

REPORT OF CONCENTRATED ANIMAL FEEDING OPERATION INSPECTION

AT

GSP - MAX III

(b) (6)

Whittemore, IA 50598

Iowa Department of Natural Resources (IDNR) Facility ID 59178

ON

September 18, 2024

BY

U. S. ENVIRONMENTAL PROTECTION AGENCY

Region 7

Enforcement and Compliance Assurance Division (ECAD)

1.0 INTRODUCTION

I performed a Concentrated Animal Feeding Operation (CAFO) inspection at the GSP – MAX III facility on September 18, 2024. This inspection was performed pursuant to Section 308(a) of the Federal Water Pollution Control Act, as amended. This narrative report and Attachments present the findings and observations made during the inspection.

2.0 PARTICIPANTS

Smithfield Foods, Inc.

Jan Capesius, Environment Technical Specialist (515) 890-1888

Advanced Crop Management.

Brice Metzger, Founder and Certified Crop Adviser (515) 341-9315

U.S. Environmental Protection Agency (EPA):

Zachary Leibowitz, Physical Scientist (Lead Inspector) (913) 551-7553

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Stephen Pollard, Physical Scientist

3.0 INSPECTION PROCEDURES

I contacted Chad Hall of GSP/UNI Swine LLC which owns the GSP-MAX III (MAX III) facility, via telephone on Friday September 13, 2024. I stated that I would like to perform an inspection of the MAX III operation on Wednesday September 18, 2024. Mr. Hall had specific questions about why the EPA was conducting an inspection. I gave a brief overview and explained that I would provide him a Fact Sheet via email which will include additional

information. Rather than sending it through email, Mr. Hall insisted that I send this information via certified mail. He also informed me that he was leaving the state for the week and would be unavailable. Approximately 1.5 hours later I received a call from Jan Capesius from Smithfield Foods' Environmental Department. Ms. Capesius left a voicemail stating that she and another MAX III facility representative would be available to meet at the facility in the afternoon of Wednesday September 18, 2024. I returned Ms. Capesius' call and discussed the inspection process, and that the inspection would include entering some of the fields used by the facility for land application of liquid waste. I informed her that I would be joined by another EPA staff member. Ms. Capesius said a representative from Advanced Crop Management (ACM), who writes the facility's Manure Management Plans (MMPs), would also be present for the inspection. Ms. Capesius said that she and the representative from ACM had the authority to grant us access to the facility and had intimate knowledge of how the facility is operated, including how the waste is managed. I explained the EPA Region VII biosecurity protocol and Ms. Capesius said that no additional biosecurity would be required. We agreed to meet at the facility at 1:30 PM on Wednesday September 18, 2024. I called Ms. Capesius again on Monday September 16, 2024 to discuss access to land application fields. She said that Mr. Metzger of ACM would coordinate with the landowners to grant access to the fields following the inspection of the facility.

Prior to entering the MAX III facility, I conducted a visual reconnaissance of the facility and land application fields, searching for areas of concern observable from the county roads such as discharges, drainage patterns, flow directions, distance and direction of nearest perennial waters, visual condition of perennial waters, facility location and layout. The pre-inspection reconnaissance of the facility was limited due to the distance from the county road. The facility is located approximately 2.5 miles west of Whittemore, IA. Prairie Creek (Waterbody ID: IA 04-UDM-1872) flows from the northwest to southeast approximately 300 feet northeast of the facility. Prairie Creek was flowing at the time of the inspection and is identified as a perennial water per the USGS topographic map.

I arrived at the facility at approximately 1:30 pm and met with Ms. Capesius and Mr. Metzger. I donned my disposable protective boot covers, presented my credentials and explained both the purpose of the inspection and the procedures I would follow during the inspection. I told them we would also be following the EPA Region VII bio-security protocol. I then made Ms. Capesius aware of her confidentiality rights and informed her that a Confidentiality Notice, which she reviewed, would be provided at the end of the inspection to make any claims.

