

Nebraska Department of Environment and Energy (NDEE)

MEMORANDUM

To: File

From: Hillary Stoll

Date: February 1, 2021

RE: AltEn, LLC

NDEE ID: 84069

Program ID: WWF, PCS NE0137634

Subject: Site Visit Report (Wastewater Aspects Only)

Summary of Site Visit and Information Acquired During Visit:

Mark Pomajzl, Jason Holsten, and Hillary Stoll (myself) arrived at the AltEn, LLC facility in Mead, Nebraska at about 9:30 AM on February 1, 2021. Mr. Scott Tingelhoff, plant manager, was not at the facility, but Mr. Ken Peterson was present. We stated that we were conducting a site visit and would like to tour the facility and observe the wastewater lagoons. At no time was access denied. Mr. Peterson provided the tour. The observations included in this memorandum are only those that are related to wastewater. After the tour, we spoke with Mr. Peterson and Mr. Dean Egr for the exit summary.

Observations Noted:

1. Mr. Dean Egr confirmed that the facility completed an approved wastewater construction project (NDEE Document ID 20200085932) to help reduce excessive air in the force main that transports wastewater to the Northwest (also known as "West") lagoon cell. This involved constructing a new force main that discharges wastewater into the Northwest lagoon cell. According to Mr. Egr, this project was completed last week (Photos 4 and 6).
2. Mr. Dean Egr confirmed that a sump pump failed so they manually transported sump waste into the Northwest lagoon cell via a honeywagon (Photo 7).
3. The water levels in each of the three lagoon cells have exceeded the maximum operating depths and are operating in the area designed for freeboard. The maximum operating depths, according to the approved plans and specifications for the construction of the Northwest lagoon cell, as well as modifications to the Northeast and Southeast lagoon cells, are included in Table 1. The pipe invert elevations for the overflow pipes between the lagoon cells are included in Table 2.



4. From a visual observation of the depth marker, the Northwest cell is operating at a depth of about 18.5 feet, which is above the maximum operating depth and within the area designed for freeboard (Photos 8 and 9).
5. From a visual observation of the depth marker, the Northeast cell is operating at a depth of about 19 to 19.5 feet. It was difficult to determine the operating depth based on the depth marker due to snow (Photo 15). The invert elevation of the overflow pipe entering the Northeast lagoon cell from the Northwest lagoon cell is 116.0', per the approved plans and specifications (Table 2). The water surface in the Northeast lagoon was above this invert, suggesting that it was above the maximum operating depth and within the area designed for freeboard (Photos 10 and 11). The Northeast lagoon is designed to drain into the Southeast lagoon when it reaches its maximum operating depth. Wastewater was flowing from the Northeast lagoon to the Southeast lagoon during the site visit (Photos 16-18).
6. From a visual observation of the depth marker, the Southeast cell is operating at a depth of about 19 to 19.5 feet. It was difficult to determine the depth based on the depth marker due to snow (Photo 19). The invert elevation of the overflow pipe entering the Southeast cell from the Northeast cell is 115.3', per the approved plans and specifications (Table 2). The elevation of the water in the Southeast cell appeared to be greater than the elevation of the middle of the overflow pipe (Photos 17 and 18). Per the approved plans and specifications, the overflow pipe is fifteen inches in diameter. Since the overflow pipe is fifteen inches in diameter, this suggests that the elevation of the water in the Southeast cell was at least 115.925' ($115.3' + 0.625'$), which is greater than the maximum operating depth and within the area designed for freeboard.
7. The Northeast lagoon cell liner has not been repaired and is still badly damaged (Photos 12-14). The multiple "whales" in the Northwest lagoon cell liner have also not been repaired.
8. One of the fences enclosing the wastewater lagoons was left open (Photo 5).

