An effective and reusable sampling pipe for luminescence dating

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We present here a design of a simple to fabricate, and reusable, sampling pipe for luminescence dating (Figure 1, overleaf). This design effectively meets the needs of, 1) being rugged, 2) being reusable, 3) being easy to use in difficult terrains, 4) being light tight and 4) being moisture tight. The basic design involves the use of an aluminium or galvanized iron pipe sharpened at one end so as to provide easy penetration in the sediment. The second end is sealed with a stepped mild steel stub with a rivet pin so as to provide sufficient strength for pushing the pipe in the sediment with a geological hammer. The cap is made of aluminium and has two important design features. Firstly, it has an internal neoprene o-ring seal that remains in contact with the outer-side of the sampling pipe and ensures a perfect moisture seal. Secondly, the sharp edge of the sampling tube exactly meets the inner side of the cap, ensuring that the sample does not move during transit. The design of the cap is such that it push-fits on the sampling pipe, and hence allows the sample to be sealed almost instantaneously. This implies minimal user discomfort under a dark cloth, particularly under hot environments and on cliffs with minimal space for work. The luminescence laboratory at this institution has used these pipes effectively and has been satisfied. We will however welcome suggestions for further improvements.

Reviewer
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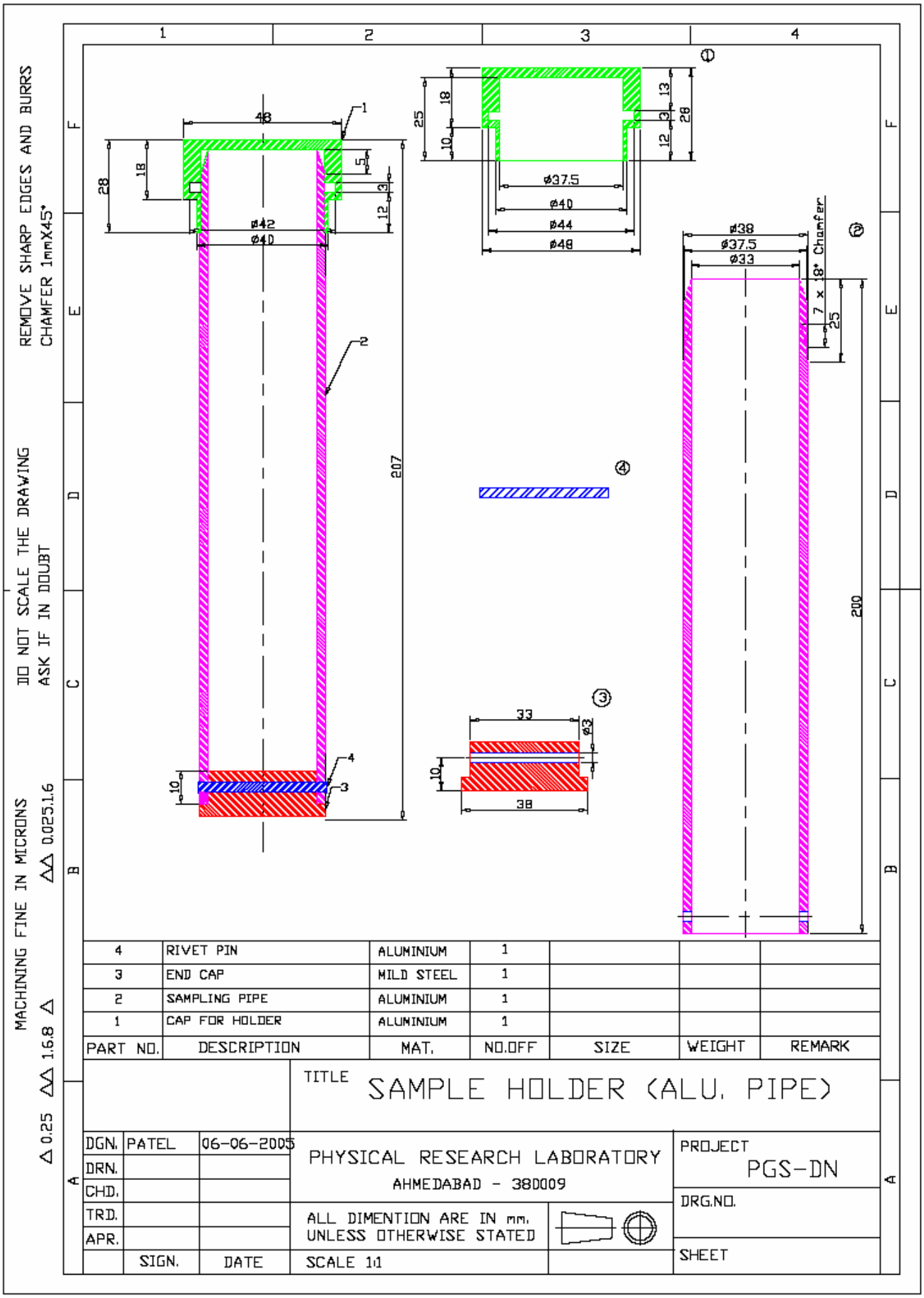

Figure 1: *Plans for sample holder*