

Faceting Notes

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Gems & Gemology Data Depository

Faceting notes from Robert C. Buchannan to accompany: P. Cevallos, "Gem News International: Diopside from Pakistan," Winter 2010 *G&G*, pp. 313–314.

Diopside – Pakistan

- **Rough material weight:** 7.49 ct
- **Size, shape, clarity, etc. – initial assessment:** Largest flat surface initially supports somewhat elongated triangle shape. Close examination shows very shallow angle on one of the two elongated pavilion sides which moves the natural "keel" much left of center and minimizes depth considerably. Additionally, opposing pavilion surface has deep natural groove approx. 4 mm long x 1.5 mm wide by 1 mm deep that must be ground out. Given stone depth from this perspective, maximum size would be 5.5 x 6.0 mm with minimal crown depth. Best estimate = 0.75 ct recovery (10%). Not acceptable if there is any other option available. The two elongated "pavilion" sides offer no good options. However, the "heel" end is flat 90° off of triangle table plane, not slanted towards what would be triangle culet like the other two pavilion sides. If the "heel" end of the stone is used as the table, a 7 mm round can be obtained. Possibly slightly larger depending on ultimate depth of noted "groove" that needs to be eliminated. May be able to cut 1.25 ct using diamond brilliant design. Therefore the round option is used to maximize recovery.
- **Finished size, weight:** 7.4 mm round diamond brilliant cut, 1.98 ct (26.43% yield)
- **Cutting, polishing characteristics:** Used 600 diamond lap for basic cutting, 1200 for final adjustments, and chrome oxide Mylar for polish. Encountered none of the cutting difficulties noted with the darker Madagascar material, and the cutting characteristics of the "hard" vs. "soft" grain of the stone were only slightly noticeable, whereas it was a very significant issue with the darker material. Polished quickly without incident and only slightly more time on the "softer" facets. Note: All internal bubbles/holes were ground out. All were clear and somewhat difficult to spot in the rough, whereas the holes in the darker material were coated with a white residue making them stand out.
- **Cut, color, clarity, reflective characteristics:** Cut standard round diamond brilliant configuration. Used 39° culet and 40° crown mains. Color is light minty green, almost identical to a Brazilian prasiolite I placed side-by-side for comparison. I'm surprised it didn't come out a little darker based on rough color. A bright sparkly stone. Pleasant color that should have more appeal than the darker material.