

APPENDIX 1.

EAST MEREENIE NO.7

CUTTINGS SAMPLE DESCRIPTIONS

Interval: 120 to 4804 feet

By:

D. Warner (Oilmin)
and
D. Horner (Exlog)

- 120' - 150' --- 100% SANDSTONE: clear orange, pinkish-red, very fine to fine, subrounded, moderately well sorted, quartzose, moderately strong silica cement, poor porosity.
TR SILTSTONE: light to medium grey, green-grey, hard, fissile, finely micaceous.
- 150' - 180' --- 100% SANDSTONE: orange-red, fine, subrounded, moderately sorted, quartzose, abundant pinkish-red, argillaceous and silty matrix in part, moderate silica cement, poor porosity.
- 180' - 210' --- 100% SANDSTONE: orange-red, fine, subrounded, moderately well sorted, quartzose, moderately pinkish-red, argillaceous and silty matrix in part, moderate silica cement, poor porosity.
- 210' - 240' --- 100% SANDSTONE: orange-red, fine, subrounded, well sorted, quartzose, moderately pinkish-red, argillaceous matrix in part, moderate silica cement, poor porosity.
- 240' - 270' --- 100% SANDSTONE: orange-red, fine to very fine, subrounded, moderately sorted, quartzose, moderately pinkish-red, argillaceous matrix in part, moderately strong silica cement, poor porosity.
- 270' - 300' --- 100% SILTSTONE: medium pink, powdery subfissile, finely micaceous, very fine to fine arenaceous material in part, very argillaceous.
- 300' - 330' --- 100% SILTSTONE: medium pink, powdery, subfissile, finely micaceous, very fine to fine arenaceous material in part, very argillaceous.
- 330' - 360' --- 100% SILTSTONE: medium pink, powdery, subfissile, finely micaceous, trace very fine to fine arenaceous material in part, very argillaceous.
- 360' - 390' --- 70% SANDSTONE: orange-red, fine, subrounded, well sorted, quartzose, minor pinkish-red, argillaceous matrix, moderately strong silica cement, poor porosity.
30% SILTSTONE: A/A.

- 390' - 420' ---- 10% SANDSTONE: A/A.
90% SILTSTONE: pale pink, powdery, finely micaceous, finely arenaceous, very argillaceous.
- 420' - 450' --- 100% CLAYSTONE: pinkish-red, powdery, finely micaceous, finely arenaceous in part, very argillaceous.
- 450' - 480' --- 100% SANDSTONE: pale pink-red, fine to medium, subrounded, well sorted, quartzose, abundant red, argillaceous matrix in part, moderate silica cement, poor porosity.
- 480' - 510' ---- 100% SANDSTONE: A/A.
- 510' - 540' ---- 100% SANDSTONE: orange-red, medium, subrounded, well sorted, quartzose, common argillaceous matrix in part, strong silica cement, poor porosity.
- 540' - 570' ---- 100% SANDSTONE: A/A.
TR SILTSTONE: medium, orange-brown, hard, argillaceous, very finely arenaceous in part.
- 570' - 600' ---- 100% SANDSTONE: A/A.
Water at 2 bbl/hr at 590 ft.
- 600' - 630' ---- 100% SANDSTONE: orange-red, very fine to medium, dominantly fine, subrounded, moderately sorted, quartzose, abundant pink and red, argillaceous matrix, moderate silica cement, poor porosity.
- 630' - 660' ---- 20% SANDSTONE: A/A - grading to
80% SILTSTONE: medium pink, powdery, subfissile, very argillaceous, arenaceous in part, finely micaceous.
- 660' - 690' ---- 100% SANDSTONE: medium orange, fine, subrounded, well sorted, quartzose, minor argillaceous matrix, moderate silica cement, poor porosity.
10 bbl/day of water at 670 ft.
- 690' - 720' ---- 100% SANDSTONE: A/A.
- 720' - 750' ---- 100% SANDSTONE: clear pale pink, very fine to fine subangular, subrounded, moderately sorted, quartzose, moderate silty matrix, moderate silica cement, poor porosity.

750' - 780' --- 100% SANDSTONE: clear to medium pink, very fine-dominantly fine, subangular to subrounded, moderately sorted, quartzose, minor silt and argillaceous matrix, moderate silica cement, poor porosity.

780' - 810' --- 100% SANDSTONE: A/A.

810' - 840' --- 100% SANDSTONE: A/A.

840' - 870' --- 100% SANDSTONE: A/A.

870' - 900' --- 100% SANDSTONE: clear orange to bright pinkish-red, very fine to fine, subangular to subrounded, well sorted, quartzose, minor bright red, argillaceous material, strong silica cement and quartz overgrowths, poor porosity.

900' - 930' --- 100% SANDSTONE: bright orange-pink, very fine to medium, dominantly fine, subangular, moderately well sorted, quartzose, minor yellow-red, argillaceous matrix, moderately strong silica cement, poor porosity.

930' - 960' --- 100% SANDSTONE: medium orange-pink, very fine to fine, dominantly fine, subangular-subrounded, well sorted, quartzose, minor red, argillaceous matrix, moderately strong silica cement, poor porosity.

960' - 990' --- 100% SANDSTONE: bright pink-orange-red, very fine, dominantly fine, as above.

990' - 1,020' --- 100% SANDSTONE: medium orange-pink, very fine to medium, dominantly fine, subrounded, moderately well sorted, quartzose, minor red, argillaceous matrix, moderate silica cement, poor porosity.

250 bbl/hr water.

1,020' - 1,050' --- 100% SANDSTONE: A/A.

1,050' - 1,080' --- 100% SANDSTONE: A/A with common medium sized grains.

1,080' - 1,110' --- 100% SANDSTONE: A/A with moderate argillaceous matrix.

1,110' - 1,140' --- 100% SANDSTONE: medium bright orange-pink-red, very fine to medium, dominantly fine, subrounded, moderately sorted, quartzose, moderately argillaceous matrix, moderate silica cement, poor porosity.

- 1,140' - 1,170' --- 100% SANDSTONE: medium to light orange-pink, very fine to medium, dominantly fine, subrounded, moderately sorted, quartzose, minor argillaceous matrix in part, moderately strong silica cement, poor porosity.
- 1,170' - 1,200' --- 100% SANDSTONE: clear white to light pink, very hard, very fine to fine, dominantly fine, subrounded, well sorted, quartzose, nil to trace argillaceous matrix, strong silica cement, common grains fractured by rock bit, very poor to poor porosity.
- 1,200' - 1,230' --- 100% SANDSTONE: clear white-red, very hard, very fine to medium, dominantly fine, subrounded, well sorted, quartzose, nil to moderate, red, argillaceous matrix, strong silica cement in part, poor porosity.
- 1,230' - 1,260' --- 100% SANDSTONE: clear white to light pink, very hard, very fine to fine, subrounded, well sorted, quartzose, nil to trace argillaceous matrix, strong silica cement, common fracturing of grains by rock bit, 10% white rock flour, poor to very poor porosity.
- 300 bbl/hr water.
- 1,260' - 1,290' --- 100% SANDSTONE: A/A, 10% rock flour.
- 1,290' - 1,320' --- 100% SANDSTONE: A/A, 10% rock flour.
- 1,320' - 1,350' --- 100% SANDSTONE: clear white to very pale pink, very hard, very fine to medium dominantly fine, subrounded, moderately sorted, quartzose, trace, brick red, argillaceous matrix, strong silica cement, poor porosity, 10% white rock flour, abundant grains fractured by the rock bit.
- 1,350' - 1,380' --- 100% SANDSTONE: A/A, with 5% rock flour.
- 1,380' - 1,410' --- 70% SANDSTONE: clear white to pale pink very hard, silty, very fine, dominantly very fine, subrounded, moderately well sorted, quartzose, moderate silt matrix, strong silica cement, very poor porosity.
- 30% SILTSTONE: pale pink, powdery, very finely arenaceous, very finely micaceous.

