Water Treat Technology
310 S Chestnut St
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Sludge Management Report

Sample
Sludge Survey
Wastewater Lagoons
Cell #1A, Cell #2A, Cell #3A, Cell #1B, Cell #2B and Cell #3B

January 01, 2025

Prepared for:

Sample

310 S Chestnut Street

Centralia, Illinois 62801

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Facility Evaluation

On January 1st, 2025 Water Treat Technology representatives conducted a sludge survey at the WWTP Lagoons Cell #1A, Cell #2A, Cell #3A, Cell #1B, Cell #2B and Cell #3B. The data was collected with a remote-controlled boat that has a sonar device that collects 5 triangulations for every foot of travel. That data is collected and downloaded into our software program that gives us the average sludge depth, maximums, minimums and the water depths. The software converts that data into cubic feet of sludge. The purpose of this survey is to explore and document the accumulation of sludge deposits in the lagoon system over the past few months. Attached is a set of graphs for each lagoon. The contour graph and 3D images show the impacted areas of sludge build-up. The Google Earth image shows the sludge depths with the elevated areas shown in red.

Analysis

Lagoon Cell #1A has an average depth of 2.6 feet of sludge blanket which is 0.4 more than the November 2024 average sludge depth of 2.2. Sludge depths range from 0.1 to 6.3 feet deep.

Lagoon Cell #2A has an average depth of 4.5 feet of sludge blanket which is an increase of 1.2 feet from the November 2024 average sludge depth. Sludge depths range from 0.7 to 6.5 feet deep.

Lagoon Cell #3A has an average depth of 2.4 feet of sludge blanket which is an increase of 0.6 feet from the November 2024 average sludge depth. Sludge depths range from 1.2 to 6.5 feet deep.

Lagoon Cell #1B has an average depth of 6.0 feet of sludge blanket which is 4.1 more than from November 2025 average sludge depth. Sludge depths range from 0.1 to 15.4 feet deep.

Lagoon Cell #2B is currently being used for sludge storage only with an average sludge depth of 10.5 feet. This is an increase of 4.3 feet from November 2025 average sludge depth. Sludge depths range from 1.0 to 14.4 feet deep.

Lagoon Cell #3B has an average depth of 10.6 feet of sludge blanket which is an increase of 4.2 feet from the May 2023 average sludge depth. Sludge depths range from 1.1 to 14.4 feet deep.

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Recommendations

Lagoons are very economical and efficient wastewater treatment systems. These systems are very forgiving methods of operation, if maintained properly. Lagoons are biological systems that depend on a good balance of microorganisms and macro/micronutrients to reduce the waste they incur.

Lagoon Cell #1A sludge accumulation is slightly greater than last year's numbers, but most of the sludge is concentrated on the east side of the lagoon and on the corners. I recommend that the treatments be applied to the east end of the lagoon. I would also recommend placing mixers on the east end and the corners to reintroduce the sludge back to the aerobic part of the lagoon.

Lagoon Cell #2A sludge accumulation is more than last year's report. Cell #2A should be treated with WTT BIO-TABLETS in the areas on the west side. I also recommend placing some floating aerators in the lagoon to help reduce the solids build up.

Lagoon Cell #3A sludge accumulation is less than last year's numbers. The south and west sides of Cell #3A need attention and should be treated with WTT BIO-TABLETS. I also recommend placing some floating aerators in the lagoon to help reduce the solids build up.

Lagoon Cell #1B sludge accumulation is significantly more than last year's numbers. This could be due to a wet spring and not being able to apply any water to the fields yet. Continuing the WTT BIO-TABLET treatment on this lagoon is recommended to prevent further build-up.

Lagoon Cell #2B is currently being used for sludge storage and the levels fluctuate daily. We highly recommend removing all the sludge as soon as possible by field applying the sludge. Cell #2B has seen an increase of 4.3 feet of sludge.

Lagoon Cell #3B sludge accumulation has increased from last year's report. Cell #3B needs to be field applied and should be treated by using WTT BIO-TABLETS in the highly impacted areas to reduce sludge build-up on the east end of the lagoon.