Ms. Capesius provided information pertaining to the facility operations while Mr. Metzger provided information related to waste management. Ms. Capesius and Mr. Metzger accompanied me during the entire inspection of the facility. After the conclusion of the inspection of the facility, Ms. Capesius provided me with electronic copies of facility inventory records and Mr. Metzger provided me with electronic copies of waste management records (Attachment 5).

I explained to Ms. Capesius and Mr. Metzger that I would be conducting the CAFO inspection under the authority of Section 308(a) of the Federal Water Pollution Control Act to evaluate the facility's compliance status with the requirements of the Clean Water Act (CWA). I explained that the inspection would consist of a review of facility operations, required records, waste generation and management practices, and a visual inspection of the facility. I told Ms. Capesius and Mr. Metzger that, following the inspection of the facility, I would be evaluating the land

application fields, specifically fields F14-1 and F14-2 looking at tile drains with outlets to Prairie Creek. Mr. Metzger said he had been in contact with the landowners and that they had granted access. I stated that I would document my findings and observations of the facility and land application fields by making photocopies, taking photographs and/or videos, obtaining statements from facility staff, and collecting samples of any observed discharges.

I conducted this inspection in accordance with the most current procedures described herein and the following EPA Region VII Standard Operating Procedures (SOPs), unless otherwise noted.

I completed my inspection of the facility, and I summarized the findings and recommendations with Ms. Capesius and Mr. Metzger during the exit briefing. Ms. Capesius and Mr. Metzger elected not to continue to the land application field inspection. Following the exit interview at the facility, I drove to 420th St. and Prairie Creek. I identified several tile drain outlets on the eastern bank, discharging into Prairie Creek. I was then met by the son of the landowner, who briefly provided information on the tile drainage network and departed. I located two tile drains discharging into Prairie Creek from field F14-1, which is used for land application by MAX III. I collected samples from the two outlets as well as samples from upstream and downstream of each tile outlet, for a total of six samples.

A Notice of Preliminary Findings (NOPF) was not issued to the facility. Eighteen photographs were taken during the inspection (Attachment 1). The facility layout and photo locations are included in Attachment 2.

4.0 FACILITY DESCRIPTION

4.1 Facility Operations

The MAX III facility is located approximately 2.5 miles west of Whittemore, IA. The facility is accessed via a private road of approximately 0.3 miles, (b) (6). The physical address is (b) (6), Whittemore, IA 50598. The facility is owned by GSP/UNI Swine LLC, which has a mailing address of 1417 Commercial Street, Algona, IA 50511. The legal description of the facility is the (b) (6), Township 95, Range 31, in the Fern Valley township of Palo Alto County, within the Headwaters Prairie Creek (HUC12 071000020601) watershed.

Ms. Capesius said that the facility is a wean-to-finish operation with a deep pit waste collection system. She stated that the facility has one employee who is there daily to take care of chores and 1-2 employees that help with loading/unloading hogs into/from the facility. Smithfield will also send an employee once a year to conduct a walk around of the facility. On December 22, 2020, the facility (IDNR ID#: 59178) submitted its MMP to the IDNR (Attachment 03). The MMP states the initial construction of the facility was May 1, 1999 and the maximum number of confined head is 3,600. Ms. Capesius said there were 3,388 head greater than 55 lbs at the time of inspection. Mr. Metzger said the facility had 1,033 acres available to apply liquid waste.

The approximate 3-acre facility consists of one 500 ft by 50 ft deep pit barn (Attachment 2B). During precipitation events, stormwater that falls on the facility would either flow northeast towards Prairie Creek (for the northeastern section of the building), southeast towards Prairie Creek (for the southeastern section of the building), or west into field F10-1 (for the western half

of the building). I observed a tile inlet near the location of photo 3 (southeast of the building) but did not follow its flow path. However, based on the topography and other tile drain paths, it likely flows southeast to Prairie Creek (Attachment 2A-2B, Attachment 4).

Routine mortalities are placed on a 3-walled concrete pad (photo 3) and are retrieved for rendering. Liquids leaving the concrete pad and precipitation that falls on it would flow approximately 20-30 feet towards a tile drain inlet located near the access road (photo 4).