- 1,410' - 1,440' --- 100% SANDSTONE: clear white to pale pink, very hard, silty to fine, dominantly very fine, subrounded, well sorted, quartzose, minor brick red, argillaceous matrix, strong silica cement, very poor porosity. 5% rock flour.
- 1,440' - 1,470' --- 100% SANDSTONE: clear to medium pink, very hard, very fine to medium, dominantly fine, subrounded, moderately to well sorted, quartzose, moderate brick red, argillaceous matrix and staining on the quartz grains, strong silica cement. 2% rock flour.
- 1,470' - 1,500' --- 100% SANDSTONE: white to very pale pink, very fine, subangular, well sorted, quartzose, minor silt matrix, moderately strong silica cement, poor porosity.
- 1,500' - 1,530' --- 100% SANDSTONE: light to medium pink, hard, silty to very fine, subangular, well sorted, quartzose, moderately silty matrix, strong silica cement, very poor porosity.
- 1,530' - 1,560' --- 70% SANDSTONE: A/A, interbedded with and grading to -
30% SILTSTONE: brick red, floury, finely, micaceous, very finely arenaceous, slightly argillaceous.
- 1,590' - 1,620' --- 80% SANDSTONE: white, some yellow, orange, red, very fine to medium, subangular to subrounded, poorly sorted, moderate red and white argillaceous and silt matrix in part, strong silica cement, very poor porosity, interbedded with and grading to -
10% SILTSTONE: white, green, brick red, hard, subfissile, finely micaceous, moderately argillaceous, slightly calcareous; and
10% SHALE: white, green, brick red, chocolate brown, hard, subfissile, finely micaceous.
- 1,620' - 1,650' --- 100% SANDSTONE: medium pink, very hard, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, quartzose, moderate brick red, argillaceous matrix, strong silica cement, poor porosity.
TR SILTY SHALE: brick red, hard, finely micaceous.

- 1,650' - 1,680' --- 100% SANDSTONE: medium, pink, very hard, silt, very fine, subangular to subrounded, well sorted, quartzose, minor brick red, argillaceous matrix, abundant silt sized matrix, moderate silica cement, very poor porosity.
- 1,680' - 1,710' --- 100% SANDSTONE: brick red, hard, very fine to medium, dominantly fine, subangular, moderately sorted, quartzose, common brick red, argillaceous matrix, moderate silica cement, poor porosity.
- 1,710' - 1,740' --- 100% SANDSTONE: A/A with moderate to abundant brick red argillaceous matrix.
- 1,740' - 1,770' --- 100% SANDSTONE: brick red, hard, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, quartzose, moderate red, argillaceous matrix, minor red silt matrix, moderate silica cement, poor porosity.
- 1,770' - 1,800' --- 100% SANDSTONE: A/A.
- 1,800' - 1,830' --- 100% SANDSTONE: A/A.
- 1,830' - 1,860' --- 100% SANDSTONE: A/A.
- 1,860' - 1,890' --- 80% SANDSTONE: clear brick red, hard, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, quartzose, moderate red argillaceous matrix, minor red silt matrix, moderate silica cement, poor porosity.
10% SILTSTONE: brown, red, green, hard, massive - subfissile, slight to moderately calcareous, very finely micaceous, very finely arenaceous, very argillaceous, grading to -
10% SHALE: brown, red, green, hard, massive to subfissile, slightly calcareous, very finely micaceous.
- 1,890' - 1,920' --- 20% SANDSTONE: A/A.
50% SHALE: A/A.
30% SILTSTONE: A/A.
- 1,920' - 1,950' --- 10% SANDSTONE: clear, white, brick red, hard, very fine to medium, dominantly very fine, subangular, poorly sorted, quartzose, moderate-abundant argillaceous and silt matrix in part, very siliceous in part, very poor porosity, trace 2% rock flour.
50% SHALE: red-brown, green, hard, massive - subfissile, finely arenaceous, moderately calcareous, very silty, grading to -

- 1,920' - 1,950' --- 40% SILTSTONE: red-brown, green, often
(Contd.) mottled, massive-subfissile, moderately calcareous, very argillaceous, abundant, very fine, arenaceous material in part.
- 1,950' - 1,980' --- 10% SANDSTONE: A/A.
50% SHALE: A/A.
40% SILTSTONE: A/A.
- 1,980' - 2,010' --- 40% SANDSTONE: clear, very light green, very hard, very fine to medium, dominantly very fine to fine, subangular to subrounded, moderate to well sorted, quartzose, minor argillaceous material in part, very siliceous, slightly calcareous, very poor porosity.
20% SILTSTONE: A/A.
40% SHALE: A/A.
- 2,010' - 2,040' --- 50% SANDSTONE: A/A.
20% SILTSTONE: A/A.
30% SHALE: A/A.
- 2,040' - 2,070' --- 40% SANDSTONE: clear, very light green, some brick red, very hard, very fine to medium, dominantly fine, subangular to subrounded, moderately sorted, quartzose, minor argillaceous material in part, very siliceous, moderately calcareous, very poor porosity.
20% SILTSTONE: red, brown, green, hard, siliceous, texture in part, massive-subfissile, rare, very fine to fine mica flakes, moderately calcareous, finely sandy in part, very argillaceous, grading to -
40% SHALE: red, brown, green, hard, siliceous texture in part, massive-subfissile, rare, very fine to fine mica flakes, moderately calcareous, finely arenaceous in part, very silty in part.
- 2,070' - 2,100' --- 30% SANDSTONE: A/A.
30% SILTSTONE: A/A.
40% SHALE: A/A.
- 2,100' - 2,130' --- 10% SANDSTONE: clear white, very pale green, very hard, very fine, subangular to subrounded, well sorted, quartzose, abundant calcareous and siliceous cements, very poor porosity, grading to and interbedded with -
30% SILTSTONE: A/A; and
60% SHALE: A/A.

