

COMPANY: ESSO STANDARD OIL (AUSTRALIA) LTD.
 WELL: FLATHEAD - 1
 COUNTY: WILDGAT
 VICTORIA
 LOCATION: LAT: 38° 01' 21" S. ELEVATION: 31' KB
 LONG: 148° 32' 04" E.

DEPTH LOGGED FROM: 865' TO: 3494' FT
 DATE LOGGED: 29 APRIL 1969 TO: 10 MAY 1969
 DRILL CHIEF: MIDDLETON FILE NO: FL-155-12L
 DRILL FLUID: FRESH WATER GEL 865' - 3494' FT

DEPT. NAT. RES. & ENV. PE603210

ABBREVIATIONS

RESISTIVITY, OHM-METERS
 Rm MUD
 Rmc MUD CAKE
 Rmf MUD FILTRATE

MUD DATA
 CK = CAKE THICKNESS 32nds
 V = VISCOSITY API SECONDS
 F = FILTRATE API CCS
 W = WEIGHT (LBS/US GAL)
 S = SALINITY, ppm Cl NaCl

LITHOLOGY

SAND, SALT, GYAL, MARL, CLAY, SILTSTONE, SHALE, LIMESTONE, CHALK, SILTSTONE

LEGEND

DRILLING RATE
 MIN/FT FT/HR

DRILLING REAMING CORING

HYDROCARBON ANALYSIS

CHROMATOGRAPHIC
 Methane, Ethane, Propane, Butane, Pentane, Hexane

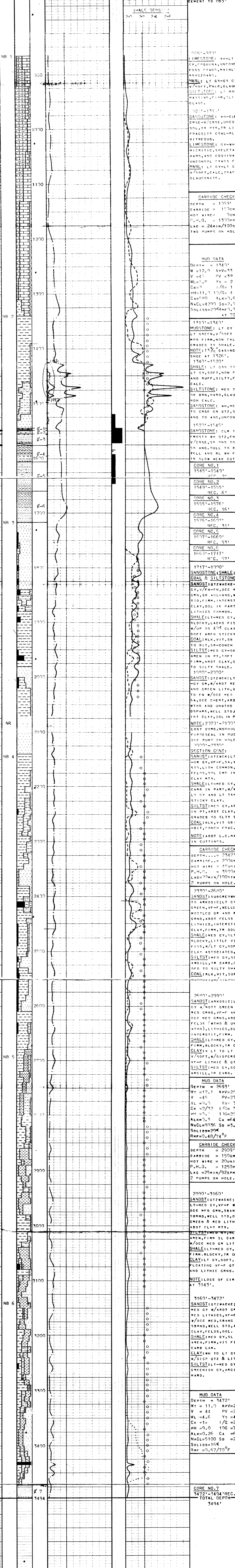
OIL SHOW
 Drilling Mud Gas, Drilling Mud Gas, Drilling Cuttings Gas

HOT WIRE
 CO₂, H₂S

REMARKS

FORMATION DESCRIPTION, MUD DATA, DRILL STEM TESTS, etc.

VERTICAL SCALE
 2" = 100'



NB NO. 1
 REC S34
 124"
 T1 F1 IG
 54 HRS.

NB NO. 2
 HTC Q3C
 124"
 T2 BS IG

NB NO. 3
 HTC X1G
 124"
 T2 BS IG

NB NO. 4
 HTC X1G J
 124"
 T5 B6 IG

NB NO. 5
 HTC X1G
 124"
 T4 B6 IG

NB NO. 6
 HTC X1G
 124"
 T3 BS IG

CHRIS C 20

NOTE: 20" CASING
 SHOE AT 827'.
 CEMENT TO 865'

1065'-1090'
 LIMESTONE: WH-LT
 GY, COQUINA, UNCONSOL
 POSS FRAGS, MAINLY
 PYZOZANES.
 MARL: LT GR-GY GY,
 V/REF, FALC, GLAUC.
 SILTSTONE: LT BRN,
 MASSIVE, FIRM, SLT
 GLAUC.

