## **DRILLING FLUID** Report # 22 Date : 22-Jun-2007 REPORT Rig No 11 Spud : 1-Jun-2007 rilling fluids Depth 1631 to 1706 Metres Petro Tech Pty Ltd CONTRACTOR **Century Drilling Limited** OPERATOR **REPORT FOR REPORT FOR Dave Hair Cesar Miaco** WELL NAME AND No FIELD LOCATION STATE **Gippsland Basin** Boola Boola#2 **PEP 166** Victoria CIRCULATION DATA JET SIZE MUD VOLUME (BBL) DRILLING ASSEMBLY CASING PUMP SIZE BIT SIZE TYPE SURFACE IRCULATION 12 12 12 13 3/8 49 ft HOLE PITS PRESS (PSI) 8.50 Reed-TD43AP SET @ 15 м 360 385 5.5 X 7 1400 Inches ASSUMED EFI ORILL PIPE TYPE 9 5/8 INTERMEDIATE 1870 ft TOTAL CIRCULATING VOL. PUMP MODEL BOTTOMS 1503 Mtrs SET @ GD-PZ-7 SIZE 4.5 820 IN STORAGE 97 UP (min) 16.6 # 570 м % 38 min BBL/ST STK / MIN DRILL PIPE engtl PRODUCTION. o TYPE TOTAL CIRC ft SIZE 4.50 нw 37 Mtrs LINER Set @ 75 0.0499 TIME (min) 170 100 min MID TYPE DRILL COLLAR SIZE ( ength BBL/MIN GAL/MIN ANN VEL. 163 Tur DP 255 6.25 8.00 166 Mtrs Gel/KCl/Polymer 8.23 346 (ft/min) DC 1026 Tu MUD PROPERTIES MUD PROPERTY SPECIFICATIONS Mud Weight 8.6 - 9.1 API Filtrate HPHT Filtrate SAMPLE FROM Suction Suction 8.0 - 15.0 Plastic Vis ALAP Yield Point рH TIME SAMPLE TAKEN 1100 2230 4.0 - 10.0 9.0 - 9. DEPTH (ft) - (m) KCl 1.0 - 2.0% РНРА Sulphites 1,702 Metre 1,660 80 - 12 <sup>0</sup> F FLOWLINE TEMPERATURE 52 **OBSERVATIONS** $^{\circ}C$ 51 ppg / SG 9.40 9.40 1.128 WEIGHT 1.128 FUNNEL VISCOSITY (sec/qt) API @ $^{0}C$ 35 34 Maintain volume using sump water Running desilter and desander, crackingt sand trap to keep MW at 9.4ppg PLASTIC VISCOSITY cP @ $41^{0}C$ 7 6 10 Dumped about 100 bbls of mud to bring MW to 9.4ppg YIELD POINT (lb/100ft<sup>2</sup>) 12 9 14 8 12 GEL STRENGTHS (lb/100ft<sup>2</sup>) 10 sec/10 min Started using PAC L to bring fluid loss values back in control 24 24 18 17 RHEOLOGY θ 600 / θ 300 Using Xanthan gum to increase viscosity and yield point θ 200 / θ 100 15 12 14 10 RHEOLOGY RHEOLOGY $\theta 6 / \theta 3$ 6 6 6 1 FILTRATE API (cc's/30 min) 16.6 19.4 <sup>0</sup> F HPHT FILTRATE (cc's/30 min) @ CAKE THICKNESS API : HPHT (32nd in) 1 1 7.1 SOLIDS CONTENT (% by Volume) 7.2 (% by Volume) OIL/WATER 92.9 92.8 OPERATIONS SUMMARY LIQUID CONTENT SAND CONTENT (% by Vol.) fr tr METHYLENE BLUE CAPACITY (ppb equiv.) 7.5 7.5 Drill ahead to midnight depth of 1706m pН 8.5 8.5 ALKALINITY MUD (**Pm**) ALKALINITY FILTRATE (Pf / Mf) 0.06 1.00 0.05 0.96 CHLORIDE (mg/L) 7,500 7,800 TOTAL HARDNESS AS CALCIUM (mg/L) 100 100 SULPHITE (mg/L) K+ (mg/L) 5,250 5,250 KCl (% by Wt.) 1.0 1.0 PHPA (ppb) Mud Accounting (bbls) Solids Control Equipment FLUID BUILT & RECEIVED FLUID DISPOSED SUMMARY Туре Hrs Cones Hrs Size Hr Premix (drill water) Desander 3 INITIAL VOLUME 845 Centrifuge Desander 2 24 Shaker #1 3 x 210 24 Premix (recirc from sump) Desilter 17 Desilter 12 24 Shaker #2 3 x 210 24 Degasser Drill Water Downhole 74 + FLUID RECEIVED 200 Direct Recirc Sump 200 Dumped 100 - FLUID LOST 225 Output (Gal/Min.) Overflow (ppg) Underflow (ppg) Other (eg Diesel) Other 30 + FLUID IN STORAGE 75 13.0 0.10 Desander 9.4 TOTAL RECEIVED TOTAL LOST FINAL VOLUME 9.4 11.5 0.50 895 Desilter 200 225 Product Received Used Close Solids Analysis **Bit Hydraulics & Pressure Data** Price Start Cost 155.20 32 4 28 620.80 Jet Velocity \$ \$ % PPB 334 AMC PAC L \$ 361.25 9 2 7 \$ 722.50 High Grav solids 0.1 1.94 Impact force 562 Xanthan Gum Total LGS 7.0 66.5 HHP 190 Bentonite 0.1 0.5 HSI 3.3 Drilled Solids 7.0 63.3 Bit Press Loss 941 500 psi Salt 0.5 4.5 CSG Seat Frac Press @ 2230 Hrs 0.50 Equiv. Mud Wt. 14.20 ppg 3.91 K @ 2230 Hrs ECD 12.99 ppg Max Pressure @ Shoe : 467 psi DAILY COST CUMULATIVE COST \$1,343.30 \$27,069.70

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