jetted and nippled down BOP. Jetted wellhead for inspection of seal assembly setting area and casing hanger. Picked up drillpipe pending decision on setting the seal assembly.

Anticipated operations:

Pick up drill pipe for 216mm (8.5”) hole section. Prepare alternate procedure for setting the seal assembly.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2807m	No new formation drilled	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2807	No new formation drilled	

REMARKS:

DGR 19 links to DDR 22

LWD Offsets from Bit:

Run 4:

GR:	4.58m
Res:	4.53m
ECD:	3.82m
Survey:	12.62m
Sonic:	21.97m
Neutron:	29.27m
Density:	28.40m
Caliper:	27.93m

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 20

Date:	2 January 2009	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	19	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	311mm (12.25”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2807m MDRT 2804.4m TVDRT -2766.4m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		
Current Operation:	**Pressure testing BOP**		
AFE Cost (Drill)$	**(Coal&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800.3m	

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
18:00	KCl Polymer	10.1	55	5.0	8.5	7.0%	46k	15/40	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
76	MWD	2783.95	3.22	72.34	2781.43	73.43	222.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Continued to pick up drill pipe – 26 stands total. Ran mill and flush tool and cleared wellhead. Made up and ran seal assembly – pressure tested to 2000psi – OK. Nippled up BOP. RIH with seal assembly running tool and engaged seal assembly. Closed annular and pressure tested – BOP connector leaked. Retighten BOP connector. Pressure tested seal assembly to 7500psi – OK. POH seal assembly running tool. RIH with wear bushing and cup tester to 17m. Lifted BOP and replaced BOP connector seal. Set wear bushing at 18.4m. Rigged up and pressure tested surface lines. Pressure and function tested BOP.

Anticipated operations:

Pressure test BOP. Install diverter package. Lay out 311mm (12.25”) BHA. Make up 216mm (8.5”) BHA. RIH and pick up drill pipe. Drill out casing. LOT. Drill 216mm (8.5”) hole

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2807m	No new formation drilled	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2807	No new formation drilled	

REMARKS:

DGR 20 links to DDR 23

LWD Offsets from Bit:

Run 4:

GR:	4.58m
Res:	4.53m
ECD:	3.82m
Survey:	12.62m
Sonic:	21.97m
Neutron:	29.27m
Density:	28.40m
Caliper:	27.93m

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 21

Date:	3 January 2009	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	20	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	216mm (8.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2807m MDRT 2804.4m TVDRT -2766.4m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		
Current Operation:	**RIH 216mm (8.5”) Drilling Assembly**		

AFE Cost **(Drill)$** **(Coal&S)$** **(P&A)$** **Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800.3m	

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
19:00	KCl Polymer	10.1	55	5.2	8.5	7.0%	45k	14/36	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	6	Security	PDC	SE3653Z	216mm (8.5”)			
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
76	MWD	2783.95	3.22	72.34	2781.43	73.43	222.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Pressure tested BOP. Pulled test plug. Pressure tested 244mm (9.675”) casing and choke manifold. Installed diverter package – troubleshot problem with orientation pin – installed OK. Laid out Jars from 311mm (12.25”) BHA. Made up 216mm (8.5”) BHA. Shallow tested LWD – OK. Troubleshot problem locking in radioactive source – OK. Picked up remainder of BHA. RIH whilst picking up drill pipe.

Anticipated operations:

RIH. Drill out 244mm (9.675”) shoe track and 3m new formation with 10.3ppg mud. LOT. Drill ahead 216mm (8.5”) hole.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2807m	No new formation drilled	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2807	No new formation drilled	

REMARKS:

DGR 21 links to DDR 24

LWD Offsets from Bit:

Run 4:

GR: 4.58m
Res: 4.53m
ECD: 3.82m
Survey: 12.62m
Sonic: 21.97m
Neutron: 29.27m
Density: 28.40m
Caliper: 27.93m

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 22

Date:	4 January 2009	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	21	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	216mm (8.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	2810m MDRT 2807.4m TVDRT -2769.4m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	3m		
Current Operation:	**Rigging down from FIT**		
AFE Cost (Drill)$	**(Coal&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800.3m	16.0ppg EMW

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:30	KCl Polymer	10.3	60	6.6	10.5	6.8%	43k	17/44	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	6	Security	PDC	SE3653Z	216mm (8.5”)	0.1	3	
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
76	MWD	2783.95	3.22	72.34	2781.43	73.43	222.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

RIH. Tagged top plug at 2753m. Drilled out cement and 244mm (9.675”) shoe track. Worked bit through float collar and shoe multiple times to clear. Reamed rat hole 2800-2807m. Drilled ahead 216mm (8.5”) hole 2807-2810m with 10.3ppg mud. Circulated hole clean. Performed FIT (EMW = 16.0ppg).

Anticipated operations:

Drill ahead 216mm (8.5”) hole.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation					*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2807-2810m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas	2808	5.4	1.3	
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2807-2810 5-48m/hr 20m/hr avg	**Siltstone with interlaminated Sandstone.** SANDSTONE (10%) Quartzose with minor feldspathic component, clear to translucent to milky white, frosted, medium grey, very fine to medium, subangular to subrounded, moderately sorted, common silty matrix, common carbonaceous fragments trace pyrite, trace rounded quartz granules, trace dolomite, poor to fair porosity, no fluorescence. SILTSTONE: (90%) Medium grey to dark grey to olive grey, commonly arenaceous, locally grading to very fine silty sandstone, carbonaceous, micaceous, commonly pyritic, firm to hard, blocky.	1.3u BG 99:1

REMARKS:

DGR 22 links to DDR 25.

LWD Offsets from Bit:

Run 4:

GR:	4.58m
Res:	4.53m
ECD:	3.82m
Survey:	12.62m
Sonic:	21.97m
Neutron:	29.27m
Density:	28.40m
Caliper:	27.93m

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 23

Date:	5 January 2009	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	22	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	216mm (8.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	3070m MDRT 3067.1m TVDRT -3029.1m SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	260m		
Current Operation:	**Drilling 216mm (8.5”) hole**		
AFE Cost (Drill)$	**(Coal&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT/FIT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	- / 15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800.3m	- / 16.0ppg EMW

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
23:00	KCl Polymer	10.35	46	6.0	9.5	6.8%	43k	15/34	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	6	Security	PDC	SE3653Z	216mm (8.5”)	26	263	
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
83	MWD	2992.79	2.65	116.56	2989.98	66.43	215.67
84	MWD	3022.28	2.80	118.01	3019.43	66.24	214.47
85	MWD	3051.99	2.87	121.90	3049.11	66.14	213.20

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled 216mm (8.5”) hole 2810-3070m. Flowed checked at 3005m and 3019m. Raised MW from 10.3-10.5ppg from 3019m.

Anticipated operations:

Drill ahead 216mm (8.5”) hole.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation	*2873*	*-2832*	*68m High*	*363m Low*	*2938.0*	*-2900.0*
Waarre Formation Unit C					*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
2810-m	Nil	

GAS	MD (m)	Peak	Background	Chromatograph
Drilled Gas	2874	105u	6u	94:3:2:1:Tr
Drilled Gas	3012	154u	8u	95:3:2:Tr
Drilled Gas	3062	117u	6u	94:3:2:1:Tr
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
2810-2873 5-30m/hr 12m/hr avg	**Siltstone with interlaminated Sandstone and Limestone.** SANDSTONE: (0-20%) Lithic Arenite, dark yellow brown to brown grey, very fine to fine, subangular to subrounded, well sorted, moderately strong calcareous cement, common argillaceous/silty matrix, trace carbonaceous material, rare fine nodular pyrite, friable to disaggregated, very poor to poor porosity, no fluorescence. LIMESTONE: (0-10%) Calcisiltite to Calcilutite, grey brown to dusky brown, micritic, slightly dolomitic, moderately to very argillaceous, trace fine calcareous sand, trace carbonaceous stylolites, hard, brittle in part, blocky to platy, no porosity, no fluorescence. SILTSTONE: (80-100%) Dark grey to olive black, slightly calcareous in part, locally v argillaceous grades to silty Claystone, trace lithic fragments, trace carbonaceous specks, occasionally fine grained arenaceous inclusions, moderately hard, blocky.	6u BG 94:4:2:Tr

2873-2898 8-50m/hr 25m/hr avg	**Flaxman Formation** **Massive Sandstone** SANDSTONE: (100%) Quartzose, clear to translucent, frosted, fine to predominantly medium, angular to subround, moderate sorting, moderately strong dolocalcareous cement at top becomes weak with depth, trace pyritic cement and nodules, predominantly clean, trace glauconite, common coarse to very coarse milky quartz float, occasionally Fe & limonite stained quartz, occasionally moderately hard aggregates, predominantly disaggregated, good porosity, no fluorescence.	6u BG 94:4:2:1:Tr Peak @ 2874 105u 94:3:2:1:Tr
2898-2995 12-31m/hr 20m/hr avg	**Siltstone with interlaminated Sandstone and Limestone.** SANDSTONE: (0-50%)Quartzose, clear to translucent, frosted, very fine to medium, subangular to subround, moderate to good sorting, moderately strong dolocalcareous cement in part, predominantly clean, locally coarse milky quartz float, trace glauconite, trace nodular pyrite, moderately hard aggregates, predominantly disaggregated, fair porosity, no fluorescence. LIMESTONE: (0-25%) Calcilutite to Calcarenite, yellowish grey to grey brown to dusky brown, micritic, moderately dolomitic, moderately argillaceous, trace carbonaceous stylolites, trace crystalline calcite, hard, brittle in part, blocky to platy, no porosity, no fluorescence. SILTSTONE: (45-100%) Dark grey to brown black, locally very argillaceous grades to silty claystone, trace llithic fragments, trace carbonaceous specks, commonly pyritic, micromicaceous, trace glauconite/chlorite, slightly arenaceous in part, moderately hard, blocky to subfissile. CLAYSTONE: (0-20%) Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to dispersive, massive to amorphous.	6u BG 96:2:2:Tr Peak @ 2919 14u 91:4:3:1:0
2995-3029 6-26m/hr 17m/hr avg	**Massive Sandstone with minor interlaminated Siltstone and Limestone** SANDSTONE: (50-90%) Quartzose, clear to translucent to yellowish grey, frosted, very fine to coarse, predominantly fine, subangular to subround, moderate to well sorted, strong silica cement with weaker calcareous cement in part, predominantly clean with minor Fe-oxide stained quartz, trace glauconite, predominantly disaggregated with common hard silica cemented fine to medium sand aggregates, fair to good porosity, no fluorescence. LIMESTONE: (5-10%) Calcilutite to Calcarenite, yellowish grey to grey brown to dusky brown, micritic, locally dolomitic, moderately argillaceous, trace carbonaceous stylolites, trace crystalline calcite, hard, brittle in part, blocky to platy, no porosity, no fluorescence. SILTSTONE: (5-60%) As above	8u BG 94:3:2:1:Tr Peak @ 3012 154u 95:3:2:0:0
3029-3060 3-40m/hr 23m/hr avg	**Interbedded Sandstone and Siltstone with Limestone laminae** SANDSTONE: (0-70%) Quartzose, medium grey to brown grey in part, clear to translucent, very fine to predominantly fine, subangular to subround, well sorted, moderately strong siliceous cement, locally dolocalcareous cement, slightly argillaceous/silty matrix in part, trace glauconite, trace kaolinitic inclusions, trace biotite, trace lithic fragments, moderately hard, friable to disaggregated in part, very poor to nil porosity, no fluorescence. SILTSTONE: (30-100%) Olive black to brown black, very argillaceous grades to silty claystone, micromicaceous, common light grey arenaceous inclusions, trace lithic fragments, trace carbonaceous material, moderately hard, blocky. LIMESTONE(0-5%) Calcilutite, pale yellow brown, micritic, trace very fine calcareous sand, chalky, brittle to moderately hard, blocky, no porosity, no fluorescence.	6u BG 95:3:2:Tr Peak @ 3062 117u 94:3:2:1:Tr

REMARKS:

DGR 23 links to DDR 26.

Mud weight raised from 3019m due to ECD increase and presence of breakout cavings.

LWD Offsets from Bit:

Run 4:

GR:	4.58m
Res:	4.53m
ECD:	3.82m
Survey:	12.62m
Sonic:	21.97m
Neutron:	29.27m
Density:	28.40m
Caliper:	27.93m

Geologists: Roman Leslie / Greg Clota

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 24

Date:	6 January 2009	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	23	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	216mm (8.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	3450m MDRT 3446.3m TVDRT -3408.3 SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	380m		
Current Operation:	**Drilling 216mm (8.5”) hole**		
AFE Cost (Drill)$	**(Coal&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT/FIT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	- / 15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800.3m	- / 16.0ppg EMW

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
22:30	KCl Polymer	10.6	54	5.8	9.0	6.8%	41k	16/36	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	6	Security	PDC	SE3653Z	216mm (8.5”)	38	643	
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
95	MWD	3347.40	4.21	152.14	3343.95	74.78	200.25
96	MWD	3376.97	4.39	156.43	3373.43	76.34	199.05
97	MWD	3406.76	4.66	160.93	3403.13	78.14	197.94

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled 216mm (8.5”) hole 3070-3450m.

Anticipated operations:

Drill ahead 216mm (8.5”) hole.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation	*2873*	*-2832*	*68m High*	*363m Low*	*2938.0*	*-2900.0*
Waarre Formation Unit C	*3186*	*-3145*	*45m High*	*385m Low*	*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
3060-3065m	Sandstone: Trace dull yellow green patchy fluorescence, very weak slow diffuse milky cut, no residue.	117u Max/12u BG
3065-3282	Trace yellow-orange mineral direct fluorescence; no cut	12u BG
3282-3345	Trace yellow-orange mineral direct fluorescence; no cut	16u BG
3345-3415	Trace yellow-orange mineral direct fluorescence; no cut	17U BG

GAS	MD (m)	Peak	Background	Chromatograph
Drilled Gas	3062	117u	12u	94:3:2:1:Tr
	3350	78u	18u	92:3:3:Tr:1
	3406	94u	32u	94:3:2:0:0
	3414	118u	32u	93:3:3:0:0
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
3060-3070 5-30m/hr 15m/hr avg	**Massive Sandstone with minor interbedded Siltstone** SANDSTONE: (70-80%) Quartzose, grey brown, dark yellow brown, very fine to fine, subangular to subround, well sorted, strong dolocalcareous cement, moderately strong siliceous cement in part, trace carbonaceous materiel, rare glauconite, moderately hard, very poor porosity. Fluorescence: (3060-3065m) Trace dull yellow green patchy fluorescence, very weak slow diffuse milky cut, no residue. SILTSTONE: (20-30%) Olive black to brown black, very argillaceous grades to silty claystone, micromicaceous, common light grey arenaceous inclusions, trace lithic fragments, trace carbonaceous material, moderately hard, blocky.	12u BG 95:3:2:Tr Peak @ 3062 117u 94:3:2:1:Tr

3070-3186 10-36m/hr 23m/hr avg	**Siltstone with interlaminated Sandstone and minor Limestone** SANDSTONE: (0-20%) Quartzose, medium grey, very fine to fine, subangular to subround, well sorted, moderately strong siliceous cement, weak calcareous cement in part, locally common argillaceous/silty matrix, trace biotite, trace lithic fragments, firm to moderately hard, very poor to nil porosity, no fluorescence. LIMESTONE: (0-10%) Calcarenite to Calcisiltite, dark yellow brown, fine to silty, micritic, locally cryptocrystalline, slightly dolomitic, trace coralline fragments, trace carbonaceous material, hard, brittle, no porosity, dull orange mineral fluorescence only. SILTSTONE: (80-100%) Olive black to brown black, very argillaceous grades to silty claystone, micromicaceous, locally light grey very fine grained arenaceous inclusions, trace lithic fragments, trace carbonaceous material, trace to locally common white vein calcite below 3140m, moderately hard, blocky.	8u BG 92:4:3:1
3186-3280 9.0-25.3 m/hr 19.2 m/hr avg	**Waarre Formation Unit Cb** **Massive Siltstone with interlaminated Sandstone** SANDSTONE: (0-15%) Lithic Arenite, medium grey to olive grey, very fine to fine, silty in part grades to arenaceous siltstone in part, subangular, well sorted, weak calcareous cement, silty/argillaceous matrix, trace biotite, friable, very poor porosity, no fluorescence. SILTSTONE: (85-100%) Dark grey to olive grey, locally very argillaceous grades to silty claystone in part, common very fine grained arenaceous inclusions, trace carbonaceous flecks, trace disseminated pyrite, micromicaceous, slightly chloritic in part, locally arenaceous inclusions, firm, massive to blocky.	10u BG 92:3:4:0:1
3280-3345 12.5-27.6 m/hr 19.1 m/hr avg	**Waarre Formation Unit Ca** **Thinly interbedded Siltstone and Sandstone** SANDSTONE: (15-50%) Sandstone: Quartz-litharenite, quartz 60-70%/lithics 30-40%; medium grey to olive grey, range very fine to medium, predominantly very fine to fine grained, silty in part, subangular, poorly sorted, slight to moderate calcareous cement, silty/argillaceous matrix, trace biotite, friable to moderately hard, very poor porosity, no fluorescence SILTSTONE: (50-85%) Dark grey to olive grey, locally very argillaceous grades to silty claystone in part, common very fine grained arenaceous inclusions, trace carbonaceous flecks, trace disseminated pyrite, micromicaceous, slightly chloritic in part, locally arenaceous inclusions, firm, massive to blocky.	16u BG 91:4:4:0:1
3345-3450 8-38m/hr 23m/hr avg	**Thick interbedded Siltstone and Sandstone** SANDSTONE: (15-80%) Sandstone: Quartz-litharenite, quartz 60-70%/lithics 30-40%; white and pale grey to medium grey to olive grey, range from very fine to coarse, predominantly very fine to fine grained, subangular to well rounded, moderately sorted, slight to moderate calcareous cement, argillaceous matrix, trace biotite, friable to moderately hard, very poor porosity, nil to 10% very dull yellow-green direct fluorescence (mineral), no cut SILTSTONE: (20-85%) Dark grey to olive grey, locally very argillaceous grades to silty claystone in part, common very fine grained arenaceous inclusions, trace carbonaceous flecks, trace disseminated pyrite, micromicaceous, slightly chloritic in part, locally arenaceous inclusions, firm, massive to blocky.	17u BG 92:4:3:0:1 Peak @ 3350.2 78 u 92:3:3:tr:1 Peak @ 3414 118u 93:3:3:0:0

REMARKS:

DGR 24 links to DDR 27.

Low Gas readings 3150-3188m whilst repairing gas trap agitator.

Waarre Ca picked at 3280mRT -3276mSS (37m High to Prognosis)

LWD Offsets from Bit:

Additional mud parameters:

Rm 0.1141 @ 23.7C
Rmf 0.0884 @ 23.4C
Rmc 0.1356 @ 23.7C

Barite – 4.2% (62.42lb/bbl)

Run 4:

GR:	4.58m
Res:	4.53m
ECD:	3.82m
Survey:	12.62m
Sonic:	21.97m
Neutron:	29.27m
Density:	28.40m
Caliper:	27.93m

Geologists: Greg Clota/BrianRicketts

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 25

Date:	7 January 2009	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	24	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	216mm (8.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	3585m MDRT 3580.4m TVDRT -3542.4 SS	**PTD:** **Spud Date:**	4000.0 m MDRT 14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	135m		
Current Operation:	**Circulate and condition hole.**		
AFE Cost (Drill)$	**(Coal&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT/FIT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	- / 15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800.3m	- / 16.0ppg EMW

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
19.00	KCl Polymer	10.6	50	5.2	8.5	6.9%	42k	20/40	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	6	Security	PDC	SE3653Z	216mm (8.5”)	42.4	778	
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
101	MWD	3525.24	6.42	158.39	3521.05	87.47	193.26
102	MWD	3555.17	6.99	159.59	3550.77	90.38	192.02
103	MWD	3569.38	7.28	160.29	3564.07	91.88	191.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Drilled 216mm (8.5”) hole 3450-3585m. Circulated hole clean. POH worked tight spots and backreamed as required to 244mm (9.675”) casing shoe at 2800m. Backreamed 3415-3392m, 3081-2948m, 2900-2830m. RIH for wiper trip – stabilisers hung up in casing shoe – reamed through casing shoe. RIH. Washed from 3451-3480m – drillstring took weight. Washed and reamed 3480-3576m. Hole packing off and drillstring torquing up at 3576m. Circulated hole clean.

Anticipated operations:

Wash and ream to bottom. Condition hole. POH. Run E-logs.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation	*2873*	*-2832*	*68m High*	*363m Low*	*2938.0*	*-2900.0*
Waarre Formation Unit C	*3186*	*-3145*	*45m High*	*385m Low*	*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
3510-3520	Dolomite: Dull orange mineral fluorescence only	15u

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas	3585	87u	5u	
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
3450-3565 3-35m/hr 25m/hr avg	**Siltstone with interbedded and interlaminated Sandstone and Claystone** SANDSTONE: (0-30%) Quartzose to Quartz Arenite, clear to translucent, brown grey, very fine to fine, subangular to subround, well sorted, strong dolocalcareous cement, locally moderately strong siliceous cement, occasionally abundant argilaceoous/silty matrix, occasionally trace nodular pyrite, occasionally trace chlorite, trace carbonaceous specks, trace muscovite, friable to moderately hard, poor porosity, no fluorescence. SILTSTONE: (20-100%)Dark grey to olive brown, very argillaceous grades to silty claystone in part, trace disseminated pyrite, common carbonaceous material, micromicaceous, common fine grained arenaceous inclusions, slightly chloritic in part, trace lithic fragments, firm to moderately hard, blocky. CLAYSTONE: (0-70%)Dark grey to grey black, silty in part, micromicaceous, trace carbonaceous specks, silty/arenaceous inclusions, moderately hard, hard in part, blocky to platy. DOLOMITE: (0-Trace) Dusky yellow brown, cryptocrystalline, trace fine calcareous sand, flinty, hard, blocky, sharp, no porosity, dull orange mineral fluorescence only.	15u BG 92:4:3:1:Tr
3565-3585 15-30m/hr 22m/hr avg	**Interbedded and interlaminated Siltstone and Sandstone** SANDSTONE: (20-60%) Quartzose, clear to translucent, light grey, very fine to fine, subangular to subround, well sorted, moderately strong siliceous cement in part, weak calcareous cement, trace biotite, trace medium milky quartz float, trace fine to medium nodular pyrite, trace lithic fragments, trace biotite in part, rare glauconite, friable to disaggregated, poor porosity, no fluorescence. SILTSTONE: (40-80%) Dark grey to olive black, locally very argillaceous grades to silty claystone in part, common very fine grained arenaceous inclusions, trace carbonaceous material, micromicaceous, trace lithic fragments, moderately hard, blocky.	18u BG 91:4:4:1:Tr

REMARKS:

DGR 25 links to DDR 28.

High volume of sloughing cavings over shakers on bottoms up after wiper trip.

LWD Offsets from Bit:

Additional mud parameters:

At 3506m
Rm 0.1049 @ 24.3C
Rmf 0.0839 @ 24.3C
Rmc 0.1968 @ 24.1C

Barite – 5.6% (82.51lb/bbl)

Run 4:

GR:	4.58m
Res:	4.53m
ECD:	3.82m
Survey:	12.62m
Sonic:	21.97m
Neutron:	29.27m
Density:	28.40m
Caliper:	27.93m

Geologists: Greg Clota/BrianRicketts

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 26

Date:	8 January 2009	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	25	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	216mm (8.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	3585m MDRT 3580.4m TVDRT -3542.4 SS	**PTD:** **Spud Date:**	4000.0 m MDRT 14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		
Current Operation:	**Running Wireline logs, Run 1: PEX-SGS-DT**		
AFE Cost (Drill)$	**(Coal&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT/FIT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	- / 15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800.3m	- / 16.0ppg EMW

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
10.00	KCl Polymer	11	50	6	8.5	7%	40k	23/28	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Present	6	Security	PDC	SE3653Z	216mm (8.5”)	42.4	778	1 1 CT N X I NO TD
Last	5	Reed	PDC	RSX616M-A10	311mm (12.25”)	19.3	410.5	1 1 LT G X I BU TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
103	MWD	3569.38	7.28	160.29	3564.07	91.88	191.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Washed and reamed 3576-3585m – hole packing off below 3576m. Circulated hole clean and raised mud weight to 11.0ppg. POH. Downloaded Radio Active sources. Laid out LWD tools. Rigged up wireline loggers. RIH Run 1 PEX-SGS-DT. Logged up. POH Run 1.

Anticipated operations:

Continue E-Logs. Run 2 MDT-GR.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation	*2873*	*-2832*	*68m High*	*363m Low*	*2938.0*	*-2900.0*
Waarre Formation Unit C	*3186*	*-3145*	*45m High*	*385m Low*	*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
3585m	No new formation drilled	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
3585	No new formation drilled	

REMARKS:

DGR 26 links to DDR 29.

Hole good while logging out on wireline. Line tension overpulls due to line drag – head tension normal.

LWD Offsets from Bit:

Run 4:

Memory data downloaded. Sonic data with processing centre.

Geologists: Greg Clota/BrianRicketts

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 27

Date:	9 January 2009	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	26	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	216mm (8.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	3585m MDRT 3580.4m TVDRT -3542.4 SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		
Current Operation:	**RIH Run 3 VSI-GR**		
AFE Cost (Drill)$	**(Coal&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT/FIT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	- / 15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800.3m	- / 16.0ppg EMW

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
18:00	KCl Polymer	11	60	6.0	8.5	7%	40k	22/23	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Last	6	Security	PDC	SE3653Z	216mm (8.5”)	42.4	778	1 1 CT N X I NO TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
103	MWD	3569.38	7.28	160.29	3564.07	91.88	191.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Ran E-Logs Run 1 PEX-RES-SON; Run 2 MDT-GR (21 Pre-tests, 2 samples – 2879.5m & 3008m); RIH Run 3 VSI-GR

Anticipated operations:

Continue Runs 3 VSI-GR and Run 4 SWC

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation	*2873*	*-2832*	*68m High*	*363m Low*	*2938.0*	*-2900.0*
Waarre Formation Unit C	*3186*	*-3145*	*45m High*	*385m Low*	*3228.0*	*-3190.0*
Waarre Formation Unit B					*3533.0*	*-3495.0*
Waarre Formation Unit A					*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth					*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
3585m	No new formation drilled	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
3585	No new formation drilled	

REMARKS:

DGR 27 links to DDR 30
.

LWD Offsets from Bit:

Geologists: Greg Clota/BrianRicketts

Fermat-1

DAILY GEOLOGICAL REPORT

DGR 28

Date:	10 January 2009	**Licence / State:**	VIC/P46
Report Period:	06:00 – 06:00 hrs AEDT	**Rig:**	Seadrill: West Triton
Days From Spud:	27	**RT - SEAFLOOR:**	76.7m
Current Hole Size:	216mm (8.5”)	**WATER DEPTH**	38.7 m MSL
		RT:	38.0 m MSL
Depth @ 06:00 Hrs EST:	3585m MDRT 3580.4m TVDRT -3542.4 SS	**PTD:**	4000.0 m MDRT
		Spud Date:	14 December 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		
Current Operation:	**RIH with cementing stinger**		
AFE Cost (Drill)$	**(Coal&S)$** **(P&A)$**		**Cost To Date:**

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT/FIT
1	914 mm (36”)	119m	762mm (30”)		X52	116m	
2	444mm (17.5”)	999m	340mm(13.375”)	68lb/ft	NT80HE	987m	- / 15.0ppg EMW
3	311mm(12.25”)	2807	244mm(9.675”)	53.5lb/ft	P110	2800.3m	- / 16.0ppg EMW

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf
19:00	KCl Polymer	10.9	64	6.0	8.5	7%	40k	22/28	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Last	6	Security	PDC	SE3653Z	216mm (8.5”)	42.4	778	1 1 CT N X I NO TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
103	MWD	3569.38	7.28	160.29	3564.07	91.88	191.43

Fluid Loss	Interval MDRT	Total or Rate (bbl)	Remarks

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs AEDT

Ran Run 3 Checkshot (38 Levels), Run 4 CST-GR (Rec: 90%). Rigged down E-loggers. Removed MWD standpipe pressure sensor. Made up TIW valve to drillpipe. Made up 89mm (3.5”) mule shoe and ran in hole 21 joints of 89mm (3.5”) drillpipe. Continued RIH with 140mm (5.5”) drillpipe.

Anticipated operations:

Continue with Plug and Abandonment programme.

FORMATION TOPS

FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP	
	(MDmRT)	(mSS)	Prognosis	Normanby-1	(MDmRT)	(mSS)
Heytesbury Group	*76.7*	*-38.7*	*0m*	*10 High*	*76.7*	*-38.7*
Nirranda Group	*492*	*-454*	*49m Low*	*145 High*	*443.0*	*-405.0*
Dilwyn Formation	*576*	*-538*	*38m Low*	*152 High*	*538.0*	*-500.0*
Pember Mudstone	*963*	*-925*	*15m Low*	*255 High*	*948.0*	*-910.0*
Pebble Point Formation	*1075*	*-1037*	*47m Low*	*227 High*	*1028.0*	*-990.0*
Timboon Sandstone	*1092*	*-1054*	*44m Low*	*236 High*	*1048.0*	*-1010.0*
Paarratte Formation	*1245*	*-1207*	*22m Low*	*251 High*	*1223.0*	*-1185.0*
Skull Creek Mudstone	*1705*	*-1666*	*1m Low*	*258 High*	*1703.0*	*-1665.0*
Nullawarre Greensand	*1850*	*-1811*	*26m Low*	*232 High*	*1823.0*	*-1785.0*
Belfast C & B Mudstone	*1905*	*-1866*	*26m Low*	*232 High*	*1878.0*	*-1840.0*
Belfast A Mudstone	*2160*	*-2120*	*5m High*	*253 High*	*2163.0*	*-2125.0*
Flaxman Formation	*2873*	*-2832*	*68m High*	*363m Low*	*2938.0*	*-2900.0*
Waarre Formation Unit C	*3186*	*-3145*	*45m High*	*385m Low*	*3228.0*	*-3190.0*
Waarre Formation Unit B	*3494*	*-3451*	*44m High*	*393m Low*	*3533.0*	*-3495.0*
Waarre Formation Unit A	*3531*	*-3489*	*61m High*	*310m Low*	*3588.0*	*-3550.0*
Eumeralla Formation					*3988.0*	*-3950.0*
Total Depth	*3585*	*-3542.4*			*4000.0*	*-3962.0*

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
3585m	Total Depth	

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition %
3585	Total Depth	

REMARKS:

DGR 28 links to DDR 31

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Final Geological Report - 2 Geologists Clota/Ricketts off rig 10/1/09

LWD Offsets from Bit:

2 MWD Engineers off rig 9/1/09

Geologists: Greg Clota/BrianRicketts

Appendix 6: Cuttings Descriptions

INTERVAL (m)	LITHOLOGY	%	DESCRIPTION
Spud-999			Cuttings returns to the seafloor
999-1005	Sandstone	80	Quartzose, clear to translucent to light smokey grey, frosted, with minor yellow-white milky quartz and minor muscovite, fine to granular, subangular to subrounded, poorly sorted (bimodal), trace pyrite cement on grain boundaries, trace microcrystalline pyrite granules, disaggregated, no fluorescence.
	Siltstone	20	Dark olive-grey to dusky brown to greyish brown, moderately calcareous, commonly pyritic, common lithic fragments, firm to hard, blocky to subfissile.
	Limestone	Tr	Echinoderm/coralline fragments
1005-1010	Sandstone	80	Quartzose, clear to translucent to light smokey grey, frosted, with minor yellow-white milky quartz, moderately abundant muscovite (~2%), fine to granular, subangular to subrounded, poorly sorted (bimodal), trace pyrite cement on grain boundaries, trace microcrystalline pyrite granules, disaggregated, no fluorescence.
	Siltstone	20	Dark olive-grey to dusky brown, moderately calcareous, commonly pyritic, common lithic fragments, firm to hard, blocky to subfissile.
	Limestone	Tr	Echinoderm/coralline fragments
1010-1015	Sandstone	85	Quartzose, clear to translucent to light smokey grey, frosted, with minor yellow-white milky quartz and minor muscovite, fine to granular, subangular to subrounded, poorly sorted (bimodal), trace pyrite cement on grain boundaries and minor pyrite cemented fine to medium sand aggregates, trace microcrystalline pyrite granules, disaggregated, no fluorescence.
	Siltstone	15	Dark olive-grey to dusky brown to light grey, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
	Limestone	Tr	Echinoderm/coralline fragments and amorphous limestone.
1015-1020	Sandstone	85	Quartzose, clear to translucent to light smokey grey, frosted, with minor yellow-white milky quartz, fine to granular, subrounded to rounded, poorly sorted (bimodal), trace pyrite cement on grain boundaries and minor pyrite cemented fine to medium sand aggregates, trace microcrystalline pyrite granules, trace muscovite, disaggregated, no fluorescence.
	Siltstone	15	Dark olive-grey to dusky brown to light grey, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
	Limestone	Tr	Echinoderm/coralline fragments and amorphous limestone.
1020-1025	Sandstone	85	As above.
	Siltstone	15	As above
	Limestone	Tr	As above

1025-1030	Sandstone	75	Quartzose, clear to translucent to light smokey grey, frosted, with trace yellow-white milky quartz, fine to very coarse, subrounded to rounded, poorly sorted (bimodal), pyrite cement on grain boundaries, , trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Siltstone	25	Dark olive-grey to dusky brown to light grey, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
1030-1035	Sandstone	80	Quartzose, clear to translucent to light smokey grey, frosted, with trace yellow-white milky quartz, fine to very coarse, subrounded to rounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Siltstone	20	Dark olive-grey to dusky brown to light grey, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
1035-1040	Sandstone	50	Quartzose, clear to translucent to light smokey grey, frosted, with trace yellow-white milky quartz, fine to very coarse, subangular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Siltstone	25	Dark olive-grey to dusky brown to light grey, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
	Claystone	25	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous.
1040-1045	Claystone	50	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous
	Sandstone	30	Quartzose, clear to translucent to light smokey grey, frosted, with trace yellow-white milky quartz, very fine to very coarse, subangular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Siltstone	20	Dark olive-grey to dusky brown, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.

1045-1050	Claystone	70	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous
	Siltstone	20	Dark olive-grey to dusky brown, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
	Sandstone	10	Quartzose, clear to translucent to light smokey grey, frosted, with trace yellow-white milky quartz, very fine to medium, subrounded, moderately sorted, pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
1050-1055	Claystone	75	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous
	Siltstone	15	Dark olive-grey to dusky brown, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
	Sandstone	10	Quartzose, clear to translucent to light smokey grey, frosted, with trace yellow-white milky quartz, very fine to medium, subrounded, moderately sorted, pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
1055-1060	Claystone	70	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous
	Sandstone	20	Quartzose, clear to translucent to light smokey grey, frosted, very fine to medium, subrounded, moderately sorted, pyrite cement on grain boundaries, trace microcrystalline pyrite granules, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Siltstone	10	Dark olive-grey to dusky brown, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
1060-1065	Claystone	90	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous
	Sandstone	20	Quartzose, clear to translucent, frosted, very fine to fine, subrounded, well sorted, pyrite cement on grain boundaries, trace microcrystalline pyrite granules, disaggregated with minor pyrite cemented fine sand aggregates, no fluorescence.
	Siltstone	10	Dark olive-grey to dusky brown, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.

1065-1070	Claystone	70	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous
	Sandstone	20	Quartzose, clear to translucent to light smokey grey, frosted, fine to medium, subrounded, moderately sorted, pyrite cement on grain boundaries, trace microcrystalline pyrite granules, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Siltstone	10	Dark olive-grey to dusky brown to greyish black, moderately calcareous, commonly carbonaceous, common lithic fragments, soft to hard, blocky to subfissile.
1070-1075	Sandstone	50	Quartzose-feldspathic, clear to translucent to light smokey grey, frosted, with moderately abundant K-feldspar (microcline), fine to very coarse, angular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Claystone	45	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous.
	Siltstone	5	Dark olive-grey to dusky brown to light grey, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
1075-1080	Sandstone	60	Quartzose-feldspathic, clear to translucent to light smokey grey, frosted, with moderately abundant K-feldspar (microcline), fine to very coarse, angular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Claystone	20	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous.
	Siltstone	20	Dark olive-grey to dusky brown to light grey, moderately calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.

1080-1085	Sandstone	90	Quartzose-feldspathic, clear to translucent to light smokey grey, frosted, with moderately abundant K-feldspar (microcline), fine to very coarse, angular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Claystone	5	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous.
	Siltstone	5	Dark olive-grey to dusky brown to light grey, moderately to strongly calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
1085-1090	Sandstone	70	Quartzose-feldspathic, clear to translucent to light smokey grey, frosted, with moderately abundant K-feldspar (microcline), fine to very coarse, angular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Claystone	15	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous.
	Siltstone	15	Dark olive-grey to dusky brown to light grey, moderately to strongly calcareous, commonly pyritic, common lithic fragments, soft to very hard, blocky to subfissile.
1090-1095	Sandstone	85	Quartzose-feldspathic, clear to translucent to light smokey grey, frosted, with moderately abundant K-feldspar (microcline), fine to very coarse, subangular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence.
	Siltstone	10	Dark olive-grey to dusky brown to light grey, moderately to strongly calcareous, commonly pyritic, common lithic fragments, soft, blocky.
	Claystone	5	Olive grey to moderate olivine brown, moderately calcareous, slightly silty, trace white calcite spar inclusions, trace carbonaceous material, soft, massive to amorphous.

1095-1100	Sandstone Siltstone	80 20	Quartzose-feldspathic, clear to translucent to light smokey grey, frosted, with moderately abundant K-feldspar (microcline), fine to very coarse, subangular to subrounded, poorly sorted (bimodal), pyrite cement on grain boundaries, trace microcrystalline pyrite granules, trace muscovite, disaggregated with minor pyrite cemented fine to medium sand aggregates, no fluorescence. Dusky yellow to light olivine grey, moderately calcareous, commonly carbonaceous, common lithic fragments, soft, blocky.
1100-1110	Sandstone Siltstone	70 30	As above. As above.
1110-1120	Sandstone Siltstone	80 20	Quartzose, clear to translucent, frosted, fine to medium, subangular to subround, poor to moderate sorted, argillaceous/silty matrix dispersing in mud, abundant coarse to very coarse milky/smoky quartz float, trace carbonaceous material, locally coarse nodular pyrite, disaggregated, fair porosity, no fluorescence. Dark grey to olive grey, slightly calcareous in part, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, trace carbonaceous specks, trace lithic fragments, soft, blocky.
1120-1130	Sandstone Siltstone	80 20	As above. As above.
1130-1140	Sandstone Siltstone	90 10	As above. As above.
1140-1150	Sandstone Siltstone	90 10	As above. As above.
1150-1160	Sandstone Siltstone	90 10	As above. As above.
1160-1170	Sandstone Claystone	60 40	Quartzose, clear to translucent, frosted, medium grey in part, fine to medium, coarse to very coarse in part (bi-modal), subangular to subround, rounded in part, poor to moderate sorting, silty/argillaceous matrix in part (clay dispersing in mud), trace coarse nodular pyrite, common very coarse smoky quartz float, trace Fe stained quartz, friable to predominantly disaggregated, poor to fair porosity, no fluorescence. Dark grey to brown black, moderately silty, slightly calcareous in part, common carbonaceous/coaly fragments, micromicaceous, trace muscovite, soft to plastic, massive to blocky in part.
1170-1180	Sandstone Claystone	70 30	Predominantly as above, becomes coarse to very coarse. As above.
1180-1190	Sandstone Claystone	70 30	As above. As above.
1190-1200	Sandstone Claystone	60 40	As above. As above.

1200-1210	Sandstone	40	Quartzose, clear to translucent, frosted, medium light grey in part, fine to medium, subangular to rounded, moderately sorted, locally abundant argillaceous/silty matrix, common nodular pyrite, trace Fe stained quartz, common carbonaceous fragments, common coarse milky quartz float, friable to predominantly disaggregated, poor to fair porosity, no fluorescence.
	Claystone	60	As above.
1210-1220	Sandstone	30	As above.
	Claystone	70	As above.
1220-1230	Sandstone	80	Quartzose, clear to translucent, frosted, medium light grey in part, medium to predominantly coarse to very coarse, angular to subrounded, poor to moderate sorting, clean, common coarse nodular pyrite, trace limonite stained quartz, common carbonaceous fragments, common smoky/coarse milky quartz float, disaggregated, fair porosity, no fluorescence.
	Claystone	20	Dark grey to brown black, moderately silty, slightly calcareous in part, common carbonaceous/coaly fragments, micromicaceous, trace muscovite, soft to plastic, massive to blocky in part.
1230-1240	Sandstone	70	Predominantly as above, becomes fine to very coarse, poor sorting.
	Claystone	30	As above.
1240-1250	Sandstone	30	Quartzose, clear to translucent, frosted, grey brown in part, fine to predominantly medium, coarse in part, subangular to subround, rounded in part, moderate sorting, locally argillaceous/silty matrix, trace pyritic cement and pyrite nodules, trace carbonaceous material, common coarse milky quartz float, friable to predominantly disaggregated, poor to fair porosity, no fluorescence.
	Claystone	70	Dark grey to brown black, locally moderately to very silty grades to argillaceous siltstone in part, common carbonaceous material and carbonaceous microlaminae, micromicaceous, soft, massive to amorphous.
1250-1260	Sandstone	70	Predominantly as above, becomes fine to medium, trace limonite stained quartz, trace muscovite.
	Claystone	30	As above.

1260-1270	Sandstone	70	Quartzose, clear to translucent, frosted, grey brown in part, fine to predominantly medium, coarse in part, subangular to subround, rounded in part, moderate sorting, predominantly clean, silty/argillaceous matrix in part, trace pyritic cement and pyrite nodules, trace carbonaceous material, common coarse milky quartz float, disaggregated, poor to fair porosity, no fluorescence.
	Claystone	20	Dark grey to brown black, locally moderately to very silty grades to argillaceous siltstone in part, common carbonaceous material and carbonaceous microlaminae, micromicaceous, soft, massive to amorphous.
	Coal	10	Black, subbituminous, dull to subvitreous lustre, platy to uneven fracture, brittle, blocky to platy in part.
1270-1280	Sandstone	80	Predominantly as above, becomes fine to medium, common carbonaceous fragments, trace Fe stained quartz, common coarse to very coarse milky/smoky quartz float, trace medium pyrite nodules.
	Claystone	20	As above.
	Coal	Tr	As above
1280-1290	Sandstone	90	Predominantly as above becomes medium to coarse, trace carbonaceous/coaly fragments.
	Claystone	10	As above.
1290-1300	Sandstone	90	As above.
	Claystone	10	As above.
1300-1310	Sandstone	70	Quartzose, clear to translucent, frosted, light grey in part, fine to medium, subangular to subround, moderately well sorted, clean, trace pyritic cement and pyrite nodules, common very coarse to granular smoky/milky quartz, trace muscovite, disaggregated, fair porosity, no fluorescence.
	Claystone	25	Dark grey to brown black, locally moderately to very silty grades to argillaceous siltstone in part, trace carbonaceous material, locally white kaolinitic/arenaceous inclusions, micromicaceous, soft, massive to amorphous.
	Coal	5	Black, subbituminous, dull to subvitreous lustre, trace disseminated pyrite, platy to uneven fracture, brittle, blocky to platy in part.
1310-1320	Sandstone	60	As above.
	Claystone	40	As above.
	Coal	Tr	As above.
1320-1330	Sandstone	70	Quartzose, clear to translucent, medium grey, medium to predominantly very coarse to granular, angular to subangular, poor sorting, clean, trace pyritic cement and coarse nodular pyrite, trace carbonaceous/coaly fragments, abundant smoky/milky quartz, disaggregated, good porosity, no fluorescence.
	Claystone	30	As above.
1330-1340	Sandstone	40	As above.
	Claystone	60	As above.

1340-1350	Sandstone Claystone	60 40	Quartzose, clear to translucent, frosted, light grey in part, fine to medium, subangular to subrounded, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common very coarse smoky/milky quartz, trace muscovite, disaggregated, fair porosity, no fluorescence. As above.
1350-1360	Sandstone Claystone	90 10	Quartzose, clear to translucent, frosted, light grey in part, fine to very coarse, angular to subrounded, poor sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common very coarse smoky/milky quartz, trace muscovite, disaggregated, fair porosity, no fluorescence. As above.
1360-1370	Sandstone Claystone Siltstone	50 40 10	As above. As above. Dark grey to olive grey, slightly calcareous in part, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, trace carbonaceous specks, trace lithic fragments, soft, blocky.
1370-1380	Claystone Sandstone	70 30	As above. Quartzose, clear to translucent, frosted, light grey in part, fine to coarse, subangular to rounded, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common very coarse smoky/milky quartz, trace muscovite, disaggregated, fair porosity, no fluorescence.
1380-1390	Sandstone Claystone	55 45	Quartzose, clear to translucent, frosted, light grey in part, fine to coarse, angular to subrounded, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common very coarse smoky/milky quartz, trace muscovite, disaggregated, fair porosity, no fluorescence. Dark grey to brown black, locally moderately to very silty grades to argillaceous siltstone in part, trace carbonaceous material, locally white kaolinitic/arenaceous inclusions, micromicaceous, soft, massive to amorphous.
1390-1400	Sandstone Claystone	70 30	Quartzose, clear to translucent, frosted, light grey in part, fine to very coarse, angular to subrounded, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common very coarse smoky/milky to light yellow quartz, trace muscovite, disaggregated, fair porosity, no fluorescence. As above.
1400-1410	Sandstone Claystone	75 25	As above As above.
1410-1420	Sandstone Claystone	85 15	As above As above.

1420-1430	Sandstone	80	Quartzose, clear to translucent, frosted, light grey in part, fine to very coarse, angular to subrounded, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common very coarse smoky/milky to light yellow quartz, trace muscovite, disaggregated, fair porosity, no fluorescence.
	Claystone	20	As above, with more carbonaceous material.
1430-1440	Sandstone	90	Quartzose, clear to translucent, frosted, light grey in part, fine to very coarse, angular to subangular, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common very coarse milky to light yellow quartz, trace muscovite, disaggregated, fair porosity, no fluorescence.
	Claystone	10	As above.
1440-1450	Sandstone	50	Quartzose, clear to translucent, frosted, light grey in part, very fine to very coarse, subangular to subrounded, poor to moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common very coarse milky to light yellow quartz, trace muscovite, disaggregated, fair porosity, no fluorescence.
	Claystone	45	As above.
	Siltstone	5	Dark grey to olive grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, trace carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile.
1450-1460	Sandstone	50	Quartzose, clear to translucent, frosted, light grey in part, very fine to very coarse, subangular to subrounded, poor to moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common very coarse milky to light yellow quartz, trace muscovite, disaggregated, fair porosity, no fluorescence.
	Siltstone	45	Dark grey to olive grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, trace carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile.
	Claystone	5	As above.
1460-1470	Sandstone	70	Quartzose, clear to translucent, frosted, light grey in part, very fine to coarse, angular to subrounded, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common coarse milky to light yellow quartz, trace muscovite, disaggregated, fair porosity, no fluorescence.
	Siltstone	20	Dark grey to olive grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, trace carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile.
	Claystone	10	As above.

1470-1480	Sandstone	50	Quartzose, clear to translucent, frosted, light grey in part, very fine to coarse, angular to subrounded, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, common coarse milky to light yellow quartz, trace muscovite, disaggregated, fair porosity, no fluorescence.
	Siltstone	30	Dark grey to olive grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, trace carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile.
	Claystone	20	As above.
1480-1490	Sandstone	50	Quartzose, clear to translucent, frosted, light grey in part, very fine to very coarse, subangular to subrounded, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, trace coal, milky to light yellow quartz, trace muscovite, disaggregated, with minor silica ± carbonate cemented very fine silty sandstone aggregates, fair porosity, no fluorescence.
	Claystone	40	Medium grey to dark grey, locally moderately silty, grades to argillaceous siltstone in part, moderately abundant carbonaceous material, locally white kaolinitic/arenaceous inclusions, micromicaceous, soft, massive to amorphous.
	Siltstone	10	Dark grey to olive grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile.
1490-1500	Sandstone	90	Quartzose, clear to translucent, frosted, light grey in part, fine to coarse, subangular to subrounded, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, trace coal, common very coarse smoky/milky to light yellow quartz, trace muscovite, disaggregated, with minor silica ± carbonate cemented very fine silty sandstone aggregates, fair porosity, no fluorescence.
	Siltstone	10	Dark grey to olive grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile.
1500-1510	Sandstone	75	Quartzose, clear to translucent, frosted, light grey in part, fine to coarse, subangular to subrounded, moderate sorting, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, trace coal, common very coarse milky to light yellow quartz, trace muscovite, disaggregated, with minor silica ± carbonate cemented very fine silty sandstone aggregates, fair porosity, no fluorescence.
	Siltstone	25	Dark grey to olive grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile.

1510-1520	Sandstone Siltstone	60 40	As above. As above.
1520-1530	Sandstone Siltstone	90 10	Quartzose, clear to translucent, frosted, light grey in part, fine to coarse, subangular to subrounded, moderate to well sorted, predominantly clean (clay matrix dispersing in mud), trace pyritic cement and pyrite nodules, trace coal, trace coarse milky to light yellow quartz, trace muscovite, disaggregated, with minor silica cement, occasionally carbonate cement in very fine silty sandstone aggregates, fair porosity, no fluorescence. Dark grey to olive grey to yellowish grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, soft to firm, blocky to subfissile.
1530-1540	Sandstone Siltstone Claystone	80 20 10	Quartzose, clear to translucent, frosted, fine to medium, subangular to subround, moderately to well sorted, weak calcareous cement in part, predominantly clean, trace nodular pyrite, trace carbonaceous/coaly fragments, occasionally coarse milky quartz float, occasionally red brown lithic fragments, disaggregated, fair porosity, no fluorescence. As above. Brown grey to olive grey, locally very silty grades to argillaceous siltstone in part, common carbonaceous material, micromicaceous, slightly arenaceous in part, soft to plastic, massive to blocky.
1540-1550	Sandstone Claystone	90 10	As above. As above.
1550-1560	Sandstone Claystone	80 20	Predominantly as above, becomes predominantly medium, coarse in part. As above.
1560-1570	Sandstone Claystone	60 40	Quartzose, clear to translucent, frosted, fine to medium, subangular to subround, moderately to well sorted, locally strong dolocalcareous cement, predominantly clean, trace nodular pyrite, trace carbonaceous/coaly fragments, common coarse milky quartz float, occasionally red brown lithic fragments, disaggregated, fair porosity, no fluorescence. Brown grey to olive grey, yellow grey in part, locally very silty grades to argillaceous siltstone in part, slightly arenaceous in part, trace lithic fragments, common carbonaceous material, micromicaceous, soft to plastic, massive to blocky.
1570-1580	Sandstone Claystone	90 10	Predominantly as above, becomes fine to medium. As above.

1580-1590	Sandstone Claystone	80 20	Quartzose, clear to translucent, light grey, fine to medium, subangular to subround, well sorted, locally moderately strong dolocalcareous cement, predominantly clean (argillaceous matrix dispersing in mud), trace coarse milky quartz, trace medium nodular pyrite, disaggregated, occasionally hard aggregates, poor to fair porosity, no fluorescence. As above.
1590-1600	Sandstone Claystone	40 60	As above. Dark grey to olive grey, brown grey in part, slightly to moderately silty, common carbonaceous fragments, micromicaceous, soft to plastic, massive to blocky.
1600-1610	Sandstone Claystone	30 70	Predominantly as above, becomes medium to coarse. As above.
1610-1620	Sandstone Siltstone Claystone	70 20 10	Quartzose, clear to translucent, frosted, fine to very coarse, angular to subround, poorly sorted, predominantly clean (argillaceous matrix dispersing in mud), trace very coarse nodular pyrite, trace muscovite, disaggregated, fair porosity, no fluorescence. Pale yellow brown, moderately siliceous, moderately argillaceous, trace carbonaceous fragments, trace lithic fragments, trace muscovite, slightly chloritic, hard, blocky. As above.
1620-1630	Sandstone Claystone	20 80	Quartzose, clear to translucent, medium grey to olive grey, very fine to silty grades to arenaceous siltstone, subangular, well sorted, abundant silty/argillaceous matrix (dispersing in mud), trace muscovite, trace lithic fragments, friable to disaggregated, very poor to nil porosity, no fluorescence. As above.
1630-1640	Sandstone Claystone	30 70	Predominantly as above becomes very fine to fine, locally weak calcareous cement. Dark grey to olive black, silty, occasionally slightly arenaceous, trace carbonaceous material, micromicaceous, tr lithics, soft to plastic, massive to blocky.
1640-1650	Sandstone Claystone	40 60	Predominantly as above, trace medium milky quartz float. As above.
1650-1660	Sandstone Claystone	30 70	Quartzose, clear to translucent, frosted, very fine to predominantly fine to medium, subangular to subrounded, moderate sorting, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, moderately hard aggregates, predominantly disaggregated, very poor to fair porosity, no fluorescence. As above.
1660-1670	Sandstone Claystone	70 30	As above. As above.
1670-1680	Sandstone Claystone	60 40	As above. As above.

1680-1690	Sandstone Claystone	70 30	As above. As above.
1690-1700	Sandstone Siltstone Claystone	75 5 20	As above. Dark grey to olive grey to yellowish grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, firm, blocky to subfissile. As above.
1700-1710	Sandstone Siltstone Claystone	35 5 60	Quartzose, clear to translucent, frosted, very fine to coarse, subangular to subrounded, moderate sorting, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, hard silica cemented fine sand aggregates, predominantly disaggregated, very poor to fair porosity, no fluorescence. As above. As above.
1710-1720	Sandstone Siltstone Claystone	35 5 60	Quartzose, clear to translucent, frosted, very fine to coarse, subangular to subrounded, moderate sorting, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite , predominantly disaggregated, with minor hard to very hard dolomite cemented very fine to fine sand aggregates, very poor to fair porosity, no fluorescence. As above. As above.
1720-1730	Sandstone Siltstone Claystone	75 5 20	Quartzose, clear to translucent, frosted, very fine to coarse, subangular to subrounded, moderate sorting, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, predominantly disaggregated with minor hard to very hard dolomite cemented fine to medium sand aggregates very poor to fair porosity, no fluorescence. As above. As above.
1730-1740	Sandstone Siltstone Claystone	60 10 30	Quartzose, clear to translucent, frosted, very fine to coarse, subangular to subrounded, moderate sorting, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, predominantly disaggregated, with minor hard to very hard dolomite cemented very fine to fine sand aggregates very poor to fair porosity, no fluorescence. As above. As above.

1740-1750	Sandstone	20	Quartzose, clear to translucent, frosted, very fine to medium, subangular to subrounded, moderate to well sorted, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, predominantly disaggregated, with minor hard to very hard dolomite cemented fine sand aggregates, very poor to fair porosity, no fluorescence.
	Siltstone	10	As above.
	Claystone	70	As above.
1750-1755	Sandstone	45	Quartzose, clear to translucent, frosted, fine to coarse, subangular to subrounded, moderate sorting, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, predominantly disaggregated, with minor hard cemented fine sand aggregates, very poor to fair porosity, no fluorescence.
	Siltstone	15	As above.
	Claystone	40	As above.
1755-1760	Sandstone	65	Quartzose, clear to translucent, frosted, fine to coarse, subangular to subrounded, moderate sorting, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, predominantly disaggregated, with minor hard cemented fine sand aggregates, very poor to fair porosity, no fluorescence.
	Siltstone	5	As above.
	Claystone	30	As above.
1760-1765	Sandstone	55	Quartzose, clear to translucent, frosted, fine to coarse, subangular to subrounded, moderate sorting, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, predominantly disaggregated, with minor hard cemented fine sand aggregates, very poor to fair porosity, no fluorescence.
	Siltstone	10	As above.
	Claystone	35	As above.
1765-1770	Sandstone	30	Quartzose, clear to translucent, frosted, fine to medium, subangular to subrounded, moderate to well sorted, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, predominantly disaggregated, with minor hard cemented fine sand aggregates, very poor to fair porosity, no fluorescence.
	Siltstone	10	As above.
	Claystone	60	As above.

1770-1775	Sandstone Siltstone Claystone	10 5 85	Quartzose, clear to translucent, frosted, very fine to coarse, subangular to subrounded, moderate to well sorted, locally dolocalcareous/siliceous cement, occasionally pyritic cement, trace medium milky quartz float, trace medium nodular pyrite, trace muscovite, predominantly disaggregated, with minor hard cemented fine sand aggregates, very poor to fair porosity, no fluorescence. As above. As above.
1775-1780	Sandstone Siltstone Claystone	45 10 45	As above. As above. As above.
1780-1785	Sandstone Siltstone Claystone	45 10 45	Predominantly as above, very fine to medium, moderately to well sorted. As above. As above.
1785-1790	Sandstone Siltstone Claystone	80 10 10	Predominantly as above, very fine to coarse, moderately sorted. As above. As above.
1790-1795	Sandstone Siltstone Claystone	90 5 5	Predominantly as above, very fine to medium, well sorted. As above. As above.
1795-1800	Sandstone Siltstone Claystone	90 5 5	Predominantly as above, very fine to fine, well sorted, common dolocalcareous cemented fine sand aggregates. As above. As above.
1800-1805	Sandstone Claystone	95 5	As above. As above. Trace blocky Siltstone
1805-1810	Sandstone Siltstone Claystone	75 10 20	Predominantly as above, very fine to coarse, moderately sorted, common dolocalcareous cemented fine sand aggregates. Dark grey to olive grey to yellowish grey, locally very argillaceous grades to silty Claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, firm, blocky to subfissile. Medium grey to olive grey, silty, occasionally slightly arenaceous, trace carbonaceous material, micromicaceous, trace lithics, soft to plastic, massive to blocky.

1810-1815	Sandstone Claystone	20 80	Quartzose, clear to translucent, light to medium grey, very fine to fine, subangular, well sorted, weak siliceous cement in part, argillaceous matrix dispersing in mud, trace carbonaceous carbonaceous fragments, tr fine to medium nodular pyrite, fir to disaggregated, poor porosity, no fluorescence. Medium dark grey to olive grey, locally very silty grades to argillaceous siltstone in part, locally slightly arenaceous, trace carbonaceous specks, micromicaceous, soft to plastic, slightly dispersive, massive.
1815-1820	Sandstone Claystone	60 40	Predominantly as above, common medium to coarse milky/clear quartz float, As above.
1820-1825	Sandstone Claystone	10 90	As above. As above.
1825-1830	Sandstone Claystone	70 30	Quartzose, clear to translucent, frosted, fine to medium, subangular to subround in part, well sorted, locally moderately strong siliceous cement, predominantly clean, trace Fe stained quartz, trace fine to medium nodular pyrite, trace carbonaceous fragments, slightly chloritic in part, sucrosic texture, predominantly disaggregated, occasionally hard aggregates, poor to fair porosity, no fluorescence. As above.
1830-1835	Sandstone Claystone	40 60	Quartzose, clear to translucent, frosted, light grey, fine, subangular to subround, well sorted, locally moderately strong siliceous cement, abundant argillaceous matrix, trace medium to coarse nodular pyrite, trace carbonaceous fragments, friable to moderately hard, disaggregated in part, poor porosity, no fluorescence. Medium dark grey to olive grey, locally very silty grades to argillaceous siltstone in part, common yellow brown argillaceous/silty inclusions, trace carbonaceous specks, micromicaceous, soft to plastic, slightly dispersive, massive.
1835-1840	Sandstone Claystone	80 20	Predominantly as above, occasionally kaolinitic inclusions. As above.
1840-1845	Sandstone Claystone	70 30	As above. As above.
1845-1850	Sandstone Claystone	90 10	Predominantly as above, abundant argillaceous matrix dispersing in mud. As above.
1850-1855	Sandstone Claystone	70 30	Quartzose, clear to translucent, frosted, light grey, vf to predominantly fine, subangular to subround, well sorted, locally weak to moderately strong siliceous cement, trace muscovite, trace carbonaceous specks, trace fine to medium nodular pyrite, locally kaolinitic inclusions, moderately hard to disaggregated, poor to fair porosity, no fluorescence. Medium dark grey to olive grey, locally very silty grades to argillaceous siltstone in part, trace carbonaceous specks, micromicaceous, soft to plastic, slightly dispersive, massive.

1855-1860	Sandstone Claystone	50 50	As above. As above.
1860-1865	Sandstone Claystone	70 30	As above. As above.
1865-1870	Sandstone Claystone	20 80	As above. As above.
1870-1875	Sandstone Claystone	60 40	Quartzose, clear to translucent, frosted, light grey, fine, subround, well sorted, predominantly clean, weak siliceous cement in part, argillaceous matrix dispersing in mud, trace kaolinitic inclusions, trace nodular pyrite, trace to common carbonaceous fragments, disaggregated, fair to good porosity, no fluorescence. Brown grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.
1875-1880	Sandstone Claystone	90 10	As above. As above.
1880-1885	Sandstone Claystone	90 10	As above. As above.
1885-1890	Sandstone Claystone	80 20	As above. As above.
1890-1895	Sandstone Claystone	80 20	As above. with trace subangular quartz granules As above.
1895-1900	Sandstone Claystone	90 10	Quartzose, clear to translucent, frosted, light grey, fine, subround, well sorted, predominantly clean, weak siliceous cement in part, argillaceous matrix dispersing in mud, trace kaolinitic inclusions, trace nodular pyrite, trace to common carbonaceous fragments, trace muscovite, trace hard siltstone, disaggregated, fair to good porosity, no fluorescence. Brown grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.
1900-1905	Sandstone Claystone	85 15	Predominantly as above, with occasional hard silica cemented fine sand aggregates. As above.
1905-1910	Sandstone Claystone	75 25	Predominantly as above, very fine to medium, moderate to well sorted. As above.
1910-1915	Sandstone Claystone	75 25	As above. As above, commonly silty.
1915-1920	Sandstone Claystone	40 60	As above. As above.