2,130' - 2,160' --- 40% SANDSTONE: clear white, pale green, red, very hard, very fine to medium, dominantly fine, subangular, poor to moderately sorted, quartzose, moderately argillaceous matrix in part, strong silica and calcareous cement, very poor porosity.
20% SILTSTONE: brick red, brown, medium green, hard, very argillaceous, very finely arenaceous in part, moderately calcareous, massive-subfissile.
40% SHALE: brick red, brown, green, hard, very silty, common, very fine arenaceous material in part, moderately calcareous, massive to subfissile.

2,160' - 2,190' --- 40% SANDSTONE: A/A.
20% SILTSTONE: A/A.
40% SHALE: A/A.

2,190' - 2,209' --- 40% SANDSTONE: A/A.
20% SILTSTONE: A/A.
40% SHALE: A/A

C A S I N G P O I N T

2,208' - 2,220' --- 30% SANDSTONE: clear-pale green-red, very hard, very fine-medium, dominantly fine to very fine, subangular-subrounded, moderately sorted, quartzose, very strong silica and calcareous cements, very poor porosity.
30% SILTSTONE: red-brown, green, hard, massive-subfissile, very argillaceous, moderately arenaceous in part, minor very fine micaceous flakes, slightly-moderately calcareous.
40% SHALE: red-brown, green, hard, massive-subfissile, very silty in part, moderately arenaceous in part, minor very fine micaceous flakes, slightly-moderately calcareous.

2,220' - 2,250' --- 10% SANDSTONE: A/A.
40% SILTSTONE: A/A, 20% green.
50% SHALE: A/A, 20% green.

2,250' - 2,280' --- 10% SANDSTONE: A/A.
40% SILTSTONE: A/A.
50% SHALE: A/A.

2,280' - 2,310' --- 40% SILTSTONE: red-brown, green, hard, massive-subfissile, very finely micaceous, very argillaceous, slightly calcareous and arenaceous, grading to -
60% SHALE: red-brown, green, hard, massive-subfissile, very finely micaceous, very silty, slightly calcareous and arenaceous.

2,310' - 2,340' --- 40% SILTSTONE: A/A.
60% SHALE: A/A.

2,340' - 2,370' --- 40% SILTSTONE: A/A, dominantly medium red
brown, some medium green.
60% SHALE: A/A, dominantly medium red
brown, some medium green.

2,370' - 2,400' --- 40% SILTSTONE: A/A.
60% SHALE: A/A.

2,400' - 2,430' --- 40% SILTSTONE: A/A.
60% SHALE: A/A.

2,430' - 2,460' --- 40% SILTSTONE: A/A.
60% SHALE: A/A.

2,460' - 2,490' --- 40% SILTSTONE: A/A.
60% SHALE: A/A.

2,490' - 2,520' --- 30% SILTSTONE: A/A; grading to
70% SHALE: A/A.

2,520' - 2,550' --- 30% SILTSTONE: A/A; grading to
70% SHALE: A/A.

2,550' - 2,580' --- 30% SILTSTONE: A/A; grading to
70% SHALE: A/A.

2,580' - 2,610' --- 10% SILTSTONE: A/A; grading to
90% SHALE: medium red-brown, trace medium
green hard, powdery, very finely micac-
eous, rarely finely arenaceous, very
slightly-slightly calcareous, moderate-
ly silty in part.

2,610' - 2,640' --- 10% SILTSTONE: A/A; grading to
90% SHALE: A/A.

2,640' - 2,670' --- 100% SHALE: medium green grey, powdery,
hard, very finely micaceous, slightly
calcareous, massive-subfissile.

2,670' - 2,700' --- 100% SHALE: medium grey, hard, powdery,
massive-subfissile, very finely micac-
eous, slightly calcareous.

2,700' - 2,730' --- 100% SHALE: A/A.

2,730' - 2,760' --- 100% SHALE: A/A.

2,760' - 2,790' --- 100% SHALE: A/A.

2,790' - 2,820' --- 100% SHALE: A/A.

2,820' - 2,850' --- 100% SHALE: A/A.

2,850' - 2,880' --- 100% SHALE: A/A.

2,880' - 2,910' --- 100% SHALE: A/A.

2,910' - 2,920' --- 100% SHALE: A/A.

2,920' - 2,930' --- 100% SHALE: light-medium grey, massive-subfissile, hard, powdery, very finely micaceous, slightly calcareous.

2,930' - 2,940' --- 100% SHALE: A/A, with 5% red-brown shale - probable cavings.

2,940' - 2,950' --- 100% SHALE: light-medium grey, A/A.

2,950' - 2,960' --- 100% SHALE: A/A, with 5% red-brown which is probably caving.

2,960' - 2,970' --- 100% SHALE: A/A, with 5% red-brown shale.

2,970' - 2,980' --- 100% SHALE: A/A.

2,980' - 2,990' --- 100% SHALE: A/A.

2,990' - 3,000' --- 100% SHALE: A/A.

3,000' - 3,010' --- 100% SHALE: A/A.

3,010' - 3,020' --- 100% SHALE: A/A.

3,020' - 3,030' --- 100% SHALE: A/A, with 30% shale, red-brown, probable contamination.

3,030' - 3,040' --- 100% SHALE: A/A, with 30% shale, red-brown, probable contamination.

3,040' - 3,050' --- 90% SHALE: medium grey A/A, with
10% SANDSTONE: clear-white, very fine-fine grained, subangular-subrounded, moderately sorted, quartzose, slightly-moderately calcareous, moderately siliceous, very poor porosity.

3,050' - 3,060' --- 90% SHALE: A/A.
10% SANDSTONE: A/A.

3,060' - 3,070' --- 90% SHALE: A/A.
10% SANDSTONE: A/A.

3,070' - 3,080' --- 90% SHALE: A/A.
10% SANDSTONE: A/A.

3,080' - 3,090' --- 90% SHALE: A/A.
10% SANDSTONE: A/A.

3,090' - 3,100' --- 95% SHALE: A/A.
5% SANDSTONE: A/A.

3,100' - 3,110' --- 100% SHALE: light-medium grey, hard,
powdery, very finely micaceous, slight-
ly calcareous, massive-subfissile.

3,110' - 3,120' --- 100% SHALE: A/A.

3,120' - 3,130' --- 100% SHALE: A/A.

3,130' - 3,140' --- 100% SHALE: A/A.

3,140' - 3,150' --- 100% SHALE: A/A.

3,150' - 3,160' --- 100% SHALE: A/A.

3,160' - 3,170' --- 100% SHALE: A/A.

3,170' - 3,180' --- 100% SHALE: A/A, very slightly calcareous.

3,180' - 3,190' --- 100% SHALE: A/A.

3,190' - 3,200' --- 100% SHALE: A/A.

3,200' - 3,210' --- 100% SHALE: A/A.

3,210' - 3,220' --- 100% SHALE: A/A.

3,220' - 3,230' --- 100% SHALE: A/A.

3,230' - 3,240' --- 100% SHALE: A/A.

3,240' - 3,250' --- 100% SHALE: A/A.

3,250' - 3,260' --- 100% SHALE: A/A, light-medium grey,
powdery, hard, massive-subfissile,
very finely micaceous, very slightly
calcareous.

3,260' - 3,270' --- 100% SHALE: A/A.

