

Trihalomethane (THM) Removal In A Clearwell

60% reduction of total THMs achieved. No more worries about EPA compliance.

Topics: clearwell, certified tests, chlorine, trihalomethane reduction, stratification

Location & Contact Information:

Further information may be available upon request. Please contact Medora Corporation by phone at 866-437-8076 or by e-mail, info@medoraco.com

System Overview: This is a two (2) clearwell system with water flow in series through Clearwell #1, Clearwell #2, then to distribution.

Clearwell Build Information:

Tank Type: Two identical partially buried concrete tanks
 Tank Size (gallons): 300,000
 Height (ft.): 16.75
 Diameter (ft.): 58
 Roof Type: flat
 Baffles: Tanks are divided into four (4) sections by baffles.

Disinfectant Type: Chlorine

Pre-Deployment Conditions: The community conducted a distribution system evaluation for total trihalomethanes (TTHMs). Concentrations at several locations exceeded the maximum contaminant level of 80 ppb as required by EPA Stage 2 DBPR.

Project Objectives: Lower TTHMs to maintain EPA compliance.



Solution:

Clearwell #1: One (1) GridBee® GS-12 Submersible Mixer
 Clearwell #2: Two (2) GridBee® SN Series Floating THM Removal Systems (March 2013)

Results: The community has conducted certified lab tests during the peak THM season. Results show consistent THM reduction of 60% or more. (See chart below for certified lab test results). The community is pleased with the ongoing results in THM reduction and is happy with Medora Corporation's service & support.

SN Series THM Removal System Design Criteria: This system was designed for a water treatment plant flow rate of ~1440 GPM (2.1 MGD). The certified City results below were obtained during lower flow rate periods in the first six (6) months of deployment.

SAMPLE DATE	WATER TEMP °C	WTP PRODUCTION (MG)	WTP PRODUCTION RATE (GPM)	UNTREATED WET WELL	TREATED WET WELL	DS202 (Dist. Sample)	% REMOVAL IN CLEARWELL #2	REGROWTH IN SYSTEM	"COULD'VE BEEN" TTHM VALUE
4/03/2013	7	0.411	600	29.6	18.4	31.8	38%	13.4	43
5/06/2013	15	0.554	600	47.2	20.4	43.4	57%	23	70
5/20/2013	18	0.657	700	56.2	24.8	64.7	56%	39.9	96
6/03/2013	20	0.412	700	49.2	30.1	58.8	39%	28.7	78
6/17/2013	22	0.520	700	62.7	21.2	62.3	66%	41.1	104
7/01/2013	24	0.535	700	63.2	30.7	64.7	51%	34	97
7/16/2013	26	0.531	700	72.9	29.5	72.5	60%	43	116
7/30/2013	24	0.450	700	60.6	21	60.3	65%	39.3	100
8/13/2013	23	0.435	700	53.3	20.3	52.1	62%	31.8	85