

GWMC-MWMI Sampling Data Sheet (Example1)

Name of WWTP	South Canadian Wastewater Treatment Facility		
WWTP ID	US-OK-07		
Office Phone	+1 405 239 1234	Fax	NA
Technician name	David Golden	Email	dg@okc.gov
Address	15924 South May Avenue, Oklahoma City, OK, USA 73170		
Longitude	97°33'33.4"W	Latitude	35°18'32.3"N
Air temperature	Mean annual <u>61°F</u> Range <u>4~103°F</u>		
Basic information			
Age of Plant	Since 1986	Designed Capacity (MGD)	6 MGD
Actual Influent Flow Rate (MGD)	4.5 MGD		
Influent: BOD <u>200mg/L</u> (COD _____) NH ₄ -N <u>25mg/L</u> TN <u>NA</u> TP <u>NA</u>	Effluent: BOD <u>13mg/L</u> (COD _____) NH ₄ -N <u>0.2mg/L</u> TN <u>NA</u> TP <u>NA</u>		
Industrial wastewater in influent:	No Yes, percentage <u>NA</u> %* unknown		
Sludge Age (SRT) (Days)	15 days		
HRT in the whole plant	16~17 hours	HRT in each aeration tank	16 hours
Volume of aeration tanks (total, each)	3 MG/tank x 2 tanks		
Recycling Ratio(return sludge flow/influent flow)	Not applicable. SBR has no return sludge.		
*If the sampled tank is SBR: Discharge Volume <u>~0.9MG</u> Volume exchange ratio <u>6/20</u> Cycle time <u>5.5 h</u> =Fill time <u>2.55h</u> +React/Settle time <u>1.95h</u> +Draw time <u>0.61h</u> +Idle.			
Nitrification? Yes or No	Denitrification? Yes or No		
Activated Sludge Process Type [1]	SBR		
Nitrification Process Type [2]	Combined carbon oxidation and nitrification (SBR)		
Denitrification Process Type [3]	No		
Sampling Information			
Sample Collection Date & Time (MM-DD-YY hr:min)	<u>07 - 11 - 14</u> <u>10 : 00</u>		
Information of Sampled Aeration Tank 1# Process Type <u>SBR</u>			
Influent of this tank	BOD <u>250mg/L</u> (COD <u>NA</u>), NH ₄ -N <u>35mg/L</u> , TN <u>NA</u> , TP <u>NA</u>		
MLSS Concentration (mg/l)	When sampling <u>3257mg/L</u> ; Yearly average <u>3000mg/L</u>		
MLSS Temperature (°C)	When sampling <u>74F</u> ; Winter <u>62F</u> Summer <u>72F</u>		
Dissolve Oxygen (mg/L)	When sampling <u>0.4~3mg/L</u> ; Yearly average <u>0.5~2.5mg/L</u>		
MLSS pH (Units)	When sampling <u>7.15</u> ; Yearly average <u>7.0</u>		
Sample Label	D.O.if available	Sampling Position	
OK07-1A	0.4 mg/L	1st sample from the sampling pipe of the east SBR	
OK07-1B	1.1 mg/L	2nd sample from the sampling pipe of the east SBR	
OK07-1C	1.8 mg/L	3rd sample from the sampling pipe of the east SBR	