Table 1. Information Obtained from Document ID 20180025019 & Document ID 20180034184 (WWF Construction Permit 2018-0060)

Lagoon Cell	Top of Berm Elevation given in Plans & Specifications	Depth at Top of Berm (ft)	Design Freeboard (ft)	Maximum Operating Depth (ft)	Maximum Operating Elevation
Northwest (Influent Cell)	118.6'	20	2.1	17.9	116.5'
Northeast (Second Cell)	118.6'	22	3.0	19	115.6'
Southeast (Final Cell)	118.6'	22	3.0	19	115.6'

Table 2. Overflow Pipe Information Obtained from Document ID 20180025019 & Document ID 20180034184 (WWF Construction Permit 2018-0060)

	Influent Invert Elevation	Effluent Invert Elevation
Overflow Pipe from NW Cell to NE Cell	116.5'	116.0'
Overflow Pipe from NE Cell to SE Cell	115.8'	115.3'

Concerns:

1. One of the gates to the wastewater lagoons was opened. This is a violation of Title 123, Chapter 11-008.03.
2. The Northeast and Northwest lagoons remain unrepaired and have damaged liners. This is a violation of Title 123, Chapter 11-008.06.
3. Operating a wastewater lagoon in the area designed for freeboard is a violation of Title 123, Chapter 11-008.07. The purpose of freeboard is to protect the lagoons against exceptional storms and associated winds, heavy rain/snowfall, and damage to the integrity of the lagoon from wave action and potential erosion. Freeboard protects the property and waters of the State from wastewater overflows. Damaged lagoon liners with whales are also susceptible to further damage from wind and high water levels in the lagoons. The Northeast and Northwest lagoons remain unrepaired; using the lagoons without adequate freeboard could subject the lagoons to additional damage. Moreover, per a Notice of Violation dated September 13, 2019, the facility is not able to apply the wastewater to land due to the presence of pesticides. Therefore, the only way that wastewater can “leave” the lagoons currently is through seepage and evaporation. The lagoons were designed for zero seepage and evaporation is minimal during the winter months. According to a site visit on September 11, 2020, the facility estimated that the average wastewater flow to the lagoons is 100,000 gallons per day. Therefore, if the facility continues to discharge wastewater to the lagoons without any acceptable method approved by the Department to dispose of the wastewater, the water level in the lagoons will continue to rise and be susceptible to overflowing the dikes as precipitation increases in the spring.

Attachments

1. Photos
2. Map

Photos

Note: Not all photos taken at the site are included in this memorandum.



Photo 1

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Southwest

Description: Overview of Northwest lagoon cell (influent cell)



Photo 2

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Northwest

Description: Overview of Northeast lagoon cell (second cell)



Photo 3

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Southwest

Description: Overview of Southeast lagoon cell (final cell)



Photo 4

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: N/A

Description: Newly constructed influent pipe into the Northwest lagoon cell



Photo 5

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Southwest

Description: Open gate south of the Northwest lagoon cell



Photo 6

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Southeast

Description: Influent pipe into the Northwest lagoon cell



Photo 7

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: N/A

Description: Tracks from a honeywagon used to transport wastewater from the sump into the Northwest lagoon cell



Photo 8

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: N/A

Description: Depth marker for Northwest lagoon cell



Photo 9

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Northwest

Description: Depth marker for Northwest lagoon cell



Photo 10

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: South

Description: Overflow pipe from Northwest lagoon cell (right) to Northeast lagoon cell (left)



Photo 11

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Southwest

Description: Overflow pipe between the Northwest lagoon cell (right) and the Northeast lagoon cell (left)



