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COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES,
GEOLOGY AND GEOPHYSICS.

RECORDS

1958, No. 65



RADIOMETRIC LOGGING OF DRILL HOLES AT ROYAL GEORGE MINE,
AVOCA, TASMANIA.

by

J. DALY.

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- Plate 1 Location of Diamond Drill Holes.
- 2 Radiometric Log of D.D.H. at Site No. 3.
- 3 Section through Site No. 3 and D.D.H. BG-80.

1. INTRODUCTION

The Royal George tin mine is situated about 10 miles east of Avoca, Tasmania. The mine has not been worked for tin since 1922.

In 1955, oxidised uranium minerals in small quantities were discovered in the workings. A drill hole (BG-80) to test the deposit below the level of the old workings was drilled in 1955, and radiometrically logged by the Bureau of Mineral Resources (Rowston, 1956). This hole intersected no uranium ore of commercial grade, and showed high readings over only one narrow band. The uranium content of the material in this band would be of the order of 0.05% U_3O_8 .

Since that date, the property has been taken under option by Broken Hill Pty.Ltd., and three holes have been drilled to test its possibilities as a tin-bearing deposit. At the request of the Director of Mines, Tasmania, an attempt was made by the Bureau to log these holes radiometrically. The logging was performed by N. Jackson, on 31st October, 1957.

2. GEOLOGY.

The workings are situated in a shear zone in granite. The zone strikes approximately north-west, and dips at about 80° to the south-west. Plate 1 is a locality plan, supplied by the Department of Mines, showing the location of the various drill holes with reference to the workings and the outcrop of the shear zone.

3. TECHNICAL DETAILS.

The three holes to be logged were EX holes, each 630 feet deep. The logging was attempted using an Austronic bore log ratemeter, type BRV1.

Operations were begun in the hole at site 3. It was found that this hole was blocked at 250 feet. The hole was logged at 5-foot intervals from this depth to surface. The next hole entered was D.D.H.2 (at site No. 1). This hole was blocked at 300 feet. Logging was begun at this depth, but after two readings at 5-foot intervals had been taken, the probe jammed in the hole, could not be released and was abandoned in the hole. The remaining hole, D.D.H.1, is blocked by a wedge in the drill collar, and it is considered likely that the hole itself is blocked lower down. The logging was abandoned at this stage.

4. RESULTS.

The results of the logging at site 3 and at D.D.H. BG-80, logged previously by Rowston (1956), are shown on Plate 2. The readings were converted to millirontgens per hour, based on a laboratory calibration using a Co60 source. It is apparent that the section logged contains no considerable width of radioactive material, and shows only two narrow bands of radioactivity higher than normal, one at 125 feet and one at 160 feet. The level of radioactivity at 125 feet is consistent with a radioactive mineral content of the order of 0.01 per cent equivalent U_3O_8 . At 160 feet, the reading was off scale. Such a reading would be produced by a band a few inches wide containing at least

2.