3,270' - 3,280' --- 100% SHALE: A/A.

3,280' - 3,290' --- 100% SHALE: A/A.

3,290' - 3,300' --- 100% SHALE: A/A.

3,300' - 3,310' --- 100% SHALE: A/A.

3,310' - 3,320' --- 100% SHALE: A/A.

3,320' - 3,330' --- 100% SHALE: A/A.

3,330' - 3,340' --- 100% SHALE: A/A.

3,340' - 3,350' --- 100% SHALE: A/A.

3,350' - 3,360' --- 100% SHALE: A/A, light-medium grey, hard,
powdery, massive-subfissile, very
finely micaceous, very slightly calcar-
eous.

3,360' - 3,370' --- 100% SHALE: A/A.
TR PYRITE

3,370' - 3,380' --- 100% SHALE: A/A.
TR PYRITE

3,380' - 3,390' --- 100% SHALE: A/A.
TR PYRITE

3,390' - 3,400' --- 100% SHALE: A/A.

3,400' - 3,410' --- 100% SHALE: A/A.

3,410' - 3,420' --- 100% SHALE: A/A.

3,420' - 3,430' --- 100% SHALE: A/A.
TR PYRITE

3,430' - 3,440' --- 100% SHALE: A/A.
TR PYRITE

3,440' - 3,450' --- 100% SHALE: A/A.

3,450' - 3,460' --- 100% SHALE: A/A, light-medium grey, powdery, massive-subfissile, very slightly calcareous, very finely micaceous, minor pyrite, trace very fine quartz sand grains.

3,460' - 3,470' --- 100% SHALE: A/A.

3,470' - 3,480' --- 100% SHALE: A/A.

3,480' - 3,490' --- 100% SHALE: A/A, with very rare medium sub-angular quartz sand grains.

3,490' - 3,500' --- 100% SHALE: A/A.

3,500' - 3,510' --- 100% SHALE: A/A.

3,510' - 3,520' --- 100% SHALE: A/A.

3,520' - 3,530' --- 100% SHALE: A/A.

3,530' - 3,540' --- 100% SHALE: A/A.

3,540' - 3,550' --- 100% SHALE: A/A.

3,550' - 3,560' --- 90% SHALE: medium grey, hard, powdery, massive-subfissile, very finely micaceous, very slightly calcareous, minor pyrite.
10% SANDSTONE: clear-white-medium green grey, very hard, very fine-fine, sub-rounded, poor-moderately sorted quartzose, minor white argillaceous matrix, trace calcareous cement, strong silica cement, very poor porosity.

3,560' - 3,570'	---	90% SHALE: A/A. 10% SANDSTONE: A/A.
3,570' - 3,580'	---	90% SHALE: A/A. 10% SANDSTONE: A/A.
3,580' - 3,590'	---	90% SHALE: A/A. 10% SANDSTONE: A/A.
3,590' - 3,600'	---	90% SHALE: A/A. 10% SANDSTONE: A/A.
3,600' - 3,610'	---	90% SHALE: A/A. 10% SANDSTONE: clear-white-medium brown- ish green, hard, very fine-medium, dominantly very fine-fine, subrounded, poor-moderately sorted, quartzose, minor white argillaceous matrix, weak calcareous cement, moderate silica cement, very poor porosity.
3,610' - 3,620'	---	90% SHALE: A/A. 10% SANDSTONE: A/A.
3,620' - 3,630'	---	90% SHALE: A/A. 10% SANDSTONE: A/A.
3,630' - 3,640'	---	90% SHALE: A/A. 10% SANDSTONE: A/A, with very rare coarse grains with what appears to be oil staining but has no cut or fluoresc- ence.
3,640' - 3,650'	---	80% SHALE: A/A. 20% SANDSTONE: A/A, clear-white, very fine-coarse, dominantly fine, poorly sorted, subrounded, quartzose, minor quartz overgrowths, minor white argil- laceous matrix, weak pyrite and cal- careous cements, moderate silica cement, poor porosity.
3,650' - 3,660'	---	80% SHALE: A/A. 20% SANDSTONE: A/A.
3,660' - 3,670'	---	80% SHALE: A/A. 20% SANDSTONE: A/A.
3,670' - 3,680'	---	90% SHALE: A/A. 10% SANDSTONE: A/A.
3,680' - 3,690'	---	No Sample.
3,690' - 3,700'	---	No Sample.
3,700' - 3,710'	---	80% SHALE: A/A. 20% SANDSTONE: A/A.

- 3,710' - 3,720' --- 80% SHALE: A/A.
20% SANDSTONE: A/A.
- 3,720' - 3,730' --- 90% SHALE: A/A.
10% SANDSTONE: A/A.
- 3,730' - 3,740' --- 90% SHALE: A/A, light-medium grey,
powdery, massive-subfissile, very
finely micaceous, slightly calcareous,
trace pyrite.
10% SANDSTONE: A/A, white-clear, hard,
very fine-medium, subrounded, poorly
sorted, quartzose, minor white argil-
laceous matrix, weak calcareous cement,
moderate silica cement, rare grains
with what looks like residual oil
staining but giving no fluorescence or
cut, very poor porosity.
- 3,740' - 3,750' --- 100% SHALE: A/A.
- 3,750' - 3,760' --- 90% SHALE: medium grey A/A.
10% SANDSTONE: clear-white, very fine-
fine, dominantly fine, subrounded,
moderately sorted, quartzose, very
calcareous in part, moderately silic-
eous, poor porosity.
- 3,760' - 3,770' --- 100% SHALE: medium-dark grey, hard, mass-
ive-subfissile, moderately calcareous,
very finely micaceous, minor calcar-
eous grains, trace fine quartz sand
grains.
- 3,770' - 3,780' --- 30% SHALE: A/A.
30% SANDSTONE: off white-light brown,
very hard, very fine-medium, moder-
ately sorted, quartzose, very strong
calcite cement, very poor porosity,
grading to -
40% LIMESTONE: off white-light brown,
very hard, abundant quartz sand grains
in part.
- 3,780' - 3,790' --- 80% SHALE: A/A.
10% SANDSTONE: A/A.
10% LIMESTONE: A/A.
- 3,790' - 3,800' --- 100% SHALE: A/A, with trace of limestone
and sandstone as above.
- 3,800' - 3,810' --- 100% SHALE: dark grey, hard, massive, sub-
fissile, moderately carbonaceous,
finely micaceous, very calcareous.
- 3,810' - 3,820' --- 100% SHALE: A/A.
- 3,820' - 3,830' --- 100% SHALE: A/A.

3,830' - 3,840' --- 100% SHALE: A/A.
 3,850' - 3,860' --- 100% SHALE: A/A.
 3,860' - 3,870' --- 100% SHALE: A/A.
 3,870' - 3,880' --- 100% SHALE: dark grey, hard, massive-sub-
 fissile, very calcareous, moderately
 carbonaceous, finely micaceous.
 3,880' - 3,890' --- 100% SHALE: A/A.
 3,890' - 3,900' --- 100% SHALE: A/A.
 3,900' - 3,910' --- 100% SHALE: A/A.
 3,910' - 3,920' --- 100% SHALE: A/A.
 3,920' - 3,930' --- 100% SHALE: A/A.
 3,930' - 3,940' --- 100% SHALE: A/A.
 3,940' - 3,950' --- 100% SHALE: A/A.

