



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

Date: *Dated as shown on electronic signature(s)*

Subj: Inspection Report
Clean Water Act - National Pollutant Discharge Elimination
System ("NPDES")
Machia and Sons Dairy

From: Andrew Spejewski

**ANDREW
SPEJEWSKI**

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ANDREW SPEJEWSKI
Date: 2022.12.12
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Thru: Todd Borci

To: File

I. Facility Information

- A. *Facility Name:* Machia and Sons Dairy
- B. *Facility Location:* 1298 Machia Rd
Sheldon, VT 05483
- C. *Facility Contacts:* Chad Machia
Tom Eaton, ACS, farm planner
tom.eaton@acscrops.com
- D. *NPDES ID No(s):* None

II. Background Information

- A. *Date(s) of inspection:* November 9, 2022
- B. *Weather Conditions:* clear dry (heavy rain several days previously)
- C. *US EPA Representative(s):*
Andrew Spejewski

D. State/Local Representative(s): Clarice Cutler, VT Department of Environmental Conservation
Abbi Pajak, VT DEC
David Murrish, VT DEC

E. Federally Enforceable Requirements Covered During the Inspection: CAFO requirements

F. Previous Enforcement Actions: No previous federal actions

III. Type and Purpose of Inspection

Evaluation of compliance with CAFO regulations for facilities without permits

IV. Facility Description

The facility is a dairy farm, including a main farm and a satellite farm (another former satellite farm no longer houses animals). The main farm lies mostly east of Machia road, including a group of barns, a large manure pit north of the barns, a small feed bunker between the pit and the road, and scattered buildings and equipment north of the pit. West of the road is a large set of feed bunkers; east of the bunkers is a large leachate holding basin. A smaller stormwater basin lies immediately between the basin and the road. To the west of this, at the top of the hill, is a leachate treatment system.

The Bourbeau satellite farm, at 2968 Lower Newton Rd, Saint Albans Town, includes several barns, only one of which is in use, with a large pit to the north of the barns and a feed bunker west of the pit.

V. Inspection

Mr. Spejewski announced the inspection to the Facility on November 3, 2022 by phone with Ron Machia. Mr. Ron Machia said he would not be there on the 9th, but would have one of his sons there.

A. Opening Conference

Mr. Spejewski arrived at the main farm at 9:55. He was soon joined by Clarice Cutler and Abbi Pajak, and after a brief wait, David Murrish, all from VT Department of Environmental Conservation.

At the farm were Chad Machia, one of the farm operators, and Tom Eaton, of Agricultural Consulting Services. Mr. Eaton is the planner for the farm and prepared the Nutrient Management Plan.

Mr. Spejewski presented his credentials, provided a copy of the Small Business Resources Information Sheet, and explained the purpose of the inspection.

Mr. Machia said that the farm now only kept animals at the main farm, and a few at the Bourbeau Farm, about 1200 total.

B. Records Review

Mr. Machia produced spreading records (see images 2798-2800). Mr Machia confirmed that all fields were generally spread at 7300 gallons/acre, even if not always explicitly marked.

Mr. Eaton produced a copy of the Nutrient Management Plan (NMP). Ms. Cutler noted that in the Phosphorous index calculations, no fields were indicated to have tile drainage. Mr. Eaton said that some fields did have tile drainage; there was an issue with automatically updating that each year, and that an updated version of the NMP had been sent to the Vermont Agency of Agriculture Farms, and Markets.

There was a discussion of the Notice of Alleged Violation from DEC to the farm regarding drainage of leachate from the main feed bunkers.

Mr. Machia and Mr. Eaton said that they were waiting for plans from the state engineer who designed the system; they said the engineer had told them not to change anything by themselves.

C. Facility Tour

Main farm:

The group left to tour the main farm. The main feed bunkers are located across the road to the west of the main farm buildings. The bunkers have concrete walls on three sides, open to the north. A concrete base under the bunkers extends north about 20 feet, with a slight lip at the north edge to retain leachate and direct it west to the collection system. There was no sign of flow over the lip.

Leachate is directed through a screen to a concrete collection box. According to DEC personnel, this goes to an underground tank, from which low flow is directed to the main manure pit across the street, and high flow drains to a large basin just to the north of the feed bunkers. The basin is then pumped uphill to the west to a treatment system.

The storage basin was completely overgrown with tall grass, shrubs and small trees, and the walls could not be seen, nor the water level.

Between the leachate storage basin and the road is a small basin, collecting stormwater only, according to site personnel. Mr. Murrish noted that the leachate basin wall had earlier failed and let leachate flow into this stormwater basin, which flowed over a dirt drive immediately north, then through the adjacent field to reach a stream on the north side of the field.

