

**UNITED STATES DISTRICT COURT
DISTRICT OF MAINE**

STEPHEN AND KATHY DARNEY,)	
Personally and on behalf of K.D. and S.D.,)	
)	
Plaintiffs,)	
)	
v.)	Docket No. 2:08-cv-47-GZS
)	
DRAGON PRODUCTS COMPANY,)	
LLC,)	
)	
Defendant.)	
)	

FINDINGS OF FACT & CONCLUSIONS OF LAW

The Court held a bench trial in this matter on October 26 - 28, 2010 and on November 1 and 2, 2010. The bench trial transcript was filed on November 23, 2010. (Tr. of Proceedings (hereinafter "Tr.") Vols. I-V (Docket #s 152-156).) The parties each filed Proposed Findings of Fact and Conclusions of Law and Memoranda of Law on January 7, 2011. (Docket #s 159-161 & 162-164.) The Court also received supplemental reply memoranda from the parties (Docket #s 165 & 166). In accordance with Federal Rule of Civil Procedure 52(a), and having reviewed the parties' post-trial submissions as well as the entire record, the Court now makes the following findings of fact and conclusions of law.

I. FINDINGS OF FACT¹

The Parties

1. Dragon Products Company, LLC ("Dragon" or "Defendant"), a subsidiary of Cementos Portland Valderrivas, S.A., a Spanish company, is a limited liability company organized

¹ The parties have stipulated that Plaintiffs' claims are limited to the period from November 12, 2004 to April 17, 2009. (Joint Stipulations (Docket # 138) at 1; Tr. Vol. 1 (Docket # 152) at 164:13-165:5.)

under the laws of the state of Delaware. Dragon is also registered to do business in Maine.

2. Dragon manufactures cement and operates a cement manufacturing facility in Thomaston, Maine.
3. Dragon's cement manufacturing facility encompasses both a plant and a quarry, located on opposite sides of Route One east of town. The entire facility occupies an approximately 1,100 acre site near a residential community.
4. Dragon operates its cement manufacturing facility under a Maine Department of Environmental Protection ("DEP") Air Emission License and operates its quarry under a DEP Site Location Order.
5. Cement manufacturing has been taking place at Dragon's facility since 1928.
6. The Thomaston/Rockland/Rockport/Camden area has had active quarrying operations since the 1800s. Dragon's quarries have been active since at least 1928, and likely earlier.
7. Dragon operates the only cement plant in New England.
8. Dragon is the largest supplier of ready-mix concrete in Maine. In 2010, it produced approximately 300,000 tons of cement. In 2005-2006, prior to the downturn in the economy, Dragon was producing over 600,000 tons of cement per year.
9. Dragon currently employs ninety-seven employees at its Thomaston facility, with payroll and benefits totaling approximately five million dollars per year.
10. During its peak operation prior to the current recession, Dragon employed more people and paid out about 8.2 million dollars in wages and benefit per year.

11. Dragon currently pays about 1.2 million dollars in annual property taxes to the Town of Thomaston.
12. Stephen and Kathy Darney (collectively, the “Darneys” or “Plaintiffs”) purchased a single family home located at 24 Old County Road, Thomaston, Maine, on February 8, 2002 for \$80,500. They reside in this home with their two minor children, K.D and S.D.
13. The Darneys were first-time homebuyers at the time they purchased this property.
14. The house purchased by the Darneys originally was built in 1844, and the barn also located on the property is of a similar vintage.
15. Old County Road is located near the Dragon facility on Route One. Both Old County Road and Route One are busy roads with significant traffic noise.
16. Both Old County Road and Route One are sanded and salted in the winter.
17. Ferraiolo Concrete Products leases property from Dragon and operates a rock crusher on or near the quarry. Ferraiolo is separately licensed by the State of Maine. Chemrock, a company that makes perlite (an amendment to soil made out of obsidian or glass), is also located on Old County Road.
18. When the Darneys first visited their home prior to purchasing it, they drove directly past the front of the Dragon plant on Route One and therefore knew of its proximity to the property. They were not, however, fully aware of the size and scope of the Dragon facility’s cement manufacturing operations.
19. When the Darneys viewed the house prior to purchasing it, they also saw an old Dragon sign on Old County Road which indicated that Dragon conducted blasting operations. Despite seeing this sign, they did not further investigate Dragon’s blasting operations nor did they consider what impact, if any, this operation might have on their property.

20. Monroe Hall, a real estate broker, assisted the Darneys with the purchase of their house.

When asked by the Darneys about the Dragon facility, Mr. Hall specifically informed them that limestone was ground up at the Dragon plant and eventually turned into cement. Mr. Hall also told the Darneys that the Dragon facility was to be thanked for lower property values in the area.

