

### Biogas Calculations for Methane Recovery and Electricity Generation Project GCM 23

GCM 23						
Parameters	Sows Number	Boars Number	Gilts Number	Nursers Number	Wean-Finisher Number	Finishers Number
TOTAL (head)						
Volatile Solids (kg/head*day)*	1.13	1.52	0.67	0.10	0.36	0.39
Annual VS (kg/year)	0	0	0	0	5,368	0
				Total VS	1,959,437	kg/year

#### Biogas Calculation

Daily Biogas = (Volatile Solids (kg/year) \* 0.4 \* 1.1 (m3 biogas/kgVS) \* 0.7) / 365

#### Assuming

Average production of 0.5 kg VS/day from an 82 kg pig

70% conservative adjustment. This factor is used to estimate VS delivered to the digester to buffer fluctuations in pig population.

40% digester conversion of VS

1.1 m3 biogas/kg VS converted

[CH4] in biogas equals 64%

#### where

Annual VS 1,959,437 kg/year

#### Results

Daily Biogas 1,653 m3/day