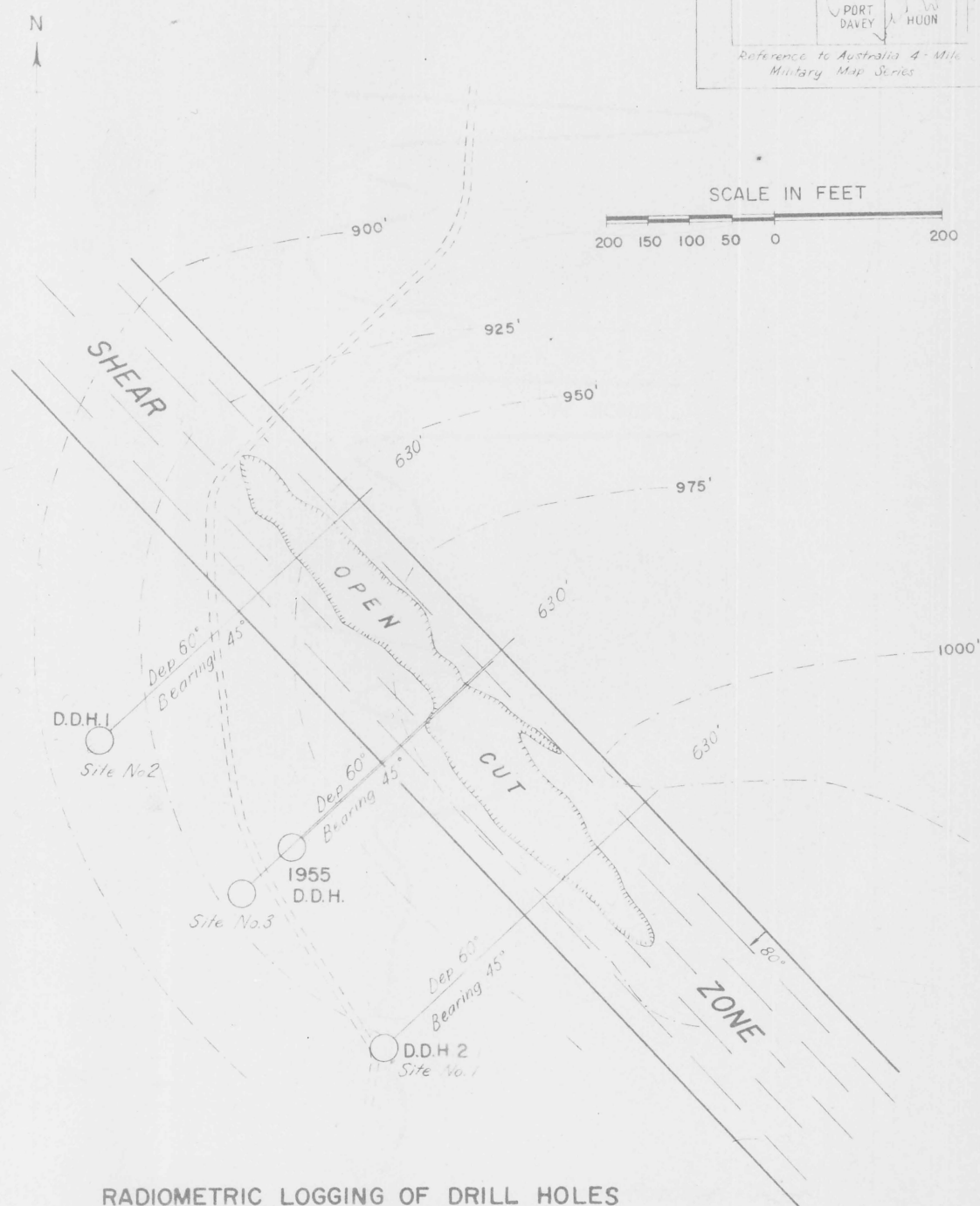
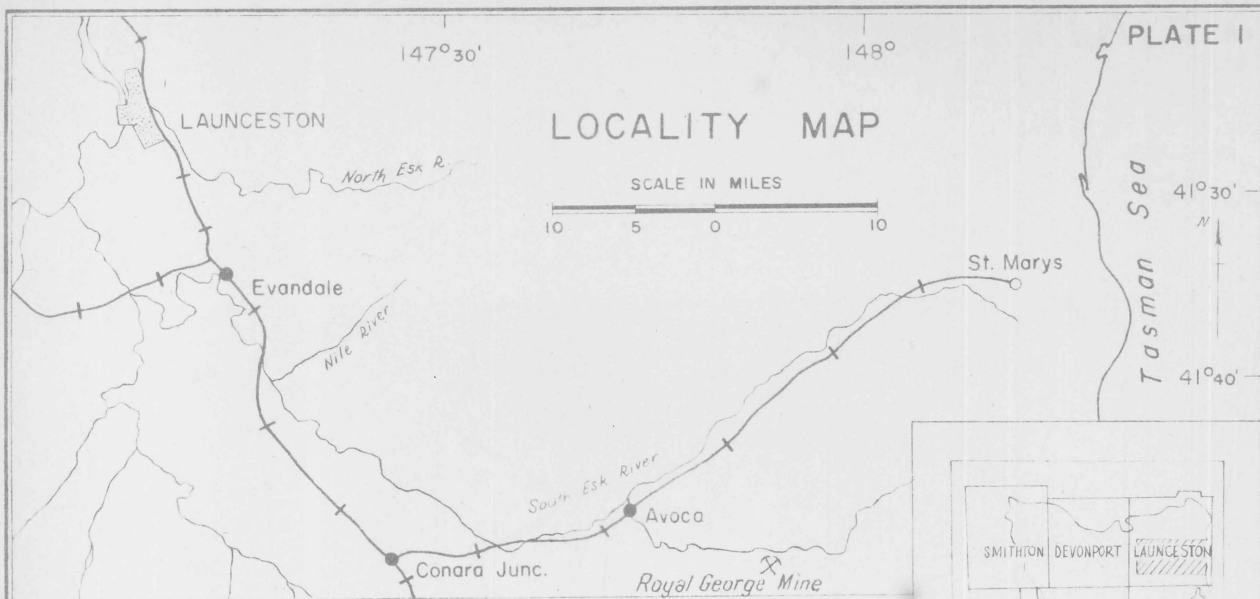
0.1 per cent equivalent U_3O_8 . It is understood that geological logging of the core showed no radioactivity worthy of further interest.