Additional Form in case of more than 3 samples from this plant

Information of Sampled Aeration Tank <u>1</u> # Process Type <u>SBR</u>		
Influent of this tank	BOD _____ (COD _____), NH ₄ -N _____, TN _____, TP _____	
MLSS Concentration (mg/l)	When sampling _____; Yearly average _____	Same as above
MLSS Temperature (°C)	When sampling _____; Winter _____ Summer _____	
Dissolve Oxygen (mg/L)	When sampling _____; Yearly average _____	
MLSS pH (Units)	When sampling _____; Yearly average _____	
Sample Label	D.O.if available	Sampling Position
OK07-2A	1.9 mg/L	4th sample from the sampling pipe of the east SBR
OK07-2B	2.1 mg/L	5th sample from the sampling pipe of the east SBR
OK07-2C	3 mg/L	6th sample from the sampling pipe of the east SBR
Information of Sampled Aeration Tank <u>2</u> # Process Type <u>SBR</u>		
Influent of this tank	BOD <u>250mg/L</u> (COD <u>NA</u>), NH ₄ -N <u>35mg/L</u> , TN <u>NA</u> , TP <u>NA</u>	
MLSS Concentration (mg/l)	When sampling <u>3678mg/L</u> ; Yearly average <u>3200mg/L</u>	
MLSS Temperature (°C)	When sampling <u>74F</u> ; Winter <u>62F</u> Summer <u>72F</u>	
Dissolve Oxygen (mg/L)	When sampling <u>0.6~2.9mg/L</u> ; Yearly average <u>0.5~2.5mg/L</u>	
MLSS pH (Units)	When sampling <u>7.15</u> ; Yearly average <u>7.0</u>	
Sample Label	D.O.if available	Sampling Position
OK07-3A	0.6 mg/L	1st sample from the sampling pipe of the west SBR
OK07-3B	1.2 mg/L	2nd sample from the sampling pipe of the west SBR
OK07-3C	1.7 mg/L	3rd sample from the sampling pipe of the west SBR
Information of Sampled Aeration Tank <u>2</u> # Process Type <u>SBR</u>		
Influent of this tank	BOD _____ (COD _____), NH ₄ -N _____, TN _____, TP _____	
MLSS Concentration (mg/l)	When sampling _____; Yearly average _____	Same as above
MLSS Temperature (°C)	When sampling _____; Winter _____ Summer _____	
Dissolve Oxygen (mg/L)	When sampling _____; Yearly average _____	
MLSS pH (Units)	When sampling _____; Yearly average _____	
Sample Label	D.O.if available	Sampling Position
OK07-3A	1.9 mg/L	4th sample from the sampling pipe of the west SBR
OK07-3B	2.3 mg/L	5th sample from the sampling pipe of the west SBR
OK07-3C	2.9 mg/L	6th sample from the sampling pipe of the west SBR

Notes (1) The industrial wastewater is mostly from the airport. The percentage of industrial source is very low, but we can not get the exact flow rate.

This Plant has 2 processes: (i) Oxidation ditch (ii) complete mix.

GWMC-MWMI Sampling Data Sheet (Example2)

Name of WWTP	Edmond Wastewater Treatment Facility		
WWTP ID	US-OK-08		
Office Phone	+1 405 239 1234	Fax	NA
Technician name	David Golden	Email	dg@okc.gov
Address	22000 N Western Ave, Edmond, OK, USA 73025		
Longitude	97°31'45.7"W	Latitude	35°41'40.9"N
Air temperature	Mean annual <u>61°F</u> Range <u>4~103°F</u>		
Basic information			
Age of Plant	Since 1986	Designed Capacity (MGD)	10 MGD
Actual Influent Flow Rate (MGD)	6 MGD		
Influent: BOD <u>220 mg/L</u> (COD _____) NH ₄ -N <u>28 mg/L</u> TN <u>NA</u> TP <u>NA</u>	Effluent: BOD <u>5 mg/L</u> (COD _____) NH ₄ -N <u>0.05 mg/L</u> TN <u>NA</u> TP <u>NA</u>		
Industrial wastewater in influent:	No Yes, percentage <u>0.5</u> %* unknown		
Sludge Age (SRT) (Days)	15 days		
HRT in the whole plant	24 hours	HRT in each aeration tank	(i) 12.6 h (ii) 20h
Volume of aeration tanks (total, each)	(i) 0.327 MG/tank x 1 tanks (ii) 1MG x 2 tank		
Recycling Ratio (return sludge flow/influent flow)	(i) 0.8 (ii) 1.0		
*If the sampled tank is SBR: Discharge Volume _____ Volume exchange ratio _____ Cycle time _____ = Fill time _____ + React/Settle time _____ + Draw time _____ + Idle.			
Nitrification? Yes or No	Denitrification? Yes or No (i) Yes (ii) No		
Activated Sludge Process Type [1]	(i) Oxidation Ditch (ii) Complete Mix		
Nitrification Process Type [2]	(i & ii) Combined carbon oxidation and nitrification		
Denitrification Process Type [3]	(i) Combined with C removal and nitrification, (ii) No		
Sampling Information			
Sample Collection Date & Time (MM-DD-YY hr:min)	<u>07 - 15 - 14</u> <u>10 : 30</u>		
Information of Sampled Aeration Tank 1# Process Type (i) Oxidation Ditch			
Influent of this tank	BOD <u>240mg/L</u> (COD <u>NA</u>), NH ₄ -N <u>30mg/L</u> , TN <u>NA</u> , TP <u>NA</u>		
MLSS Concentration (mg/l)	When sampling <u>3190mg/L</u> ; Yearly average <u>3200mg/L</u>		
MLSS Temperature (°C)	When sampling <u>76F</u> ; Winter <u>62F</u> Summer <u>72F</u>		
Dissolve Oxygen (mg/L)	When sampling <u>2 mg/L</u> ; Yearly average <u>2 mg/L</u>		
MLSS pH (Units)	When sampling <u>7.27</u> ; Yearly average <u>7.9</u>		
Sample Label	D.O.if available	Sampling Position	
OK08-1A	1.8 mg/L	Near inlet	
OK08-1B	2.4 mg/L	In the middle, after a brush.	
OK08-1C	1.8 mg/L	Near outlet	

