

TR 11-52-57.

12. DOLERITE RESERVES AT STANTON'S QUARRY, FLAGSTAFF GULLY

by V. M. Threader

On 7th November, 1966, a request was received from Picon (Tasmania) Pty Ltd for Departmental assistance in the assessment of reserves of extractable dolerite suitable for concrete requirements, available from Stanton's Quarry, Flagstaff Gully Road, Lindisfarne (fig. 14).

An area of 26 acres of freehold land is involved adjoining Flagstaff Gully Road to the E. Quarrying operations are in progress on the block.

A series of 5 parallel grid lines 200 feet apart were surveyed ENE along the long axis of the block and each line levelled for contours at 100 feet intervals by B. Eaves of this Department. Surface geological mapping was then carried out to determine outcrop limits and recommendations for diamond drill hole sites were then made.

Five holes were drilled by Picon (Tasmania) for a total of 695 feet of drilling. DDH No. 5 was abandoned at a depth of 49 feet in unconsolidated or broken material. Geological logs of the 5 drill holes are attached.

DOLERITE RESERVES

It was requested that the survey be restricted to the 26 acre block and that depths of exploration be restricted to a depth of 120 feet below the then quarry floor, but for additional information one hole sited on the quarry floor was drilled to a depth of 190 feet and the survey extended southerly into the adjacent lease with one drill hole in the extended zone to give an indication of the reserve potential on the neighbouring lease.

For calculation purposes a series of blocks were laid out on the survey lines. No reserves were calculated on line 1 due to the abandonment of DDH 5. The lack of solid rock in this hole may be due to a fairly thick scree or sedimentary cover or to a deeply weathered zone in the dolerite associated with a nearby fault zone represented by the main drainage gully.

For blocks 1 and 3 no drill information is available and an allowance has been made for a thin sedimentary cover similar to that over part of block 2.

For block 2 calculations are based only on the dolerite below the quartzite horizon, and for block 4 only a minor allowance is necessary for sedimentary cover. It must be noted that sedimentary rafts such as that in DDHs 1 and 4 are a common feature of dolerite intrusions and similar rafts or extensions of the known quartzite could occur in blocks 1 and 3 below the Permian cover and to a lesser extent in the unsurveyed area in the E of the 26 acres.