5. CONCLUSIONS.

The logging of the hole at site 3 shows no evidence of the presence of radioactive minerals in concentrations of economic value. Plate 3 is a sketch section through site 3 and D.D.H. BG-80 (see Rowston, 1956) showing the projected position of the shear zone and the positions of the radioactive anomalies located in the drill holes. It is obvious that there is no basis for correlating the anomalies in the two holes, nor is there any evidence for associating the radioactive highs in the drill hole at site 3 with the shear zone. It seems possible that narrow bands of radioactive material may be of relatively common occurrence in the granite.

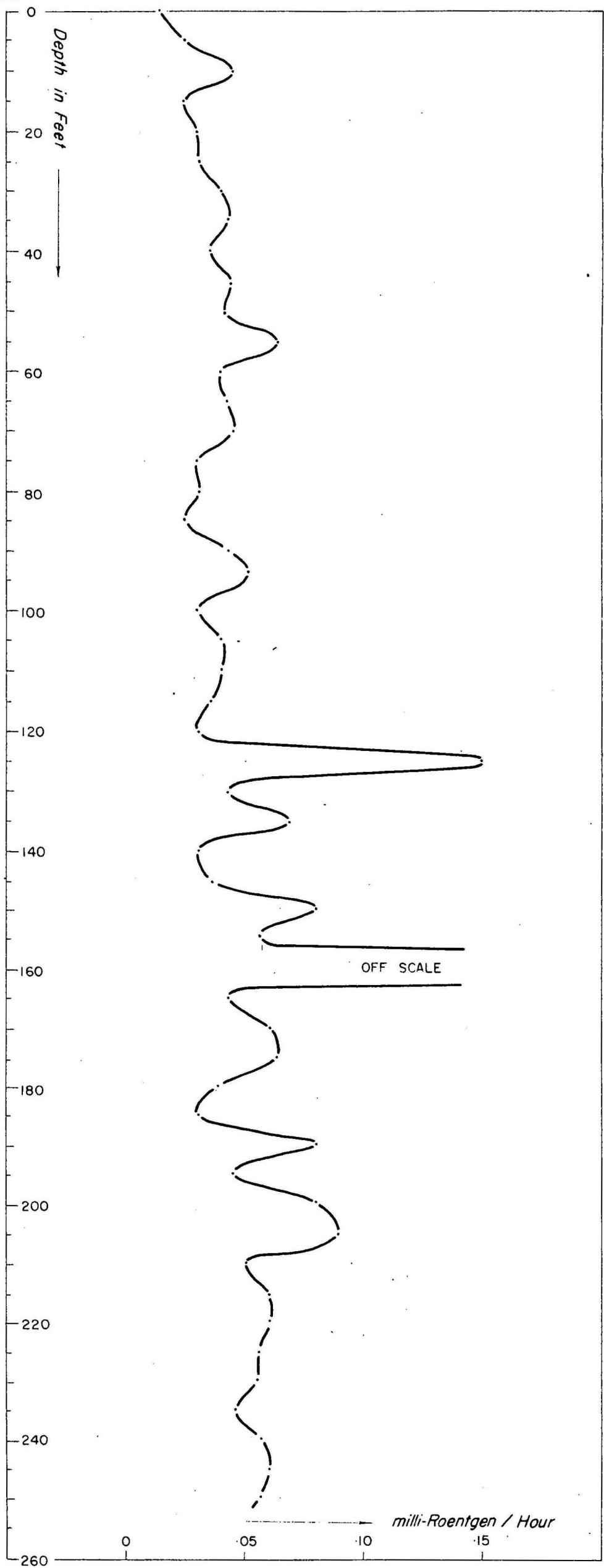
6. REFERENCE.

- Rowston, D.L., 1956 - Radiometric logging of D.D.H. No. BG-80 at the Royal George Mine, near Avoca, Tasmania.
Bur. Min. Resour. Aust., Records
1956/28.



