UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

JUL 19 2021

Mr. Gary Gerhard c/o
Mr. Mike Staudt
Gary Gerhard Farm

Ex. 6 Personal Privacy (PP)

RE: Underground Injection Control Inspection of Class V Injection Well, #IAS067500043

Dear Mr. Gerhard:

The U.S. Environmental Protection Agency, Region 7 Underground Injection Control program conducted a verification and assessment inspection at the Gary Gerhard Farm on May 13, 2021. The purpose of the inspection was to obtain information pertaining to the Class V injection well (septic system) previously registered with the EPA. The UIC inspection were conducted under the authority granted in section 1445(b) of the Safe Drinking Water Act (42 U.S.C. section 300f et seq.). An inspection report was prepared based on the findings of this inspection and a copy is enclosed for your facility's records.

The inspection included the Agricultural Drainage Well (ADW). Global Positioning System readings and photographs were taken to verify the location and condition of the ADW. The information we obtained indicated that the ADW is a modified sinkhole and drains the Gary Gerhard Farm. The results of the inspection showed no irregularities or any areas of concern. The farm's ADW continues to meet the criteria for a Class V injection well and will remain under the jurisdiction of the UIC program that EPA directly implements in the State of Iowa.

If you have any questions or comments on the inspection reports, please contact me at brink.theresa@epa.gov or call (913) 551-7337.

Sincerely,

Terri Brink
Underground Injection Control Inspector
Groundwater and Drinking Water

Enclosures

Printed on Recycled Paper

Underground Injection Control Inspection
At
Gary Gerhard Property Agriculture Drainage Well
EPA UIC Facility ID: IAS067500043
Marble Rock, Floyd County, Iowa
Conducted on May 13, 2021
By Terri Brink
EPA Region 7
Water Division
Groundwater and Drinking Water Branch

1. Introduction

A verification and assessment inspection was conducted at the above site to obtain information pertaining to a complaint reported to EPA in March 2021 by Mr. Ethan Vorhes of improper drainage, flooding, and contamination from the Gary Gerhard Property adjacent to Mr. Vorhes' property. The purpose of the inspection was to confirm if the discharge is regulared under the directly implemented Underground Injection Control (UIC) Program and to evaluate the areas of concern. The UIC inspection was conducted under the authority granted in section 1445(b) of the Safe Drinking Water Act (42 U.S.C. section 300f et seq.). This report and attachments are the result of the inspection.

1.1 Participants

Gerhard Farm	Ethan Vorhes
Iowa Department of Natural Resources	Claire Hruby and Jeremy Klatt, Field Inspectors
U.S. EPA	Terri Brink, UIC Inspector

1.2 Procedure

Upon arriving at Mr. Vorhes property, I introduced myself and presented my credentials to Mr. Ethan Vorhes and explained the purpose of the visit was to evaluate his complaint from March 2021.

1.3 Site Information

The agricultural drainage well (ADW) is located on Gary Gerhard's property which is approximately 0.75 miles southwest of Mr. Vorhes' farm and is currently registered under the EPA Region 7 UIC Program under UIC Facility ID: IAS067500043.

EPA previously conducted an inspection on March 26, 2009 in response to Mr. Vorhes December 12, 2008 complaint of water drainage from Mr. Gerhard's property contaminating his drinking water well. In EPA's April 2009 report, EPA found the ADW located on the Gary Gerhard property is a

modified sinkhole that is accepting agricultural drainage. It is unknown how long the ADW has been there but according to Mr. Gerhard during the 2009 inspection; the sinkhole was modified and in operation since 1915 and according to Mr. Vorhes, the sinkhole was excavated to bedrock and dynamited. Additionally, these modifications included construction of a concrete tank over the top of the sinkhole and running one or two field drainage tiles into the tank at a depth of about four to twelve feet below ground surface. In August of 2009, the old concrete structure was removed with an excavator, the loose rock and soil were removed and a two chambered cistern with a 15-inch drainage tile was constructed on bedrock (See Photo#278)

EPA's April 2009 report indicates that at the time of visit, Mr. Vorhes complained about flooding of his land as a result of the runoff from his neighbor's property. Mr. Vorhes stated that the flooding has resulted in a loss of crop land on his farm and illness in his cattle, as well as contamination of his water well.