4.2 CAFO Status

As stated above, the facility (IDNR ID#: 59178) submitted an MMP to IDNR on December 22, 2020, for a maximum of 3,600 head of swine ≥ 55 lbs (Attachment 4). Ms. Capesius said there were 3,388 head greater than 55 lbs at the time of inspection.

Following the inspection, Ms. Capesius provided the facility's inventory records from April 2021 to June 2024 via email (Attachment 5). A review of these records and statements made by Ms. Capesius show that the facility has confined at least 2,500 swine over 55 pounds for 45 days in the past 12 months. As a result of my observations and records provided by Ms. Capesius, I determined that GSP MAX III meets the definition of a large CAFO as it is defined in Title 40 of the Code of Federal Regulations, Part 122.23.

4.3 Regulatory History

The facility received Notice of Violations from IDNR in 2011 and 2014 for failure to submit MMPs by the January 1 deadline.

The facility was inspected by IDNR on April 15, 2016 (Attachment 6) and October 17, 2023 (Attachment 7). No issues were identified in the inspection reports. The 2023 inspection report contained an image of the concrete mortality pad (20231017_140147.jpg) which shows that it used to be enclosed by a gate. I observed this gate on the ground next to the concrete pad during my inspection (photos 3-4).

5.0 FINDINGS AND OBSERVATIONS

I conducted an inspection on September 18, 2024, to determine if MAX III is in compliance with the CWA and if the waste control facility structures were capturing all process wastewater and not discharging to a water of the United States.

The weather conditions at the time of the inspection were cloudy and warm (77°F) with light intermittent rain. Prior to arriving at the facility, I drove by land application fields in the facility's MMP. During my drive by on 410th Street, I observed a large pile on the north side of field 13-1 (note: previous MMPs referred to this field as 13-2). I observed feathers in the pile and noticed a distinct ammonia odor near the pile, suggesting it is likely from a poultry facility.

I met with Ms. Capesius and Mr. Metzger, discussed operational processes being performed at the facility, performed a visual inspection of the facility, and discussed onsite records being

maintained by the facility. According to the site MMP, MAX III was constructed in 1999 and the site has been operating as a large CAFO since it became operational.

Prior to conducting the visual inspection of the facility, I discussed the facility's manure management with Mr. Metzger. He said that the deep pit liquid waste is measured using a marked PVC pipe to determine how much is removed for land application. He said that samples are collected from the north and south sides of the barn prior to application and analyzed separately. He said that the land application is done in the fall by a certified applicator and the liquid waste is immediately incorporated into the field.

Mr. Metzger described the soil analysis, stating that representative samples from soil types in each field are collected and analyzed separately. He said the most recent soil samples were collected in 2020 and 2023 and that, since soils analyses are required every 4 years, additional samples would be collected soon at the fields last evaluated in 2020. I told him that I observed a pile of what appeared to be poultry waste in field 13-1. He said that there had been no applications from the MAX III facility to that field in the last 5 years. I examined the Statement of Intent in the MMP which is used to show commercial nitrogen or phosphorus fertilizer applications to the fields. It showed that there were no additional planned commercial fertilizer applications in any of the facility MMP fields. Following the inspection, Mr. Metzger emailed me the facility's most recent (October 2023) MMP (Attachment 8) and Ms. Capesius provided the facility's inventory records (Attachment 5). My findings related to these records are found at the end of this section.

I began the visual inspection at the three-sided concrete mortality pad near the entrance of the facility (photos 3-4, Attachment 2B). As mentioned above, I observed the mortality pad's old gate, unattached, next to the pad. I also observed a 4-6" tile drain inlet in the field near the access road, approximately 20-30 feet southeast of the pad (photo 4). Liquids leaving the concrete pad and precipitation that falls on it would flow into this tile inlet. Additionally, while conducting a desktop analysis on the Palo Alto County Property Appraiser website following the inspection, I noticed what appeared to be several mortalities laying on the ground outside of the mortality pad in the aerial imagery dated May 11, 2020 (Attachment 9).

