

# **REPORT OF CONCENTRATED ANIMAL FEEDING OPERATION INSPECTION**

**AT**

Keith Cattle Company LLC.

**(b) (6)**

Allen, Kansas 66833

KS0097144

**On**

May 23, 2023

**BY**

U.S. ENVIRONMENTAL PROTECTION AGENCY

Region VII

Enforcement and Compliance Assurance Division

## **1.0 INTRODUCTION**

At the request of the Enforcement and Compliance Assurance Division, Water Branch, a Concentrated Animal Feeding Operation (CAFO) inspection was performed at the Keith Cattle Company LLC. facility on May 23, 2023. 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**

Keith Cattle Company LLC.

Brian Keith, Co-Owner

Justin Keith, Co-Owner

Kansas Department of Health and Environment (KDHE)

Jacob Zortman, Engineering Associate, Livestock Waste Management

Casey Guccione, Section Chief, Livestock Waste Management

U.S. Environmental Protection Agency (EPA)

Lorenzo Sena, Physical Scientist (913) 551-5094 (Lead Inspector)

Adam Hendrickson, Physical Scientist (913) 551-7253

## **3.0 INSPECTION PROCEDURES**

I contacted Mr. Brian Keith on Monday, May 22, 2023, to set up an inspection at the Keith Cattle Company LLC facility near Allen, KS. I proposed to meet at the facility at 9:30 am the following day and Mr. Brian Keith agreed to that time.

Prior to performing the inspection, Mr. Hendrickson and I conducted a visual reconnaissance of the facility, 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 facility is located approximately one-half mile north and one-half mile west of Allen, Kansas. I arrived at the Keith Cattle Company LLC. (Keith Cattle) facility at approximately 9:30 am and was met by Messrs. Brian Keith and Justin Keith. I was accompanied by Mr. Adam Hendrickson (EPA Region VII), Mr. Jacob Zortman (KDHE) and Casey Guccione (KDHE). I presented my credentials to Messrs. Brian Keith and Justin Keith and explained that Mr. Hendrickson was an inspector in training. After introductions, I explained the purpose of the inspection and the procedures I would follow during the inspection.

I made Messrs. Brian Keith and Justin Keith aware of their confidentiality rights and informed him that a Confidentiality Notice, which he reviewed, would be provided at the end of the inspection to make any claims. Messrs. Brian Keith and Justin Keith acted as the official facility representatives during the inspection, and they provided all information pertaining to the facility's operation and accompanied us during the visual inspection of the facility.

I explained to Messrs. Brian Keith and Justin Keith 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 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:

|                |                                                                                                  |
|----------------|--------------------------------------------------------------------------------------------------|
| <u>SOP No.</u> |                                                                                                  |
| 2332.09        | Bio-Security Procedures for Conducting NPDES Compliance Evaluations at Animal Feeding Operations |
| 2332.08        | Animal Feeding Operation Inspection Program                                                      |

I completed my inspection on May 23, 2023, and I summarized the findings and recommendations with Messrs. Brian Keith and Justin Keith. During the exit briefing, Mr. Brian Keith acknowledged receipt of the Confidentiality Notice, which he signed indicating no confidential business information had been provided during the inspection (see Appendix #2). No samples were taken during the inspection. Twelve photographs were taken during the facility inspection and are included as Appendix #3. Appendix #4 shows the facility layout as well as runoff flow paths and photo locations.

## 4.0 FACILITY DESCRIPTION

### 4.1 Facility Operations

Keith Cattle is located approximately one-half mile north and one-half mile west of Allen, Kansas. The address listed in the facility's National Pollutant Discharge Elimination System (NPDES) permit (see Appendix #5) is (b) (6) Allen, KS 66833. The legal description for the facility is the SE¼, Section 10, Township 16S, Range 11E Lyon County, Kansas. The NPDES (KS0097144) permit has an effective date of September 10, 2018 and has an expiration date of September 9, 2023.

Mr. Brian Keith stated that the facility has four full time employees. According to the facility inventory records, there were approximately 378 head of feeder cattle onsite at the time of the inspection. The facility is permitted for a total of 3,000 head of cattle over 700 pounds.