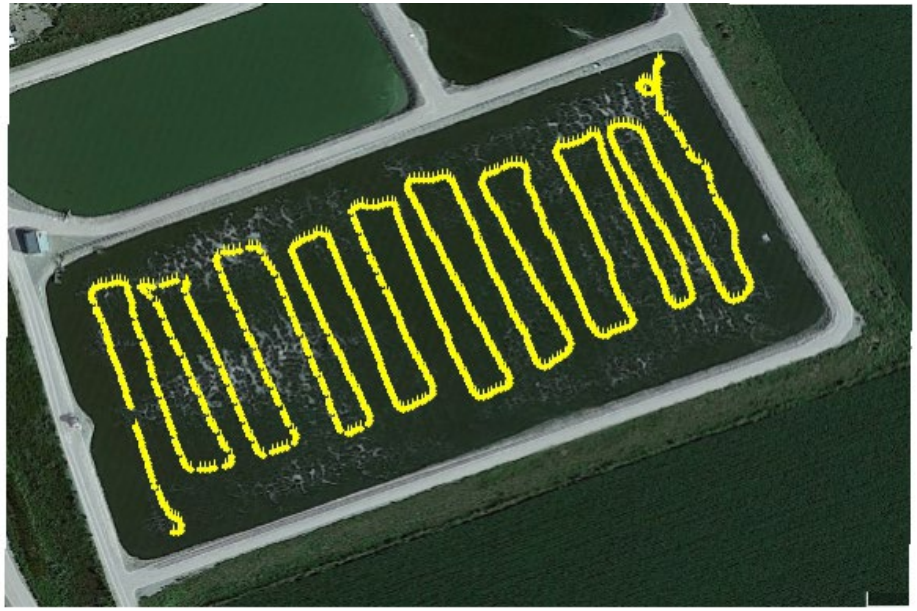
Sincerely,

Robert Risley

Water Treat Technology

Date:	11-14-2024
Length:	670
Width:	350
Slope:	3
Lagoon Depth (ft):	6.0
Average Water Depth (ft):	3.8
# of Data Points:	1090

Average Sludge Depth (ft):	2.2
Minimum Sludge Depth (ft):	0.1
Maximum Sludge Depth (ft):	4.8
Volume of Water (cu ft):	891,100.0
Volume of Water (gal):	6,665,890.9
Volume of Sludge (cu ft):	515,900.0
Volume of Sludge (gal):	3,859,200.0