On April 29, 2009, EPA reported to Senator Grassley Office in response concerns raised by Ethan Vorhes that EPA's authority is limited and may only deal with the improved sinkhole and not the drainage issues on Mr. Vorhes' and Mr. Gerhardt's farms. EPA made suggestions, which are outside of EPA's authority, to work with the drainage district to construct alternate drainage on Mr. Gerhart's property, drilling a new drinking water well into a lower portion of the Mississippian aquifer which is more protected from contamination or connecting the Vorhes farm to rural water (if available).

Prior to the May 2021 EPA inspection, EPA contacted the Iowa Department of Natural Resources (IDNR) for more information. IDNR had visited the site in 1999 and determined that the well was not an ADW but a modified sinkhole and as such was a private drainage problem and had no authority over it. Had it been determined that this was an ADW, IDNR would have some control over its operation. IDNR reported that Mr. Vorhes was unhappy with their determination and had contacted them concerning the issue off and on since July of 2008.

2.0 Findings and Observations

2.1 UIC Status

A review of the inspection report has shown that the ADW would be regulated by the Underground Injection Control (UIC) program as a Class V injection well because of the modifications performed to the sinkhole to improve drainage. Unmodified natural sinkholes are not covered by the program.

Based upon the inspection report and the geological conditions in the area around the well and throughout Floyd County, it was determined that agricultural drainage entering this well has likely partially contributed to the contamination of the upper Mississippian aquifer that the Vorhes farm uses as their water supply. However, the larger contribution to the contamination of the aquifer is from runoff entering the various other natural sinkholes which occur in the same area and agricultural drainage wells (ADWs) that were installed throughout Floyd County at around the same time as the sinkhole on the Gerhardt farm was modified.

EPA and IDNR inspected the concrete cistern replacement and noticed several areas where the cistern had apparently become overloaded from excess tile drainage and welled up to the surface and

eroded the soils around the perimeter of the cistern. Additionally, water could be heard entering the cistern that was apparently draining under low flow scenario into the ADW. IDNR discussed opening the cistern and collecting water samples for analysis but decided not to proceed because they did not have the landowner's permission. They stated that they may return to test the waters when they obtained proper permission. Based upon our discussion and observations, it appears the drainage capacity of the modified sinkhole is reduced perhaps by sediment and debris collecting in the cistern.

Due to the only significant change to the ADW since the April 2009 report being a replacement for the previous cistern in August 2009, EPA stands by the previous conclusion that our authority is limited over excess drainage.

2.2 Other Program Status

EPA recommends that the modified sinkhole/injection well be registered as an ADW by IDNR and closed. Unfortunately, this closure will likely not improve the water quality of Mr. Vorhes private water well in the upper Mississippian aquifer or solve the drainage problems across the Vorhes farm. EPA continues to recommend that alternate drainage be constructed on Mr. Gerhart's property and that a new drinking water well be drilled into a lower portion of the Mississippian aquifer.

2.3 Follow Up Activities

No follow up required

2.4 Items for Follow Up

No items for additional follow up at this time.

Respectfully Submitted:

Terri Brink
11201 Renner Boulevard
Lenexa, Kansas 66219
913.551.7337
Brink.theresa@epa.gov

Terri Brink

Date July 19, 2021

Attachments:

I Database Inventory Sheet
II Photo
III Letter to The Honorable Charles Grassley
IV Region 7 NPDES/SDWA EPA Inspection Conclusion Data Sheet

Facility ID Number: IAS067500043

FACILITY INFORMATION

Facility Name: Gerhard Farm

Contact Name: Gary Gerhard

Address:

City:

Phone:

Ex. 6 Personal Privacy (PP)

OWNER INFORMATION

Company Name: Gerhard Farm

Contact Name: Gary Gerhard

Address:

City:

Phone:

Ex. 6 Personal Privacy (PP)