According to the facility NPDES Permit (see Appendix #5), the facility consists of approximately 15 acres of open lot pens, 0.5 acre of feed storage area, 0.3 acre of mortality composting area, and 18.5 acres of associated feedlot areas for the maximum capacity of 3,000 head (1,500 animal units) of cattle weighing 700 pounds or less, and 6 head (12 animal units) of horses. The facility is separated into two drainage areas.

**The Confinement Area** consists of approximately 15 acres of open lot pens, 0.3 acre of mortality composting area, and 18.2 acres of associated feedlot areas. Surface runoff from the area is directed north into three sediment basins via drainage channels and a wastewater diversion that is located on the east side of the drainage area. Wastewater is conveyed from the sediment basins into an earthen retention control structure (RCS 1) via transfer pipes and risers. RCS 1 is rectangular in shape, measuring approximately 360 feet by 500 feet at the inside top of berm, with a total depth of 10 feet and 3:1 inside slopes; providing approximately 27.7 acre-ft. of storage capacity at the two-foot freeboard level.

**Freshwater diversions** are located on the west side of the confinement pens and the west side of each sediment basin to direct extraneous freshwater runoff to the north, away from the waste management system.

**The Feed Storage Area**, located east of the Confinement Area, consists of approximately 0.5 acre of feed storage and 0.3 acre of associated drainage area. Surface runoff flows north into two earthen retention control structures that are connected in series. Runoff first enters RCS 2A, the east structure. RCS 2A is irregular in shape, with a top surface area of approximately 0.2 acre and a total depth of 8 feet, providing approximately 0.32 acre-ft of storage capacity at the two-foot freeboard level. Wastewater is then conveyed west into RCS 2B via an earthen spillway located in the common berm. RCS 2B is irregular in shape, with a top surface area of approximately 0.16 acre and a total depth of 8 feet, providing approximately 0.35 acre-ft. of storage capacity at the two-foot freeboard level.

Wastewater from the facility (see Appendix #4) is land applied via center pivot to cropland directly across from the facility on Road 350, the land application field was planted in rye at the time of the inspection.

## 4.2 CAFO Status

The facility is a permitted Concentrated Animal Feeding Operation (CAFO) and was issued an NPDES permit (KS0097144). According to the NPDES permit (Appendix #5), the facility has a maximum capacity of 3,000 head of feeder cattle. As mentioned above, according to the facility inventory records, there were approximately 378 head of feeder cattle onsite at the time of the inspection. Mr. Brian Keith explained that every year in August/September cattle are brought in from pasture and placed into the feedlot pens and said that they populate the feedlot to just under 3,000 head, the cattle are kept inside the feedlot until around mid-April when they are put back into pasture. According to Mr. Brian Keith, the facility has over 1,000 head of cattle for a period of approximately 7 months out of a year. He also mentioned that this year they have less cattle than they usually have in the feedlot and said that last year they had approximately 600 to 700 head at the end of May. Cattle are confined and fed or maintained for a total of 45 days or more in a 12-month period, and crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility. As a result of my observations and the statements made by Messrs. Brian Keith and Justin Keith during the inspection, I determined that Keith Cattle 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

Kansas Department of Health and Environment (KDHE) performed a Livestock Waste Compliance Inspection on February 8, 2023 (see Appendix #6). According to the inspection report, the facility was inspected due to the fact that the permit was up for renewal in 2023. The inspection identified two compliance issues. The issues identified during the KDHE inspection are in italics and the EPA observed status of the facility follows:

*1. Staff gauges were not present in retention structure 2A and 2B north of your feed commodities area. Staff gauges are required by Section B of your operational permit; which states that a gauge must be installed in each of these retention structures no later than April 9, 2023. Enclosed is an example of staff gauge.*

As can be seen in Appendix #3, Photos #11 and 12, the facility installed staff gauges in both retention structures 2A and 2B.

*2. The wastewater diversion located on the east side of the production area drainage begins in a pen north of Road 350 and runs along the east side of the feeding area. The original point of the wastewater diversion needs to be made inaccessible to livestock and shall be seeded in perennial grass as well as repaired as required by Section C of the permit. This must be completed no later than April 9, 2023.*

At the time of the inspection, this area (Pen 3) was depopulated and had been depopulated since early April. The facility does not intend to use this pen in the future. Photos of this area can be seen as Appendix #3, Photos #8, 9 and 10. The elevation difference between the top and the bottom of the berm was minimal but evident. There was no evidence of discharges from this area at the time of the inspection.