The leachate treatment system is at the top of a hill to the west. It is a large flat area, with several cells separated by earth berms or wood mulch barriers/filters. The area's low

point is to the west, where it borders a wooded area that slopes slightly down away to the west.

The group returned to the main farm. At this point, Mr. Murrish left the inspection, saying he was only here to observe the leachate system.

The remaining group (Mr. Spejewski, Ms. Cutler, Ms. Pajak, Mr. Eaton and Mr. Machia) toured the main farm on the east side of the road. The barns are in a group to the south. To the east of the southernmost barn, the group slopes gently down through grass for about 20 yards, then a very steep slope goes down into a narrow gulley leading away east. The sides of the gulley were eroding away into the gulley. There was no berm or lip preventing flow from leaving the barn and reaching the gulley.

The main manure pit lies north of the barns. There was at least ten feet of freeboard before the top of the pit. The walls appeared generally in good shape.

Between the pit and the road is a smaller feed bunker, open to the east. The drainage from the bunker goes across a dirt drive both to the north and to the south of a small shed. The south drainage goes to a leachate collection area. Mr. Machia said low flow went to the pit and high flow back across the road to the leachate system there.

The north drainage went into a low area. Mr. Machia said when the old barn was used for cows, it drained to this area, and runoff was pumped from there to the pit, but the pumps are now abandoned, and everything now infiltrates. The area was heavily vegetated, but a somewhat overgrown concrete collection system could be seen. The area was in any case below the level of the surrounding ground on all sides.

To the east of the farm, woods slope down to the east. A drainage pipe was discharging on this slope, described as the underdrain for the pit (to collect groundwater under the pit). A manhole between the discharge and the pit was described as the place to monitor for leakage. Mr. Machia was unable to open the manhole during the tour.

A set of fuel tanks with dispensers were in place to the northwest. The metal tanks were resting directly on the ground without supports, and without any other containment.

After completing the tour of the main farm, the group discussed the tour with Mr. Machias [see below for Closing Conference]

Mr. Machia remained on the farm, while Mr. Spejewski, Ms. Cutler, Ms. Pajak and Mr. Eaton left to observe fields and the Bourbeau Farm.

Fields:

[See Picture 61 for field map]

The remaining group drove to field 131. The smaller eastern lobe of the field was untilled. The main part of the field was harvested corn stalks. Signs of recently spread

manure could be seen in the south portion of the main field, but not the north section near the river.

Along the northeast side of the field, the corn extended to the top of the riverbank or only a few feet away for a stretch of about 400 yards along the river. In several places, small drainage gulleys led down from the field to the river. To the north and northwest sides of the field, there was more vegetated area between the field and the river.

The group went to field 132. The center of the field was harvested corn stalks, with a fifty foot stretch of grass between the corn and the river bank to the south.

The group then drove to field 81/82. The field was harvested corn stalks. A drainage ditch ran north about 100 yards from the east edge of the combined fields (the drainage ditch appears to be the boundary between field 81 and 82). Corn had been grown up to the edge of the ditch bank on both sides of the ditch. Standing water was present in places in the ditch.

The east edge of field 82 was formed by a stream. Corn had been grown as close as three or four feet to the top of the streambank in several places (with some wider buffer in places as the stream meandered).

Bourbeau Farm

Bourbeau Farm includes several barns and associated buildings. According to Mr. Eaton, only one barn (the easternmost) has animals in it. North of the barns, to the east, is a large manure pit. The pit had several feet of freeboard. West of the pit is a feed bunker, primarily open to the south, to the open area between the barns and the bunker and pit. This area appears to drain towards the manure pit.

The feed bunker also appears to drain slightly to the north, onto a dirt drive running downhill to the east. Some flow may go across the drive into a vegetated area north of the drive.

After touring the Bourbeau farm, the group thanked Mr. Eaton for his time, and departed at about 2:00 PM.

D. Closing Conference

After touring the main farm, but before leaving to observe fields and the Bourbeau Farm, the group discussed the main farm tour with Mr. Machia. Mr. Spejewski noted that the gully east of the barn was eroding and potentially receiving drainage from the barn, and the area should be stabilized. Mr. Spejewski also noted that best engineering practices call for steel fuel tanks to be supported off the ground to reduce corrosion and allow inspection of the tanks. Mr. Machia said the tanks were delivered by the fuel company, and were temporary, until a single large tank in concrete containment could be built.

