COMPOSITE WELL LOG

PLANET : HEATHFIELD No·1 WELL

1900′ – 4700′

BIT TYPES & REMARKS

DRILLING RATE (Min. / Ft.) 0·5 1 1·5 2 2·5

DEVIATION

CASING AND PLUGS

CORE Recovery and Dip

DRILL STEM TEST

MUD GAS DETECTION 0 10 20 30 40

DEPTH

POROSITY

LITHOLOGY % of cuttings

WELL SYMBOLS

SPONTANEOUS POTENTIAL −|10|+ millivolts

INTERPRETED LITHOLOGY

RESISTIVITY ohms – m^2/m
0 AMPLIFIED 16″ NORM. 4
0 AM1 = 16″ 20
0 200
0 AM2 = 64″ 20

RESISTIVITY ohms – m^2/m
0 20
0 A0 = 18′8″ 200

MICROCALIPER Hole diameter in inches 7 8 9 10 11 12 13 14 15

M I C R O L O G Resistivity – ohms – m^2/m
10
0 Micro Inverse 1″ x 1″ 20
10
0 Micro Normal 2″ 20

LITHOLOGIC DESCRIPTION

STRATIGRAPHIC COLUMN

8¾″ REED YT3-J

REED HF 7⅞

3/4°

5 6 Rec 13′10″

9⅝″ CASING SHOE at 2020′

8¾″ REED YT3-J (Re-Run)

REED HF 7⅞

1½°

7 Rec 4′10″

8¾″ REED YBI-J

3·5 4 4·5 5 5·5

NOTE : This drilling rate scale change indicated

REED HF 7⅞

6·5 7 7·5 8 8·5

8 Rec 1′6″

NOTE : This drilling rate scale change indicated

8¾″ REED YBI-J

D.S.T. NO.1.
3658′– 3754′
ISI – 15 mins.
VO – 30 mins.
FSI – 15 mins.
Rec. 80′drill. mud
IHP – 1945 psi.
ISIP – 1485 psi.
IFP – 65 psi.
FFP – 113 psi.
FSIP – 1045 psi.
FHP – 1905 psi.

8¾″ REED YBI-J

REED HF 7⅞

9 Rec 9′3″ Dip 0°

8¾″ REED YBI-J (Re-Run)

3/4°

1°

8¾″ REED YT3-J

D.S.T. NO.2
4078′– 4144′
ISO — 20 mins.
VO – 30 mins.
FSI – 20 mins.
Rec. 3960′ fluid consisting of 400′ of muddy, gassy salt water & 3560′ of gassy salt water.

GAS ANALYSED:–

Methane	72 %
Ethane	0·51%
Propane	0·10%
Isobutane	0·035%
Norm. butane	0·0092%
Neopentane	0·06096%
Isopentane	0·0054%
Norm. pent.	0·0004%
Hexane	0·0015%
Oxygen	2·3%
CO2	0·9 %
Remainder : N_2	

INOPERATIVE

REED HF 7⅞

10 Rec 10′ Dip 10° 20°

8¾″ REED YT3-J

1/4°

11 Rec 0′

8¾″ REED YBI-J

REED HF 7⅞

12 Dip 10° 30°

Rec. 12′ including 6′ from Core 11.

RUN 3 NO SCALE CHANGE

8 9 10 11 12 13 14 15 16 BIT SIZE 8 3/4″

LARGE SCALE LOGS (5″ = 100′) of SAND TESTED IN D.S.T. NO. 2.

S.P. 10 mv −|—|+ | RESIST'Y ohms m2m 4 6 | CALIPER INCHES 8 9 | MICROLOG ohms m2m 2 3 4

64″ 16″ BIT 8¾″ M.N. 2″ M.I. 1″x1″

4100 4115′ 4′ 4119 4123 TOTAL NET POR. = 25′ 21′ 4144′ 4120 4130 4140 4150

2500′ – 3183′ MUDSTONES, CLAYS, SILTSTONES & SANDSTONES (UNIT II)
Mudstones : Green, greenish grey, silty, micaceous, with traces of carbonaceous flecks and plant fragments.
Clay : Grey, greenish grey, soft, silty, micaceous and sandy. Presence in cuttings may be due to the action of bit on mudstones.
Siltstones : Grey to greenish grey, micaceous, argillaceous in places, contains common coaly and carbonaceous flecks.
Sandstones : Grey, light grey, fine grained to very fine grained, feldspathic, calcareous, consisting of sub-angular quartz, minor feldspars, coaly flecks and reworked coaly grains, trace mica, in kaolinitic, calcareous and in places swelling clay matrix.
Traces present of coal, pyrite as well as minor traces of silty, sandy limestone and calcite.

3183′ – 4115′ MUDSTONES, SILTSTONES with increased proportion of SANDSTONE (UNIT III) interbeds, many with electrically restistive, very calcareous interbeds.
Mudstone : Green, light grey, light greenish grey, occasionally brown, silty, micaceous, contains carbonaceous flecks and plant fragments.
Siltstone : Greenish grey and light grey, argillaceous, micaceous, contains fine carbonaceous specks and flecks, occasional trace pyrite and feldspars.
Sandstone : Light greenish grey to light grey, very fine grained to fine grained, varies from fairly soft, kaolinitic, feldspathic, to fairly hard, very calcareous. Consists of fairly sorted, sub-angular, light grey to grey quartz, minor white feldspars, coaly grains, mica and accasional trace pyrite in kaolinitic to very calcareous matrix. Traces present of coal, pyrite carbonaceous shale, brown, very fine crystalline limestone, sandy limestone, and trace of gypsum below 4040′.

4115′ – 4144′ Poorly Consolidated Quartz Sand (UNIT IV) – white, coarse, angular, fairly well sorted quartz varying to very coarse grained and pebbly near base. Grains loose in cuttings. Trace feldspars.

4144′ – 5034 SILTSTONES, SANDSTONES, MUDSTONES, very minor SHALE and a few thin COAL seams. (UNIT V)
Siltstone : Light to medium grey, occasionally greenish grey, argillaceous micaceous, contains carbonaceous and coaly flecks and plant fragments slighty feldspathic in places.
Sandstone : Very light grey to light brown, fine grained varying occ. to very fine grained or to medium grained, feldspathic (grades to arkose), calcareous, moderately hard (where calcareous), elsewhere fairly soft. Consists of fairly to poorly sorted, sub-angular to sub-rounded light grey, grey and clear quartz, minor white feldspars, with biotite, muscovite, carbonaceous flecks and coaly grains and occasional traces of chlorite in kaolinitic calcareous matrix.
Below about 4340′ the sandstone in places also contains reworked green and occ. brown mudstone grains and pellets, occ. pink, yellow and green quartz, varicoloured, white fragments, some fine, indeterminate green and red specks, as well as common carbonaceous and coaly grains. The matrix tends to be more argillaceous and rarely is slightly siliceous.
Mudstone : Green, grey, varying to medium grey downwards, silty, micaceous, with carbonaceous flecks and plant fragments in places.
Shale : Very minor interbeds to traces present of dark grey – black, carbonaceous, finely micaceous, silty in places, soft.
Coal : Black and dark brown, generally soft, dull, dirty, shaly, but varies in places to bright with conchoidal fracture. Generally traces, but impure seams present at 4192′–97′(5′), 4322′–24′(2′), 4327′–31′(4′), 4354′–56′(2′), 4370′–72′(2′), 4770′–74′(4′).
Traces present throughout of gypsum.

STRATIGRAPHIC COLUMN

MERINO GROUP

LOWER CRETACEOUS