This Plant has 2 processes: (i) Oxidation ditch (ii) complete mix.

Additional Form in case of more than 3 samples from this plant

Information of Sampled Aeration Tank <u>1</u> # Process Type <u>(i) Oxidation Ditch</u>		
Influent of this tank	BOD _____ (COD _____), NH ₄ -N _____, TN _____	
MLSS Concentration (mg/l)	When sampling _____; Yearly average _____	
MLSS Temperature (°C)	When sampling _____; Winter _____ Summer _____	
Dissolve Oxygen (mg/L)	When sampling _____; Yearly average _____	
MLSS pH (Units)	When sampling _____; Yearly average _____	
Sample Label	D.O.if available	Sampling Position
OK08-2A	1.8 mg/L	Near inlet
OK08-2B	2.4 mg/L	In the middle, after a brush.
OK08-2C	1.8 mg/L	Near outlet
Information of Sampled Aeration Tank <u>2</u> # Process Type <u>(ii) Complete mix</u>		
Influent of this tank	BOD <u>240mg/L</u> (COD <u>NA</u>), NH ₄ -N <u>30mg/L</u> , TN <u>NA</u> , TP <u>NA</u>	
MLSS Concentration (mg/l)	When sampling <u>2950mg/L</u> ; Yearly average <u>3000mg/L</u>	
MLSS Temperature (°C)	When sampling <u>75F</u> ; Winter <u>62F</u> Summer <u>72F</u>	
Dissolve Oxygen (mg/L)	When sampling <u>0.45mg/L</u> ; Yearly average <u>1.5 mg/L</u>	
MLSS pH (Units)	When sampling <u>7.15</u> ; Yearly average <u>7.2</u>	
Sample Label	D.O.if available	Sampling Position
OK08-3A	0.35mg/L	East side of the east aeration tank
OK08-3B	0.55mg/L	North side of the east aeration tank
OK08-3C	0.45mg/L	West side of the east aeration tank, near the outlet
Information of Sampled Aeration Tank <u>3</u> # Process Type <u>(ii) Complete mix</u>		
Influent of this tank	BOD <u>240mg/L</u> (COD <u>NA</u>), NH ₄ -N <u>30mg/L</u> , TN <u>NA</u> , TP <u>NA</u>	
MLSS Concentration (mg/l)	When sampling <u>2450mg/L</u> ; Yearly average <u>3000mg/L</u>	
MLSS Temperature (°C)	When sampling <u>75F</u> ; Winter <u>62F</u> Summer <u>72F</u>	
Dissolve Oxygen (mg/L)	When sampling <u>0.8mg/L</u> ; Yearly average <u>2 mg/L</u>	
MLSS pH (Units)	When sampling <u>7.25</u> ; Yearly average <u>7.2</u>	
Sample Label	D.O.if available	Sampling Position
OK08-4A	0.6mg/L	East side of the west aeration tank
OK08-4B	0.8mg/L	North side of the west aeration tank
OK08-4C	1.0mg/L	West side of the west aeration tank, near the outlet

Same as above

- Usually, take 3 samples from one aeration tank in a plant, e.g. near the inlet, in the middle and near the outlet of the aeration tank.
- If a plant has different activated sludge processes (e.g. conventional plug flow and oxidation ditch), it is recommended to take 3 samples from each process.
- If a site has less than 4 plants, please take more samples per plant (e.g. 6 samples from 2 tanks) to ensure at least 12 samples per site.