1920-1925	Sandstone	60	Quartzose, clear to translucent, frosted, light grey, very fine to very coarse, subround, poorly sorted, predominantly clean, moderate to strong siliceous, calcareous and dolomitic cement in part, argillaceous matrix dispersing in mud, trace kaolinitic inclusions, trace nodular pyrite, trace to common carbonaceous fragments, trace muscovite, trace hard siltstone, disaggregated with minor hard cemented fine grained aggregates, fair to good porosity, no fluorescence.
	Claystone	40	Light grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.
1925-1930	Sandstone	95	Predominantly as above, fine to medium, moderately to well sorted.
	Claystone	5	As above.
1930-1935	Sandstone	45	Predominantly as above, very fine to coarse, moderately sorted.
	Claystone	55	As above.
1935-1940	Sandstone	75	As above.
	Claystone	25	As above.
1940-1945	Sandstone	45	As above.
	Claystone	55	As above.
1945-1950	Sandstone	65	Quartzose, clear to translucent, frosted, light grey, very fine to coarse, subround, moderately sorted, predominantly clean, moderate to strong siliceous, calcareous and dolomitic cement in part, argillaceous matrix dispersing in mud, trace kaolinitic inclusions, trace nodular pyrite, trace to common carbonaceous fragments, trace muscovite, trace hard siltstone, disaggregated with minor hard cemented fine sand aggregates, fair to good porosity, no fluorescence.
	Claystone	35	Light grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.
1950-1960	Sandstone	50	As above.
	Claystone	50	As above.
1960-1970	Sandstone	40	Predominantly as above, very fine to very coarse, moderate to poor sorting.
	Claystone	60	As above.
1970-1980	Sandstone	70	Predominantly as above, fine to medium, well sorted.
	Siltstone	10	Dark grey to olive grey, locally very argillaceous grades to silty claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, firm, blocky to subfissile.
	Claystone	20	As above.

1980-1990	Sandstone Siltstone Claystone	50 15 35	Predominantly as above, fine to coarse, moderately sorted. Dark grey to olive grey, locally very argillaceous grades to silty claystone in part, slightly arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, firm, blocky to subfissile. As above.
1990-2000	Sandstone Siltstone Claystone	20 70 10	Predominantly as above, very fine to medium, well sorted. As above. As above.
2000-2010	Sandstone Claystone	15 85	Predominantly as above, trace quartz granules As above.
2010-2020	Sandstone Claystone	60 40	As above As above.
2020-2030	Sandstone Claystone	35 65	As above As above.
2030-2040	Sandstone Claystone	40 60	As above As above.
2040-2050	Sandstone Claystone	85 15	Quartzose, clear to translucent, frosted, light grey, fine to medium, subround, moderately to well sorted, predominantly clean, moderate to strong siliceous, calcareous and dolomitic cement in part, argillaceous matrix dispersing in mud, trace kaolinitic inclusions, trace nodular pyrite, trace to common carbonaceous fragments, trace muscovite, trace blocky firm siltstone, disaggregated with common hard carbonate cemented fine to medium sand aggregates, fair to good porosity, no fluorescence. Light grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.
2050-2060	Sandstone Claystone	20 80	As above, trace blocky to subfissile siltstone As above.
2060-2070	Sandstone Claystone	65 35	Predominantly as above, fine to coarse, moderately sorted. As above.
2070-2080	Sandstone Claystone	50 50	Predominantly as above, fine to coarse, moderately sorted, common hard carbonate cemented medium sand aggregates As above.

2080-2090	Sandstone	70	Quartzose, clear to translucent, frosted, light grey, fine to medium, subround, moderately to well sorted, predominantly clean, moderate to strong siliceous, calcareous and dolomitic cement in part, argillaceous matrix dispersing in mud, trace nodular pyrite, trace to common carbonaceous fragments, trace muscovite, trace dolomitic calcarenite, trace blocky firm siltstone, disaggregated with common hard cemented fine to medium sand aggregates, fair to good porosity, no fluorescence.
	Siltstone	15	Light grey to olive grey to medium grey, locally very argillaceous, moderately arenaceous, micromicaceous, moderately abundant carbonaceous specks, trace lithic fragments, firm, blocky to subfissile
	Claystone	15	Light grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.
2090-2100	Sandstone	80	Predominantly as above, fine to coarse, angular to subangular, moderately sorted.
	Siltstone	10	As above.
	Claystone	10	As above.
2100-2110	Sandstone	90	Predominantly as above, fine to medium, angular to subangular, moderately to well sorted, trace muscovite.
	Siltstone	5	As above.
	Claystone	5	As above.
2110-2120	Sandstone	90	As above.
	Siltstone	5	As above.
	Claystone	5	As above.
2120-2130	Sandstone	50	Predominantly as above, fine to very coarse, angular to subangular, poor to moderate sorting.
	Siltstone	5	As above.
	Claystone	45	As above.
2130-2140	Sandstone	40	Quartzose, clear to translucent, frosted, light grey, fine to coarse, angular to subangular, moderately to well sorted, predominantly clean, moderate to strong siliceous, calcareous and dolomitic cement in part, argillaceous matrix dispersing in mud, trace nodular pyrite, trace to common carbonaceous fragments, trace muscovite, trace dolomitic calcarenite, trace blocky firm siltstone, disaggregated with minor hard cemented fine to medium sand aggregates, fair to good porosity, no fluorescence.
	Siltstone	20	Dark grey to black, moderately argillaceous, pyritic, trace lithic fragments, hard to very hard, blocky to subfissile shale.
	Claystone	40	Light grey to olive grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to slightly dispersive, massive to amorphous.

2140-2150	Sandstone	70	Predominantly as above, very fine to medium, angular to subangular, moderately to well sorted.
	Siltstone	25	As above.
	Claystone	5	As above.
2150-2160	Sandstone	30	As above.
	Siltstone	60	As above.
	Claystone	10	As above.
2160-2170	Sandstone	10	As above.
	Siltstone	65	As above.
	Claystone	25	As above.
2170-2180	Sandstone	5	As above.
	Siltstone	20	As above.
	Claystone	75	As above.
2180-2190	Sandstone	5	Quartzose, clear to translucent, frosted, light grey, very fine, subangular, well sorted, predominantly clean, minor firm carbonate cemented aggregates, trace dolomitic calcarenite, fair to good porosity, no fluorescence.
	Siltstone	15	Dark grey to black, argillaceous, pyritic, trace lithic fragments, locally hard to very hard, blocky to fissile shale.
	Claystone	80	Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, slightly arenaceous in part, soft to firm to slightly dispersive, massive to amorphous.
2190-2200	Sandstone	5	As above.
	Siltstone	5	As above.
	Claystone	90	As above.
2200-2210	Sandstone	5	As above.
	Siltstone	10	Predominantly as above with both light grey firm siltstone and dark grey to black hard to very hard siltstone (shale).
	Claystone	85	As above.
2210-2220	Siltstone	5	As above, with trace disaggregated very fine sandstone
	Claystone	95	As above.
2220-2230	Sandstone	10	As above.
	Siltstone	10	Predominantly as above with both light grey firm siltstone and dark grey to black hard to very hard siltstone (shale).
	Claystone	80	As above.
2230-2240	Sandstone	5	As above.
	Siltstone	10	As above.
	Claystone	85	As above.
2240-2250	Sandstone	10	As above.
	Siltstone	40	Predominantly as above with more abundant dark grey to black hard to very hard siltstone (shale).
	Claystone	50	As above.

2250-2260	Sandstone	35	Quartzose, clear to translucent, frosted, light grey, very fine to fine, subangular to subrounded, well sorted, predominantly clean with common dispersive silty matrix, predominantly disaggregated with common firm carbonate cemented aggregates, trace dolomitic calcarenite, fair to good porosity, no fluorescence
	Siltstone	15	As above.
	Claystone	50	As above.
2260-2270	Sandstone	25	Quartzose, clear to translucent, frosted, light grey, very fine to fine, subangular to subrounded, well sorted, common dispersive silty matrix, disaggregated, with common firm carbonate cemented aggregates, trace dolomitic calcarenite, fair to good porosity, no fluorescence
	Siltstone	30	Light grey to olive grey, arenaceous, moderately calcareous, soft to firm, blocky.
	Claystone	45	Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2270-2280	Sandstone	20	As above.
	Siltstone	20	As above.
	Claystone	60	As above.
2280-2290	Sandstone	40	As above.
	Siltstone	10	As above.
	Claystone	50	As above.
2290-2300	Sandstone	70	Predominantly as above, very fine to medium, well sorted, moderately to strongly calcareous.
	Siltstone	10	Predominantly as above, with common dark grey to black hard to very hard, blocky to fissile shale.
	Claystone	20	As above.
2300-2310	Sandstone	40	As above
	Siltstone	10	Predominantly as above, with trace dark grey to black, hard to very hard, fissile shale.
	Claystone	50	As above.
2310-2320	Sandstone	30	Quartzose, clear to translucent, frosted, light grey, very fine to coarse, subangular to subrounded, well sorted, common silty matrix, disaggregated, with common firm carbonate cemented aggregates, trace dolomitic calcarenite, fair to good porosity, no fluorescence
	Siltstone	25	Dark grey to olive grey, argillaceous, micaceous, commonly pyritic, firm, blocky to subfissile, with up to 10% dark grey to black, hard to very hard, subfissile to fissile shale.
	Claystone	45	Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2320-2330	Sandstone	20	As above.
	Siltstone	50	Predominantly as above, with trace dark grey to black shale
	Claystone	30	As above.

2330-2340	Sandstone Siltstone Claystone	50 15 35	As above. As above. As above.
2340-2350	Sandstone Siltstone Claystone	65 20 15	As above. As above. As above.
2350-2360	Sandstone Siltstone Claystone	65 15 20	As above. As above. As above.
2360-2370	Sandstone Siltstone Claystone	25 25 50	As above. As above. As above.
2370-2380	Sandstone Siltstone Claystone	15 10 75	Quartzose, clear to translucent, frosted, light grey, very fine to medium, subangular to subrounded, well sorted, common silty matrix, disaggregated, with common firm carbonate cemented aggregates, trace yellowish white limestone, fair to good porosity, no fluorescence Dark grey to olive grey, argillaceous, micaceous, commonly pyritic, firm, blocky to subfissile, with trace dark grey to black, hard to very hard, subfissile to fissile shale. Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2380-2390	Sandstone Siltstone Claystone	30 25 50	Predominantly as above, very fine to coarse. As above. As above.
2390-2400	Sandstone Siltstone Claystone	75 15 10	Quartzose, clear to translucent, frosted, light olive grey to light grey to brownish grey, very fine to medium, subangular to subrounded, well sorted, common silty matrix, common firm carbonate and silica cemented aggregates, trace to common carbonaceous fragments, trace dolomite, fair to good porosity, no fluorescence. Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm, blocky to subfissile, with trace dark grey to black, hard to very hard, subfissile to fissile shale. Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2400-2410	Sandstone Siltstone Claystone	40 25 50	Predominantly as above, with trace quartz granules. As above. As above.
2410-2420	Sandstone Siltstone Claystone	15 80 5	As above. As above. As above.
2420-2430	Sandstone Siltstone Claystone	15 70 15	As above. As above. As above.

2430-2440	Sandstone	10	Quartzose, clear to translucent, frosted, light olive grey to light grey to brownish grey, very fine to medium, subangular to subrounded, well sorted, common silty matrix, common firm carbonate and silica cemented aggregates, trace to common carbonaceous fragments, trace dolomite, trace echinoderm fragments, trace quartz granules, fair porosity, no fluorescence.
	Siltstone	60	Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm, blocky to subfissile.
	Claystone	30	Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2440-2450	Sandstone	75	As above.
	Siltstone	25	As above. Trace Claystone.
2450-2460	Sandstone	10	As above.
	Siltstone	20	As above.
	Claystone	70	As above.
2460-2470	Sandstone	60	Predominantly as above, very fine to coarse.
	Siltstone	25	As above.
	Claystone	15	As above.
2470-2480	Sandstone	20	Predominantly as above, very fine to medium.
	Siltstone	40	As above.
	Claystone	40	As above.
2480-2490	Sandstone	20	Quartzose, clear to translucent, frosted, light olive grey to light grey to brownish grey, very fine to fine, subangular to subrounded, well sorted, common silty matrix, common firm carbonate and silica cemented aggregates, common pyrite trace to common carbonaceous fragments, trace dolomite, trace glauconite, trace quartz granules, fair porosity, no fluorescence.
	Siltstone	70	Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm, blocky to subfissile.
	Claystone	10	Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2490-2500	Sandstone	30	As above.
	Siltstone	60	As above.
	Claystone	10	As above.
2500-2510	Sandstone	5	As above.
	Siltstone	80	As above.
	Claystone	15	As above.
2510-2520	Sandstone	15	As above.
	Siltstone	60	As above.
	Claystone	25	As above.

2520-2530	Sandstone	25	Quartzose, clear to translucent, frosted, medium grey to brownish grey, very fine to medium, subangular to subrounded, well sorted, common silty matrix, common firm carbonate and silica cemented aggregates, common pyrite, trace to common carbonaceous fragments, trace dolomite, trace glauconite, fair porosity, no fluorescence.
	Siltstone	60	Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm, blocky to subfissile.
	Claystone	15	Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2530-2540	Sandstone	10	Predominantly as above, very fine to fine
	Siltstone	50	As above.
	Claystone	40	As above.
2540-2550	Sandstone	5	Predominantly as above, very fine.
	Siltstone	75	As above.
	Claystone	20	As above.
2550-2560	Siltstone	80	As above.
	Claystone	20	As above.
2560-2570	Siltstone	80	As above with trace dolomite.
	Claystone	20	As above.
2570-2580	Sandstone	5	Quartzose, with minor feldspathic component, clear to translucent, frosted, medium grey to brownish grey, very fine to medium, subangular to subrounded, well sorted, common silty matrix, disaggregated, with minor carbonate cemented aggregates, trace pyrite, trace carbonaceous fragments, trace dolomite, fair porosity, no fluorescence.
	Siltstone	75	Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm, blocky to subfissile.
	Claystone	20	Light grey to light olive grey to yellowish grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2580-2590	Sandstone	15	Quartzose, with minor feldspathic component, clear to translucent, frosted, medium grey to brownish grey, very fine to fine, subangular, well sorted, common silty matrix, weak carbonate cement, trace pyrite, trace carbonaceous fragments, trace dolomite, fair porosity, no fluorescence.
	Siltstone	75	Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm, blocky to subfissile.
	Claystone	10	Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2590-2600	Sandstone	15	As above.
	Siltstone	75	As above.
	Claystone	10	As above.

2600-2610	Sandstone Siltstone Claystone	15 75 10	As above. As above. As above.
2610-2620	Sandstone Siltstone Claystone	10 60 30	As above. As above. As above.
2620-2630	Sandstone Siltstone Claystone	10 70 20	As above. As above. As above.
2630-2640	Sandstone Siltstone Claystone	10 70 20	As above. As above. As above.
2640-2650	Sandstone Siltstone Claystone	10 70 20	Quartzose with minor feldspathic component, clear to translucent, frosted, medium grey to brownish grey, very fine to fine, subangular, well sorted, common silty matrix, weak carbonate cement, trace pyrite, trace carbonaceous fragments, trace dolomite, fair porosity, no fluorescence. Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm to hard, blocky to subfissile. Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2650-2660	Sandstone Siltstone Claystone	15 70 15	As above. As above. As above.
2660-2670	Sandstone Siltstone Claystone	10 75 15	As above. As above. As above.
2670-2680	Sandstone Siltstone Claystone	5 85 10	As above. As above. As above.
2680-2690	Siltstone Claystone	90 10	As above. Trace very fine disaggregated sand. As above.
2690-2700	Siltstone Claystone	90 10	As above. As above.
2700-2710	Sandstone Siltstone Claystone	10 80 10	As above. As above. As above.
2710-2720	Sandstone Siltstone Claystone	5 80 15	As above. As above. As above.

2720-2730	Sandstone Siltstone Claystone	5 75 20	Quartzose with minor feldspathic component, clear to translucent, frosted, medium grey to brownish grey, very fine to fine, subangular, well sorted, common silty matrix, weak carbonate cement, trace pyrite, trace carbonaceous fragments, trace dolomite, fair porosity, no fluorescence. Dark grey to olive grey, argillaceous, carbonaceous, micaceous, weakly calcareous, locally arenaceous, commonly pyritic, firm to hard, blocky to subfissile. Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to firm to slightly dispersive, massive to amorphous.
2730-2740	Sandstone Siltstone Claystone	5 80 15	As above. As above. As above.
2740-2750	Sandstone Siltstone Claystone	5 80 15	As above. As above. As above.
2750-2760	Sandstone Siltstone	10 90	Quartzose with minor feldspathic component, clear to translucent to milky white, frosted, medium grey, very fine to fine, subangular, well sorted, common silty matrix, weak silica cement, common carbonaceous fragments trace pyrite, trace dolomite, trace calcarenite, poor porosity, no fluorescence. Dark grey to olive grey, commonly arenaceous, carbonaceous, micaceous, commonly pyritic, firm to hard, blocky. Trace claystone.
2760-2770	Sandstone Siltstone	10 90	As above As above
2770-2780	Sandstone Siltstone	10 90	As above As above
2780-2790	Sandstone Siltstone	10 90	As above As above
2790-2800	Sandstone Siltstone	10 90	Quartzose with minor feldspathic component, clear to translucent to milky white, frosted, medium grey, very fine to fine, subangular, well sorted, common silty matrix, weak silica cement, common carbonaceous fragments trace pyrite, trace dolomite, trace calcarenite, poor porosity, no fluorescence. Dark grey to olive grey, commonly arenaceous, carbonaceous, micaceous, commonly pyritic, firm to hard, blocky. Trace claystone.
2800-2807	Sandstone Siltstone	10 90	As above As above

2807-2810	Sandstone Siltstone	10 90	Quartzose with minor feldspathic component, clear to translucent to milky white, frosted, medium grey, very fine to medium, subangular to subrounded, moderately sorted, common silty matrix, weak silica cement, common carbonaceous fragments trace pyrite, trace rounded quartz granules, trace dolomite, poor to fair porosity, no fluorescence. Medium grey to dark grey to olive grey, commonly arenaceous, locally grading to very fine silty sandstone, carbonaceous, micaceous, commonly pyritic, firm to hard, blocky.
2810-2815	Sandstone Siltstone	10 90	Lithic Arenite, medium light grey to olive grey, very fine to predominantly fine, subangular to subround, moderate sorting, moderate calcareous cement, abundant argillaceous/silty matrix, trace medium quartz float, trace nodular pyrite, friable poor to nil porosity, no fluorescence. Dark grey to olive black, locally vary argillaceous grades to silty Claystone, trace lithic fragments, trace carbonaceous material, micromicaceous, occasionally fine pyrite nodules, moderately hard, blocky.
2815-2820	Limestone Siltstone	10 90	Calcisiltite, grey brown to dusky brown, micritic, slightly dolomitic, moderately argillaceous, trace fine calcareous sand, trace carbonaceous stylolites, hard, brittle in part, blocky to platy, no porosity, no fluorescence. As above.
2820-2825	Siltstone	100	As above.
2825-2830	Siltstone	100	Dark grey to olive black, slightly calcareous in part, locally v argillaceous grades to silty Claystone, trace lithic fragments, trace carbonaceous specks, slightly chloritic in part, occasionally fine grained arenaceous inclusions, moderately hard, blocky.
2830-2835	Siltstone	100	Predominantly as above, trace white calcite infill.
2835-2840	Limestone Siltstone	10 90	Calcisiltite, grey brown to dusky brown, micritic, slightly dolomitic, moderately argillaceous, trace fine calcareous sand, trace carbonaceous stylolites, hard, brittle in part, blocky to platy, no porosity, no fluorescence. As above.
2840-2845	Sandstone Siltstone	20 80	Lithic Arenite, dark yellow brown to brown grey, very fine to fine, subangular, well sorted, moderately strong calcareous cement, common argillaceous/silty matrix, trace carbonaceous material, rare fine nodular pyrite, friable to disaggregated, very poor porosity, no fluorescence. As above.

2845-2850	Sandstone Limestone Siltstone	10 10 80	As above. Calcisiltite to Calcilutite, grey brown to dusky brown, micritic, slightly dolomitic, moderately to very argillaceous, trace fine calcareous sand, trace carbonaceous stylolites, hard, brittle in part, blocky to platy, no porosity, no fluorescence. Dark grey to olive black, slightly calcareous in part, locally v argillaceous grades to silty Claystone, trace lithic fragments, trace carbonaceous specks, occasionally fine grained arenaceous inclusions, moderately hard, blocky.
2850-2855	Sandstone Siltstone	20 80	Lithic Arenite, dark yellow brown to brown grey, very fine to fine, subangular to subrounded, well sorted, moderately strong calcareous cement, common argillaceous/silty matrix, trace carbonaceous material, rare fine nodular pyrite, friable to disaggregated, very poor to poor porosity, no fluorescence. As above.
2855-2860	Siltstone	100	As above.
2860-2865	Sandstone Siltstone	10 90	Lithic Arenite, dark yellow brown to brown grey, very fine to fine, subangular to subrounded, moderate sorted, moderately strong calcareous cement, common argillaceous/silty matrix, trace carbonaceous material, locally very coarse milky quartz float, rare fine nodular pyrite, friable to disaggregated, poor porosity, no fluorescence. As above.
2865-2870	Sandstone Siltstone	10 90	As above. As above.
2870-2875	Sandstone Siltstone	90 10	Quartzose, clear to translucent, frosted, brown grey in part, fine to predominantly medium to coarse, angular to subrounded, poor to moderate sorting, locally strong dolocalcareous cement, trace very coarse milky quartz float, trace limonitic stained quartz, trace nodular pyrite, friable to predominantly disaggregated, occasionally moderately hard cemented aggregates, good porosity, no fluorescence. Dark grey to olive black, locally very argillaceous grades to silty Claystone, trace lithic fragments, trace carbonaceous specks, micromicaceous, common fine grained arenaceous inclusions, moderately hard, blocky.
2875-2880	Sandstone	100	Quartzose, clear to translucent, frosted, fine to predominantly medium to coarse, angular to subrounded, moderate sorting, locally weak calcareous cement, trace carbonaceous/coaly fragments, trace glauconite/chlorite, trace muscovite, occasionally limonite stained quartz, friable to predominantly disaggregated, good porosity, no fluorescence.
2880-2885	Sandstone	100	Quartzose, clear to translucent, frosted, fine to predominantly medium, angular to subround, moderate sorting, weak dolocalcareous cement, trace pyritic cement and nodules, predominantly clean, trace glauconite, common coarse to very coarse milky quartz, occasionally Fe stained quartz, disaggregated, good porosity, no fluorescence.

2885-2890	Sandstone	100	Predominantly as above, becomes medium to coarse, locally moderately dolocalcareous cement, trace smoky quartz in part.
2890-2895	Sandstone	100	As above.
2895-2900	Sandstone Siltstone	60 40	Quartzose, clear to translucent, frosted, fine to medium, subangular to subround, moderate to good sorting, moderately strong dolocalcareous cement in part, predominantly clean, locally coarse milky quartz float, trace glauconite, trace nodular pyrite, moderately hard aggregates, predominantly disaggregated, fair porosity, no fluorescence. Dark grey to brown black, locally very argillaceous grades to silty claystone, trace llithic fragments, trace carbonaceous specks, micromicaceous, trace glauconite/chlorite, slightly arenaceous in part, moderately hard, blocky.
2900-2905	Sandstone Siltstone	10 90	As above. As above.
2905-2910	Sandstone Siltstone	10 90	Quartzose, clear to translucent, frosted, fine to medium, subangular to subround, moderate to good sorting, moderately strong dolocalcareous cement in part, predominantly clean, locally coarse milky quartz float, trace glauconite, trace nodular pyrite, trace dolomite, moderately hard aggregates, predominantly disaggregated, fair porosity, no fluorescence. As above.
2910-2915	Sandstone Siltstone	20 80	Predominantly as above, very fine to medium. As above.
2915-2920	Sandstone Siltstone	25 75	As above. As above.
2920-2925	Sandstone Siltstone	25 75	Quartzose, clear to translucent, frosted, fine to medium, subangular to subround, moderate to good sorting, moderately strong dolocalcareous cement in part, predominantly clean, locally coarse milky quartz float, trace glauconite, trace nodular pyrite, moderately hard aggregates, predominantly disaggregated, fair porosity, no fluorescence. Dark grey to brown black, locally very argillaceous grades to silty claystone, trace llithic fragments, trace carbonaceous specks, commonly pyritic, micromicaceous, trace glauconite/chlorite, slightly arenaceous in part, moderately hard, blocky.
2925-2930	Sandstone Siltstone Limestone	10 55 35	As above. As above. Calcilutite to Calcarenite, yellowish grey to grey brown to dusky brown, micritic, moderately dolomitic, moderately argillaceous, trace carbonaceous stylolites, hard, brittle in part, blocky to platy, no porosity, no fluorescence
2930-2935	Sandstone Siltstone Limestone	10 65 25	As above. As above. As above

2935-2940	Sandstone Siltstone Claystone Limestone	5 70 20 5	As above. As above. Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to dispersive, massive to amorphous. As above
2940-2945	Siltstone Claystone Limestone	80 15 5	As above. As above. As above
2945-2950	Siltstone	100	Dark grey to brown black, locally very argillaceous grades to silty claystone, trace llithic fragments, trace carbonaceous specks, commonly pyritic, micromicaceous, trace glauconite/chlorite, slightly arenaceous in part, moderately hard, blocky. Trace sandstone, trace limestone.
2950-2955	Sandstone Siltstone	10 90	Quartzose, clear to translucent, frosted, very fine to medium, subangular to subround, moderate to good sorting, moderately strong dolocalcareous cement in part, predominantly clean, locally coarse milky quartz float, trace glauconite, trace nodular pyrite, moderately hard aggregates, predominantly disaggregated, fair porosity, no fluorescence. As above
2955-2960	Siltstone	100	Dark grey to brown black, locally very argillaceous grades to silty claystone, trace llithic fragments, trace carbonaceous specks, commonly pyritic, micromicaceous, trace glauconite/chlorite, slightly arenaceous in part, moderately hard, blocky. Trace sandstone, trace limestone.
2960-2965	Sandstone Siltstone Claystone	5 90 5	As above. Trace limestone. As above. Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to dispersive, massive to amorphous.
2965-2970	Siltstone Claystone	90 10	As above. As above
2970-2975	Sandstone Siltstone Claystone Limestone	10 75 5 5	As above. As above. As above Calcilutite to Calcarenite, yellowish grey to grey brown to dusky brown, micritic, moderately dolomitic, moderately argillaceous, trace carbonaceous stylolites, trace crystalline calcite, hard, brittle in part, blocky to platy, no porosity, no fluorescence
2975-2980	Sandstone Siltstone Claystone	5 85 10	As above. Trace limestone. As above. Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to dispersive, massive to amorphous.

2980-2985	Sandstone Siltstone	45 55	Quartzose, clear to translucent, frosted, very fine to medium, subangular to subround, moderate to good sorting, moderately strong dolocalcareous cement in part, predominantly clean with minor Fe-oxide stained quartz, trace glauconite, trace limestone, predominantly disaggregated with minor hard calc cemented aggregates fair to good porosity, no fluorescence. Dark grey to brown black, locally very argillaceous grades to silty claystone, trace llithic fragments, trace carbonaceous specks, commonly pyritic, micromicaceous, trace glauconite/chlorite, slightly arenaceous in part, moderately hard, blocky to sub fissile.
2985-2990	Sandstone Siltstone Claystone	40 50 10	As above. Trace limestone. As above. Light grey to light olive grey to medium grey, silty in part, common carbonaceous fragments, micromicaceous, soft to dispersive, massive to amorphous.
2990-2995	Sandstone Siltstone Claystone	50 45 5	Quartzose, clear to translucent to yellowish grey, frosted, very fine to medium, subangular to subround, moderately to well sorted, moderately strong silica with weaker calcareous cement in part, predominantly clean with minor Fe-oxide stained quartz, trace limestone, dolomite and crystalline calcite, common hard silica cemented fine to medium sand aggregates, fair to good porosity, no fluorescence. As above. As above.
2995-3000	Sandstone Siltstone Claystone Limestone	50 40 5 5	As above As above. As above. Calcilutite to Calcarenite, yellowish grey to grey brown to dusky brown, micritic, locally dolomitic, moderately argillaceous, trace carbonaceous stylolites, trace crystalline calcite, hard, brittle in part, blocky to platy, no porosity, no fluorescence
3000-3005	Sandstone Siltstone Limestone	85 5 10	Quartzose, clear to translucent to yellowish grey, frosted, very fine to medium, predominantly fine, subangular to subround, well sorted, moderately strong silica cement with weaker calcareous cement in part, predominantly clean with minor Fe-oxide stained quartz, trace glauconite, predominantly disaggregated with minor hard silica cemented fine to medium sand aggregates, good porosity, no fluorescence. As above. As above.
3005-3010	Sandstone Siltstone Limestone	60 35 5	As above. Trace rose quartz As above. As above
3010-3015	Sandstone Siltstone Limestone	90 5 5	As above. As above. As above

3015-3020	Sandstone	55	Quartzose, clear to translucent to yellowish grey, frosted, very fine to coarse, predominantly medium, subangular to subround, moderate sorting, strong silica cement with weaker calcareous cement in part, predominantly clean with minor Fe-oxide stained quartz, trace glauconite, predominantly hard silica cemented fine to medium sand aggregates, fair to good porosity, no fluorescence.
	Siltstone	40	As above.
	Limestone	5	As above.
3020-3025	Sandstone	90	As above.
	Siltstone	5	As above.
	Limestone	5	As above
3025-3030	Sandstone	35	As above.
	Siltstone	60	Medium light grey to dark grey to olive grey, locally very argillaceous grades to silty claystone, trace llithic fragments, trace carbonaceous specks, commonly pyritic, micromicaceous, trace glauconite/chlorite, slightly arenaceous in part, moderately hard, blocky to sub fissile.
	Limestone	5	As above
3030-3035	Sandstone	70	Quartzose, clear to translucent, grey brown in part, fine to medium in part, subangular to subround, moderately well sorted, weak dolocalcareous cement, slightly argillaceous matrix, trace glauconite, trace muscovite, trace coarse milky quartz float, friable to moderately hard in part, occasionally disaggregated, poor to fair porosity, no fluorescence.
	Siltstone	30	Brown black to olive black, very argillaceous grades to silty claystone in part, trace disseminated pyrite, micromicaceous, trace lithic fragments, trace carbonaceous material, moderately hard, blocky.
3035-3040	Sandstone	50	Predominantly as above, becomes medium.
	Siltstone	50	As above.
	Limestone	Tr	Calcilutite, pale yellow brown, micritic, trace very fine calcareous sand, chalky, brittle to moderately hard, blocky, no porosity, no fluorescence.
3040-3045	Siltstone	100	Olive black to brown black, very argillaceous grades to silty claystone, micromicaceous, common light grey arenaceous inclusions, trace lithic fragments, trace carbonaceous material, moderately hard, blocky.
3045-3050	Sandstone	30	Quartzose, clear to translucent, grey brown in part, fine to medium, subangular to subround, moderately well sorted, weak dolocalcareous cement, slightly argillaceous matrix, trace glauconite, trace muscovite, trace coarse milky quartz float, friable to moderately hard in part, occasionally disaggregated, poor to fair porosity, no fluorescence.
	Siltstone	70	As above.

3050-3055	Sandstone	70	Quartzose, pale yellow brown, clear to translucent, very fine to fine, medium in part, subangular to subround, moderately well sorted, weak calcareous cement, common argillaceous/silty matrix, trace carbonaceous specks, trace lithic fragments, friable to disaggregated, poor porosity, no fluorescence.
	Siltstone	30	As above.
3055-3060	Sandstone	60	Quartzose, medium grey to brown grey in part, clear to translucent, very fine to predominantly fine, subangular to subround, well sorted, moderately strong siliceous cement, locally dolocalcareous cement, slightly argillaceous/silty matrix in part, trace glauconite, trace kaolinitic inclusions, trace biotite, trace lithic fragments, moderately hard, friable to disaggregated in part, very poor to nil porosity, no fluorescence.
	Siltstone	40	As above.
3060-3065	Sandstone	70	Quartzose, grey brown, dark yellow brown, very fine to fine, subangular to subround, well sorted, strong dolocalcareous cement, moderately strong siliceous cement in part, trace carbonaceous materiel, rare glauconite, moderately hard, very poor porosity. Fluorescence: Trace dull yellow green patchy fluorescence, very weak slow diffuse milky cut, no residue.
	Siltstone	30	Olive black to brown black, very argillaceous grades to silty claystone, micromicaceous, common light grey arenaceous inclusions, trace lithic fragments, trace carbonaceous material, moderately hard, blocky.
3065-3070	Sandstone	80	Quartzose, medium grey, very fine to fine, subangular to subround, well sorted, moderately strong siliceous cement, weak calcareous cement in part, locally common argillaceous/silty matrix, trace biotite, trace lithic fragments, firm to moderately hard, very poor to nil porosity, no fluorescence.
	Siltstone	20	Olive black to brown black, very argillaceous grades to silty claystone, micromicaceous, locally light grey very fine grained arenaceous inclusions, trace lithic fragments, trace carbonaceous material, moderately hard, blocky.
3070-3075	Sandstone	20	As above.
	Siltstone	80	As above.
3075-3080	Sandstone	10	As above.
	Siltstone	90	As above.
3080-3085	Sandstone	10	As above.
	Siltstone	90	As above.
3085-3090	Siltstone	100	As above.
3090-3095	Sandstone	10	Quartzose, medium grey, very fine to fine, subangular to subround, well sorted, moderately strong siliceous cement, weak calcareous cement in part, locally common argillaceous/silty matrix, trace biotite, trace lithic fragments, firm to moderately hard, very poor to nil porosity, no fluorescence.
	Siltstone	90	As above.

3095-3100	Sandstone	40	Quartzose, light to medium grey, olive grey, clear to translucent in part, very fine to fine, subangular, well sorted, locally moderately strong calcareous cement, weak siliceous cement in part, locally common argillaceous/silty matrix, trace muscovite/biotite, rare glauconite, firm to moderately hard, disaggregated in part, very poor to poor porosity, no fluorescence.
	Siltstone	60	Dark grey to olive black, locally very argillaceous grades to silty claystone in part, slightly to moderately arenaceous, trace carbonaceous specks, trace lithic fragments, moderately hard, blocky.
3100-3105	Sandstone	60	Predominantly as above, trace carbonaceous/coaly microlaminae.
	Siltstone	40	As above.
3105-3110	Sandstone	30	As above.
	Limestone	10	Calcarenite to Calcisiltite, dark yellow brown, fine to silty, micritic, locally cryptocrystalline, slightly dolomitic, trace coralline fragments, trace carbonaceous material, hard, brittle, no porosity, dull orange mineral fluorescence only.
	Siltstone	60	As above.
3110-3115	Sandstone	10	Predominantly as above, becomes fine.
	Siltstone	90	As above.
3115-3120	Sandstone	30	Quartzose, light grey, light brown grey, very fine to fine, silty in part, subangular, well sorted, weak calcareous cement, common argillaceous/silty matrix, trace muscovite/biotite, trace lithic fragments, friable to moderately hard in part, very poor porosity, no fluorescence.
	Siltstone	70	As above.
3120-3125	Sandstone	10	Predominantly as above, becomes very silty grades to arenaceous siltstone in part.
	Siltstone	90	As above.
3125-3130	Sandstone	10	Lithic Arenite, dark yellow brown to olive grey, very fine, subangular, well sorted, siliceous cement in part, locally weak to moderate calcareous cement, common argillaceous/silty matrix, trace carbonaceous material, trace lithic fragments, trace biotite, moderately hard, very poor porosity, no fluorescence.
	Siltstone	90	As above.
3130-3135	Sandstone	20	As above.
	Siltstone	80	As above.

3135-3140	Sandstone Siltstone	20 80	Quartzose, clear to translucent, frosted, light grey, very fine to fine, subangular to subround, well sorted, weak calcareous cement, abundant argillaceous silty matrix, trace lithic fragments, trace carbonaceous material, moderately hard, disaggregated in part, poor porosity, no fluorescence. Dark grey to brown black, locally very argillaceous grades to silty claystone, trace lithic fragments, trace carbonaceous fragments and microlaminae, common white vein calcite, firm to moderately hard, blocky.
3140-3145	Sandstone Siltstone	30 70	As above. As above.
3145-3150	Sandstone Siltstone	10 90	As above. As above.
3150-3155	Siltstone	100	Dark grey to brown black, locally very argillaceous grades to silty claystone, trace lithic fragments, trace carbonaceous fragments and microlaminae, common white vein calcite and calcite infill, firm to moderately hard, blocky.
3155-3160	Sandstone Siltstone	20 80	Quartzose, clear to translucent, frosted, light grey, very fine to fine, subangular to subround, well sorted, weak calcareous cement, abundant argillaceous silty matrix, trace coarse milky quartz float, trace lithic fragments, trace carbonaceous material, moderately hard, disaggregated in part, poor porosity, no fluorescence. As above.
3160-3165	Siltstone	100	Dark grey to brown black, locally very argillaceous grades to silty claystone, trace lithic fragments, trace carbonaceous fragments and microlaminae, common white vein calcite and calcite infill, firm to moderately hard, blocky.
3165-3170	Sandstone Siltstone	20 80	Quartzose, clear to translucent, frosted, light grey, very fine silty grades to arenaceous siltstone, subangular to subround, well sorted, weak calcareous cement, abundant argillaceous silty matrix, tarce medium to coarse quartz float, trace lithic fragments, trace carbonaceous material, moderately hard, disaggregated in part, poor porosity, no fluorescence. As above.
3170-3175	Sandstone Siltstone	10 90	As above. As above.
3175-3180	Sandstone Siltstone	20 80	Quartzose, clear to translucent, light brown, very fine to fine, subangular to subround, well sorted, moderately strong calcareous cement, trace carbonaceous material, trace biotite, trace medium clear quartz float, friable to predominantly disaggregated, poor porosity, no fluorescence. As above.

3180-3185	Sandstone Limestone Siltstone	30 5 65	Quartzose, clear to translucent, light brown, very fine to fine, subangular to subround, well sorted, moderately strong calcareous cement, trace carbonaceous material, trace nodular pyrite, trace limonite stained rock fragments, trace biotite, trace medium clear quartz float, friable to predominantly disaggregated, poor porosity, no fluorescence. Calcilutite, dusky yellow brown, micritic, cryptocrystalline in part, slightly dolomitic, trace carbonaceous material, trace fine calcareous sand, hard, brittle, blocky, no porosity, dull orange mineral fluorescence only. As above.
3185-3190	Sandstone Siltstone	20 80	As above. As above.
3190-3195	Siltstone	100	Dark grey to olive grey, locally very argillaceous grades to silty claystone in part, common very fine grained arenaceous inclusions, trace carbonaceous flecks, trace disseminated pyrite, micromicaceous, slightly chloritic in part, locally arenaceous inclusions, firm, massive to blocky.
3195-3200	Sandstone Siltstone	10 90	Lithic Arenite, medium grey to olive grey, very fine to fine, silty in part grades to arenaceous siltstone in part, subangular, well sorted, weak calcareous cement, silty/argillaceous matrix, trace lithic fragments, trace biotite, friable, very poor porosity, no fluorescence. As above.
3200-3205	Siltstone	100	Predominantly as above, trace white calcite infill.
3205-3210	Sandstone Siltstone	20 80	Lithic Arenite, medium grey to olive grey, very fine to fine, silty in part, subangular, well sorted, weak calcareous cement, silty/argillaceous matrix, trace lithic fragments, trace biotite, friable, very poor porosity, no fluorescence. As above.
3210-3215	Siltstone	100	Dark grey to brown black, locally v argillaceous grades to silty claystone in part, trace carbonaceous specks, trace lithic fragments, locally fine grained arenaceous inclusions, occasionally slightly chloritic, firm, moderately hard, blocky to massive.
3215-3220	Sandstone Limestone Siltstone	10 5 85	As above. Calcilutite, dusky yellow brown, micritic, cryptocrystalline in part, slightly dolomitic, trace carbonaceous material, trace fine calcareous sand, hard, brittle, blocky, no porosity, dull orange mineral fluorescence only. As above.
3220-3225	Sandstone Siltstone	10 90	As above. As above.
3225-3230	Sandstone Siltstone	10 90	As above. As above.

3230-3235	Siltstone	100	Dark grey to brown black, locally v argillaceous grades to silty claystone in part, trace carbonaceous specks, trace lithic fragments, locally very fine grained arenaceous inclusions, slightly chloritic in part, firm, moderately hard, blocky to massive.
3235-3240	Siltstone Sandstone	90 10	As above; nil to trace yellow-orange mineral fluorescence; no cut
3240-3245	Siltstone Sandstone	85 15	As above
3245-3250	Siltstone Sandstone	90 10	As above
3250-3255	Siltstone Sandstone	90 10	As above
3255-3260	Siltstone Sandstone	90 10	As above
3260-3265	Siltstone Sandstone	90 10	As above
3265-3270	Siltstone Sandstone	90 10	As above; trace nodular pyrite
3270-3275	Siltstone Sandstone	85 15	As above; trace fine sandstone
3275-3280	Siltstone Sandstone	90 10	As above; 5% yellow-orange mineral fluorescence; 1% pyrite
3280-3285	Siltstone Sandstone	75 25	Siltstone as above Quartz-litharenite, medium grey to olive grey, very fine to fine, silty in part, subangular, poorly sorted, slight to moderate calcareous cement, silty/argillaceous matrix, trace lithic fragments, trace biotite, friable to moderately hard, very poor porosity, no fluorescence – corresponds to increase in resistivity at 3282 m MD.
3285-3290	Siltstone Sandstone	80 20	Siltstone as above Sandstone: Quartz-litharenite, quartz 60-70%/lithics 30-40%; medium grey to olive grey, range very fine to medium, predominantly very fine to fine grained, silty in part, subangular, poorly sorted, slight to moderate calcareous cement, silty/argillaceous matrix, trace lithic fragments, trace biotite, friable to moderately hard, very poor porosity, no fluorescence
3290-3295	Siltstone Sandstone	75 25	As above
3295-3300	Siltstone Sandstone	80 20	As above

3300-3305	Siltstone Sandstone	70 30	Siltstone as above Sandstone: Quartz-litharenite, quartz 60-70%/lithics 30-40%; medium grey to olive grey, range very fine to medium, predominantly very fine to fine grained, silty in part, subangular, poorly sorted, slight to moderate calcareous cement, silty/argillaceous matrix, trace lithic fragments, trace biotite, friable to moderately hard, very poor porosity, no fluorescence
3305-3310	Siltstone Sandstone	80 20	As above sand mostly disaggregated, <5% medium grains
3310-3315	Siltstone Sandstone	70 30	As above As above
3315-3320	Siltstone Sandstone	50 50	As above sand mostly disaggregated
3320-3325	Siltstone Sandstone	75 25	As above; trace coal Predominantly very fine sand; no direct fluorescence
3325-3330	Siltstone Sandstone	85 15	As above Predominantly very fine sand
3330-3335	Siltstone Sandstone	85 15	As above; common carbonaceous flecks Predominantly very fine sand; no direct fluorescence
3335-3340	Siltstone Sandstone	85 15	As above Predominantly very fine sand; no direct fluorescence
3340-3345	Siltstone Sandstone	70 30	As above As above
3345-3350	Siltstone Sandstone	75 25	As above Sandstone predominantly fine sand, includes ~5% white to pale grey, medium-coarse sand with well rounded quartz grains.
3350-3355	Siltstone Sandstone	60 40	Siltstone as above Sandstone: predominantly very fine – fine, up to medium, disaggregated, trace pyrite nodules; trace very dull yellow-green direct fluorescence
3355-3360	Siltstone Sandstone	70 30	Siltstone as above; 5% carbonaceous – coaly siltstone Sandstone: Sandstone: predominantly very fine – fine, up to medium-coarse grained. 5% very dull yellow-green direct fluorescence, no cut
3360-3365	Siltstone Sandstone	50 50	As above As above
3365-3370	Siltstone Sandstone	60 40	As above; trace very dull yellow-green direct fluorescence As above
3370-3375	Siltstone Sandstone	50 50	As above As above
3375-3380	Siltstone Sandstone	50 50	As above As above
3380-3385	Siltstone Sandstone	60 40	As above As above

3385-3390	Siltstone Sandstone	75 25	As above; Sandstone predominantly very fine to fine. trace very dull yellow-green direct fluorescence
3390-3395	Siltstone Sandstone	85 15	As above; Sandstone predominantly very fine to fine. trace medium-grained quartz grains
3395-3400	Siltstone Sandstone	75 25	As above Sandstone very fine to fine, ranges to medium grained
3400-3405	Siltstone Sandstone	50 50	As above Sandstone very fine to fine, ranges to medium-coarse grained; includes up to 40% white to pale grey varieties, slight to moderately calcareous; aggregates have poor visible porosity. trace to 10% very dull yellow-green direct fluorescence; no cut.
3405-3410	Siltstone Sandstone	40 60	As above As above
3410-3415	Siltstone Sandstone	50 50	As above As above
3415-3420	Sandstone Siltstone	40 60	Lithic Arenite, clear to translucent, olive grey, very fine to predominantly fine, subangular to subrounded, well sorted, weak calcareous cement, minor kaolinitic matrix, common carbonaceous/coaly fragments, abundant lithic fragments, trace muscovite/biotite, friable to disaggregated in part, poor porosity, no fluorescence. Dark grey to olive brown, very argillaceous grades to silty claystone in part, trace disseminated pyrite, common carbonaceous material, micromicaceous, arenaceous in part, trace lithic fragments, firm to moderately hard, blocky.
3420-3425	Sandstone Siltstone	20 80	As above. As above.
3425-3430	Sandstone Siltstone	30 70	As above. As above.
3430-3435	Sandstone Siltstone Claystone	20 30 50	As above. As above. Dark grey to olive black, slightly silty, micromicaceous, trace carbonaceous material, smooth texture, moderately hard, blocky to subfissile in part.;
3435-3440	Sandstone Siltstone Claystone	20 20 60	As above. As above. As above.
3440-3445	Sandstone Siltstone	80 20	Quartzose, clear to translucent, brown grey, very fine to fine, angular to subround, moderately good sorting, moderately strong calcareous cement, trace coarse quartz float, common lithic fragments, trace muscovite/biotite, common carbonaceous/coaly material, friable to predominantly disaggregated, poor to fair porosity, no fluorescence. As above.
3445-3450	Sandstone Siltstone	30 70	As above. As above.

3450-3455	Sandstone Siltstone	10 90	As above. As above.l
3455-3460	Siltstone	100	Dark grey to olive brown, very argillaceous grades to silty claystone in part, trace disseminated pyrite, common carbonaceous material, micromicaceous, common fine grained arenaceous inclusions, slightly chloritic in part, trace lithic fragments, firm to moderately hard, blocky.
3460-3465	Sandstone Siltstone Claystone	10 40 30	Quartzose, clear to translucent, brown grey, very fine to fine, subangular to subround, well sorted, strong dolocalcareous cement, locally moderately strong siliceous cement, trace carbonaceous specks, trace muscovite, friable to moderately hard, poor porosity, no fluorescence. As above. Dark grey to grey black, silty in part, micromicaceous, trace carbonaceous specks, silty/arenaceous inclusions, moderately hard, hard in part, blocky to platy.
3465-3470	Siltstone Claystone	30 70	As above. As above.
3470-3475	Sandstone Siltstone Claystone	10 20 70	Quartzose, clear to translucent, brown grey, very fine to fine, subangular to subround, well sorted, strong dolocalcareous cement, locally moderately strong siliceous cement, trace carbonaceous specks, trace muscovite, friable to moderately hard, poor porosity, no fluorescence. Dark grey to olive brown, very argillaceous grades to silty claystone in part, trace disseminated pyrite, common carbonaceous material, micromicaceous, common fine grained arenaceous inclusions, slightly chloritic in part, trace lithic fragments, firm to moderately hard, blocky. Dark grey to grey black, silty in part, micromicaceous, trace carbonaceous specks, silty/arenaceous inclusions, moderately hard, hard in part, blocky to platy.
3475-3480	Sandstone Siltstone Claystone	30 30 40	Quartzose, clear to translucent, brown grey, fine to medium, subangular to subround, moderately well sorted, weak calcareous cement, trace carbonaceous material, friable to predominantly disaggregated, poor porosity, no fluorescence. Predominantly as above, trace disseminated pyrite. As above.
3480-3485	Siltstone Claystone	30 70	As above. As above.
3485-3490	Sandstone Siltstone	40 60	Quartzose, clear to translucent, brown grey, fine to medium, subangular to subround, moderately well sorted, weak calcareous cement, trace carbonaceous material, friable to predominantly disaggregated, poor porosity, no fluorescence. As above.
3490-3495	Sandstone Siltstone	30 70	Predominantly as above, common medium to coarse milky quartz float, trace pyrite nodules. As above.

3495-3500	Sandstone Siltstone Claystone	10 20 70	Predominantly as above, trace very coarse to granular milky quartz float. As above. Dark grey to grey black, silty in part, micromicaceous, trace carbonaceous specks, silty/arenaceous inclusions, smooth texture, moderately hard, hard in part, blocky to platy.
3500-3505	Sandstone Siltstone Claystone	20 70 10	Quartzose, clear to translucent, frosted, fine to coarse, subangular to subround, poor sorting, locally weak calcareous cement, trace very coarse milky quartz float, trace nodular pyrite, trace carbonaceous material, friable to disaggregated, poor porosity, no fluorescence. As above. As above.
3505-3510	Sandstone Siltstone	10 90	As above. As above.
3510-3515	Sandstone Siltstone	30 70	As above. As above.
3515-3520	Siltstone Dolomite	100 Tr	Dark grey to olive brown, very argillaceous grades to silty claystone in part, trace disseminated pyrite, common carbonaceous material and microlaminae, micromicaceous, common fine grained arenaceous inclusions, slightly chloritic in part, trace lithic fragments, firm to moderately hard, blocky. Dusky yellow brown, cryptocrystalline, trace fine calcareous sand, flinty, hard, blocky, sharp, no porosity, dull orange mineral fluorescence only.
3520-3525	Sandstone Siltstone	20 80	Quartzose, clear to translucent, frosted, brown grey, very fIne to fine, medium in part, subangular to subround, moderately sorted, locally moderately strong dolocalcareous cement, locally silty/argillaceous matrix, trace lithic fragments, trace carbonaceous specks, trace chlorite in part, friable, occasionally hard aggregates, predominantly disaggregated, poor porosity, no fluorescence. As above.
3525-3530	Sandstone Siltstone	30 70	Predominantly as above, trace muscovite/biotite. Dark grey to olive brown, trace disseminated pyrite, common carbonaceous material and microlaminae, trace disseminated pyrite, micromicaceous, very arenaceous in part, slightly chloritic in part, trace lithic fragments, firm to moderately hard, blocky.
3530-3535	Sandstone Siltstone	20 80	As above. As above.
3535-3540	Sandstone Siltstone	30 70	Predominantly as above, trace coarse milky quartz. As above.
3540-3545	Sandstone Siltstone	20 80	Predominantly as above, trace nodular pyrite. As above.
3545-3550	Sandstone Siltstone	10 90	As above. As above.

3550-3555	Siltstone	100	Grey black to brown black, locally v argillaceous grades to silty claystone, trace lithic fragments, trace carbonaceous flecks and microlaminae, micromicaceous, arenaceous in part, trace muscovite/biotite, firm to moderately hard, massive to blocky.
3555-3560	Sandstone Claystone	10 90	Quartz Arenite, brown grey to olive grey, very fine to fine, occasionally medium, subangular to subround, moderate sorting, locally dolocalcareous cement, silty/argillaceous matrix, trace carbonaceous material, trace chlorite, trace muscovite, friable to disaggregated, poor porosity, no fluorescence. As above.
3560-3565	Sandstone Claystone	20 80	As above. As above.
3565-3570	Sandstone Siltstone	20 80	Quartzose, clear to translucent, light grey, very fine to fine, subangular to subround, well sorted, moderately strong siliceous cement in part, weak calcareous cement, trace biotite, trace medium milky quartz float, trace fine to medium nodular pyrite, trace lithic fragments, trace biotite in part, rare glauconite, friable to disaggregated, poor porosity, no fluorescence. Dark grey to olive black, locally very argillaceous grades to silty claystone in part, common very fine grained arenaceous inclusions, trace carbonaceous material, micromicaceous, trace lithic fragments, moderately hard, blocky.
3570-3575	Sandstone Siltstone	30 70	As above. As above.
3575-3580	Sandstone Siltstone	60 40	As above. As above.
3580-3585	Sandstone Siltstone	40 60	As above. As above.
			Total Depth 3585m

Appendix 7: Percussion Sidewall Core Descriptions

Beach Petroleum Ltd

SIDEWALL CORE REPORT

WELL: Fermat-1

DATE: 10/01/2009

WELL INFORMATION

LOG SUITE No: 1 RUN: 4 | **GEOLOGIST: Brian Ricketts**
No. OF PREVIOUS SWC RUNS: Nil | **LOGGING ENGINEER: Melissa Dawson**

BULLETS SHOT:	**30**	**RECOVERED**	**27**	**BOUGHT:**	**27**
NO	**LOST:**	**1**	**EMPTY: 2**	**MISFIRE:**	**0**
BULLET	**Combo**	**SHOT SIZE:**	**10 gms**	**RINGS**	**51mm (2”)**

SWC No.	DEPTH (m)	REC. (mm)	BOUGHT REJECTED	PALY RES	DESCRIPTION
1	3495.3	22	Bought	Paly	**Sandy siltstone**: medium grey, argillaceous, 20% very fine sand; slightly carbonaceous, trace white mica; core partly crushed, soft.
2	3475.2	30	Bought	Paly	**Sandy siltstone**: As above. Fresh surface moderately hard, non-calcareous. Possibly interlaminated with silty very fine sandstone.
3	3452.7	20	Bought	Paly	**Interlaminated sandy siltstone-silty sandstone**: Pale grey very fine sandstone, poorly sorted, quartz dominant, slightly carbonaceous, trace white mica. core partly crushed, soft, friable.
4	3440.8	27	Bought	Paly	**Interlaminated sandy siltstone-silty sandstone**: core partly crushed, soft, friable.
5	3416.8	18	Bought	Res	**Sandstone:** pale grey to whitish grey, predominantly very fine, ranging to fine-grained; poorly to moderately sorted; 5% green to pale brown lithics, trace carbonaceous flecks, white mica. Clay cement. Soft, friable. Weak mineral fluorescence.
6	3410.5	20	Bought	Res	**Sandstone**: As above. Harder with calcite cemented zones or laminae. Weak mineral fluorescence
7	3369.3	18	Bought	Res	**Muddy siltstone**: Brown-grey. Centre of core hard, cemented with splintery fracture. slightly calcareous, moderately carbonaceous, trace white mica
8	3359	14	Bought	Res	**Silty sandstone**: As above. Very fine grained; moderately to slightly carbonaceous; soft crushed core; no fluorescence.
9	3354	22	Bought	Res	**Coarse sandstone**: laminated, ranging from white medium grained, to coarse-grained. A few quartz grains are very coarse. Lithics 10%. Laminae up to 3 mm thick in core. Interlaminated with brown-grey silty very fine sandstone. Carbonaceous fragments aligned along laminae. Angular faces on quartz grains from quartz

COMMENTS

Recovery 90%. Could not pass 3500m – requested core depths 3547m and 3517.7m altered to 3495.3 and 3452.7m

NOTE: Cores shall be numbered consecutively should more than one suite or gun be run.

BEACH PETROLEUM	**Beach Petroleum Ltd** **SIDEWALL CORE REPORT** **WELL: Fermat-1** **DATE: 10/01/2009**

SWC No.	DEPTH (m)	REC. (mm)	BOUGHT REJECTED	PALY RES	DESCRIPTION
					overgrowth cements. Poor visible porosity. Moderately hard. No fluorescence.
10	3343	15	Bought	Paly	**Sandy siltstone**: As above. Crushed core.
11	3294.7	20	Bought	Paly	**Sandy siltstone**: As above. Crushed core.
12	3272.2	23	Bought	Paly	**Silty claystone**: Laminated, medium grey to brown-grey. Trace carbonaceous flecks, trace mica; soft to firm
13	3218.5	20	Bought	Paly	**Silty sandstone**: As above. Slightly calcareous. Firm to hard, with irregular patches of very hard cemented sandstone. No fluorescence
14	3168	32	Bought	Paly	**Sandy siltstone**: Hard, non- to slightly calcareous. No fluorescence
15	3129	25	Bought	Paly	**Sandy siltstone**: As above
16	3082	15	Bought	Paly	**Sandy siltstone**: As above. moderately hard.
17	3065.5	20	Bought	Res	**Sandstone**: Very fine to fine grained, as above. Poor visible porosity. 1-2 mm thick lamination of claystone.
18	3057.4	30	Bought	Res	**Sandstone**: Very fine to fine grained, as above. Ranges to medium grained. Interlaminated with cemented silty sandstone. Moderate visible porosity. No fluorescence.
19	3047.6	0		Paly	Empty
20	3025.7	30	Bought	Res	**Sandstone**: Fine to medium grained, laminated, as above. Trace glauconite. Moderately hard. No fluorescence.
21	3017	20	Bought	Res	**Sandstone**: : Very fine to fine grained, as above. 1-2% glauconite. moderately hard. Non- to slightly calcareous. No fluorescence
22	3003.8	27	Bought	Res	**Sandstone**: Very fine to fine grained, as above. 2-3% glauconite. Laminated. Friable. Poor to moderate visible porosity. No fluorescence
23	2992.5	30	Bought	Paly	**Silty claystone**: As above. Moderately hard to hard
24	2952.5	28	Bought	Paly	**Silty claystone**: As above. Moderately hard to hard
25	2919.7	0		Paly	Empty
26	2894	33	Bought	Res	**Sandstone**: Laminated, medium to coarse grained, as above. Moderately rounded to subangular. Quartz dominant, some lithics. 2-3 % glauconite. Moderately hard to friable, cemented in places. No fluorescence.
27	2886.7	24	Bought	Res	**Sandstone**: Medium grained, as above. Poor visible porosity. No fluorescence

COMMENTS

Recovery 90%. Could not pass 3500m – requested core depths 3547m and 3517.7m altered to 3495.3 and 3452.7m

NOTE: Cores shall be numbered consecutively should more than one suite or gun be run.

Beach Petroleum Ltd

SIDEWALL CORE REPORT

WELL: Fermat-1

DATE: 10/01/2009

SWC No.	DEPTH (m)	REC. (mm)	BOUGHT REJECTED	PALY RES	DESCRIPTION
28	2876.6	23	Bought	Res	**Sandstone**: Medium to coarse grained, some grains very coarse. Moderately sorted, subangular to subrounded. Mostly quartz, minor feldspar, 10% lithics. Quartz overgrowth cements and possible clay cement. Moderate visible porosity. moderately hard. Trace claystone laminae. Trace very dull pale yellow-green fluorescence; no cut.
29	2873.2	20	Bought	Paly	**Siltstone**: As above. Laminated, moderately hard.
30	2842	0		Paly	Lost.

COMMENTS

Recovery 90%. Could not pass 3500m – requested core depths 3547m and 3517.7m altered to 3495.3 and 3452.7m

NOTE: Cores shall be numbered consecutively should more than one suite or gun be run.