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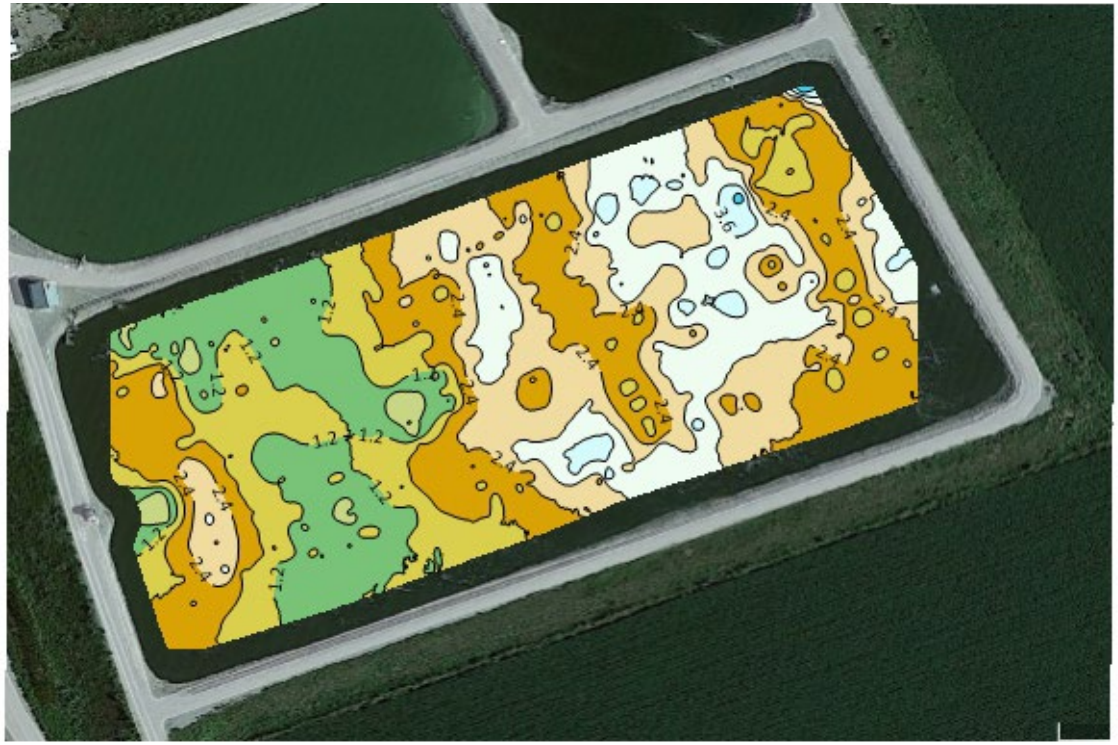
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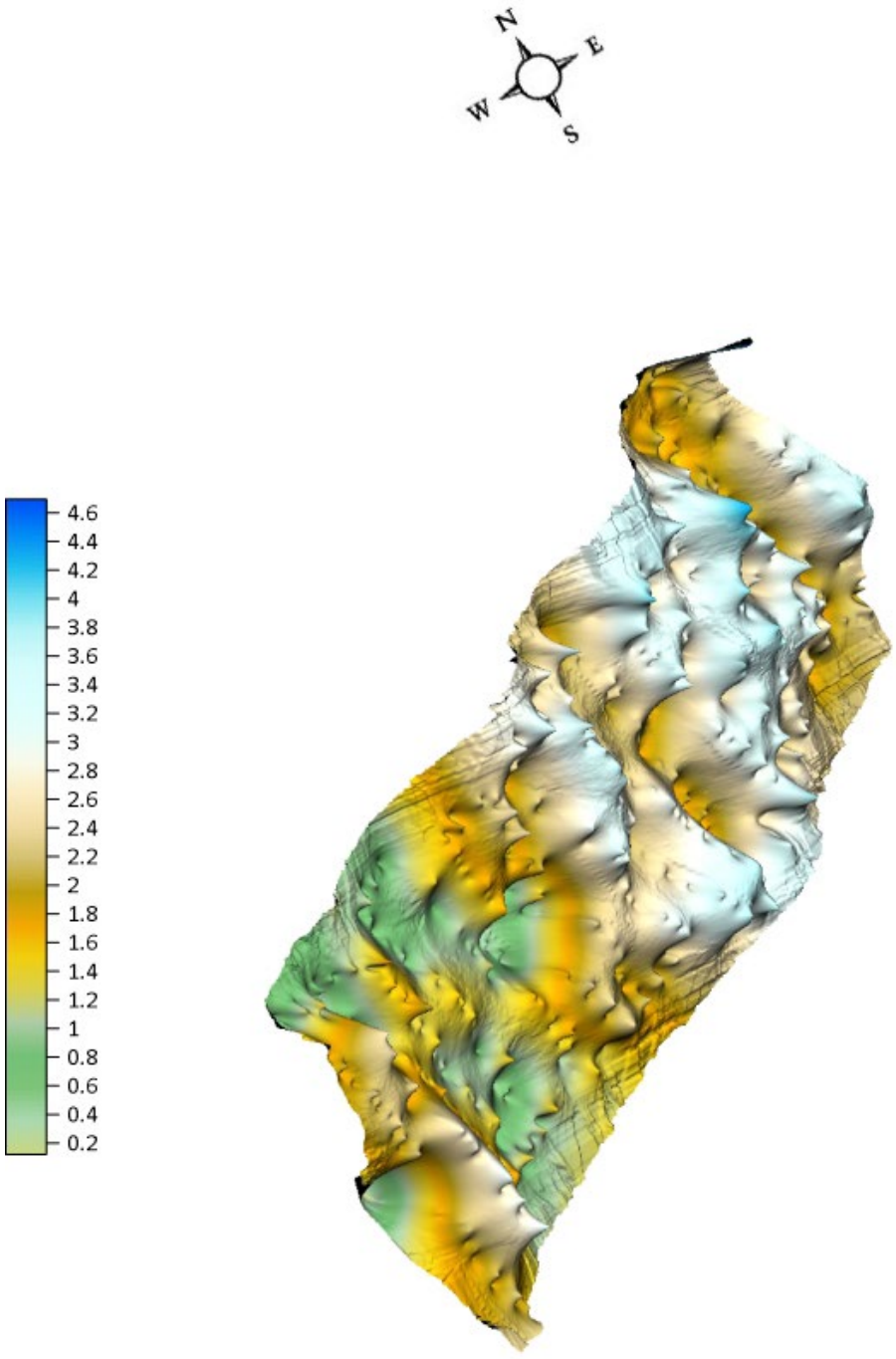
