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RECORD 1946/8

WATER SUPPLY ON BLOCKS 98A AND 98B, A.C.T.

by

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MINERAL RESOURCES SURVEY.

DEPARTMENT OF SUPPLY AND SHIPPING.

WATER SUPPLY ON BLOCKS 98A AND 98B, A.C.T.

Report No. 1946/8.

Situation. The blocks are leased by F.S. Southwell and situated 4.5 miles north of Civic Centre. Access is by the Wells Station side road off the Goulburn road.

Geology. All of block 98B and most of block 98A, the westerly block, consist of shale, mostly covered with alluvium. Where exposed the shale strikes about 30 degrees east, and dips southeast at 30 to 40 degrees. The ridges along the western side of block 98A, which trend roughly parallel to the strike of the sediments, consist mainly of porphyry, with shale again on the north and west. In the northwest corner of the block the dip of the sediments is practically vertical.

Along the eastern side of the porphyry, adjacent to the shale, the outcrops over a zone several hundred feet in width consist mainly of ironstone, with some quartz, and patches of porphyry and altered shale. The eastern side of this zone is marked by a straight quartz reef, commonly about 3 feet wide, which can be traced on the surface for a distance of over 1200 feet. It strikes 45 degrees east, dips northwest at 75 degrees and terminates at the southwestern end in a prominent ironstone outcrop. Slickensides pitching east at 20 degrees were observed in the quartz on fracture faces which dipped south at 20 degrees.

Water Supply.

Water could undoubtedly be obtained by sinking through the alluvium into the shale bedrock adjacent to the stream course which runs in a southwesterly direction through the lease - the farther downstream the better the chance of permanent water. Mr. Southwell reports that a well sunk on the creek flat about $\frac{1}{4}$ mile from the southern boundary of the lease failed in dry seasons. This well was not as favourably located to catch the maximum soakage as one situated nearer the southern boundary would be. A well adjacent to the creek and about 500 feet outside the northern boundary of Block 98B, is reported to yield 300 to 400 gallons per day from gravels at a depth of 9 feet. The only way to determine whether a well sunk at the most favourable site, i.e. near the southern boundary of the lease and near the stream course, would give permanent water would be by actual test through a dry season.

Neither the shale nor the porphyry are favourable for underground water supply, though small quantities would probably be obtained in the shale. It is likely, however, that a reasonable supply of water would be obtained anywhere in the area covered by ironstone outcrops. The quartz vein marks a line of strong fissuring and the most favourable bore site is on the hanging wall of this vein. The vein dips 75 degrees to the northwest and the bore should be located to strike the vein at 100 to 120 feet depth, i.e. 25 to 30 feet northwest from the reef outcrop. The site with the lowest elevation fulfilling these conditions was pointed out to Mr. Southwell, and is shown on the accompanying plan of the blocks.

N.H. Fisher,
CHIEF GEOLOGIST.

GEOLOGICAL SKETCH MAP

BLOCKS 98A & 98B, A.C.T.

0 20 40 CHS.

Reference

vv Porphyry

~ Alluvium

Fe. Ironstone

Qz. Quartz

^ Strike & dip of shale

Gungahlin District