In addition, the KDHE report mentioned the use of a 3.75-acre winter feeding area (see Appendix #4 and Appendix #3, Photo #6) located along the unnamed tributary to Hill Creek. The report goes on to explain that the pen was determined to have a significant water pollution potential and required that the facility submit plans to redirect all the runoff from the pen to the facility wastewater holding pond. At the time of this inspection, I noted that there were no cattle in the winter-feeding area and Mr. Justin Keith explained that the cattle were removed in early April and said that they will not use the pen in the future.

## **5.0 FINDINGS AND OBSERVATIONS**

The EPA Region VII Enforcement and Compliance Assurance Division requested a CAFO inspection to determine if Keith Cattle is in compliance with the CWA.

On May 23, 2023, I inspected Keith Cattle. The weather conditions at the time of the inspection were sunny, 70°F with a slight breeze. I met with Messrs. Brian Keith and Justin Keith and we discussed operational processes being performed at the facility and performed a visual inspection of the facility. As mentioned above, Keith Cattle had a total of approximately 378 feeder cattle onsite at the time of the inspection. Keith Cattle is operating as a large CAFO and has been issued a National Pollution Discharge Elimination System (NPDES) permit (#KS0097144), the permit is included as Appendix #5. Keith Cattle is required to control all process wastewater discharges from the facility.

During the visual inspection, I observed the facility including the pens, manure compost pile, feed commodity, area sedimentation basins, and the wastewater retention structure. I observed the following process wastewater flow patterns that will occur during precipitation events (See Appendix #4):

### **Pens:**

- Manure solids and liquids from the farthest west row of pens flows north into the west sediment basin for solids settling. From the west sediment basin, liquids flow into the center sediment basin then to runoff control structure #1 (RCS1) (see Appendix #3, Photo #1).
- Manure solids and liquids from the row of pens located across and east of the feed road from the farthest west row of pens flows north into the center sediment basin for solids settling and the liquid portion flows to RCS1 (see Appendix #3, Photos #2 and 3).
- The remainder of the pens flow north to the east sediment basin which then flows to RCS1 (see Appendix #3, Photos #3, 7 and 5).

### **Manure Compost Pile:**

- Runoff from the manure compost pile flows north and east where it flows into the largest sediment basin located west of and adjacent to the wastewater retention structure. From there, any liquids flow into the waste holding pond.

### **Feed Commodities Area:**

- Process wastewater from the silage storage area and feedstock mixing area, flows north to RCS 2A and then to RCS 2B (see Appendix #4 and Appendix #3, Photos #11 and 12). Runoff from the baled hay storage area flows south approximately 250 feet along the grassy roadside ditch to a culvert under Road L. The culvert discharges to a small drainageway which flows to a grassy area with a meandering flow path and without a well-defined channel and eventually flows approximately 400 feet to an unnamed tributary to Hill Creek east of Road L.

### **Sediment Basins and Holding ponds:**

- During the facility tour, I noted that the sediment basins appeared to be functioning as intended.
- As identified in the KDHE inspection report, the berm along the northwest corner of pen 3 had a subtle yet evident berm, cattle had been removed from the pen since early April and the pen will no longer be populated. The elevation difference between the top of the diversion berm and the bottom of the basin was minimal near the farthest west end of the berm. The concern here is that in the event the area experienced a large precipitation event during a short time, the runoff may overtop the sediment basin berms and flow into areas where runoff is not controlled. Photos of this area can be seen in Appendix #3, photos #8,9 and 10. As mentioned above, the elevation difference was minimal but evident, there was no evidence of discharges from this area at the time of the inspection.
- During the facility tour we viewed the wastewater retention structure (RCS1). According to the staff gauge, the water level was approximately 5.5 feet below the top of the berm (see Appendix #3, Photo #4). The facility NPDES permit, Section B, Table 1 shows that the maximum operating level of the holding pond is 7 feet below the top of the berm. The permit states the following: “The water level in the wastewater holding ponds shall be maintained at least the number of feet below the lowest point of the top of berm as shown in Table 1, above, (Operating Level) to ensure structural stability and provide storage capacity for a two-week period plus precipitation induced flow from a 25-year, 24-hour storm event.”