Ownership: Private- Farms

WELL INFORMATION AS OF 7/13/2021

WELL NUMBER	CLASS	OPERATION STATUS	LOCATION			TOTAL DEPTH	COUNTY
6036	01	AC	T94N, R17W,	Section 10,	NW	0	Floyd, IA

Gary Gerhard Farm Agricultural Drainage Well

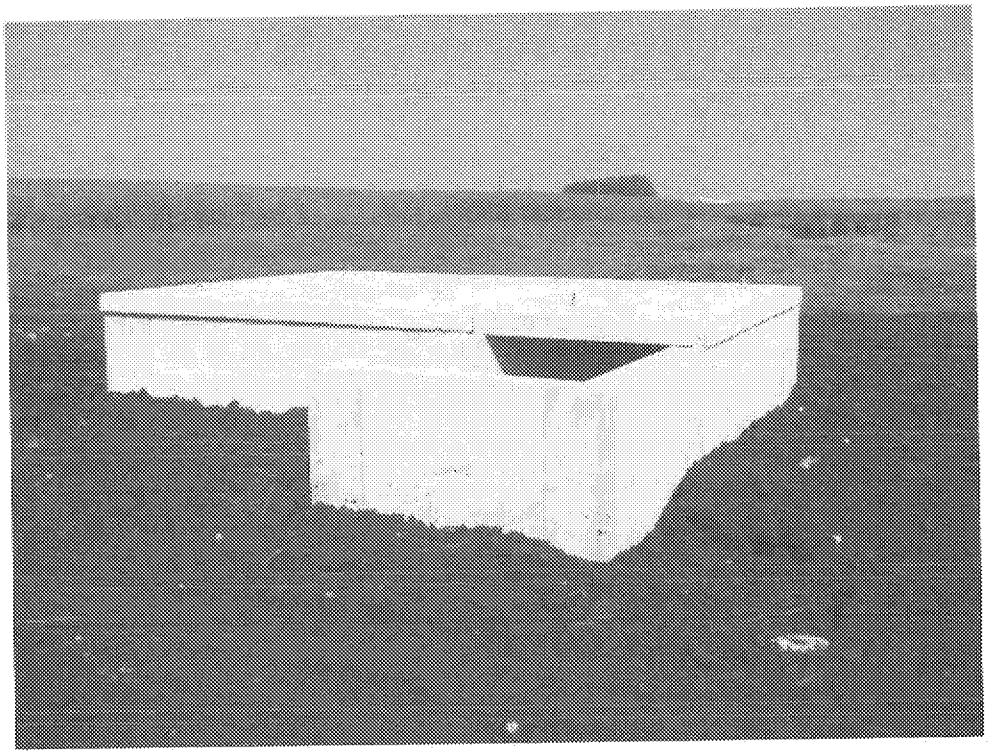

Photo #278. Agricultural Drainage Well Concrete Cistern with Top Removed.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

APR 29 2009

OFFICE OF
THE REGIONAL ADMINISTRATOR

The Honorable Charles Grassley
U.S. Senator
210 Waterloo Building
531 Commercial Street
Waterloo, Iowa 50701

Attention: Jason Mohr

Dear Senator Grassley:

Thank you for your recent letter on behalf of your constituent, Ethan Vorhes, regarding a sink hole. Mr. Vorhes believes that there may be contamination coming from the sink hole which may have caused the death of some of his cattle.

On December 12, 2008, Mr. Ethan Vorhes contacted a member of my staff about some concerns he had over a neighbor's drainage well. The complaint alleged contamination of his drinking water source (private well) from the water entering the drainage well. Mr. Vorhes indicated that he had tested the water entering the drainage well and his test results showed the presence of E-coli as well as elevated levels of coliform bacteria and nitrates. He stated that it was his belief that the contamination was due to the application of manure and pesticides to the land surrounding the drainage well. Mr. Vorhes did not indicate if his private water well had been tested.