I walked to the southwest corner of the facility and observed the facility is at a high point, with a gentle slope leading to a nearby field (photo 5). In the middle of the west side, I observed two tanks (photo 6). Ms. Capesius and Mr. Metzger were not sure what the tanks were used for, but they told me they assumed the tanks were used in the heating system of the facility during the winter. On the ground near the tanks I also observed some larger rocks where it appeared that water might accumulate during precipitation events (photo 7). I then walked around to the northeast corner of the facility and observed the general slope towards Prairie Creek, to the northeast (photos 8-9).

On the east side of the building I observed the loading and unloading doors to the facility, the bulk feed bins and the pit fans (photos 10-11). Mr. Metzger explained that there is a port between the pit fans which can be removed to access liquid waste stored in the deep pit for measurement and land application. He explained that annual liquid manure samples would be collected from both the south side and the north side of the barn and averaged for manure application rate calculations.

I completed my inspection of the facility, and I summarized the findings and recommendations with Ms. Capesius and Mr. Metzger during the exit briefing. Ms. Capesius and Mr. Metzger elected not to continue to the land application field inspections.

I then proceeded to the east bank of Prairie Creek, just north of 420th Street to examine tile outlets draining fields F13-1 and F14-1 (photos 1-2, Attachment 2C). According to records provided by the facility (Attachment 8 – 2023 MMP, Pages 60-67), liquid manure from MAX III was applied to fields F13-1 and F14-1 in 2018, 2020, and 2022. Shortly after arriving, the landowner's son stopped by, and we spoke about the purpose of the inspection and EPA's inspection procedures. He said that there was a new tile drain recently installed (photos 1, 14-15). He said that the new drain started in the field east of F13-1, near 580th Avenue. I thanked him for the information and his time, and he departed.

I proceeded to the tile outlet discussed above and observed recently disturbed soils and emerging cover crops in a strip east of the tile outlet. I observed that water was flowing out of the approximately 36" metal tile outlet. For sample tracking purposes, this outlet was labeled as "MAX3-1 Outlet". I collected the grab samples directly from the outlet and estimated it took around 5 seconds to fill the 1-liter sample bottles. I also collected samples approximately 10 feet upstream and 10 feet downstream of where the tile outlet discharges into Prairie Creek.

I walked north along the east bank of Prairie Creek and found another metal tile drain outlet with a diameter of approximately 24 inches. For sample tracking purposes, this outlet was labeled as "MAX3-2 Outlet." I collected the grab samples directly from the intact outlet and estimated it took around 6 seconds to fill the 1-liter sample bottles. I also collected samples approximately 10 feet upstream and 10 feet downstream of where the tile outlet discharges into Prairie Creek.

All samples were brought to Foundation Analytical Laboratory in Cherokee, IA for analysis. Certificates of Analysis are available in Attachment 10. Results are summarized in Table 1. In general, the concentrations of the parameters analyzed were lower in the outlets than in Prairie Creek, except for "Nitrate + Nitrite as N" which were orders of magnitude higher in the tile drain outlets.

Table 1. Tile drain outlet and Prairie Creek grab sample water quality analyses from tile drain outlets draining field F14-1. Samples were collected directly at tile drain outlets (**in bold**) as well as 100 feet upstream and 100 feet downstream of where the discharge enters Prairie Creek. Sample locations can be observed in Attachment 2C for MAX3-1 (photos 14-15) and MAX3-2 (photos 16-18).

