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The geology of the bewaarkloof area : Pietersburg asbestos field

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Fig. 21 Eastern and Western synoptic Pye diagrams of joints.

Fig. 22 Photo shows a typical fresh cross-fibre amosite band disposed at right angles to the bedding planes.

Fig. 23 Plots of fibre orientation. Diagrams indicate common orientation of the fibre. Further note fibre is orientated parallel to the P-Min. stress direction of the east-west folds.

Fig. 23a Synoptic Pye diagram of joints filled with asbestos.

Fig. 24 Example shows an amosite fibre band in the crest of an anticline and trough of a syncline. Note that the fibre is generally orientated parallel to the axial planes in the hinge of the folds. On the limbs there is a slight tendency for a splaying of the fibre.

Fig. 25 Example of a slip fibre band. Note surrounding fibre bands are relatively undisturbed.

Fig. 26 Photo indicates "angled" fibre disposed at an oblique angle to the bedding planes.

Fig. 27 Example shows "wavelike" behaviour of fibre. This band of fibre appears to have been pushed apart, with subsequent filling of the fracture with massive graphitic material.

Fig. 28 Photo shows rapid variation of fibre lengths. Note that the small displaced fibre portions can be pushed back to fit original positions.

Fig. 29 Photo shows a single fibre band that has been sheared and displaced.

Fig. 30 Specimen shows a fibre seam with no filling material in the shear planes present at base of the sample (normal scale).

Fig. 31 Specimen shows an "uneven" and "jagged" fibre band formed as the result of unequal growth.
Note "cross-cutting" relationship of the fibre.

Fig. 32 Example shows two asbestos cones. Note axes of the cones coincides with the orientation of the fibre.

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Fig. 33 Example of an asbestos cone in section. The photo clearly indicates post fibre flattening and shearing to have deformed the asbestos band into this conical shape. The asbestos band appears to have acted in an incompetent manner with translation of the fibre parallel to the axial plane as the result of fracture cleavage development.

Fig. 34 Example shows a "waste cone" devoid of fibre. Note that the bedding planes have been upfolded into this cone shape.

Fig. 35 Photo shows tension joints filled with amosite asbestos. Note fibre is disposed at right angles to joint planes.

Fig. 36 Sketch indicates a joint fracture filled with amosite. It would appear that bedding plane differential movement was responsible for the effect on the joint, as the sketch indicates.

Fig. 37 Sketch shows general behaviour of tension joints filled with asbestos, siderite and black massive material.

Fig. 38 Example of a curved and bent fibre band, caused by post fibre bedding plane movement and shearing.

Fig. 39 Specimen shows three distinct bands of chert at the top of the photo and two seams of crocidolite asbestos. Note similar manner in which both the chert and fibre have been sheared and displaced.

Fig. 40 Example shows a dome-like structure of fibre produced by shear strain cleavage. Note wrenching of the fibre as a result of this shearing.

Fig. 41 Specimen shows a curved fibre seam. Note waste material in between the fibres.