Appendix 8: Wireline Logging Diary

BEACH PETROLEUM LTD

FIELD ELECTRIC LOG REPORT

GENERAL INFORMATION

WELL:	**Fermat-1**	**REPORT NUMBER: 1**
(FINAL)LOCATION:	**LAT:**. 38 11 47.0287	
	LONG: 141 03 13.7734	
	Easting: 504713.143m	**WATER DEPTH:** 38.7m
	Northing: 5772392.606m	
SEISMIC LINE:	87m east of OEP02-13, SP 2115.5	**RT TO MEAN SEA LEVEL:** 38
PERMIT:	VIC/P46	**LOGGING COMPANY:** Schlumberger
AREA:	Otway Basin Victoria	**LOGGING ENGINEER:** Dawson/ Fagarai /Wu
COUNTRY:	Australia	**GEOLOGIST(S):** Clota/Ricketts

LOGGING SUITE NUMBER 1

DATE LOGGED: 7-9th January, 2009
HOLE SIZE: 216mm (8 ½")
CASING SHOE: 2800.3m (Driller) 2801.5m (Logger)

DRILLERS DEPTH: 3585m
LOGGERS DEPTH: 3586.5m

LABEL	TYPE OF LOG	FROM	TO	RPT. SECT. / SUMRY.	Time SinceLast Circ / BHT
1	PEX-DLL-DT-NGR	3585	2800	Downlog	18.5hrs /108.8C
2	MDT-GR	2876.5	3416.5	21 Pretests 5 valid/2 samples	39.9hrs /109C
3	Checkshot	3484	963	38 stations	48.2 hrs / NA (3 thermometers broken)
4	CST-GR	3495.3	2842	Shot 30 – 1 Lost 2 Empty (Rec: 90%)	N/A

MUD DATA

MUD TYPE:	KCL Polymer	**SAMPLE SOURCE:**	Flowline
MUD WEIGHT:	11.0	**Rm @ Measured Temp.**	0.1069 @ 23.5
FUNNEL VISCOSITY:	59 @ 49C	**Rmf @ Meas. Temp.**	0.087 @ 23.2
pH:	8.5	**Rmc @ Measured Temp.**	0.1091 @ 23.8
FLUID LOSS	6.0	**Rm @ BHT.**	
CHLORIDES:	40K	**COMMENTS:**	Barite 6.1%/89.56ppb KCl 7%

CIRCULATION HISTORY & DIARY OF OPERATIONS

From	To	**Activity** (Downtime/Lost time in bold typeface)
6/01/09 14:00	**7/01/09** 09:30	Reach 216mm (8.5") TD at 14:00hrs. 6th January, 2009. Circ 1.5 hours. Made wiper trip to the csg shoe. Circulated on bottom 4.5hrs and raised MW to 11.0ppg. Circ ended 09:30hrs 7/01/09. POH.
22.45	22.55	JSA
22.55	**8/01/2009** 00.50	Pick up top sheave. Rig-up Run 1 PEX-RES-SON, load source, calibrate, power-up
00.50	02.10	RIH at 8800-9000 ft/hr; cable check at 2773 m
02.10	02.25	Log-down; 1450-1500 ft/hr – this proved to fast for the string configuration (data overload from sonic)

02.25	02.40	Pull up to restart run
02.40	02.53	Log-down at 1400 ft/hr; Tool hung up at 2845 m, 2863 m
02.53	04.00	Log down with sonic turned off. Increased speed to 4000 ft/hr. Tool hung up at 3205 m, 3455 m, 3569 m. Tension check at 3500 m.
04.00	06:45	Log up, sonic turned on at 900-1000 ft/hr into casing.
06:45	06:55	Close calliper at 2715m. RIH and perform DLL after calibration at 2808m.
06:55	07:50	POH Run 1. Perform Sonic casing check in free pipe at 1450m.
07:50	08:45	Run 1 PEX-RES-SON at surface. Download Radio Active sources.
08:45	11:00	R/D Run 1 and perform after calibrations
11:00	12:00	R/U Run 2 MDT-GR
12:00	13:50	RIH Run 2 at 5000ft/hr allowing quartz crystal to equilibrate with borehole temperature.
13:50	14:20	Wait at casing shoe for gauges to stabilise.
14:20	15:10	Correlate from 3000m
15:10	20.00	Commence Pressure survey at 2876.5m; 17 pre-test attempts in the upper three sand packages with 5 fully successful results, and 2 slightly supercharged.
20.00	20.30	Correlate from 3000 – 2880 m.
20.30	22.45	Pull up to 2879.5 m
20.45	22.30	2 x 450 cc samples; bottles 1 & 2; pumped 93 L.
22.30	22.50	RIH to 3008m
22.50	**Jan 9/09** 00.25	2 x 450 cc samples; bottles 3 & 4; pumped 59 L.
00.25	00.55	RIH, run correlation from 3450 m
00.55	00.57	RIH to 3410.5 m
00.57	01.25	Pretests – 3410.5 m no seal (poor hole condition); 3413.5 sealed but very tight formation, dry test; 3414.5 no seal; 3416.5 no seal (poor hole condition).
01.25	04.00	POH
04.00	04:45	R/D Run 2 MDT-GR
04:45	05:30	R/U Run 3 VSI-GR
05:30	08:50	RIH Checkshots at 1030m, 2000m, 3000m on trip in. (VSI only anchoring at 3200Nm –should be 7000Nm. Z-axis arrival OK for Checkshot survey.)
08:50	09:15	Correlate from 3100m.
09:15	09:40	RIH. Could not pass 3525m.
09:40	13:45	Run Checkshot survey from 3494m
13:45	14:10	End survey at 963m (Casing bell ring at 1030m and 963m). POH.
14:10	16:25	R/D Run 3 VSI. M/U new head for Run 4 CST-GR
16:25	18.00	RIH Run 4 CST-GR to 3083 m
18.00	18.17	Correlate from 3083 – 3000 m; 2 passes
18.17	18.52	RIH at ~6000 ft/hr to 1st shot
18.52	21.10	Poor hole condition below 3500 m; 1st shot at 3495.3 m (new location); #2 shot @ 3475.2 m; #3 shot @ 3452/7 m (new location). Remainder as per program. ~6000 lbf pull on #28
21.10	23.00	POH and R/D

TOTAL LOGGING TIME: **: 48 hrs 15 mins**

TOTAL LOST TIME / DOWNTIME: Nil

HOLE PROBLEMS

Tool string in Run 1 hung up at several depths on the down log.

Tight hole below 3500m for Runs 3 and 4.

COMMENTS

When POH on Run 1 in casing could not use high gear so trip speed limited to 5700ft/hr.

Fired with one gun (1 gun failed) on last valid level of checkshot survey at 1092m. Anchor arm would only pressurise to 3200Nm (7000Nm recommended) for entire survey after failure at 3000m checkshot point on trip in. Data valid on Z-axis did not POH to change tool as Checkshot acquisition was only required.

Overall the logging job was performed safely and without lost time. All 3 engineers on the job Melissa Dawson, Jiabei Wu and Osman Fagarai will have benefitted from working for a new client that had requirements other than the provision of a standardised service to which they had become accustomed.

Appendix 9: Q-Borehole Survey Report

Q-Borehole Survey Report

Schlumberger

Survey type:	Check Shot Survey
Company:	Beach Petroleum Ltd
Well:	Fermat-1
Field:	Fermat
Country:	Australia
Run:	3
Date:	9-Jan-2009

Recorded by: M.Dawson/Jiabei Wu

Witnessed by: G. Clota/B. Ricketts

Introduction

A borehole seismic survey was recorded in Run 3 in the vertical (max. 7.28 deg deviation) offshore exploration well Fermat-1 on 9 January 2009. This survey included rig source Checkshot measurements from 3494 m MD DF to 157.6 m MD DF. The data were acquired using a single shuttle Versatile Seismic Imager (VSI) downhole Tool.

A Parallel G-Gun cluster (2 x 150 cu. inch G-GUN) was deployed from the Rig (West Triton) with an azimuth of 028 degrees with reference to North. The offset of gun was fixed 30 m from the wellhead. The guns were submerged from a buoy to 5 meters below water surface. 2 hydrophones were deployed 4.5 meters below the center of the gun cluster. A WSI Gun controller was used for the tuning and firing of the gun cluster.

QC Results

This report comments on the quality of the acquired data and presents QC displays of the acquired Checkshot data as well as a re-picked Time-Depth listing after QC by the DCS processing center. Options for further processing of the data are discussed below.

Checkshot data quality is considered to be good throughout the survey. At least 3 good repeatable shots were recorded at each level. The Check-Shots were acquired with variable receiver spacing; approximately 50m below 2790 m MD DF and 100m above. The survey was ended at 962.9 m and casing arrival (noise) is visible and affecting time pick accuracy above 1600 MD DF. Down and up logged repeat levels match within 1 ms. A down going checkshot at 157.6m was included.

No tide information was available for this survey and water tide level is taken the same as Seismic Reference Datum (MSL) in this report. Survey geometry corrections and a static shift to correct the data to SRD were applied. This correction was done with a surface velocity of 1524 m/s.

The various QC displays present the stacked X,Y and Z component data as well as a TT aligned display of the Z component. Clean break times could be picked on all traces unaffected by casing ringing; horizontal component data was used to estimate first arrival picks in the section above. The hydrophone reference sensor displays show that the source signature and timing were mostly stable, but changed towards the end of the survey.

Further Processing Recommendations

This check shot data can now be used to <u>calibrate sonic slowness</u> and other log curves and subsequently to <u>generate time-indexed calibrated logs and synthetic seismogram traces</u> for surface seismic matching or modeling.

The fairly small and regular level spacing in the bottom section of this checkshot data allows it to being <u>processed as a VSP for upgoing reflections and a corridor stack</u>.

Shear energy is visible on the horizontal components and this may be picked and processed to obtain a coarse <u>shear velocity curve</u>.

Well Information

Company	**Beach Petroleum**
Well	**Fermat-1**
Field	**Exploration**
Country	Australia
State	Victoria
Logging Date	1/9/2009
Run Number	3
Service Order	AY8A-00008
Well Head (Latitude)	38 11' 47.029" S
Well Head (Longitude)	141 3' 13.773" E
Well Head (X Coordinate)	504713.1 UTM
Well Head (Y Coordinate)	5772392.5 UTM
Total Depth - Driller	3585m
Total Depth - Logger	3586.5
Maximum Hole Deviation	7.28 deg
Azimuth of Maximum Deviation	
Program Version	OP 16
Bit Size	8.5 in
Recorded by	M.Dawson /Jiabei.Wu
Witnessed by	G.Clota/B.Ricketts

Elevation Information

Permanent Datum	MSL
Elevation Permanent Datum	0.0 m
Above Permanent Datum	38.0 m
Drilling Measured From	DF
Derrick Floor	38.0 m
Ground Level	0.0 m
Kelly Bush	38.3 m
Log Measured From	DF
Elevation Log Zero	38.0 m

Depth Corrected Information

Water Velocity	1524.0 m/s
Seismic Reference Datum	0.0 m

Remarks

Vertical Offshore Well - Max Deviation 7.28 Deg

1) Log object is to acquire seismic data through the well

2) Tool string as per tool sketch with one VSI shuttle and bridle

3) 41 stations assigned, 38 stations attempted

- Tool held up at 3515m, therefore unable to complete first station, #41
- Stations #3 had poor data due to casing, stations #1&2, cancelled

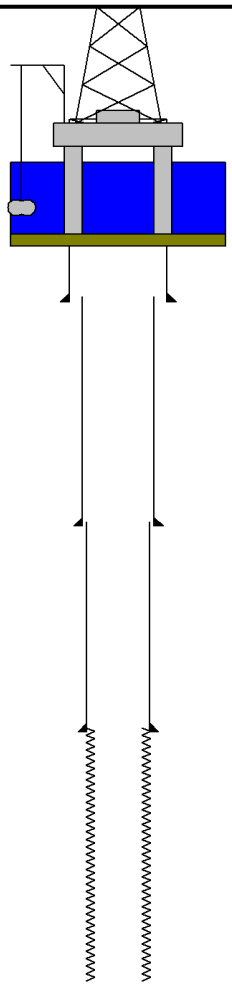
- Addtional mud data:

DFD=11LB/G, BSAL=69,300PPM, Barite=89.56LB/BBL, Cl=40000KG/L

Circulation started at 7-Jan-09 5:00, stopped at 7-Jan-09 9:30.\

Well Sketch

Client:	Beach Petroleum Ltd			Drawing Date:	1/6/2009
Well:	Fermat-1			API #:	
Field:	Fermat	Rig Name:	West Triton		
State:	Victoria	Reference Datum:	Mean Sea Level		
Country:	Australia	Elevation:	38.0 m		

Production String	(in) OD	(in) ID	(m) MD	Well Schematic	(m) MD	(in) OD	(in) ID	Casing String
Kelly Bushing Elevation			38.0					
Derrick Floor Elevation			38.0		38.0	30.000		Casing String
					38.0	9.625	30.000	Liner Hanger
Mean Sea Level			0.0					
Seismic Gun depth below MSL			5.0					
					116.0	30.000		Casing Shoe
					38.0	13.375		Casing String
					987.0	13.375		Casing Shoe
					38.0	9.625		Casing String
					2800.3	9.625		Casing Shoe
					2800.3	8.500		Borehole Segment
					3585.0	8.500		Borehole Segment Bottom

All Depths are Drillers' Depths

Well Inclinometry List

Meas.	Tie Depth	3569.3 m
True Vert.	Tie Depth	3564.9 m

Measured Depth (m)	Inclination (Deg)	Azimuth Grid (deg)	True Vert Depth (m)
167.75	1.24	1.78	167.8
197.16	0.28	58.77	197.2
256.53	0.6	153.3	256.6
286.11	2.77	188.85	286.2
315.55	1.66	227.88	315.6
345.27	0.27	15.1	345.3
374.62	0.25	25.51	374.7
404.16	1.88	211.9	404.2
463.95	0.32	269.03	464
493.39	0.43	249.6	493.4
523.07	0.44	347.74	523.1
552.74	0.22	270.06	552.7
582.42	0.09	59.69	582.4
611.99	0.51	339.54	612
641.4	0.19	327.69	641.4
670.88	0.49	288.55	670.9
700.49	0.33	247.43	700.5
729.55	0.46	275.9	729.6
759.18	0.36	241.87	759.2
788.76	0.65	163	788.8
818.32	0.12	122.27	818.3
848.13	0.24	67.63	848.1
877.69	0.5	112.18	877.7
906.92	0.33	214.11	906.9
936.44	1.52	212.18	936.4
966.55	2.74	216.55	966.5
990.9	2.28	226.38	990.9
1023.76	2.63	224.84	1023.7
1053.62	2.63	224.67	1053.5
1083.09	2.6	225.86	1083
1112.27	2.75	224.69	1112.1
1141.71	2.61	223.95	1141.5
1171.39	2.66	223.44	1171.2
1200.78	2.64	223.8	1200.5
1230.79	2.72	225.15	1230.5
1288.88	2.77	225.56	1288.5
1318.86	2.69	226.89	1318.5
1407.48	2.91	229.04	1407
1436.37	2.94	228.54	1435.8

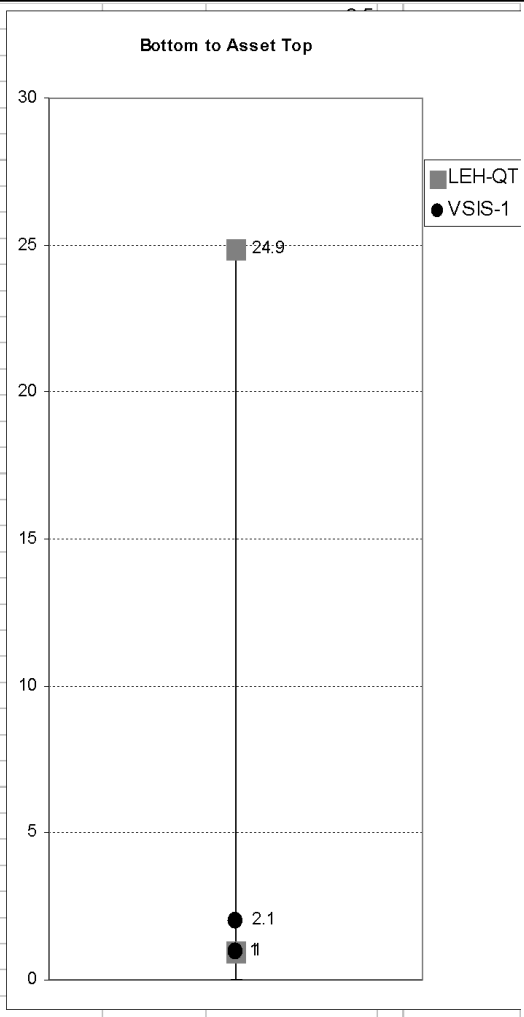
1465.9	3.02	227.97	1465.3
1495.44	3.02	228.27	1494.8
1525.13	3.06	228.31	1524.5
1554.71	3.12	227.55	1554
1584.4	3.16	227.33	1583.6
1614.18	3.15	227.26	1613.4
1643.45	3.22	227.15	1642.6
1732.53	3.23	229.06	1731.5
1761.71	3.31	229.32	1760.7
1791.33	3.27	229.4	1790.2
1820.98	3.35	229.44	1819.8
1880.19	3.46	227.97	1879
1939.47	3.51	227.37	1938.1
2028.16	3.39	229.51	2026.7
2057.35	3.37	231.7	2055.8
2086.92	3.34	227.82	2085.3
2116.75	3.44	227.04	2115.1
2146.4	3.29	227.47	2144.7
2175.52	3.42	228.06	2173.8
2235	3.46	227.38	2233.1
2264.44	3.46	226.56	2262.5
2323.6	3.26	226.76	2321.6
2382.7	3.36	228.47	2380.6
2412	2.64	231.24	2409.8
2441.9	1.53	213.4	2439.7
2471.6	0.6	128.24	2469.4
2500.84	1.41	69.21	2498.6
2530.68	2.34	71.2	2528.5
2559.85	2.34	72.69	2557.6
2589.92	2.25	73.44	2587.7
2648.85	2.04	82.16	2646.6
2678.97	2.05	86.3	2676.7
2708.38	2.63	86.65	2706
2737.95	2.75	86.68	2735.6
2767.46	3.28	73.47	2765
2783.95	3.22	72.34	2781.5
2816.25	3.18	78.94	2813.8
2845.87	3.21	82.42	2843.3
2875.23	3.12	85.48	2872.6
2904.72	3.04	88.56	2901.1
2934.24	2.89	94.43	2931.6
2963.69	2.77	103.77	2961
2992.79	2.65	116.56	2990.1
3022.28	2.8	118.01	3019.5
3051.99	2.87	121.9	3049.2
3081.57	2.92	130.18	3078.7
3111.25	3.1	139.57	3108.4
3140.79	3.39	147.97	3137.9

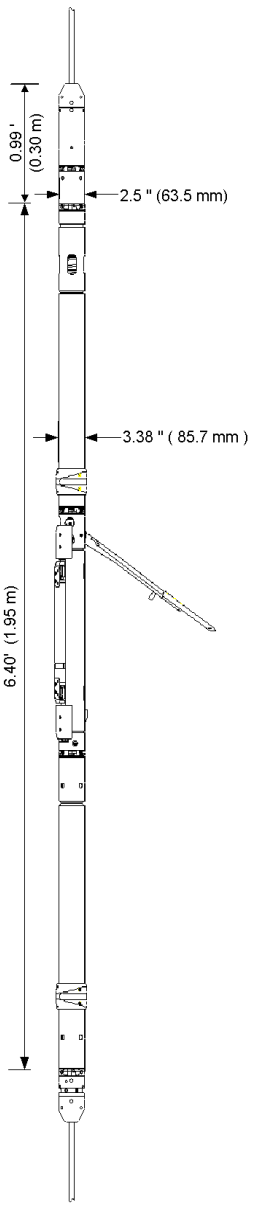
3170.28	3.47	152.03	3167.3
3199.75	3.55	146.04	3196.7
3229.4	3.69	145.49	3226.3
3259.28	3.79	146.43	3256.1
3288.9	3.91	148.34	3285.7
3318.1	4.02	150.54	3314.8
3347.4	4.21	152.14	3344
3376.97	4.39	156.43	3373.5
3406.76	4.66	160.95	3403.2
3436.14	5.16	162.03	3432.5
3465.57	5.58	159.59	3461.8
3495.57	6.02	157.91	3491.6
3525.24	6.42	158.39	3521.1
3555.17	6.99	159.59	3550.8
3569.38	7.28	160.29	3564.9

Tool Sketch

Toolsketch

	meter
LEH-QT	0.89
EDTC-B	1.98
AH199	0.31
VSPC-G	3.19
VSCC-G	3.17
VSII-1	13.30
VSIS-1	1.95
VSIA	0.10
TOTAL	**24.89**





Downhole Equipment Information

Tool Type	VSIT-G
Surface Equipment	WASM-AB 1747 , WSI-A
Combined Tool	EDTC-B, EDTH-B 8413, 8401
Number of Shuttles	1
Nominal Receiver Spacing	15.24 m
Gimbaled (Y/N)	No
Downhole Geophone Type	GAC-D 3-axis orthogonal
Sensitivity	0.5 V/G 3%
Natural Frequency	20 Hz
Damping Factor	N/A
DC Resistance	1500 Ohms 3% @25 degC
Measurement Specification	
Dynamic range	> 105 dB at 36 dB
Distortion	< -90 dB
Analog Low-Cut filter	0.3 Hz, -6 dB/Oct
Digital Low-Cut filter	None
DC Offset removal	Averaging by surface software
Digital High-Cut filter	Linear phase at down hole
Pass band ripple	+- 0.01 dB
Stop band attenuation	< -130 dB
Bandwidth	80% of Nyquist frequency
Test Signal harmonic distortion	< -110 dB
Tool SN	
VSPC-BA	ENP 19
VSCC-BB	ENP 19
VSII-G	ENP 98
Receiver #1 (VSIS-CA)	ENP 97
VSIA	ENP 14

Operation Time Summary

Time Start	Time End	Time Taken	Event
9/1/2009 5:30 AM	1/9/09 6:37 AM	1:07	RIH VSI
9/1/2009 6:37 AM	1/9/09 8:00 AM	1:22	First QC point at 1030M
9/1/2009 8:00 AM	1/9/09 8:27 AM	0:27	PROBLEM ANCHORING
9/1/2009 8:27 AM	1/9/09 8:55 AM	0:28	Confirmed with Seismic Specialist, 3000N provides sufficient coupling
9/1/2009 8:55 AM	1/9/09 9:02 AM	0:06	RIH for correlation
9/1/2009 9:02 AM	1/9/09 9:13 AM	0:11	Correlation pass offset of 1m added without recorrelation as per WSG request
9/1/2009 9:13 AM	1/9/09 9:35 AM	0:21	Log down to first survey point
9/1/2009 9:35 AM	1/9/09 1:52 PM	4:16	Start survey correlation log up also started
9/1/2009 1:52 PM	1/9/09 2:26 PM	0:33	Finish surveys, POOH
9/1/2009 2:26 PM	1/9/09 2:30 PM	0:04	Break Tool string

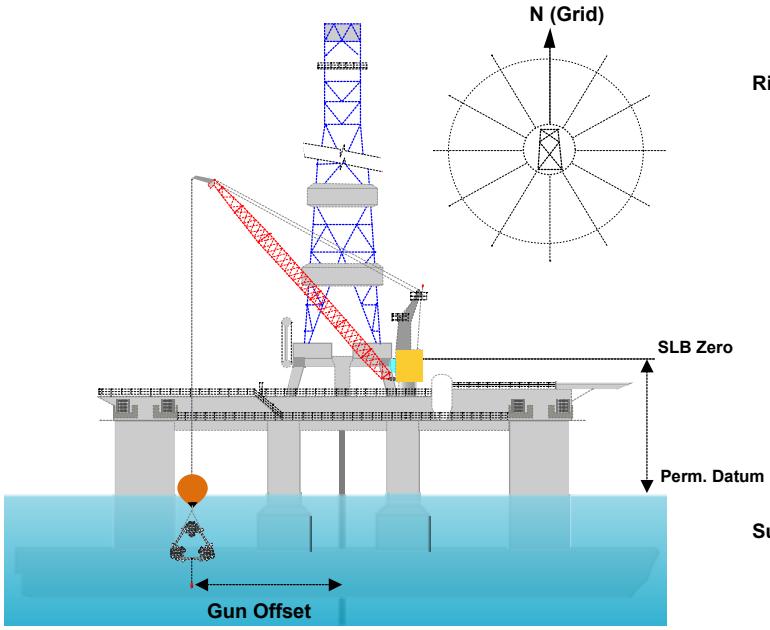
Borehole Seismic Source Information

Engineer: M.Dawson / G.Fagarai
Well Name: Fermat-1 **Date:** 09-Jan-2009
Rig: West Triton

<Geometrical Coordinates> **Longitude:** 141 3' 13.773" E **Latitude:** 38 11' 47.029" S
<UTM Coordinates> **Easting:** 504713.143m E **Northing:** 5772392.606m N

Permanent Datum: MSL
Log Measured From: DF **Elev.** 38.0 **Unit :** m

SRD (Seismic Reference Datum): MSL **Elev.** 0.0 **from SLB zero:** 38.0 (SRDS)
Water Depth: 38.7



RIG Heading: 128.0 deg
Rig Crane used: ☐ **Port side** ☐ **Starboard side**
Rig Crane azimuth (from Rig Heading): 260.0 deg

Gun Azimuth (Grid North): 28.0 deg (GAZI)

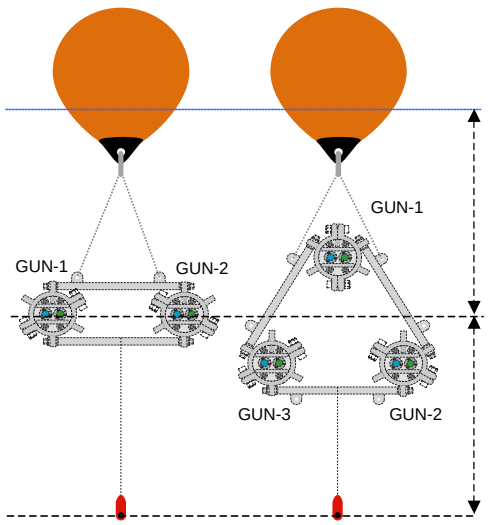
Hy1 Azimuth (Grid North): 28.0 deg
Hy2 Azimuth (Grid North): 28.0 deg
Hy3 Azimuth (Grid North): deg

Gun Offset: 30.0 (GOFF)

Hydrophone-1 Offset: 30.0
Hydrophone-2 Offset: 30.0
Hydrophone-3 Offset:

Surface Velocity: 1524 m/s (SVEL)

Cluster Gun Type:
☐ **WSGC-P90** ☐ **WSGC-T90**



Gun Type:
☐ **WSG-G150** **(G-Gun 150cu.inch)**
☐ **WSG-G250** **(G-Gun 250cu.inch)**

GUN-1 sn: 444125
GUN-2 sn: 444129
GUN-3 sn: 000000

Gun Depth from Local Tide 5.0
Gun Depth from SLB 43.0 (GDSZ)

Hydrophone 1 Type: MP-24L3 (10Hz)
Hydrophone 2 Type: MP-24L3 (10Hz)
Hydrophone 3 Type: none

Hy 1 Depth from Gun 4.5	**Hy 1 Depth from LT** 9.5	**Hy 1 Depth from SLB zero** 47.5
Hy 2 Depth from Gun 4.5	**Hy 2 Depth from LT** 9.5	**Hy 2 Depth from SLB zero** 47.5
Hy 3 Depth from Gun	**Hy 3 Depth from LT**	**Hy 3 Depth from SLB zero**

Air Gun Firing Pressure: 1800 psi **Accumulator Pressure (Inlet pressure):** 2400 psi

Source of Air supply: Rig Supply
Air Controller (Regulator) Type: WAP-SS01 **sn:** 600

Sea Condition

Sea Condition: calm (rippled) **Wave Height:** 0.0
Low Tide Level: 0.0 **at** hh:mm dd/mmm/yy **Main survey started at** hh:mm dd/mmm/yy
High Tide Level: 0.0 **at** hh:mm dd/mmm/yy **ended at** hh:mm dd/mmm/yy
Tide Table available: ☐ **Yes** ☐ **No**

HSE

Safe Distance: 0.0

Observation of Marine Mammals
Marine Mammals sighted in 30 minutes before the survey ☐ **Yes** ☐ **No**
Soft-Start implemented: ☐ **Yes** ☐ **No**

Borehole Seismic Gun Tuning Information

Surface Sensor Channels / Gun Controller

WSAM (WSI) sn: WSAM:000000 / WSI:000000

	Gun No	TB	Hy No	SSPS
S1 (WSI-SS2)		☐	1	☐
S2 (WSI-SS3)		☐	2	☐
S3 (WSI-SS4)	1	✔		☐
S4 (WSI-SS5)	2	✔		☐
S5 (WSI-SS6)		☐		☐
S6 (WSI-SS7)		☐		☐

TGS-8 sn: RL:000000 SL:000000

	Gun No	TB	Hy No
Ch1		☐	
Ch2		☐	
Ch3		☐	
Ch4		☐	
Ch5		☐	
Ch6		☐	
Sig			
Aux1 Sig			
Aux2 Sig			
P1	☐ Depth S.		☐ Pres. S.
P2	☐ Depth S.		☐ Pres. S.
P3	☐ Depth S.		☐ Pres. S.
P4	☐ Depth S.		☐ Pres. S.

Cluster Gun Tuning / Quality Control

Tuning Sensor used
- ☐ Time Break Sensor
- ☐ Hydrophone

WSI	Gun No	Gun Delay(ms)
FS1	1	30.0
FS2	2	30.0
FS3		0.0

TGS-8	Gun No	Gun Delay(ms)	Threshold(v)
Ch1		0.0	0.5
Ch2		0.0	0.5
Ch3		0.0	0.5
Ch4		0.0	0.0
Ch5		0.0	0.0
Ch6		0.0	0.0

ClusterTuning (Break Time of Tuning Sensors)

	FS1 / Ch	FS2 / Ch	FS3 / Ch
Shot-1	40.2	40.4	0.0
Shot-2	40.1	40.4	0.0
Shot-3	40.2	40.4	0.0
Shot-4	40.1	40.4	0.0
Shot-5	40.8	40.4	0.0
Shot-6	40.1	40.4	0.0
Shot-7	40.2	40.4	0.0
Average	40.2	40.4	0.0

Quality Check Surface Signals / Filling Time (air Regulator)

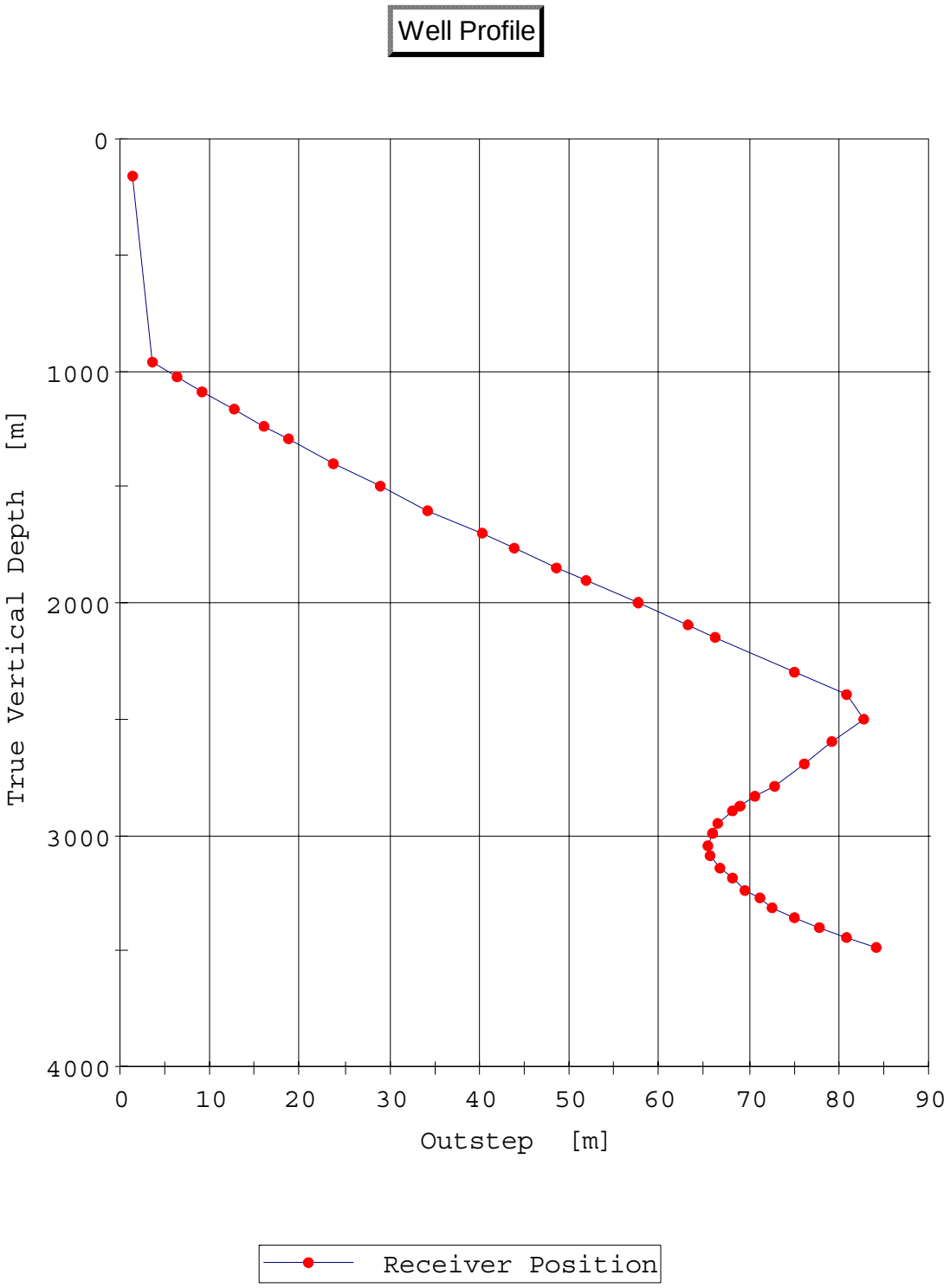
	S1 Time Break / PP	S2 TT(ms) / PP	S3 TT(ms) / PP	S4 TT(ms) / PP	S5 TT(ms) / PP	S6 TT(ms) / PP	Filling Time (sec)
Shot-1	43.8 / 26407	43.6 / 21626	40.1 / 3168	40.4 / 3979	0.0 / 0	0.0 / 0	0
Shot-2	43.8 / 26512	43.7 / 21832	40.1 / 3182	40.4 / 4043	0.0 / 0	0.0 / 0	0
Shot-3	43.7 / 25249	43.5 / 20607	40.1 / 3150	40.4 / 3964	0.0 / 0	0.0 / 0	0
Shot-4	/	/	/	/	0.0 / 0	0.0 / 0	0
Shot-5	/	/	/	/	0.0 / 0	0.0 / 0	0

Other Logs Information

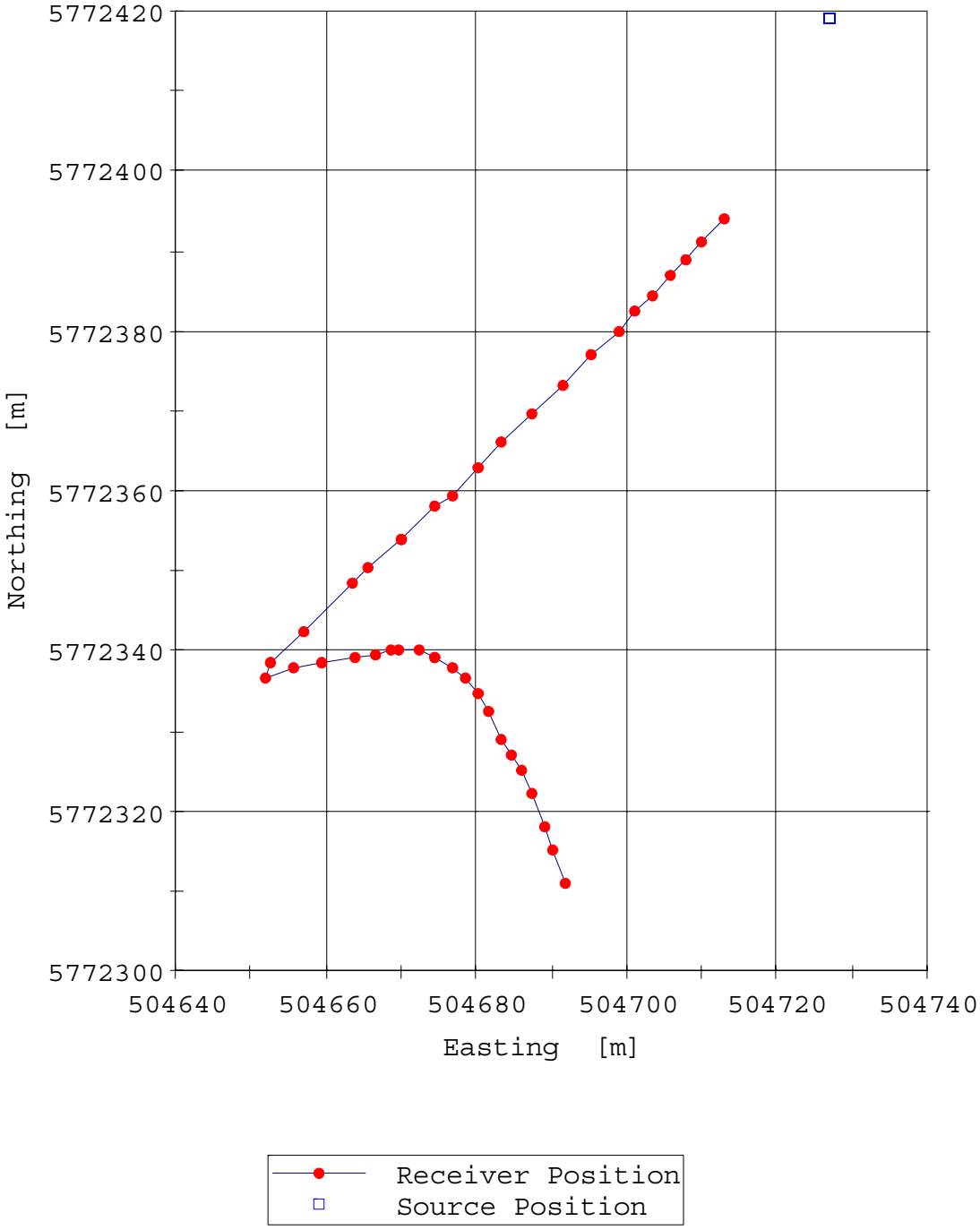
Sonic Log:	<service name>	**Interval:**	**from**	0.0	**to**	0.0	**Date:**	dd/mmm/vv
Density Log:	<service name>	**Interval:**	**from**	0.0	**to**	0.0	**Date:**	dd/mmm/vv

Remarks

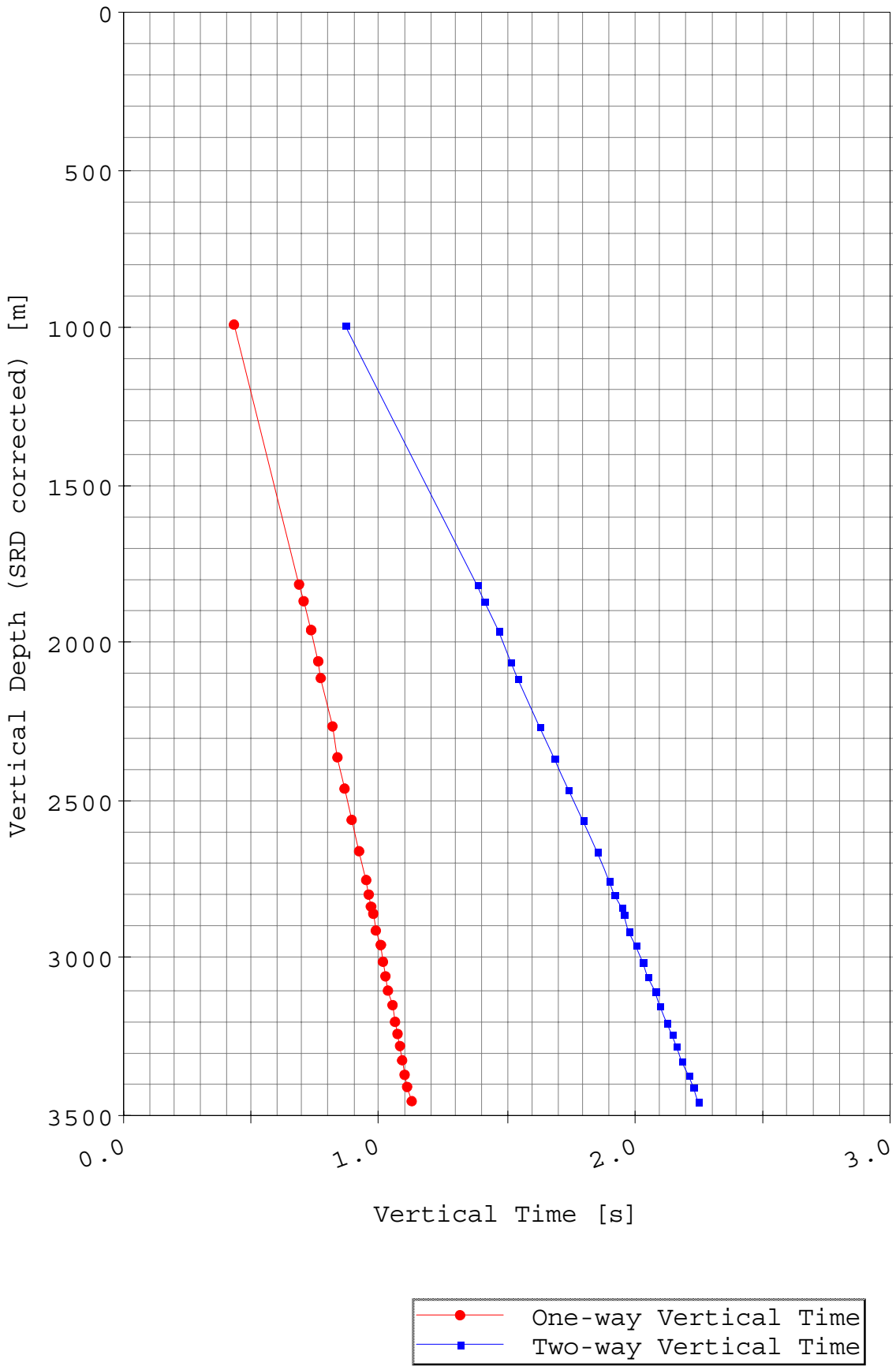
F


Well Profile
0
1000
2000
3000
4000
True Vertical Depth [m]
0
10
20
30
40
50
60
70
80
90
Outstep [m]
Receiver Position

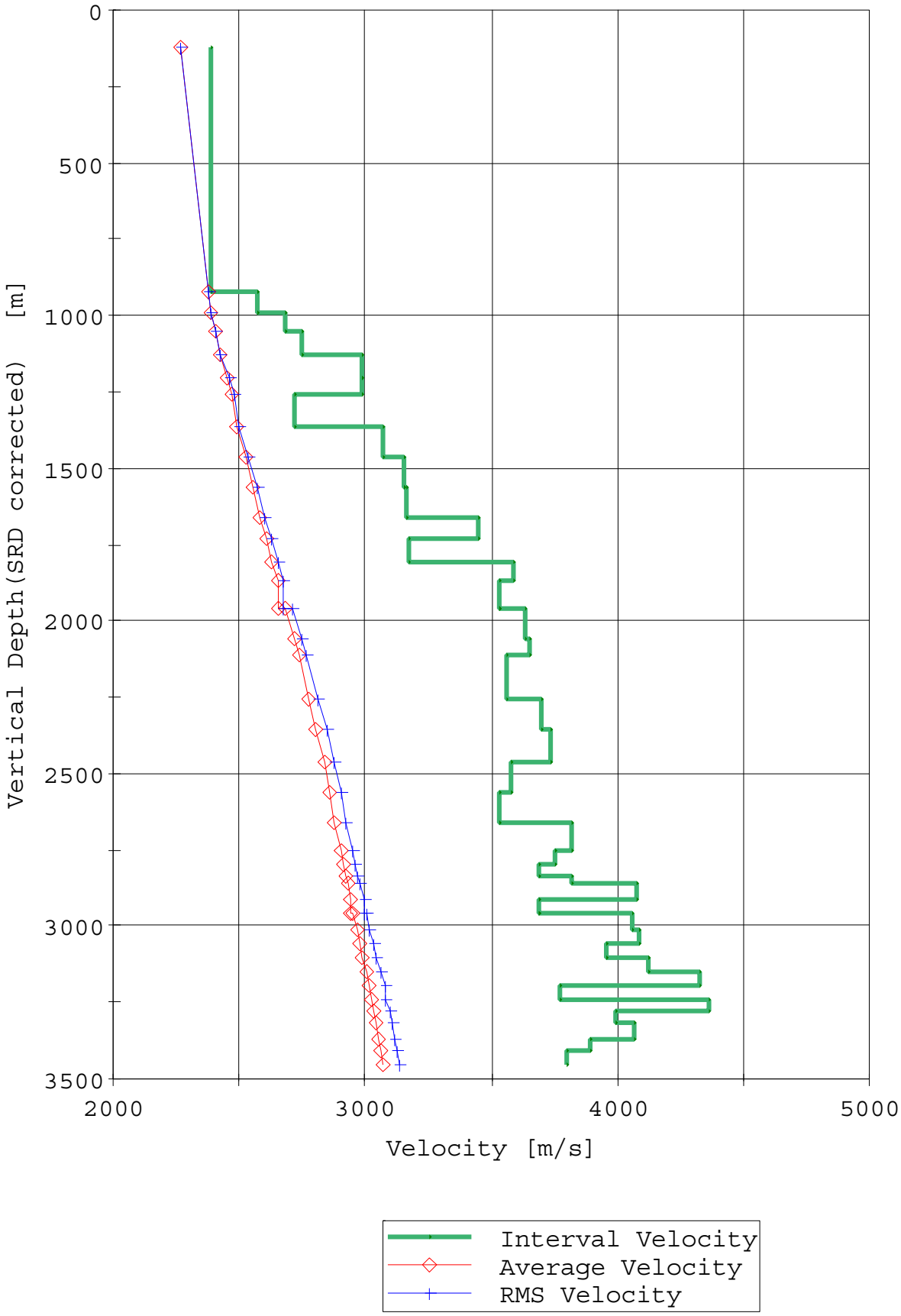
Geometry Infomation (X-Y)



Time Depth Plot



Velocity Plot Page



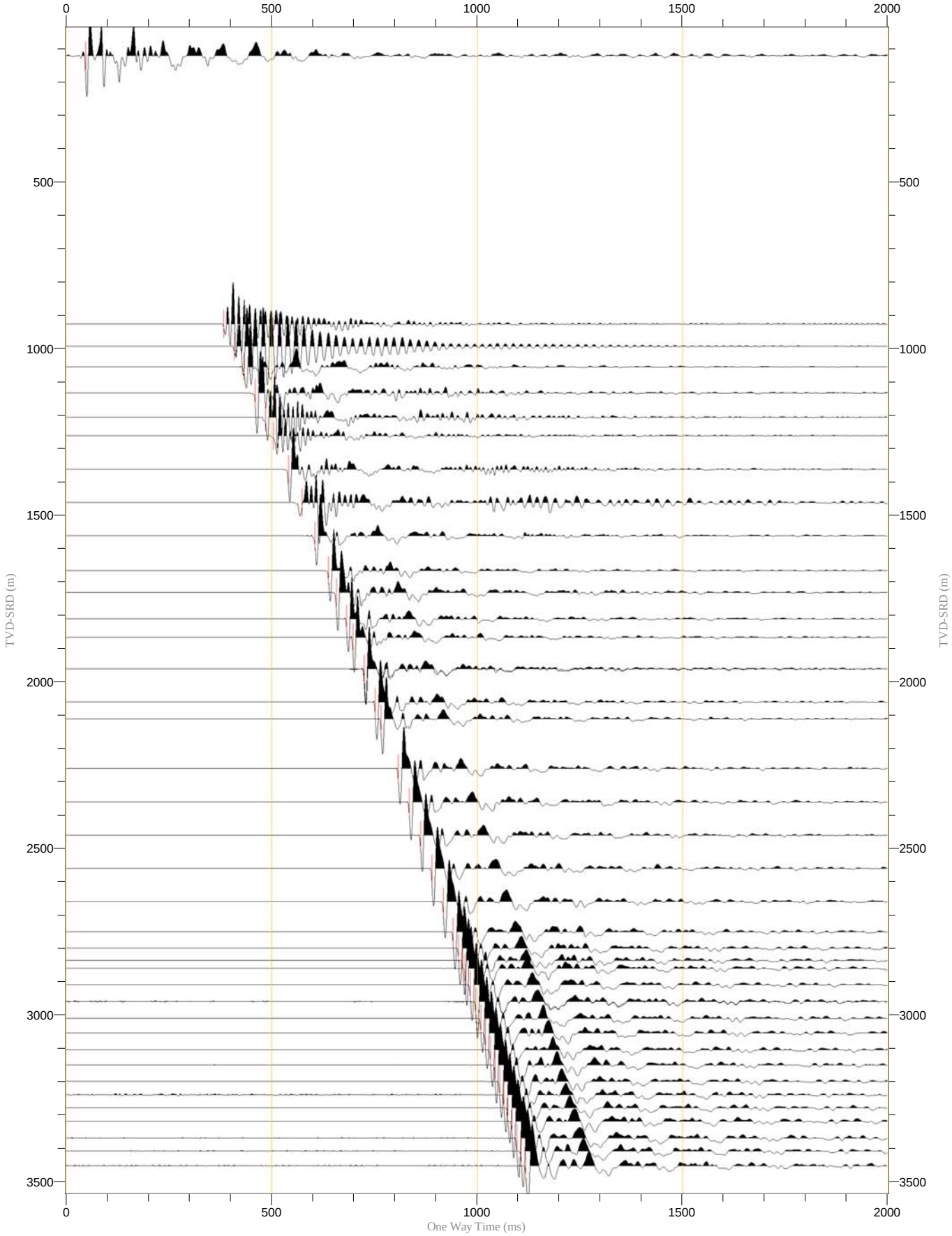
Stack Summary Listing (1/2) from VSI_004_A_geo_wavefield_z.ldf

Stack Number	Measured Depth [m]	True Vertical Depth [m]	Measured Time [s]	One-way Vertical Time [s]	Two-way Vertical Time [s]	Interval Velocity [m/s]	Average Velocity [m/s]	RMS Velocity [m/s]
	0	0	0	0	0			
						2271.6		
5	157.6	119.6	0.0479	0.0527	0.1053		2271.6	2271.6
						2392.2		
50	962.9	924.7	0.3832	0.3892	0.7784		2375.9	2376.3
						2576.6		
6	1030.0	991.8	0.4093	0.4153	0.8305		2388.5	2389.3
						2683.0		
45	1091.9	1053.7	0.4324	0.4383	0.8766		2404.0	2405.7
						2749.0		
44	1169.9	1131.6	0.4607	0.4667	0.9333		2424.9	2427.9
						2987.8		
43	1242.9	1204.5	0.4852	0.4911	0.9821		2452.9	2458.7
						2991.6		
42	1299.7	1261.2	0.5041	0.5100	1.0200		2472.9	2480.6
						2716.6		
41	1399.9	1361.3	0.5410	0.5469	1.0937		2489.3	2497.2
						3066.8		
40	1499.9	1461.2	0.5737	0.5794	1.1589		2521.8	2532.6
						3156.8		
39	1599.9	1561.1	0.6053	0.6111	1.2221		2554.7	2568.6
						3166.5		
38	1705.0	1665.9	0.6385	0.6442	1.2884		2586.1	2602.7
						3447.2		
37	1769.9	1730.8	0.6573	0.6630	1.3260		2610.6	2630.4
						3170.9		
36	1850.0	1810.7	0.6826	0.6882	1.3764		2631.1	2652.2
						3590.5		
35	1904.9	1865.6	0.6979	0.7035	1.4070		2651.9	2676.1
						3530.7		
8	1999.9	1960.4	0.7256	0.7312	1.4623		2651.9	2676.1
						3530.7		
34	2000.1	1960.5	0.7248	0.7304	1.4607		2684.3	2712.3
						3632.4		
33	2099.9	2060.2	0.7523	0.7578	1.5156		2718.6	2751.0
						3652.0		
32	2150.0	2110.2	0.7661	0.7715	1.5430		2735.2	2769.5
						3555.9		
31	2300.0	2259.9	0.8082	0.8136	1.6272		2777.6	2815.6
						3699.9		
30	2399.9	2359.6	0.8352	0.8406	1.6811		2807.2	2848.2
						3732.9		
29	2500.0	2459.7	0.8620	0.8674	1.7347		2835.8	2879.6
						3578.1		
28	2600.0	2559.6	0.8899	0.8953	1.7906		2859.0	2904.0
						3533.7		
27	2699.9	2659.5	0.9181	0.9236	1.8471		2879.6	2925.3
						3822.9		
26	2790.0	2749.4	0.9415	0.9471	1.8942		2903.1	2950.9
						3749.9		
25	2839.9	2799.3	0.9548	0.9604	1.9208		2914.8	2963.4
						3692.4		
24	2876.0	2835.3	0.9645	0.9701	1.9403		2922.6	2971.6
						3819.5		
23	2900.0	2859.3	0.9707	0.9764	1.9528		2928.4	2977.8
						4079.3		
22	2949.9	2909.1	0.9829	0.9886	1.9773		2942.6	2993.9
						3691.5		
9	3000.0	2959.1	0.9965	1.0022	2.0044		2942.6	2993.9
						3691.5		
21	3000.0	2959.1	0.9965	1.0022	2.0043		2952.7	3004.4
						4061.8		
20	3050.0	3009.1	1.0087	1.0145	2.0289		2966.2	3019.5
						4081.9		

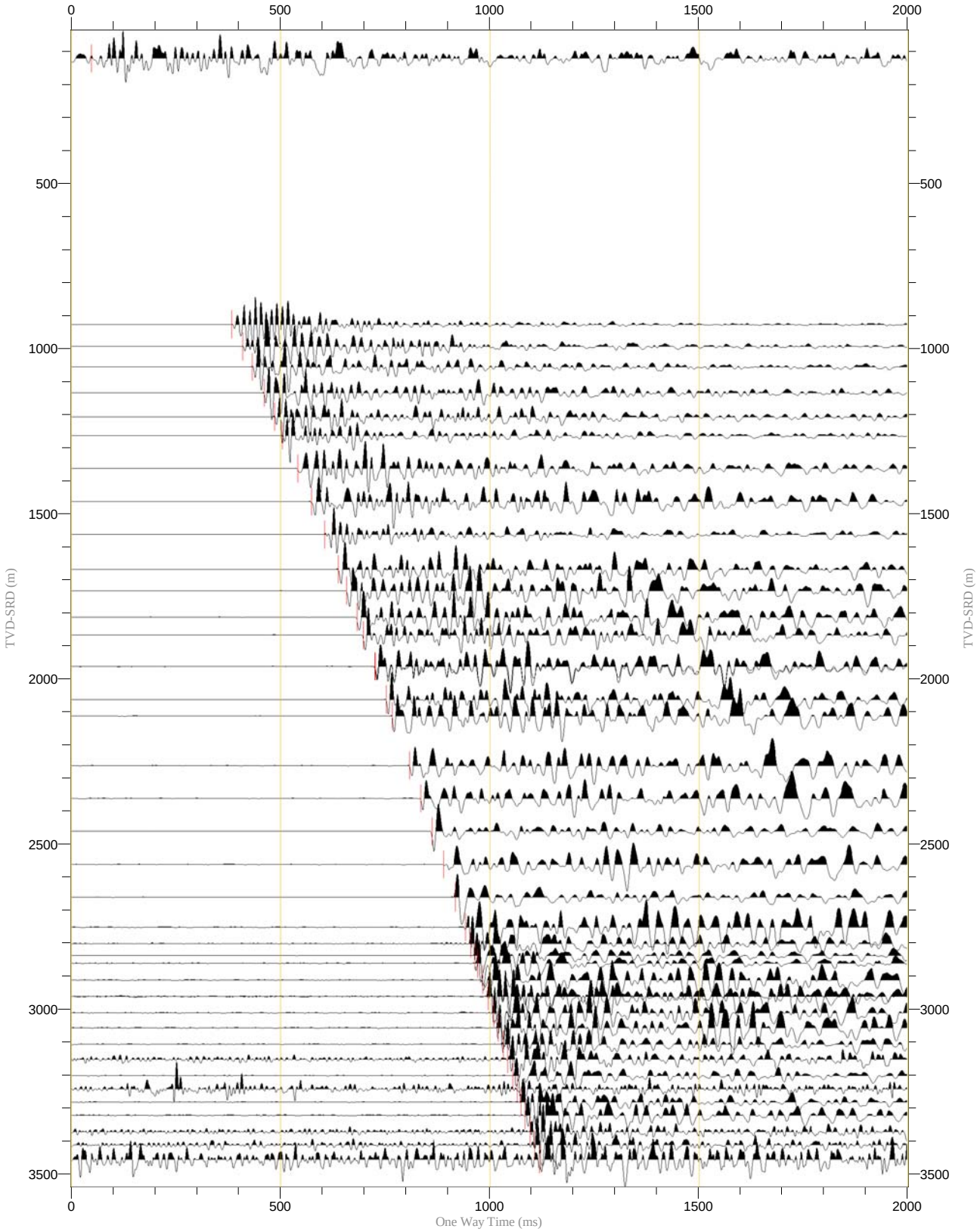
Stack Summary Listing (2/2) from VSI_004_A_geo_wavefield_z.ldf

Stack Number	Measured Depth [m]	True Vertical Depth [m]	Measured Time [s]	One-way Vertical Time [s]	Two-way Vertical Time [s]	Interval Velocity [m/s]	Average Velocity [m/s]	RMS Velocity [m/s]
19	3095.0	3054.1	1.0198	1.0255	2.0510		2978.1	3032.9
						3957.8		
18	3145.0	3104.0	1.0324	1.0381	2.0762		2990.0	3045.8
						4120.6		
17	3190.0	3148.9	1.0433	1.0490	2.0980		3001.8	3058.9
						4325.0		
16	3240.0	3198.8	1.0548	1.0605	2.1211		3016.2	3075.5
						3770.4		
15	3280.1	3238.8	1.0654	1.0711	2.1423		3023.7	3083.1
						4364.7		
14	3320.0	3278.6	1.0746	1.0803	2.1605		3035.0	3096.2
						3991.4		
13	3359.9	3318.4	1.0846	1.0903	2.1805		3043.7	3105.5
						4063.8		
12	3410.0	3368.3	1.0969	1.1025	2.2051		3055.1	3117.8
						3893.5		
11	3450.0	3408.2	1.1071	1.1128	2.2255		3062.8	3125.9
						3802.1		
10	3494.0	3452.0	1.1187	1.1243	2.2486		3070.4	3133.5

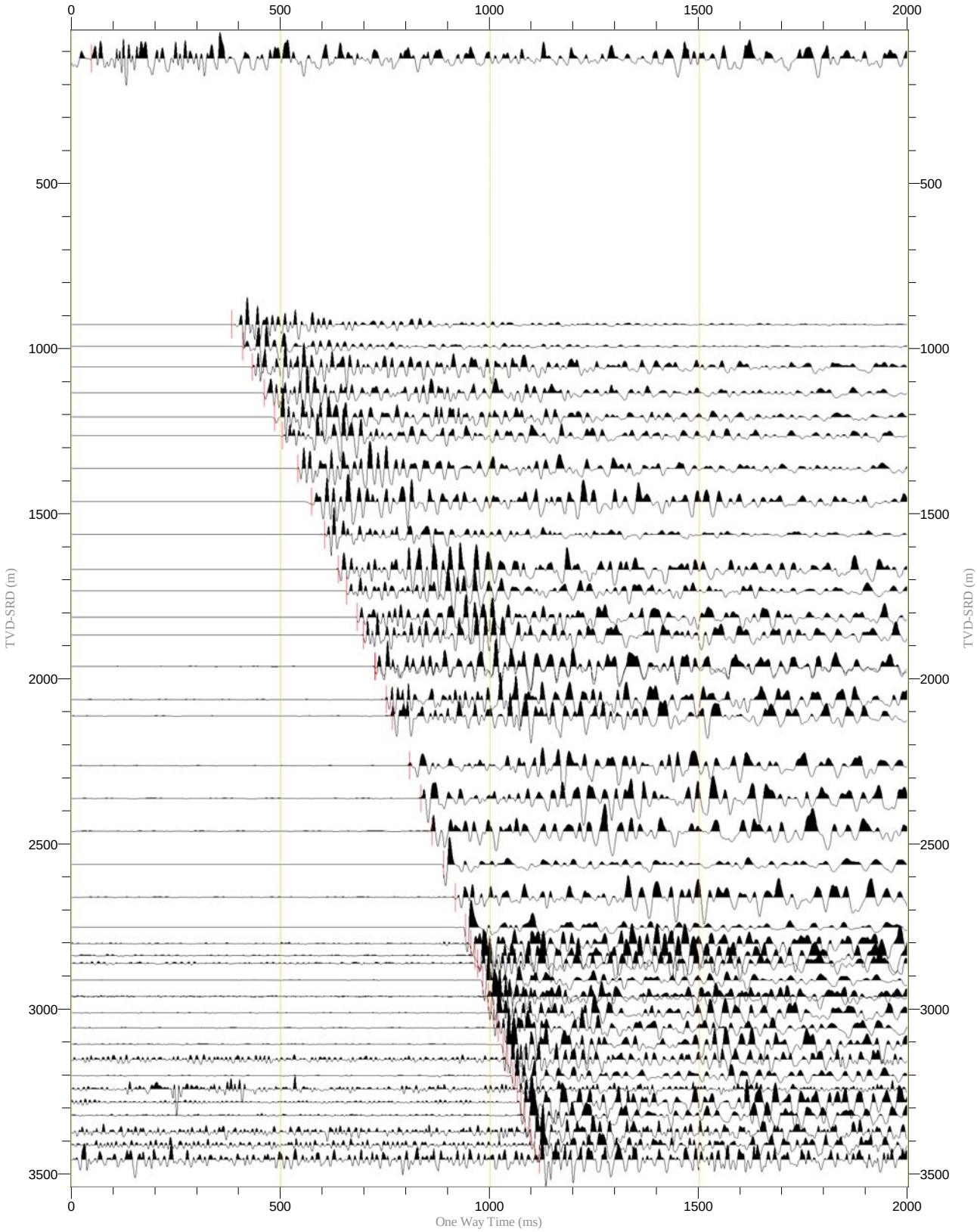
Raw Stack (Z)	Normalization Trace by Trace (150%) Polarity Normal One Way Time (ms) Scaling 8.3 cm/sec, 1/14890	