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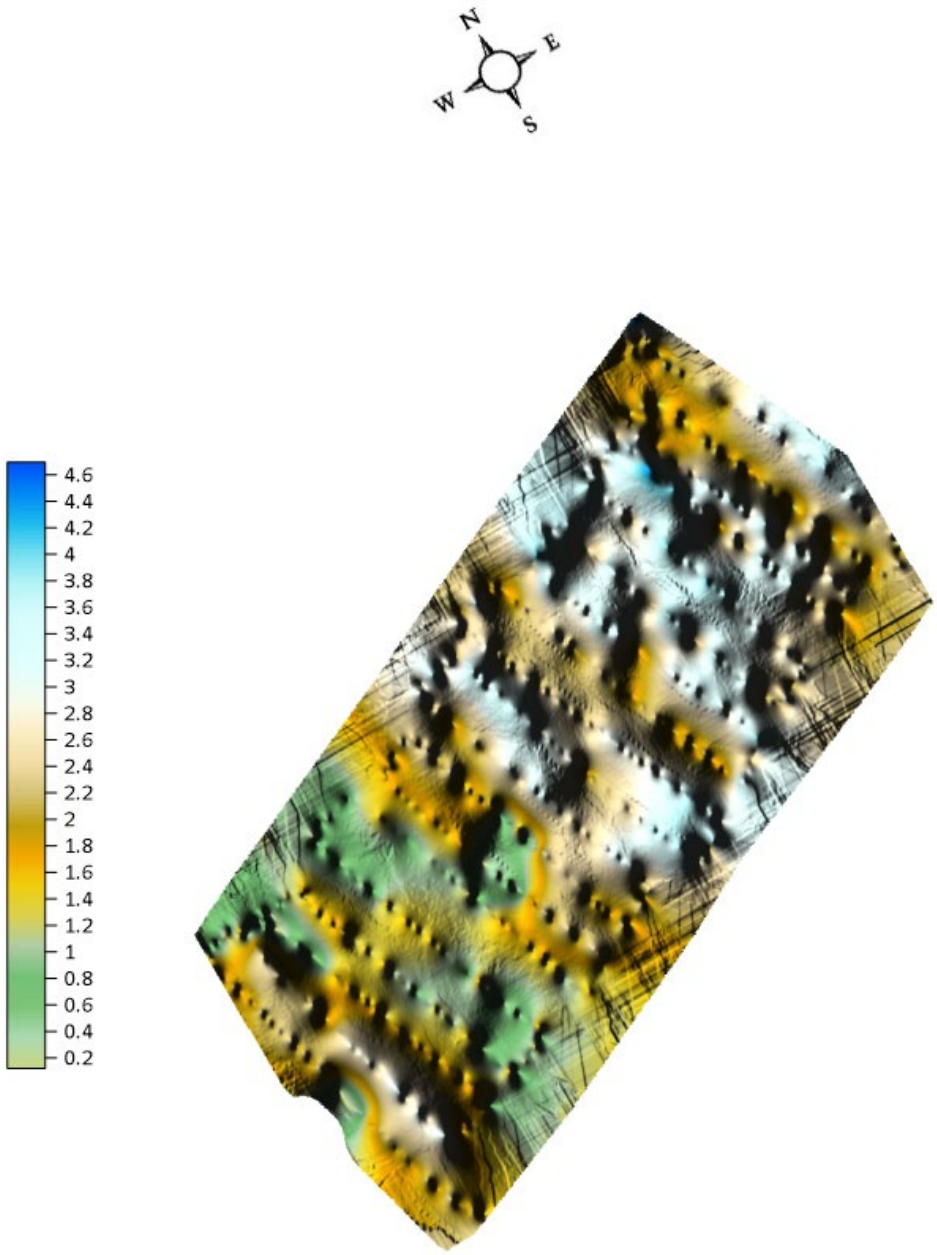
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