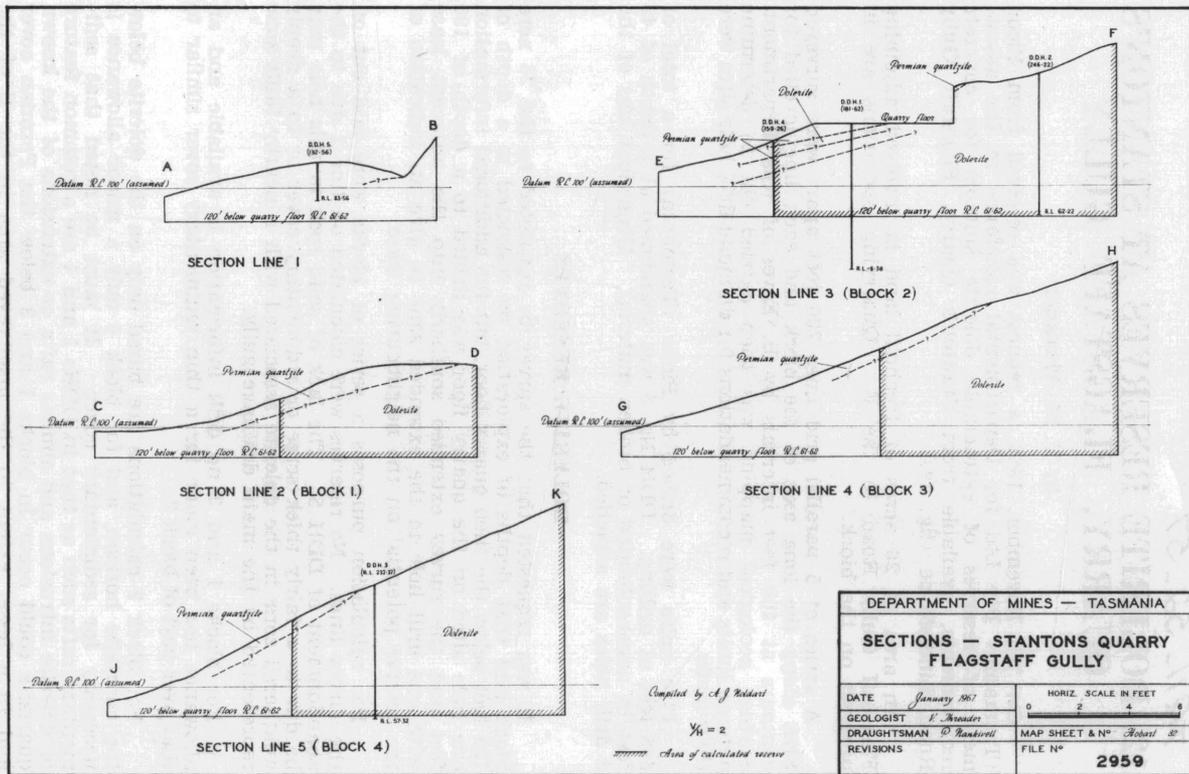


FIGURE 15

There is considerable variation in grain size and mineral content of the dolerite as observed in the drill core but there is no apparent reason to doubt the suitability for concrete requirements. It may be advisable, however, to test the suitability of the coarser grained material.

Reserves of the 4 blocks in solid form are given approximately as:—

Indicated:

Block 1	.....	340,000	cubic yards
Block 2	.....	850,000	cubic yards
Block 3	.....	900,000	cubic yards
Block 4	.....	1,000,000	cubic yards
Total	.....	3,090,000	cubic yards

If the reserves contained in blocks 2, 3 and 4 outside the 26 acres are omitted from the total, then the reserves within the 26 acres would be reduced to approximately 2,000,000 cubic yards.

Minimal additional reserves contained in the unsurveyed section, calculated on a rough topographic profile above the depth restriction and based on a 100 per cent dolerite content, give approximately:—

Inferred:

Block 1	.....	800,000	cubic yards
Block 2	.....	600,000	cubic yards
Block 3	.....	450,000	cubic yards
Block 4	.....	150,000	cubic yards
Total	.....	2,000,000	cubic yards

Due to the increase in profile in the unsurveyed section some difficulty can be anticipated in benching requirements but spoilage should not be a major factor.

DRILLING RESULTS, STANTON'S QUARRY, FLAGSTAFF GULLY

DDH 1—

0 - 10' 3"	blue quartzite
10' 3"- 19' 0"	fine grained dolerite
19' 0"- 34' 0"	blue quartzite
34' 0"- 60' 0"	fine grained dolerite
60' 0"-100' 0"	medium grained dolerite
100' 0"-190' 0"	coarse grained dolerite

DDH 2—

0 - 5' 9"	soil and weathered dolerite rubble
5' 9"- 29' 6"	coarse grained feldspathic dolerite
29' 6"- 89' 0"	very coarse grained feldspathic dolerite
89' 0"- 98' 0"	medium grained dolerite
98' 0"-128' 0"	medium grained dolerite with quartz veins
128' 0"-155' 0"	coarse grained dolerite
155' 0"-164' 0"	coarse grained dolerite with quartz veins
164' 0"-184' 0"	coarse grained dolerite

- DDH 3—
0 - 50' 0" medium grained dolerite
50' 0"-175' 0" coarse grained dolerite
- DDH 4—
0 - 7' 0" bluish grey quartzite
7' 0"- 20' 6" fine grained dolerite
20' 6"- 41' 6" blue quartzite
41' 6"- 97' 0" medium grained dolerite (fine
grained for first few feet)
- DDH 5—
0 - 49' 0" no core—clay and dolerite rubble

Core recovery in boreholes 1-4 was high and averaged 95 per cent.