NOTE: At 3,957' convert from gas
 drilling to 12 ppg mud system.

3,950' - 3,960' --- Sample contaminated by 95% cavings.
 20% SANDSTONE: as for 3,960' - 3,970'.
 30% SILTSTONE: miscellaneous.
 50% SHALE: miscellaneous.
 3,960' - 3,970' --- 40% SANDSTONE: white-light-medium grey,
 medium brown grey, very hard, very
 fine-fine, dominantly very fine, sub-
 rounded, moderately-well sorted,
 quartzose, with minor very fine glau-
 conite grains in part, minor fine-
 medium micaceous flakes, trace carbon-
 aceous detritus, trace white argil-
 laceous matrix, minor slickensides and
 macrocrystalline calcite crystals,
 minor dispersed pyrite, trace moderate
 calcite cement, strong dolomite cement
 in part, strong silica cement, very
 poor visual porosity.
 30% SILTSTONE: light-medium grey-brown,
 grey, hard, often dolomitic and
 slightly-moderately calcareous, trace
 disseminated pyrite, rarely carbonac-
 eous, finely micaceous, massive-sub-
 fissile.
 30% SHALE: as for the siltstone.
 3,970' - 3,980' --- 50% SANDSTONE: as above, with trace
 common glauconite.

- 3,970' - 3,980' --- 40% SILTSTONE: interlamine and finely
(Contd.) interbedded with angular grading from
the sandstone, medium grey, hard,
siliceous texture, very finely micac-
eous, subfissile-massive, calcareous
and very dolomitic in part.
10% SHALE: as for the siltstone.
- 3,980' - 3,990' --- 60% SANDSTONE: off white-medium brown
grey, very hard, silty-medium, domin-
antly very fine, subangular-subrounded,
moderately sorted, quartzose with
minor glauconite, abundant silt and
white clay matrix in part, very strong
calcareous and dolomitic cements in
part, very strong silica cement in
part, common silica overgrowths, very
poor porosity grading to -
40% SILTSTONE: A/A.
- 3,990' - 4,000' --- 10% SANDSTONE: A/A.
40% SILTSTONE: medium grey, hard, sub-
fissile, finely micaceous, very argil-
laceous in part, very calcareous and
dolomitic in part, trace pyrite,
finely arenaceous in part.
50% SHALE: as for the siltstone.
- 4,000' - 4,010' --- 50% SANDSTONE: A/A.
40% SILTSTONE: A/A.
10% SHALE: A/A.
- 4,010' - 4,012' --- 4,010' - 4,011' as above.
80% 4,011' - 4,012' SANDSTONE: white,
very hard, very fine-medium, dominant-
ly medium, subangular-subrounded, well
sorted, quartzose with minor glaucon-
ite, moderate white argillaceous
matrix, strong silica cement, very
poor porosity.
20% SILTSTONE: A/A.

C O R E N O. 1.

- 4,012' - 4,022' --- Cut 10 feet, Recover 9'6½", 95.4%.
22, 24, 6, 12, 12, 8, 10, 12, 25, 35.
Sandstone 60% with interbedded silt-
stone 40%.
SANDSTONE: light grey, very hard,
very fine-fine, subangular, moderately-
well sorted, quartzose with minor glau-
conite and trace carbonaceous detritus,
moderate white argillaceous matrix,
strong silica cement, very poor inter-
granular porosity.
SILTSTONE: medium, grey-medium brown
grey, very hard, subfissile, finely
micaceous, very argillaceous, crypto-
microcrystalline in texture.

4,012' - 4,022' ---
(Contd.)

The sandstone and siltstone are interbedded in approximate 1/4-4" thick layers, with a "mottled" type texture, the sandstone shows extreme dewatering distortion of the bedding and is in elongated pods approximately 1/2" in diameter, giving the rock a mottled texture. Planes between the sandstone and siltstone portions tend to be partially open, and gas could be seen bubbling and smelt coming from these planes. Hence although intergranular porosity and permeability of the rock appears extremely low, the horizontal permeability along these planes should be good, total porosity probably is poor.

- 4,020' - 4,030' --- 80% SANDSTONE: very light brown grey, very hard, very fine-coarse, dominantly fine or coarse, subangular-subrounded, poorly sorted, quartzose, trace glauconite, moderate white argillaceous matrix, very strong silica cement, common slickensides, rare trace pyrite, very poor porosity, trace carbonaceous, detritus, abundant calcareous material in part.
20% SILTSTONE: medium grey-medium brown grey, hard, subfissile, finely micaceous, slightly carbonaceous, rare pyrite, rarely calcareous.
- 4,030' - 4,040' --- 80% SANDSTONE: A/A, common slickensides.
20% SILTSTONE: A/A.
- 4,040' - 4,050' --- 70% SANDSTONE: A/A, dominantly fine grained.
30% SILTSTONE: A/A, common slickensides.
- 4,050' - 4,060' --- 60% SANDSTONE: off white-light brown grey, very hard, very fine-medium, dominantly fine, subangular, moderately-well sorted, quartzose, trace common glauconite, minor carbonaceous, detritus, moderate white argillaceous matrix. very strong silica cement, minor calcareous cement common, calcitic material as fracture infilling, common slickensides, trace pyrite, very poor porosity.
40% SILTSTONE: A/A.
- 4,060' - 4,070' --- 80% SANDSTONE: A/A, common slickensides.
20% SILTSTONE: A/A.

- 4,070' - 4,080' --- 30% SANDSTONE: A/A, becoming very fine.
40% SILTSTONE: medium-dark grey-brown grey, hard, finely micaceous, trace pyrite, common slickenside and calcite fracture infilling, slightly carbonaceous, cryptocrystalline type texture, finely interbedded and interlaminated with the sandstone, grading to -
30% SHALE: as for the siltstone.
- 4,080' - 4,090' --- 20% SANDSTONE: A/A, only minor evidence of fracturing.
40% SILTSTONE: A/A.
40% SHALE: A/A.
- 4,090' - 4,100' --- 20% SANDSTONE: A/A, minor evidence of fracturing only.
40% SILTSTONE: A/A.
40% SHALE: A/A.
- 4,100' - 4,110' --- 30% SANDSTONE: off white-very light brown, very hard, very fine-medium, dominantly very fine, subangular, moderately well sorted, quartzose, trace carbonaceous detritus, moderate white argillaceous matrix, minor calcareous cement, very strong silica cement, common slickensides and calcite fracture infilling, very poor porosity.
40% SILTSTONE: medium-dark grey-brown grey, hard, finely micaceous, calcareous in part, moderately argillaceous, rare pyrite, finely interbedded with the sandstone as above and grading to -
30% SHALE: as for the siltstone.
- 4,110' - 4,120' --- 40% SANDSTONE: A/A, rare coarse grains, trace tarry residue having no fluorescence or cut.
40% SILTSTONE: A/A, common fracture infilling and slickensides.
20% SHALE: A/A.
- 4,120' - 4,130' --- 60% SANDSTONE: A/A, very rare glauconite, common calcite fracture infilling and slickensides.
30% SILTSTONE: some light-medium brown, very micaceous, moderately calcareous, very dispersive, subfissile-fissile.
10% SHALE: A/A.
- 4,130' - 4,140' --- 70% SANDSTONE: A/A, less argillaceous matrix but very strong silica cement.
20% SILTSTONE: A/A.
10% SHALE: A/A.
TR Medium green siltstone and shale, non calcareous, non micaceous.

