

## Seismic survey results at the Curries River dam site near Lefroy

by P. C. Stevenson

The seismic survey described here was conducted to follow up the geological survey of 9 and 10 June 1971 reported elsewhere (Stevenson, 1973).

Four 12-geophone spreads at 10 or 15 feet spacings were observed end to end and at right angles to the river, two on each abutment as indicated in Figure 1.

One spread was observed on each of the two saddles described in the geological report.

The results of the seismic spreads were as follows:

### **Left abutment**

Two spreads here covered a line from the river bank to a point 260 feet from the river.

	<i>Velocity</i>	<i>Thickness</i>	<i>Interpretation</i>
1st layer	1,000–1,700 ft/sec	11 feet at river 3–9 feet elsewhere	River sand and mud Soil derived from deeply weathered rock
2nd layer	6,000–8,000 ft/sec	greater than 150 feet	Weathered slate

### **Right abutment**

These two spreads covered a line from the river bank to a point 335 feet from the river.

	<i>Velocity</i>	<i>Thickness</i>	<i>Interpretation</i>
1st layer	1,000 feet/sec	6–11 feet within 120 feet of river	River sand and mud
	1,700 ft/sec	4–7 feet more than 120 feet from river	Soil derived from deeply weathered rock
2nd layer	5,000–7,000 ft/sec	greater than 100 feet	Weathered slate

### **East saddle**

	<i>Velocity</i>	<i>Thickness</i>	<i>Interpretation</i>
1st layer	2,000 ft/sec	8–16 feet	Stony clay soil
2nd layer	11,000 ft/sec	greater than 200 feet	Unweathered slate

### **West saddle**

	<i>Velocity</i>	<i>Thickness</i>	<i>Interpretation</i>
1st layer	1,000 ft/sec	5 feet	Soil and sand
2nd layer	8,500 ft/sec		Slightly weathered slate

A useful guide to the physical condition of the slate may be taken from the cuttings in slate on the nearby Bell Bay–Bridport road.

The summit cutting was cut for 56 feet in rock showing velocities of 2,200 to 2,500 feet/sec down to 22 feet and 5,500 ft/sec thereafter.

Any rock with velocities over 8,000 ft/sec may be regarded as fresh and will not be removable by ripping.

### **Reference**

STEVENSON, P. C. 1973. Report on a dam site on Curries River near Lefroy. *Technical Report Department of Mines Tasmania* 16:177

[23 June 1971]

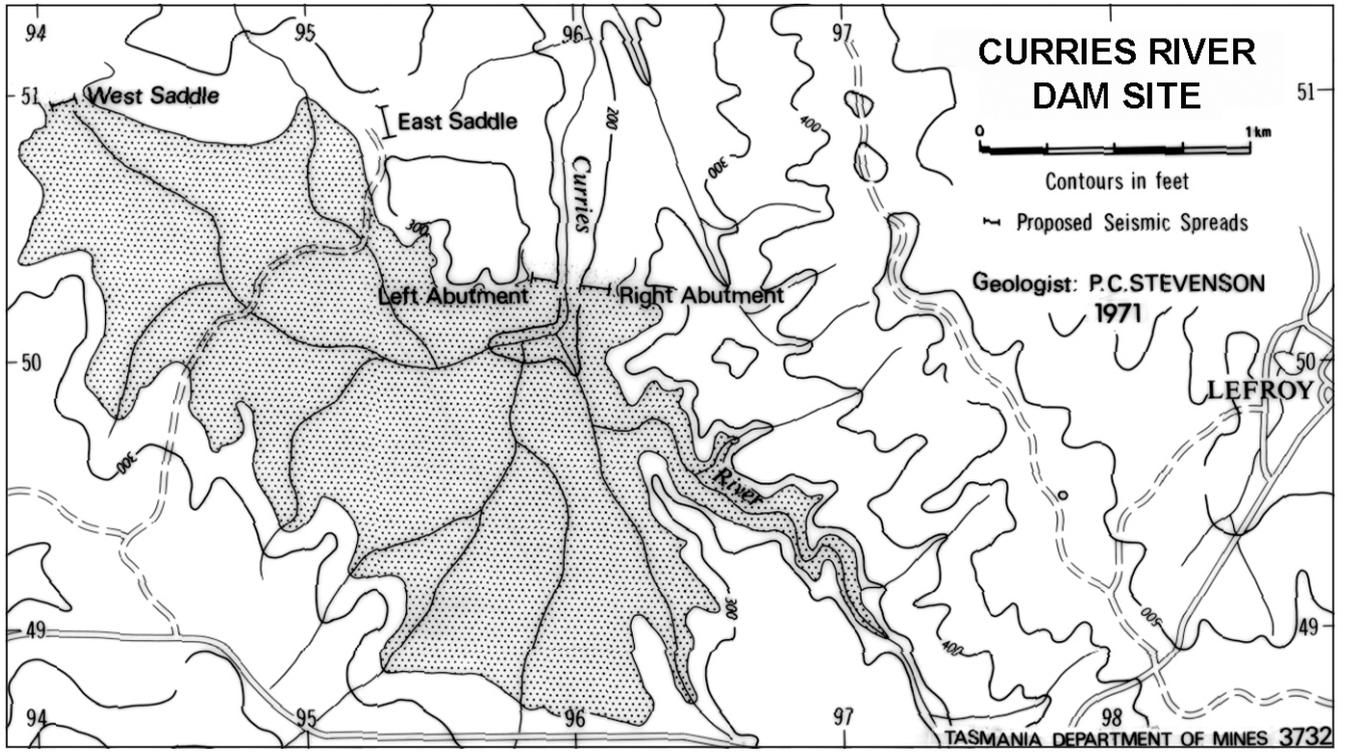


Figure 1