My staff contacted Mr. Vorhes and we stated we would look into his allegations. We also told Mr. Vorhes that we would wait until spring to send an inspector as it would be hard to investigate with the snow cover and no water flowing into the drainage well. We also contacted the Iowa Department of Natural Resources (IDNR) for information. IDNR had looked at the site in 1999 and determined that this is not a drainage well but a modified sink hole and as such they had no authority over it. Had it been determined that this was an agricultural drainage well, IDNR would have had some control over its operation.

On March 25, 2009, EPA contractors arrived at the Vorhes farm to follow up on the complaint filed by Mr. Vorhes in December of 2008. The report indicates that at the time of the visit, Mr. Vorhes complained about flooding of his land as a result of runoff from his neighbors. Mr. Vorhes stated that the flooding has resulted in a loss of crop land on his farm and illness in his cattle, as well as contamination of his water well.

RECYCLED FIBER

A review of the inspection report has shown that the sink hole is located on the neighbor's farm and would be regulated by the Underground Injection Control (UIC) program as an injection well. This is because modifications had been done in order to enhance its capability to drain water (naturally occurring sink holes are not covered by the program). Based on our initial review of the inspection report and the geologic conditions in the area around the well and throughout Floyd County, it is likely that runoff entering this well has partially contributed to the upper Mississippian aquifer that the Vorhes farm uses as its water supply. However, the larger contribution of any possible contamination of the aquifer is from runoff entering the various other sink holes which occur in the area and agricultural drainage wells which were installed throughout Floyd County at around the same time (1915) as the sink hole on Mr. Vorhes neighbor's farm was modified.

EPA's authority is fairly limited and may only deal with the sink hole and not the other drainage issues that have been raised by Mr. Vorhes. Some options that may be available to Mr. Vorhes but outside of EPA's authority to require would include; working with the drainage district to construct alternate drainage on the neighbor's farm, drilling a new drinking water well into the lower portion of the Mississippian aquifer (which is separated from the upper portion of that aquifer and is more protected from contamination) and constructing the well to better standards, or connecting the Vorhes farm to rural water (if available).

Again, thank you for your letter. If we can be of any additional assistance, please feel free to contact me at 913-551-7006 or your staff may contact Jan Lambert, Congressional Liaison, at 913-551-7768.

Sincerely

William W. Rice
Acting Regional Administrator

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Updated NOV 2020

REGION 7 - INSPECTION CONCLUSION DATA SHEET (ICDS)

(●) INSPECTION ( ) INVESTIGATION ( ) INFORMATION REQUEST ( ) OFF-SITE ACTIVITY/INSPECTION

Facility Name: Gary Gerhard Farm
Facility Address:
Facility City: Ex. 6 Personal Privacy (PP)
Facility State:
Facility Zip Code:
Facility Mailing Address, if different: (enter full address + City, State, ZIP)

Facility FRS or Programmatic ID: NA

Federal Facility? YES ( ) NO (●)

Actual Start Date: (dd/mm/yyyy) 05/13/2021

Actual End Date: (dd/mm/yyyy) 05/13/2021

Federal Statute: (select only ONE)

[ ] CAA [ ] CWA [ ] CERCLA [ ] EPCRA [ ] FIFRA [ ] RCRA [✓] SDWA [ ] TSCA

Citations / Sections: (hold CTRL to select more than one)

SDWA 1412/1414 - National Drinking Water Regulations
SDWA 1415[B][1] - Nat'l Drinking Water Compliance Schedule - Variance
SDWA 1421 - UIC Regulations
SDWA 1431-PWS - Emergency Powers/PWS
SDWA 1431-UIC - Emergency Powers/UIC
SDWA 1433 - Intentional Acts
SDWA 300J-4[B][1] - Inspection, Monitor, Test, Correct

Compliance Monitoring Type: SDWA UIC Inspection

Compliance Monitoring Action Reason: Random Evaluation or Inspection

Compliance Monitoring Agency Type: U.S. EPA

National Compliance Initiative, if applicable:

NOT APPLICABLE
Drinking Water - Community Water Systems

Additional Inspection Comments:

Permit # IAS067500043
Active Agricultural Drainage Well

Inspector/Government Contact: Terri Brink

Phone: 913.551.7337