We discussed the operating level of the holding pond. They explained that they plan to dewater the wastewater retention structure as soon as the liquid waste application area which was planted in rye is cut and harvested for hay and then planted in sorghum. Following the inspection, I received a message from the facility stating that the rye was harvested on May 22, 2023, the field was then planted on June 12, 2023, and the holding

pond was pumped down on Jun 14, 2023, the facility included a photo which can be seen as Appendix #7. The photo shows a level of 7 feet below the top of the berm which as mentioned above, is the operating level specified in the facility NPDES permit. According to the facility operating reports (see Appendix #8), the holding pond had less than the required freeboard level from February 27, 2023, until it was dewatered on June 14, 2023.

### **Liquid Waste Land Application Area:**

- As mentioned above, the facility liquid waste land application area is located due south of the facility across Road 350. At the time of the inspection, the facility land application area was planted in rye which was harvested on May 22, 2023 and was then planted in sorghum on June 12, 2023. At the time of the inspection, the wastewater holding pond had less than the permitted freeboard. On June 14, 2023, the facility land applied wastewater to the newly planted field to bring the lagoon level back into compliance with the facility NPDES permit (see Appendix #5).

### **Permit Requirements:**

During the inspection, I reviewed the facility NPDES permit as well as facility practices. For the most part, the facility appeared to be operating as intended/ required by the facility NPDES permit but listed below are some areas where operations deviate from the permit requirements.

### **Section B Operation and Maintenance**

**Liquid or Slurry Wastes:** Table 1 – Operating Level Requirements lists the operating level of the wastewater holding pond associated with the facility, the table below lists the permit required operating level as well as the level of the holding pond at the time of the inspection:

| <b>Holding pond</b> | <b>Operating Level</b> | <b>Level at the Time of Inspection</b> |
|---------------------|------------------------|----------------------------------------|
| RCS 1               | 7.0 feet               | <b>5.5 feet</b>                        |
| RCS 2A              | 5.0 feet               | 7.0 feet                               |
| RCS 2B              | 7.0 feet               | 10.0 feet                              |

The same section of the permit goes on to state that whenever the available storage capacity is less than the required amount(s) specified in Table 1, dewatering shall be initiated and conducted on all days suitable for land application of waste until the required storage capacity is again available.

- As can be seen in the table above, the facility has less than the required amount of freeboard in the main wastewater holding pond (RCS 1). The 2023 facility operation reports (see Appendix #8) show that the holding pond had less than the required freeboard level from February 27, 2023, until it was dewatered on June 14, 2023.

## Section C Standard Conditions

During the facility walk through we viewed the feed commodity area, I noted that the runoff from the baled hay storage area flows south approximately 250 feet along the grassy roadside ditch to a culvert under Road L. The culvert discharges to a small drainageway which flows to a grassy area with a meandering flow path and without a well-defined channel and eventually flows approximately 400 feet to an unnamed tributary to Hill Creek east of Road L see Appendix 1.

Process wastewater as defined by the facility NPDES permit, Standard Conditions F. ii. includes any raw material used in or resulting from the production of animals.

The Standard Conditions listed in the facility NPDES permit #10 states the following: “Facilities Operation: The permittee shall, at all times, properly operate and maintain the animal waste management system and any related appurtenances that are installed or utilized by the permittee to achieve compliance with Kansas law and the conditions of the permit. The permittee shall operate the facility in a manner to prevent any discharge that is in violation of the permit or that has a potential to adversely affect human health or the environment. When necessary to maintain compliance with the permit conditions, the permittee shall stop or reduce those activities under its control, which generate process wastes routed to the animal waste management system.”

## Section D Reporting and Recordkeeping

During the facility inspection, I asked for and was provided a copy of the facility operation reports from January 2023 to present (see Appendix #8). During the inspection I also viewed previous operating reports as well as the facility NMP. The previous operation reports appeared to meet the requirements listed in the facility NPDES permit section E.3 and 4. The most recent facility annual report indicated the total amount of both solids and liquids applied (or transferred to other individuals) as well as the crop to which they were applied and there were no discharges recorded. The facility NMP has been updated to reflect the composting of manure and appeared to meet the requirements listed in the facility NPDES permit section E.5. The soil test results in the NMP did not show any evidence of over application of manure to the land application fields.

- **2023 Operation Reports:** According to the facility operating reports (see Appendix #8), the holding pond had less than the required freeboard level from February 27, 2023, until it was dewatered on June 14, 2023.

