

RECLAMATION OF A SANDSTONE AND CLAY QUARRY WITH NO TOPSOIL: USE OF FILTER FINES AS GROWTH MEDIUM¹

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Abstract. Reclamation of a quarry used to produce sandstone aggregate and clay near Boulder, Colorado was undertaken in 1995 without the benefit of salvaged topsoil. Subsoil was generated from remaining clay (weathered Lykins formation shale). Top layer growth medium was created using filter fines from a City of Boulder water treatment plant. These filter fine materials were sediment load accompanying the water passing from a high mountain watershed down a steel pipeline to the treatment plant. Silt and coarser size particles had been separated by filtration; clay particles were precipitated using alum. The resulting “filter fines” had the appearance of topsoil with occasional aggregations of alum. Planting in this material in late 1994 was accomplished by broadcast and mulched with bonded fiber matrix or hydromulch. Plentiful rain in Spring 1995 resulted in a very strong cover of the sown native grasses (mainly thickspike wheatgrass and western wheatgrass, *Elymus lanceolatus* and *E. smithii*). Bonded fiber matrix mulch accompanied the stands with initial highest plant cover. Over time the hydromulched areas with lower initial cover values were possessed of the greater species density, as less competitive native species were able to slowly establish in the absence of heavy grass competition.

Additional Key Words: Steep slope reclamation; bonded fiber matrix, filter fines

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