



**II. PROCESS INFORMATION (Continued)**

		Monitoring Frequency
3.	Raw sludge solids concentration: _____ %	
4.	Raw sludge volatile solids content: _____ %	
5.	Digested sludge solids concentration: _____ %	
6.	Digested sludge volatile solids content: _____ %	
7.	Digested sludge removal rate: _____ gal/day                      _____ lbs/day	
8.	Digester volatile acids: _____ mg/l	
9.	Digester pH: _____	
10.	Digester temperature: _____ °F	
11.	Digester alkalinity: _____ mg/l	
12.	Volatile acids/alkalinity ratio: _____	
13.	Depth of scum blanket: _____ ft	
14.	Depth of grit layer: _____ ft	
15.	Gas production: _____ ft <sup>3</sup> /day	
16.	Gas composition:	
	a. Methane _____ %	
	b. Carbon dioxide _____ %	
	c. Hydrogen sulfide _____ %	
17.	Active digester volume (total digester volume LESS scum and grit layer): _____ ft <sup>3</sup> /day	
18.	Volatile solids loading (volatile solids application rate PER active digester volume): _____ lbs/ft <sup>2</sup> /day	
19.	Volatile solids reduction: (sludge application rate times percent volatile solids reduction): _____ lbs/day	
20.	Gas production rate per lb. Volatile solids reduced (gas produced divided by volatile solids reduction): _____ ft <sup>3</sup> /lb VS Destroyed	
21.	Solids retention time (digester solids mass divided by solids discharge rate) _____ day	
22.	Location of supernatant return in plant: _____	
	Supernatant return rate: _____ gal/day	
	Supernatant solids concentration: _____ mg/l _____	
23.	Are adequate operating records maintained? <input type="checkbox"/> Yes <input type="checkbox"/> No	

**III. MAINTENANCE INFORMATION**

- 1. Is there an adequate preventative maintenance program?  Yes  No\*\*
- 2. Is there adequate equipment redundancy?  Yes  No\*\*
- 3. Is the spare parts inventory adequate?  Yes  No\*\*
- 4. Housekeeping adequate?  Yes  No\*\*
- 5. Are regular inspections made of:
  - a. Gas safety devices?  Yes  No\*\*
  - b. Gas piping system, compressors and scrubbers?  Yes  No\*\*
  - c. Water seals?  Yes  No\*\*
  - d. Manometers?  Yes  No\*\*
  - e. Digester structure and heat transfer system?  Yes  No
  - f. Scum blanket build-up?  Yes  No
  - g. Pumping system?  Yes  No
- 6. Components out of service  
\_\_\_\_\_ Out of service \_\_\_\_\_ days in \_\_\_\_\_(year)  
\_\_\_\_\_ Out of service \_\_\_\_\_ days in \_\_\_\_\_(year)  
\_\_\_\_\_ Out of service \_\_\_\_\_ days in \_\_\_\_\_(year)
- 7. What is the current mechanical condition of the unit?  Good  Poor\*\*

\*\* Please elaborate in V. OTHER OBSERVATIONS

**IV. SAFETY CONSIDERATIONS**

Hazards noted (describe):

- 1. Moving equipment: \_\_\_\_\_  
\_\_\_\_\_
- 2. Electrical: \_\_\_\_\_  
\_\_\_\_\_



**VI. PROCESS SCHEMATIC**

(Sketch or replace with plant schematic)

**COMPARISON OF ACTUAL ANAEROBIC DIGESTER  
CONDITIONS TO DESIGN AND TYPICAL CONDITIONS**

PARAMETER	ACTUAL	DESIGN	TYPICAL	40 CFR 257
Solids Retention Time				From 60 days at 68°F to 15 days at 95-131°F
Temperature (Fahrenheit)			98	
Volatile Solids Reduction %				35
pH			6.8 to 7.2	
Gas Production Per Pound VS. Added (cu ft/lb VS. Added)			6-8	
Per Pound VS. destroyed (cu ft/lb VS. destroyed)			16-18	
Gas Composition (%)				
Methane			65-69	
Carbon Dioxide			31-35	
Hydrogen Sulfide			Trace	
Volatile Acids Conc. (mg/l)			200-800	
Alkalinity Conc. (mg/l)			2,000-3,500	
Volatile Solids Loading				
Low-Rate (lb VS./cu ft/day)			0.02-0.05	
High-Rate (lb VS.cu ft/day)			0.05-0.15	
Solids Retention Time (days)				
Low-Rate			30-60	
High-Rate			10-20	