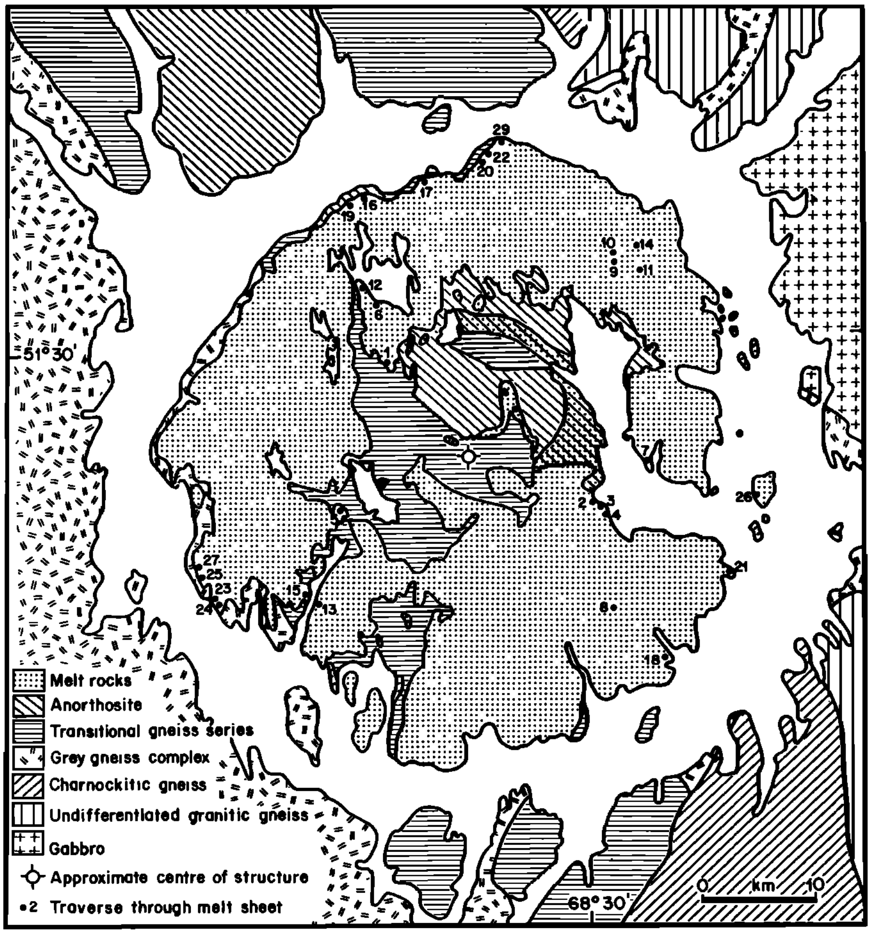

Fig. 3. Generalized geologic map of the Manicouagan structure, showing distribution of melt sheet and major basement lithologies. Reprinted from *Grieve and Floran* [1978].

were an order of magnitude higher in the case of Manicouagan, given observations on the rate of decay of recorded shock pressures at other complex structures [*Robertson and Grieve*, 1977]. The present distribution of shock effects suggests that the transient cavity radius ($P \lesssim 10$ kb) was in excess of 30 km (Table 1; Figures 2 and 5), even assuming no major inward displacements of the lower pressure shock 'contours' during modification. Attempts to derive transient cavity dimensions from the present configuration of shock 'contours' at complex structures are highly dependent on the reconstruction model used [*Robertson and Grieve*, 1977], and no such attempt is made here.

TABLE 1. Shock Effects in Basement Rocks at Manicouagan

	Radial Distance, km*			
Shock Effect—Mineral	*Dressler* [1970]	*Murtaugh* [1976]	Shock Pressure, kb†	Source of Pressure Estimate
Kink bands—Biotite	30	33	>10	*Schneider* [1972]
Kink bands—Hornblende	28	20	>50	*Stöffler* [1972]
Deformation lamallae—Hornblende	24	–	>50	*Stöffler* [1972]
Planar features—K feldspar	23	20	120 ± 30	*Robertson* [1975]
Planar features—Plagioclase	23	20	120 ± 30	*Stöffler* [1972]
Planar features—Quartz	21	20	100 ± 25	*Robertson and Grieve* [1977]
Incipient maskelynite—Plagioclase	14	–	~250	*Kieffer et al.* [1976]
Planar features—Apatite	14	–	>200	*Stöffler* [1972]
Planar features—Scapolite	14	7	>250	*Wolfe and Hörz* [1970]
Complete maskelynite—Plagioclase	12	12	>350	*Kieffer et al.* [1976]
Planar features—Pyroxene	11	–	~300	*Stöffler* [1972]
Diaplectic glass—Quartz	10	12	>350	*Stöffler and Hornemann* [1972]

* Maximum radial distance from geometric center.
† Estimated shock pressure required for first appearance of a particular feature.