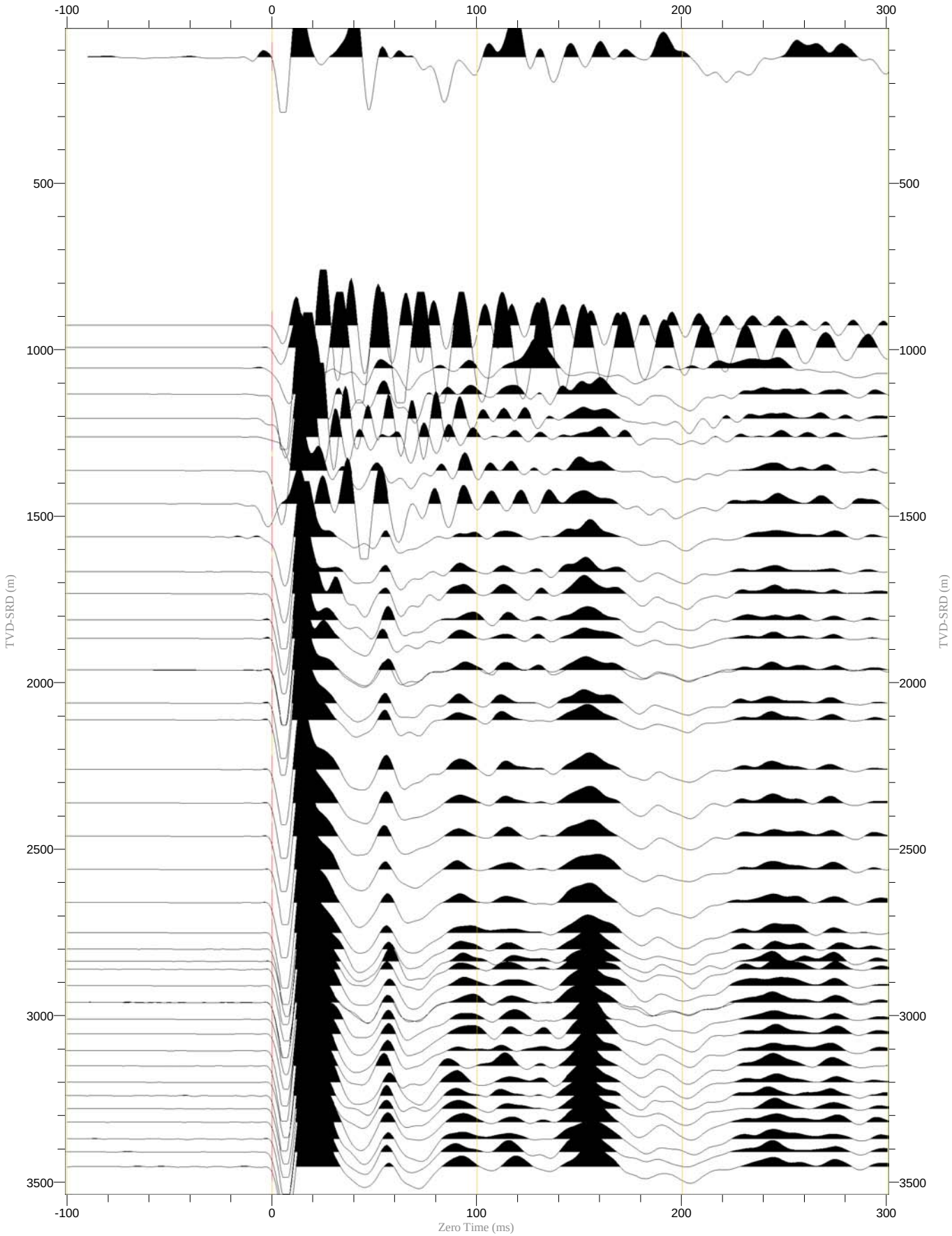
Raw Stack (X)	Normalization Trace by Trace (100%) Polarity Normal One Way Time (ms) Scaling 7.8 cm/sec, 1/16280	



Raw Stack (Y)	Normalization Trace by Trace (100%) Polarity Normal One Way Time (ms) Scaling 7.8 cm/sec, 1/1628	



Raw Stack (Z) (Magnified)	Normalization Trace by Trace (250%) Polarity Normal Zero Time (ms) Scaling 41.3 cm/sec, 1/14890	



Source Signature QC Report

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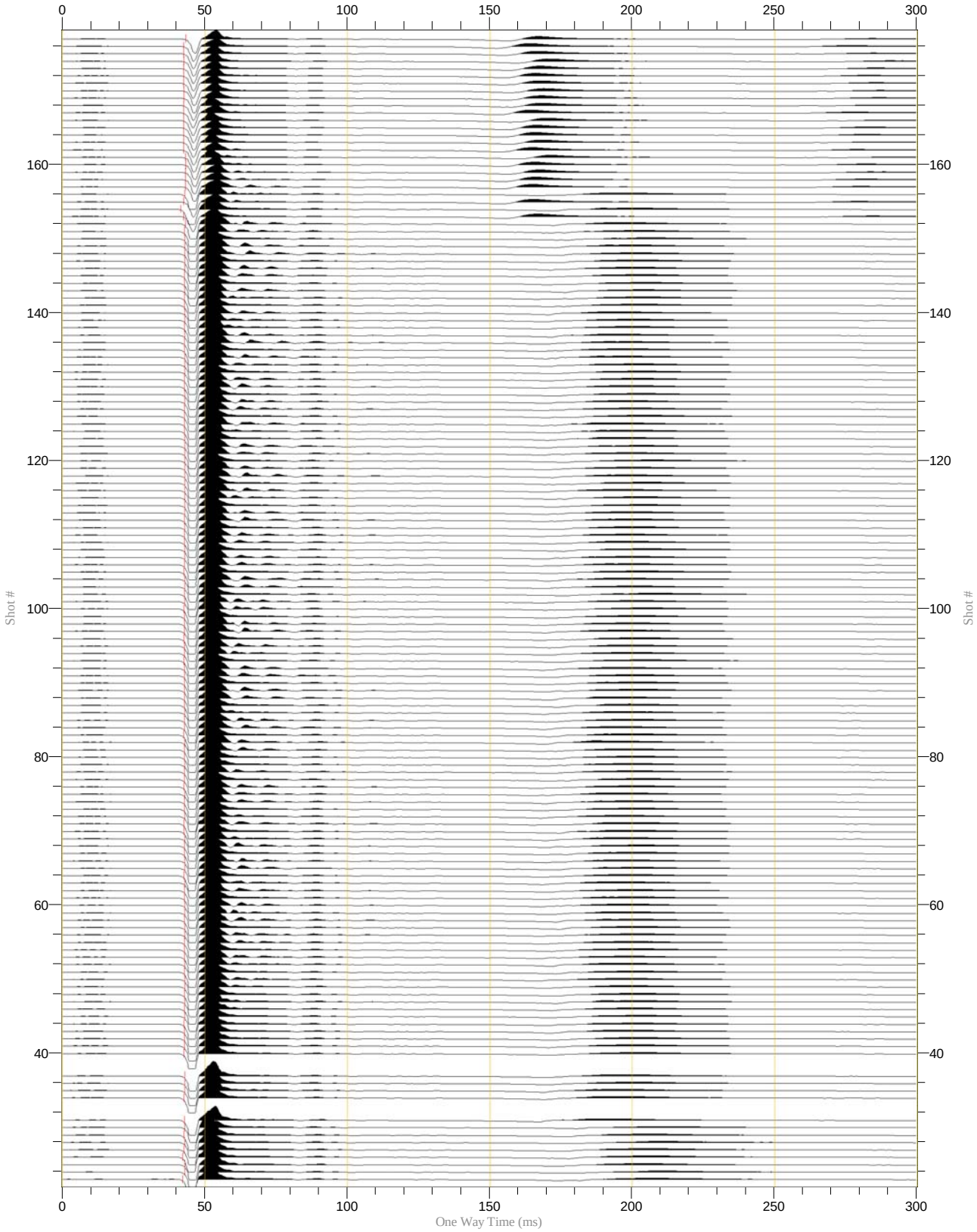
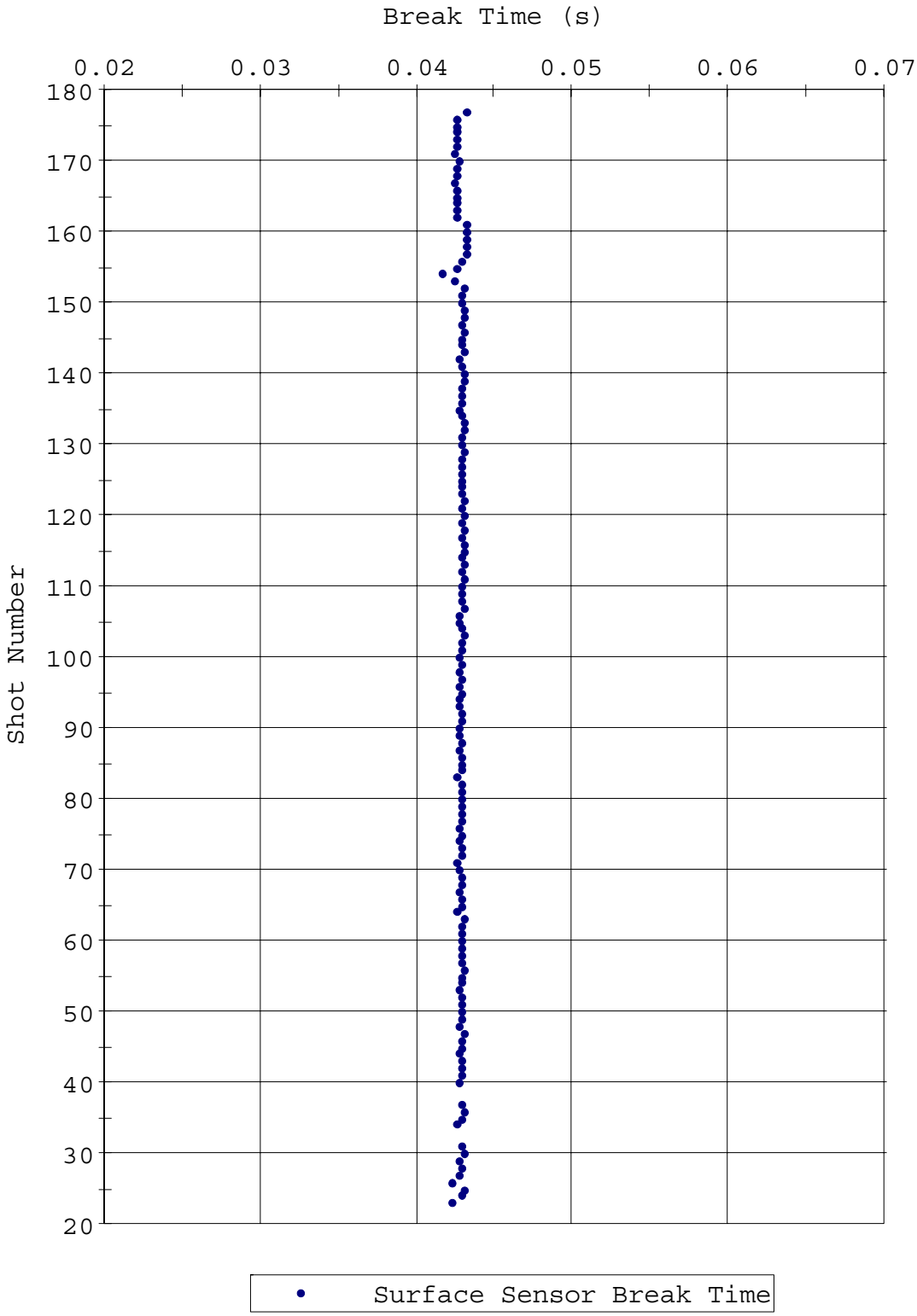
Fermat-1

Source Sensor Signature	Normalization Largest Trace in Gather (400%) Polarity Normal One Way Time (ms) Scaling 52.97 cm/sec, 7.26/cm	



Surface Sensor QC Plot Page



========== Shot and Observer Report ==========

Fermat-1

Shot Summary Listing (1/2)

Measured Depth [m]	Tool Number	Stack Number	Relative Bearing [deg]	Caliper [in]	Anchoring force [kg]	Shot number
962.9	1	50	14.6	9.1	544.9	174, 175, 176
1030.0	1	6	89.9	9.0	516.9	26, 27, 28, 171, 172, 173
1030.1	1	49	68.0	9.4	1019.0	26, 27, 28, 171, 172, 173
1091.9	1	45	71.1	9.4	1018.8	154, 164, 166, 167, 168
1169.9	1	44	72.5	9.2	658.5	150, 151, 152
1242.9	1	43	64.9	9.2	501.0	147, 148, 149
1299.7	1	42	68.3	9.3	1006.5	144, 145, 146
1399.9	1	41	58.5	9.3	1001.5	141, 142, 143
1499.9	1	40	72.9	9.3	989.5	135, 136, 137, 138, 139, 140
1599.9	1	39	72.5	9.2	654.1	132, 133, 134
1705.0	1	38	67.1	9.1	486.7	129, 130, 131
1769.9	1	37	66.3	9.2	645.1	126, 127, 128
1850.0	1	36	66.5	9.4	975.6	123, 124, 125
1904.9	1	35	64.8	9.1	440.8	120, 121, 122
1999.9	1	8	72.4	8.9	379.4	29, 30, 31, 117, 118, 119
2000.1	1	34	63.6	9.1	467.0	29, 30, 31, 117, 118, 119
2099.9	1	33	64.6	9.2	468.9	114, 115, 116
2150.0	1	32	62.4	9.4	947.1	111, 112, 113
2300.0	1	31	53.3	9.3	905.6	108, 109, 110
2399.9	1	30	60.3	9.2	525.8	105, 106, 107
2500.0	1	29	65.6	9.4	908.1	102, 103, 104
2600.0	1	28	65.4	9.2	630.0	99, 100, 101
2699.9	1	27	75.3	9.4	899.8	96, 97, 98
2790.0	1	26	43.9	9.3	886.2	93, 94, 95
2839.9	1	25	130.7	10.1	451.5	90, 91, 92
2876.0	1	24	126.7	9.3	831.4	87, 88, 89
2900.0	1	23	114.5	11.5	874.1	83, 85, 86
2949.9	1	22	21.5	9.2	859.8	80, 81, 82
3000.0	1	9	2.2	8.7	384.0	34, 35, 36, 37, 77, 78, 79
3000.0	1	21	-15.7	8.7	402.2	34, 35, 36, 37, 77, 78, 79

Shot Summary Listing (2/2)

Measured Depth [m]	Tool Number	Stack Number	Relative Bearing [deg]	Caliper [in]	Anchoring force [kg]	Shot number
3050.0	1	20	95.2	9.9	366.1	74, 75, 76
3095.0	1	19	139.5	9.0	323.1	70, 71, 72
3145.0	1	18	83.7	9.1	819.0	67, 68, 69
3190.0	1	17	96.0	9.1	447.4	64, 65, 66
3240.0	1	16	127.9	9.1	808.9	61, 62, 63
3280.1	1	15	80.6	10.5	539.9	58, 59, 60
3320.0	1	14	83.6	9.2	360.9	54, 55, 56
3359.9	1	13	73.1	9.0	529.9	51, 52, 53
3410.0	1	12	80.6	8.9	525.0	48, 49, 50
3450.0	1	11	92.7	9.0	521.1	45, 46, 47
3494.0	1	10	-86.7	9.9	351.1	41, 43, 44

Observer's Note (1/3)

Well depth [m]	Time	Shot Type	Shot#	Stack#	Source	Remarks
14.3	10:47:08	NOTO	2		A	
14.3	10:48:05	NOTO	3		A	
14.3	10:49:19	NOTO	4		A	
14.3	10:49:39	NOTO	5		A	
14.3	10:49:59	NOTO	6		A	
14.3	10:53:41	NOTO	7		A	
14.3	10:56:34	NOTO	8		A	
14.3	11:03:19	NOTO	9		A	
14.3	11:05:04	NOTO	10		A	
14.3	11:07:56	NOTO	11		A	
14.3	11:10:32	NOTO	12		A	
14.3	11:12:14	NOTO	13		A	
14.3	11:13:09	NOTO	14		A	
14.3	11:13:29	NOTO	15		A	
14.3	11:13:50	NOTO	16		A	
14.3	11:14:12	NOTO	17		A	
14.3	11:14:37	NOTO	18		A	
14.3	11:16:13	NOTO	19		A	
14.3	11:16:55	NOTO	20		A	
157.6	05:39:55	SHAK	21			
157.6	05:40:24	BKGD	22			
157.6	05:41:03	SHOT	23	5	A	Check caliper in shallow well
157.6	05:42:10	SHOT	24	5	A	Check caliper in shallow well
157.6	05:42:56	SHOT	25	5	A	Check caliper in shallow well
1030.0	06:27:17	SHOT	26	6	A	QC#1
1030.0	06:28:18	SHOT	27	6	A	QC#1
1030.0	06:28:59	SHOT	28	6	A	QC#1
1999.9	07:21:39	SHOT	29	8	A	QC#2
1999.9	07:22:16	SHOT	30	8	A	QC#2
1999.9	07:22:35	SHOT	31	8	A	QC#2
3000.0	08:00:46	SHAK	32			
3000.0	08:01:06	BKGD	33			
3000.0	08:01:25	SHOT	34	9	A	
3000.0	08:01:54	SHOT	35	9	A	
3000.0	08:02:29	SHOT	36	9	A	
3000.0	08:03:19	SHOT	37	9	A	
3494.0	09:40:06	SHAK	38			
3494.0	09:40:36	BKGD	39			
3494.0	09:40:48	SHOT	40	10	A	bad slightly ok
3494.0	09:42:21	SHOT	41	10	A	
3494.0	09:43:09	SHOT	42	10	A	Bad
3494.0	09:44:14	SHOT	43	10	A	
3494.0	09:45:14	SHOT	44	10	A	
3450.0	09:53:15	SHOT	45	11	A	
3450.0	09:53:50	SHOT	46	11	A	
3450.0	09:54:18	SHOT	47	11	A	
3410.0	10:00:26	SHOT	48	12	A	
3410.0	10:00:48	SHOT	49	12	A	
3410.0	10:01:08	SHOT	50	12	A	
3359.9	10:06:54	SHOT	51	13	A	
3359.9	10:07:15	SHOT	52	13	A	
3359.9	10:07:32	SHOT	53	13	A	
3320.0	10:13:23	SHOT	54	14	A	
3320.0	10:13:39	SHOT	55	14	A	
3320.0	10:13:54	SHOT	56	14	A	
3280.1	10:20:54	SHOT	57	15	A	
3280.1	10:21:11	SHOT	58	15	A	
3280.1	10:21:30	SHOT	59	15	A	
3280.1	10:21:46	SHOT	60	15	A	
3240.0	10:27:00	SHOT	61	16	A	
3240.0	10:27:15	SHOT	62	16	A	
3240.0	10:27:35	SHOT	63	16	A	
3190.0	10:33:21	SHOT	64	17	A	

Observer's Note (2/3)

Well depth [m]	Time	Shot Type	Shot#	Stack#	Source	Remarks
3190.0	10:33:37	SHOT	65	17	A	
3190.0	10:33:52	SHOT	66	17	A	
3145.0	10:37:54	SHOT	67	18	A	
3145.0	10:38:10	SHOT	68	18	A	
3145.0	10:38:31	SHOT	69	18	A	
3095.0	10:42:51	SHOT	70	19	A	
3095.0	10:43:09	SHOT	71	19	A	
3095.0	10:43:27	SHOT	72	19	A	
3050.0	10:48:07	SHOT	73	20	A	
3050.0	10:48:24	SHOT	74	20	A	
3050.0	10:48:40	SHOT	75	20	A	
3050.0	10:48:55	SHOT	76	20	A	
3000.0	10:53:50	SHOT	77	21	A	
3000.0	10:54:09	SHOT	78	21	A	
3000.0	10:54:43	SHOT	79	21	A	
2949.9	10:59:26	SHOT	80	22	A	
2949.9	10:59:41	SHOT	81	22	A	
2949.9	10:59:56	SHOT	82	22	A	
2900.0	11:04:36	SHOT	83	23	A	Bad
2900.0	11:04:51	SHOT	84	23	A	
2900.0	11:05:08	SHOT	85	23	A	
2900.0	11:05:30	SHOT	86	23	A	
2876.0	11:10:33	SHOT	87	24	A	
2876.0	11:10:49	SHOT	88	24	A	
2876.0	11:11:04	SHOT	89	24	A	
2839.9	11:15:47	SHOT	90	25	A	
2839.9	11:16:02	SHOT	91	25	A	
2839.9	11:16:17	SHOT	92	25	A	
2790.0	11:21:39	SHOT	93	26	A	
2790.0	11:21:59	SHOT	94	26	A	
2790.0	11:22:15	SHOT	95	26	A	
2699.9	11:28:23	SHOT	96	27	A	
2699.9	11:28:38	SHOT	97	27	A	
2699.9	11:28:53	SHOT	98	27	A	
2600.0	11:34:53	SHOT	99	28	A	
2600.0	11:35:08	SHOT	100	28	A	
2600.0	11:35:24	SHOT	101	28	A	
2500.0	11:44:11	SHOT	102	29	A	
2500.0	11:44:26	SHOT	103	29	A	
2500.0	11:44:41	SHOT	104	29	A	
2399.9	11:50:01	SHOT	105	30	A	
2399.9	11:50:19	SHOT	106	30	A	
2399.9	11:50:34	SHOT	107	30	A	
2300.0	11:54:56	SHOT	108	31	A	
2300.0	11:55:13	SHOT	109	31	A	
2300.0	11:55:28	SHOT	110	31	A	
2150.0	12:02:45	SHOT	111	32	A	
2150.0	12:03:00	SHOT	112	32	A	
2150.0	12:03:15	SHOT	113	32	A	
2099.9	12:07:30	SHOT	114	33	A	
2099.9	12:07:52	SHOT	115	33	A	
2099.9	12:08:07	SHOT	116	33	A	
2000.1	12:14:53	SHOT	117	34	A	
2000.1	12:15:08	SHOT	118	34	A	
2000.1	12:15:27	SHOT	119	34	A	
1904.9	12:20:15	SHOT	120	35	A	
1904.9	12:20:31	SHOT	121	35	A	
1904.9	12:20:46	SHOT	122	35	A	
1850.0	12:24:24	SHOT	123	36	A	
1850.0	12:24:57	SHOT	124	36	A	
1850.0	12:25:12	SHOT	125	36	A	
1769.9	12:29:34	SHOT	126	37	A	
1769.9	12:29:49	SHOT	127	37	A	

Observer's Note (3/3)

Well depth [m]	Time	Shot Type	Shot#	Stack#	Source	Remarks
1769.9	12:30:04	SHOT	128	37	A	
1705.0	12:33:53	SHOT	129	38	A	
1705.0	12:34:08	SHOT	130	38	A	
1705.0	12:34:23	SHOT	131	38	A	
1599.9	12:38:19	SHOT	132	39	A	
1599.9	12:38:38	SHOT	133	39	A	
1599.9	12:38:54	SHOT	134	39	A	
1499.9	12:43:56	SHOT	135	40	A	Casing ringing, no cement
1499.9	12:44:11	SHOT	136	40	A	Casing ringing, no cement
1499.9	12:44:26	SHOT	137	40	A	Casing ringing, no cement
1499.9	12:44:53	SHOT	138	40	A	Casing rining, no cement
1499.9	12:45:14	SHOT	139	40	A	Casing ringing, no cement
1499.9	12:45:29	SHOT	140	40	A	Casing ringing, no cement
1399.9	12:50:09	SHOT	141	41	A	
1399.9	12:50:39	SHOT	142	41	A	
1399.9	12:50:54	SHOT	143	41	A	
1299.7	12:55:30	SHOT	144	42	A	
1299.7	12:55:46	SHOT	145	42	A	
1299.7	12:56:01	SHOT	146	42	A	
1242.9	12:59:08	SHOT	147	43	A	
1242.9	12:59:23	SHOT	148	43	A	
1242.9	12:59:38	SHOT	149	43	A	
1169.9	13:04:06	SHOT	150	44	A	
1169.9	13:04:21	SHOT	151	44	A	
1169.9	13:04:36	SHOT	152	44	A	
1091.9	13:08:13	SHOT	153	45	A	
1091.9	13:08:38	SHOT	154	45	A	
1091.9	13:09:01	SHOT	155	45	A	
1091.9	13:09:17	SHOT	156	45	A	
1091.9	13:09:33	SHOT	157	45	A	
1091.9	13:09:48	SHOT	158	45	A	
1091.9	13:10:03	SHOT	159	45	A	
1091.9	13:10:18	SHOT	160	45	A	
1091.9	13:10:33	SHOT	161	45	A	
1091.9	13:10:52	SHOT	162	45	A	
1091.9	13:13:57	SHOT	163	45	A	
1091.9	13:15:10	SHOT	164	45	A	
1091.9	13:16:58	SHOT	165	46	A	
1091.9	13:19:53	SHOT	166	46	A	
1091.9	13:20:18	SHOT	167	46	A	
1091.9	13:20:43	SHOT	168	46	A	
1030.1	13:26:24	SHOT	169	47	A	
1030.1	13:30:06	SHOT	170	48	A	
1030.1	13:34:26	SHOT	171	49	A	
1030.1	13:34:51	SHOT	172	49	A	
1030.1	13:35:16	SHOT	173	49	A	
962.9	13:38:56	SHOT	174	50	A	
962.9	13:39:21	SHOT	175	50	A	
962.9	13:39:46	SHOT	176	50	A	
962.9	13:40:11	SHOT	177	50	A	

Tool Evaluation Test Report

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Fermat-1

VSI Seismic Evaluation Report

ELECTRICAL NOISE LOW TEST

2009/01/04 22:21:06

Shot No: 11 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
DC Offset	1	X	-25.2011	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	X	0.1214	micro V	-	0.5000	PASS
Noise Peak	1	X	0.4226	micro V	-	2.0000	PASS
DC Offset	1	Y	-25.2515	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	Y	0.1250	micro V	-	0.5000	PASS
Noise Peak	1	Y	0.4805	micro V	-	2.0000	PASS
DC Offset	1	Z	-25.3432	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	Z	0.1209	micro V	-	0.5000	PASS
Noise Peak	1	Z	0.4665	micro V	-	2.0000	PASS

ELECTRICAL NOISE HIGH TEST

2009/01/04 22:21:58

Shot No: 12 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
DC Offset	1	X	-25.1323	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	X	0.1241	micro V	-	0.5000	PASS
Noise Peak	1	X	0.4374	micro V	-	2.0000	PASS
DC Offset	1	Y	-25.6004	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	Y	0.1269	micro V	-	0.5000	PASS
Noise Peak	1	Y	0.5077	micro V	-	2.0000	PASS
DC Offset	1	Z	-25.1560	milli V	-100.0000	100.0000	PASS
RMS Noise Level	1	Z	0.1203	micro V	-	0.5000	PASS
Noise Peak	1	Z	0.4957	micro V	-	2.0000	PASS

ELECTRICAL DISTORTION TEST

2009/01/04 22:22:37

Shot No: 13 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Total Harmonic Distortion	1	X	-104.9539	dB	-	-90.0000	PASS
Total Harmonic Distortion	1	Y	-107.3943	dB	-	-90.0000	PASS
Total Harmonic Distortion	1	Z	-102.5132	dB	-	-90.0000	PASS

SYSTEM DYNAMIC RANGE TEST

2009/01/04 22:22:59

Shot No: 14 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
System Dynamic Range	1	X	107.7545	dB	103.0000	-	PASS
System Dynamic Range	1	Y	107.0717	dB	103.0000	-	PASS
System Dynamic Range	1	Z	108.0001	dB	103.0000	-	PASS

AMPLIFIER GAIN 2 TEST

2009/01/04 22:23:49

Shot No: 15 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Gain Accuracy	1	X	0.1400	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	X	0.0000	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Y	0.1435	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Y	0.0000	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Z	0.1558	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Z	0.0000	dB	-0.5000	0.5000	PASS

AMPLIFIER GAIN 4 TEST

2009/01/04 22:23:59

Shot No: 16 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Gain Accuracy	1	X	0.1419	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	X	-0.0019	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Y	0.1411	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Y	0.0024	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Z	0.1571	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Z	-0.0012	dB	-0.5000	0.5000	PASS

AMPLIFIER GAIN 8 TEST

2009/01/04 22:24:09

Shot No: 17 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Gain Accuracy	1	X	0.1432	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	X	-0.0032	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Y	0.1400	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Y	0.0035	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Z	0.1590	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Z	-0.0032	dB	-0.5000	0.5000	PASS

AMPLIFIER GAIN 16 TEST

2009/01/04 22:24:19

Shot No: 18 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Gain Accuracy	1	X	0.1425	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	X	-0.0024	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Y	0.1371	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Y	0.0064	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Z	0.1559	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Z	-0.0000	dB	-0.5000	0.5000	PASS

AMPLIFIER GAIN 32 TEST

2009/01/04 22:24:28

Shot No: 19 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Gain Accuracy	1	X	0.1475	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	X	-0.0075	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Y	0.1409	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Y	0.0026	dB	-0.5000	0.5000	PASS
Gain Accuracy	1	Z	0.1608	dB	-0.5000	0.5000	PASS
Gain Step Accuracy	1	Z	-0.0049	dB	-0.5000	0.5000	PASS

CROSS TALK X TEST

2009/01/04 22:24:47

Shot No: 20 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Cross Talk X-Y	1	-	-99.5457	dB	-	-90.0000	PASS
Cross Talk X-Z	1	-	-100.2567	dB	-	-90.0000	PASS

CROSS TALK Y TEST

2009/01/04 22:25:07

Shot No: 21 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Cross Talk Y-Z	1	-	-100.4506	dB	-	-90.0000	PASS
Cross Talk Y-X	1	-	-99.8550	dB	-	-90.0000	PASS

CROSS TALK Z TEST

2009/01/04 22:25:27

Shot No: 22 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Cross Talk Z-X	1	-	-99.1629	dB	-	-90.0000	PASS
Cross Talk Z-Y	1	-	-99.8945	dB	-	-90.0000	PASS

IMPULSE RESPONSE TEST

2009/01/04 22:25:47

Shot No: 23 **Station Depth: 9.95 m**

Evaluation Item	Shuttle	Channel	Value	Unit	Lower Limit	Upper Limit	Result
Amplitude (0.3Hz)	1	X	-1.7119	dB	-5.0000	-	PASS
Amplitude (400Hz)	1	X	-3.5773	dB	-5.0000	-	PASS
Impulse Amplitude	1	X	574.0043	milli V	-	-	-
Phase Diff. at 0.3Hz from X1	1	X	0.0000	degree	-	-	-
Amplitude (0.3Hz)	1	Y	-1.6696	dB	-5.0000	-	PASS
Amplitude (400Hz)	1	Y	-3.5770	dB	-5.0000	-	PASS
Impulse Amplitude	1	Y	574.0756	milli V	-	-	-
Phase Diff. at 0.3Hz from X1	1	Y	0.5580	degree	-	-	-
Amplitude (0.3Hz)	1	Z	-1.6961	dB	-5.0000	-	PASS

Amplitude (400Hz)	1	Z	-3.5777	dB	-5.0000	-	PASS
Impulse Amplitude	1	Z	574.9551	milli V	-	-	-
Phase Diff. at 0.3Hz from X1	1	Z	-0.4850	degree	-	-	-

========== GR Correlation Report ==========

Fermat-1

Company: Well:

