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May 19, 2009

Mark Lampe
City of Offerle
PO Box 66
Offerle, KS 67563

Dear Mark;

As you requested, I conducted a sludge profile of your systems wastewater stabilization ponds on May 7, 2009. The enclosed report summarizes my findings.

We took 13 measurements in the east (primary) cell. The average sludge depth in this cell was 10.46 inches. This cell was being operated at a depth of 7 feet. The loss of capacity due to sludge accumulation is 12.45 percent. The depth of heavy sludge is about 4-6 inches. The loss of capacity in this cell would be 17.43% if operated at 5 feet of depth.

Fourteen measurements were taken in the west cell. The average sludge depth in this cell is 9.29 inches, with at least four to six inches of heavy sludge. This cell was also being operated a depth of 7 feet. Loss of capacity in this cell is 11.05 percent. This loss of capacity would increase to 15.48% if operated at a depth of 5 feet.

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.

You also mentioned you had a high Total Suspended Solids (TSS) test. After discussing the sampling method you used, grabbing the sample directly from the lagoon, this is why I would believe you had a high TSS reading of the sample as algae usually grows in the top 18-24 inches of a lagoon cell. I recommend that you take the sample from the discharge side of the pump used for irrigating. I also believe that you should place the suction for irrigation from near the discharge structure on the southwest end of the final cell. The suction tube should be at least 18-24 inches below the surface of the pond.

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

Sincerely,

Charlie Schwindamann
Wastewater Tech

CS: ejr
Enclosure
C: Kenny Rogers, Mayor
Allen Nichols, KDHE, Dodge City
Gary Smith, USDA Rural Development

TOP IS NORTH

10"	8"	16"	10"
10"	8"	12"	8"
10"	10"	14"	8"
10"	8"	10"	
8"	10"	10"	10"
8"	10"	10"	10"
10"	10"	10"	8"

CELL #2 OPERATING DEPTH: 7 FEET

CELL #1 OPERATING DEPTH: 7 FEET

AVERAGE SLUDGE DEPTH: 9.29 INCHES

AVERAGE SLUDGE DEPTH: 10.46 INCHES