POOR SAMPLE

- 4,140' - 4,150' --- 70% SANDSTONE: A/A.
20% SILTSTONE: A/A.
10% SHALE: A/A.
- 4,150' - 4,160' --- 40% SANDSTONE: off white, very hard, very fine-coarse, dominantly fine, sub-angular, moderately-well sorted, quartzose, very rare pyrite, minor carbonaceous detritus, moderate white argillaceous matrix, strong silica cement with common quartz overgrowths, nil-strong calcite cement, common slickensides often with calcite infilling along fracture planes, very poor porosity.
30% SILTSTONE: medium-dark grey, medium green, hard, finely micaceous, moderately carbonaceous, moderately pyritic in part, moderately calcareous in part, subfissile-fissile, grading to -
30% SHALE: as for the siltstone.
- 4,160' - 4,170' --- 60% SANDSTONE: A/A.
20% SILTSTONE: A/A.
20% SHALE: A/A.
- 4,170' - 4,180' --- 40% SANDSTONE: A/A, some light brown..
40% SILTSTONE: A/A, minor slickensides.
20% SHALE: A/A, and fracture infilling only.
- 4,180' - 4,190' --- 80% SANDSTONE: A/A.
10% SILTSTONE: A/A.
10% SHALE: A/A, very abundant slickensides and fracture infilling.
- 4,190' - 4,200' --- 60% SANDSTONE: A/A, minor evidence of fracturing.
30% SILTSTONE: A/A.
10% SHALE: A/A.
- 4,200' - 4,210' --- 70% SANDSTONE: as above, light grey-off white-medium brown, very hard, very fine-coarse, dominantly fine, sub-angular, moderately-well sorted, quartzose, traces glauconite and carbonaceous, detritus, moderate white and/or brown argillaceous matrix, strong silica cement, very poor porosity, trace calcite cement and calcite fracture infilling, common slickensides.
20% SILTSTONE: A/A, grading to -
10% SHALE: A/A.

4,210' - 4,220' --- 70% SANDSTONE: A/A.
20% SILTSTONE: A/A.
10% SHALE: A/A, common evidence of fracturing.

4,220' - 4,224' --- 70% SANDSTONE: A/A.
20% SILTSTONE: A/A.
10% SHALE: A/A, common evidence of fracturing.

C O R E N O. 2

Cut 4,224' - 4,235' (11 ft),
Recover 7'10½" (71.6%), 19, 19, 16,
16, 12, 14, 16, 17, 24, 26, 24.

4,224'0" - 4,227' ½" --- 35% Sandstone interbedded in 1/8"-1" thick beds with 65% shale. The beds show extreme bioturbation in part, with common cross bedding and ripple cross-stratification.
SHALE: very dark grey-black, very hard, fissile, very carbonaceous, silty in part, very finely micaceous, trace pyrite.
SANDSTONE: light grey, very hard, very fine, subangular, well sorted, quartzose, minor micaceous, moderately carbonaceous and argillaceous in part, very strong silica cement, very poor porosity.

4,227'½" - 4,227' 9½" --- SHALE (100%) very dark grey, hard, fissile, very carbonaceous, finely micaceous, trace pyrite.

4,227'9½" - 4,228'1 " --- 40% Sandstone interbedded with 60% shale. This unit is extremely bioturbated giving it a mosaic texture.
SHALE as for interval 4,224'0" - 4,227'½".
SANDSTONE as for interval 4,224'0" - 4,227'½".

4,228'1" - 4,229' 4 " --- Massive SHALE, 100%, very dark grey, hard, fissile, very carbonaceous, finely micaceous, trace pyrite.

4,229'4" - 4,230' 4 " --- 95% Sandstone with 5% intermixed "lumps" of shale.
SHALE: as for interval 4,224'0" - 4,227'½".
SANDSTONE: medium-dark grey, very hard, fine grained, subangular-sub-rounded, moderately-well sorted, quartzose, minor pyrite and micaceous, common dark grey argillaceous and carbonaceous matrix, very strong silica cement. Very poor porosity, no fluorescence or cut.

4,230'4" - 4,231'10½" ---

100% massive sandstone.

SANDSTONE: off white, very hard, medium grained, subangular, well sorted, quartzose, trace carbonaceous detritus, minor white argillaceous matrix, very strong silica cement, trace intergranular porosity.

The sandstone has 20% patchy weak dull-moderately bright pale yellow - white natural fluorescence giving an extremely weak pale yellow - white crush cut fluorescence. No natural cut colour or oil staining, no hydrocarbon odour from core.

PEEL SEAL SAMPLES :-

1. 4,229'4½" - 4,229'11½".
2. 4,231'0" - 4,231'10½".

C O R E N O. 3

4,235'0" - 4,235' 6" ---

Cut 6", recovered 3½" 58.3%. Core barrel jammed. Recovered sample is probably part of the stump left from Core No. 2. The recovery is 100% massive sandstone.

SANDSTONE: off white, very hard, medium grained, subangular, well sorted, quartzose, trace glauconite, lithic fragments, carbonaceous detritus and laminae, moderate white argillaceous matrix, very strong silica cement, trace porosity.

The sandstone has a trace of patchy very weak dull-moderately bright pale yellow-white natural fluorescence giving an extremely weak pale yellow-white crush cut fluorescence. No natural cut colour or oil staining. Slight hydrocarbon odour from core.

4,235' - 4,240' ---

- 80% SANDSTONE: medium grey - dominantly off white, very hard, very fine-medium, dominantly fine-medium, subangular, moderately-well sorted, quartzose, minor carbonaceous detritus and laminae, moderate white argillaceous matrix, strong silica cement, trace pyrite cement, very poor porosity.
- 20% SHALE: very dark grey-black, hard, very carbonaceous, finely micaceous, silty in part, subfissile-fissile.

