

TR11-37-38

8. NOTES ON LIMESTONE, SMITHTON DISTRICT

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A brief inspection of limestone occurrences in the Smithton district was made on 26th-27th July, 1966 to determine the extent and economic potential of the deposits. Only the deposit E of the Lower Scotchtown road 3 miles S of Smithton was found to be of suitable grade but reserves are very small. Other deposits occur on low lying or swampy ground, with one occurrence on the S bank of the Duck River.

GEOLOGY

Nye *et al.* (1934, p. 89) described the Lower Scotchtown deposit as "a hard, dense, dark blue type", from outcrops in a small quarry on the S side of a low knoll where slate can be seen underlying the limestone to the E. The width of the occurrence was then unknown but proven to a chain and presumed up to 5 chains. The limestone was then considered to be a bed in the "Dundas series of slates etc." but more recent exposures in a quarry on the northern flank of the hill show that the limestone is less than a chain in width and is conformably overlain by a cellular dolomite.

Carey and Scott (1952, p. 69) suggested that the "most likely interpretation" is that "this crinoidal limestone should be correlated with the Junee Group of Ordovician age". Gulline (1959, p. 28) placed the limestone in the Carbine Group of Precambrian age but stated that "the relation of the limestone to the dolomite is not clear". From assays and the relationships of the two rock types in the N face of the quarry it is probable that the limestone is a member of the Smithton Dolomite of Precambrian age.

Assays of the limestone and one of the overlying dolomite bed are given.

Analyses of Limestone Near Smithton

Constituents	1	2	3	4	5
CaO	54.23	46.40	53.85	45.70	25.40
MgO	0.50	7.53	0.29	0.80	20.60
CO ₂	43.30	44.12	44.11	43.40	47.40
Fe	.....	.....	.....	0.39	0.95
FeO & Fe ₂ O ₃	0.56	1.38	0.31	.....	.....
SiO ₂	0.52	1.08	0.76	0.72	2.59
P ₂ O ₅	0.068	0.077	.....	0.06	0.12
Al ₂ O ₃	0.36	0.22	0.38	.....	.....

1. Typical sample, limestone, S quarry, Lower Scotchtown Road.
2. Typical sample, limestone, Duck River, Smithton.
3. Representative sample across 12 feet in S quarry, Lower Scotchtown Road.
4. Typical sample, massive limestone, N quarry, Lower Scotchtown Road.
5. Typical sample, cellular dolomite, N quarry, Lower Scotchtown Road.

N.B.: Samples 1, 2, 3 after Nye *et al.* (1934, p. 93).

CONCLUSIONS

The limestone occurrences in the Smithton district appear to be members of the Smithton Dolomite. Insufficient outcrop is available to indicate whether the occurrences in the Duck River and on the Lower Scotchtown Road belong to the same horizon or are discrete lenses within the dolomite. The limestone in the quarries is of high grade but is of limited extent and economically workable reserves are insignificant.

No further prospecting is recommended in these deposits.

REFERENCES

- CAREY, S. W. and SCOTT, B., 1952—Revised Interpretation of the Geology of the Smithton District of Tasmania. *Pap. Roy. Soc. Tas.*, 86, 63-70
- GULLINE, A. B., 1959—The Underground Water Resources of the Smithton District. *Dep. Min. Tas. Underground Water Supply Pap.* 5
- NYE, P. B., FINUCANE, K. J. and BLAKE, F., 1934—The Smithton District. *Bull. Geol. Surv. Tas.*, 41