<u>Sample Location</u>	<u>Date</u>	<u>Time</u>	<u>Total Coliform</u> (MPN/100mL)*	<u>E. coli</u> (MPN/100mL)*	<u>Ammonia</u> as N (mg/L)	<u>Total</u> <u>Kjeldahl</u> <u>Nitrogen</u> (mg/L)	<u>Phosphorus</u> (mg/L)	<u>Nitrate</u> + <u>Nitrite</u> as N (ppm)	<u>Biochemical</u> <u>Oxygen</u> <u>Demand</u> (mg/L)	<u>Chloride</u> (ppm)	<u>Total</u> <u>Suspended</u> <u>Solids</u> (mg/L)
MAX3-1 - Upstream	9/18/24	15:05	>2,420 17,329	98 110	0.095	0.94	0.07	1.98	2.35	25.2	11
MAX3-1 Outlet	9/18/24	15:00	1,553 1,259	26 52	0.02	0.54	0.16	20.4	<2	26.9	0.8
MAX3-1 - Downstream	9/18/24	15:10	>2,420 19,863	67 109	0.086	0.66	0.06	3.7	2.31	25.3	5.2
MAX3-2 - Upstream	9/18/24	15:35	>2,420 15,531	53 63	0.86	0.77	0.06	0.641	2.44	24.9	9
MAX3-2 - Outlet	9/18/24	15:40	649 443	2.0 <10	<0.02	<0.15	0.05	18.7	<2	27.8	<0.5
MAX3-2 - Downstream	9/18/24	15:30	>2,420 19,863	48 52	0.85	0.5	0.06	0.845	2.81	25	5

* - Samples were analyzed at different dilutions (1:1 | 10:1).

Following the inspection, Ms. Capesius provided the facility's inventory records from April 2021 to June 2024 via email (Attachment 5). I calculated the difference in the reported heads placed compared to the sum of reported heads sold and mortalities. The differences ranged from +248 head (in 2021) to -188 head (in 2023-2024). When I asked in a follow up email on September 24, 2024 why there were differences, Ms. Capesius responded "[e]rror in counting during head placed or error in reporting mortality." The records also note a roof collapse at the barn sometime after placement in September 2022. Prior to this roof collapse, the facility had placed 3,849 head at the facility, which is above their MMP's max capacity of 3,600.

Following the inspection, Mr. Metzger emailed me the facility's most recent (October 2023) MMP (Attachment 8) on September 23, 2024. I noted that the package did not include 2023 manure analysis results, which he provided the same day (Attachment 11). According to the MMP, the facility has 1,033.3 acres across 5 fields (F10-1, F13-1, F14-1, F14-2, and F15-1) for land application of liquid waste.

Their reported optimum crop yields are: 203 bushels/acre for corn, 62 bushels/acre for soybeans and 3.2 tons/acre for oats and alfalfa. The optimum yields are based on Iowa Ag Statistics county yield averages. The facility estimates that 75% of the nitrogen in the applied manure will be available in the first year, 25% will be available in the second year and 0% will be available in the third year following application. The facility does not plan to apply manure for soybeans but estimates application rates for optimum yield of other crops will be between 4,136 to 9,044 lbs/acre of liquid manure application (depending on crop type and rotation) from 2024 to 2027.

The facility calculated an annual liquid waste production of 1,175,120 gallons based on a maximum of 3,600 head. The land application records for years 2018-2023 were provided as scanned copies of nutrient application forms which ranged from digital outputs of variable rate liquid applicators to hand drawn maps (Attachment 8, pages 60-67). Some application forms combined fields F13-1 and F14-1. Land application records from 2018 to 2023 are summarized in Table 2 and Table 3. Total annual land applications of liquid manure ranged from 135,100 to 1,571,078 gallons (Table 2). Reported land application of liquid waste was greater than the anticipated annual liquid manure production value (1,175,120 gallons) in 2018 (1,571,076 gallons) and 2019 (1,264,199 gallons). Average gallons of liquid manure applied by the facility ranged from 4,476 to 6,551 gallons/acre. Based on the average TN concentrations of the liquid manure, I calculate that the average total nitrogen application rate ranged from 134 to 197 lbs TN/acre (Table 3).

