THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS

Department of Agricultural Resources
251 Causeway Street, Suite 500, Boston, MA 02114
617-626-1700 fax: 617-626-1850 www.mass.gov/agr

MDAR
MASSACHUSETTS DEPARTMENT OF AGRICULTURAL RESOURCES

DEVAL L. PATRICK
Governor

MAEVE VALLELY BARTLETT
Secretary

GREGORY C. WATSON
Commissioner

Clare Bergh
Sea Horse Farm
34 Lynch Lane
Harwich, MA 02645

November 19, 2014

Re: Use of herbicides on NSTAR ROW 347

Dear Ms. Bergh,

The Department of Agricultural Resources (Department) conducted an investigation concerning the use of herbicides on the NSTAR right of way (ROW) 347 in Harwich, Massachusetts on October 14, 2014. The Department investigated the allegations of herbicide spray drift and adverse health effects reported by you and your boarder Michelle Rzasa.

The investigation revealed that on October 14, 2014 VCS used motorized backpack mist blowers to apply an herbicide mixture to all pines, hardwoods and invasive plants along the width of the NSTAR Right of Way (ROW) 347. This ROW does border your Sea Horse Farm. VCS applied a mixture of Krenite S diluted at 10%, Arsenal diluted at ¼% and Escort XP diluted at 3 ounces/ 100 gallons.

On October 28, 2014 I visited Sea Horse Farm in attempt to meet with you, but you were not available at the time of my visit. I was able to meet with Michelle Rzasa (Rzasa) and left my business card with her for you. We spoke on November 4, 2014 and agreed to meet on November 5, 2014 at the Sea Horse Farm.

On November 5, 2014 you provided me with your account of the incident and assisted in choosing locations for me to take wipe samples. You indicated that you were exposed to herbicides being applied on the NSTAR ROW. You reported both smelling and tasting some sort of chemical on that day, and subsequently, developed a rash over your torso, legs and arms that lasted for weeks. Also as a result of this exposure, you washed 16 horses that were outside during the spraying and you and Michelle Rzasa emptied all the water from the troughs on the farm in order to prevent contamination of the horses.

The following wipe samples were taking at your farm:

MWM 141105-1 MWM – 1 gauze wipe soaked in rubbing alcohol. Wiped window, window channel and metal window frame. Wipe area 10"x20". The window is located on front of the brown barn right of the front door.
MWM 141105-2 MWM – 1 gauze wipe soaked in rubbing alcohol. Wiped window, window channel and metal window frame. Wipe area 20"x26". The window is located on the right side corner on the brown barn.
MWM 141105-3 MWM – 1 gauze wipe soaked in rubbing alcohol. Wiped brown barn front door closure flashing. Wipe area 38"x9".
MWM 141105-4 MWM – 1 gauze wipe soaked in rubbing alcohol. Wiped flashing of right front door closure track on metal barn. Wipe area 24"x10".
MWM 141105-5 MWM – 1 gauze wipe soaked in rubbing alcohol. Wiped plywood ring enclosure from in front of double metal doors on the metal barn. Wipe area 32"x10". Wiped under 2x4 cap down 10" over 32".
MWM 141105-6 MWM – 1 gauze wipe soaked in rubbing alcohol. Blank.

The lab results for the wipe samples were all non-detect (ND) for metsulfuron methyl and imazapyr. Although 22 days had passed from the time the sampling took place and the spraying of the ROW happened and within that time there were rain events. We attempted to pick locations that would have been protected from the rain. I also chose areas where dirt had collected and had not washed away. The theory is if the dirt did not wash away the herbicides would be present in the dirt. The Massachusetts Pesticide Analysis Lab (MPAL) was unable to analyze the wipe samples for fosamine the other herbicide in the mix. MPAL explained that the method they used to extract the other two compounds didn't work for fosamine and the samples could not be split. Enclosed please find the lab results.

In addition to the spray drift issue, we discussed the no spray setback to Sea Horse Farm. Review of Vegetation Control Services (VCS) pesticide application record for October 14, 2014 shows a note to maintain a 25' foot buffer to the horse pastures. What I observed on my visit on November 5, 2014 is that it appeared the closest VCS sprayed to the border of Sea Horse Farm was 30'feet. Enclosed are photographs that I took during my inspection visit on November 5, 2014. The photos show the treated and not treated areas as indicated by the brown pines and green pines. The brown pines represent the treated areas and the green pines represent the non-treated areas. It should also be noted that due to the time of year and vegetation going dormant it is very difficult to determine what other vegetation had been treated, but the pines remain green all year round so a pine treated with the herbicide mixture will turn brown as it dies making that particular vegetation a good indicator of the applicator's spray pattern.

I should note that although the applicator (Vegetation Control services) maintained a 25 buffer from Seahorse farm, the ROW regulations (333 CMR 11.00) do not require a no spray set back to agricultural land when using herbicides approved for use in sensitive areas and with a once per season application. The herbicides in the mixture used by VCS are herbicides approved for use in sensitive areas and this was the first application for the season on this section of NSTAR ROW 347.