- 4,240' - 4,250' --- 90% SANDSTONE: light grey, hard, medium-coarse, subangular, moderately sorted, quartzose, common black carbonaceous and argillaceous matrix, strong silica cement, minor fracture infilling material, trace pyrite, poor porosity.
10% SHALE: A/A.
- 4,250' - 4,260' --- 90% SANDSTONE: off white, very hard, very fine-fine, dominantly fine, subangular, well sorted, quartzose, rare glauconite, minor carbonaceous detritus and lithic fragments, trace white argillaceous matrix, minor slickensides and fracture infilling, occasionally infilled by calcite, very strong silica cement, very poor porosity.
10% SHALE: black carbonaceous, A/A.
- 4,260' - 4,270' --- 90% SANDSTONE: off white, very hard, fine-medium, dominantly fine, subangular, well sorted, quartzose, minor carbonaceous detritus and lithic fragments, minor white argillaceous matrix, very strong silica cement, minor indications of fracturing, very poor porosity.
10% SHALE: black carbonaceous, A/A.

5% weak patchy pale yellow-white natural fluorescence giving an extremely weak pale yellow white crush cut fluorescence. No oil stain or free oil in mud system.
- 4,270' - 4,280' --- 90% SANDSTONE: A/A, minor indications only of fracturing.
10% SHALE: black carbonaceous, A/A.

Trace fluorescence and cut A/A.
- 4,280' - 4,290' --- 90% SHALE: medium-dark brown grey, medium-dark grey, hard, subfissile-fissile, finely micaceous, moderately carbonaceous, silty in part, slightly calcareous, minor pyrite.
10% SANDSTONE: A/A, moderate evidence of fracturing.
- 4,290' - 4,300' --- 80% SANDSTONE: light brown grey-grey, very hard, very fine-fine, moderately fine, subangular, moderately sorted, quartzose, common carbonaceous matrix, minor white argillaceous matrix, strong silica cement, minor calcareous and dolomite cements, very poor porosity, common slickensides and carbonate fracture infilling.
20% SHALE: A/A.

- 4,300' - 4,310' --- 50% SANDSTONE: light grey, very hard, very fine, subangular, well sorted, quartzose, common carbonaceous matrix, moderate white argillaceous matrix, strong silica cement, trace carbonate fracture infilling materials, very poor porosity.
50% SHALE: dark grey, hard, carbonaceous, fissile, finely micaceous, very slightly calcareous in part, silty in part, trace pyrite.
- 4,310' - 4,320' --- 50% SANDSTONE: A/A.
50% SHALE: medium grey A/A.
- 4,320' - 4,330' --- 50% SANDSTONE: A/A, decreasing carbonaceous matrix.
50% SHALE: A/A, with minor red and green shale - probably caving.
- 4,330' - 4,340' --- 80% SANDSTONE: off white, very hard, very fine - coarse, dominantly fine, subangular, poorly sorted, quartzose, trace micaceous and lithic fragments, minor white argillaceous matrix, very strong silica cement, very poor porosity, no evidence of fracturing.
10% SILTSTONE: light-medium grey, fissile, hard, often finely arenaceous, finely micaceous, rare pyrite, moderately carbonaceous.
10% SHALE: very dark grey, carbonaceous, as above.
- 4,340' - 4,350' --- 70% SANDSTONE: A/A.
20% SILTSTONE: A/A.
10% SHALE: A/A.
- 4,350' - 4,360' --- 80% SANDSTONE: A/A, no evidence of fracturing.
20% SILTSTONE: A/A.
- 4,360' - 4,370' --- 80% SANDSTONE: off white, very hard, very fine-rarely coarse, dominantly fine, subangular-subrounded, well sorted, quartzose, trace carbonaceous detritus and lithic fragments, trace white argillaceous matrix, trace calcareous, domomititic and ankeritic cements, very strong silica cement, no evidence of fracturing, very poor porosity.
20% SILTSTONE: medium-dark grey to brown grey, hard, fissile, finely micaceous, very argillaceous in part, moderately-very carbonaceous, occasionally finely arenaceous, rarely calcareous, trace pyrite.

4,370' - 4,380' --- 80% SANDSTONE: A/A, no evidence of fracturing.
20% SILTSTONE: A/A.

4,380' - 4,390' --- 90% SANDSTONE: A/A, but poorly sorted with moderately carbonaceous matrix, no evidence of fracturing.
10% SILTSTONE: A/A.

Trace pale yellow-white patchy fluorescence giving an extremely weak crush cut fluorescence.

4,390' - 4,400' --- 90% SANDSTONE: off white, very hard, very fine-coarse, dominantly fine or coarse, subangular, moderately-well sorted, quartzose, trace carbonaceous detritus, rare lithic fragments, trace calcareous cement, strong silica cement, very poor porosity.
10% SILTSTONE: A/A.

Trace fluorescence and cut A/A.

4,400' - 4,410' --- 90% SANDSTONE: A/A.
10% SILTSTONE: A/A.

4,410' - 4,420' --- 100% SANDSTONE: light grey, very hard, very fine-coarse, dominantly medium, subangular-subrounded, moderately sorted, quartzose, abundant argillaceous and carbonaceous matrix in part, very strong silica cement, trace pyrite cement, very poor porosity. Minor evidence of fracturing.

4,420' - 4,430' --- 90% SANDSTONE: A/A, dominantly fine.
10% SHALE: very carbonaceous.

4,430' - 4,440' --- 70% SANDSTONE: light grey, very hard, very fine-coarse, dominantly fine, subangular-subrounded, moderately sorted, quartzose, common grey lithic fragments, abundant silt matrix in part, minor white argillaceous matrix in part, moderate pyrite cement, very strong silica cement, minor calcareous cement, very poor porosity.
30% SILTSTONE: medium-dark grey, fissile, moderately carbonaceous, finely micaceous, moderately argillaceous, finely arenaceous in part, very pyritic in part, very little evidence of fracturing.

4,440' - 4,450' --- 70% SANDSTONE: light grey, speckled, very hard, very fine-coarse, dominantly fine, subangular, well sorted, quartzose with common medium green glaucon-

- 4,440' - 4,450' --- (Contd.) ite, minor carbonaceous detritus and lithic fragments, trace micaceous, moderate dolomite and calcite cement, strong silica cement, very poor porosity. No evidence of fracturing.
30% SHALE: medium grey, subfissile-fissile, hard, moderately carbonaceous, finely micaceous, rare pyrite, slightly calcareous.
- 4,450' - 4,460' --- 70% SANDSTONE: A/A.
30% SHALE: A/A.
- 4,460' - 4,470' --- 60% SANDSTONE: light-medium grey to brown grey, very hard, very fine-fine, dominantly fine, subangular-subrounded, moderately well sorted, quartzose, minor carbonaceous detritus and lithic fragments, rare, micaceous, moderate white argillaceous matrix and abundant argillaceous and silt matrix in part, very strong silica cement, minor pyrite cement, moderate calcite cement, rare crystalline calcite, very poor porosity.
40% SHALE: A/A.
- 4,470' - 4,480' --- 80% SANDSTONE: A/A.
20% SHALE: silty, A/A.
- 4,480' - 4,490' --- 80% SANDSTONE: A/A.
20% SHALE: silty, A/A.
- 4,490' - 4,500' --- 90% SANDSTONE: light grey, very hard, very fine-coarse, dominantly fine-medium, subangular, poorly sorted, quartzose, moderate glauconite and carbonaceous detritus, minor lithic fragments, minor carbonaceous and white argillaceous matrix in part, very strong silica cement, moderate calcareous cement, very poor porosity, minor pyrite.
10% SHALE: A/A.
- 4,500' - 4,510' --- 80% SANDSTONE: A/A, with common glauconite and carbonaceous matrix and detritus.
20% SHALE: A/A, very carbonaceous.
- 4,510' - 4,520' --- 90% SANDSTONE: (70% of the sandstone is as above, 30% is :) off white, very hard, fine-medium, subangular, moderately-well sorted, quartzose, minor white argillaceous matrix, very strong silica cement, very poor porosity.
10% SHALE: silty, A/A.