Table 2. Total land application of liquid manure from MAX III between 2018 and 2023. Data from Attachment 8. *Calculated values are italicized.*

Year	Field – total liquid manure applied (gal)			
	<u>15-1</u>	<u>F14-1</u>	<u>F10-1</u>	<u>F14-1/F13-1</u>
2018				1,571,076
2019	513,248		750,951	1,264,199
2020				135,100
2021	365,185		721,538	1,086,723
2022		602,625		602,625
2023			831,977	831,977

Table 3. Average land application rate of liquid manure and calculated average TN land application rate between 2018 and 2023. Data from Attachment 8 and Attachment 11. *Calculated values are italicized.*

Year	Field - average liquid manure applied (gal/acre)				Field - average TN applied (lbs TN/acre)			
	<u>15-1</u>	<u>F14-1</u>	<u>F10-1</u>	<u>F14-1/F13-1</u>	Average liquid manure TN (lbs TN/1000 gal)*	<u>15-1</u>	<u>F14-1</u>	<u>F10-1</u>
2018				4,476	30.0			134
2019	5,968		5,913		32.1	179		177
2020				6,004	34.7			180
2021	5,657		5,658		35.5	170		170
2022		5,867			26.6		176	
2023			6,551		15.6			197

* - Average value of liquid manure analysis from north and south sides of barn.

6.0 SUMMARY

The MAX III (IDNR ID#: 59178) facility is located approximately 2.5 miles west of Whittemore, IA at 5621 410th Street, Whittemore, IA 50598. The facility is located within the Headwaters Prairie Creek (HUC12 071000020601) watershed, approximate 300 feet from Prairie Creek (Waterbody ID: IA 04-UDM-1872). MAX III is a wean-to-finish swine operation with a maximum capacity of 3,600 head. There were 3,388 head greater than 55 lbs at the time of inspection. MAX III meets the definition of a large CAFO as it is defined in Title 40 of the Code of Federal Regulations, Part 122.23.

I conducted an inspection of the facility as well as some of the fields used for liquid waste land application by the facility. I also conducted a detailed review of the facility's land application records.

At the facility I observed a tile drain inlet down gradient from the concrete mortality pad. I also observed aerial imagery from 2020 that appears to show mortalities stored outside of the mortality pad. In photos from previous IDNR inspections, there was a gate that closed in the mortality pad. The gate appeared to be off its hinges and down on the ground next to the mortality pad during my inspection.

I collected samples from two tile drain outlets that drain fields that have received liquid waste applications from the facility. Additionally, I collected samples from Prairie Creek both upstream and downstream of each tile drain outlet. In general, the concentrations of the parameters analyzed were lower in the outlets than in Prairie Creek, except for "Nitrate + Nitrite as N" which was orders of magnitude higher in the tile drain outlets.

A review of facility inventory records showed that there were occasionally large (up to 7%) differences in the number of swine placed at the facility vs. how many were sold and died. The facility representative said this was caused by counting errors. Additionally, the reported number of head placed in September 2022 (3,849) was greater than the max number of confined animals reported in the facility's MMP (3,600).

Finally, there appeared to be large interannual changes in land application of liquid waste by the facility. There were two consecutive years where land application of liquid waste exceeded the anticipated annual liquid manure production of the facility.

**ZACHARY
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ATTACHMENTS:

01. Digital Photograph Image Chain of Custody/Photo Log and Photos #1 - #18 (21 pages)
02. Facility Layout and Photo Locations
 - 2A. Site Overview Map (1 page)
 - 2B. Facility Overview Map (1 page)
 - 2C. Land Application Tile Outlet Map (1 page)
03. 2020 IDNR Manure Management Plan (MMP) Form (68 pages)
04. EPA Stream Characteristics and Water Nexus Form (2 pages)
05. Facility Inventory April 2021 - June 2024 (1 page)
06. IDNR Inspection Report Sent May 5, 2016 (12 pages)
07. IDNR Inspection Report Sent November 7, 2023 (10 pages)
08. 2023 Update - IDNR Manure Management Plan (MMP) Form (69 pages)
09. Aerial Imagery of Mortality Pad Dated May 11, 2020 (2 pages)
10. Tile Drain and Prairie Creek Water Quality Analyses Results (8 pages)
11. 2023 Liquid Manure Analysis (2 pages)