In addition, there are conflicting reports of the onsite wind speed during the time of the application. You reported 15 mph winds, VCS records indicate up to 5 mph winds. VCS use handheld wind speed gauges to check the wind speeds. VCS checked the wind speed three times on October 14 at 6am, 12pm and 4:30pm. Abutting residents I interviewed at 30 Lynch Lane maintained that the winds were in the range of 3-5 mph. The Department cannot determine with certainty the exact wind speeds at the time of the application since the facts are in dispute. What we do know is that the EPA pesticide labeling language concerning wind speeds is advisory and not mandatory or enforceable. There are no pesticide regulations that specify a wind speed to halt spraying of pesticides. So although wind speed can't be a reason to issue a violation, it can assist in an investigation.

You also reported witnessing the spray crew applying the herbicides in a manner that looked as though they were spraying straight outward in a fan motion over the area and not applying and targeting specific plants. Again, it is difficult to ascertain if this was the case, because at this time of year most of the ROW vegetation is in the process of going dormant. Moreover, I have never observed any utility ROW contractor applying herbicides in this manner nor is it in their interests to do so since treating individual plants and encouraging low growth vegetation helps to control invasive plants and higher growing tree species. Also the VCS pesticide application record calculates that a total of 3.47 gallons of mixture per acre was applied that day by the VCS spray crew. The Department believes it would take much more than 3.47 gallons per acre to broadcast spray NSTAR ROW 347.

Based on the photographs and laboratory results discussed above, the Department has found no evidence that drift occurred off NSTAR ROW 347 onto Sea Horse Farm. If drift had occurred, there would be signs of browning of pines leading to the farm's border with the ROW. An examination of the photographs of these areas indicates this is not the case. Also the lab results do not indicate that drift did occur. However, the eye irritation, rash and other symptoms that you and Ms. Rzasa reported, suggest that you were both having a reaction to something, though the Department cannot confirm that these adverse health effects were the result of exposure from herbicide drift.

Another possible explanation for your symptoms is that you and Ms. Rzasa may have been exposed to the exhaust fumes that were expelled from the gas powered motorized backpack mist blowers. I have observed in other circumstances the exhaust billow into the air and drift along with the air current. I have also experienced the

uncomfortable smell, taste, and discomfort from inhaling those exhausts fumes. The mist blowers use a two cycle (2-stroke) engines. That style of engine exhaust includes many emissions. The Department cannot determine whether or not the health effects you and Ms. Rzasa experienced were caused by exposure to the motorized mist blowers' engine exhaust fumes. But the Department believes that the exposure from the exhaust fumes was more likely than from the herbicide mixture given the absence of photographic and laboratory evidence suggesting herbicide drift. It is possible that you and Ms. Rzasa were exposed to and may have had an adverse reaction to the exhaust fumes.

The Department is grateful for your time and corporation with this investigation. Do not hesitate to call me at 617-626-1781 with any concerns or question.

Sincerely,

Michael W. McClean
ROW Coordinator

CC.
Michelle Rzasa
Andrew Powers, VCS
Matthew Brown, VCS
William Hayes, NSTAR

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

REPORT OF ANALYSIS

1. SAMPLE NO.	2. DATE COLLECTED
MWM141105-1-6/15R053-058	11/5/2014
3. REGION	**4. EPA REG. NO.**
1	352-439 42750-241 241-346
5. ESTABLISHMENT NO.	
na	

6. DESCRIPTION OF SAMPLE
Six 120 ml amber bottles with wipes polybagged.

7. NAME AND ADDRESS OF ESTABLISHMENT WHERE SAMPLE WAS COLLECTED

Sea Horse Farm
34 Lynch Lane
Harwich, MA 02645

8. PRODUCT NAME
na

9. LOT OR CODE NUMBER(S)
na

10. NAME AND ADDRESS OF PRODUCER (If different from 7 above)
na

11. RESULTS OF ANALYSIS

Wipe samples MWM141105-1,2,3,4,5,6 were analyzed for imazapyr and metsulfuron methyl with the following results:

Imazapyr and metsulfuron methyl were **not detected** at the detection limit:

MWM-1	0.018ug/square foot
MWM-2	0.005ug/square foot
MWM-3	0.01ug/square foot
MWM-4	0.015ug/square foot
MWM-5	0.011ug/square foot
MWM-6	0.025ug/wipe

12. LABORATORY COMMENTS

11/10/2014 SAS
"Multiresidue Procedure CDA-005 Colorado 05/99" SOP
MeCN extraction
LC/TQD Alliance Atlantis T3 2.1 x 100mm
MP 0.1%formic acid:MeCN gradient
MRM ES+

Wipes could not be analyzed for fosamine ammonium in conjuction with imazapyr and metsulfuron methyl.

13. SIGNATURE OF LABORATORY SUPERVISOR	14. LABORATORY	15. DATE
	MPAL	11/18/14