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Manuscript received July 1980.

ELECTRON CHANNELING AND ITS POTENTIAL FOR PETROFABRIC STUDIES: REPLY

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We are indeed grateful to Hall & Lloyd for informing us about their work in ECP generation in minerals. We compliment them on their high-contrast patterns. Most of our patterns were taken prior to our recent modifications of the scan generator, which has improved the contrast. Another contributing factor arose from our efforts to determine orientations by enhancing the resolution of the second- and higher-order bands, which are sharper than the first order. This procedure tended to result in patterns with lower contrast, which are not nearly so pleasing to the eye. This effect becomes quite apparent in the reproductions. We agree with Hall & Lloyd that any method that reduces mechanical damage on the surface will produce a sharper ECP. In our endeavors,

we attempted to generate ECP on standard thin sections as used for petrofabric examination. If such were possible, the utility of this tool would be obvious.

We also experimented with the annular back-scattered electron detector (ORTEC surface-barrier detectors), and agree with Hall & Lloyd that its usage improves image detail. However, the fragility of this device made maintenance painstaking, especially for use in axial-distribution analysis of samples where grains of 50 μm diameter are plentiful, requiring the shortest working distance possible. In conclusion, we are delighted to learn that ECP generation for petrofabric examination is being pursued elsewhere; hopefully this technique will now become more widely accepted, in the light of our report and that of Hall & Lloyd.

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Manuscript received August 1980.