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(71) Applicant (for all designated States except US): **CLEAN WATER SERVICES** [US/US]; Graffi, Bill, 2550 SW Hillsboro Highway, Hillsboro, OR 97123 (US).

(71) Applicant and

(72) Inventor (for all designated States except US): **BAUR, Robert** [US/US]; 2550 SW Hillsboro Highway, Hillsboro, OR 97123 (US).

(74) Agent: **STEWART, James, G.**; Ater Wynne LLP, 1331 Nw Lovejoy Street, Suite 900, Portland, OR 97209 (US).

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(54) Title: WASTE ACTIVATED SLUDGE PHOSPHORUS AND MAGNESIUM STRIPPING PROCESS AND STRUVITE PRODUCTION SYSTEM

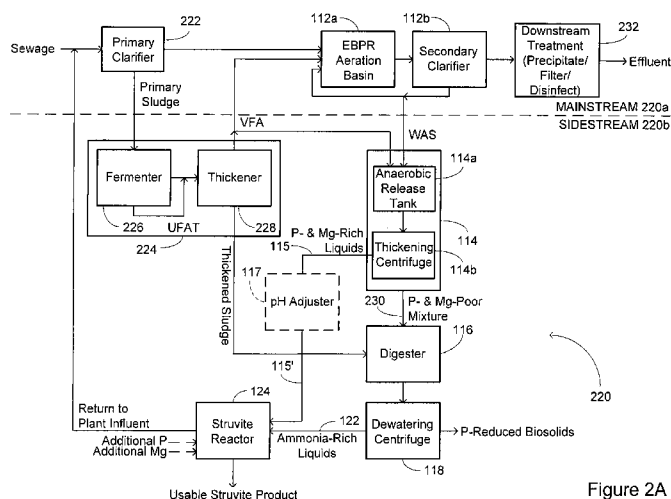


Figure 2A

(57) Abstract: A method of treating a mixture of microorganisms with readily biodegradable carbon compounds (RBCs) in the form of one or more volatile fatty acids (VFAs), by first inducing the mixture microorganisms to release phosphorus and magnesium which is then tapped off as the mixture is thickened, to produce a phosphorus/magnesium-rich liquid and a phosphorus/magnesium-reduced treated mixture. This treated mixture is placed in an anaerobic digester where ammonia is formed, but combines very little with phosphorus or magnesium. Next the high-ammonia mixture is dewatered to produce an ammonia-rich liquid, which is combined with the phosphorus and magnesium-rich liquid and reacted to form struvite. In one preferred embodiment, VFAs are formed in situ via an upstream unified fermentation and thickening (UFAT) process and added to the waste sidestream to strip phosphorus and magnesium found therein. In another preferred embodiment a usable struvite product is harvested.

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