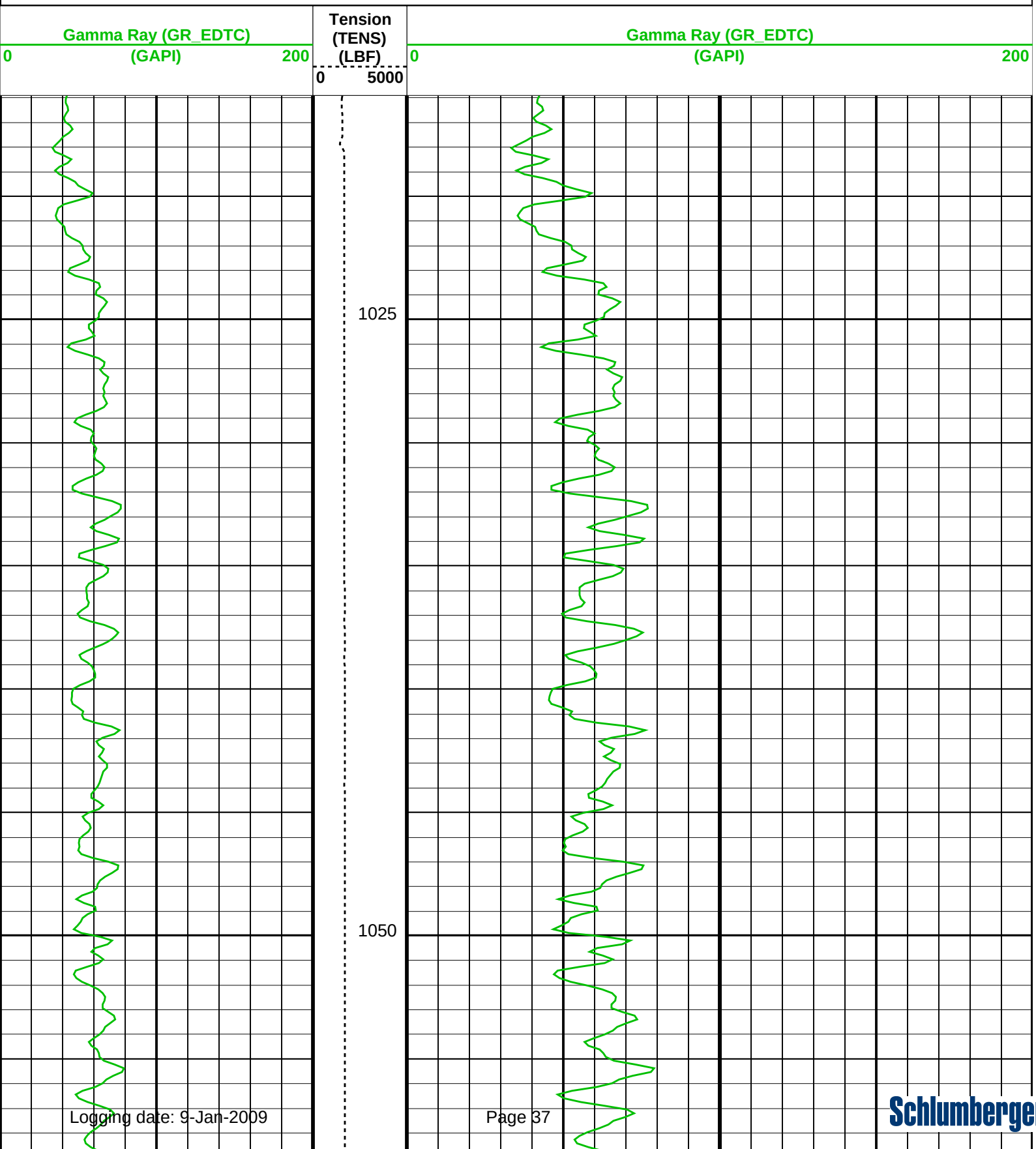
Output DLIS Files

DEFAULT VSIT_121LUP FN:169 PRODUCER 09−Jan−2009 09:35 3499.0 M 1015.9 M

OP System Version: 16C0−147

MCM

VSIT−G 16C0−147 EDTC−B SKK−3494−EDTCB_b



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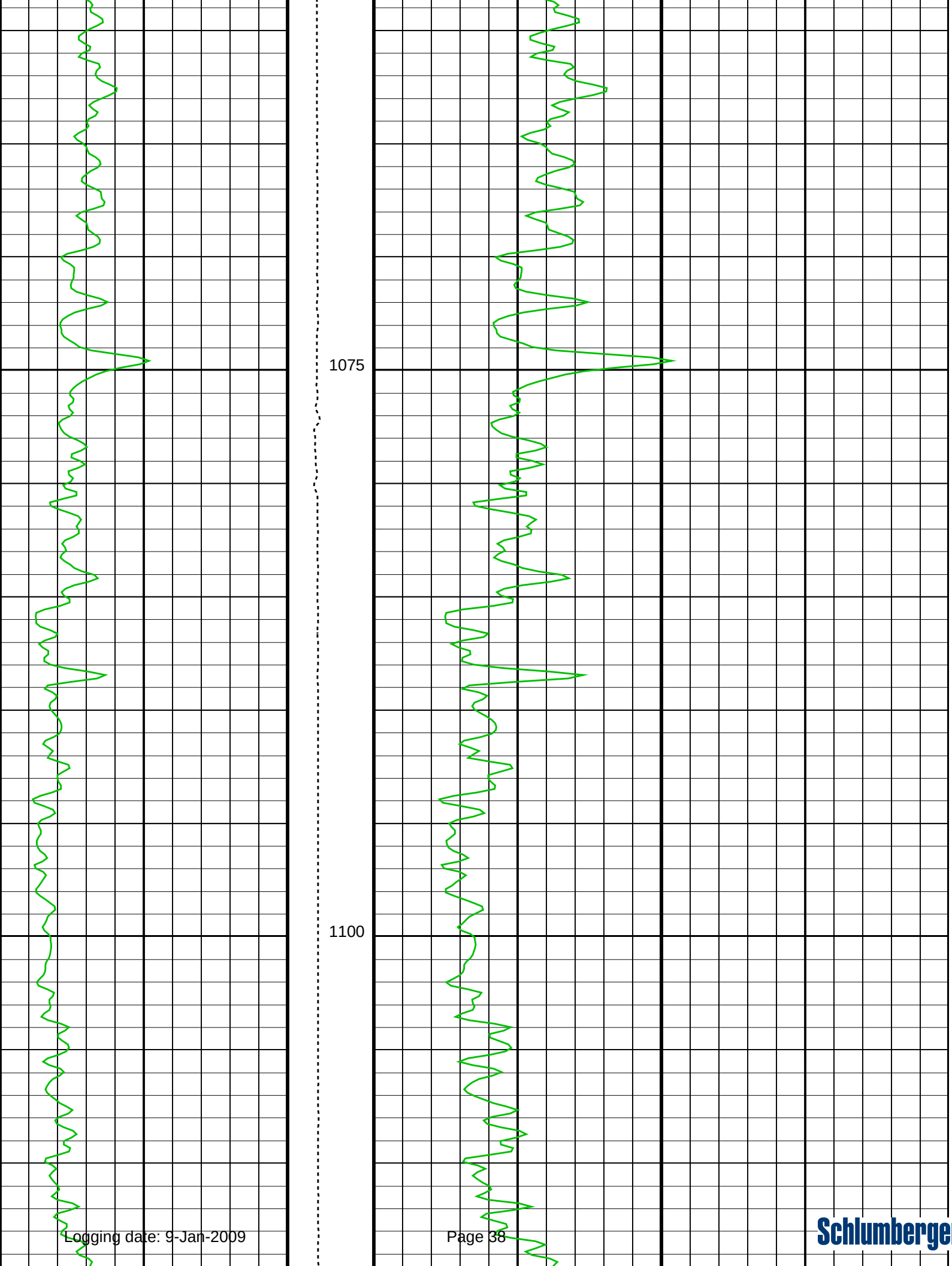
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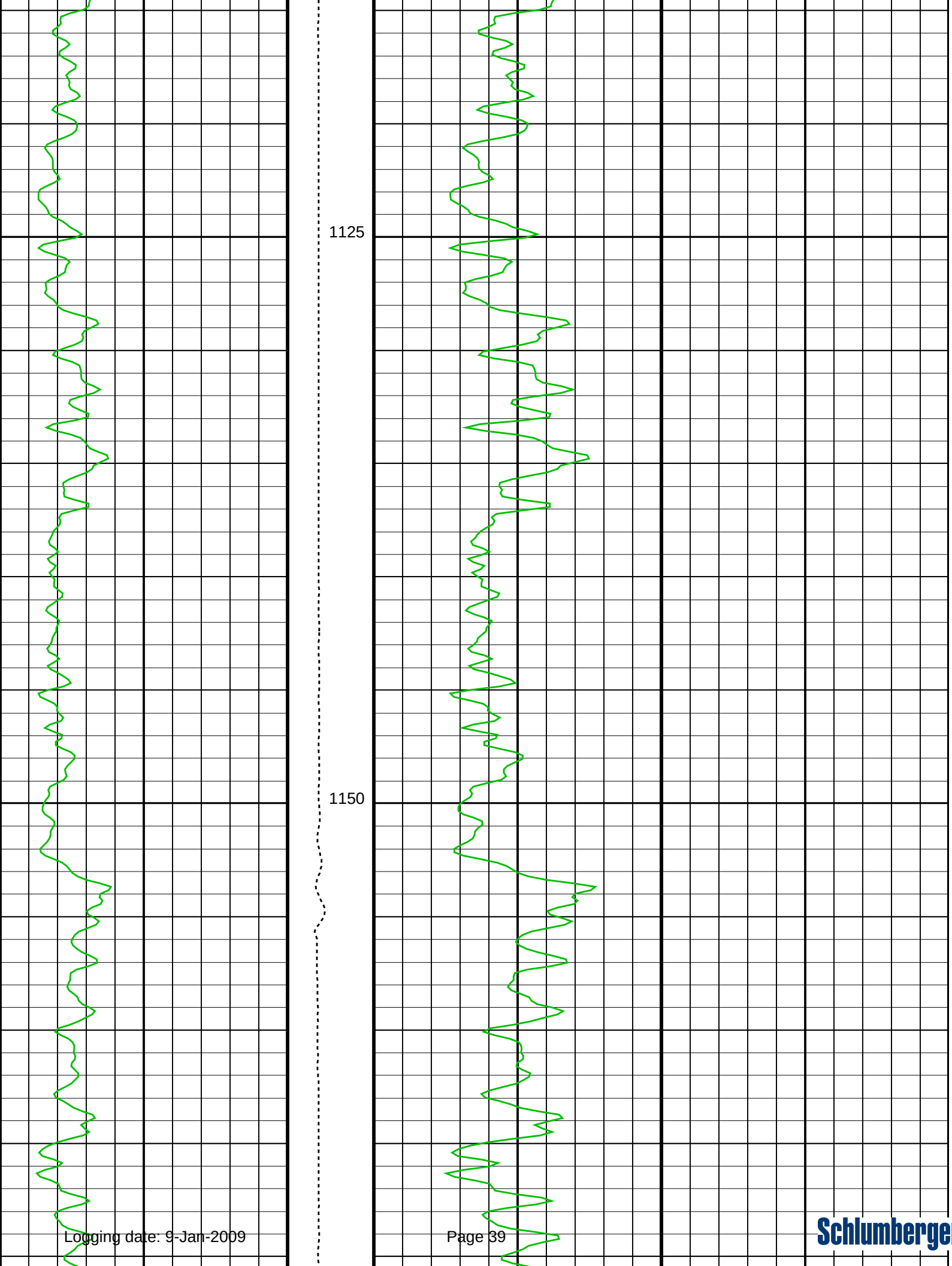
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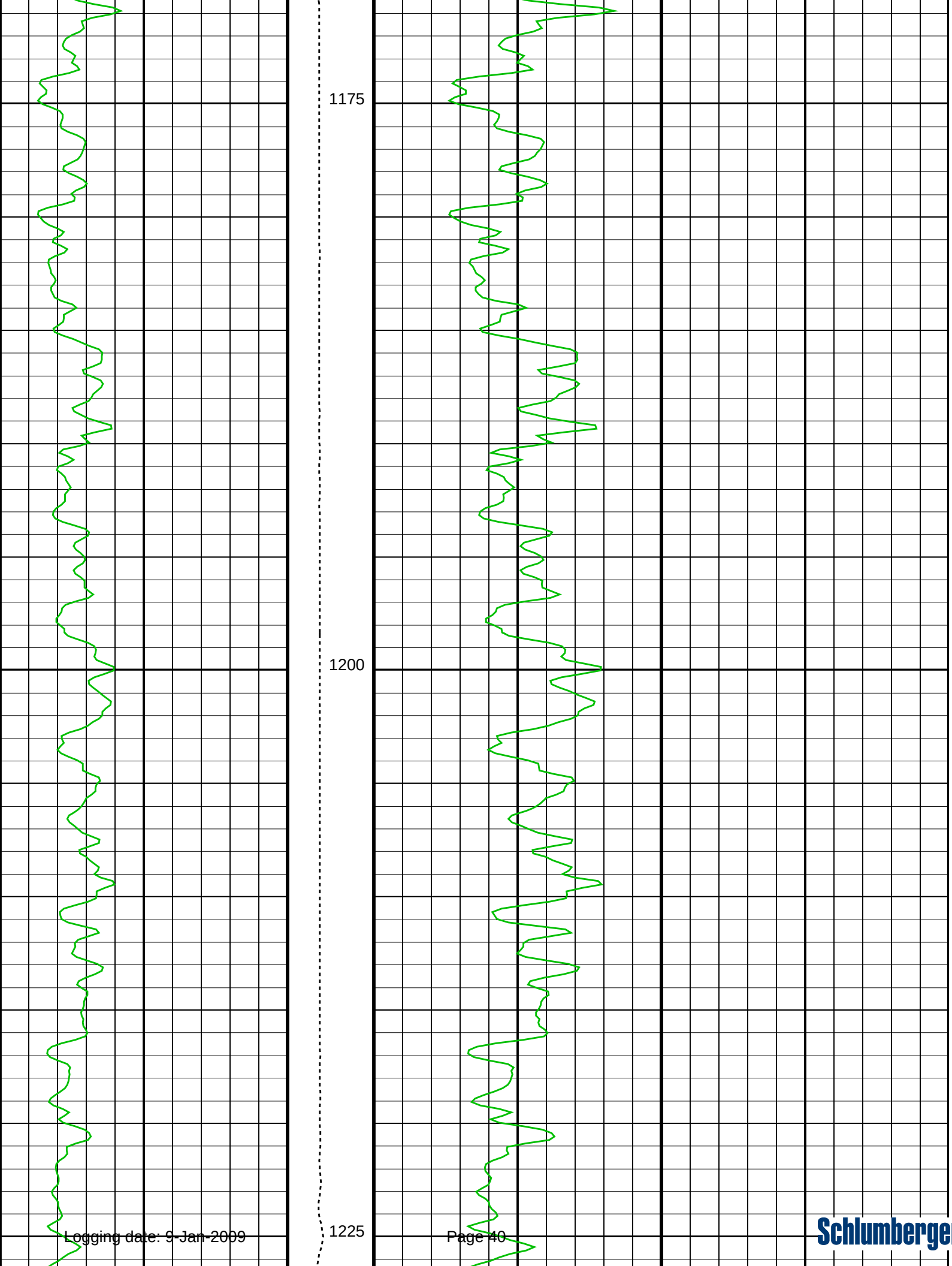
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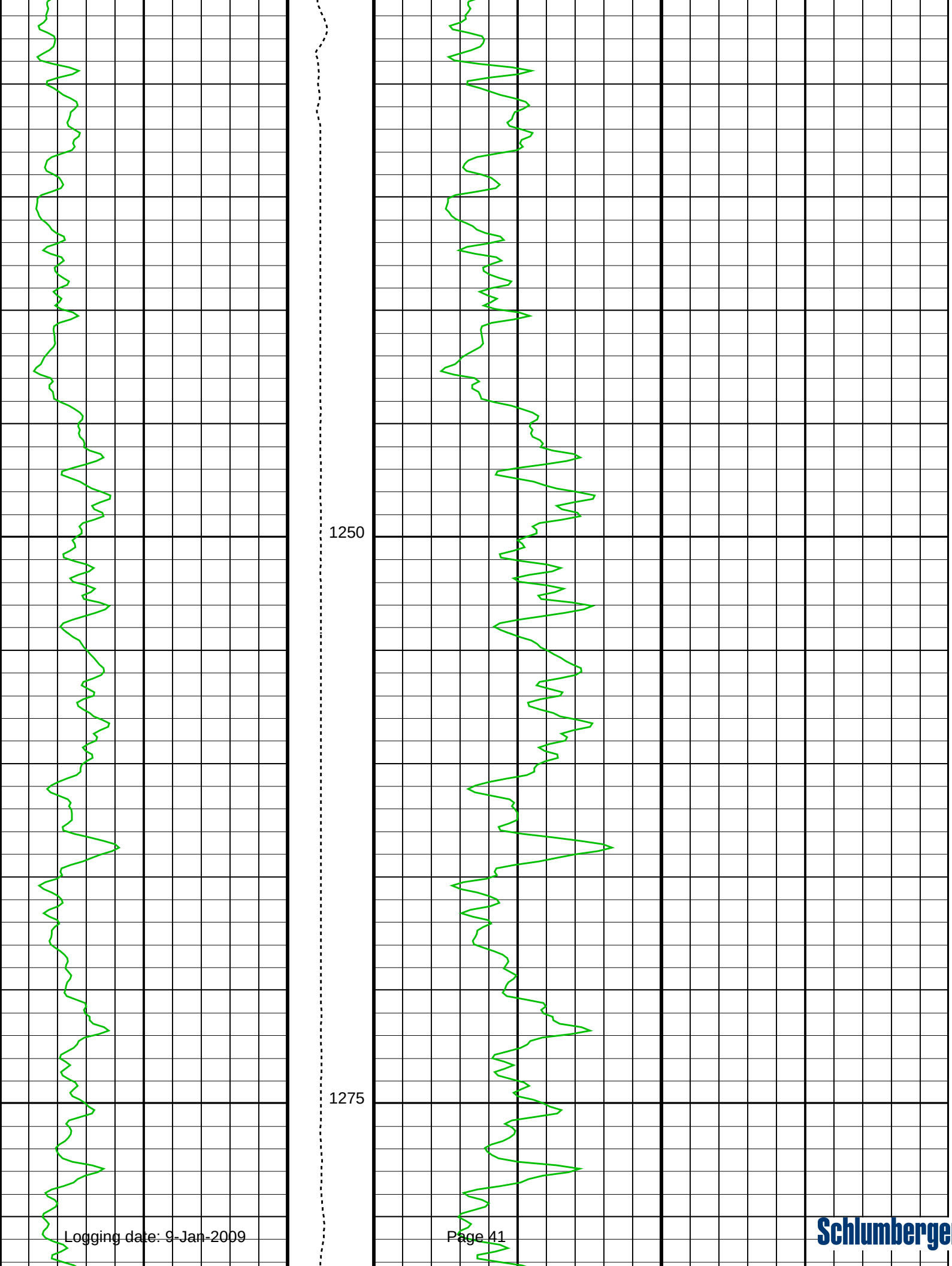
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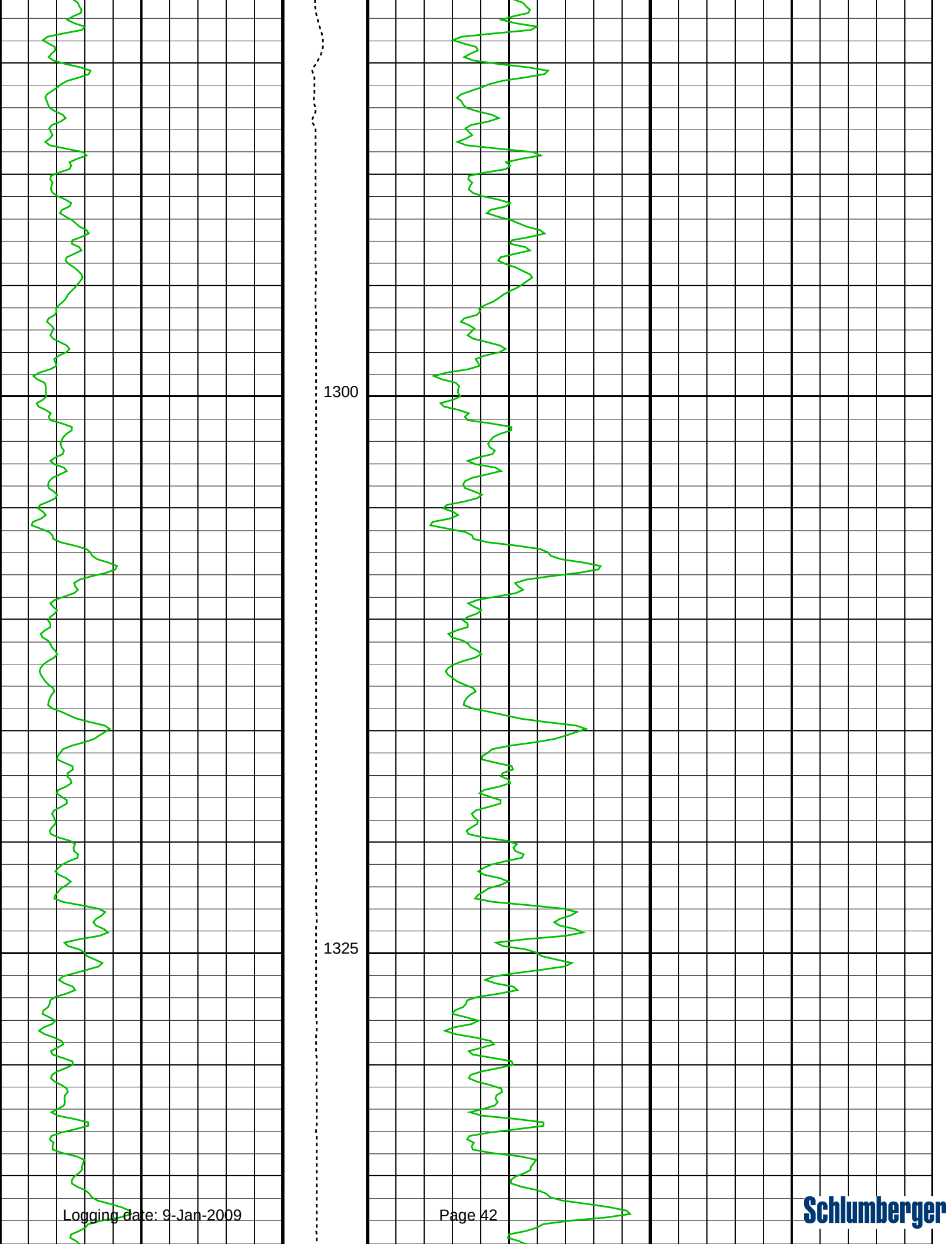
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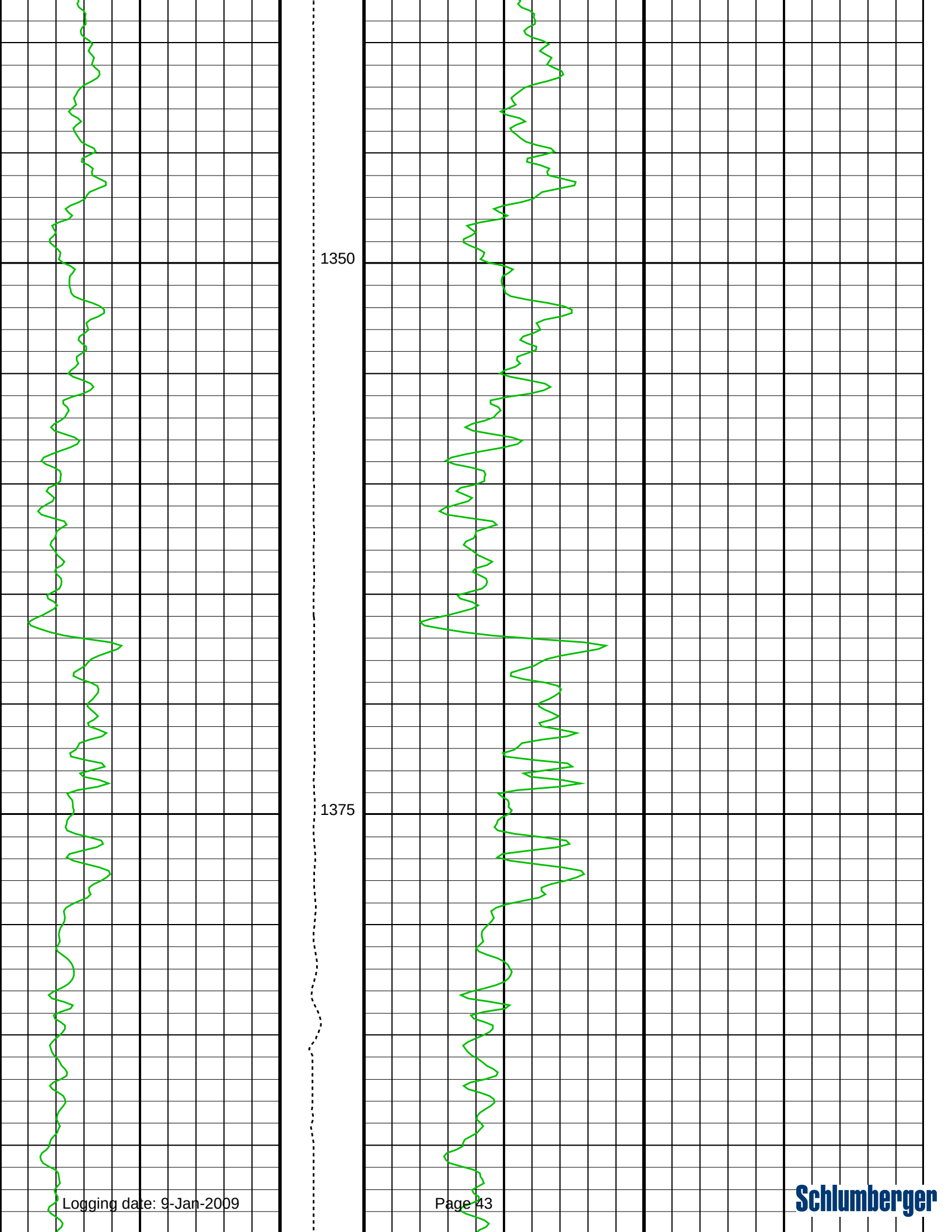
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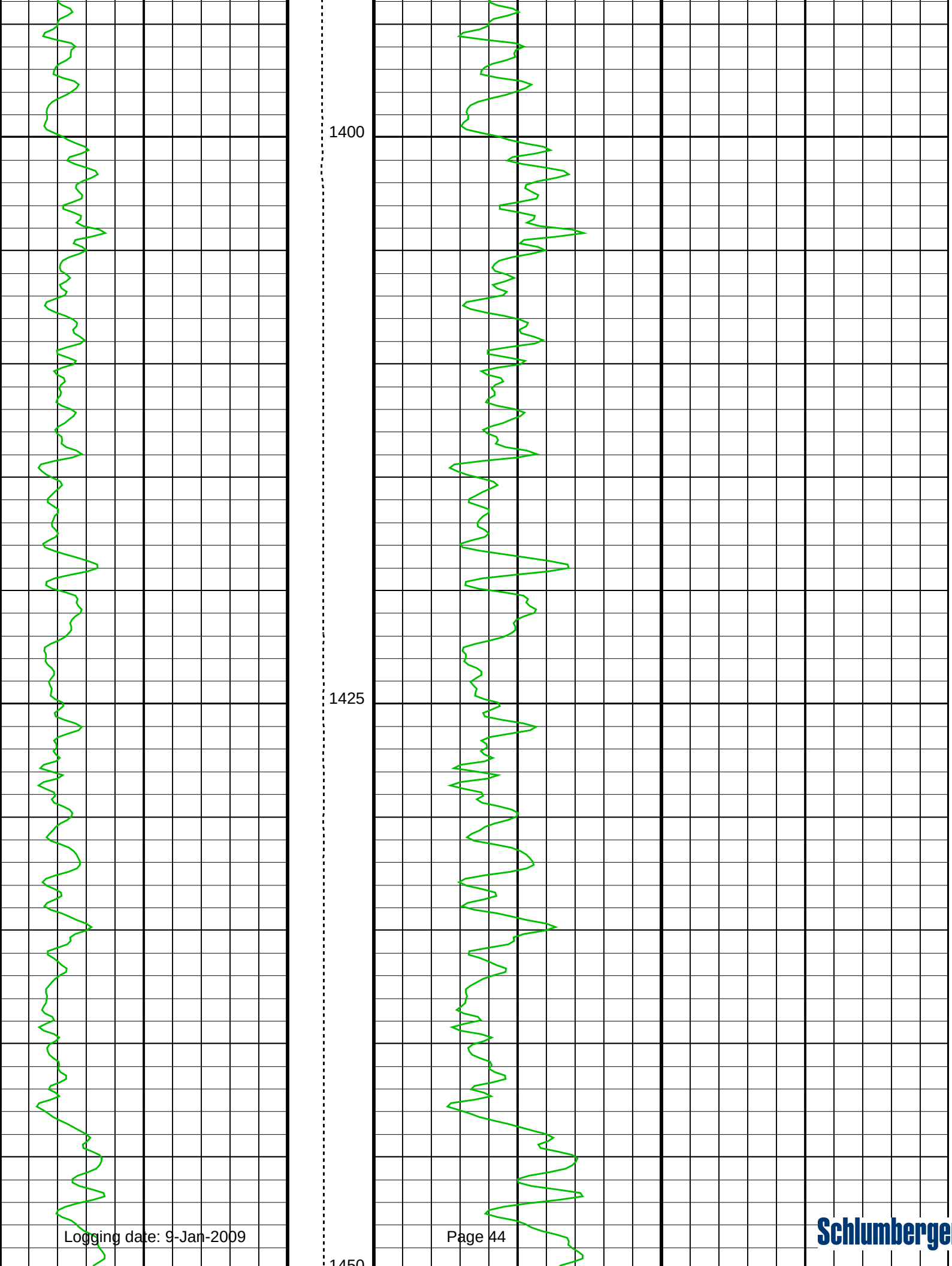
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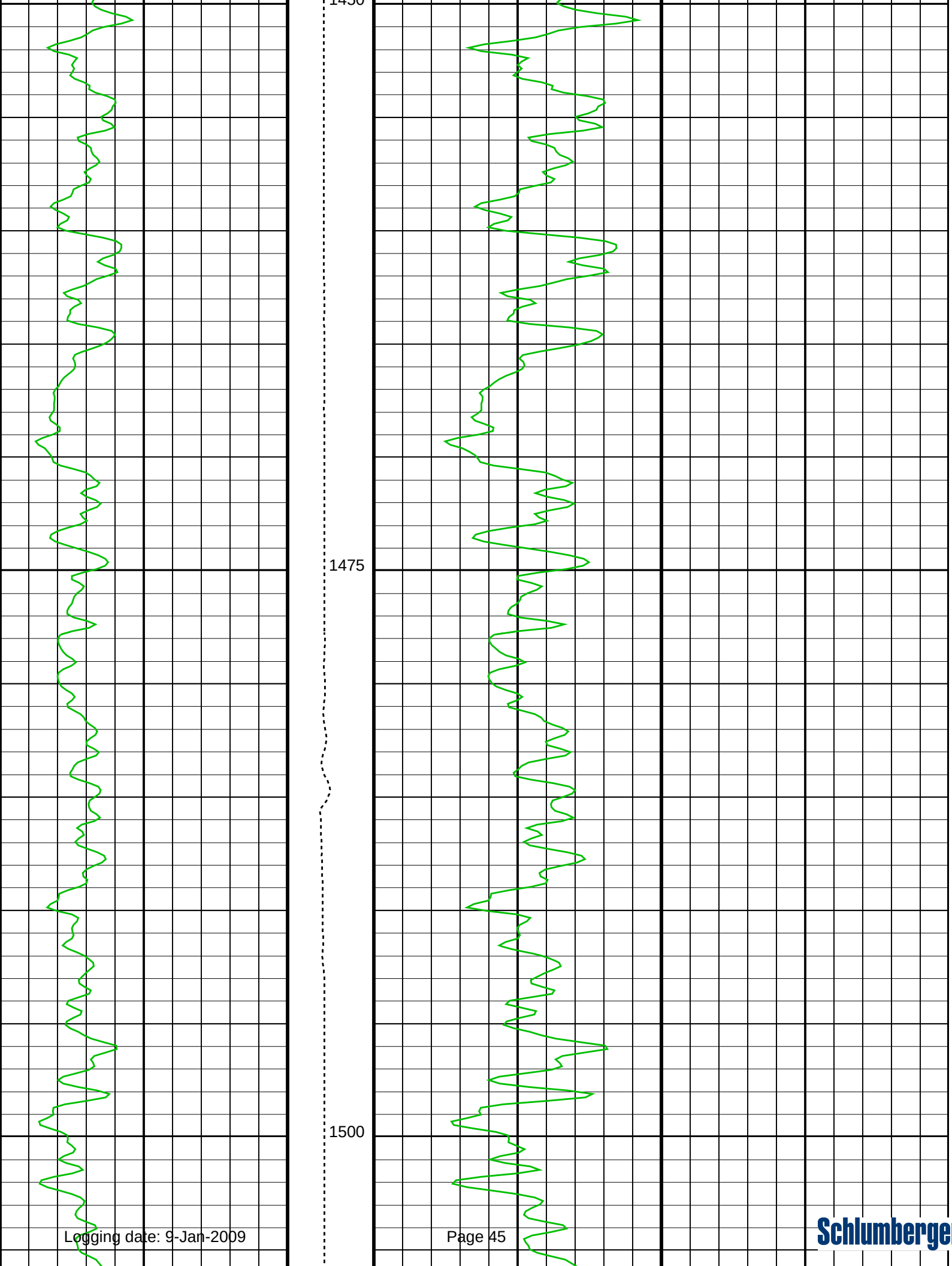
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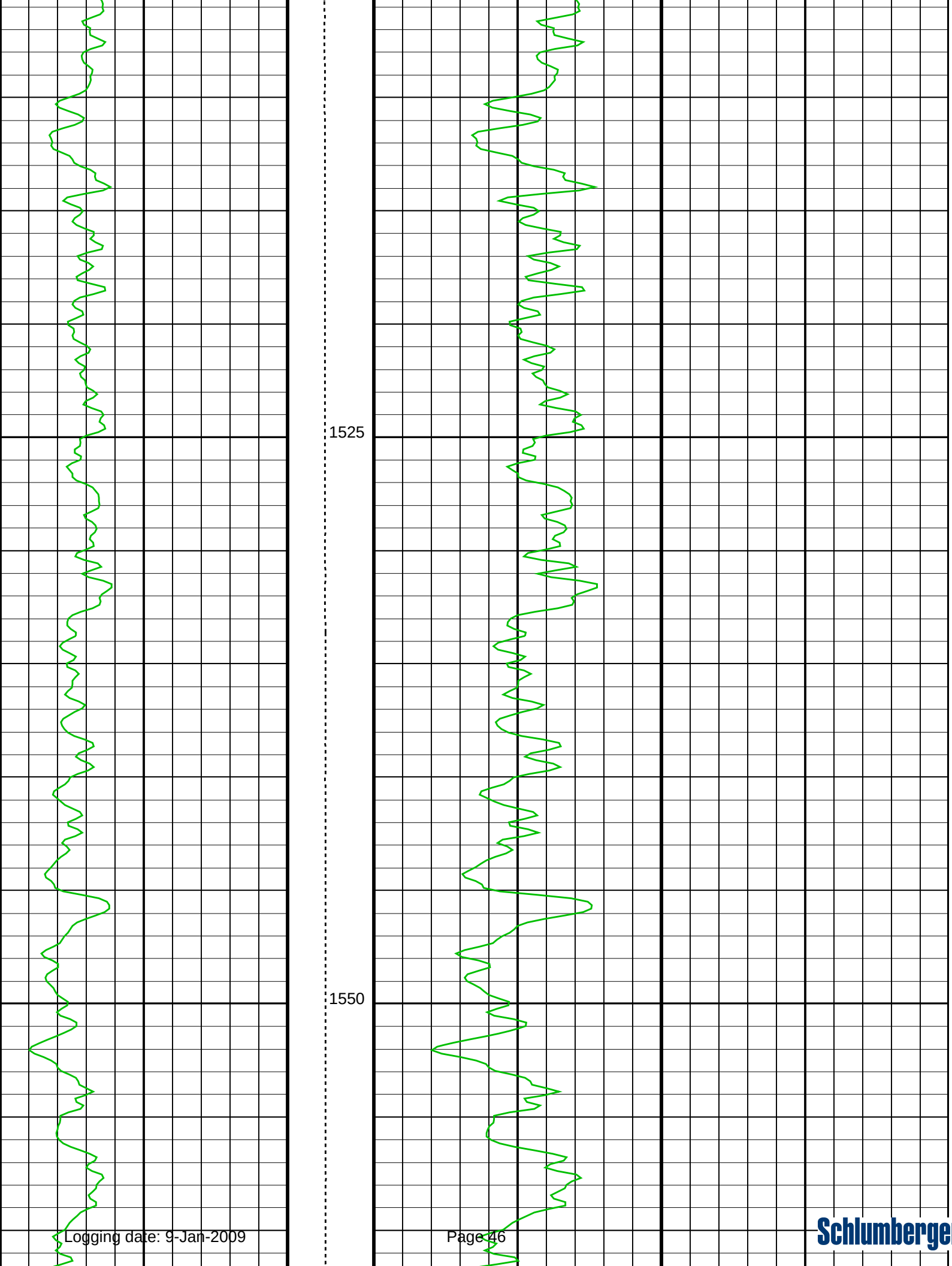
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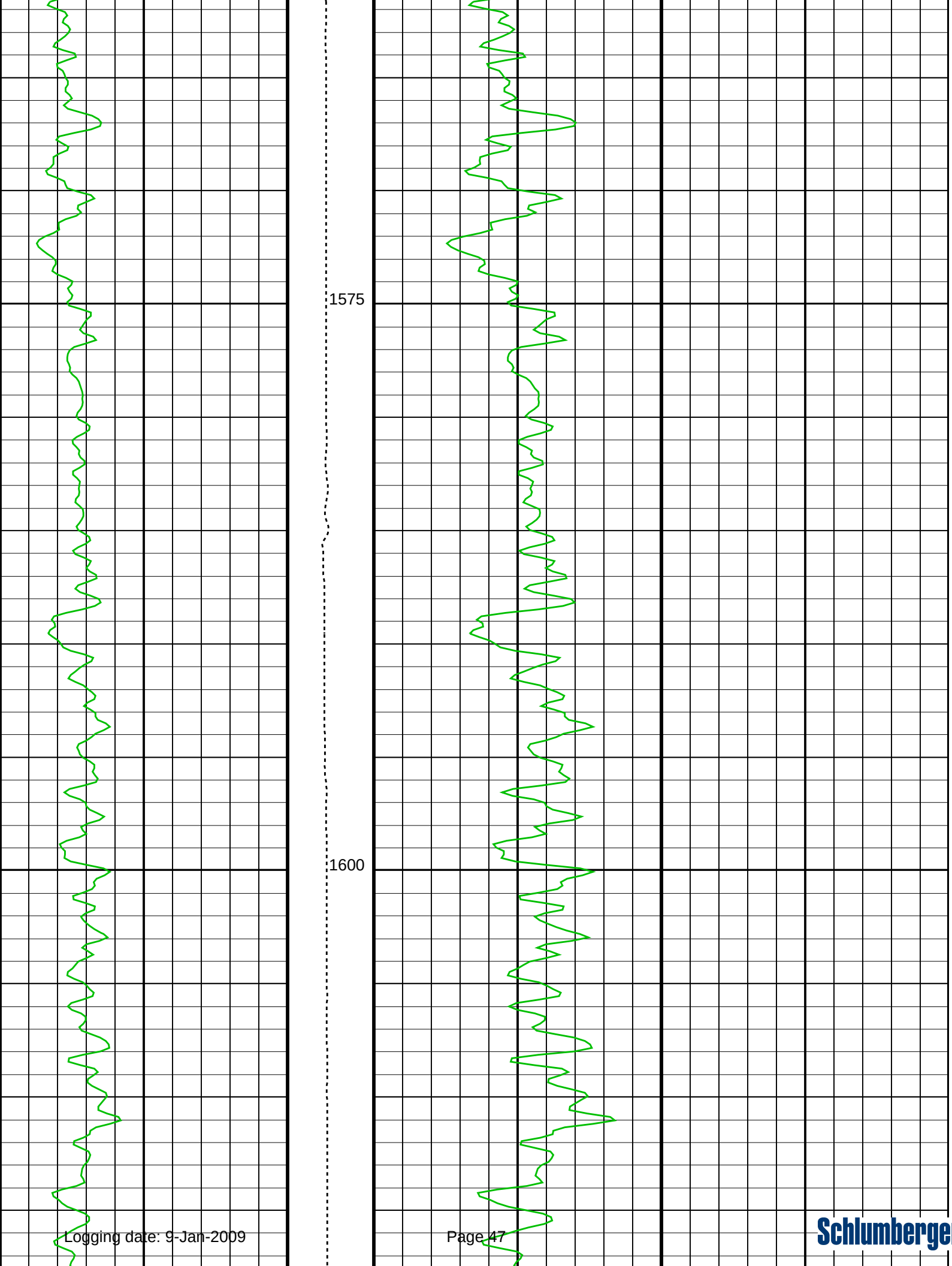
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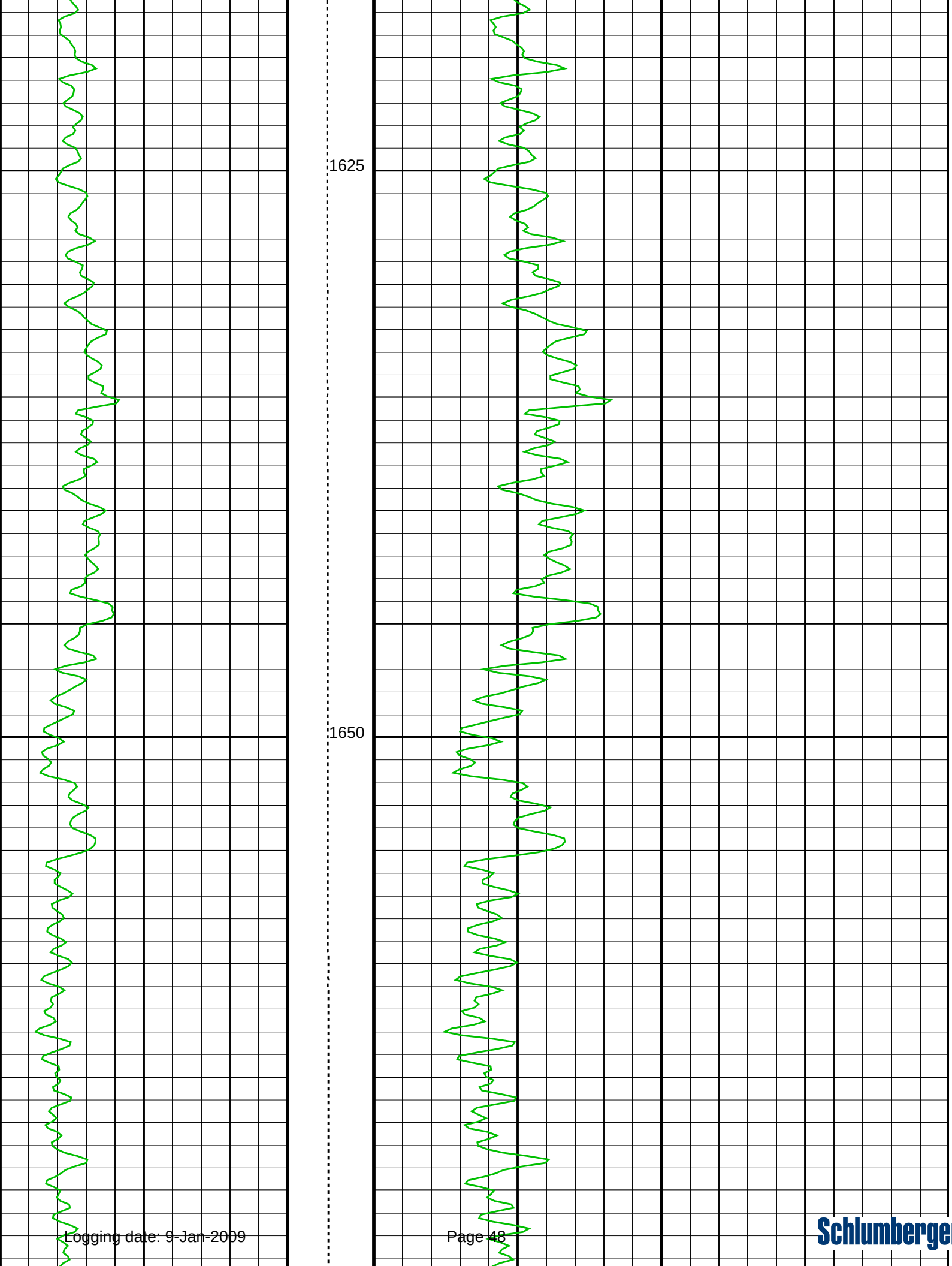
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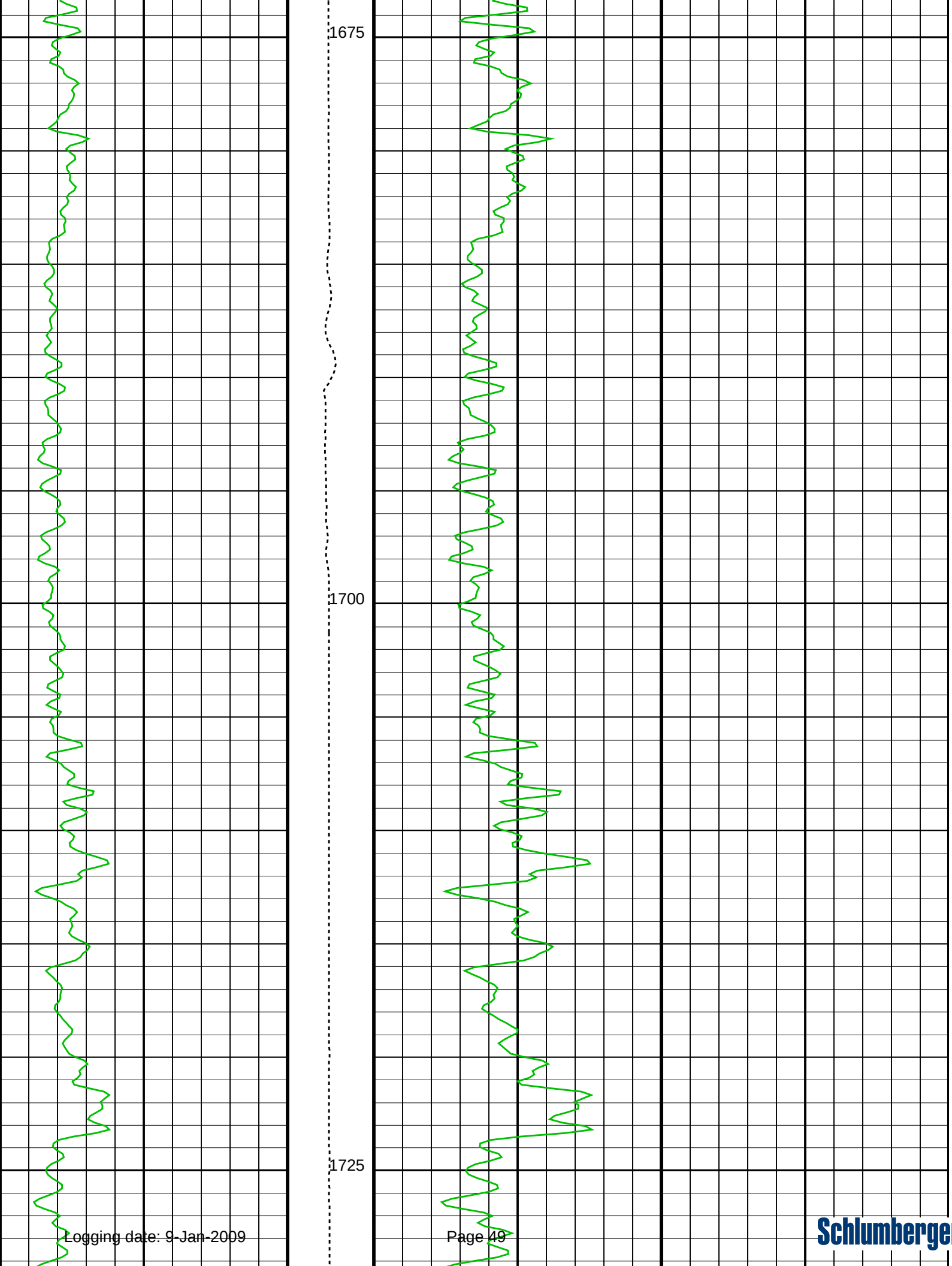
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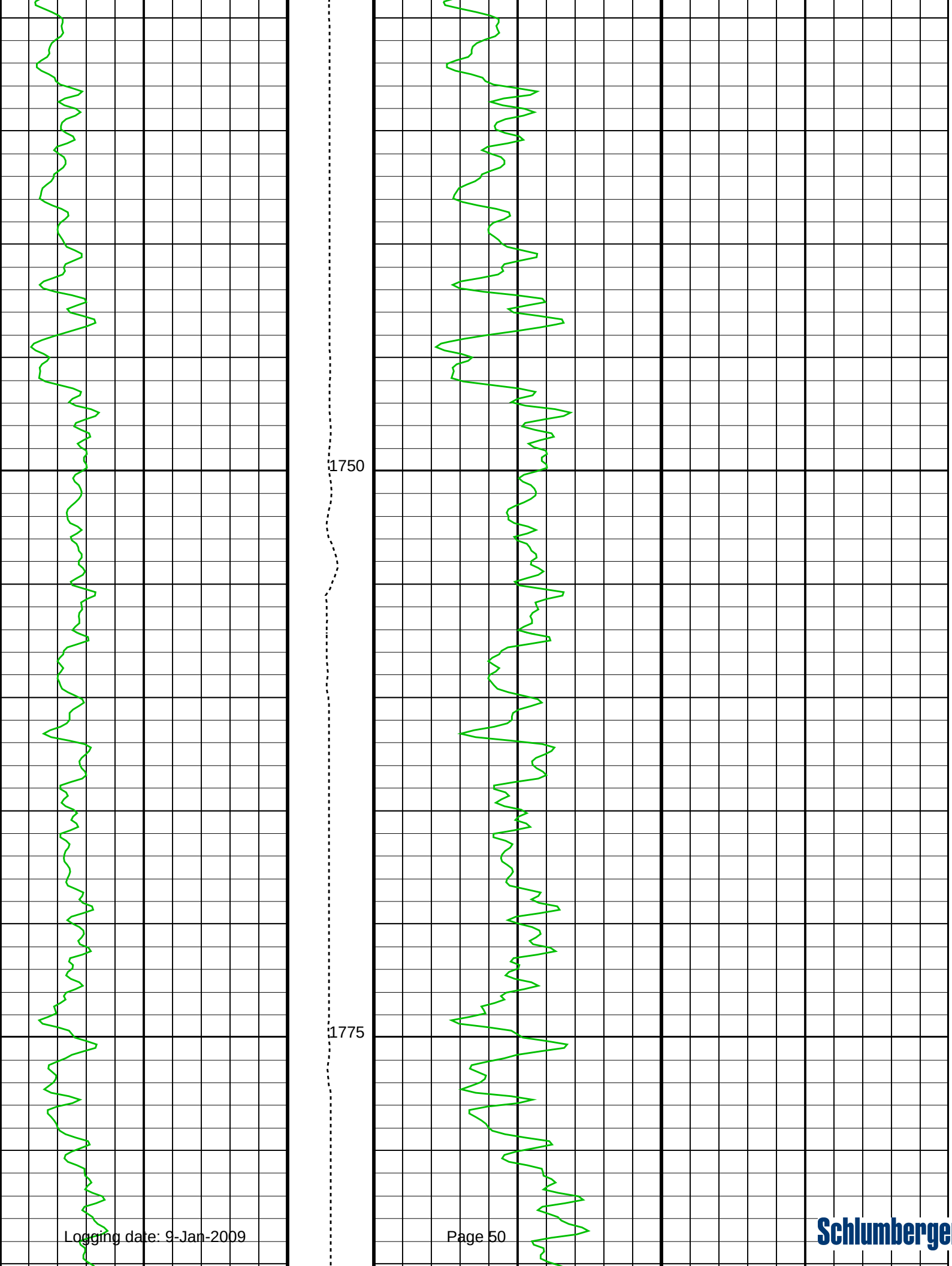
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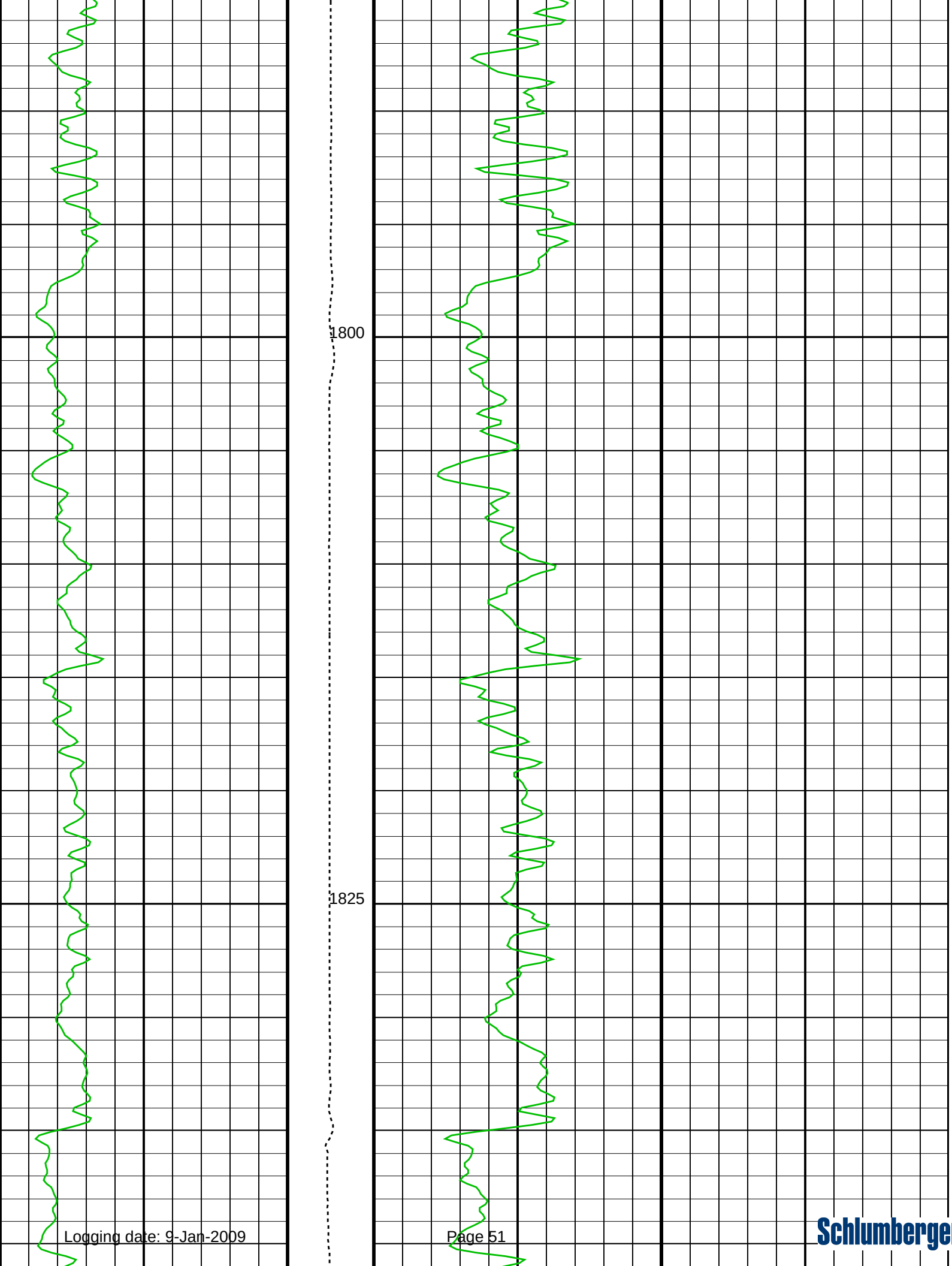
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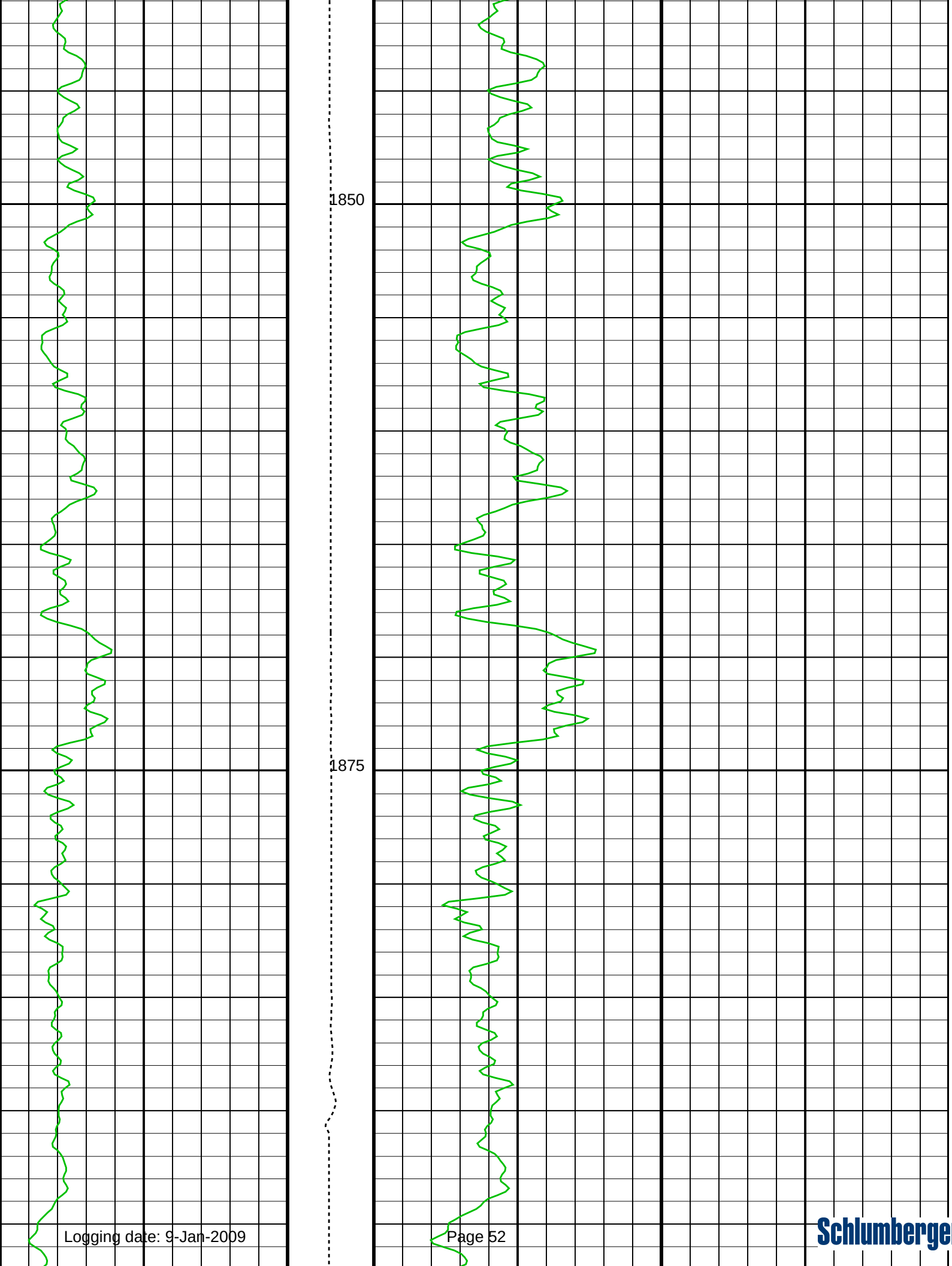
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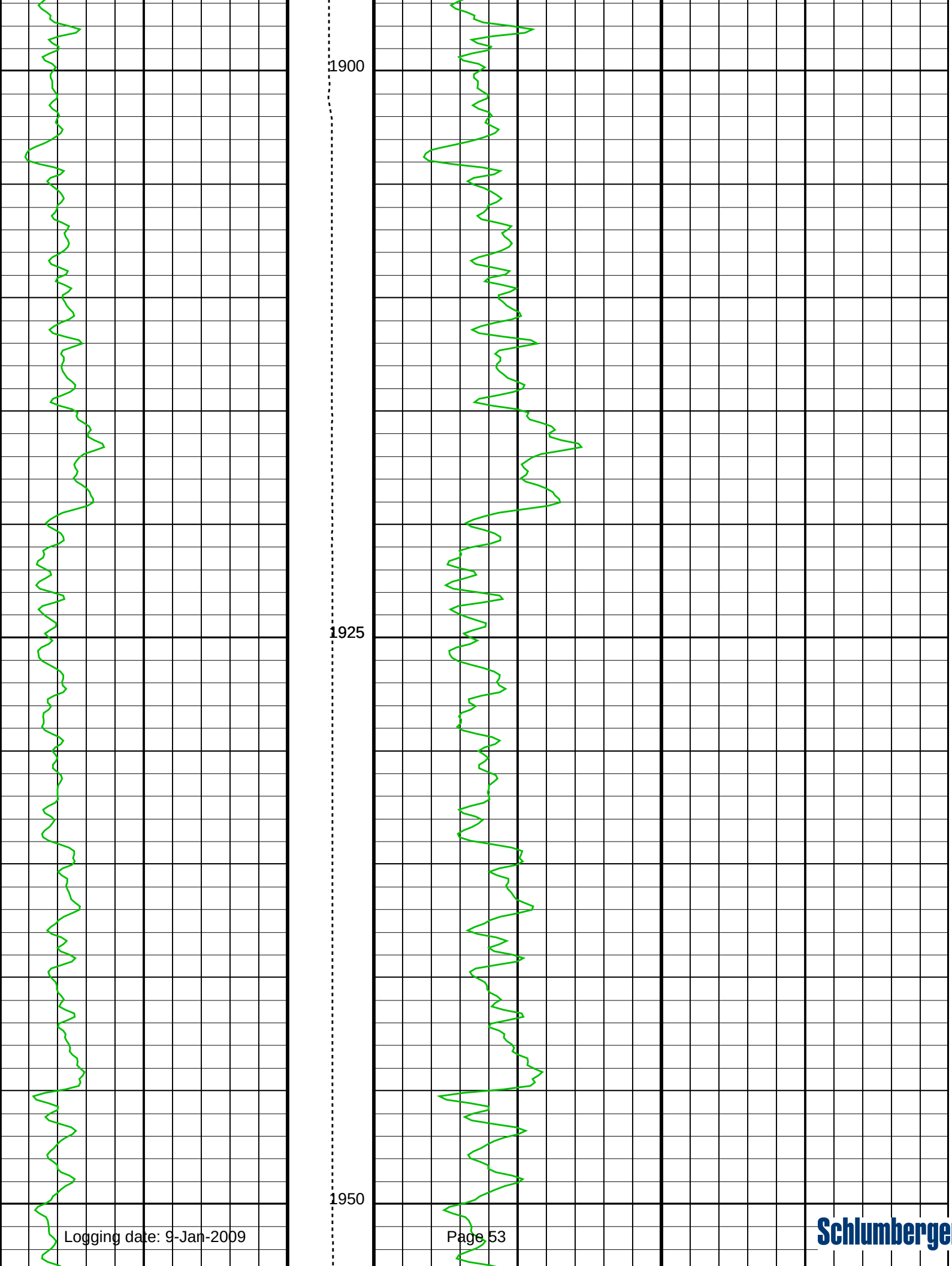
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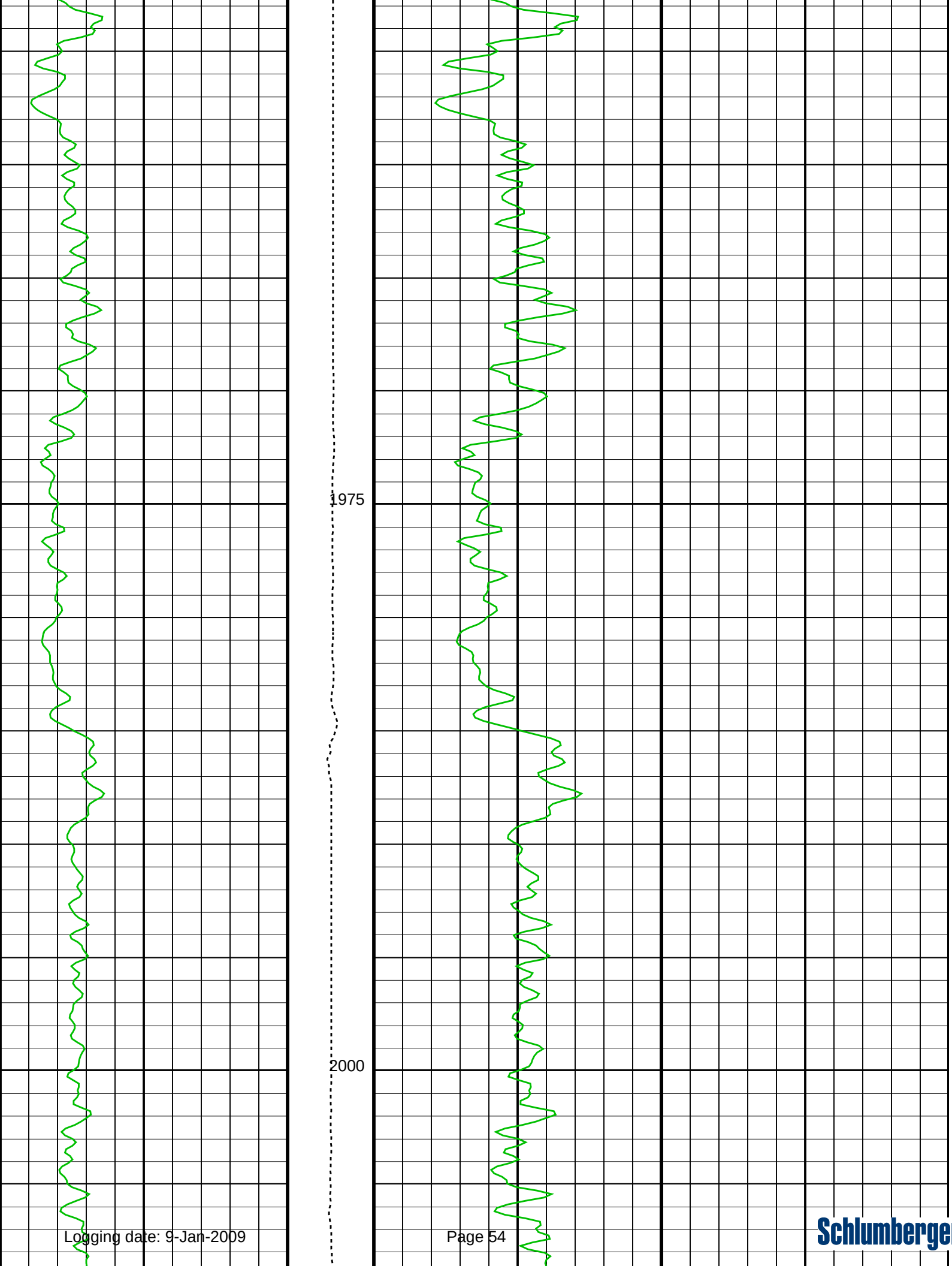
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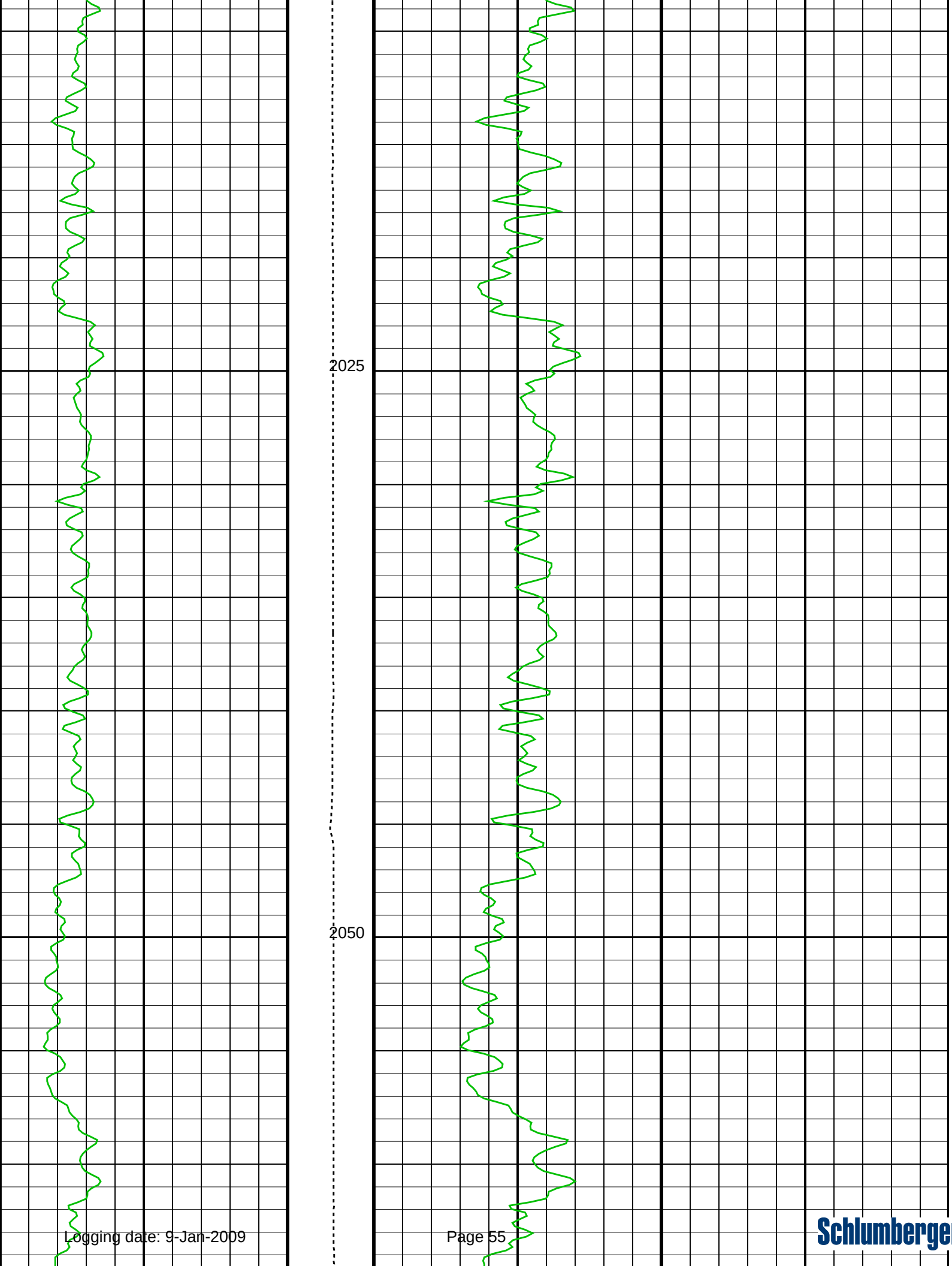
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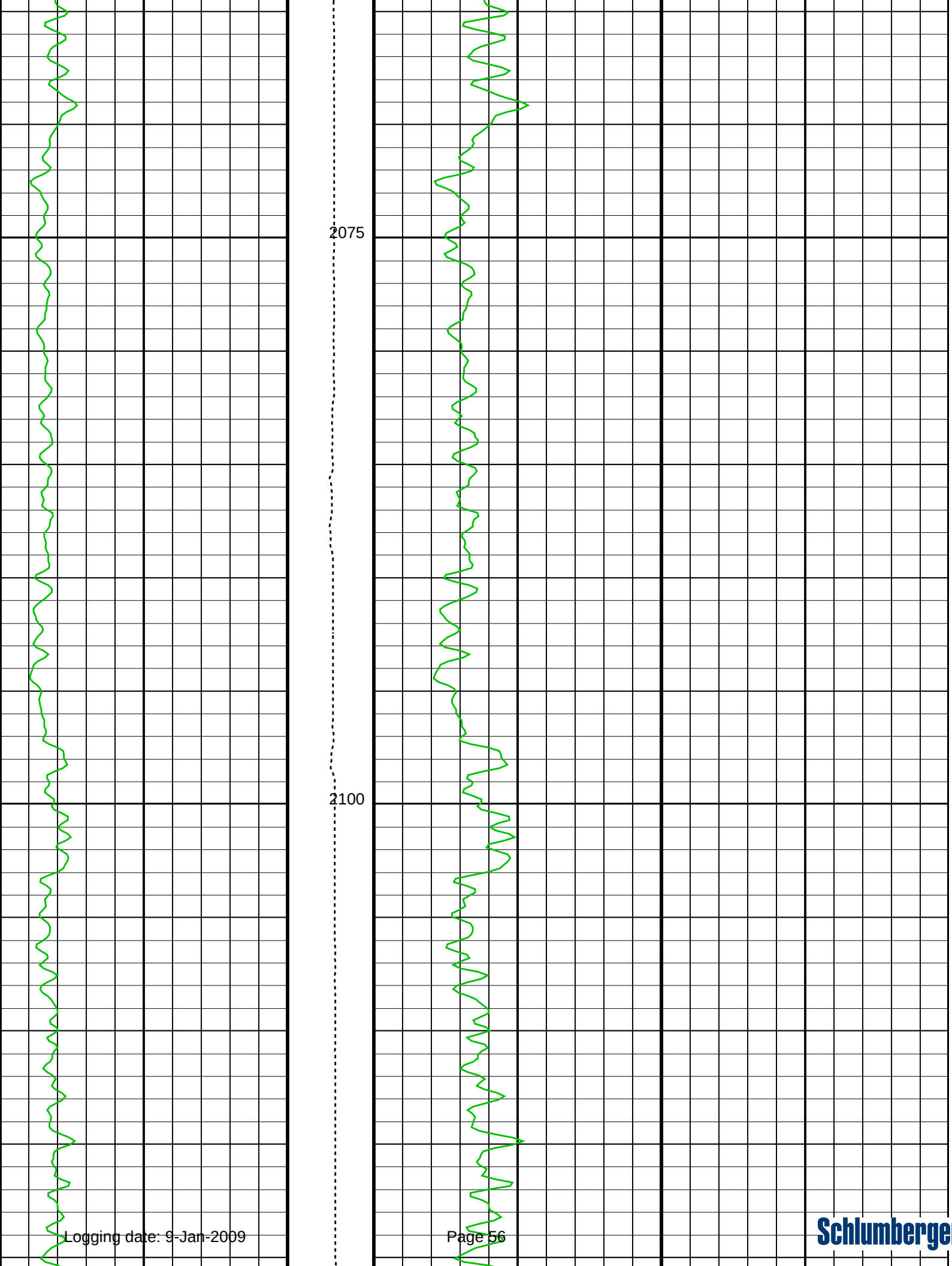
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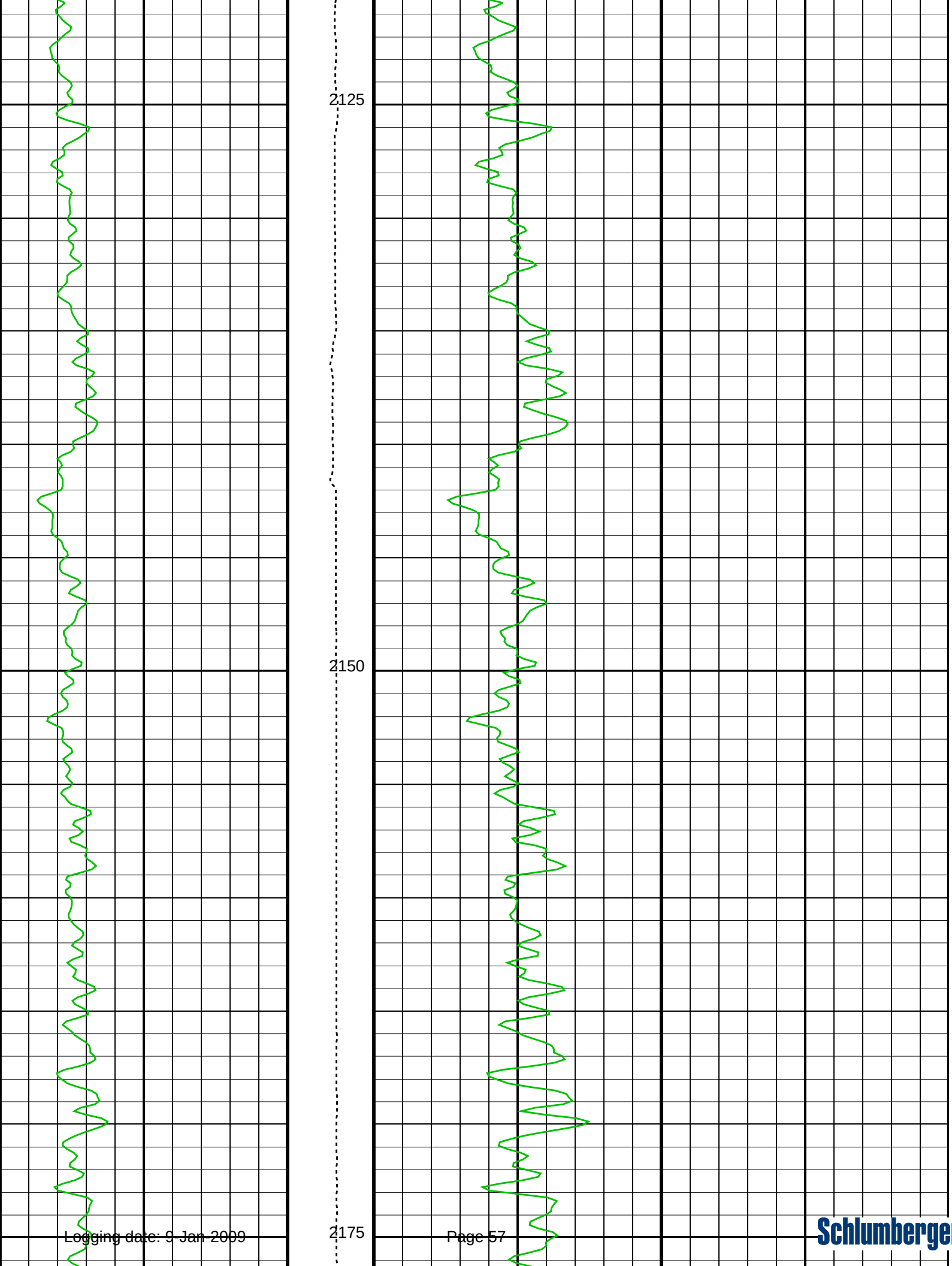
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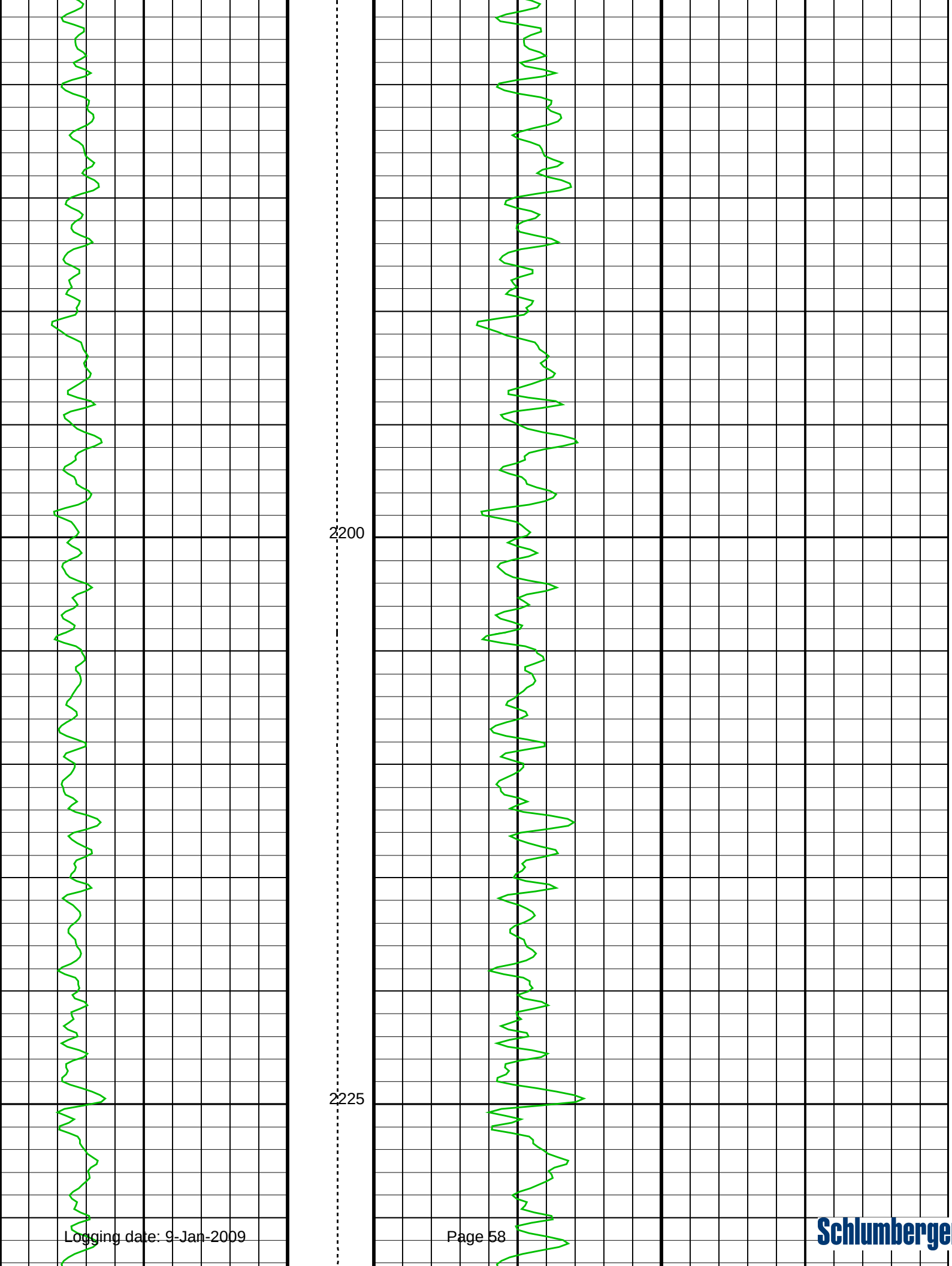
