PALYNOLOGICAL DATING OF COAL SEAMS IN AMAVARAM AREA, KHAMMAM DISTRICT, A.P., INDIA

Amavaram area forms the eastern limb of Godavari Valley. During the test drilling for coal exploration in Amavaram area of district Khammam by Geological Survey of India about 21m thick coal seam (coal+ shale) has been encountered at 29.66-41m in bore core GAV-1.

Recently the Geological Survey of India (Coal Wing News, Vol. 10, no. 2) has described fossil seeds and seed-bearing reproductive organs from a sandy shale at 340m in bore core GAV-2 showing close affinity to those of Glossopteridian plants. The sample is suggested to belong to Barakar Formation. In bore core GAV-3 a 13.7 m thick horizon of interbanded carbonaceous shale-coal has been intersected at the depth of 177.65 m (Coal Wing News, Vol. 10, no. 2). This is a significant finding as it opens a favourable horizon for the exploration of coal in this area.

Palynological study of seven samples from bore core GAV-1 has been done to assess and evaluate the stratigraphic position of the coal-bearing sequence. Twenty seven genera comprising triletes, monoletes, monosaccates, striate and non-striate disaccates and taeniates have been identified. The quantitative representation of various palynotaxa is given in Table 1. The palynoassemblage is dominated by striate disaccate pollen chiefly *Faunipollenites* and *Striatopodocarpites*. *Scheuringipollenites* remains subdominant. Some rare taxa indicating younger aspect are present, viz., *Lunatisporites*, *Verticipollenites*, *Lahirites*, *Polypodiidites*, *Weylandites*, *Striasulcites* and *Corisaccites*. The occurrence of *Schizopollis* in high percentage (2-14%) is significant. The assemblage compares with the lower Kamthi palynoflora of Ramagundam (Bharadwaj *et al.*, 1987) and Ramakrishna puram area (Srivastava & Jha, 1992) in dominance of striate disaccates and presence of rare taxa, thus indicating Late Permian aspect.

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Table 1—Showing quantative representation of various palynotaxa in bore core GAV-1, Amavaram area, Godavari Graben.

	Sample No.	7	6	5	3	1
Genera	Depth (m)	41	40	35	31	29.65
Hennellysporites		2	—	—	—	—
Brevitriletes		—	—	1	1	—
Horriditriletes		—	—	2	—	4
Cyclogranisporites		—	—	—	1	—
Lacinitriletes		—	—	—	—	
Polypodiidites		—	—	—	—	+
Densipollenites		1	3	1	—	4
Latosporites		1	1	2	—	—
Corisaccites		+	—	1	+	3
Lobatisporites		1	—	—	—	1
Primuspollenites		2	3	—	2	4
Rhizomaspora		1	—	—	—	2
Schizopollis		10	2	14	2	8
Platysaccus		—	1	1	—	—
Striatites		2	2	5	—	6
Lahirites		6	3	7	4	—
Faunipollenites		40	34	28	32	30
Striatopodocarpites		7	22	15	8	22
Verticipollenites		7	1	3	3	2
Striasulcites		1	3	2	—	2
Cuneatisporites		—	—	1	—	—
Vesicaspora		—	—	1	—	—
Scheuringipollenites		17	24	16	40	5
Ibisporites		2	—	—	6	—
Ginkgocycadophytus		—	—	—	1	—
Weylandites		—	1	—	—	1
Leiosphaeridia		1	—	—	—	—

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