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RESEARCH NOTE

OCCURRENCE OF ROCKS OF KIMBERLITIC AND LAMPROPHYRIC AFFINITY IN THE P.C. PYAPILLI AREA, ANANTAPUR DISTRICT, ANDHRA PRADESH

While carrying out semi-detailed geophysical surveys in search of kimberlites along an inferred fracture line 'D3' connecting the pipes of Lattavaram (P3, P4, P8 and P9) and Venkatampalli (P7), a moderate EM quadrature anomaly zone L-3 was delineated over a distance of 600 m in the soil covered area (Subramanyam *et al.* 1991, Fig.1). This inferred

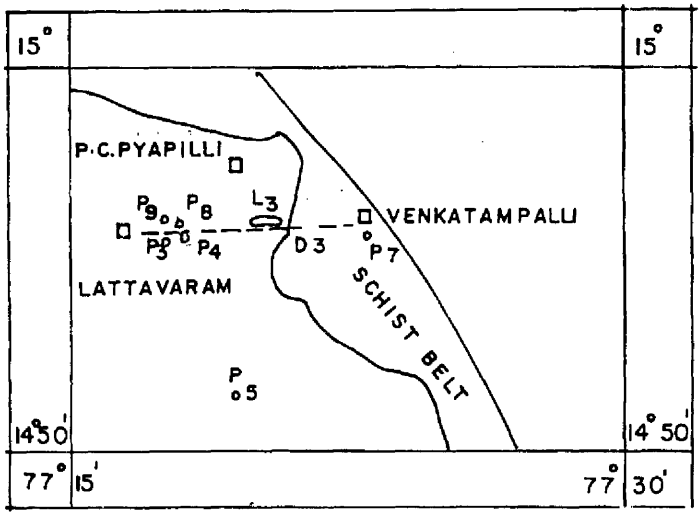

Fig.1. Location Map of L-3 in P.C. Pyapalli Area.

fracture line running in an E-W direction passes through Pennar - Hagari schist belt bordered by granites. Subsequently the western portion of this zone when detailed by electromagnetic (Slingram) measurements has brought out four discrete closures A,B,C and D (Subba Ra *et al.* 1991; *see* Fig.2). The chemical data (whole rock analysis) obtained on the sample collected from a well situated in closure 'A' has suggested a possible kimberlite body (Subramanyam *et al.* 1991). Rocks of kimberlitic affinity, spessartite lamprophyre along with olivine and augite bearing rocks with iron oxides and opaques have also been identified from closure 'B' by the Petrology Division of Geological Survey of India, Southern Region and Dept. of Applied Geochemistry, Osmania University, Hyderabad.

Recently a test drill hole by GSI PC-1; angle 45° aimed at testing the EM closure 'A' has intersected at a depth 80 to 84m a quartz diabase with mylonite (*see* Table I) which may be related to the kimberlitic and lamprophyre types known from pit 'B' (Fig.2).

Based on the available data it is inferred that the E-W shear zone has played an important role as a channel way for kimberlite emplacement in the L-3 anomaly zone.

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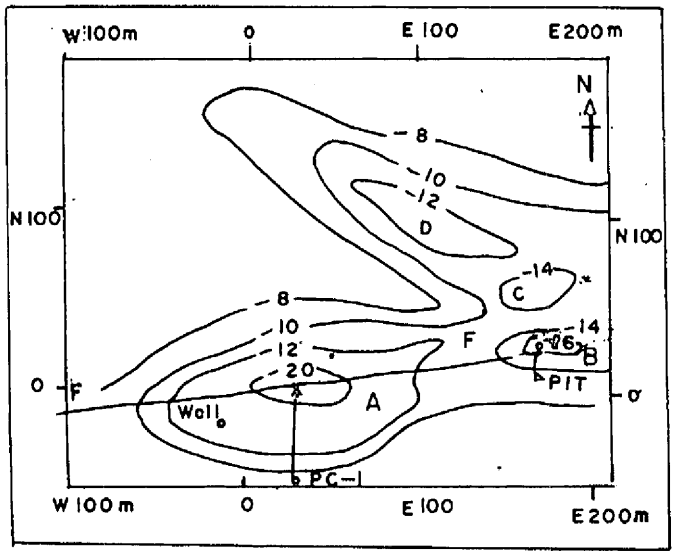

Fig.2. Detailed E.M. Quadrature component contour plan (in percentages) of Western Portion of L-3 Anomaly.

Table I. Selected major and minor oxides and trace element compositions of the bore hole core from closure 'A'.

Wt%		ppm	
SiO_2	64.0	Ba	ND
Al_2O_3	15.9	Zr	50
Fe_2O_3 (total)	5.5	Sr	100
		Cr	60
MgO	1.9	Y	10
CaO	1.0	Nb	30
TiO_2	0.9	Ni	10
Na_2O	4.3	Co	10
K_2O	1.5		
MnO	0.06		
LOI	5.00		

ND : Not detected

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