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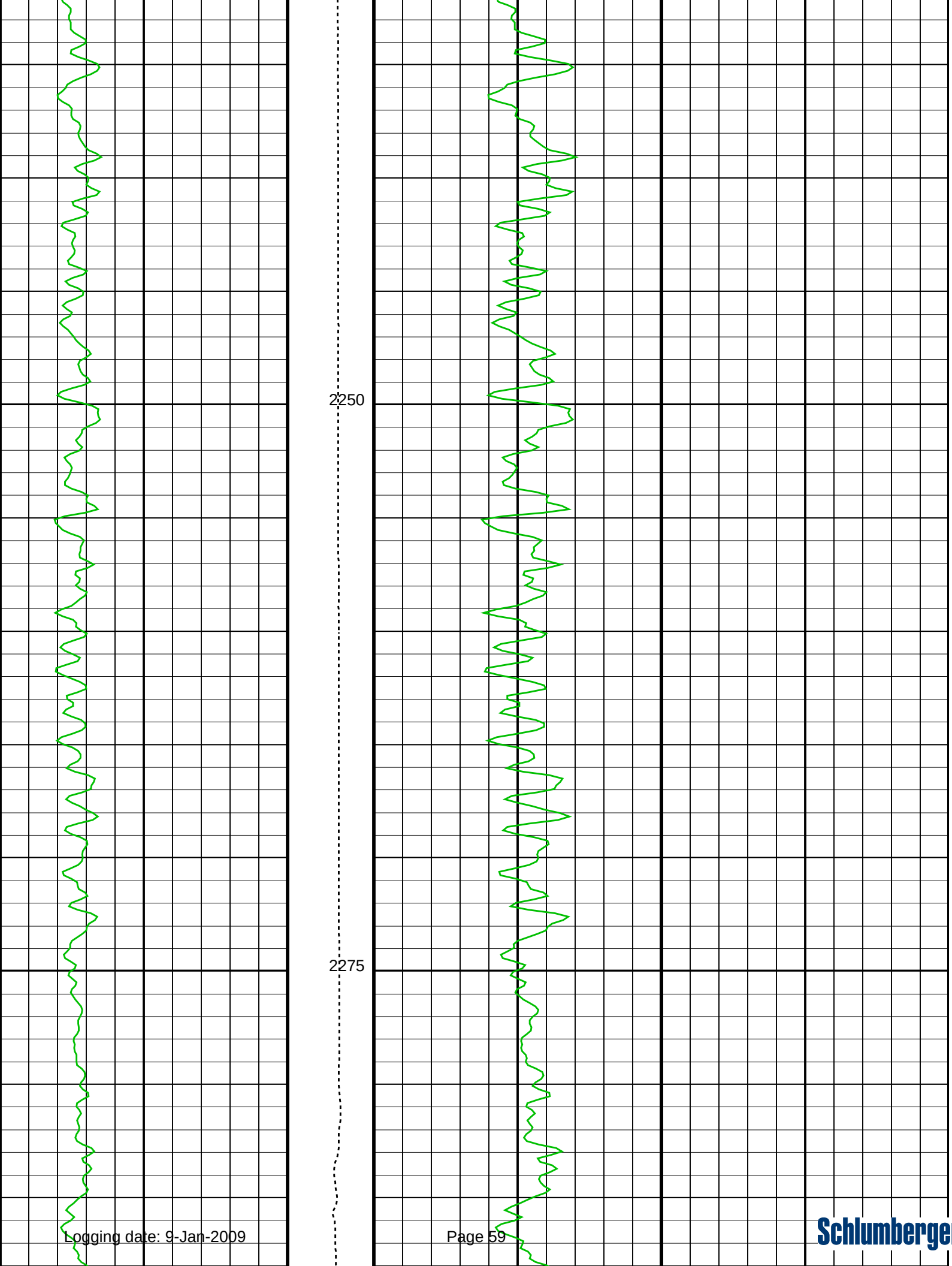
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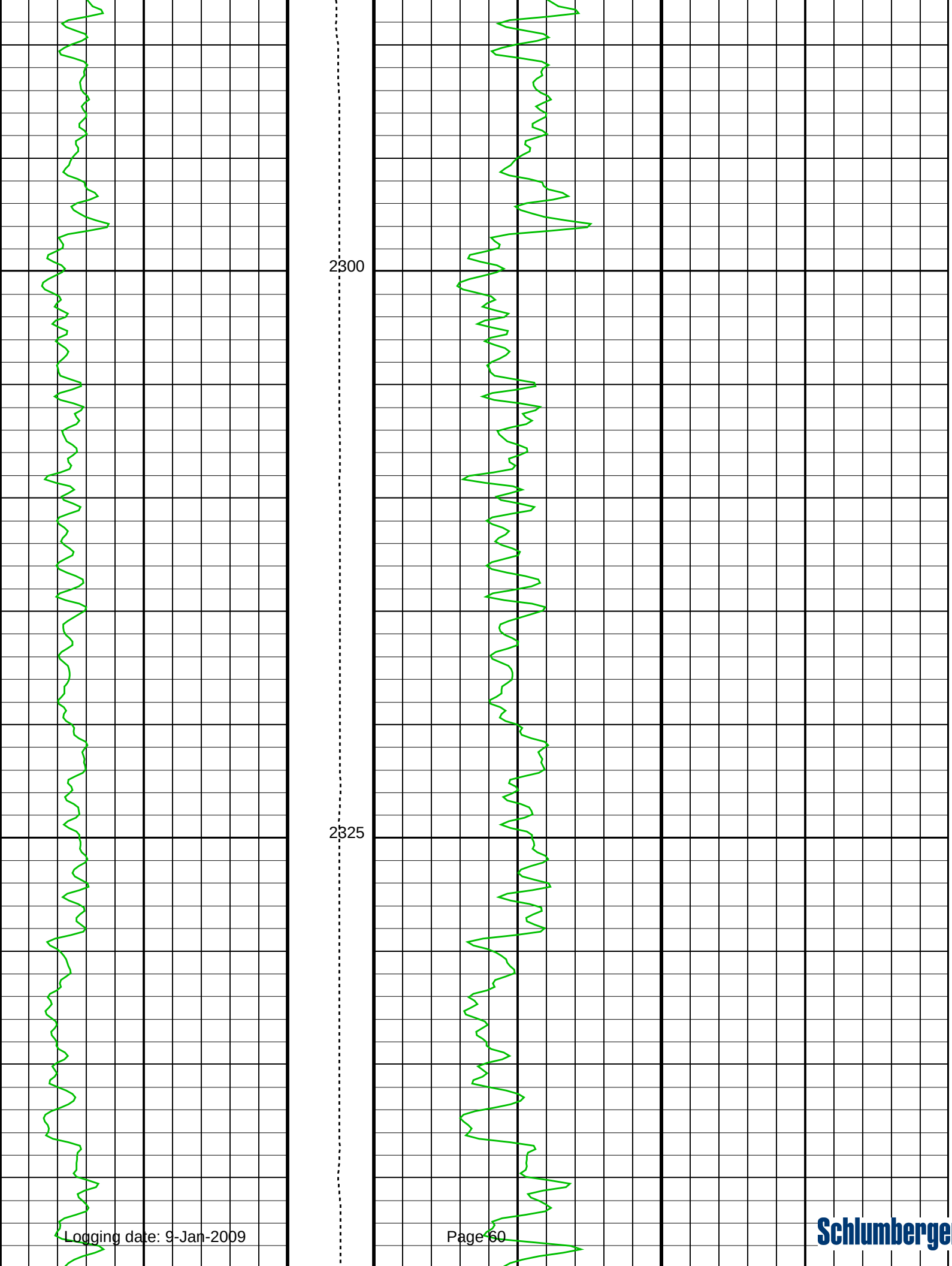
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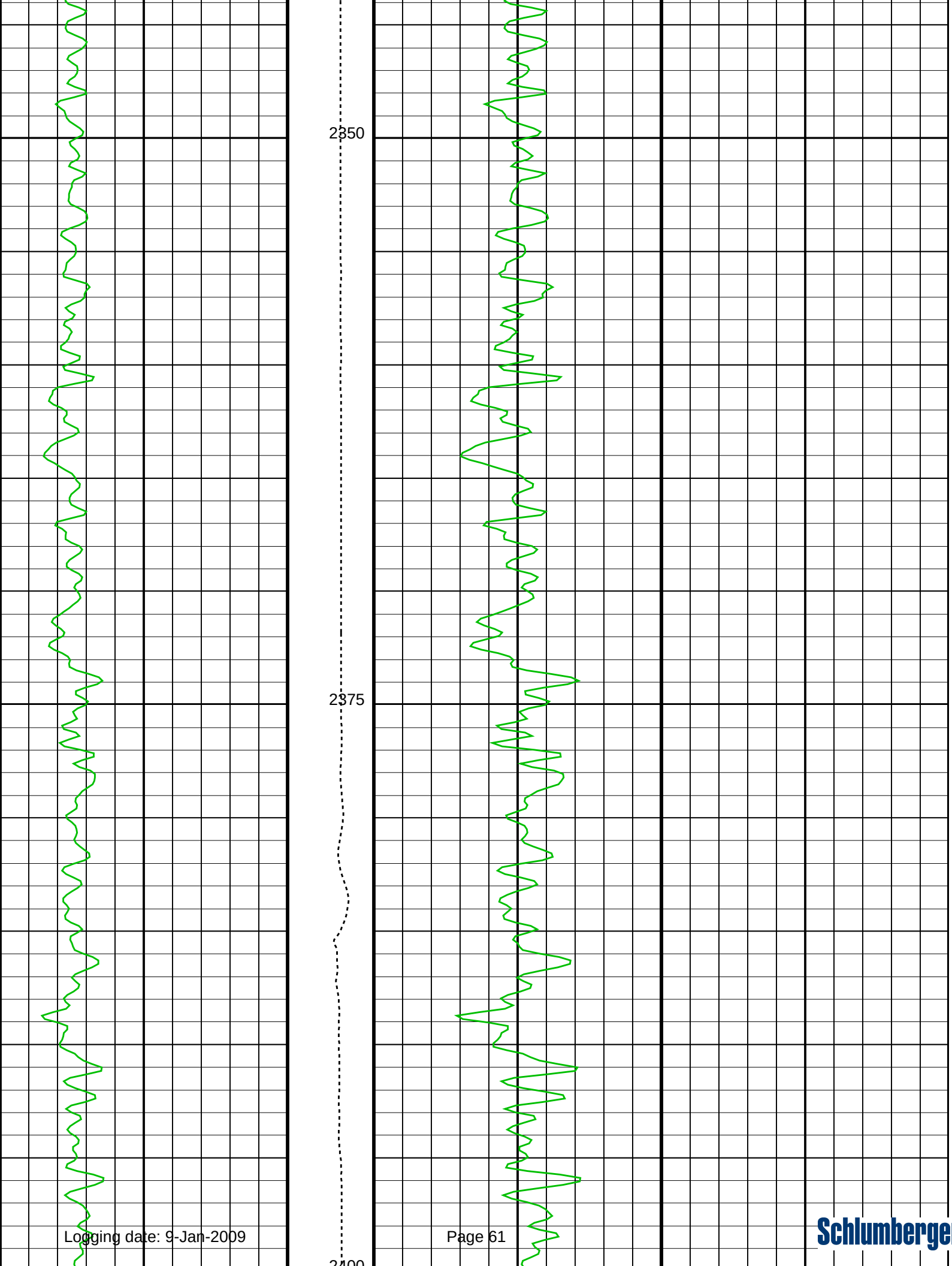
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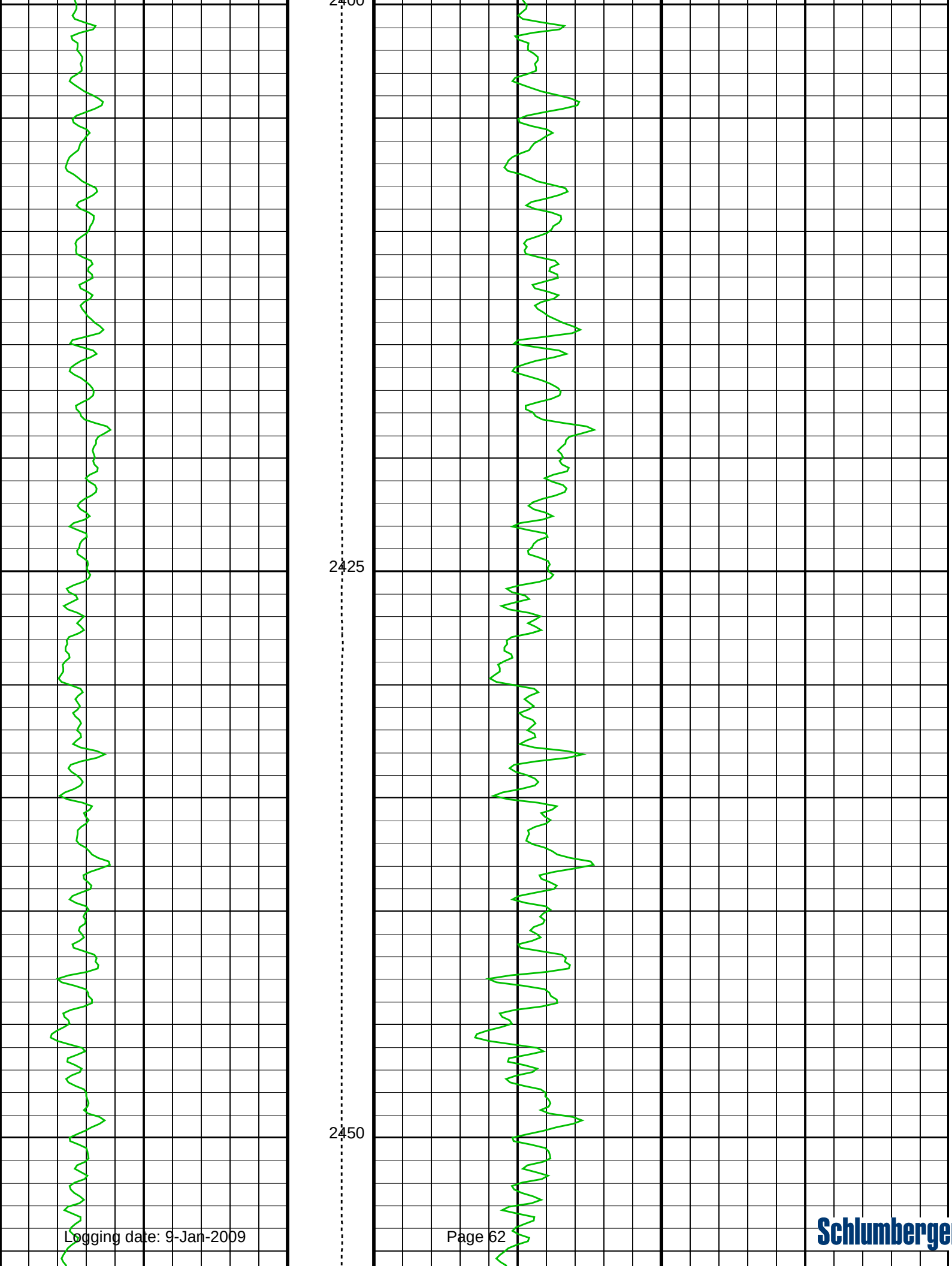
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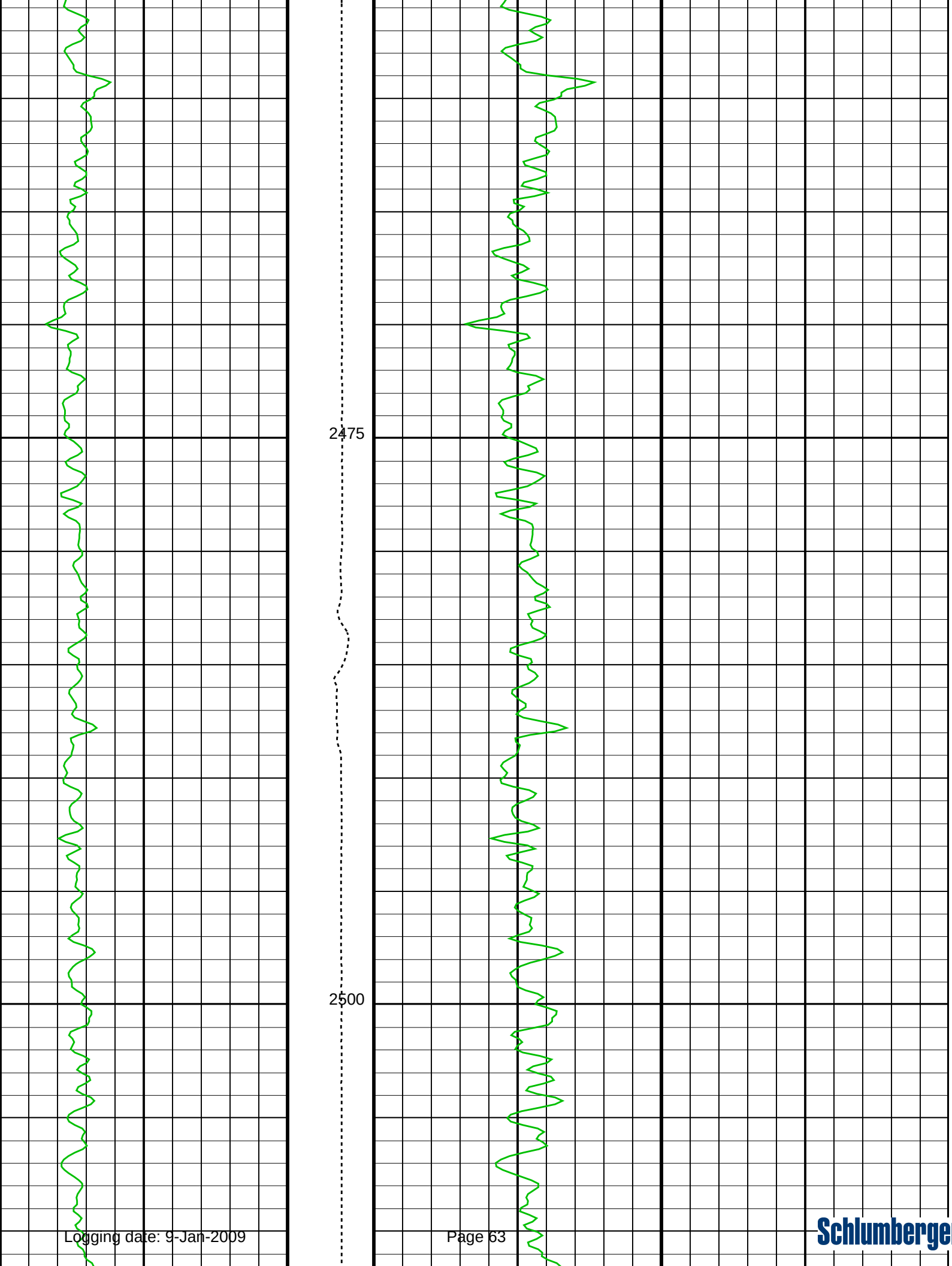
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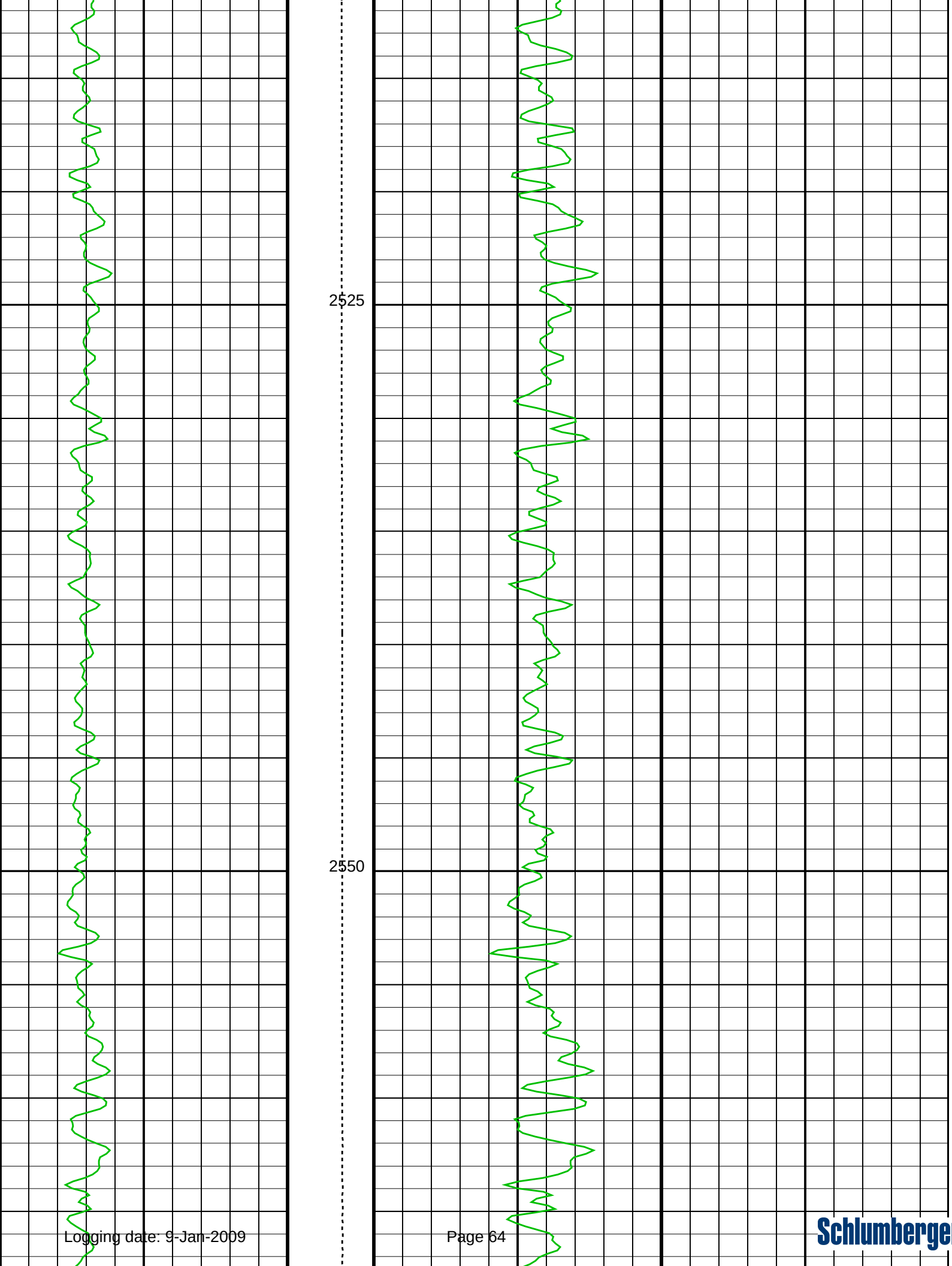
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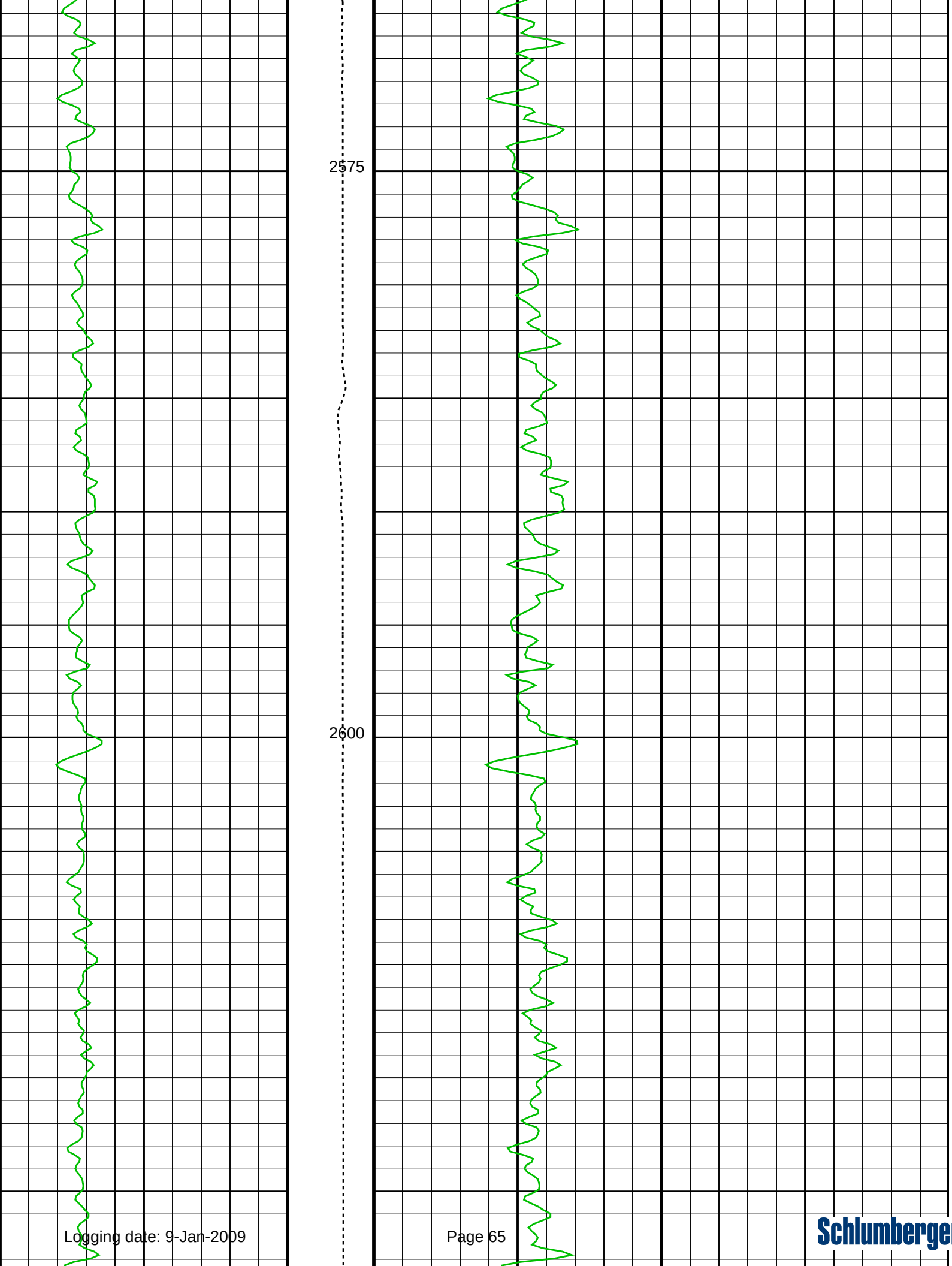
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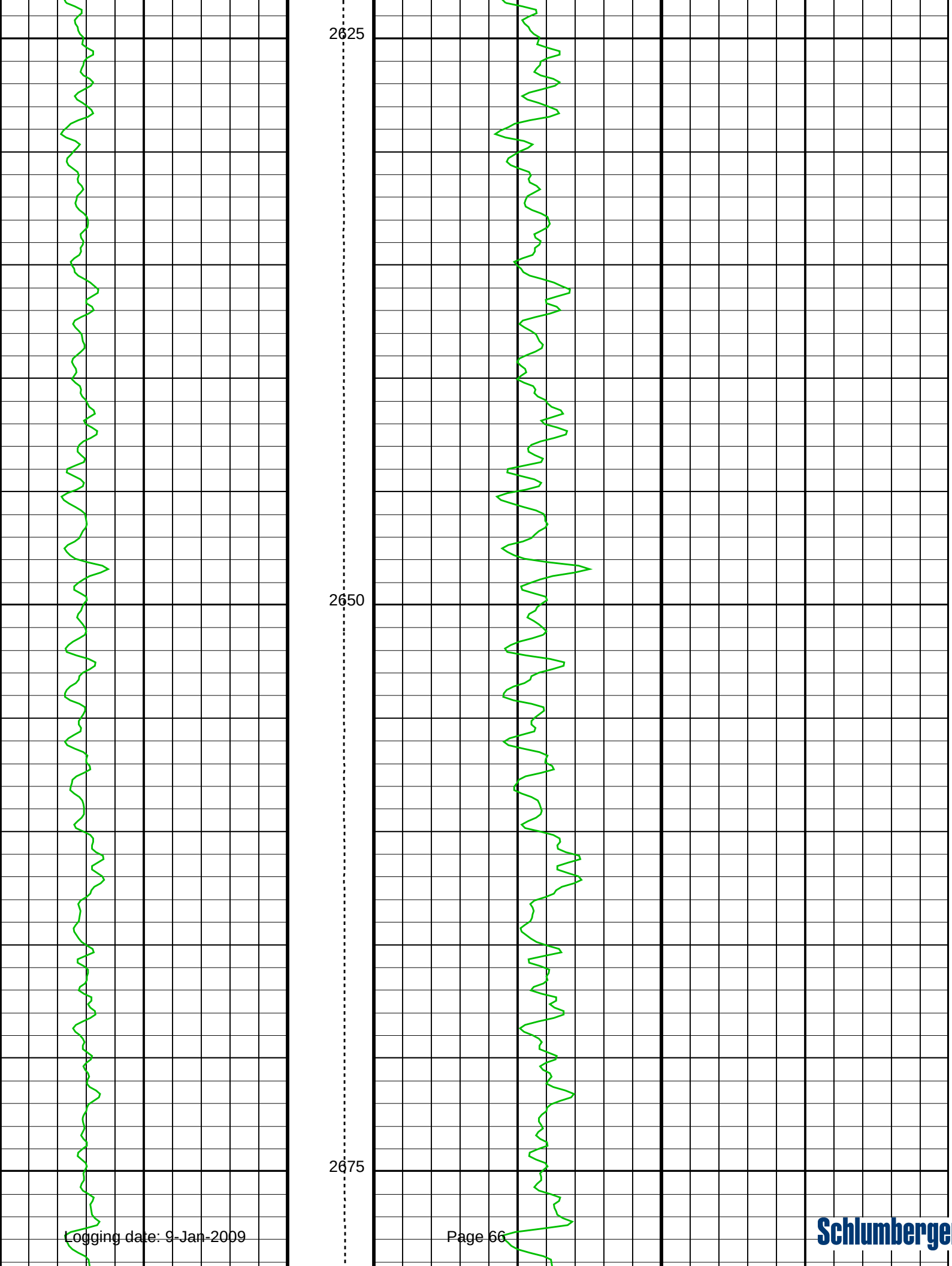
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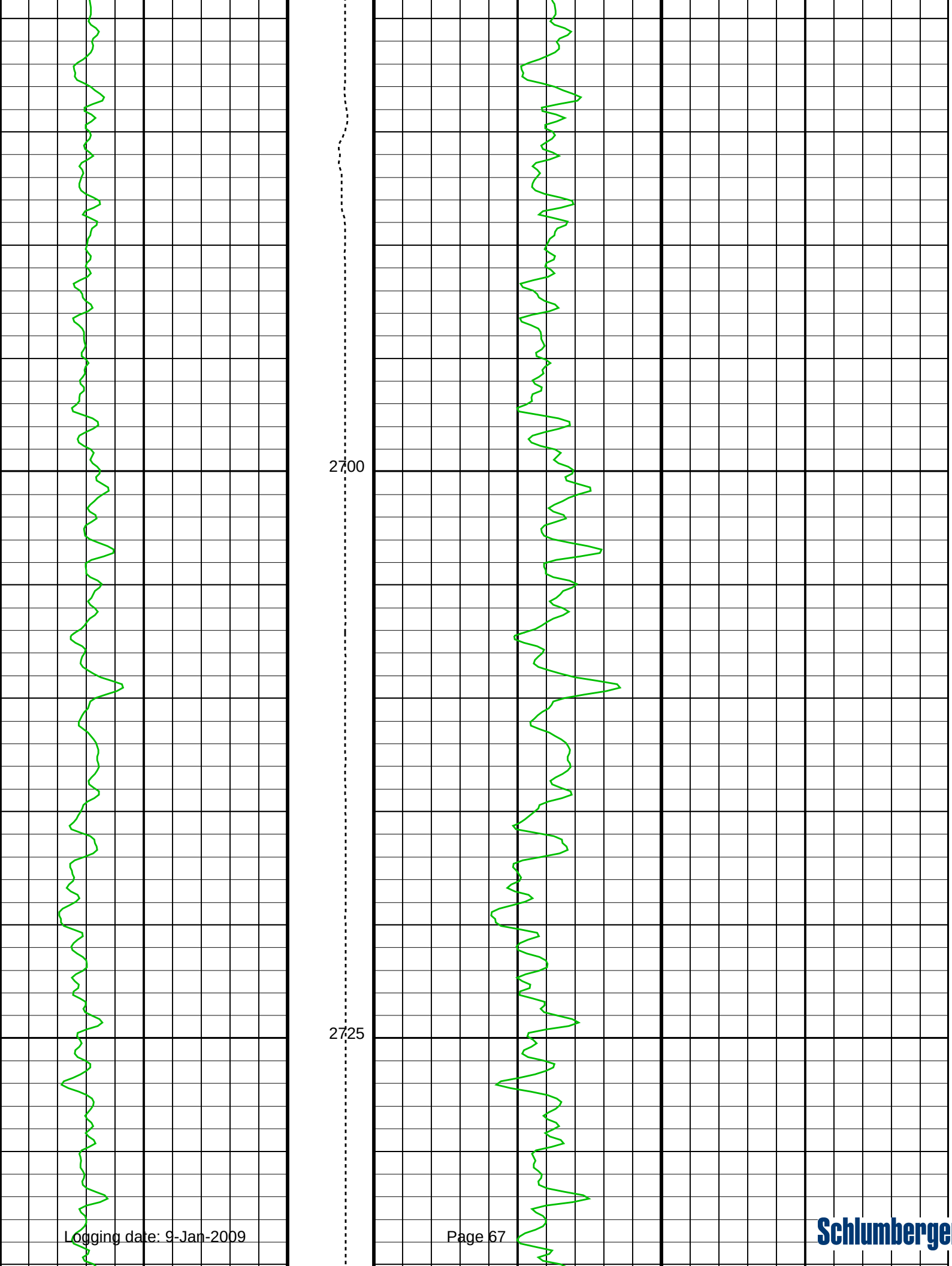
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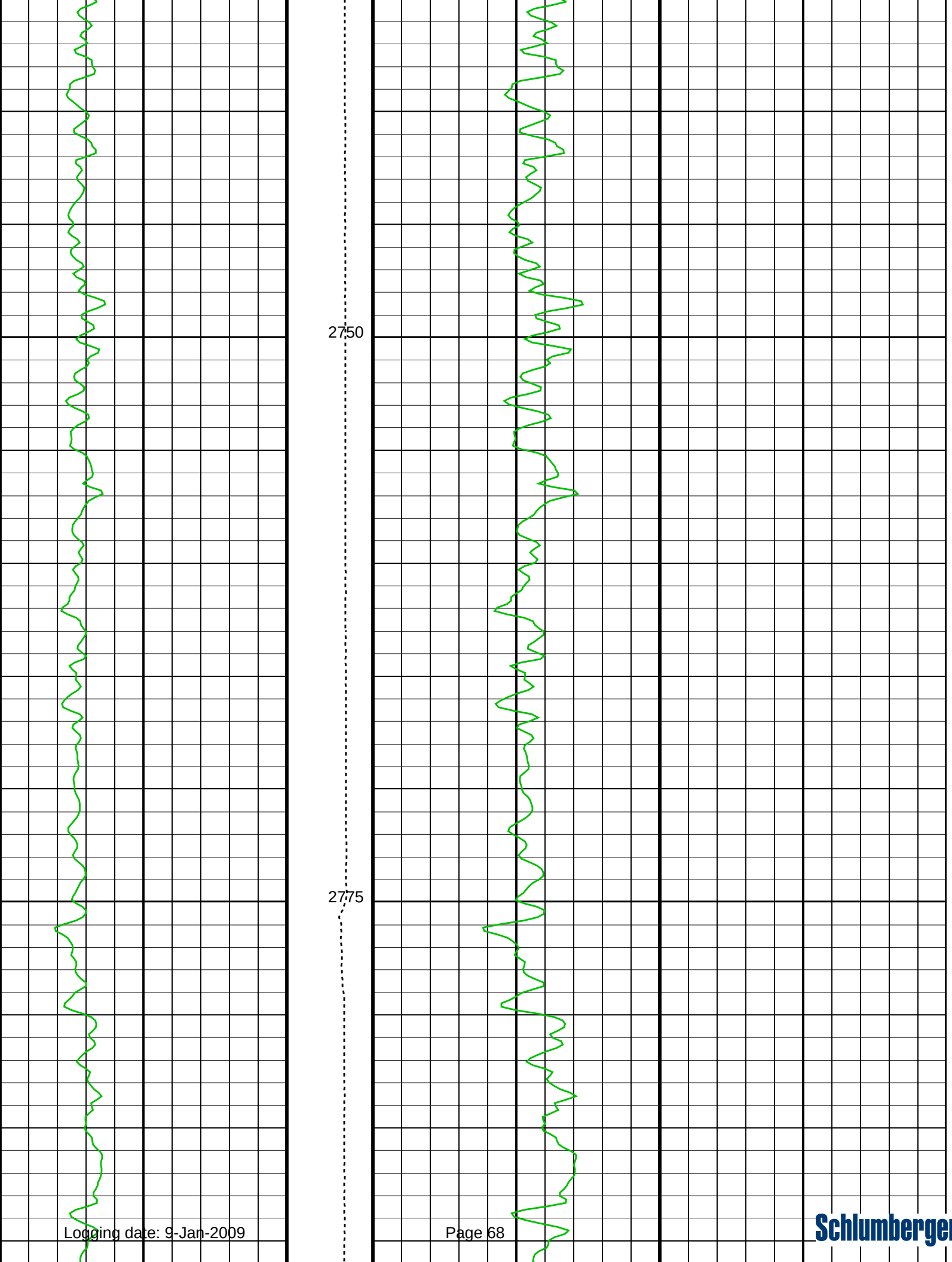
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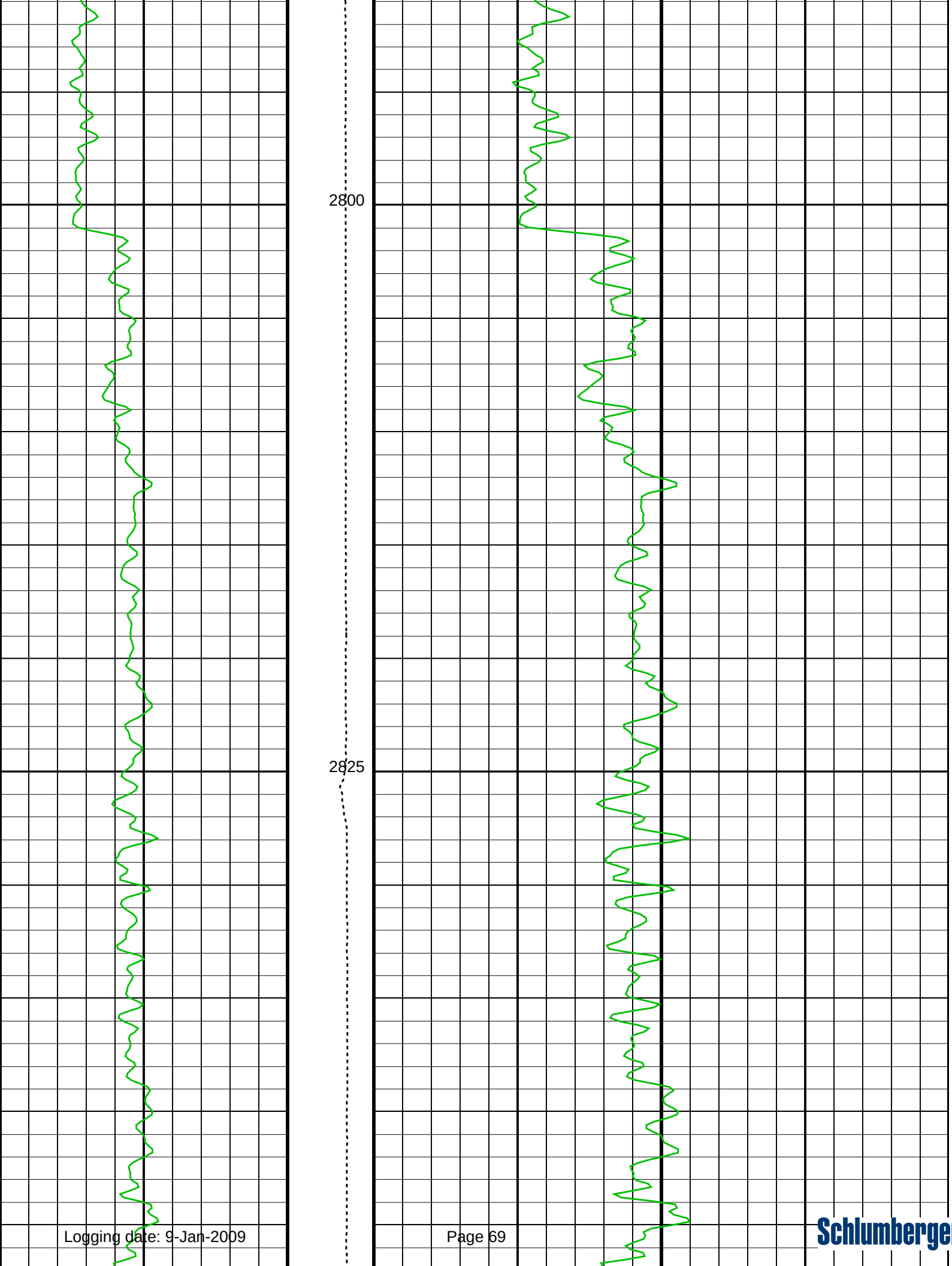
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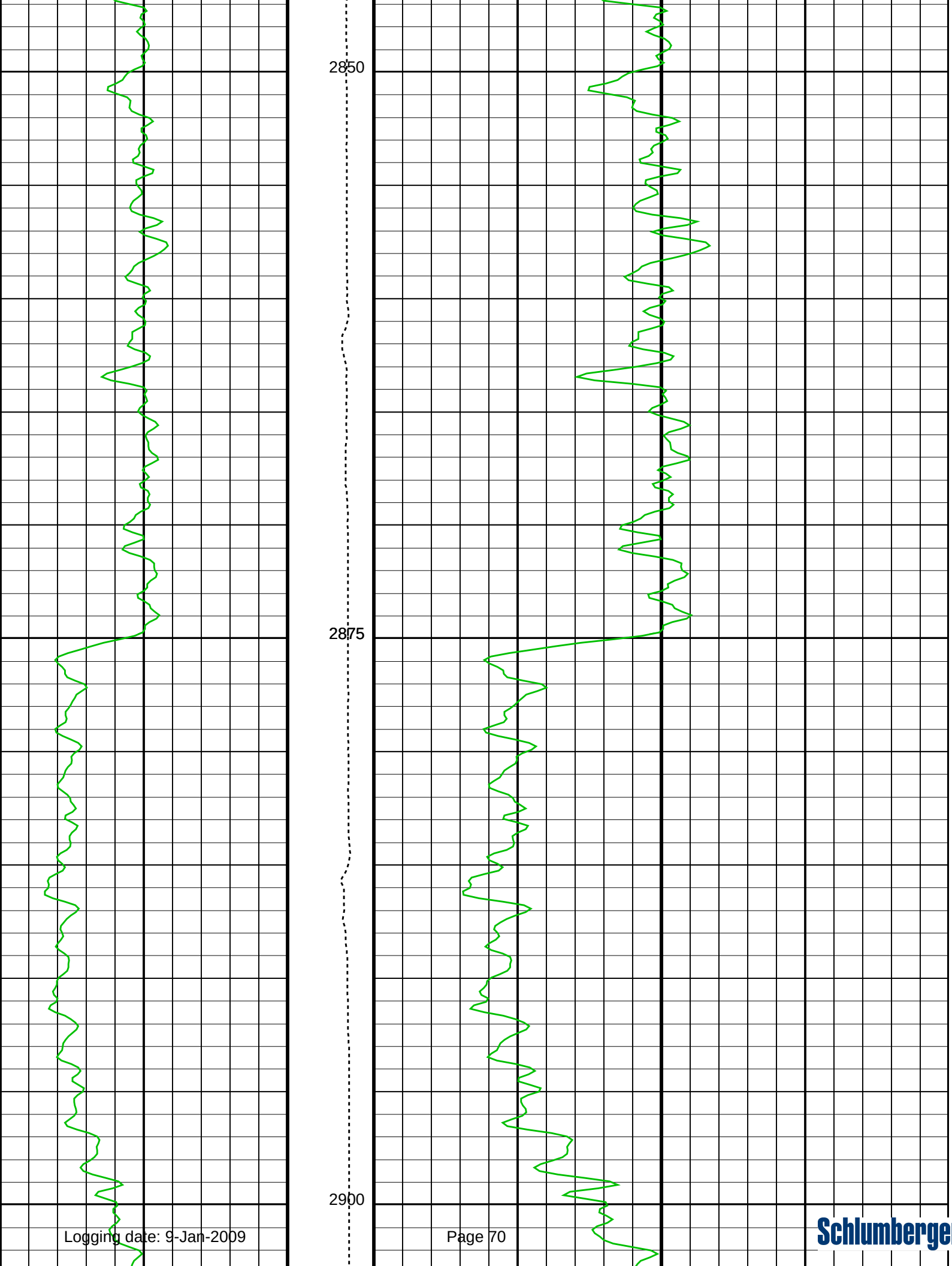
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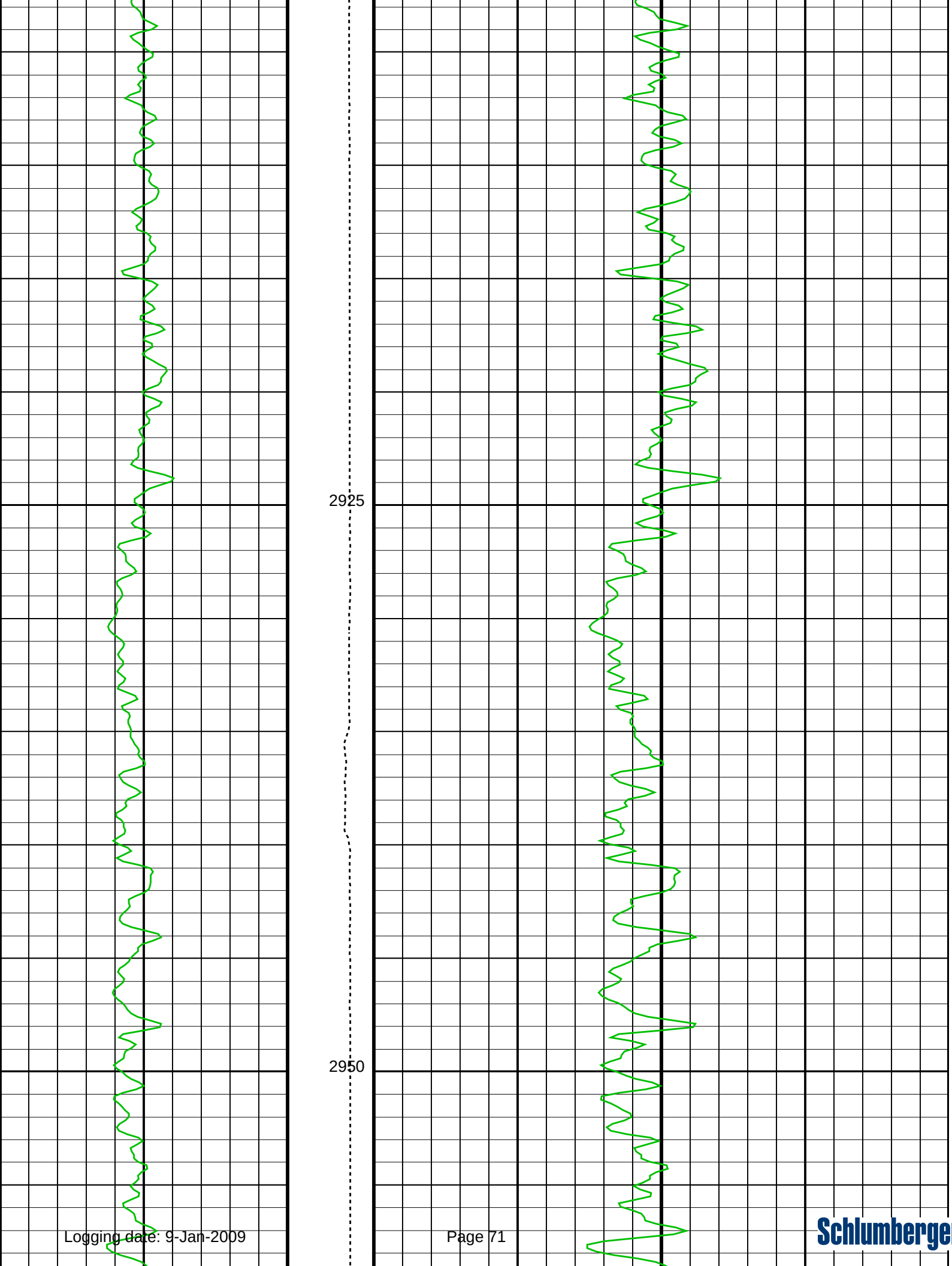
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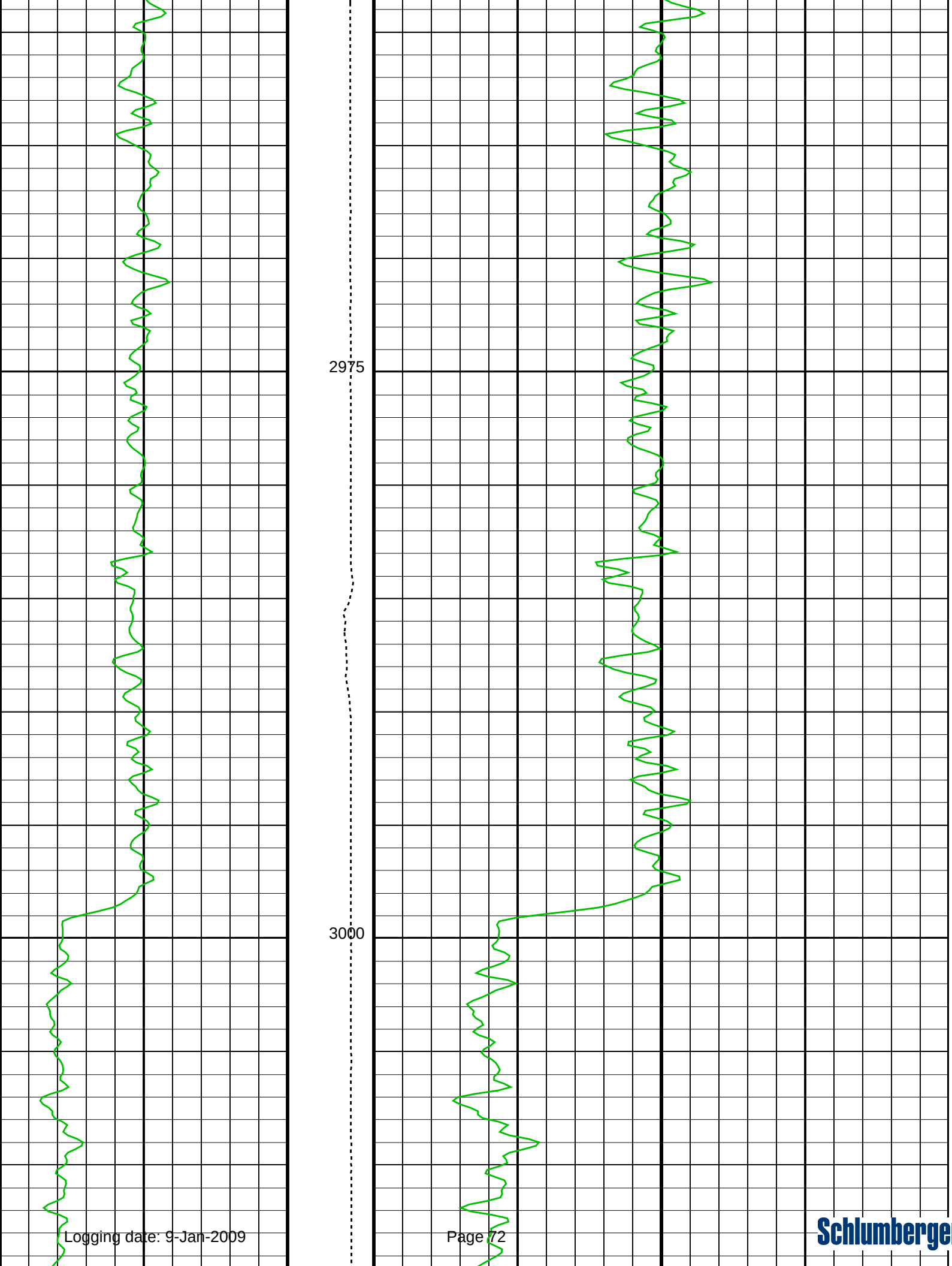
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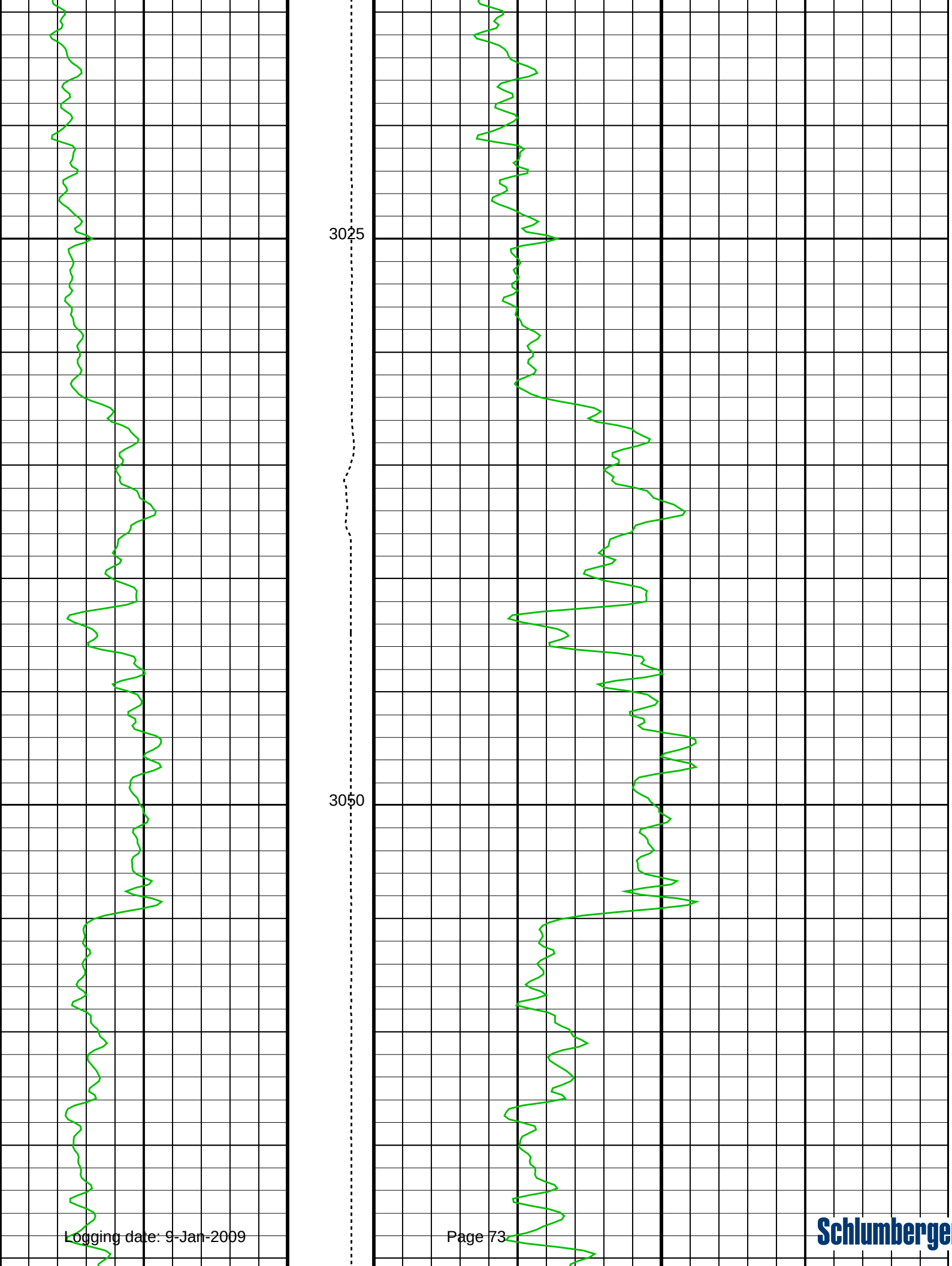
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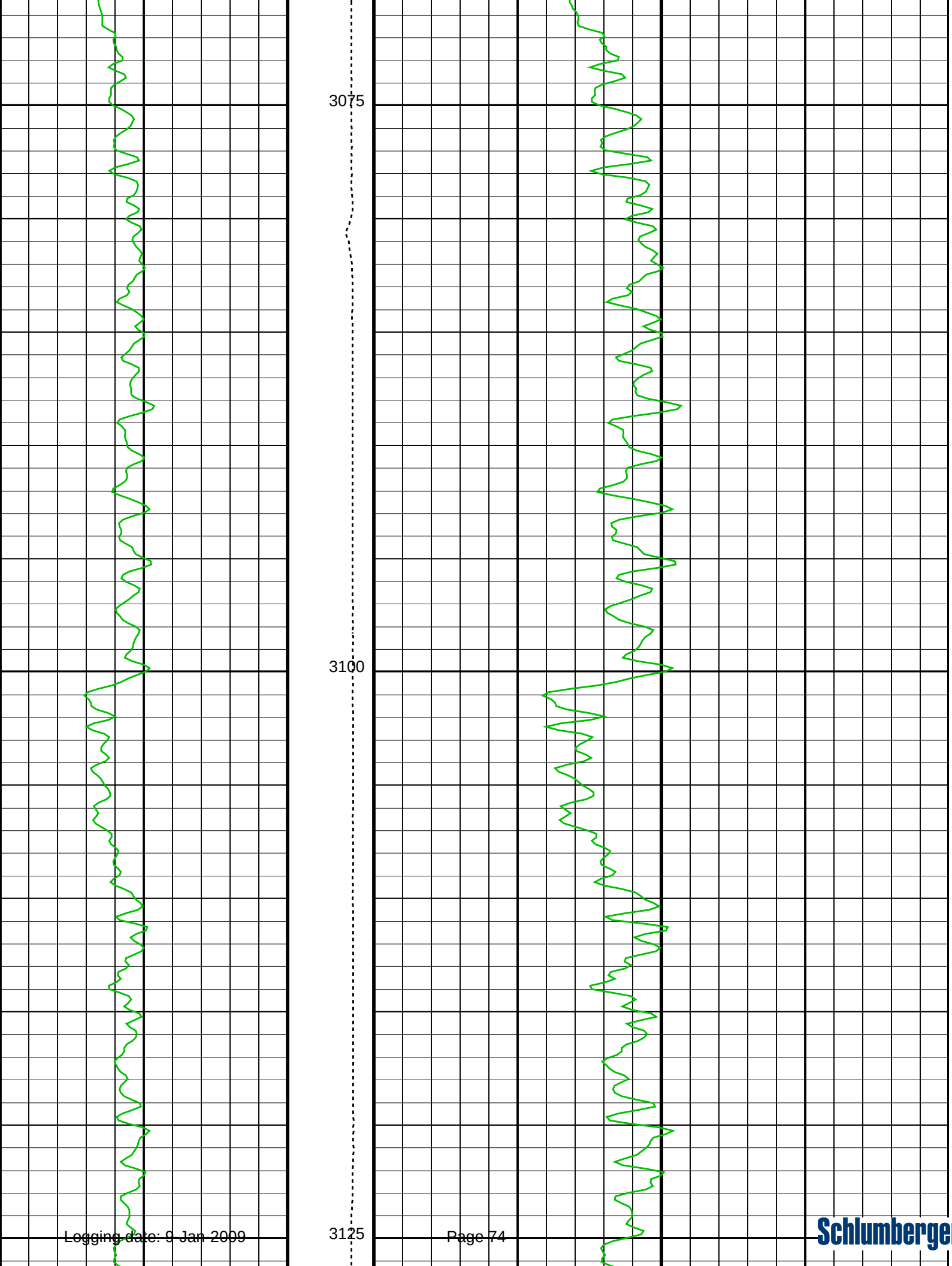
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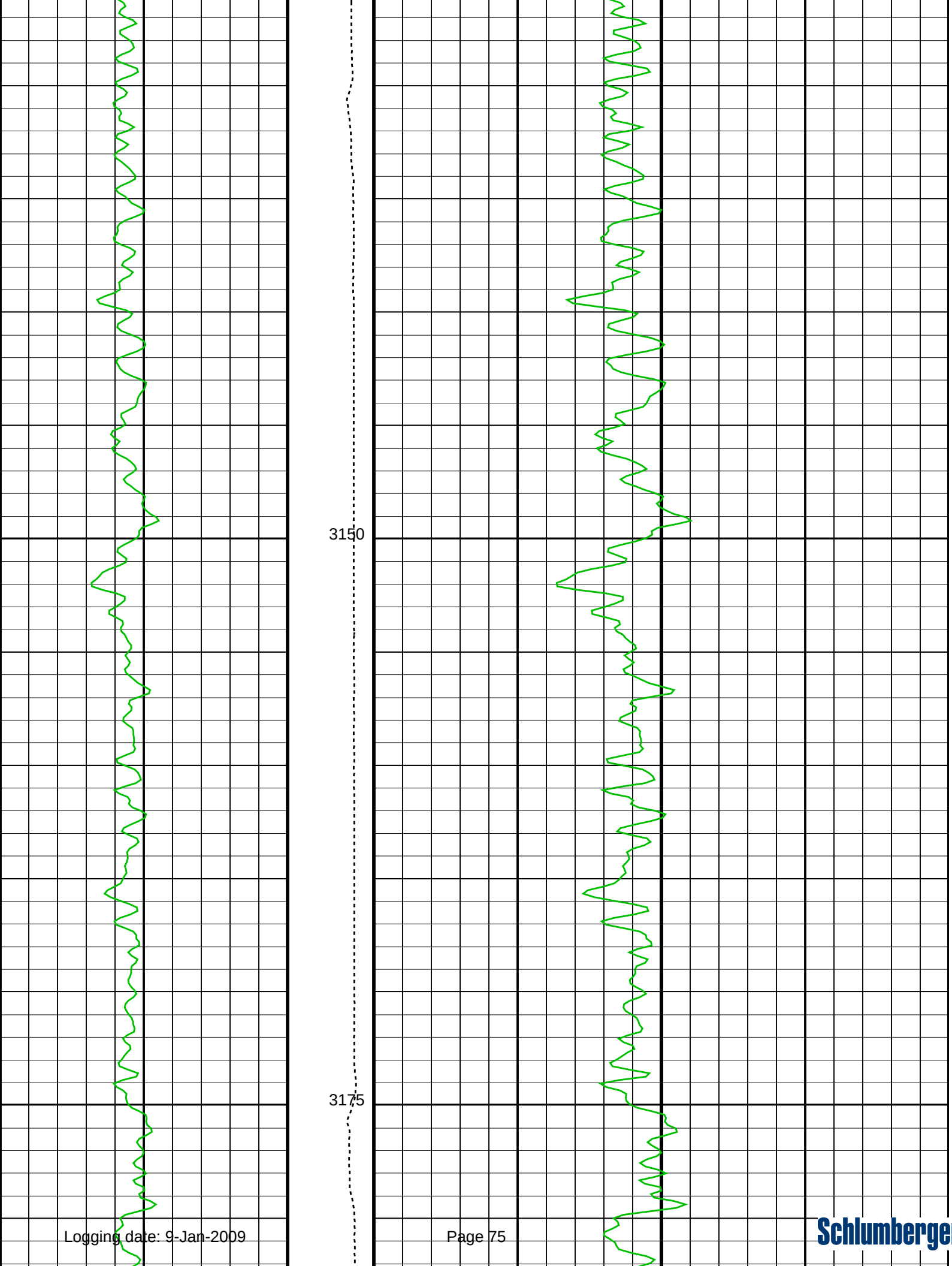
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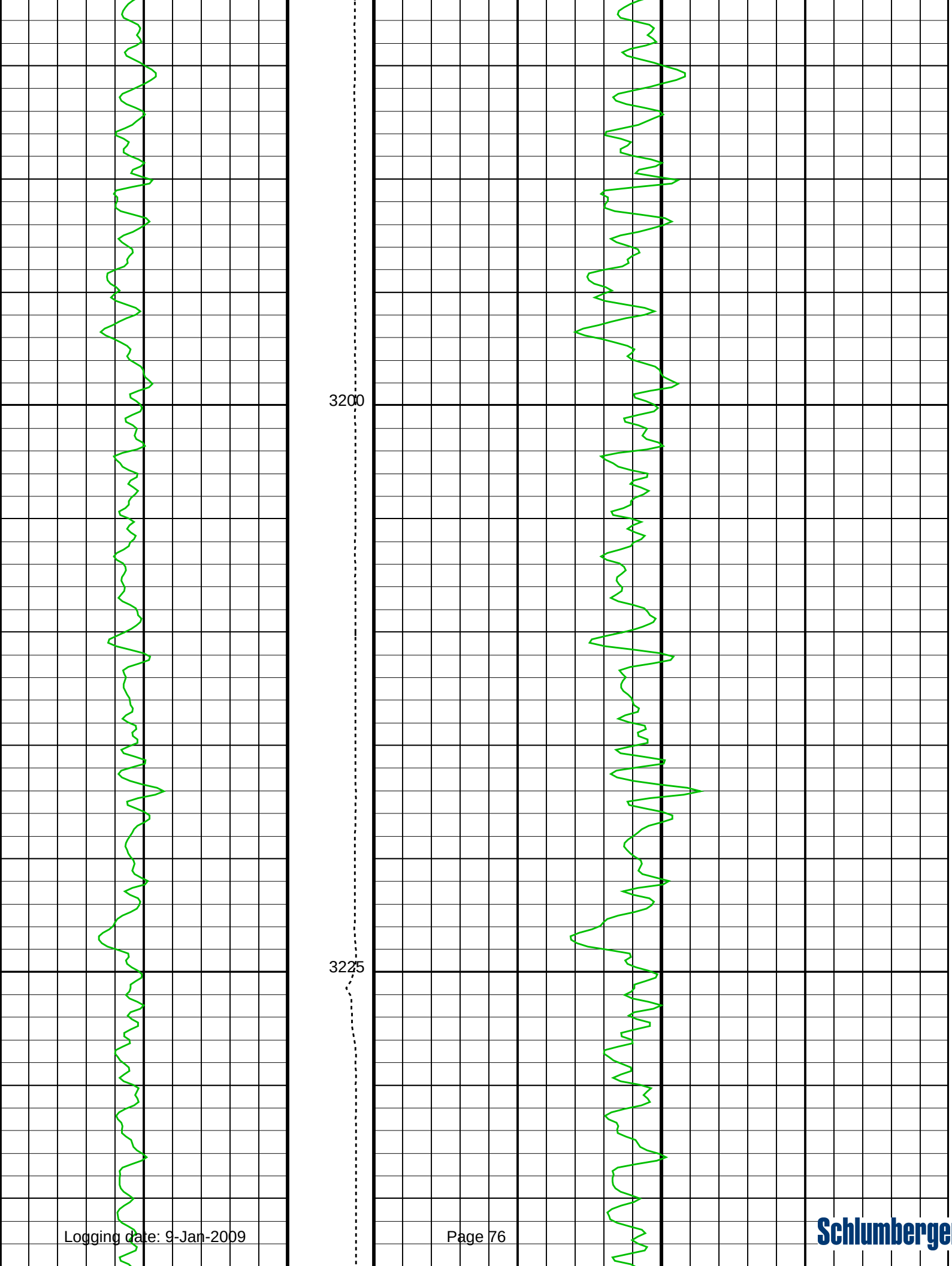
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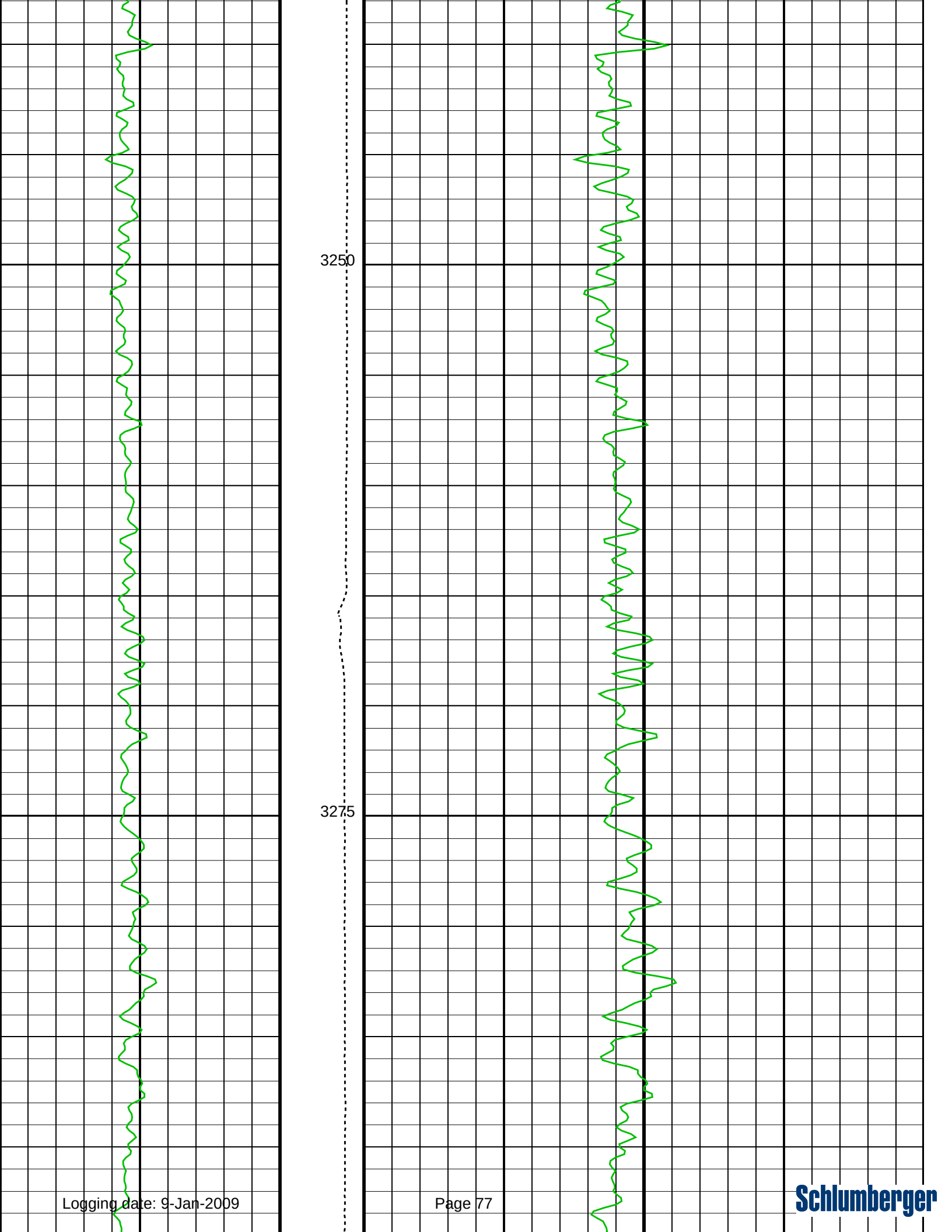
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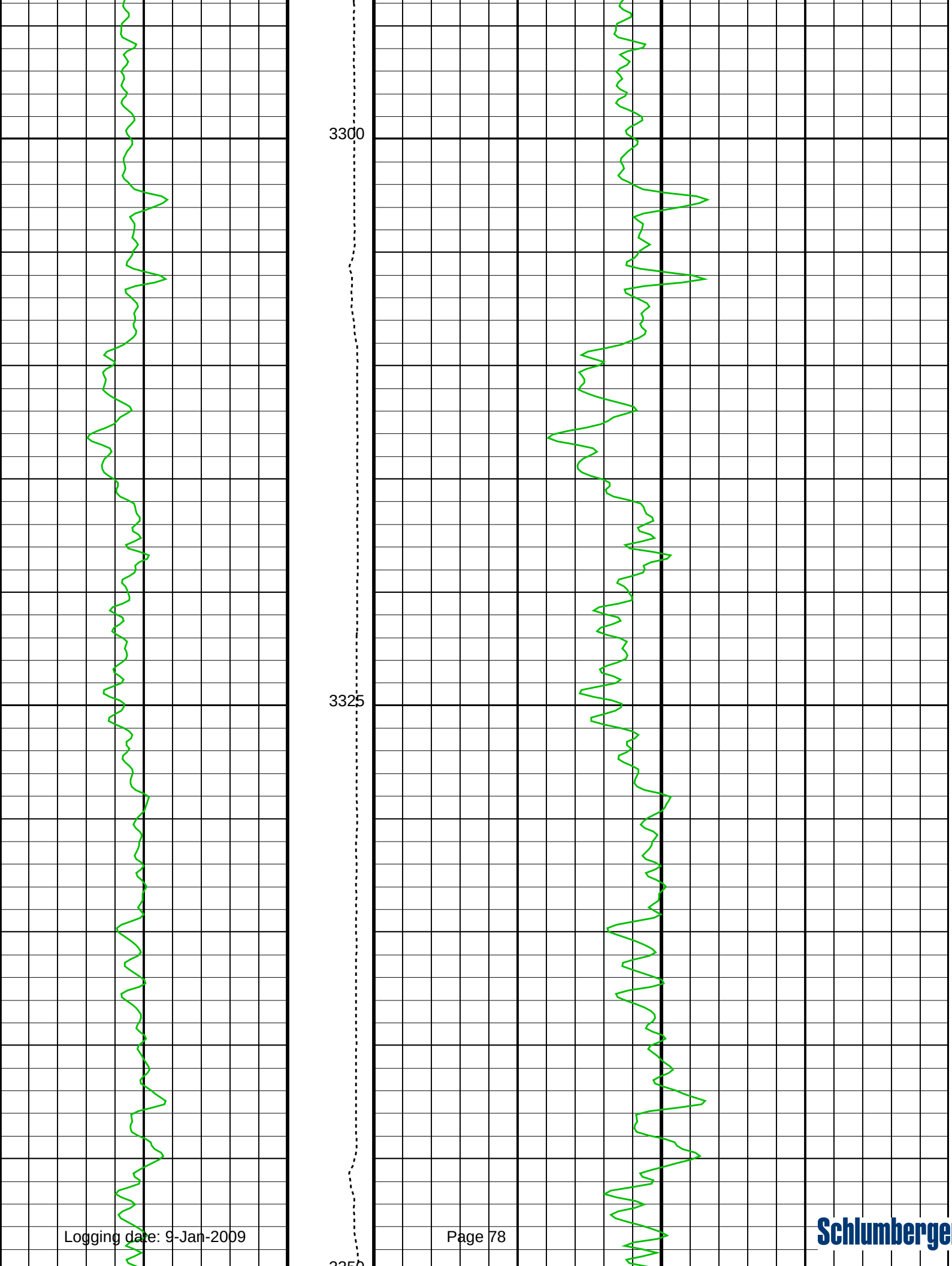
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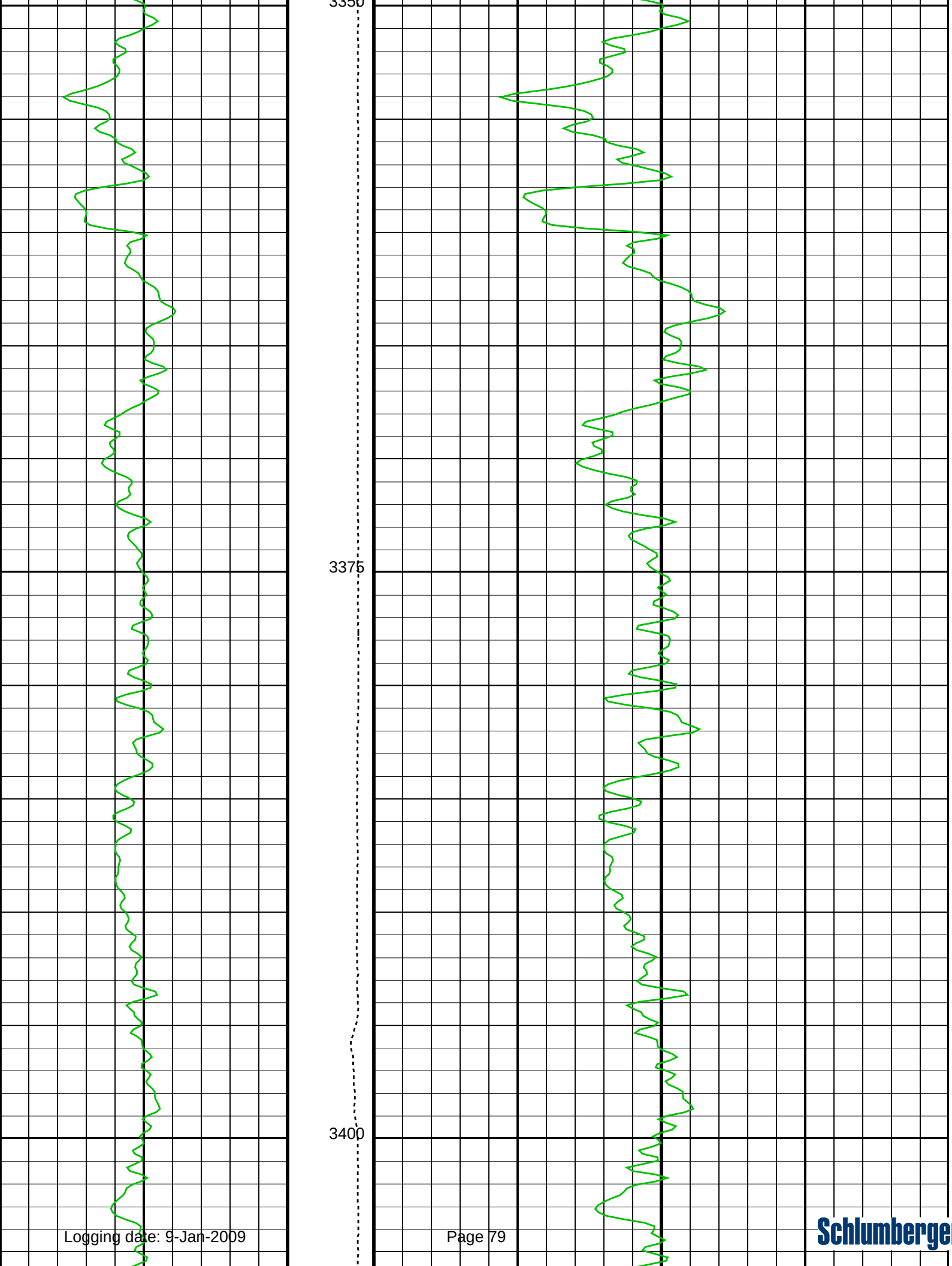
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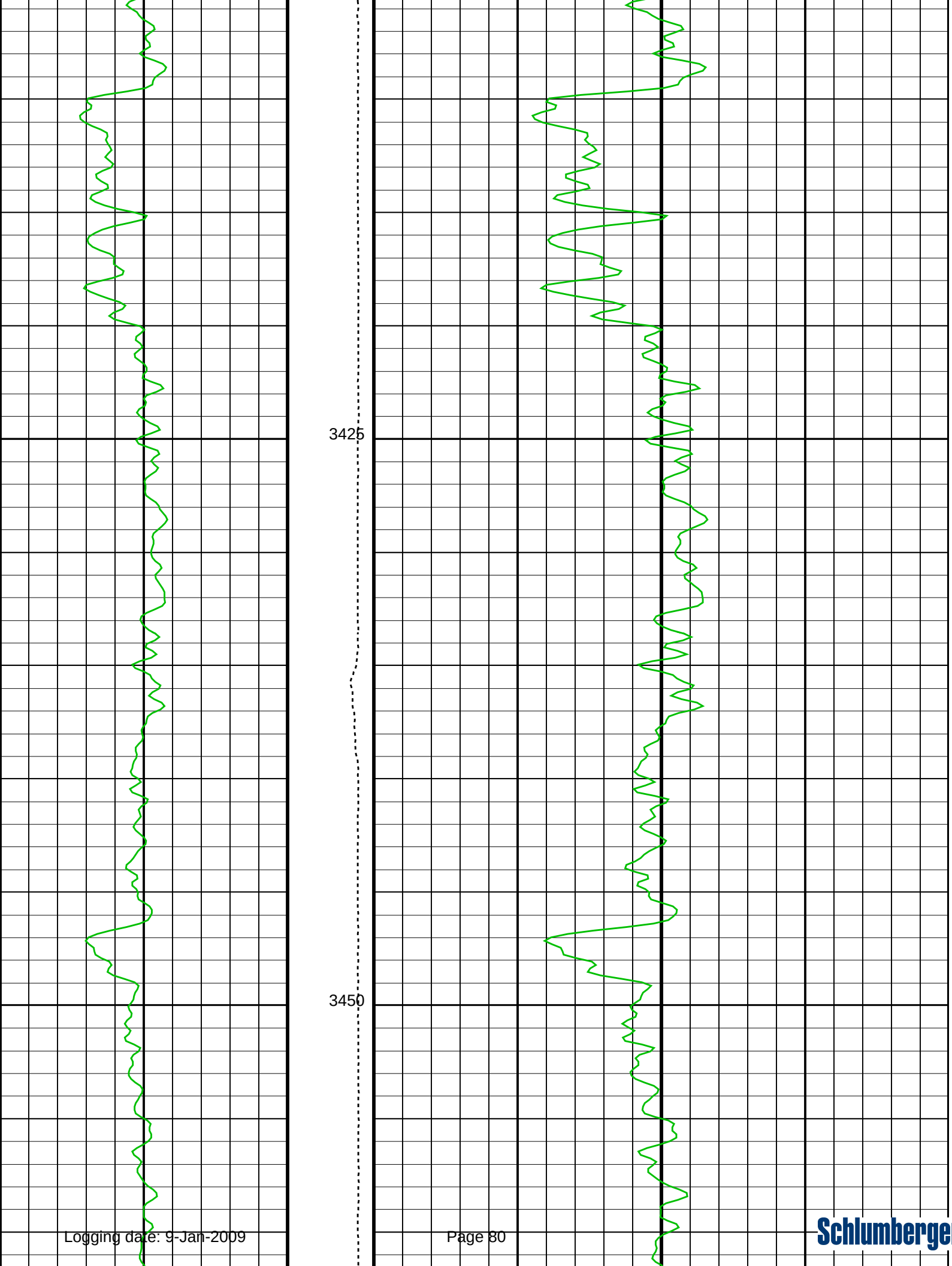
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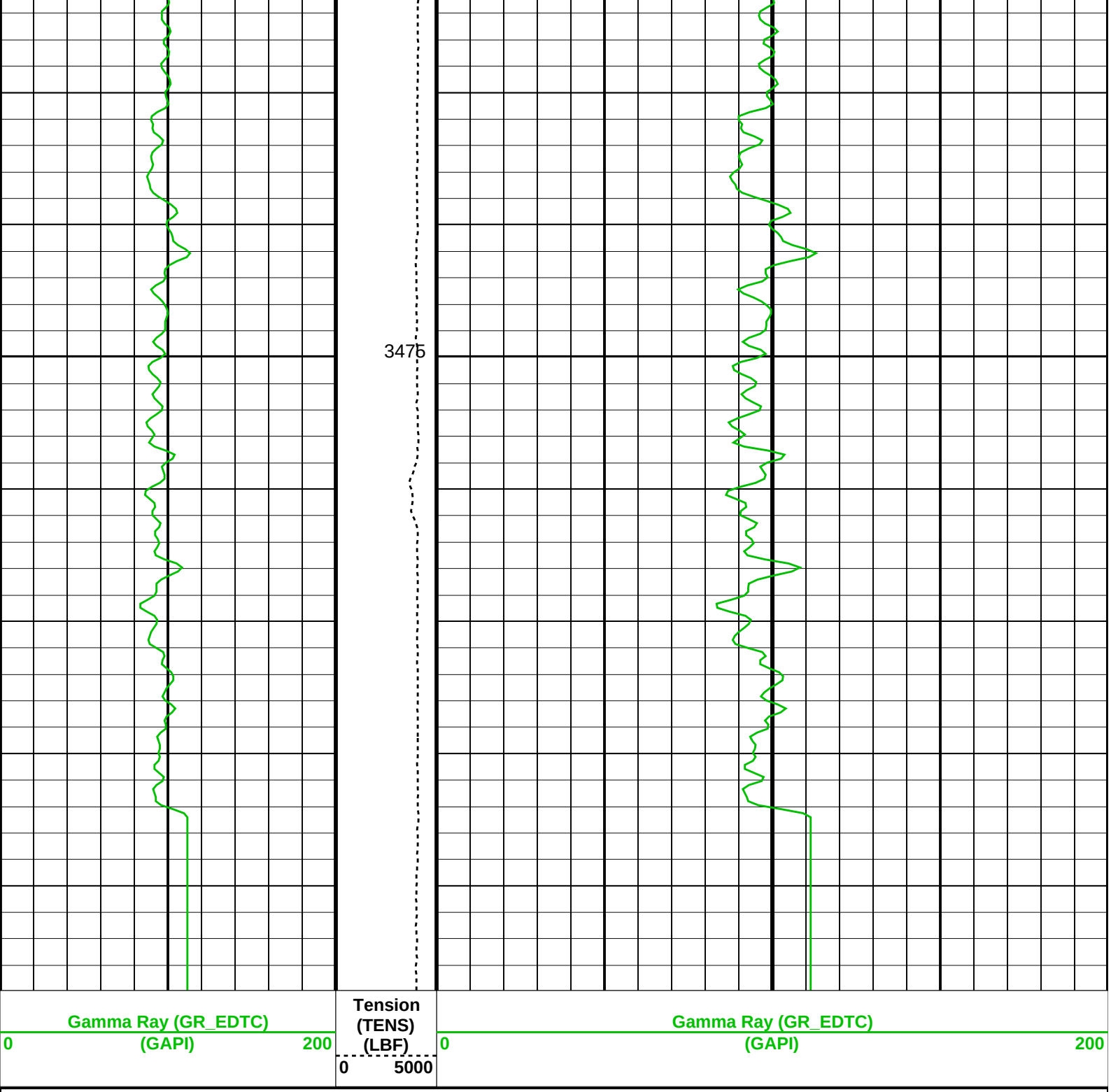


