Quantifying Natural LNAPL Losses Using CO_2 Traps

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Abstract. Light nonaqueous phase liquids (LNAPLs) are commonly encountered beneath petroleum facilities. Ongoing research at Colorado State University (CSU) is focused on resolving natural losses of LNAPL using carbon dioxide traps located at grade. Activities have included testing traps at a laboratory-scale and field studies at two petroleum refineries. Preliminary results from work at CSU, and by others, indicate natural losses of LNAPL on the order of 1000s of gallon per acre per year. Critically, these losses are large relative to depletion achieved with common engineered remedies. Furthermore, losses of the observed magnitude appear to be playing an important role in limiting the extent of LNAPL bodies.