



P.O. Box 226 • Seneca, KS 66538 • 785/336-3760
FAX 785/336-2751 • <http://www.krwa.net>

May 19, 2009

Allen Andresen
City of Haven
PO Box 356
Haven, KS 67543

Dear Allen;

As you requested, I conducted a sludge profile of your systems wastewater stabilization ponds on May 6, 2009. The enclosed report summarizes my findings.

We took 48 measurements in the east cell. The average sludge depth in this cell was 6.33 inches. This cell was being operated at a depth of 5 feet. The loss of capacity due to sludge accumulation is 10.56 percent. The depth of heavy sludge is about 4 inches.

Forty-six measurements were taken in the west cell. The average sludge depth in this cell is 6.36 inches, with at least four of heavy sludge. This cell was also being operated a depth of 5 feet. Loss of capacity in this cell is 10.6 percent.

I do not believe removal is warranted given the limited amount of heavy sludge in the lagoons. Sludge removal is usually only necessary when a system fails to meet discharge permit limits or when the system has constant odor problems. The odors will usually only occur when approximately 25 percent of lagoon capacity is lost due to sludge accumulation. Other factors include system design and capacity. Utilizing irrigation and raising the operating depth to five feet will gain your system some time. Sludge removal project can be a significant expense and should be budgeted for.

With the addition of another cell and correction of the short-circuiting, I believe you will meet your limits when you discharge.

Please call if KRWA can be of any further help or provide additional information.

Sincerely,

Charlie Schwindamann
Wastewater Tech

CS: ejr
Enclosure
C: Allen Blake, City Administrator
John P. Goetz, KDHE, Wichita
Gary Smith, USDA Rural Development

TOP IS NORTH		WEST CELL		EAST CELL	
		8"	6"	6"	4"
8"	8"	6"	6"	8"	4"
8"	8"	8"	6"	6"	6"
10"	8"	6"	6"	8"	8"
8"	8"	6"	6"	6"	6"
8"	8"	6"	6"	6"	6"
		6"	6"		
10"	8"	6"	6"	6"	6"
10"	8"	8"	8"	6"	6"
10"	8"	8"	4"	6"	6"
8"	8"	8"	6"	8"	6"
8"	8"	8"	6"	10"	6"
		8"	8"		
8"	8"	8"	6"	8"	6"
6"	8"	6"	6"	8"	6"
6"	6"	10"	6"	6"	6"
6"	8"	8"	6"	8"	6"

CELL OPERATING DEPTH: 5 FEET

CELL OPERATING DEPTH: 5 FEET

AVERAGE SLUDGE DEPTH: 6.36 INCHES

AVERAGE SLUDGE DEPTH: 6.33 INCHES