Photo 12

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: N/A

Description: Liner tear in Northeast lagoon cell



Photo 13

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Northwest

Description: Liner "whale" in Northeast lagoon cell

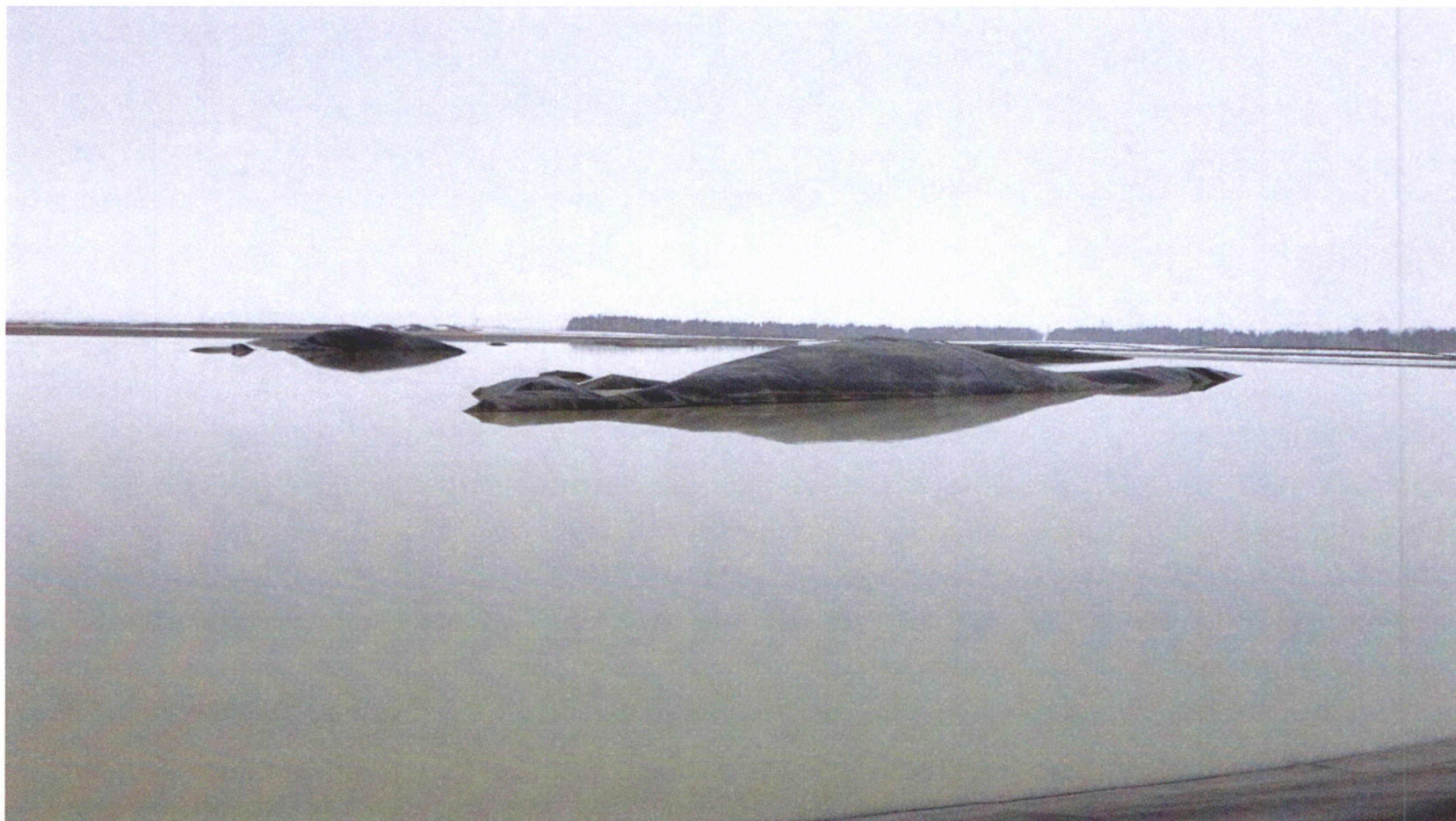


Photo 14

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Northwest

Description: Liner "whales" in Northeast lagoon cell

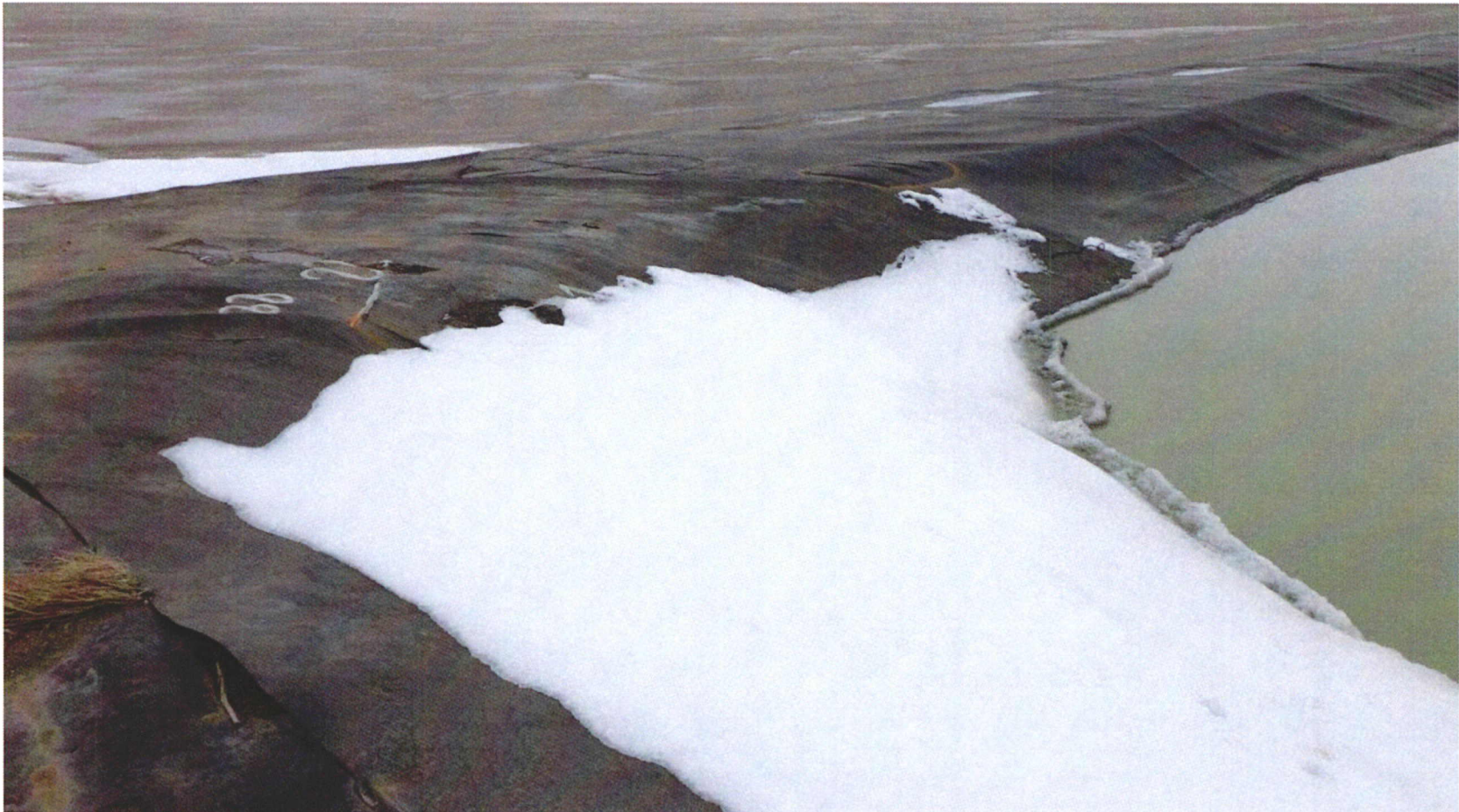


Photo 15

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Southwest

Description: Depth marker for Northeast lagoon cell. The top line is 22 feet. The "1" for 21 feet is just visible above the snow.



Photo 16

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: Southeast

Description: Overflow pipe from Northeast lagoon cell (left) into Southeast lagoon cell (right)



Photo 17

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: East

Description: Overflow pipe from Northeast lagoon cell (left) to Southeast lagoon cell (right)



Photo 18

Date Taken: February 1, 2021

Photographer: Hillary Stoll

Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: East

Description: Overflow pipe from Northeast lagoon cell (left) entering the Southeast lagoon cell (right)