Parameters

DLIS Name	Description	Value
System and Miscellaneous		
DORL	Depth Offset for Repeat Analysis	0.0 M

Format: CORRELATION_EDTCB Vertical Scale: 1:200 Graphics File Created: 09−Jan−2009 09:35

OP System Version: 16C0−147

MCM

VSIT−G 16C0−147 EDTC−B SKK−3494−EDTCB_b

Output DLIS Files

DEFAULT VSIT_121LUP FN:169 PRODUCER 09−Jan−2009 09:35

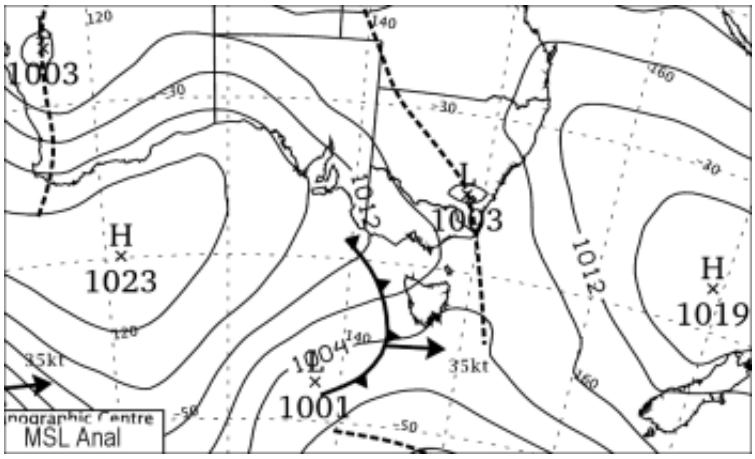
Schlumberger

========== # Tide Level Report ==========

Fermat-1

Australian Government
Bureau of Meteorology

CONSULTANT FORECAST FOR BEACH PETROLEUM
Site: Fermat(38.2S 141.05E)
Issue Time: 0100 EDT on Thursday 08 January 2009
Issued By: Commercial Weather Services, Perth
Forecaster: Geoffrey Goddard
Phone: (08) 9322 4817 (or 0418 91 6501 between 2000 and 0600 WST)
Fax: (08) 9322 4785
Email: ssuwa@bom.gov.au



Weather Map

Synoptic Discussion

A cold front will pass over Tasmania tonight bringing a few showers. Possible squalls to 30knots in showers.

Fresh to strong W/SW winds will ease rapidly overnight Thursday into Friday as the high develops over Bass Straight in the wake of the front. By Saturday the high will be established in the Tasman Sea directing a lighter E'ly flow over the area.

Additional Comments

Rest of Monday: Light E'ly winds tending moderate to fresh E/NE in the evening. Hs rising to 2.5m.

Tuesday: Moderate NE'ly winds tending light SW'ly later in the afternoon and evening. Hs to 2.5m, easing.

Wednesday: Light to moderate SE'ly winds, freshening in the afternoon.

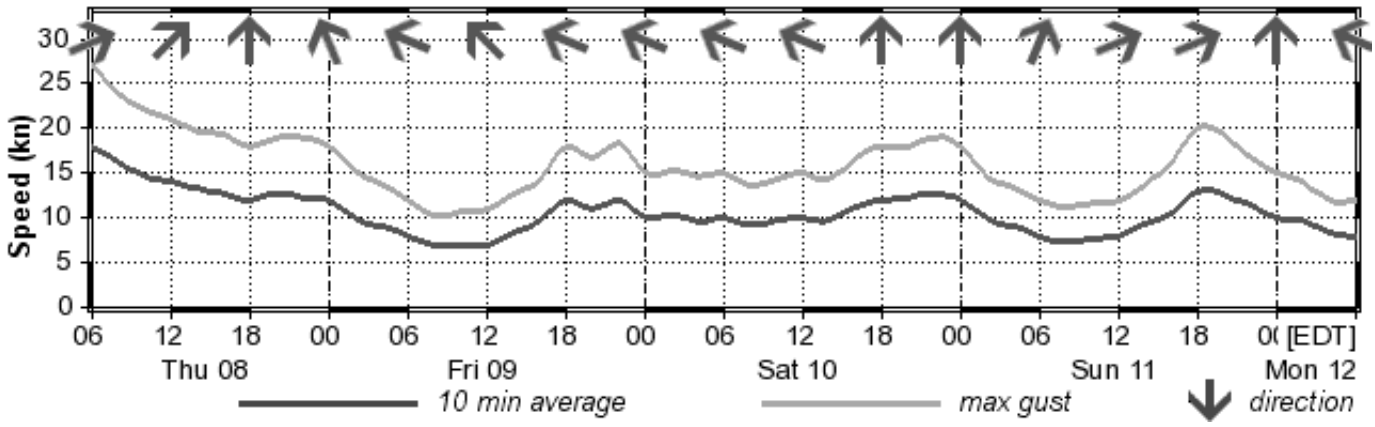
SSU Consultant Forecast for BEACH PETROLEUM

Issued at **0100 EDT, Thursday 08 January 2009**

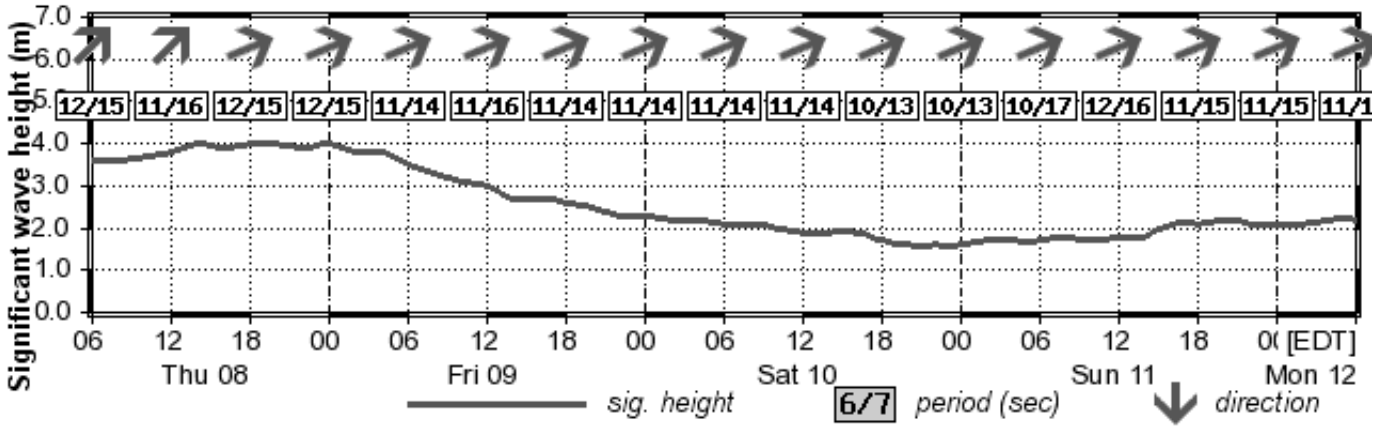
Date	Thu 08/01			Fri 09/01				Sat 10/01				Sun 11/01				Mon 12/01	
Time (EDT)	**0600**	**1200**	**1800**	**0000**	**0600**	**1200**	**1800**	**0000**	**0600**	**1200**	**1800**	**0000**	**0600**	**1200**	**1800**	**0000**	**0600**
Wind																	
Direction (deg)	240	220	180	150	120	130	120	120	110	110	180	180	200	250	250	170	120
Speed (kn)	18	14	12	12	8	7	12	10	10	10	12	12	8	8	13	10	8
Gust (kn)	27	21	18	18	12	11	18	15	15	15	18	18	12	12	20	15	12
Sea/Swell																	
Sig. Height (m)	3.6	3.8	4.0	4.0	3.5	3.0	2.6	2.3	2.1	1.9	1.7	1.6	1.7	1.8	2.1	2.1	2.2
Period (sec)	12/15	11/16	12/15	12/15	11/14	11/16	11/14	11/14	11/14	11/14	10/13	10/13	10/17	12/16	11/15	11/15	11/15
Direction (deg)	230	230	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
Sea Wave																	
Sig. Height (m)	1.4	1.2	0.8	0.6	0.4	0.3	0.7	0.7	0.7	0.7	0.5	0.7	0.5	0.3	0.6	0.4	0.3
Period (sec)	4/5	4/5	3/4	3	2/3	2/3	3/4	3/4	3/4	3/4	2/3	3/4	2/3	2/3	3	2/3	2/3
Swell #1																	
Sig. Height (m)	3.3	3.6	3.9	4.0	3.5	3.0	2.5	2.2	2.0	1.8	1.6	1.4	1.6	1.8	2.0	2.1	2.2
Period (sec)	12/15	11/16	12/15	12/15	11/14	11/16	11/14	11/14	11/14	11/14	10/13	10/13	10/17	12/16	11/15	11/15	11/15
Direction (deg)	230	230	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240

Please Be Aware - *Wind gusts can be a further 40 percent stronger than the averages given here, and maximum waves may be up to twice the height.*

Wind Graph



Sea/Swell Graph



Appendix 10: Petrolab Compositional Analysis

TRANSFER DETAILS

Transferred on January 14 through 17, 2009 @ 5000 psig & 45 ℃

Sample	MDT	Depth		Reservoir	Reservoir	Opening	Transferred	Fluid
ID	MPSR	mMDBRT	mTVDSS	Pressure	Temp.	Pressure	to Petrolab	Phase
#	#	(metres)		(psia)	(ºC)	(psig) @110 F	Cylinder	Transferred
1	1719	2879.5	2879.5	4147	93.5	888	L728	water
2	2421	2879.5	2879.5	4147	93.5	1133	L018	water
3	2489	3008	3008.02	4358	97.7	1054	L-729	water
4	2499	3008	3008.02	4358	97.7	1076	L-014	water

Water from Mud Filtrate

Resistivity	:	0.714	Ohm.M @ 25 ℃
Conductivity (E.C)	:	14000	micro-S/cm @ 25 ℃
pH	:	7.5	
Density	:	1.0079	gm/cc @ 25 ℃
Total alkalinity	:	2000	Each as CaCO3

Cations

		mg/l	meq/l
Calcium	(Ca):	120.0	5.99
Magnesium	(Mg):	12.0	0.99
Sodium	(Na):	770.0	33.49
Potassium	(K):	4900.0	125.32

Anions

		mg/l	meq/l
Hydroxide	(OH):	0.0	0.00
Carbonate	(CO3):	0.0	0.00
Bi-Carbonate	(HCO3):	2438.6	39.96
Sulphate	(SO4):	78.0	1.62
Chloride	(Cl):	5400.0	152.33
Nitrate	(NO3):	<0.1	0.00

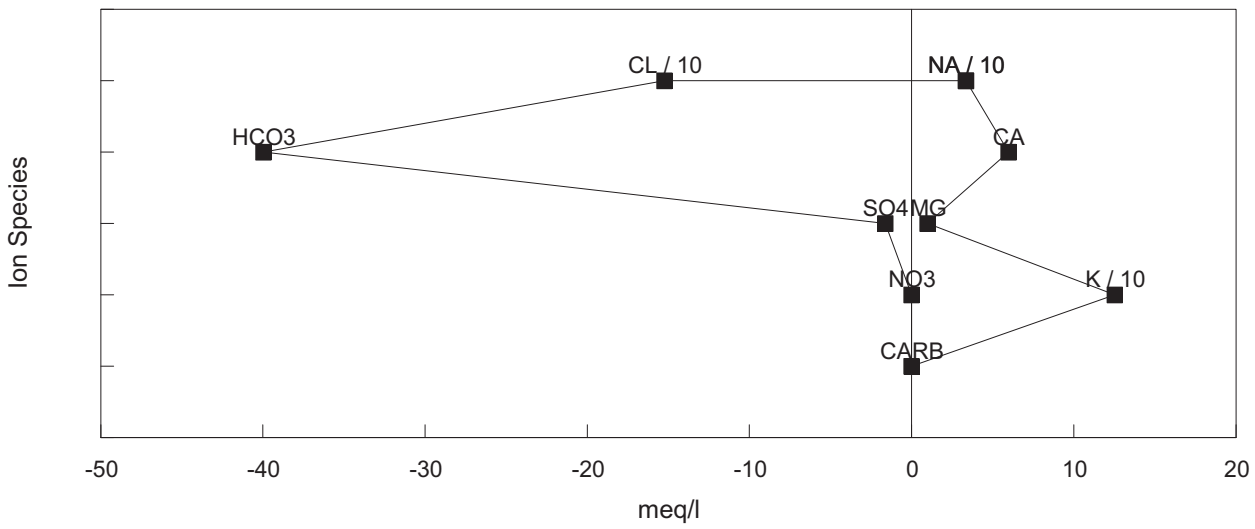
Total dissolved solids

		mg/l
Calculated (HCO3=CO3)	:	12479
From Conductivity	:	8862
Salinity	:	9747

Hardness

Carbonate	:	349
Non-Carbonate	:	0
Total	:	349

STIFF DIAGRAM



Cylinder L-018 EX:MRSC 2421 @ 2879.5 m, sample ID 2.0

Resistivity	:	0.286	Ohm.M @ 25 ℃
Conductivity (E.C)	:	35000	micro-S/cm @ 25 ℃
pH	:	7.5	
Density	:	1.0173	gm/cc @ 25 ℃
Total alkalinity	:	2600	Each as CaCO3

Cations

		mg/l	meq/l
Calcium	(Ca):	140.0	6.99
Magnesium	(Mg):	10.0	0.82
Sodium	(Na):	3800.0	165.29
Potassium	(K):	6100.0	156.01

Anions

		mg/l	meq/l
Hydroxide	(OH):	0.0	0.00
Carbonate	(CO3):	0.0	0.00
Bi-Carbonate	(HCO3):	3170.2	51.95
Sulphate	(SO4):	110.0	2.29
Chloride	(Cl):	8900.0	251.06
Nitrate	(NO3):	<0.1	0.00

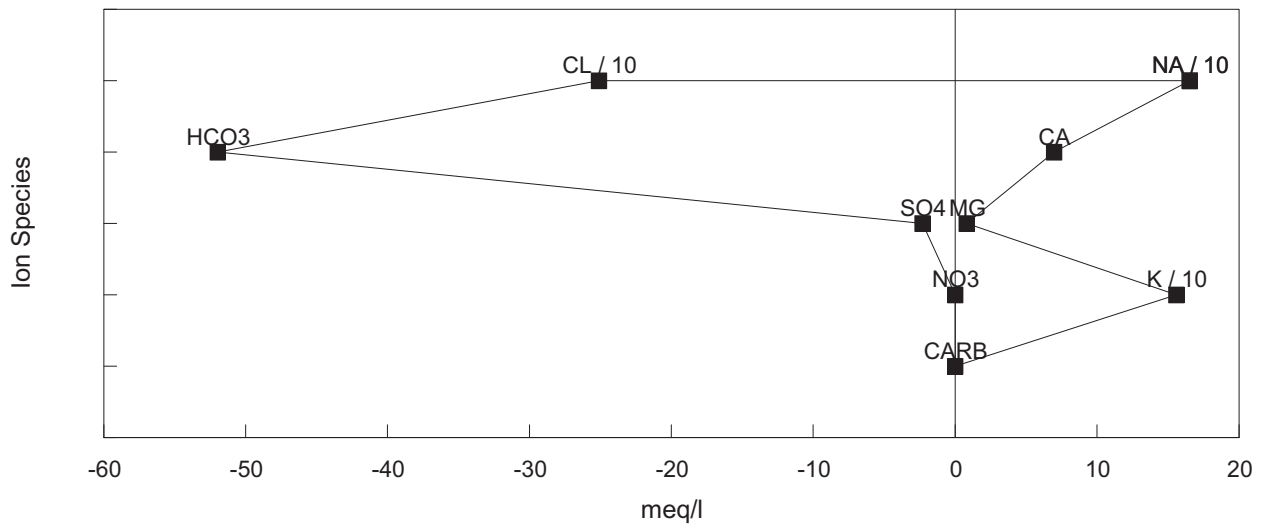
Total dissolved solids

		mg/l
Calculated (HCO3=CO3)	:	20619
From Conductivity	:	22155
Salinity	:	16065

Hardness

Carbonate	:	391
Non-Carbonate	:	0
Total	:	391

STIFF DIAGRAM



Cylinder L-014 EX:MRSC 2499 @ 3008 m, sample ID 4.0

Resistivity	:	0.185	Ohm.M @ 25 ℃
Conductivity (E.C)	:	54000	micro-S/cm @ 25 ℃
pH	:	7.0	
Density	:	1.0259	gm/cc @ 25 ℃
Total alkalinity	:	2000	Each as CaCO3

Cations

		mg/l	meq/l
Calcium	(Ca):	280.0	13.97
Magnesium	(Mg):	17.0	1.40
Sodium	(Na):	4400.0	191.39
Potassium	(K):	11000.0	281.33

Anions

		mg/l	meq/l
Hydroxide	(OH):	0.0	0.00
Carbonate	(CO3):	0.0	0.00
Bi-Carbonate	(HCO3):	2438.6	39.96
Sulphate	(SO4):	170.0	3.54
Chloride	(Cl):	15000.0	423.13
Nitrate	(NO3):	<0.1	0.00

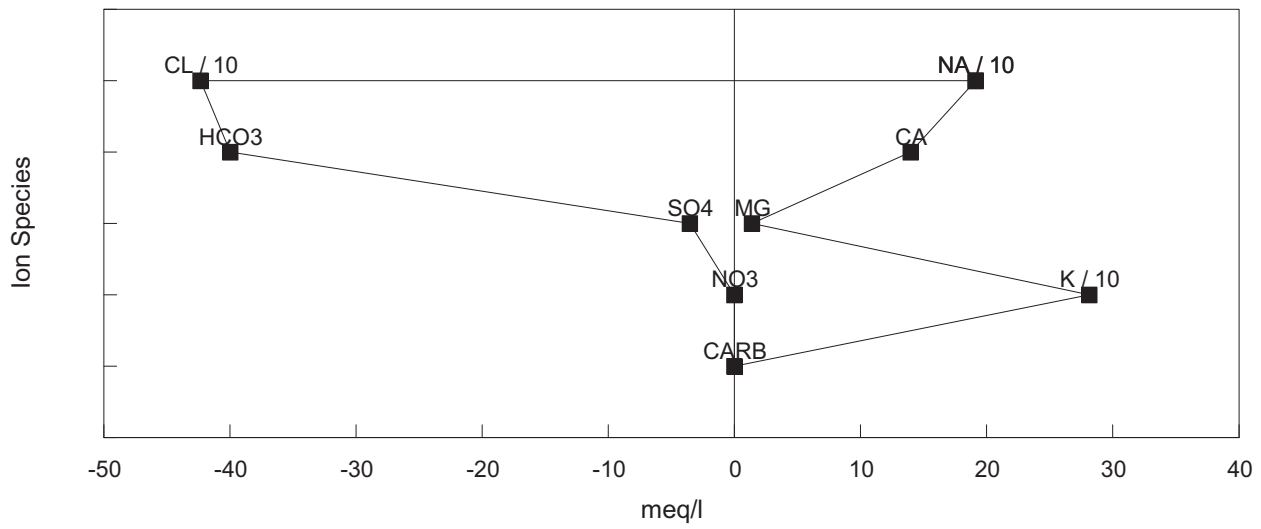
Total dissolved solids

		mg/l
Calculated (HCO3=CO3)	:	32066
From Conductivity	:	34182
Salinity	:	27075

Hardness

Carbonate	:	769
Non-Carbonate	:	0
Total	:	769

STIFF DIAGRAM



PETROLAB

COMPOSITIONAL ANALYSIS OF GAS IN WATER SOLUTION

FROM CYLINDER NUMBER L-018 EX MPSR2421 Sample number 2, Depth 2879.5m

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	7.23	
Nitrogen	N2	0.89	
Methane	C1	89.91	
Ethane	C2	1.68	0.450
Propane	C3	0.20	0.055
Iso-Butane	iC4	0.01	0.003
N-Butane	nC4	0.01	0.003
Iso-Pentane	iC5	0.00	0.000
N-Pentane	nC5	0.00	0.000
Hexanes	C6	0.03	0.012
Heptanes	C7	0.03	0.013
Octanes	C8	0.01	0.005
Nonanes	C9	0.00	0.000
Decanes	C10	0.00	0.000
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	0.541

Pressure Base	:	14.696
Zsc	:	0.998
Mol Weight	:	18.53
Gas Gravity	:	0.641
Pc	:	694.5
Tc	:	361.7
Mol Weight C6+	:	92.4
Density C6+	:	0.6787
Mol Weight C7+	:	98.8
Density C7+	:	0.6874
Mol Weight C10+	:	--
Density C10+	:	--
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	952
Nett	:	858
Wobbe Index	:	1189
Zpt *	:	1.000

Laboratory Opening Pressure : 1133 psig @ : 110 °F

Date Sampled: January 8, 2009

Gas Water Ratio: 17 Scf / Bbl

PETROLAB

COMPOSITIONAL ANALYSIS OF GAS IN WATER SOLUTION

FROM CYLINDER NUMBER L-014 EX MPSR2499 Sample number 4, Depth 3008m

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	5.82	
Nitrogen	N2	1.26	
Methane	C1	90.87	
Ethane	C2	1.62	0.434
Propane	C3	0.35	0.097
Iso-Butane	iC4	0.02	0.007
N-Butane	nC4	0.02	0.006
Iso-Pentane	iC5	0.00	0.000
N-Pentane	nC5	0.00	0.000
Hexanes	C6	0.01	0.004
Heptanes	C7	0.02	0.008
Octanes	C8	0.01	0.005
Nonanes	C9	0.00	0.000
Decanes	C10	0.00	0.000
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	0.561

Pressure Base	:	14.696
Zsc	:	0.998
Mol Weight	:	18.20
Gas Gravity	:	0.630
Pc	:	688.1
Tc	:	358.7
Mol Weight C6+	:	95.8
Density C6+	:	0.6834
Mol Weight C7+	:	99.7
Density C7+	:	0.6887
Mol Weight C10+	:	--
Density C10+	:	--
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	964
Nett	:	868
Wobbe Index	:	1215
Zpt *	:	1.000

Laboratory Opening Pressure : 1076 psig @ : 110 °F

Date Sampled: January 8, 2009

Gas Water Ratio: 16 Scf / Bbl

Appendix 11: Palynology Data

BASIC DATA.
Palynological analysis of sidewall core samples between 2873.2 and 3495.3 metres in Fermat-1, offshore Otway Basin.

by

Alan D. Partridge

Biostrata Pty Ltd
A.B.N. 39 053 800 945

Biostrata Report 2009/07B

17th February 2009

BASIC DATA.
Palynological analysis of sidewall core samples between 2873.2 and 3495.3 metres in Fermat-1, offshore Otway Basin.

by Alan D. Partridge

Introduction

Fifteen sidewall core samples have been analysed for palynology from the Upper Cretaceous succession penetrated by the Fermat-1. The well was drilled by Beach Petroleum Ltd in permit VIC/P46 in the offshore Otway Basin. The objective of the study was to provide age dating of the succession penetrated using palynology.

Materials and Methods: The selected sidewall cores were supplied by Operations Geologist David Spence and from these approximately of 10 gram per sample was selected and cleaned of drilling mud by the author. These sample splits were then forwarded to Core Laboratories Australia Pty Ltd in Perth for laboratory processing on 27th January 2008, and the remaining sidewall core samples returned to the Adelaide office. The prepared palynological slides were returned on 6th February, and the initial results of their microscope analysis were provided in a Provisional Palynological Report on 13th February.

All samples were processed using a modification of the industry standard procedure whereby the dispersed organic-matter (kerogen) and undissolved mineral matter remaining after the initial dissolution of the samples in hydrofluoric acid are oxidised with nitric acid **before** the density separation using zinc bromide solution. This modified procedure was specified to counteract processing difficulties caused by the impregnation of the palynomorphs with micron-size pyrite crystals. The latter are a significant problem in samples from the marine section of the Sherbrook Group where heavily impregnated palynomorphs can be lost during the density separation step. Oxidation to remove any pyrite before the density separation can significantly improve the recovery of palynomorphs, even though the recovered palynomorphs may be extensively micro-pitted where the pyrite crystals have been dissolved.

The microscope analysis consisted of an initial count of at approximately 150 palynomorphs to determine the proportion of spores and pollen to all types of organic-walled microplankton, as well as the relative proportions of spores, gymnosperm pollen and angiosperm pollen, within this count. Once these initial proportions were established and separately recorded, the slides were further scanned to record rare species and in some samples to increase the number of microplankton specimens in the count.

Results: The basic palynomorph assemblage data comprising the visual organic-residues yields, the palynomorph concentrations on the slides, the state of palynomorph preservation, and the number of species of spore-pollen and microplankton species recorded from individual samples are provided in Tables 1 and 2, while Table 3 lists all the slides prepared. Both the organic-residue yields and the concentration of the palynomorphs on the slides are moderate to high, while the preservation of palynomorphs varies from very poor to fair preservation, with only a minor number of well-preserved specimens. In a few samples the preservation was extremely poor, with the worst preservation occurring in the SWC at 3369.3m. The principal cause of the poor preservation was the impregnation of the organic-walls of the palynomorphs by micron-size pyrite crystals. Although the pyrite crystals are mostly dissolved during the laboratory processing the pyrite-pitting of the palynomorphs can make the identification of individual specimens difficult, resulting in high

numbers of indeterminate palynomorphs in the counts. Diversity of spores and pollen is moderate to high averaging 25+ species per sample, while diversity of microplankton is low to averaging 14+ species per sample.

Description of Range Chart: The palynomorphs identified in the samples are documented on the accompanying StrataBugs™ range chart which display the recorded species proportional to the sample depths and in terms of their absolute abundance. The palynomorphs recorded are also split between different groups. The first panel on the charts is for the categories of spore-pollen, comprising the sum of all angiosperm-pollen, gymnosperm-pollen, and spores in the initial count. The next three panels labelled Spores, Gymnosperms Pollen and Angios (for Angiosperm Pollen) display the final counts of the individual species within these three categories. The following panel for categories of microplankton (labelled MP%) displays their percentage abundances in the initial count. The subsequent extended counts of individual species are then displayed in panel labelled Microplankton. The final two panels are respectively for Other palynomorphs, and reworked species (labelled RW) recorded in the assemblages. The following codes or abbreviations apply to the individual species occurrences and abundances on the range chart:

Numbers	=	Absolute abundances (number of specimens counted)
+	=	Species outside of count
C	=	Caved species
R	=	Reworked species
?	=	Questionable identification of species.

Author citations for most of the recorded spore-pollen species can be sourced from the papers by Dettmann (1963), Dettmann & Playford (1968), Helby *et al.* (1987), and Stover & Partridge (1973) while the author citations for the microplankton species can be sourced from the indexes for dinocysts and other organic-walled microplankton prepared by Fensome *et al.* (1990) and Williams *et al.* (1998). Manuscript species names and combinations are indicated by “sp. nov.” or “comb. nov.” on the range charts.

References

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DETTMANN, M.E. & PLAYFORD, G., 1968. Taxonomy of some Cretaceous spores and pollen grains from eastern Australia. *Proceedings of the Royal Society of Victoria, vol.81*, pt.1, p.69-93, pl.6-8.

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HELBY, R., MORGAN, R. & PARTRIDGE, A.D., 1987. A palynological zonation of the Australian Mesozoic. **In** *Studies in Australian Mesozoic Palynology*, P.A. Jell, editor, *Memoir Association Australasian Palaeontologists 4*, p.1-94.

STOVER, L.E. & PARTRIDGE, A.D., 1973. Tertiary and late Cretaceous spores and pollen from the Gippsland Basin, southeastern Australia. *Proceedings Royal Society of Victoria, vol.85*, pt.2, p.237-286.

WILLIAMS, G.L., LENTIN, J.K. & FENSOME, R.A., 1998. The Lentin and Williams index of fossil dinoflagellates 1998 edition. *American Association of Stratigraphic Palynologists, Contributions Series, no. 34*, p.1-817.

Table 1. Basic sample data for Fermat-1, offshore Otway Basin.

Sample Type	Depth metres	Lithology	Weight grams
SWC-29	2873.2m	Muddy-siltstone, medium-dark grey	8.5
SWC-24	2952.5m	Silty-claystone, medium-dark grey	9.6
SWC-23	2992.5m	Silty-claystone, med-dark grey, hard, fractured	11.2
SWC-16	3082m	Sandy-siltstone, med-dark grey, hard in-parts	7.7
SWC-15	3129m	Mottled sandstone & mudstone, lt & med-dk gry	9.5
SWC-14	3168m	Sandy-siltstone, med-dark grey, slightly calcareous.	11.7
SWC-13	3218.5m	Silty-sandstone, medium grey, some mottling	10.7
SWC-12	3272.2m	Silty-claystone, dk brown-grey, some laminae	9.8
SWC-11	3294.7m	Sandy-siltstone, med-dark grey	9.7
SWC-10	3343m	Sandy-siltstone, med-dark grey	7.5
SWC-7	3369.3m	Silty-sandstone, med brown-grey (possibly weathered glaucony)	10.4
SWC-4	3440.8m	Sandy-siltstone, dark grey (no obvious laminae)	11.7
SWC-3	3452.7m	Interlaminated siltstone & fine sandstone, light to med-dark grey	10.5
SWC-2	3475.2m	Sandy-siltstone, dark grey	12.8
SWC-1	3495.3m	Sandy-siltstone, medium-dark grey	9.7
		Average:	**10.1**

Note: The Weight in grams column gives the sample weights processed as recorded by processing laboratory.

Table 2. Basic palynological assemblage data for Fermat-1, Otway Basin.

Sample Type	Depth metres	Visual Yield	Palynomorph Concentration	Palynomorph Preservation	No. SP Species	No. MP Species
SWC-29	2873.2m	High	High	Very Poor	23+	10+
SWC-24	2952.5m	High	High	Poor-Fair	24+	17+
SWC-23	2992.5m	High	High	Very Poor	19+	13+
SWC-16	3082m	High	Moderate	Very Poor	23+	11+
SWC-15	3129m	High	Moderate	Poor-Fair	25+	13+
SWC-14	3168m	High	High	Poor-Fair	18+	14+
SWC-13	3218.5m	Moderate	High	Very Poor-Poor	24+	13+
SWC-12	3272.2m	High	High	Very Poor-Fair	26+	17+
SWC-11	3294.7m	High	High	Very Poor	23+	16+
SWC-10	3343m	High	High	Poor-Fair	29+	9+
SWC-7	3369.3m	Moderate	Moderate	Exceptionally Poor	19+	10+
SWC-4	3440.8m	High	High	Poor-Fair	22+	15+
SWC-3	3452.7m	High	High	Very Poor-Fair	28+	12+
SWC-2	3475.2m	High	High	Poor-Fair	40+	18+
SWC-1	3495.3m	High	High	Very Poor	29+	20+
				Average:	**25+**	**14+**

Table 3. Palynological slides from Fermat-1, offshore Otway Basin.

No.	Sample Type	Depth Metres	Catalogue Number	Core Lab Prep. No.	Description
1	SWC-29	2873.2m		10170	Oxidised Slide 1
2	SWC-29	2873.2m		10170	Oxidised Slide 2
3	SWC-29	2873.2m		10170	Oxidised Slide 3
4	SWC-24	2952.5m		10171	Oxidised Slide 1
5	SWC-24	2952.5m		10171	Oxidised Slide 2
6	SWC-24	2952.5m		10171	Oxidised Slide 3
7	SWC-23	2992.5m		10172	Oxidised Slide 1
8	SWC-23	2992.5m		10172	Oxidised Slide 2
9	SWC-23	2992.5m		10172	Oxidised Slide 3
10	SWC-16	3082m		10173	Oxidised Slide 1
11	SWC-16	3082m		10173	Oxidised Slide 2
12	SWC-16	3082m		10173	Oxidised Slide 3
13	SWC-15	3129m		10174	Oxidised Slide 1
14	SWC-15	3129m		10174	Oxidised Slide 2
15	SWC-15	3129m		10174	Oxidised Slide 3
16	SWC-14	3168m		10175	Oxidised Slide 1
17	SWC-14	3168m		10175	Oxidised Slide 2
18	SWC-14	3168m		10175	Oxidised Slide 3
19	SWC-13	3218.5m		10176	Oxidised Slide 1
20	SWC-13	3218.5m		10176	Oxidised Slide 2
21	SWC-12	3272.2m		10177	Oxidised Slide 1
22	SWC-12	3272.2m		10177	Oxidised Slide 2
23	SWC-12	3272.2m		10177	Oxidised Slide 3
24	SWC-11	3294.7m		10178	Oxidised Slide 1
25	SWC-11	3294.7m		10178	Oxidised Slide 2
26	SWC-11	3294.7m		10178	Oxidised Slide 3
27	SWC-10	3343m		10179	Oxidised Slide 1
28	SWC-10	3343m		10179	Oxidised Slide 2
29	SWC-10	3343m		10179	Oxidised Slide 3
30	SWC-7	3369.3m		10180	Oxidised Slide 1
31	SWC-7	3369.3m		10180	Oxidised Slide 2
32	SWC-4	3440.8m		10181	Oxidised Slide 1
33	SWC-4	3440.8m		10181	Oxidised Slide 2
34	SWC-4	3440.8m		10181	Oxidised Slide 3

Table 3. Palynological slides from Fermat-1, offshore Otway Basin, cont...

No.	Sample Type	Depth Metres	Catalogue Number	Core Lab Prep. No.	Description
35	SWC-3	3452.7m		10182	Oxidised Slide 1
36	SWC-3	3452.7m		10182	Oxidised Slide 2
37	SWC-3	3452.7m		10182	Oxidised Slide 3
38	SWC-2	3475.2m		10183	Oxidised Slide 1
39	SWC-2	3475.2m		10183	Oxidised Slide 2
40	SWC-2	3475.2m		10183	Oxidised Slide 3
41	SWC-1	3495.3m		10184	Oxidised Slide 1
42	SWC-1	3495.3m		10184	Oxidised Slide 2
43	SWC-1	3495.3m		10184	Oxidised Slide 3

Well Name : Fermat-1

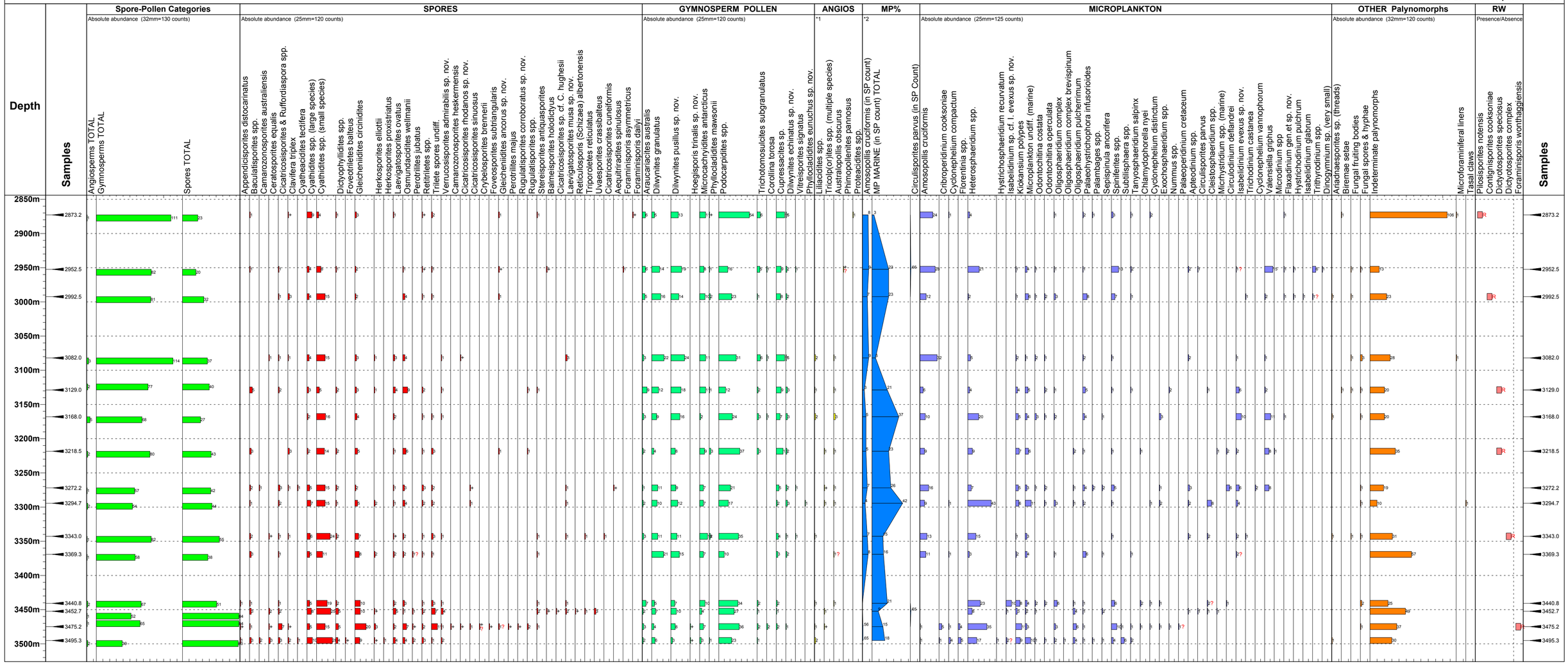
Operator : Beach Petroleum
Well Code : FERMAT-1
Interval : 2850m - 3520m
Scale : 1:4000
Chart date: 17 February 2009

BASIC Palynological Range Chart
Sample interval 2873.2 to 3495.3m
Microscope analysis by Alan D. Partrdige

Fermat-1

Biostrata Pty Ltd
AUSTRALIA

Attachment to Biostrata Report 2009/07B



Appendix 12: Geochemical Analysis Data

WELL		FERMAT-1
Depth		3060
End Depth		3065m
Sample type		Cuttings
File ID		392401A.D
	ION	
Naphthalene	*m/z 128*	9948951
2 MN	*m/z 142*	10952100
1 MN	*m/z 142*	7057688
2 EN	*m/z 156*	628171
1 EN	*m/z 156*	398916
26/27 DMN	*m/z 156*	3584406
13/17 DMN	*m/z 156*	4404865
16 DMN	*m/z 156*	3897240
23/14 DMN	*m/z 156*	2298580
15 DMN	*m/z 156*	955726
12 DMN	*m/z 156*	1345144
18 DMN (I.S.)	*m/z 156*	0
137 TMN	*m/z 170*	890088
136 TMN	*m/z 170*	1291001
135/146 TMN	*m/z 170*	1083951
236 TMN	*m/z 170*	1006802
127 TMN	*m/z 170*	355459
167 TMN	*m/z 170*	1082619
126 TMN	*m/z 170*	596189
124 TMN	*m/z 170*	199453
125 TMN	*m/z 170*	3280353
123 TMN	*m/z 170*	271098
1357 TeMN	*m/z 184*	213982
1367 TeMN	*m/z 184*	431141
1247/1246/1467 TeMN	*m/z 184*	254769
1257 TeMn	*m/z 184*	243744
2367 TeMN	*m/z 184*	73504
1267 TeMn	*m/z 184*	187605
1237 TeMN	*m/z 184*	66304
1236 TeMN	*m/z 184*	118734
1256/1235 TeMN	*m/z 184*	881116
DBT	*m/z 184*	50620
Phen	*m/z 178*	3453778
3 MP	*m/z 192*	703143
2 MP	*m/z 192*	788281
9 MP	*m/z 192*	1127155
1 MP	*m/z 192*	913776
3 EP	*m/z 206*	47648
36 DMP/9EP/2EP	*m/z 206*	152719
1 EP	*m/z 206*	37217
26/35 DMP	*m/z 206*	113865
27 DMP	*m/z 206*	49781
13/24/39/210/310-DMP	*m/z 206*	357452

16/25/29 DMP	m/z 206	313593
17 DMP	m/z 206	410492
23 DMP	m/z 206	79072
19 DMP	m/z 206	117259
18 DMP	m/z 206	52462
12 DMP	m/z 206	74067
retene	m/z 219	395232
cadalene	m/z 183	243294
iHMNIV	m/z 197	85415
eudalene	m/z 184	0
12467-PMN	m/z 198	28976
4-MDBT	m/z 198	27705
12356-PMN	m/z 198	90075
1-MDBT	m/z 198	4677
9-methylretene	m/z 233	8658
9-methyl iHMNIV	m/z 211	0
Biphenyl	m/z 154	0
2-methylbiphenyl	m/z 168	0
3-methylbiphenyl	m/z 168	0
4-methylbiphenyl	m/z 168	0
2-ethylbiphenyl	m/z 183	0
3-ethylbiphenyl	m/z 183	0
4-ethylbiphenyl	m/z 183	0
3-methyldiphenylmethane	m/z 182	0
2-methyldiphenylmethane	m/z 182	0
4-methyldiphenylmethane	m/z 182	0
2,2'-dimethylbiphenyl	m/z 182	0
2,6-dimethylbiphenyl	m/z 182	0
2,3'-dimethylbiphenyl	m/z 182	0
2,5-dimethylbiphenyl	m/z 182	0
2,4+2,4'-dimethylbiphenyl	m/z 182	0
2,3-dimethylbiphenyl	m/z 182	0
3,5-dimethylbiphenyl	m/z 182	0
3,3'-dimethylbiphenyl	m/z 182	0
3,4'-dimethylbiphenyl	m/z 182	0
4,4'-dimethylbiphenyl	m/z 182	0
3,4-dimethylbiphenyl	m/z 182	0
2,6,2'-trimethylbiphenyl	m/z 196	0
2,4,3'-trimethylbiphenyl	m/z 196	0
3,5,3'-trimethylbiphenyl	m/z 196	0
C20 Triaromatic sterane	m/z 231	0
C21 Triaromatic sterane	m/z 231	0
C26S Triaromatic sterane	m/z 231	0
C26R Triaromatic sterane	m/z 231	0
C27S Triaromatic sterane	m/z 231	0
C27R Triaromatic sterane	m/z 231	0
C28S Triaromatic sterane	m/z 231	0
C28R Triaromatic sterane	m/z 231	0
C21 Monoaromatic sterane	m/z 253	0
C22 Monoaromatic sterane	m/z 253	0

C27S Monoaromatic sterane	*m/z 253*	0
C27R Monoaromatic sterane	*m/z 253*	0
C28S Monoaromatic sterane	*m/z 253*	0
C28R Monoaromatic sterane	*m/z 253*	0
C29S Monoaromatic sterane	*m/z 253*	0
C29R Monoaromatic sterane	*m/z 253*	0
Di-hydro-ar-curcumene	*m/z 119*	0
simonellite	*m/z 237*	0
perylene	*m/z 252*	0
Mid Jurassic marker	*m/z 237*	0

ANALYSIS OF AROMATIC HYDROCARBONS BY GC-MS

FERMAT-1

DEPTH	TYPE	DNR-1	DNR-5	DNR-6	TNR-1	TNR-5	TNR-6	MPR-1	MPI-1	MPI-2	Rc(a)	Rc(b)
3060-3065m	Cuttings	3.75	nd	1.56	0.93	2.54	0.40	1.63	0.41	0.43	0.64	2.06

response factors have not been applied to these ratios

FERMAT-1

DEPTH	TYPE	1,7-DMP/X (m/z 206)	RETENE/9-MP (m/z 219,192)	1MP/9MP	HPI
3060-3065m	Cuttings	1.15	0.35	0.81	1.68

HPI = Higher Plant Index (i.e (retene + cadalene + iHMN-IV)/1,3,6,7-TeMN))

14/07/2009

nd = no data

iHMN-IV = RODB

Well	FERMAT-1
Depth	3060m
End Depth	3065m
Sample type	Cuttings
File ID	392401X.D
Treatment Type	
wt material (g)	71.54
eom (g)	0.0202
EOM sepd (g)	
sats (g)	
aro (g)	
nso (g)	
asph (g)	
Pr	434094
Ph	139429
tmtd	0
norpristane	0
n-C12	198057
n-C13	173886
n-C14	1551646
n-C15	1968644
n-C16	903460
n-C17	438029
n-C18	463454
n-C19	347959
n-C20	418542
n-C21	537229
n-C22	519399
n-C23	515184
n-C24	480528
n-C25	374617
n-C26	287516
n-C27	236616
n-C28	170546
n-C29	113296
n-C30	0
n-C31	0
n-C32	0
n-C33	0
n-C34	0
n-C35	0

SOLVENT EXTRACTION DATA

FERMAT-1

DEPTH	Sample Type	Weight of Material Extd. (g)	Total Extract (mg)	Total Extract (ppm)
3060m-3065m	cuttings	71.5	20.2	282

nd = no data

Well	FERMAT-1
Depth	3060m
End Depth	3065m
Sample type	cuttings
File ID	392401S.D
Treatment Type	
wt material (g)	71.54
eom (g)	0.0202
EOM sepd (g)	0.0202
sats (g)	0.0076
aro (g)	0.0032
nso (g)	0.0071
asph (g)	
Pr	4476555
Ph	1188309
tmtd	4245174
norpristane	1050142
n-C12	1530863
n-C13	2090353
n-C14	9981289
n-C15	16195503
n-C16	8515429
n-C17	2874120
n-C18	3878110
n-C19	3083883
n-C20	3220152
n-C21	3865381
n-C22	4158111
n-C23	4414415
n-C24	3972119
n-C25	3507494
n-C26	2842478
n-C27	2486585
n-C28	1892938
n-C29	1455496
n-C30	981047
n-C31	0
n-C32	0
n-C33	0
n-C34	0
n-C35	0

ANALYSIS OF SATURATED HYDROCARBONS BY GC-MS
EXTRACT

FERMAT-1

A. Selected Ratios

DEPTH	Sample Type	Prist./Phyt.	Prist./n-C17	Phyt./n-C18	CPI(1)	CPI(2)	(C21+C22)/(C28+C29)
3060m-3065m	cuttings	3.77	1.56	0.31	nd	1.03	2.40

FERMAT-1

B. n-Alkane Distributions

DEPTH	nC12	nC13	nC14	nC15	nC16	nC17	Pr	nC18	Ph	nC19	nC20	nC21	nC22	nC23	nC24	nC25	nC26	nC27	nC28	nC29	nC30	nC31
3060m-3065m	1.8	2.4	11.5	18.7	9.8	3.3	5.2	4.5	1.4	3.6	3.7	4.5	4.8	5.1	4.6	4.0	3.3	2.9	2.2	1.7	1.1	nd

$$CPI(1) = \frac{(C23+C25+C27+C29)+(C25+C27+C29+C31)}{2x(C24+C26+C28+C30)}$$

$$CPI(2) = \frac{(C23+C25+C27)+(C25+C27+C29)}{2x(C24+C26+C28)}$$

14/07/2009
nd = no data

WELL		FERMAT-1	
Depth			3060
End Depth		3065m	
Sample type		Cuttings	
Data for Quantification	*mg extract/oil separated*		
	mg sats recovered		
	mg sats used for b/cs		
	ng std added		
File ID		392401B.D	
Column/method/operator	*ION*		
rearranged drimane (R1)	*123*		66808
Eudesmane	*123*		0
rearranged drimane (R2)	*123*		30007
Drimane	*123*		74202
Homodrimane	*123*		101432
C18 19-nor labdane	*109*		0
C19 19-nor labdane	*109*		0
C19 19-nor isopimarane	*123*		0
Rimuane	*123*		0
17-nor tetracyclane	*123*		0
Beyerane	*123*		0
Iso pimarane	*123*		0
Phyllo cladane	*123*		0
Kaurane	*123*		0
C19 tricyclic terpane	*191*		24996
C20 tricyclic terpane	*191*		24129
C21 tricyclic terpane	*191*		18276
C22 tricyclic terpane	*191*		0
C23 tricyclic terpane	*191*		35121
C24 tricyclic terpane	*191*		26361
C25 tricyclic terpane R+S	*191*		29568
C24 tetracyclic terpane	*191*		93755
C26 S tricyclic terpane	*191*		19173

C26 R tricyclic terpane	*191*	10618
C26 tetracyclic terpane	*191*	0
C28 S tricyclic terpane	*191*	0
C28 R tricyclic terpane	*191*	0
C29 S tricyclic terpane	*191*	0
C29 R tricyclic terpane	*191*	0
C21 sterane (pregnane)	*217*	15256
C22 sterane (homopregnane)	*217*	8304
C27 S diasterane	*217*	71988
C27 R diasterane	*217*	50020
C28 S diasterane	*217*	79460
C28 R diasterane	*217*	41713
C27 S normal sterane	*217*	28382
C29 S diasterane	*217*	99581
C27 R isosterane	*217*	25096
C27 S isosterane	*217*	26482
C27 R normal sterane	*217*	85289
C29 R diasterane	*217*	105460
CD3-cholestane ***IS***	*234*	0
C28 S normal sterane	*217*	20252
C28 R isosterane	*217*	50110
C28 S isosterane	*217*	44903
C28 R normal sterane	*217*	80167
C29 S normal sterane	*217*	82421
C29 R isosterane	*217*	71543
C29 S isosterane	*217*	75646
C29 R normal sterane	*217*	92441
C30 S normal sterane	*217*	0
C30 R isosterane	*217*	0
C30 S isosterane	*217*	0
C30 R normal sterane	*217*	0
C30 S 4a methylsterane	*231*	0
C30 R+S 4a BB methylsterane	*231*	0
C30 R 4a methylsterane + dino	*231*	0
C27 S diasterane	*259*	38258
C27 R diasterane	*259*	28469
C28 S diasterane	*259*	48224
C28 R diasterane	*259*	39628
C29 S diasterane	*259*	52835

C29 R diasterane	*259*	49384
C27 R isosterane	*218*	55267
C27 S isosterane	*218*	43699
C28 R isosterane	*218*	60232
C28 S isosterane	*218*	61036
C29 R isosterane	*218*	89889
C29 S isosterane	*218*	88114
Ts	*191*	381065
Unknown U1	*191*	0
Tm	*191*	526892
C27 17B(H)-tris norhopane	*191*	0
C28 25,30-bis norhopane	*191*	126443
C28 29,30-bis norhopane	*191*	0
C29 diahopane	*191*	88137
C28 28,30-bis norhopane	*191*	143054
C29 25-norhopane	*191*	309589
C29 Hopane	*191*	1211885
C29 Ts	*191*	398083
C30 diahopane	*191*	133197
C29 moretane	*191*	342027
Oleanane	*191*	271122
C30 hopane	*191*	1909959
C30 30-norhopane	*191*	0
C29 BB hopane	*191*	107294
C30 moretane	*191*	379850
Taraxastane	*191*	0
C31 S hopane	*191*	522307
C31 R hopane	*191*	394702
Gammacerane	*191*	0
C30 BB hopane	*191*	145514
C31 (S+R) moretane	*191*	138022
C32 S hopane	*191*	281735
C32 R hopane	*191*	252525
C32 S moretane	*191*	26640
C32 R moretane	*191*	33189
C31 (S+R) BB hopane	*191*	0
C33 S hopane	*191*	170463
C33 R hopane	*191*	101703
C32 (S+R) BB hopane	*191*	0
C34 S hopane	*191*	81132
C34 R hopane	*191*	51981

C35 S hopane	*191*	45409
C35 R hopane	*191*	33643
bicadinane W	*369*	0
bicadinane T	*369*	0
bicadinane T1	*369*	0
bicadinane R	*369*	0
C28 25,30-bisnorhopane	*177*	504769
C29 25-norhopane	*177*	222356
C29 hopane	*177*	451678
C31 2-Me hopane	*205*	94231
C32 S 2-methylhopane	*205*	27757
C32 R 2-methylhopane	*205*	22557
C31 S hopane	*205*	153574
C31 R hopane	*205*	122069
C31 3-methylhopane	*205*	0

ANALYSIS OF BRANCHED AND CYCLIC SATURATED HYDROCARBONS BY GC-MS

FERMAT-1, 3060-3065m, Cuttings

	Selected Parameters	*Ion(s)*	*Value*
1.	18α(H)-hopane/17α(H)-hopane (Ts/Tm)	191	0.72
2.	C30 hopane/C30 moretane	191	5.03
3.	C31 22S hopane/C31 22R hopane	191	1.32
4.	C32 22S hopane/C32 22R hopane	191	1.12
5.	C29 20S ααα sterane/C29 20R ααα sterane	217	0.89
6.	C29 ααα steranes (20S / 20S+20R)	217	0.47
7.	C29 αββ steranes / C29 ααα steranes + C29 αββ steranes	217	0.46
8.	C27/C29 diasteranes	259	0.65
9.	C27/C29 steranes	217	0.92
10.	18α(H)-oleanane/C30 hopane	191	0.14
11.	C29 diasteranes / C29 ααα steranes + C29 αββ steranes	217	0.68
12.	C30 (hopane + moretane) / C29 (steranes + diasteranes)	191/217	4.24
13.	C15 drimane/C16 homodrimane	123	0.73
14.	Rearranged drimanes/normal drimanes	123	0.55

nd = no data

Appendix 13: Petrology Report Basic Data

PGPC

Report prepared for:

BEACH PETROLEUM LTD

25 Conyngham St
Glenside
South Australia 5065

PETROLOGY REPORT

FERMAT-1 (BASIC)

OTWAY BASIN (VIC/P46)

Report prepared by:

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May 2009

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CONTENTS

PAGE

1. INTRODUCTION

Beach Petroleum Ltd submitted 12 sidewall cores to PGPC from the well Fermat-1 in the Otway Basin (VIC/P46). Samples were selected from the Late Cretaceous Waarre (Unit C) and Flaxman Formations for detailed petrological description. The study was design to ascertain the lithology, mineralogy, sediment provenance, depositional environments, diagenetic alteration and factors controlling reservoir quality.