T O P P 3 4, 5 2 4 F T.

4,520' - 4,530' --- 90% SANDSTONE: off white-very light brown, very hard, fine-medium, subangular, moderately sorted, quartzose, minor white and very pale brown argillaceous matrix, non calcareous very strong silica cement, very poor porosity.
10% SHALE: dark grey, carbonaceous, A/A.

4,530' - 4,540' --- 90% SANDSTONE: A/A.
10% SHALE: A/A.

4,540' - 4,550' --- 100% SANDSTONE: off white to very light brown grey, very hard, very fine to coarse, dominantly fine-medium, subangular, poor-moderately sorted, quartzose, trace brown argillaceous matrix, trace carbonaceous detritus, and matrix, minor dolomite cement, strong silica cement, very poor to poor intergranular porosity, trace pyrite, very limited evidence of fracturing. The sandstone has 5% pin-point moderately bright very pale yellow white natural fluorescence giving an extremely weak whitish crush cut fluorescence.

4,550' - 4,560' --- 100% SANDSTONE: off white, very hard, very fine to coarse, dominantly coarse, subangular, poorly sorted, quartzose, trace white argillaceous and carbonaceous matrix, minor dolomite cement, very strong silica cement, very poor intergranular porosity, no evidence of fracturing.

Fluorescence and cut A/A.

4,560' - 4,570' --- 95% SANDSTONE: A/A.
5% SHALE: silty, medium green to black, hard, slightly-very carbonaceous, fissile, finely micaceous, pyritic in part.

Fluorescence and cut A/A.

4,570' - 4,580' --- 95% SANDSTONE: A/A.
5% SHALE: silty A/A.

Fluorescence and cut A/A but only trace.

4,580' - 4,590' --- 100% SANDSTONE: off white, very hard, very fine-coarse, dominantly medium, subangular-subrounded, poor-moderately sorted, quartzose, slight-moderately white argillaceous matrix, very strong

- 4,580' - 4,590' --- silica cement, minor carbonaceous
(Contd.) detritus, trace pyrite, very poor
intergranular porosity.
- POOR SAMPLE ABUNDANT CEMENT.
- 4,590' - 4,600' --- 90% SANDSTONE: A/A.
10% SILTSTONE: light brown grey, medium
grey, hard, fissile, finely micaceous,
minor fine carbonaceous material, mod-
erately argillaceous. Trace evidence
of fracturing.
- 4,600' - 4,610' --- 100% SANDSTONE: A/A, 10% with common car-
bonaceous matrix, moderate evidence of
fracturing.
- 4,610' - 4,620' --- 100% SANDSTONE: quartzose, very siliceous,
slightly calcareous, very fine to
medium grained, moderately sorted, sub-
rounded to rounded, siliceous and
minor calcareous cement. Drills as
large that quartzite chips.
HTR SILTSTONE: grey, grey brown, soft.
Minor evidence of fracturing.
- Nil porosity. Minor black residual
hydrocarbon.
- 4,620' - 4,630' --- 60% SANDSTONE: quartzose, quartzite, very
siliceous, slightly calcareous, white
pink, minor red stain, very fine
grained and medium grained, moderately
and poorly sorted, subrounded and
rounded, siliceous and slightly calcar-
eous cement, tight.
40% SILTSTONE: grey, green, firm, chlor-
itic, micaceous, slightly calcareous.
- Nil porosity, rare black residual
hydrocarbon.
- P.O.H. at 4,628' to run DST No. 1 pull
out before 4,630' because of daylight
hours left to run in and open tool.
- 4,683' - 4,690' --- 70% SANDSTONE: quartzose, siliceous,
silty in part, very fine to fine
grained, moderately sorted, siliceous
cement, tight.
30% SILTSTONE: grey sandy, micaceous.
- Sample contaminated with cement.
- Above lithology is as in the bottom of
Core No. 4.

4,690' - 4,700' --- Sample Missed.

Drill rate indicates some porosity.

4,700' - 4,710' --- 100% SANDSTONE: white, quartzose, siliceous, very fine to fine grained, moderately sorted, siliceous cement, tight.

Minor porosity, white even fluorescence.

4,710' - 4,720' --- 70% SANDSTONE: white, pink stained, quartzose, siliceous, very fine to fine grained, moderately sorted, subrounded, siliceous cement, pink blotches of iron carbonate (siderite), minor green and black accessories, siliceous cement.

20% SILTSTONE: argillaceous, chloritic, light green, micaceous, partly siliceous.

10% SHALE: silty, red, firm to soft, micaceous.

Minor porosity. White even fluorescence, minor white fracture fillings.

4,720' - 4,730' --- 90% SANDSTONE: white, minor pink and green, quartzose siliceous with minor sideritic and chloritic, very fine to fine grained, subrounded, moderately sorted, siliceous cement, minor chlorite and siderite and unidentified black accessory minerals.

10% SILTSTONE: green, some siliceous, chloritic sandy in part, firm to hard.

HTR SHALE: red some green, micaceous, firm.

Minor porosity, very minor black hydrocarbon stain. Minor fracture fillings.

4,730' - 4,736' --- 70% SANDSTONE: A/A.

10% SILTSTONE: A/A, with minor radiating bronze micaceous rosettes, sandy in texture.

20% SHALE: A/A.

Minor porosity.

Pull out of hole to Run DST No. 3.
Interval 4,685' - 4,736'.

4,760' - 4,770' --- 60% SANDSTONE: white with pink siderite spots, fine to medium grained, moderately sorted, subangular to subrounded, quartzose, siliceous cement.

4,770' - 4,780' --- 100% SANDSTONE: A/A.
HTR SILTSTONE: A/A.
HTR SHALE: A/A.
Moderate porosity, light yellow strong
even fluorescence - no cut.

4,780' - 4,790' --- 100% SANDSTONE: A/A, white with pink sider-
ite spots, fine and medium grained,
moderately sorted, subangular to sub-
rounded, quartzose, very siliceous
(sample early).

Moderate porosity, light yellow strong
even fluorescence - minor white cement.

4,790' - 4,800' --- 80% SANDSTONE: A/A, some coarse grained.
10% SILTSTONE: red and green, micaceous.
10% SHALE: green chloritic minor red
micaceous.

Minor porosity, white and light yellow
even fluorescence.

Top P4 expected at 4,800' - cannot tell
from cuttings whether it has been
penetrated.

T.D. 4,804 feet 20/6/82.