Photo 19

Date Taken: February 1, 2021

Photographer: Hillary Stoll

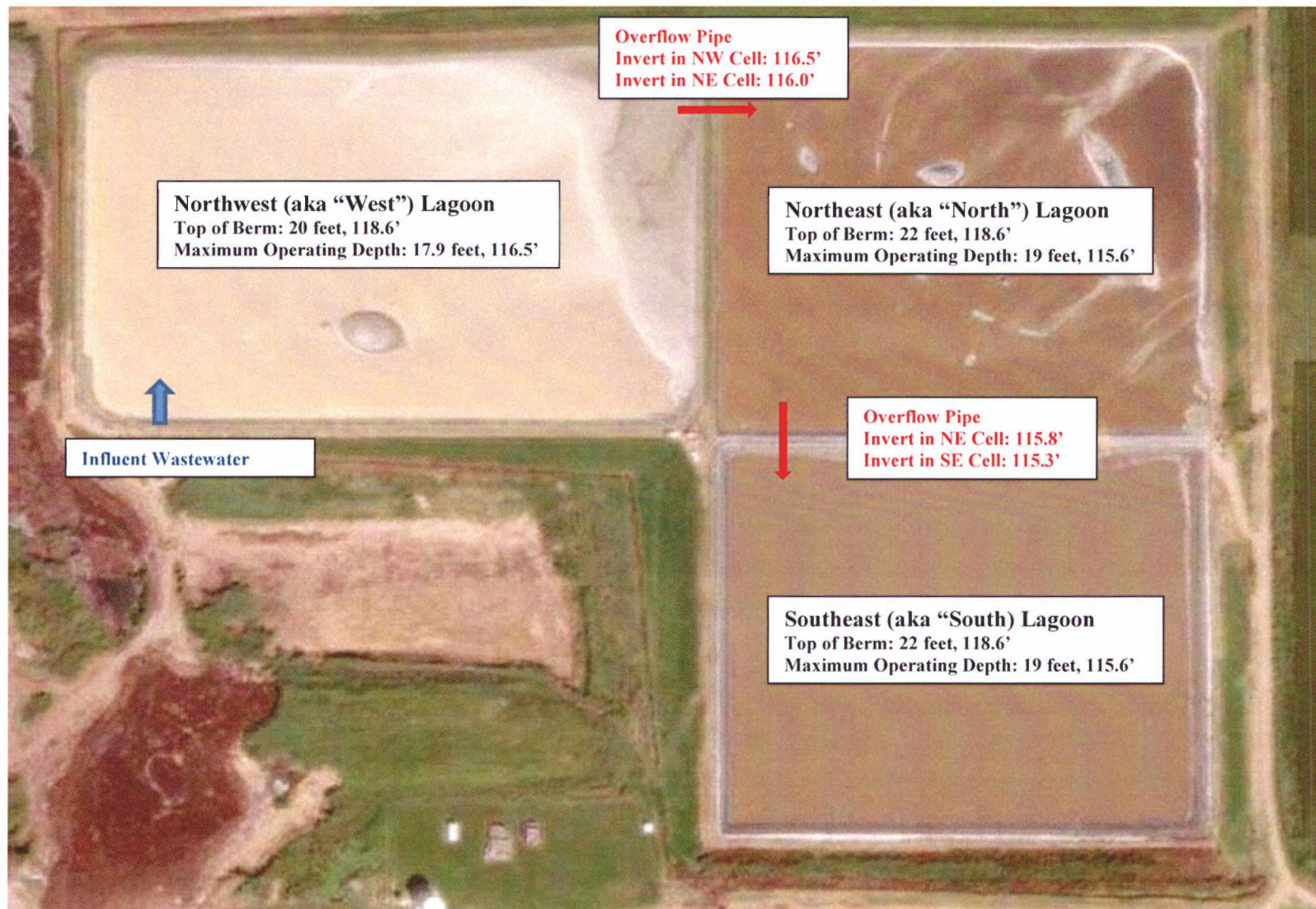
Facility Name/Project Name: AltEn, LLC, Mead, NE

Facility IIS number/Project Identifier: IIS #84069, PCS NE0137634

Direction Facing: N/A

Description: Depth marker on Southeast lagoon cell. The top line is 23 feet (right above the snow).

Map



*All information included in this map is based on design information from Document ID 20180025019 & Document ID 20180034184.