1120'-1131'
 SANDSTONE: WH-CLEAR
 CRSE-V/CRSE, UNCON-
 SOL, TR PYO, TR LITH
 FRAGS; TR COAL-RLK,
 VITREOUS.
 LIMESTONE: GY-WH,
 MICRITIC, SKELETAL,
 HARD, AND COQUINA-
 UNCONSOL FRAGS FOR
 MARL: LT GY-LT GR,
 V/SOFT, CALC, FRAGS
 GLAUCONITE.

CARRIAGE CHECK
 DEPTH = 1069'
 CARRIAGE = 150CM.
 HOT WIRE = 7UNITS
 P.H.D. = 1300PPM
 LAG = 24MIN/100STK
 TWO PUMPS ON HOLE

MUD DATA
 DEPTH = 1340'
 WT = 12.0 APV = 33
 V = 45 PV = 32
 WL = 5.0 YD = 2
 CK = 2 1/G = 1
 PH = 11.0 1/G = 1
 CA = 590 ALK = 0.64
 NACL = 4290 SD = 2.5
 SOLIDS = 29.4% W/F
 AT 70°F

1310'-1341'
 SANDSTONE: LT GY TO
 LT GRN, V/SOFT TO
 MED FIRM, NON CALC.
 GRADES TO SHALE.
 NOTE: 17" CASING
 SHOE AT 1326'.
 1340'-1520'
 SHALE: LT GRN TO
 LT GY, SOFT, NON FISS
 AND RUFF, SILTY, FIRM
 CALC.
 SILTSTONE: MED TO
 DK BRN, HARD, GLAUC,
 NON CALC.
 SANDSTONE: WH, MED
 TO CRSE GR QTZ, SR-
 ANG TO ANG, UNCONSOL

CORE NO. 1
 1545'-1549'
 REC. 2'

CORE NO. 2
 1549'-1555'
 REC. 6'

CORE NO. 3
 1555'-1576'
 REC. 16'

CORE NO. 4
 1576'-1607'
 REC. 31'

CORE NO. 5
 1607'-1660'
 REC. 53'

CORE NO. 6
 1660'-1717'
 REC. 57'

1717'-1790'
 SANDSTONE; SHALE;
 COAL & SILTSTONE;
 SANDS: QTZ WACKE-LT
 GY, V/FN-FN, OCC MED
 GRN, SR ANG-ANG, WELL
 STD, FIRM, INTERSTIT
 CLAY, DOL IN PART,
 LITHICS COMMON.
 SHALE: LT-MED GY, FIRM
 BLOCKY, LACKS FISS,
 W/UP TO 4% CLAY-
 SOFT AREN STICKY.
 COAL: BLK, VIT, SB BIT
 TO RT, SR-CONCH FR.
 SILTST: MED GY-DK BR
 AREN IN PT, SOFT TO
 FIRM, ARDT CLAY, CRDS
 TO SILTY SHALE.
 1990'-2000'
 SANDS: QTZ WACKE; LT GY
 -GY GR, W/ARDT RED
 AND GREEN LITH, V/FN
 TO FN W/OCC MED GRN
 SA, OCC CERT, ARDT
 WTHD AND UNWTHD FEL
 DSPARS, WELL STD, FIRM
 INT CLAY, DOL IN PART.
 NOTE: 2077'-2100'
 FIRESEAL IN MUD,
 ONE PUMP ON HOLE.
 2000'-2330'

SECTION CONT:
 SANDS: QTZ WACKE; LT GY
 -GM GY, VF-F, SA, WELL
 STD, LITH COMMON, W/
 FELDS, DOL CMT IN PT
 CLAY MTX.
 SHALE: LT-MED GY, FIRM
 CARR IN PART, W/WH-
 LT GY AND LT TAN
 STICKY CLAY.
 SILTST: MED GY, AREN
 IN PT, ARDT CLAY, FT
 GRADES TO SLTY SH.
 COAL: BLK, VIT, SB BIT
 -BIT, CONCH FRAC.
 NOTE: ARDT L.C. MAT
 IN CUTTINGS.