21. Mrs. Darney recalled that Mr. Hall also stressed the positive features of the house, including that it would be an excellent place for their starter home, that the family would remain there for a minimum of five years, and that it was a decent area that would be an excellent place for Mr. Darney's employment as a boat builder. Mrs. Darney also recalled that all of the towns in the mid-coast area from Belfast to Waldoboro, including Thomaston, had homes in the \$75,000 to \$125,000 range in 2002.

22. The Uniform Residential Appraisal Report for the Darneys' House, compiled by the seller in 2002, made no disclosures regarding factors in the area that might negatively affect marketability of the house.

23. The Darneys' house currently is worth \$140,000.

24. Mrs. Darney works approximately twenty-five to thirty-five hours per week as a guest services agent at the Hampton Inn & Suites. Mr. Darney was not employed at the time of trial, but has worked in the past in construction and boat building, among other things.

Overview of Cement Manufacturing at the Dragon Facility

25. Dragon produces Portland and masonry cement, ready-mixed concrete, limestone aggregates and agricultural limestone.

26. Primary equipment used at the site includes a rotary cement kiln and several rock crushers. Dragon employs dozens of fabric filter baghouses to capture and control dust and particulate emissions on site.
27. Dragon uses explosive blasting as part of its quarry operations, yielding raw ingredients—primarily composed of limestone as well as some iron ore—which are then ground into a powder at the plant and sent through a cement kiln. The baking process in the cement kiln involves high amounts of heat, which in turn yields clinker (“nuggets” of lime and other minerals) and the waste product referred to as cement kiln dust (“CKD”). (Tr. Vol. II (Docket # 153) at 242-43; see also Tr. Vol. IV (Docket # 155) at 901-02.). Clinker is then ground up in mills and becomes the finished cement.
28. Waste clinker and other waste material are stockpiled in an approximately thirteen acre area on the east side of the plant (the “CKD pile”). This waste product is “solid” and “compacted.” (See Tr. Vol. II at 243; see also Pls.’ Ex. 118.2 (photos of the CKD pile).)
29. In 2005, Dragon covered the CKD pile with grass in order to bind together any particles that might be loose.
30. Dragon is also licensed to use as raw materials petroleum-contaminated soil and water, and landfill leachate.
31. In 2004, two years after the Darneys purchased their home, Dragon completed a fifty million dollar modernization project to convert its plant in Thomaston to the modern “dry” process of manufacturing cement, which is more energy efficient than the “wet” process previously employed. (See Tr. Vol. IV at 899-900.)
32. Concomitant to this modernization project, Dragon expanded its area of blasting, resulting in it being closer to the Darney property; tripled the number of blasts to over

one hundred per year; and increased the amount/pounds of explosives of some of its blasts to greater than 10,000 pounds of explosives.

33. Dragon is subject to the air pollution emission control requirements of its November 2002 permit issued by Maine DEP, and to a federal hazardous air pollutant standard. Maine DEP conducts a complete air compliance inspection annually. Maine DEP personnel are also at the Dragon facility one to three other times during each year to observe emissions tests and monitoring equipment calibration tests conducted by Dragon.

Blasting Vibrations

34. Dragon conducts blasting at its quarry to obtain the raw material of limestone necessary to make cement.
35. Blasting is the most cost-effective means of obtaining the limestone necessary for Dragon to manufacture cement.
36. Blasting of the type conducted by Dragon also occurs at numerous other quarries throughout New England.
37. In the New England area, residential structures are often near quarries.
38. It is possible for blasting to cause damage to buildings from fly rock (the fragments of rock thrown from the blast site due to the force of the explosion), ground vibration, and airblast (audible noise and vibration).
39. The United States Bureau of Mines (the “BOM”)² has determined that ground vibrations of 0.5 inches per second or more can cause cosmetic damage to plaster walls in houses,

² The BOM, a former federal agency no longer in existence, conducted research in the early 1980s to measure the response of residential structures to repeated blasting. The study was based on several hundred blasts at quarries and coal mines across the United States. (See Tr. Vol. IV at 802, 844.)

and that ground vibrations of 0.75 inches per second or more can cause cosmetic damage to drywall. (See Tr. Vol. IV at 844– 846; Pls.’ Ex. 117 at 4.)

40. Normal, everyday environmental changes (including changes in weather, humidity and temperature),³ the age of the structure, and human activity (such as slamming doors and jumping)⁴ can also lead to significant strains in residential structures.

