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^{63}Cu, ^{35}Cl, and ^{1}H NMR in the S=1/2 Kagomé Lattice $ZnCu_3(OH)_6Cl_2$ TAKASHI IMAI, Dept. of Physics, McMaster University, Canada, E.A. NYTKOC, B.M. BARTLETT, M.P. SHORES, D.G. NOCERA, Dept. of Chemistry, M.I.T. — $ZnCu_3(OH)_6Cl_2$ (S=1/2) is a promising new candidate for an ideal Kagomé Heisenberg antiferromagnet, because there is no magnetic phase transition down to ∼50 mK. We investigated its local magnetic and lattice environments with NMR techniques (ArXiv:cond-mat/0703141). From ^{35}Cl Knight shift data, we demonstrate that the intrinsic spin susceptibility follows a Curie-Weiss law down to ∼0.2J, then decreases toward T = 0. Comparison of ^{1}H and ^{35}Cl spin-lattice relaxation rate $1/T_1$ evidences for slow freezing of the lattice near ∼50 K, presumably associated with OH bonds. Spin dynamics near T = 0 obey a power-law behavior in the presence of high magnetic fields.

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