Mr. Spejewski noted an inspection report would be sent. Mr. Machia agreed that the report could be emailed to Mr. Eaton directly, who would forward to the farm.

Picture List:

[Note: the camera clock was set to Eastern Daylight Time, while the inspection took place during Eastern Standard Time, therefore timestamps for photos are one hour later than actual local time]

Main Farm:

IMG_2798.JPG	Spreading records, sample page 1
IMG_2799.JPG	Spreading records, recent spreading sample 1
IMG_2800.JPG	Spreading records, recent spreading sample 2
IMG_2801.JPG	Field map from NMP, field 131
IMG_2802.JPG	Field map from NMP, field 81
IMG_2803.JPG	Stormwater only basin below leachate holding basin
IMG_2804.JPG	Facing north from dirt road north of stormwater basin
IMG_2805.JPG	Detail of field north of stormwater basin and leachate basin
IMG_2806.JPG	Leachate basin
IMG_2807.JPG	Interior of leachate treatment area
IMG_2808.JPG	East side of leachate treatment
IMG_2809.JPG	Facing west over leachate treatment
IMG_2810.JPG	Wood chip berm, interior of leachate treatment
IMG_2811.JPG	West end of leachate treatment
IMG_2812.JPG	Facing northeast over leachate treatment
IMG_2813.JPG	Facing east over main feed bunkers
IMG_2814.JPG	Main feed bunkers leachate collection
IMG_2815.JPG	Northwest corner of feed bunker containment
IMG_2816.JPG	Main feed bunkers
IMG_2817.JPG	Gulley east of southern barn
IMG_2818.JPG	Facing west toward barns from top of gulley
IMG_2819.JPG	Facing south along east side of barns
IMG_2820.JPG	Main farm manure pit
IMG_2821.JPG	Main manure pit facing east
IMG_2822.JPG	Small feed bunker facing west toward road
IMG_2823.JPG	southern collection area for small feed bunker
IMG_2824.JPG	Facing west from northern collection area for small feed bunker
IMG_2825.JPG	Northern collection area for small feed bunker
IMG_2826.JPG	Fuel tanks north side of farm
IMG_2827.JPG	Low area east of small feed bunker
IMG_2828.JPG	Outfall from main pit underdrain

Select Fields:

IMG_2829.JPG	Field 131, east side facing north
IMG_2830.JPG	Field 131, east side facing south
IMG_2831.JPG	Field 131, facing east to river

IMG_2832.JPG	Field 131, swale/drainage to east
IMG_2833.JPG	Field 131, debris in swale
IMG_2834.JPG	Field 131, northeast
IMG_2835.JPG	Field 131, northeast facing northwest
IMG_2836.JPG	Field 131, northwest side facing west
IMG_2837.JPG	Field 131 northwest side
IMG_2838.JPG	Field 131 northwest side facing east
IMG_2839.JPG	Field 132 facing south from north side
IMG_2840.JPG	Field 132, facing west along south side
IMG_2841.JPG	Field 81, Facing north along east edge
IMG_2842.JPG	Field 81, facing south along east edge
IMG_2843.JPG	Field 81, east edge/ditch facing north
IMG_2844.JPG	Field 82, facing south along east edge
IMG_2845.JPG	Field 82, east edge facing south
IMG_2846.JPG	Field 82 facing south
IMG_2847.JPG	Field 82, facing north, center of east edge
IMG_2848.JPG	Field 82, facing north, east edge
IMG_2849.JPG	Field 82, facing north, northern part of east edge
IMG_2850.JPG	Field 82, facing north along east edge toward north edge
IMG_2851.JPG	Field 82 facing north to northeast corner

Bourbeau Farm:

IMG_2852.JPG	Feed bunker
IMG_2853.JPG	Facing east between barns and feed bunker
IMG_2854.JPG	Pit at Bourbeau Farm
IMG_2855.JPG	Manure pit and active barn
IMG_2856.JPG	Facing south over manure pit
IMG_2857.JPG	Facing west past north edge of feed bunkers
IMG_2858.JPG	drainage north side of dirt road north of feed bunkers
IMG_2859.JPG	Facing south over feed bunkers
IMG_2861.JPG	Field map provided during inspection [photo of paper map, taken after inspection]

** END **

Unless otherwise noted, this report describes conditions at the facility/property as observed by EPA inspector(s), and/or through records provided to and/or information reported to EPA inspector(s) by facility representatives and as understood by the inspector(s). This report may not capture all operations or activities ongoing at the time of the inspection. This report does not make final determinations on potential areas of concern. Nothing in this report affects EPA's authorities under federal statutes and regulations to pursue further investigation or action.