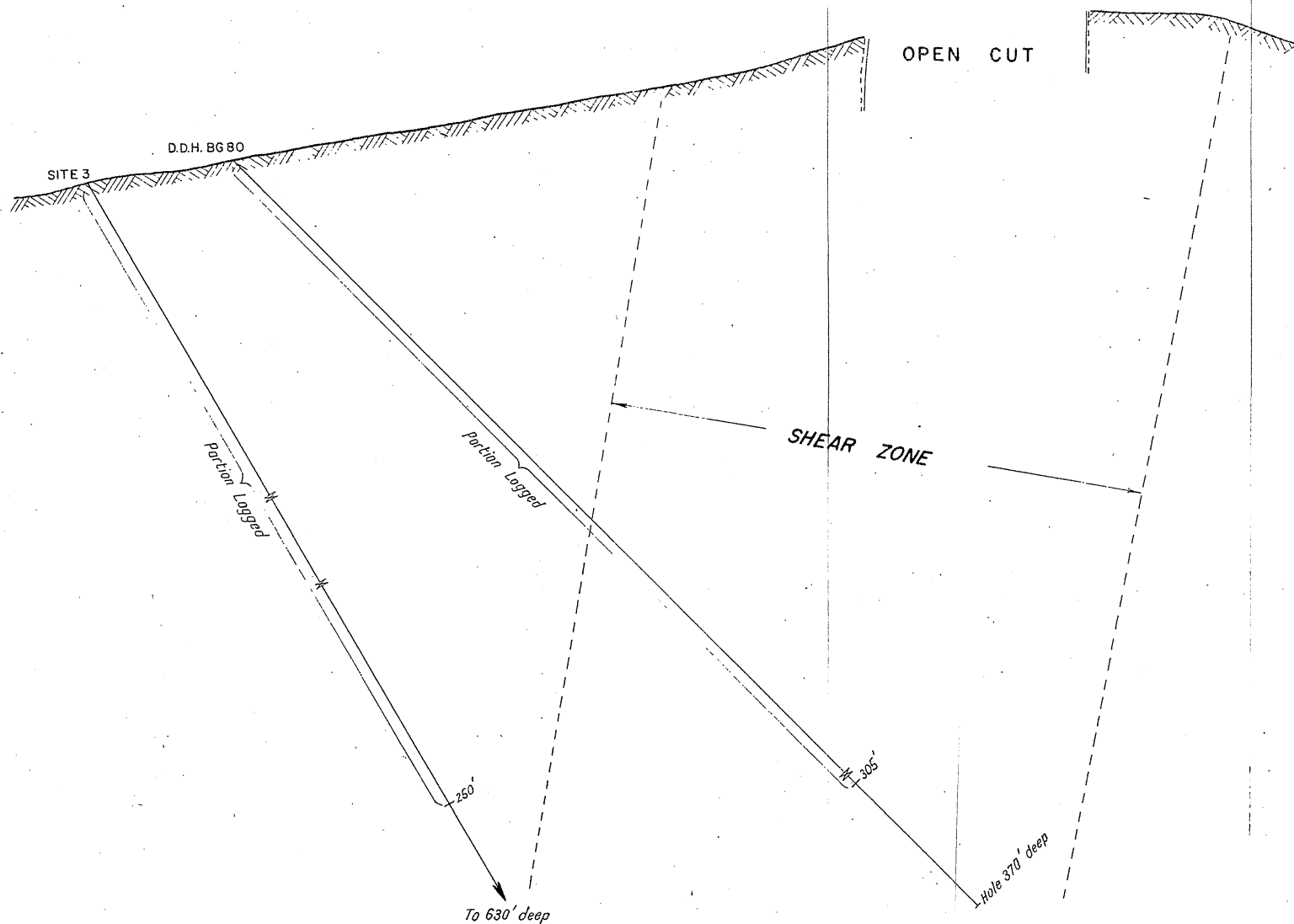
RADIOMETRIC LOGGING OF DRILL HOLES
AT ROYAL GEORGE MINE, AVOCA, TAS.
LOCATION OF DIAMOND DRILL HOLES

(From Tas. Mines Dept. Plan 1344-55)



RADIOMETRIC LOGGING OF DRILL HOLES
AT ROYAL GEORGE MINE, AVOCA, TAS.

RADIOMETRIC LOG OF D.D.H. AT SITE No.3



RADIOMETRIC LOGGING OF DRILL HOLES
AT ROYAL GEORGE MINE, AVOCA, TAS.

SECTION THROUGH SITE No.3 AND D.D.H. BG-80