DEPT. NAT. RES & ENV
PE600038

[redacted]

EASTMAN TELECO
A Baker Hughes company

DUAL PROPAGATION RESISTIVITY, GAMMA RAY

Company BHP PETROLEUM
Well ERIC THE RED-1
Field VIC/P31
County OTWAY BASIN
State VICTORIA
Country AUSTRALIA

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Well Location:
LAT : 39 deg 00' 45.44" SOUTH
LONG : 143 deg 10' 51.45" EAST

Other Services:
DIRECTIONAL SURVEYS

API Number	Sect.	Twp.	Range

Log Measured From RT 25.3m Above Perm. Datum
Depth In 364m MWD Start 20-02-93 Perm. Datum MSLT
Depth Out 1875m MWD End 26-02-93

Elev. KB N/A
Elev. DF 25.3m
Sea Bed/GL 75.0m

Bore Hole Record			Casing Record		
Hole Size	From	To	Casing Size	From	To
36"	0m	137m	30"	SEAFLOOR	136m
17 1/2"	137m	364m	13 3/8"	SEAFLOOR	355.4m
12 1/4"	364m	1017m	9 5/8"	SEAFLOOR	1007.4m
8 1/2"	1017m	1875m			

Drilling Contractor DOLPHIN DRILLING Rig BYFORD

1:500

MEASURED DEPTH

Company Rep. G. HOWARD J. DICKSON
FIELD PERSONNEL A. FELL P. PRINCE
Job # ETAU-234

Bit Run No.	5	6	7			
Eastman Teleco Data						
Run Number	1	2	3			
DHA Number	DHB 8439-1	DHE 1644-9	DHE 1644-9			
Surface Gear	IS TR2300	IS TR2300	IS TR2300			
Tool OD / Type	8.25"/DPR	6.75"/DPR	6.75"/DPR			
Run Data						
Bit Diameter	12.25"	8.5"	8.5"			
Measured Depth In	364m	1017m	1625m			
Measured Depth Out	1017m	1625m	1875m			
Top Interval Logged	364m	1017m	1619m			
Btm Interval Logged	1005.5m	1619m	1872m			
Min/Max Inclination	0.4/1.3	0.1/0.7	0.4/1.1			
Begin Log : Time	15:43 hrs	15:10 hrs	12:50 hrs			
Begin Log : Date	20-02-1993	23-02-93	25-02-93			
End Log : Time	09:55 hrs	02:45 hrs	05:55 hrs			
End Log : Date	21-02-1993	25-02-93	26-02-93			
Mud Data @ Depth	850m	1200m	1700m			
Mud Type	KCl PHPA	KCl PHPA	KCl PHPA			
Density from-to	1.08	1.08	1.08-1.10			
Mud Chlorides	33000	42000	40000			
Oil/Water Ratio	0/100	0/100	0/100			
Max Circ. Temp	32 C	37 C	48 C			
Company Rep.	G. Howard	J. Dickson	J. Dickson			
Field Eng.	A. Fell	P. Prince	A. Fell			

Remarks

LOG MNEMONICS:

GRAM = Natural Gamma Ray, API Calibrated [RWD]
GRAX = Natural Gamma Ray, API Calibrated [MWD]
TCDM = MWD Tool Temperature [RWD]
TCDX = MWD Tool Temperature [MWD]
RPCM = Resistivity Phase Difference, Borehole Corrected [RWD]
RACM = Resistivity Amplitude Ratio, Borehole Corrected [RWD]
RPDM = Resistivity Phase Difference, Dielectric Corrected [RWD]
RADM = Resistivity Amplitude Ratio, Dielectric Corrected [RWD]
PDEM = Resistivity, Elapsed Time Since Drilled [RWD]
PDDM = Resistivity, Data Density Integrated
WBCS = Weight On Bit [Surface]
ROPS = Rate of Penetration [Surface]
RPMS = Revolutions Per Minute [Surface]

VERIFICATION MNEMONICS:

PDBV = Phase Difference Base [VER]
PDOV = Phase Difference Offset [VER]
PDCV = Phase Difference Correction [VER]
ATBV = Attenuation Base [VER]
ATOV = Attenuation Offset [VER]
ATCV = Attenuation Correction [VER]
TCDV = MTC Temperature [VER]

SUB ASSEMBLY MNEMONICS:

DPR = Dual Propagation Resistivity
DIR = Directional
DET = Gamma Ray Detector

Remarks

SENSOR TO BIT DISTANCE (M)

Teleco Run Number	1	2	3
Bottom of Teleco Tool	9.47	3.22	2.43
Resistivity	10.06	3.78	2.99
Gamma Ray	11.53	5.51	4.72
Directional	14.17	8.24	7.55
TOOL INFORMATION			
Total Length	12.38	12.83	12.83
Total Weight Kg	2400	1600	1600
Run Circulating Hrs	23.00	37.50	20.50

RIGSITE SENSOR VERIFICATION DATA:

Verification:		Pre 1	Pre 2	Pre 3
DPR	s/n	8881	6133	6133
PD cal.	deg	9.016	7.474	7.474
PD rig	deg	8.971	7.693	7.641
Delta +/-	deg	-0.045	0.209	0.167
AR cal.	dB	5.813	5.702	5.702
AR rig	dB	5.957	6.110	6.084
Delta +/-	dB	0.144	0.408	0.382
TEMP. Sensor	C	20.6	14.8	31.3
DET	s/n	413-8	393-2	393-2
Background	cps	3.3	4.5	4.1

Remarks

LOG ENVIRONMENTAL CORRECTIONS:

Gamma Ray: Normalised for Tool Size, Borehole Size, Sensor Type. Correction has been made for mud potassium content.

Resistivity: Normalised for Tool Size, Borehole Size, Mud Resistivity, Temperature. No correction has been applied for formation dielectric properties.

COMMENTS:

MWD Transmission Data Rate: x 4 Splitphase (0.8 bits/second)
RWD Memory Update Rate - Gamma Ray: 5 /10 Seconds
- Resistivity: 5 /10 Seconds
Surface Logging System / Software: M-Series / 1.33X
Gamma Ray Detector Type: Scintillator

Surface data provided by Exlog:
Bit Depth.
Rate of penetration.
Weight on bit.
RPM

Remarks

REMARKS:

Remark 1 - Severe pump interference caused obliteration of MWD signal (364m -372m).