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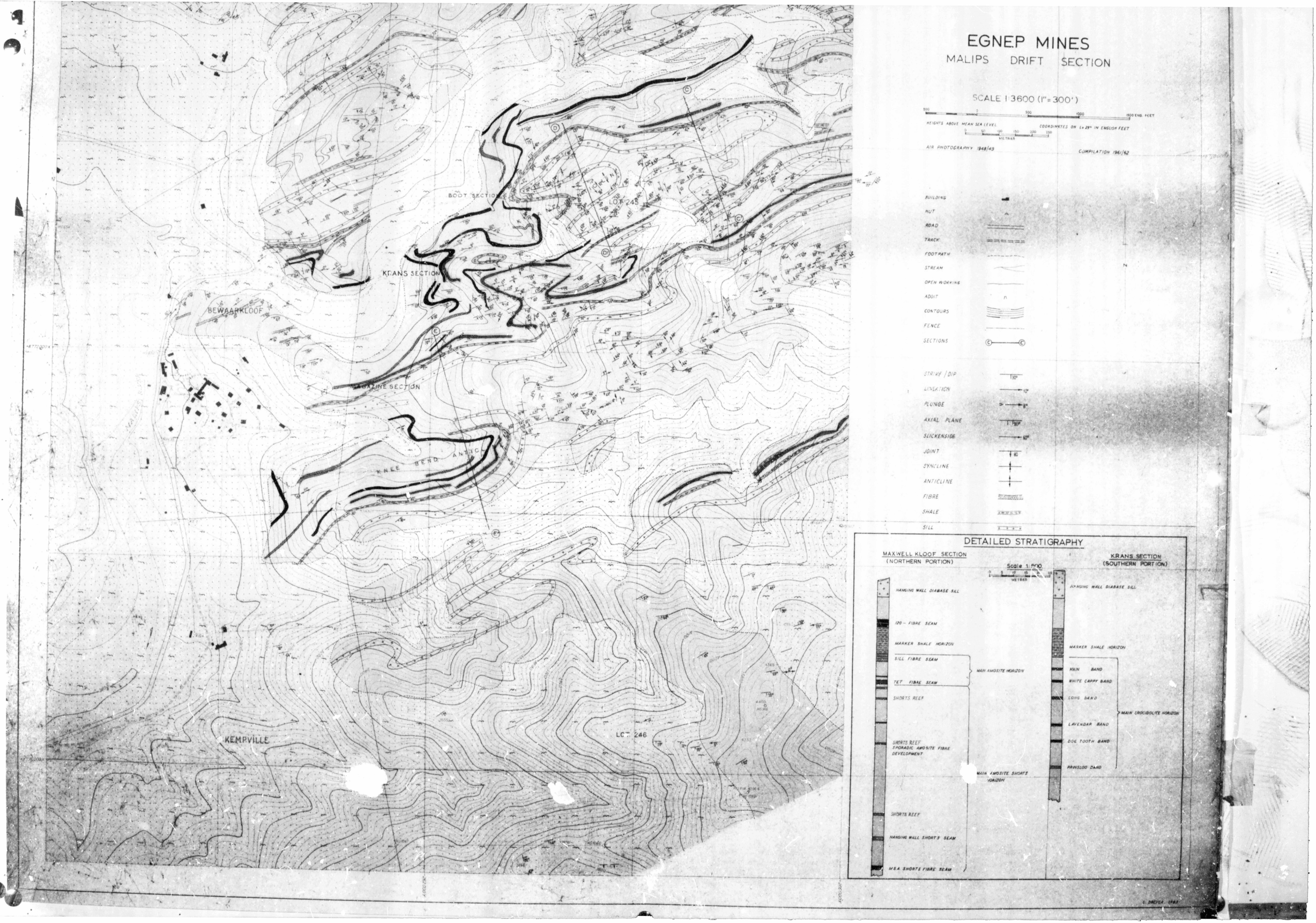
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HANGING WALL DIABASE SILL
MARKER SHALE HORIZON
MAIN BAND
WHITE CAPPY BAND
LONG BAND
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DOG TOOTH BAND
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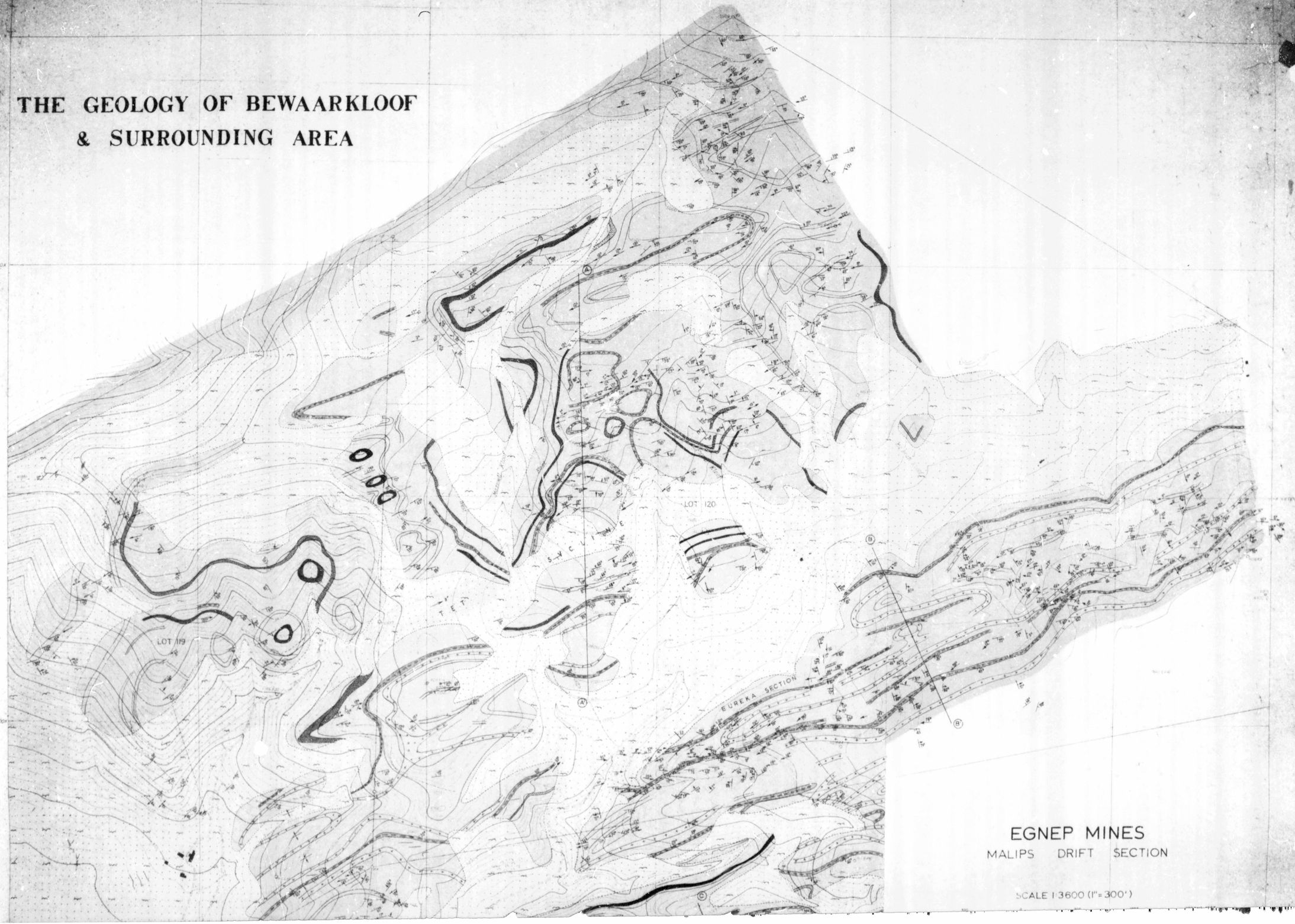
MAIN CROCIDOLITE HORIZON

THE GEOLOGY OF BEWAARKLOOF & SURROUNDING AREA



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