41. The BOM has issued guidelines to protect against residential homes being damaged as a result of quarry blasting.

42. As part of its blasting operations, Dragon adheres to the following BOM best management practices for quarry blasting:

- a. Dragon’s blaster designs and implements all blasts to comply with the BOM’s guidelines;
- b. Dragon’s blaster lays out each blast, insuring the appropriate burden is maintained to properly confine the explosive column;
- c. Dragon profiles the face to aid in determining the front row burden to the blaster’s discretion;
- d. Dragon’s blaster specifies each drill hole’s location, size and depth;
- e. Dragon’s driller keeps a log describing any unusual conditions found in the drill holes;

³ The BOM has also determined that such environmental changes can result in strains to residential structures equivalent to ground vibrations of 1.2 inches per second. Similarly thirty mile per hour winds can also cause stresses within a building equivalent to about one inch per second peak particle velocity. (See Tr. Vol. IV at 847.)

⁴ Further, the BOM has determined that human activity, such as slamming doors or jumping, can produce vibrations equal to between 0.2 and 0.4 inches per second of ground vibrations, resulting in strains to residential structures. (See id. at 848:10 – 13.)

- f. Dragon's blaster review these drill logs to make any adjustments needed to account for the condition of the holes;
- g. Dragon's blaster insures the holes are drilled as specified;
- h. the blast holes are bored, tracked or the equivalent;
- i. the blast holes contained in voids are abandoned or encased to avoid overloading;
- j. Dragon schedules blasting to avoid adverse weather conditions;
- k. the blast holes are loaded and implemented under the direction supervision of Dragon's blaster;
- l. Dragon designs all blasts to ensure proper confinement of the explosives column;
- m. Dragon uses the appropriate type of stemming for the size of the hole, but does not use drill cuttings as stemming;
- n. Dragon secures the blast area prior to each blast;
- o. Dragon calls every neighbor who desires it the morning of each blast;
- p. Dragon typically blasts between 9:00 am and 2:00 pm;
- q. Dragon does not blast on holidays or weekends;
- r. Dragon monitors all blasts with two properly calibrated seismographs;
- s. Dragon's blaster checks the shot before sounding the "all clear";
- t. Dragon's blaster reviews the seismograph results to determine compliance with the BOM guidelines and adjusts the blast designs as needed; and
- u. Dragon responds to and investigates complaints.

(See, e.g., Tr. Vol. IV at 801, 924-29; Pls.' Ex. 117 at 8-10.)

43. Dragon takes the following, additional steps to minimize ground vibrations from its blasting operations:

- a. Dragon designs into the shot proper burden and spacing and the shot is measured in the field using a laser measurement device to measure from the front row of holes to the free face;
- b. Dragon uses a fourteen foot burden by fourteen foot of spacing, as provided for in its Blasting Plan;
- c. Dragon verifies the depth of blasting holes and measures the holes as they are being loaded to ensure there are no voids in the holes and are not being over loaded;
- d. Dragon uses delays in its explosives to reduce the pounds per delay in a given shot, so as to reduce ground vibrations from the explosion;
- e. Dragon has videotaped shots of explosives in its quarry for the purpose of reviewing them for quality-control purposes;
- f. Dragon has identified sensitive areas in the quarry and takes measures to minimize vibrations from blasts in those areas—e.g., reducing the hole diameter, which has the effect of reducing vibrations;
- g. Dragon has had an explosives contractor review its blasting policies and provide specific training to quarry employees regarding shot layout and timing, and in some instances, has had the explosives contractor conduct the shots;
- h. Dragon has adjusted its blasting by decking holes in which shots are placed so as to reduce the charge weight in the shot design;
- i. Dragon designs its shot patterns in order to minimize vibrations.

(See, e.g., Tr. Vol. IV at 931-934; Def.'s Exs. 40, 42, 46, 48, 70 & 79; Pls.' Exs. 112.1.)

44. Dragon has taken these precautions to minimize the risk of harm to persons or property.

45. The Darneys first contacted Dragon with concerns about blasting at the Dragon quarry after a February 3, 2004 blasting event.
46. In response, Dragon placed the Darneys on their pre-blast call list, agreed to place a seismograph on the Darney property to monitor ground vibrations from blasts, and agreed to get information from the Darneys for a pre-blast baseline survey.
47. The Darneys remained on Dragon's pre-blast call list to receive advanced notice of blasts for several years. The Darneys, however, no longer receive these calls because they disconnected their land-line telephone and decided not to give Dragon an alternative number to call.
48. Dragon, with DEP oversight, placed a seismograph at the Darney property to measure the vibration created by Dragon's blasting. This seismograph monitored blast events on February 18, 2004 and February 24, 2004. Based on the seismographic record from the Darney residence for the blast of February 18, 2004, the ground vibration on that date was less than 0.04 inches per second. In the case of the blast of February 24, 2004, the blasting record demonstrates that the ground vibration at the Darney residence was 0.034 inches per second.
49. After the seismographic monitoring of February 18 and 24, 2004, Mr. Darney ordered Dragon to stop conducting any seismographic testing on the Darneys' property and threatened to contact the police if any Dragon employees came onto their property again.
50. Dragon offered to conduct a pre-blast survey at the Darney property and initiated steps to perform this pre-blast survey. The purpose of the survey was to establish a baseline of the condition of the Darney residence. The Darneys, however, refused to permit access to Dragon so that the pre-blast survey could be completed.