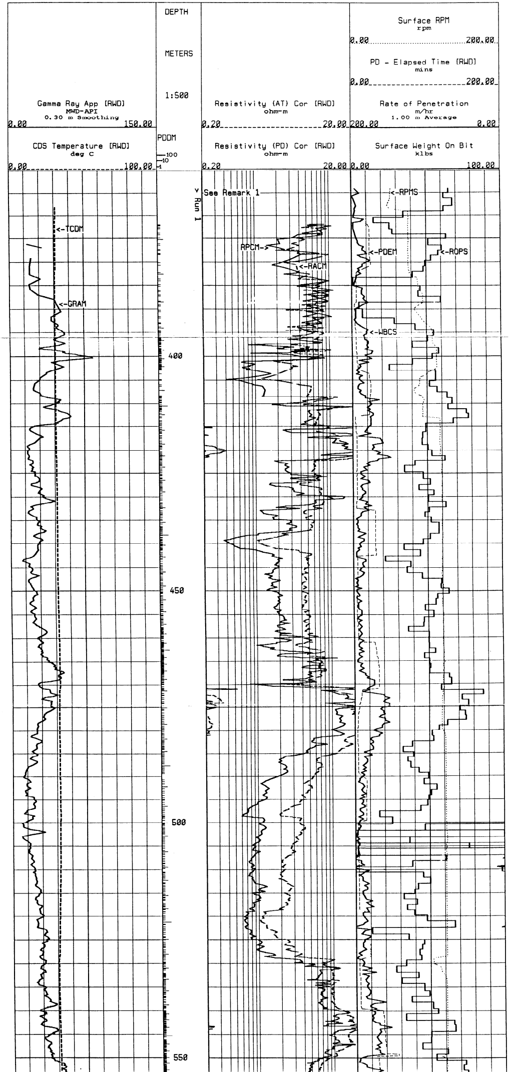
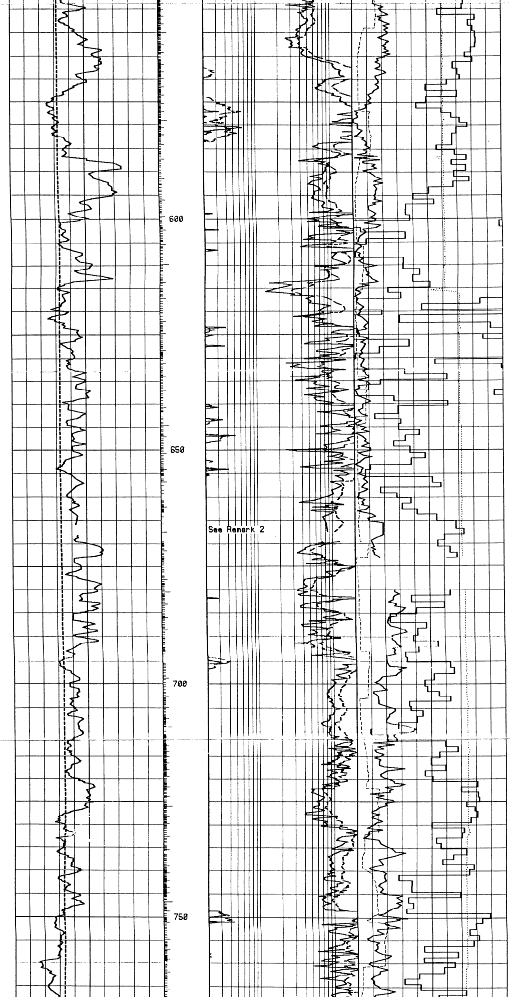
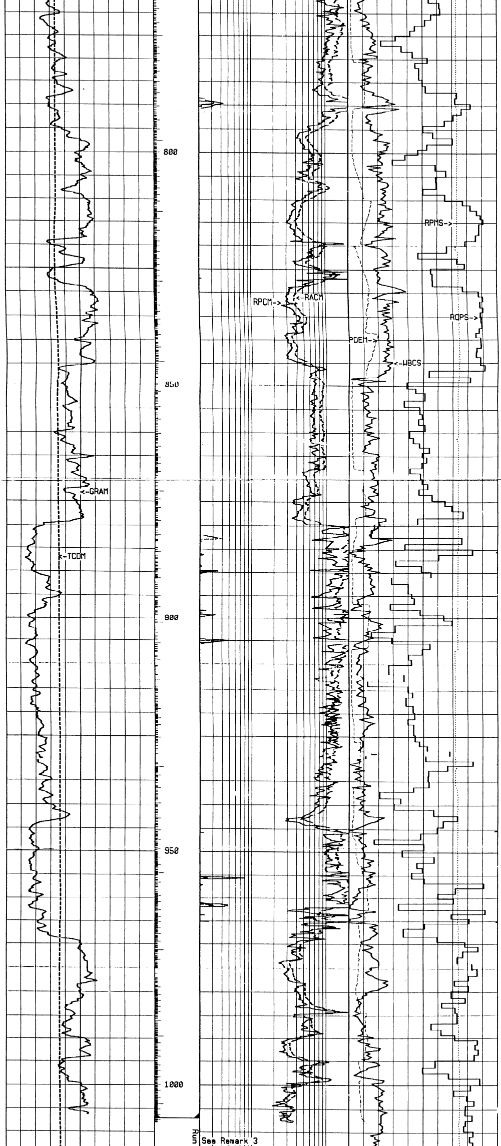
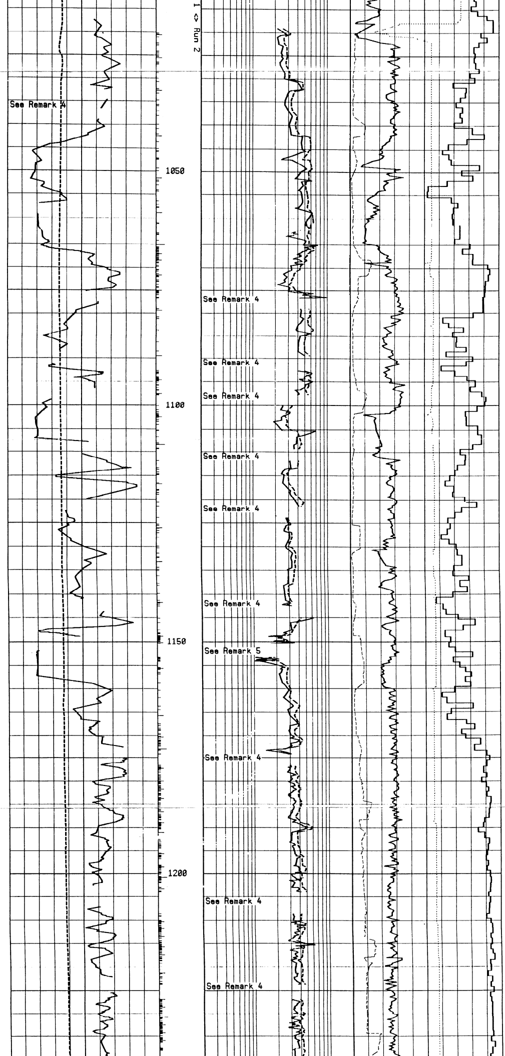
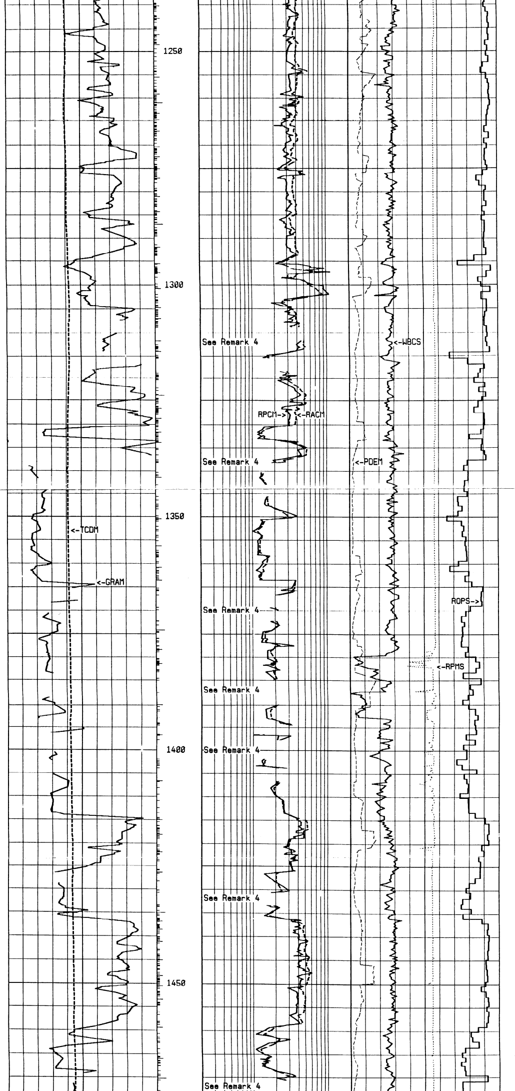
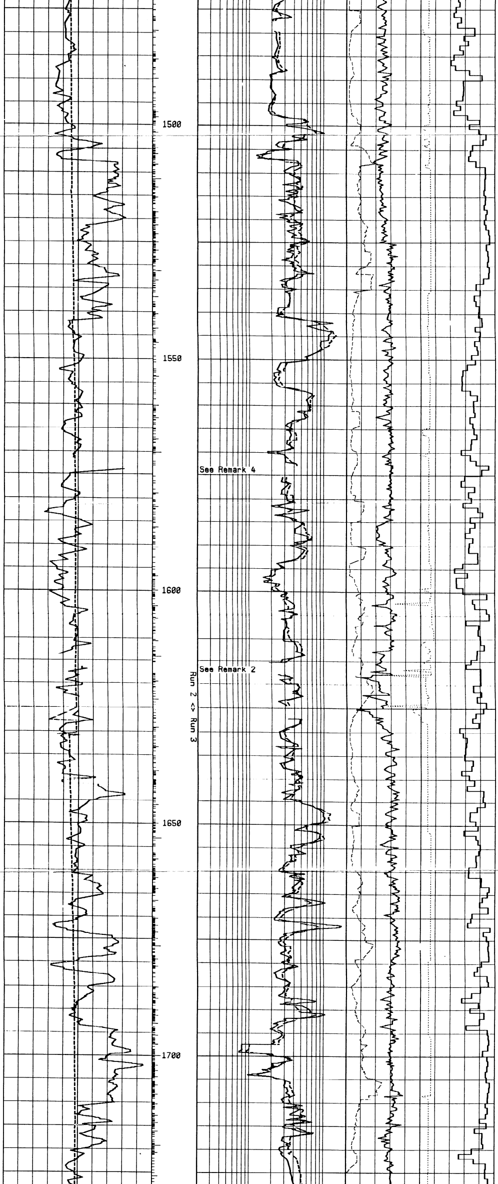
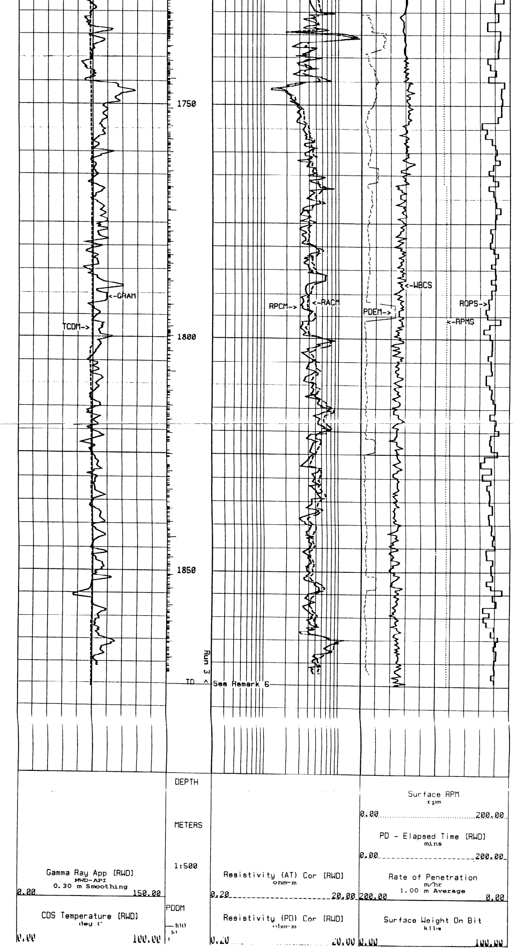
Remark 2- No surface data from Exlog.

Remark 3 - No data due to change of hole size. Set 9 5/8" casing.

Remark 4 - Erratic torque resulted in no RWD data.

Remark 5 - Insufficient flow to power DPR MWD tool whilst changing shaker screens.

Remark 6 - TD 1875m

Eastman Teleco does not guarantee the accuracy or correctness of interpretation provided in or from this log. Since all interpretations are opinions based on measurements, Eastman Teleco shall under no circumstances be responsible for consequential damages or any other loss, costs, damages or expenses incurred or sustained in connection with the use of any such interpretations. Eastman Teleco disclaims all expressed and implied warranties related to its service which is governed by Eastman Teleco's standard terms and conditions.