Services listed below (Table 1) were provided by PGPC. The client supplied hand specimen descriptions and wireline logs of the relevant intervals to aid interpretation.

TABLE 1 SUMMARY OF SAMPLES & SERVICES

Swc	Depth (m)	Unit	TS description	Visual Estimate
5	3416.8	Waarre C	√	√
6	3410.5	Waarre C	√	√
8	3359.0	Waarre C	√	√
9	3354.0	Waarre C	√	√
17	3065.5	Flaxman	√	√
18	3057.4	Flaxman	√	√
20	3025.7	Flaxman	√	√
21	3017.0	Flaxman	√	√
22	3003.8	Flaxman	√	√
26	2894.0	Flaxman	√	√
27	2886.7	Flaxman	√	√
28	2876.6	Flaxman	√	√

2. METHODS

Thin section

Sidewall cores were impregnated with araldite prior to thin section preparation by Pontifex & Associates Pty Ltd. Blue dye was used in the araldite to facilitate description of porosity and permeability. Thin sections were prepared using standard techniques to produce a thickness of 30 microns (Adams *et al*, 1984). Those samples containing significant carbonate were half stained with alizarin red-S and potassium ferricyanide to differentiate the carbonate species (Adams *et al*, 1984). Thin sections were systematically scanned to determine lithology, composition, porosity and textural relationships. Siliciclastics have been classified according to guidelines by Folk (1974) and carbonates using the nomenclature of Tucker (2001). Grain morphology (both sphericity and roundness) was estimated by comparison with charts in Pettijohn *et al* (1987), grain fabric (packing and texture) from the diagram in Tucker (2001) and sorting from diagrams by Harrell (1984). All percentages of composition given in the thin section descriptions are visual estimates (Terry & Chilingar, 1955) not point counts.

3. PETROLOGY

3.1 Fermat-1, swc 5, depth 3416.8m

Rock classification: **Litharenite**

Texture:

Sedimentary structures: orientation of laminae is apparent from grain alignment & concentration of detrital clay, contacts are diffuse & planar

Average grain size: fine sand (~0.20mm)

Range in grain size: clay to coarse sand

Roundness / sphericity: subangular with low to moderate sphericity

Sorting: moderately sorted

Texture: grain supported

Packing / grain contacts: close packing / tangential, concavo-convex & sutured grain contacts

Pore types: rare intragranular pores within lithics, possible micropores associated with kaolin, fracturing is an artifact of sampling

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with either straight or sutured crystal boundaries, microcrystalline quartz, plagioclase feldspars (andesine) with albite twinning, K-feldspars with perthite & tartan twinning or that lack twinning but have been sericitised, lithics of chert, dark brown mudstone, illitic quartzite, shale, micaceous schist, volcanics with felsic laths (?trachytic texture), plutonics (?granitic quartz + feldspar intergrowths), oxidised (hematite) grains of unknown origin & unidentified lithics, splayed & straight muscovite & biotite flakes up to 0.25mm in length, accessory very fine to fine sand size zircon, tourmaline, rutile & opaques

Matrix: discontinuous stringers of anhedral brown clay & opaque organic matter in laminae where sutured contacts have developed

Authigenic minerals: fine sand size bright green grains with wormy texture typical of glaucony, rare grains replaced by chlorite, isolated grains have oxidised rims which are probably inherited, grain replacing kaolin booklets & verms are up to 30 microns in diameter, spherulitic dusty siderite (crystals 30-50 microns in diameter) rarely contain zoning & concentrate along grain margins, grain replacing & pore filling anhedral carbonate spar has stained dark blue (ferroan calcite) & appears to postdate silicification, straight grain contacts & triple point junctions indicate the presence of quartz overgrowths

Visual Estimate of Composition			Volume %
Framework grains	Quartz	monocrystalline	62
		polycrystalline	3
	Feldspar	K-spar	2
		plagioclase	2
	Lithics	sedimentary	1
		metamorphic	8
		igneous	2
		unidentified/oxidised	3
	Mica	muscovite	1
		biotite	1
	Accessory minerals		tr
Matrix	Clay		2
	Organic matter		tr
Authigenic minerals and cements	Glaucony		tr
	Chlorite	replace	1
	Kaolin	replace	1
	Quartz		5
	Siderite		2
	Fe Calcite	replace	3
		fill pores	tr
Porosity	Intragranular		tr
	Micropores		tr

Figure 1

Typical field of view illustrating the abundance of detrital clay (brown) & organic matter in stringers which indicate the presence of bedding. Note the lack of reservoir quality, a volcanic lithic (large arrow) and presence of siderite crystals (small arrows). Fermat-1, swc 5, depth 3416.8m. Plane light. Horizontal field of view 1.30mm.

3.2 Fermat-1, swc 6, depth 3410.5m

Rock classification: **Litharenite**

Texture:

Sedimentary structures: considerable textural disruption during sampling, stringers of organic matter suggest the orientation of bedding

Average grain size: fine sand (~0.20mm)

Range in grain size: clay to coarse sand

Roundness / sphericity: subangular to subrounded with low sphericity

Sorting: moderately sorted

Texture: grain supported

Packing / grain contacts: close packing / tangential, concavo-convex & sutured contacts

Pore types: possible intragranular pores but textural disruption does not allow a prediction of other macro pore types, micropores could be associated with kaolin

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with straight or sutured crystal boundaries, K-feldspars that lack twinning are partially replaced by ferroan calcite & other dusty K-feldspars have perthite twinning, plagioclase with albite twinning (andesine composition), lithics of dusty chert, quartzite, shale, micaceous schist, plutonics (?granitic quartz+feldspar intergrowths), volcanics (?basalt & ?devitrified glass) & unidentified/oxidised grains, bent fresh muscovite flakes up to 0.50mm in length & highly altered biotite, accessory fine sand size tourmaline & very fine sand size zircon & opaques

Matrix: blocky opaque organic matter & stringers associated with detrital clay

Authigenic minerals: deformed fine sand size bright green grains with wormy texture typical of glauconite, micas partially replaced by kaolin & other grains completely replaced by kaolin booklets (25-30 microns diameter), pore filling kaolin booklets have a jagged contact with quartz overgrowths, rare grains have oxidised rims which appear to be inherited, isolated grains of unknown origin replaced by chlorite, Fe rich micrite which did not respond to staining (probably siderite) has replaced grains & filled pores, rare zoned scalenohedral crystals of siderite spar, micrite appears to concentrate near the stringers of organic matter, twinned ferroan calcite spar has also replaced grains (including chlorite) & filled pores throughout the sandstone, triple point junctions indicate the presence of quartz overgrowths

Visual Estimate of Composition			Volume %
Framework grains	Quartz	monocrystalline	52
		polycrystalline	3
	Feldspar	K-spar	1
		plagioclase	1
	Lithics	sedimentary	1
		metamorphic	10
		igneous	2
		unidentified/oxidised	3
	Mica	muscovite	3
		biotite	1
	Accessory minerals		tr
Matrix	Clay		2
	Organic matter		1
Authigenic minerals and cements	Glaucony		tr
	Chlorite	replace	1
	Kaolin	replace	1
		fill pores	tr
	Quartz		5
	Siderite		7
	Fe Calcite	replace	5
		fill pores	tr
Porosity	Intragranular		tr
	Micropores		tr

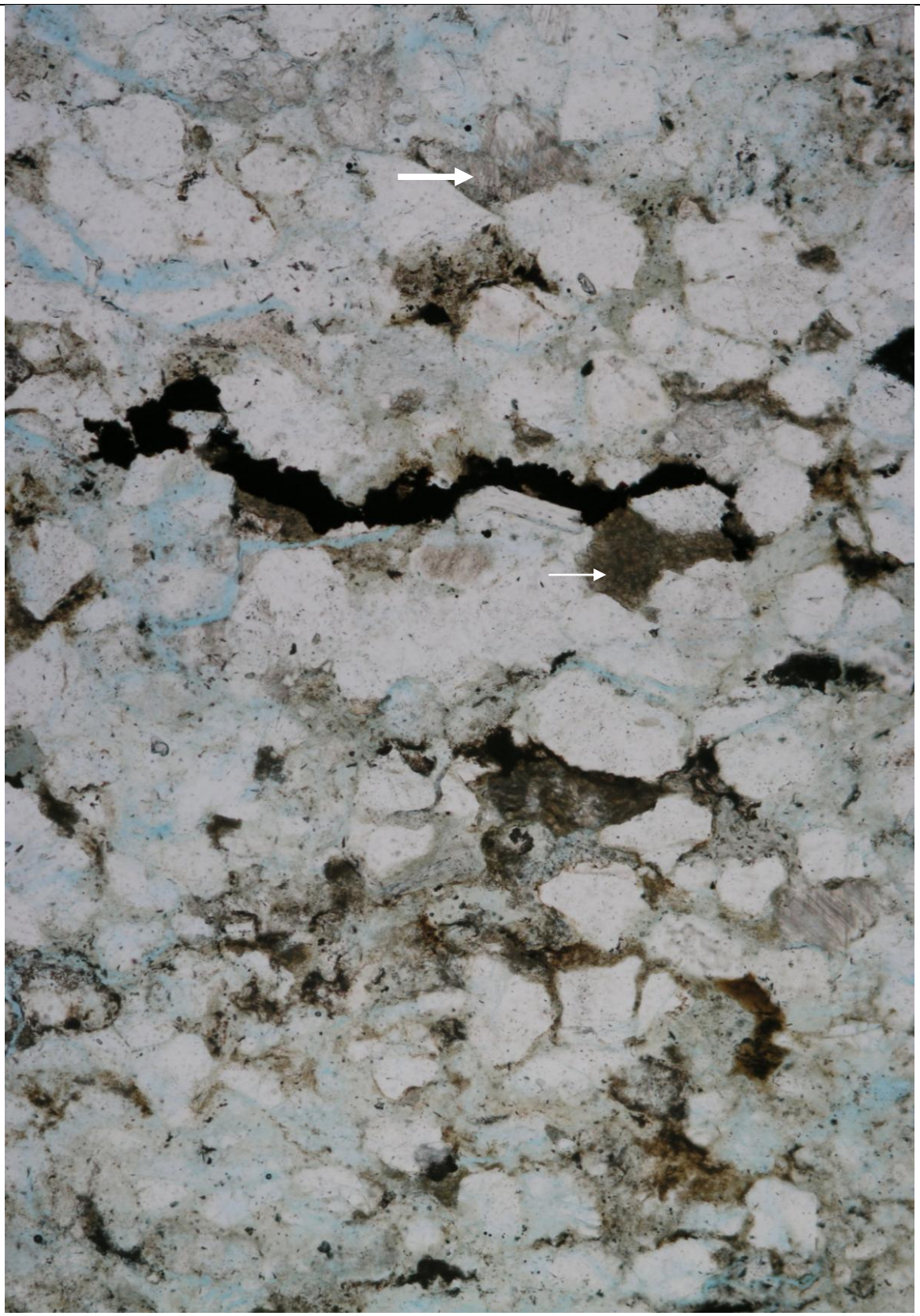

Figure 2

Textural disruption is pronounced in this sample as indicated by fracturing (blue). Grains replaced by dusty Fe rich micrite (small arrows) occur near a stringer of opaque organic matter & detrital clay (brown). Note the grain replacing & pore filling clear spar (large arrow) which is composed of ferroan calcite. Fermat-1, swc 6, depth 3410.5m. Plane light. Horizontal field of view 1.30mm.

3.3 Fermat-1, swc 8, depth 3359.0m

Rock classification: **Carbonate cemented litharenite**

Texture:

Sedimentary structures: grain alignment indicates the orientation of bedding but there are no bed contacts apparent
Average grain size: medium sand (~0.29mm)
Range in grain size: fine to coarse sand
Roundness / sphericity: angular to subrounded with low to moderate sphericity
Sorting: moderately sorted
Texture: cement supported
Packing / grain contacts: moderately close / tangential grain contacts dominant, minor point & concavo-convex contacts
Pore types: rare grain size dissolution pores, there might be micropores associated with kaolin

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with dominantly straight crystal boundaries, plagioclase feldspars with albite twinning (albite composition), sericitised grains which lack twining are probably K-feldspars, other K-feldspars have perthite twinning & granophyric texture, lithics of quartzite, shale, schist, chert, partially oxidised chalcedony, ?basalt (randomly oriented minute ragged feldspar laths), devitrified glass, ?dacite or andesite (feldspar phenocryst in fine grained groundmass with minor replacement by chlorite), granite (quartz+plagioclase), ?granodiorite (coarse crystals of plagioclase, K-feldspar, quartz & accessory minerals replaced by chlorite) & other identified lithics, straight & bent muscovite & biotite flakes up to 0.70mm in length, accessory very fine to fine sand size zircon, rutile & tourmaline
Matrix: blocky opaque organic matter
Authigenic minerals: rare grains replaced by kaolin booklets which are up to 15 microns in diameter, single crystals of anhedral carbonate spar (~20 microns diameter) which did not respond to staining (?siderite) appear to be zoned & have both replaced grains & are scattered along grain margins, pervasive pore filling & grain replacing anhedral dusty ferroan calcite spar, rare blocky crystals of pyrite partially replace selected lithics

Visual Estimate of Composition			Volume %
Framework grains	Quartz	monocrystalline	30
		polycrystalline	5
	Feldspar	K-spar	tr
		plagioclase	1
	Lithics	metamorphic	9
		igneous	14
		unidentified/oxidised	3
	Mica	muscovite	2
		biotite	1
	Accessory minerals		tr
Matrix	Organic matter		tr
Authigenic minerals	Chlorite	replace	tr
	Kaolin	replace	tr
	Siderite		8
	Fe Calcite	replace	20
		fill pores	5
	Pyrite		1
Porosity	Dissolution		tr
	Micropores		tr

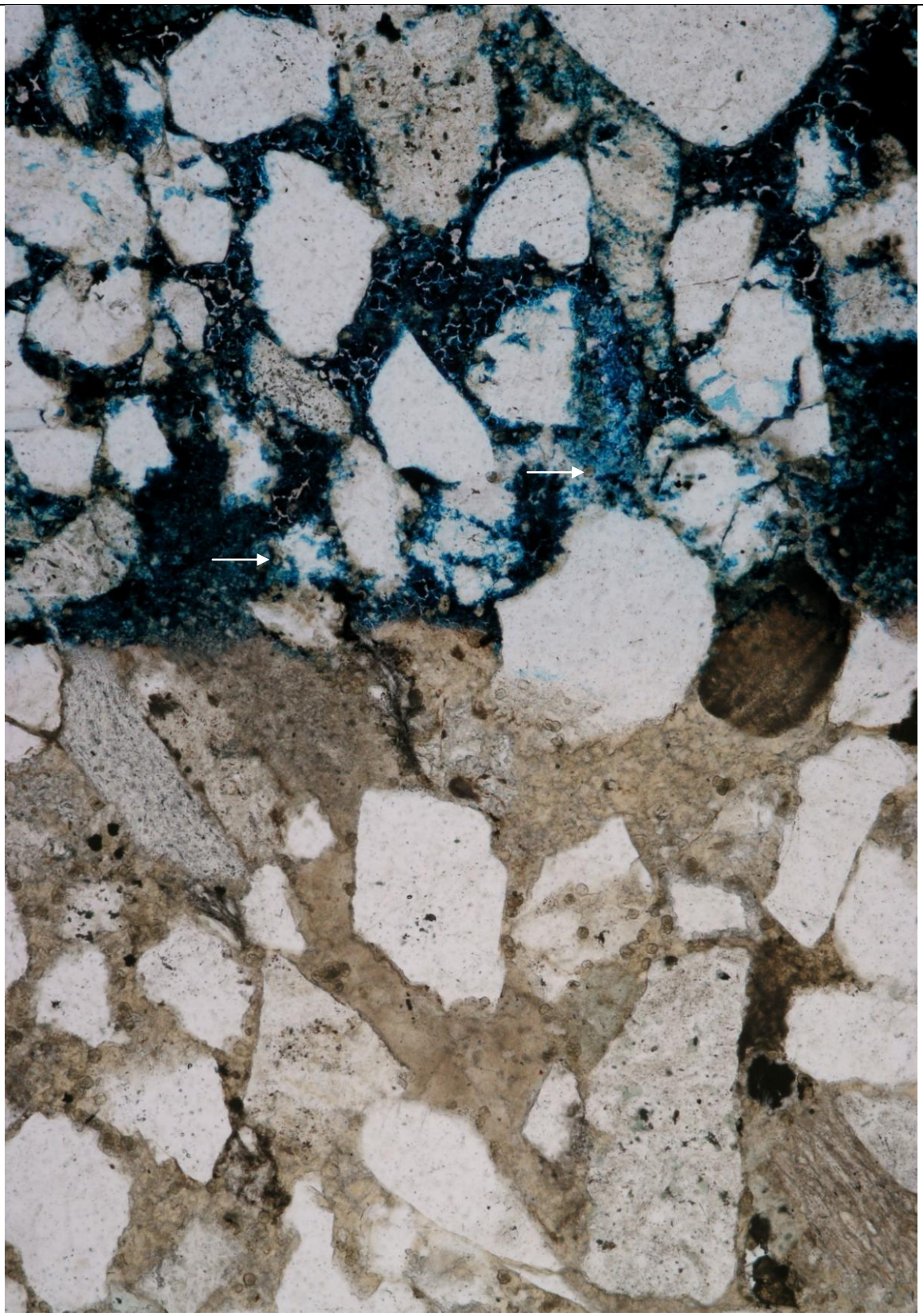

Figure 3

The top half of this field of view has been stained for carbonates. The dark blue colour illustrates the abundance of ferroan calcite cement which has filled pores & replaced grains. Note the minute single crystals (arrows) of spar (?siderite) which did not respond to staining & are more easily seen where there is no staining. Fermat-1, swc 8, depth 3359m. Plane light. Horizontal field of view 1.30mm.

3.4 Fermat-1, swc 9, depth 3354.0m

Rock classification: **Carbonate cemented sublitharenite**

Texture:

Sedimentary structures: changes in grain size & sorting indicate the presence of planar laminae, bimodal grain size in coarser laminae

Average grain size: medium sand (~0.45mm)

Range in grain size: very fine sand to pebbles

Roundness / sphericity: angular with low sphericity

Sorting: poorly sorted

Texture: cement/matrix supported

Packing / grain contacts: moderately open packing / point & tangential grain contacts

Pore types: fracturing during sampling, possible shrinkage cracks & micropores associated with chlorite, rare grain size dissolution pores

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with straight crystal boundaries is up to very coarse sand in size, polycrystalline quartz with sutured crystal boundaries, plagioclase with albite twinning (andesine composition) & K-felspars that lack twinning or have remnants of perthite twinning are partially replaced by ferroan calcite, lithics of quartzite, chert, shale, ?pyrophyllite, brown mudstone, volcanics (?devitrified glass & grains with ?trachytic texture), plutonics (?granitic quartz+K-feldspar) & grains of unknown origin, granules are composed of metasiltstone, chloritised ?basalt & siderite replaced grains, medium sand size pseudo-ooids have a dusty core & partial rim of chlorite aligned tangentially to the grain margin, flakes of bent & highly altered muscovite & biotite are up to 0.5mm in length, accessory very fine sand size tourmaline

Matrix: pseudo matrix of chlorite, blocky opaque organic matter & stringers

Authigenic minerals: grains of unknown origin replaced by fibrous chlorite, other grains replaced by dusty micrite, isolated grains replaced by kaolin booklets up to 25 microns in diameter & crystals within lithics replaced by kaolin, single crystals of anhedral to subhedral Fe rich carbonate spar which did not respond to staining (?siderite) have precipitated along grain margins & within the chloritised grains, chlorite & other grains have been partially replaced & pores filled by irregular patches of anhedral twinned ferroan calcite spar which appears to postdate the single crystals, rarely there are drusy mosaics resulting from an increase in size of single crystals of siderite & a pore filled with ferroan calcite

Visual Estimate of Composition			Volume %
Framework grains	Quartz	monocrystalline	53
		polycrystalline	6
	Feldspar	K-spar	3
		plagioclase	1
	Lithics	sedimentary	tr
		metamorphic	4
		igneous	2
		unidentified/oxidised	3
	Mica	muscovite	tr
		biotite	tr
	Pseudo-ooids		tr
	Accessory minerals		tr
Matrix	Organic matter		tr
Authigenic minerals	Chlorite	replace	7
	Kaolin	replace	tr
	Siderite		12
	Calcite	replace	6
		fill pores	2
Porosity	Dissolution		tr
	Shrinkage		tr
	Micropores		tr

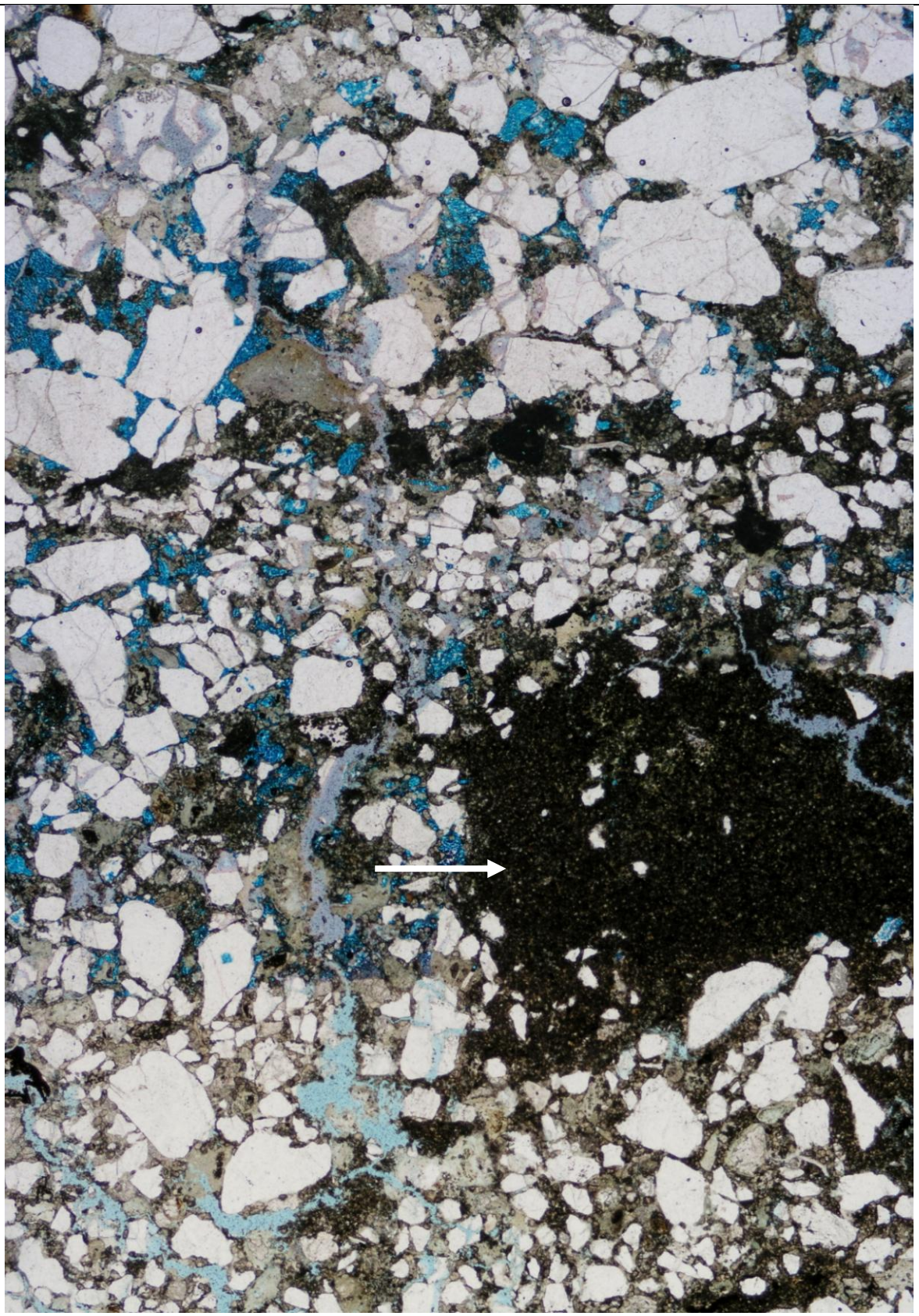

Figure 4a

General field of view illustrating the presence of planar laminae. Dark blue areas (top half of field of view) are composed of ferroan calcite. Note the granule size grain replaced by siderite (arrow) in the finer grained laminae. This granule was fractured during sampling. Fermat-1, swc 9, depth 3354.0m. Plane light. Horizontal field of view 6.5mm.

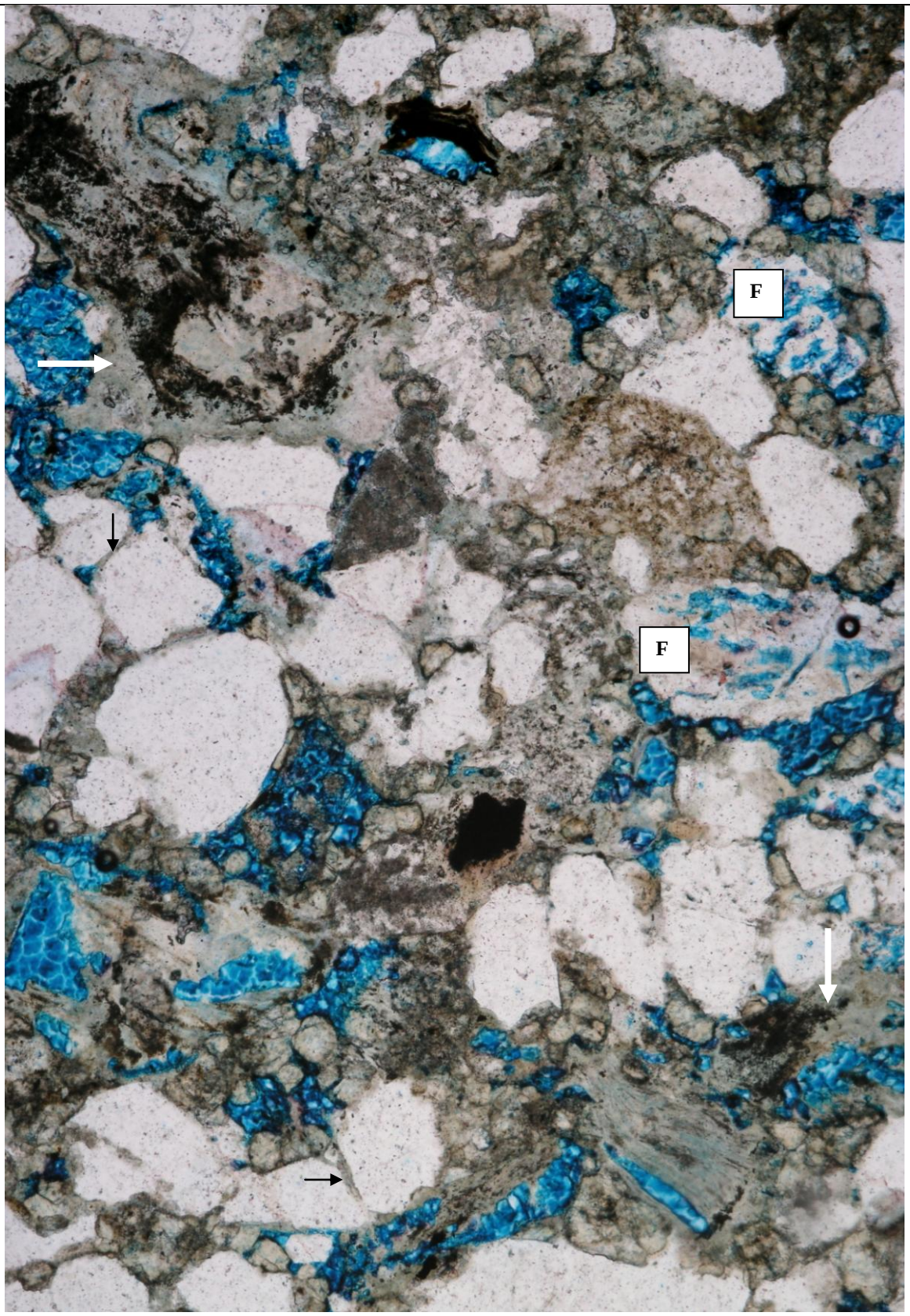

Figure 4b

Closer field of view showing remnants of chlorite between grains (small arrows) & replacing grains (large arrows) including micas. K-feldspars (F) partially replaced by ferroan calcite (dark blue) & anhedral ?siderite crystals (high relief) are also apparent. Fermat-1, swc 9, depth 3354.0m. Plane light. Horizontal field of view 1.30mm.

3.5 Fermat-1, swc 17, depth 3065.5m

Rock classification: **Sublitharenite**

Texture:

Sedimentary structures: textural disruption during sampling makes identification of structures difficult, there are muddy laminae separating beds of fine sand & microstylolites but the nature of contact with a mudstone ?lithic 2.2cm in diameter is not clear (this is probably drilling mud)

Average grain size: fine sand (~0.19mm)

Range in grain size: clay to medium sand

Roundness / sphericity: subangular with low sphericity

Sorting: moderately

Texture: grain supported

Packing / grain contacts: moderately close / tangential, concavo-convex & sutured contacts

Pore types: primary intergranular pores are angular in outline but may not be interconnected, isolated grain size pores, possible micropores associated with chlorite & kaolin

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with either straight or sutured crystal boundaries, fresh plagioclase feldspars with albite twinning (?andesine & labradorite), K-feldspars with perthite twinning, lithics of chert, chalcedony, quartzite, schist, plutonics (?granitic quartz+feldspar) & unidentified lithics, bent muscovite & biotite flakes up to 0.35mm in length, accessory very fine sand size tourmaline, zircon, rutile & opaques

Matrix: dark brown anhedral clay containing abundant mica (muscovite & biotite) flakes & rare silt size quartz & brick red organic matter (?tannin)

Authigenic minerals: fine sand size dusty brown grains with wormy texture typical of glaucony, irregular discontinuous chlorite rims up to 10 microns in thickness are pale green to partially oxidised, grains of unknown origin have been replaced by fibrous chlorite, rare pore filling & grain replacing minute kaolin booklets, straight grain contacts where chlorite is absent indicates minor silicification, framboidal (up to 25 microns in diameter) & blocky pyrite have partially to completely replaced grains, framboids are concentrated in the detrital clay, pore filling & grain replacing (particularly lithics) twinned ferroan calcite spar

Visual Estimate of Composition			Volume %
Framework grains	Quartz	monocrystalline	57
		polycrystalline	3
	Feldspar	K-spar	tr
		plagioclase	2
	Lithics	metamorphic	1
		igneous	3
		unidentified	2
	Mica	muscovite	3
		biotite	tr
	Accessory minerals		tr
Matrix	Clay		3
	Organic matter		tr
Authigenic minerals	Glaucony		tr
	Chlorite	replace	2
		fill/rim pores	6
	Kaolin	replace	tr
	Quartz		5
	Fe Calcite	replace	2
		fill pores	2
	Pyrite	replace	3
Porosity	Intergranular		5
	Dissolution		tr
	Micropores		tr

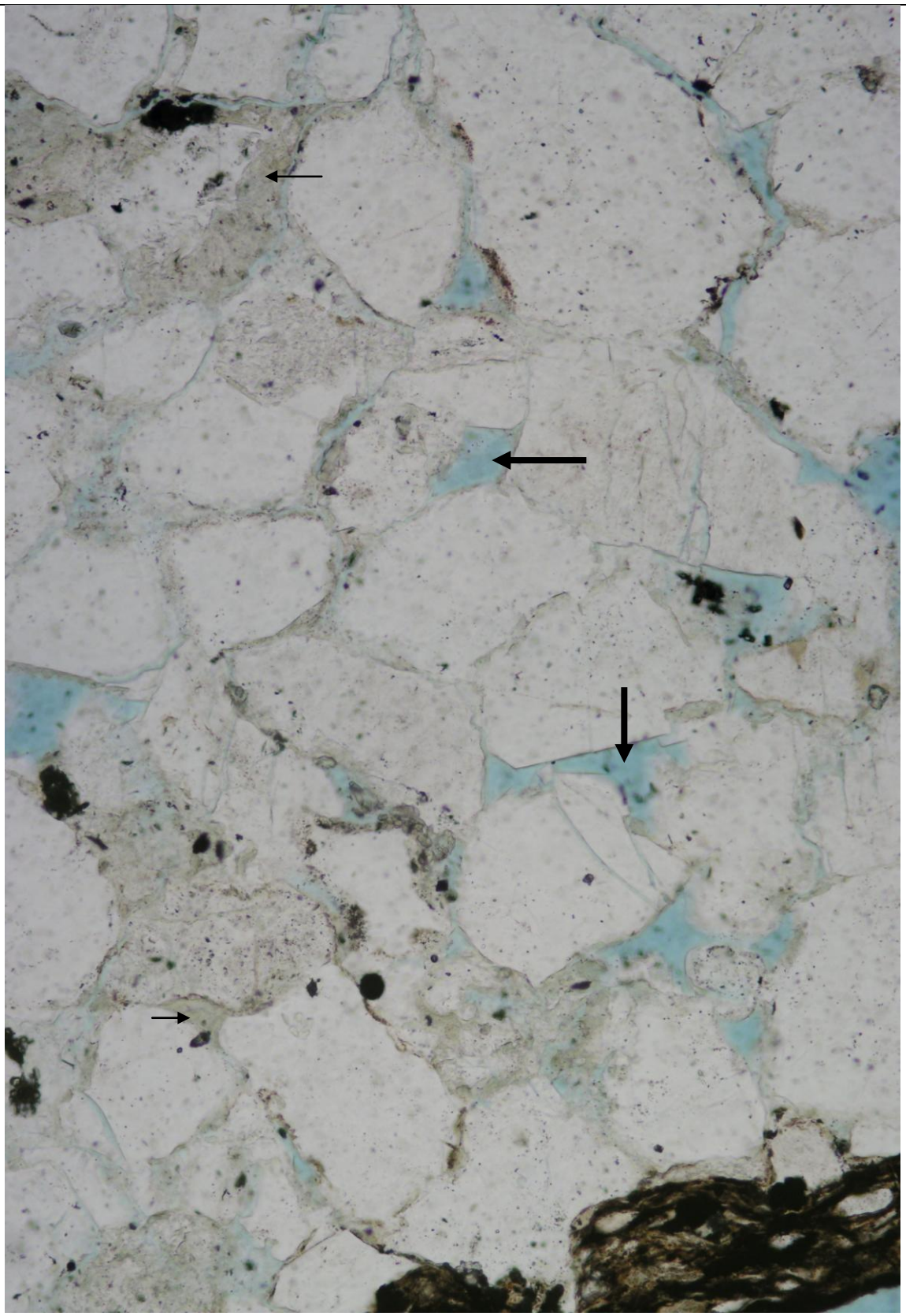

Figure 5

Sutured contact between the muddy laminae (dark brown) and fine grained sandstone. Note the intergranular pores (large arrows) & irregular distribution of grain replacing & pore rimming chlorite (small arrows). Fermat-1, swc 17, depth 3065.5m. Plane light. Horizontal field of view 0.65mm.

3.6 Fermat-1, swc 18, depth 3057.4m

Rock classification: **Sublitharenite**

Texture:

Sedimentary structures: irregular patches of muddy sediment could suggest bioturbation of laminae or the presence of mudstone lithics, moderate textural disruption during sampling

Average grain size: fine-medium grained sand (~0.25mm)

Range in grain size: clay to medium grained sand

Roundness / sphericity: angular to subrounded with low sphericity

Sorting: moderately

Texture: grain supported

Packing / grain contacts: moderately close / tangential & concavo-convex grain contacts dominant, minor sutured contacts

Pore types: micropores associated with authigenic clay, possible honeycomb pores & grain size dissolution pores

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with either straight or sutured crystal boundaries, fresh & corroded K-feldspars with tartan & perthite twinning & highly sericitised grains, plagioclase feldspar with albite twinning (?andesine & labradorite), lithics of chert (including banded chert), chalcedony, volcanics (?trachytic texture & ?devitrified glass), rare plutonic (?granite), shale, quartzite & unidentified oxidised siliceous (?chert & chalcedony) grains, muscovite & biotite flakes up to 0.40mm in length, accessory very fine to fine sand size zircon & tourmaline

Matrix: brown anhedral clay & stringers of organic matter

Authigenic minerals: very fine sand size bright green glaucony with wormy texture, dusty highly altered grains have a similar texture, pores filled & grains replaced by fibrous chlorite, rare grain replacing kaolin booklets up to 15 microns diameter, where rounded dust rims are evident the quartz overgrowths are inherited, anhedral Fe rich micrite concentrates in a stringer which may be replacing detrital clay, grain & clay replacing ferroan calcite spar postdates the chlorite, blocky & framboidal pyrite concentrates where detrital clay is present

Visual Estimate of Composition			Volume %
Framework grains	Quartz	monocrystalline	60
		polycrystalline	5
	Feldspar	K-spar	1
		plagioclase	2
	Lithics	metamorphic	1
		igneous	4
		unidentified	2
	Mica	muscovite	2
		biotite	tr
	Accessory minerals		tr
Matrix	Clay		3
	Organic matter		tr
Authigenic minerals	Glaucony		tr
	Chlorite	replace	2
		fill/rim pores	10
	Kaolin	replace	tr
	Siderite	replace	1
	Fe Calcite	replace	2
	Pyrite	replace	3
Porosity	Dissolution		tr
	Micropores		1

Figure 6

Typical field of view parallel to muddy laminae illustrating the lack of macro-pores. Dark blue areas are stained ferroan calcite replacing chlorite & other grains. A bright green grain of glaucony (arrow) is also apparent. Fermat-1, swc 18, depth 3057.4m. Plane light. Horizontal field of view 1.30mm.

3.7 Fermat-1, swc 20, depth 3025.7m

Rock classification: **Sublitharenite**

Texture:

Sedimentary structures: disrupted muddy matrix suggests bioturbation, microstylolites where matrix is abundant

Average grain size: medium sand (~0.31mm)

Range in grain size: clay to coarse sand

Roundness / sphericity: angular to subangular with low sphericity

Sorting: poor

Texture: matrix & grain supported

Packing / grain contacts: close packing / tangential, concavo-convex & sutured contacts

Pore types: honeycomb dissolution pores, micropores associated with kaolin, possible intergranular pores where matrix is absent, permeability would be poor due to the abundance of matrix

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with dominantly straight crystal boundaries, microcrystalline quartz, fresh, sericitised & corroded K-feldspars with simple, tartan & perthite twinning, dusty plagioclase with albite twinning, lithics include chert, chalcedony, quartzite, volcanics (?trachytic texture, glass & other unidentified volcanics) straight & bent muscovite & biotite flakes up to 0.25mm in length, accessory medium sand size tourmaline

Matrix: irregularly distributed anhedral dark brown clay with silt size quartz & stringers of opaque organic matter

Authigenic minerals: very fine to medium sand size pale to bright green deformed glaucony with wormy texture is partially replaced by scalenohedral crystals of Fe rich spar (siderite) & pyrite, rare grains replaced by fibrous chlorite, kaolin booklets which have replaced isolated grains are up to 10 microns in diameter, prismatic quartz overgrowths where detrital clay is absent & intergranular pores might be preserved, elsewhere there is grain replacing & pore filling ferroan calcite spar, framboidal & blocky pyrite has replaced detrital clay & glaucony

Visual Estimate of Composition			Volume %
Framework grains	Quartz	monocrystalline	60
		polycrystalline	5
	Feldspar	K-spar	3
		plagioclase	tr
	Lithics	metamorphic	1
		igneous	4
		unidentified	3
	Mica	muscovite	1
		biotite	tr
	Accessory minerals		tr
Matrix	Clay		8
	Organic matter		tr
Authigenic minerals	Glaucony		1
	Chlorite	replace	1
	Kaolin	replace	tr
	Quartz		2
	Siderite	replace	1
	Fe Calcite	replace & fill	4
	Pyrite	replace	2
Porosity	Intergranular		1
	Dissolution		2
	Micropores		tr

Figure 7

Macro-pores in this sublitharenite are not interconnected. Isolated intergranular pores (small arrow) & honeycomb pores (large arrow) are evident. Note the sutured grain contacts where detrital clay (brown) is present & deformed grain of glaucony (green). Fermat-1, swc 20, depth 3025.7m. Plane light. Horizontal field of view 1.30mm.

3.8 Fermat-1, swc 21, depth 3017.0m

Rock classification: **Sublitharenite**

Texture:

Sedimentary structures: irregular muddy patches & discontinuous laminae suggest bioturbation
Average grain size: medium sand (~0.36mm)
Range in grain size: clay to very coarse sand
Roundness / sphericity: angular to subrounded with low to moderate sphericity
Sorting: very poor
Texture: grain & matrix supported
Packing / grain contacts: close packing / sutured contacts where detrital clay is abundant, concavo-convex & tangential contacts in cleaner areas
Pore types: isolated remnants of intergranular pores, grain size dissolution pores & intragranular pores in lithics, possible micropores associated with kaolin

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with either straight or sutured crystal boundaries, dusty sericitised K-feldspars which lack twinning or have perthite & tartan twinning, rare plagioclase with albite twinning, lithics of chert, shale, volcanics (trachytic texture) & plutonic (?corroded granite), fresh & bent muscovite flakes 0.70mm in length, accessory fine sand size zircon & opaques

Matrix: dark brown anhedral clay aligned tangentially to grains along sutured contacts, silt size quartz & stringers of opaque organic matter

Authigenic minerals: silt to medium sand size very bright green deformed grains of glaucony with wormy texture, unidentified grains replaced by fibrous chlorite, scalenohedral crystals of Fe rich spar partially to completely replace grains & muddy matrix, rare grains replaced by minute kaolin booklets (10 microns diameter), straight grain contacts indicate minor silicification where detrital clay is absent

Visual Estimate of Composition			Volume %
Framework grains	Quartz	monocrystalline	59
		polycrystalline	6
	Feldspar	K-spar	1
		plagioclase	tr
	Lithics	metamorphic	2
		igneous	5
		unidentified	2
	Mica	muscovite	tr
		biotite	tr
	Accessory minerals		tr
Matrix	Clay		7
	Organic matter		tr
Authigenic minerals	Glaucony		2
	Chlorite	replace	tr
	Kaolin	replace	tr
	Siderite	replace	6
	Quartz		4
Porosity	Intergranular		3
	Dissolution		2
	Micropores		tr

Figure 8

Contact between clean and muddy areas of the section illustrating the concentration of pores (blue) in the clean portion. Note the scalenohedral carbonate spar (arrows) that has partially replaced detrital clay (brown) and other grains. Fermat-1, swc 21, depth 3017.0m. Plane light. Horizontal field of view 1.30mm.

3.9 Fermat-1, swc 22, depth 3003.8m

Rock classification: **Sublitharenite**

Texture:

Sedimentary structures: discontinuous stringers of detrital clay indicate the orientation of bedding, extensive grain fracturing during sampling

Average grain size: medium sand (~0.45mm)

Range in grain size: clay to coarse sand

Roundness / sphericity: subangular to subrounded with low to moderate sphericity

Sorting: moderately well

Texture: grain supported

Packing / grain contacts: moderately open / point & tangential contacts in clean sands & minor suturing where detrital clay is present

Pore types: primary intergranular pores are angular in outline & rarely elongate suggesting preservation of permeability, intragranular pores within corroded volcanic lithics, honeycomb pores where K-feldspars are corroded

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with either straight or sutured crystal boundaries, microcrystalline quartz, up to coarse grained K-feldspars with perthite twinning, lithics of dusty & corroded chert, shale, quartzite, corroded volcanics (trachytic texture & devitrified glass), unidentified & corroded plutonics (?granite - quartz+ feldspar intergrowths), bent muscovite & biotite up to 0.45mm in length, accessory medium sand size tourmaline

Matrix: traces of pale brown clay form stringers that have been extensively replaced

Authigenic minerals: silt to coarse sand size bright green glaucony with wormy texture, inclusions within lithics replaced by chlorite, anhedral to subhedral single crystals of Fe rich carbonate spar (15-20microns diameter) are concentrated on grain margins where detrital clay & micas are apparent, pore filling & grain replacing ferroan calcite spar in isolated patches, euhedral terminations on pore margins, dust rims & straight grain contacts indicate the distribution of quartz overgrowths, blocky pyrite has replaced grains & postdates the carbonate spar

Visual Estimate of Composition			Volume %	
Framework grains	Quartz	monocrystalline	52	
		polycrystalline	5	
	Feldspar	K-spar	3	Lithics
	metamorphic	2		
		igneous	4	
		unidentified	tr	
	Mica	muscovite	tr	
		biotite	tr	
	Accessory minerals		tr	
Matrix	Clay		tr	
Authigenic minerals	Glaucony		1	
	Chlorite	replace	tr	
	Siderite	replace	5	
	Fe Calcite	replace	1	
		fill pores	2	
	Quartz		10	
	Pyrite		tr	
Porosity	Intergranular		12	
	Dissolution		2	

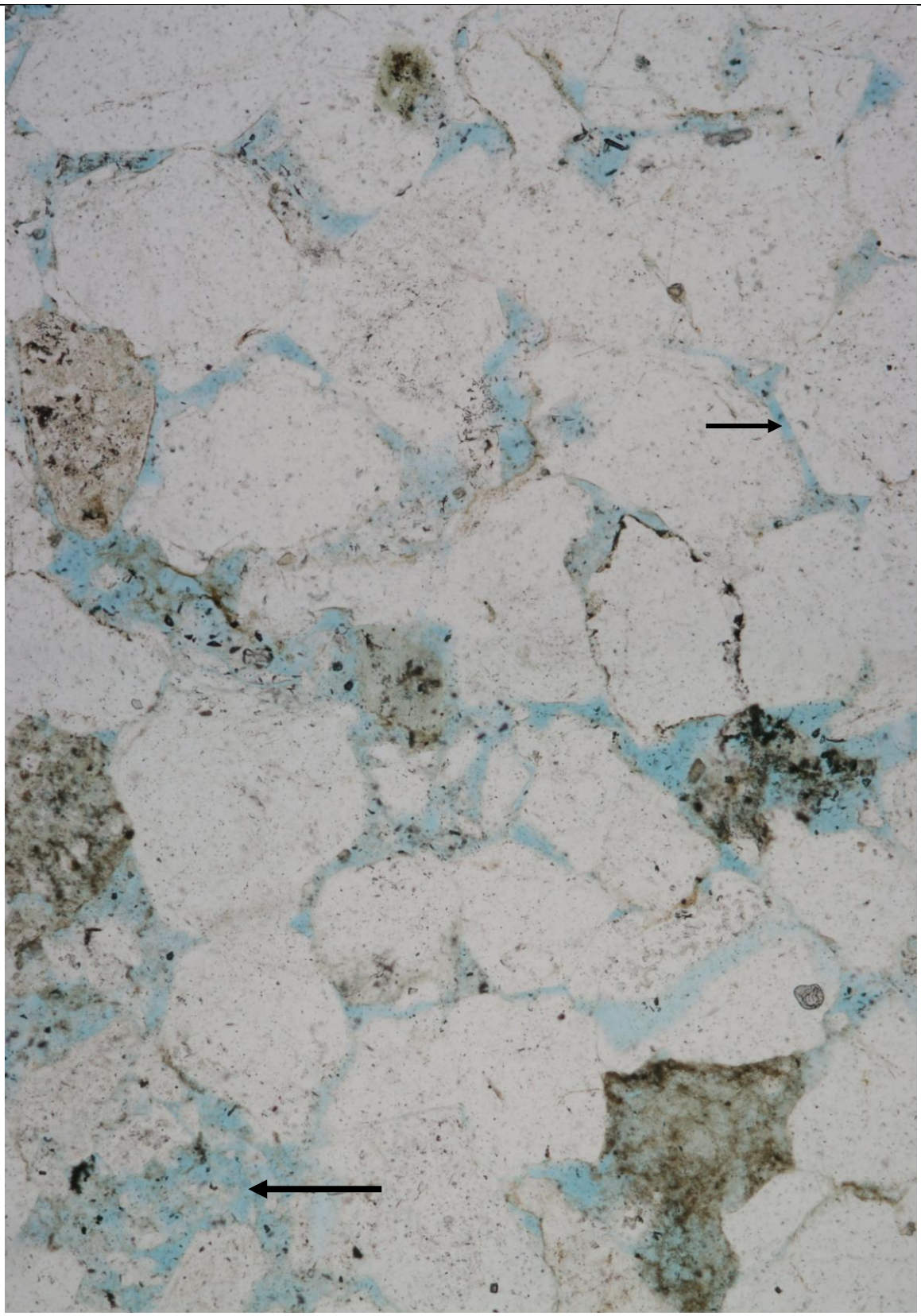

Figure 9

Primary intergranular pores (blue) are dominant in this sublitharenite which could suggest moderate reservoir quality, especially where pores are elongate (small arrow). Porosity has been enhanced by the partial corrosion of volcanic lithics (large arrow) which have remnants of trachytic texture. Fermat-1, swc 22, depth 3003.8m. Plane light. Horizontal field of view 1.30mm.

3.10 Fermat-1, swc 26, depth 2894.0m

Rock classification: **Greywacke**

Texture:

Sedimentary structures: muddy laminae with sutured grain contacts contrast with fractures filled with drilling mud & very angular fines where texture has been disrupted

Average grain size: medium sand (~0.46mm) but almost bimodal with peaks of medium sand & very coarse sand

Range in grain size: clay to pebbles

Roundness / sphericity: subangular to subrounded with low sphericity

Sorting: very poor

Texture: matrix supported

Packing / grain contacts: moderately close to close packing/ tangential & sutured grain contacts

Pore types: isolated grain size pores & micropores associated with kaolin

Composition:

Framework grains: monocrystalline quartz, coarse grains of polycrystalline quartz with straight crystal boundaries & other grains with sutured crystal boundaries, microcrystalline quartz, K-feldspars with perthite twinning are up to coarse sand in size, lithics of chert, very fine grained metasediments, plutonics (quartz +feldspar intergrowths) & quartzite, calcareous planktonic foraminifera filled with either mud or pyrite are approximately 0.1mm in diameter, muscovite flakes are up to 0.50mm in length, accessory fine to medium sand size tourmaline, epidote & rutile, & silt to fine sand size zircon

Matrix: anhedral dark brown clay & blocky opaque organic matter aligned tangentially along sutured grain contacts

Authigenic minerals: very fine to coarse sand size pale to bright green grains of deformed glaucony with wormy & fibrous textures, grain replacing & pore filling kaolin booklets are typically 10-15 microns in diameter & have a jagged contact with quartz overgrowths, silicification is limited by the high percentage of detrital clay, anhedral to subhedral blocky ferroan calcite spar has replaced isolated grains including feldspars, blocky & framboidal pyrite concentrates in the detrital clay

Visual Estimate of Composition			Volume %	
Framework grains	Quartz	monocrystalline	63	
		polycrystalline	4	
	Feldspar	K-spar	2	
	Lithics	metamorphic	2	
		igneous	tr	Fossils
	tr			
	Mica	muscovite	tr	
	Accessory minerals		tr	
Matrix	Clay		17	
	Organic matter		1	
Authigenic minerals	Glaucony		3	
	Kaolin	replace	2	
		fill pores	1	
	Fe Calcite	replace	1	
	Quartz		tr	
	Pyrite		1	
Porosity	Dissolution		2	
	Micropores		tr	

Figure 10
General field of view illustrating the abundance of detrital clay (dark brown) and close grain packing. Rare dissolution pores (blue) are evident but these are not interconnected. Fermat-1, swc 26, depth 2894.0m. Plane light. Horizontal field of view 3.25mm.

3.11 Fermat-1, swc 27, depth 2886.7m

Rock classification: **Muddy quartzarenite**

Texture:

Sedimentary structures: laminae of detrital clay on one edge of the section indicates the orientation of bedding but elsewhere texture has been disrupted & grains fractured during sampling

Average grain size: coarse sand (~0.54mm)

Range in grain size: clay to granules

Roundness / sphericity: angular to subrounded with low to moderate sphericity

Sorting: poor

Texture: matrix & grain supported

Packing / grain contacts: moderately close / tangential, concavo-convex & sutured contacts

Pore types: honeycomb pores within corroded feldspars, possible micropores associated with kaolin & glaucony, there might be intergranular pores where detrital clay is absent & chlorite rims developed but none have been preserved

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with straight crystal boundaries is up to very coarse sand in size, other polycrystalline quartz with sutured crystal boundaries is only medium sand in size, microcrystalline quartz, corroded K-feldspars which lack twinning or have perthite twinning, rare very fine sand size fresh plagioclase with albite twinning, lithics of chert & quartzite, bent & altered biotite flakes & fresh muscovite are up to 0.35mm in length, accessory fine sand size tourmaline

Matrix: dark brown anhedral clay where grain contacts are sutured & in the laminae on the edge of the section

Authigenic minerals: fine to coarse sand size bright green deformed grains of glaucony with wormy & illitic textures, possible discontinuous chlorite rims are up to 10 microns wide, grain replacing & pore filling pseudohexagonal kaolin booklets are 10-15 microns in diameter & subhedral, glaucony grains & detrital clay have been partially replaced by scalenohedral crystals of carbonate spar (siderite) & minor ferroan calcite spar, ferroan calcite has also completely replaced grains of unknown origin, framboidal pyrite & traces of blocky pyrite also replace matrix & glaucony grains

Visual Estimate of Composition			Volume %
Framework grains	Quartz	monocrystalline	64
		polycrystalline	4
	Feldspar	K-spar	2
		plagioclase	tr
	Lithics	metamorphic	tr
		igneous	tr
	Mica	muscovite	tr
		biotite	tr
	Accessory minerals		tr
Matrix	Clay		12
Authigenic minerals	Glaucony		5
	Chlorite		1
	Kaolin	replace	2
		fill pores	1
	Siderite		4
	Fe Calcite	replace	1
	Pyrite		1
Porosity	Intergranular		?tr
	Dissolution		2
	Micropores		tr

Figure 11
Edge of the section where the orientation of bedding is preserved but there has been extensive grain fracturing. Rare grain size pores (small arrow) are apparent and the dark blue grain (large arrow) has been replaced by ferroan calcite. Fermat-1, swc 27, depth 2886.7m. Plane light. Stained section. Horizontal field of view 3.25mm.

3.12 Fermat-1, swc 28, depth 2876.6m

Rock classification: **Muddy quartzarenite**

Texture:

Sedimentary structures: silty muddy laminae within beds of poorly sorted sandstone, grains in the sandstone beds are extensively fractured

Average grain size: coarse sand (~0.64mm)

Range in grain size: clay to granules

Roundness / sphericity: subangular to subrounded with low sphericity

Sorting: very poorly

Texture: matrix & grain supported

Packing / grain contacts: close grain packing / sutured & concavo-convex grain contacts dominant with minor tangential contacts

Pore types: possible grain size dissolution pores & micropores associated with glaucony in the muddy laminae & possible intergranular pores where silicification is apparent

Composition:

Framework grains: monocrystalline quartz, polycrystalline quartz with straight crystal boundaries up to granules in size, isolated very fine sand size altered feldspars with remnants of twinning, lithics of chert & quartzite which contains veins filled with chert/chalcedony, muscovite & biotite flakes up to 0.60mm in length concentrate in the muddy laminae, accessory very fine to medium sand size tourmaline, & silt size zircon & rutile

Matrix: dark brown illitic clay contains numerous silt size grains

Authigenic minerals: bright green deformed grains of glaucony with wormy texture are up to coarse sand in size, inclusions within lithics & polycrystalline quartz are replaced by chlorite, minute kaolin booklets have replaced grains & filled pores, rare straight grain contacts may indicate the presence of quartz overgrowths in the sandstone beds, clusters of pyrite framboids partially replace matrix clay & glaucony grains, traces of grain replacing crushed ferroan calcite carbonate spar

Visual Estimate of Composition			Volume %
Framework grains	Quartz	monocrystalline	61
		polycrystalline	7
	Feldspar	K-spar	tr
	Lithics	metamorphic	tr
		igneous	tr
	Mica	muscovite	2
		biotite	tr
	Accessory minerals		tr
Matrix	Clay		10
Authigenic minerals	Glaucony		6
	Chlorite		tr
	Kaolin	replace	3
		fill pores	2
	Quartz		1
	Fe Calcite	replace	1
	Pyrite		2
Porosity	Intergranular		?2
	Dissolution		2
	Micropores		tr

Figure 12

Gradational planar contact between muddy laminae (dark brown) and poorly sorted sandstone. Grain contacts are sutured where detrital clay is present. There are lenses of sand in the muddy laminae but fracturing (blue) is an artifact of sampling. Fermat-1, swc 28, depth 2876.6m. Plane light. Horizontal field of view 3.25mm.