The facility NPDES permit states: “The water level in the wastewater holding ponds shall be maintained at least the number of feet below the lowest point of the top of berm as shown in Table 1 (Operating Level), of the NPDES Permit, to ensure structural stability and provide storage capacity for a two-week period plus precipitation induced flow from a 25-year, 24-hour storm event.” In addition, the facility NPDES permit states: “Whenever the available storage capacity is less than the required amount(s) specified in Table 1, dewatering shall be initiated and conducted on all days suitable for land application of waste until the required storage capacity is again available.”

## Receiving Water

As mentioned above, the facility is located approximately one-half mile north and one-half mile west of Allen, Kansas. The northern unnamed tributary to Hill Creek flows southeasterly on the north side of Keith Cattle Company property to a bridge on Road L (see Appendix #1). The northern unnamed tributary to Hill Creek then turns southeast and flows approximately 500 yards to the Admire-Allen City Lake. The middle unnamed tributary to Hill Creek flows to the north unnamed tributary to Hill Creek east of the feedstock storage area. Runoff from the baled hay storage area flows south approximately 250 feet along the grassy roadside ditch to a culvert under Road L. The culvert discharges to a small drainageway which flows to a grassy area with a meandering flow path and without a well-defined channel and eventually flows approximately 400 feet to an unnamed tributary to Hill Creek east of Road L. Hill Creek and the northern unnamed tributary to Hill Creek are identified as intermittent streams per USGS topographic maps (see Appendix #1). Admire-Allen City Lake is privately owned.

## 6.0 OTHER REGULATORY CONCERNS

1. As mentioned in a previous sections of this report, the berm along the northwest corner of pen 3 had a subtle yet evident berm, cattle had been removed from the pen since early April and the pen will no longer be populated. The elevation difference between the top of the diversion berm and the bottom of the basin was minimal near the farthest west end of the berm. The concern here is that in the event the area experienced a large precipitation event during a short time, the runoff may overtop the sediment basin berms and flow into areas where runoff is not controlled. Photos of this area can be seen in Appendix #3, photos #8, 9 and 10. As mentioned above, the elevation difference was minimal but evident, there was no evidence of discharges from this area at the time of the inspection.
2. During the facility walk through we viewed the feed commodity area, I noted that the runoff from the baled hay storage area flows south approximately 250 feet along the grassy roadside ditch to a culvert under Road L. The culvert discharges to a small drainageway which flows to a grassy area with a meandering flow path and without a well-defined channel and eventually flows approximately 400 feet to an unnamed tributary to Hill Creek east of Road L see Appendix 1.

See Appendix #9 for the completed entry/exit briefing checklist and see Appendix #10 for the EPA Region VII General CAFO Inspection Form which includes inspection notes.

## 7.0 SUMMARY

Keith Cattle Company LLC is located approximately one-half mile north and one-half mile west of Allen, Kansas. and operating under an NPDES permit issued by KDHE. The facility was not discharging at the time of the inspection however we did note a preliminary finding which was a compliance issue noted by KDHE during their most recent inspection. This finding is listed in the paragraphs above and is summarized below:

1. At the time of the inspection, the wastewater level in holding pond RCS 1, was 5.5 feet from the top of the berm, the facility NPDES permit requires that holding pond RCS 1 be maintained at an operating level no less than 7.0 feet from the top of the berm. RCS 1 has had less than the required freeboard from February 27, 2023 until it was dewatered on June 14, 2023.

We departed the facility at approximately 11:30am on May 23, 2023.

**LORENZO  
SENA**

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LORENZO SENA  
Date: 2023.07.03  
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**Lorenzo Sena  
Physical Scientist**

**Moran,  
Nicole**

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by Moran, Nicole  
Date: 2023.07.06  
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**Nicole Moran  
Section Chief**

#### **APPENDICES:**

1. Stream Characterization and Water Nexus (12 pages)
2. Confidentiality Notice (1 page)
3. Photos #1 - #12 (6 pages)
4. Facility Diagram and Photo Locations (3pages)
5. NPDES Permit # KS0097144 (12 pages)
6. KDHE Inspection Report February 8, 2023 (25 pages)
7. Photo Showing RCS1 level as of June 14, 1 page
8. 2023 Facility Operating Reports (10 pages)
9. Entry/ Exit Briefing Form (1 page)
10. General CAFO Inspection Form with Notes (15 pages)
11. NPDES Permit Renewal Application (11 pages)