CARRIAGE CHECK
 DEPTH = 2347'
 CARRIAGE = 200CM.
 HOT WIRE = 36UNITS
 P.H.D. = 3600PPM
 LAG = 22MIN/100STK
 2 PUMPS ON HOLE.

2330'-2620'
 SANDS: SUBGREY WACKE
 TO ARKOSIC; LT GY
 GREEN, VF-F, WELL STD,
 MOTTLED GR AND RED
 GRNS, ARDT FELDS &
 LITHICS, INTERSTIT
 CLAY, FIRM, TR DOL.
 SHALE: MED GY, SILTY,
 BLOCKY, LITTLE VLS,
 FISS, W/LT GY, SOFT
 CLAY ASSOCIATED,
 SILTST: MED GY, SOFT
 ARGILL, TR CARB, GRA
 DES TO SILTY SHALE
 COAL: BLK, VIT, SUB

2690'-2990'
 SANDS: ARKOSIC; LT
 GY W/MOTT GREEN &
 MED GRNS, VF-F AND
 OCC MED GRNS, ARDT
 FELDS (WTHD & UN-
 WTHD), LITHICS, CLAY
 INTERSTIT, FIRM.
 SHALE: LT-MED GY,
 FIRM, BLOCKY, TR CARB
 CLAY; V/LT TO LT GY
 V/SOFT, W/DISPERSED
 VF-F LITHIC & QTZ.
 SILTST: MED GY, SOFT
 ARGILL, TR CARB.

MUD DATA
 DEPTH = 2693'
 WT = 12.1 APV = 29.5
 V = 45 PV = 27
 WL = 4.3 YD = 3
 CK = 2/32 1/G = 2
 PH = 7.0 1/G = 2
 ALK = 0.3 CA = 640
 NACL = 9336 SD = 3.25
 SOLIDS = 20%
 RNF = 0.48/70°F

CARRIAGE CHECK
 DEPTH = 2909'
 CARRIAGE = 150GMS
 HOT WIRE = 20UNITS
 P.H.D. = 1250PPM
 LAG = 25MIN/92SPM
 2 PUMPS ON HOLE.

2990'-3160'
 SANDS: QTZ WACKE;
 LT-MED GY, VF-F W/
 OCC MED GRN, SBANG-
 SRND, WELL STD, OCC
 GREEN & RED LITHICS
 ARDT CLAY MTX.
 SILTST: MED GY, FIRM
 AREN, FIRM SL CARB,
 W/OCC MED GR LITH.
 SHALE: LT-MED GY,
 FIRM, BLOCKY, TR CARB
 CLAY: LT GY, SOFT, W/
 FLOATING VF-F QTZ
 AND LITHIC GRNS.
 NOTE: LOSS OF CIRC
 AT 3143'.

3160'-3472'
 SANDS: QTZ WACKE;
 MED GY W/ARDT CR &
 RED LITHICS, VF-F
 W/OCC MED, SBANG TO
 SRND, WELL STD, ARD
 CLAY, FELDS, DOL.
 SHALE: MED GY, SL
 AREN, FIRM, VLS FISS
 CARB LAM.
 CLAY: WH TO LT GY,
 W/DISP QTZ & LITH.
 SILTST: LT-MED GY &
 GREENISH GY, ARGILL
 HARD.

MUD DATA
 DEPTH = 3472'
 WT = 11.0 APV = 28
 V = 44 PV = 28
 WL = 4.6 YD = 4
 CK = 1+ 1/G = 2
 PH = 9.0 1/G = 7
 ALK = 0.26 CA = 650
 NACL = 5100 SD = 2.5
 SOLIDS = 16%
 RNF = 0.67/70°F

CORE NO. 7
 3472'-3494' REC. 22'
 TOTAL DEPTH
 3494'