51. At its quarry, Dragon conducted a total of: 108 blasts in 2005 (with two blasts using more than 10,000 pounds of explosive); 127 blasts in 2006 (with eight blasts employing more than 10,000 pounds of explosive); 117 blasts in 2007 (with six blasts employing more than 10,000 pounds of explosive); and 104 blasts in 2008 (with seven blasts employing more than 10,000 pounds of explosive).
52. In 2005, Dragon conducted six blasts that were less than 800 feet away from the closest residence. In 2006, it conducted four blasts that were less than 800 feet away from the closest residence. In 2007, it conducted eighteen blasts that were less than 800 feet away from the closest residence. In 2008, it conducted seventeen blasts that were less than 800 feet away from the closest residence.
53. There is no record evidence that would establish that Dragon's blasting generated any fly rock.
54. When Dragon blasts at its quarry, the Darneys feel vibrations from the blasts at their house. The Darneys both testified that vibrations resulting from the blasts conducted by Dragon often frighten the Darney children.
55. There is no record evidence that I credit, however, establishing that any ground vibrations occurred at the Darney residence as a result of Dragon's blasting, during the relevant time period, which exceeded the 0.04 inches per second recorded on February 18, 2004. As such, the record is void of any evidence to establish that Dragon's blasting generated ground vibrations sufficient to damage the Darneys' residence or property during the relevant time period.

56. The record is similarly void as to both the cost of repair of any damages to their property and the magnitude of any diminution in the market or rental value of their property that can be attributed to ground vibrations from Dragon's operations.

Dust

57. There are both point sources of ambient dust at Dragon's plant, such as the kiln stack, as well as fugitive dust sources, such as roads, the CKD pile, and the quarry.

58. At its plant, Dragon has two continuous opacity monitors, one in the kiln stack and one in the clinker cooler stack.

59. Dragon has a fugitive dust control policy (Def. Ex. 75) and takes numerous steps to control dust at its facility, including the following:

- a. In the quarry, Dragon waters haul roads on a daily basis to suppress dust.
- b. At nearly every step of the cement manufacturing process where dust can escape, Dragon has installed dust collectors, which are "oversized vacuum cleaners" with fabric filter bags that are designed to capture dust particles from the cement-manufacturing process and reintroduce it to the process. In total, Dragon has over seventy-five dust collectors and spends hundreds of thousands of dollars on dust collectors on an annual basis. Dragon employs these methods to capture dust because it is the product it manufactures and its escape could damage the equipment at the plant.
- c. Dragon installed additional dust collectors on storage buildings to further minimize dust.
- d. Dragon purchased a sweeper vacuum truck to sweep the paved portions of the plant to collect fugitive dust.

- e. Dragon paved 35,000 square feet of gravel roadways in order to permit its sweeper vacuum truck to sweep the area and to control fugitive roadway emissions.
- f. Dragon sealed up cracks and crevices in the clinker storage building to prevent fugitive dust.
- g. CKD is stockpiled at the Plant, at times encompassing an area of 14 acres and weighing 800,000 tons. In September of 2005, Dragon put a cover system in place for its CKD pile, at a cost of \$300,000 and with the objective of, among other things, reducing fugitive dust. Following installation of the cover, Dragon vegetated the cover system to further reduce fugitive dust. Dragon also installed ambient air monitors and video monitors to monitor the pile.

(See also, e.g., Tr. Vol. IV at 902-12, 915-20; Tr. Vol. V (Docket # 156) at 997-98; Def. Ex. 57, 79 & 85-89.)

- 60. Dragon monitors fugitive dust emissions under a plan submitted to the Maine DEP Bureau of Air Quality as a condition of its Air Emission License.
- 61. Much of Dragon's equipment is subject to a ten percent opacity visible emissions standard. Opacity is a measure of the thickness of a dust cloud or smoke stack plume consisting of particulate matter. There are national federal ambient air quality standards for coarse and fine particulate matter, intended to protect human health and the environment. This federal hazardous air pollution rule regulates emissions of dioxins/furans from cement kiln operations such as Dragon's.
- 62. In 2008, the federal government levied a fine against Dragon for violations of the National Emissions Standards for Hazardous Air Pollutants required under the Clean Air

Act. As a result, Dragon was required to spend approximately \$300,000 to take measures to reduce emissions of fine dust particles from its facility.

63. Dragon has also received Notices of Violations from the State of Maine for failure to comply with its state Air Emissions License. As a result of these violations, in 2008, Dragon was fined \$29,887.00 and was required to spend another \$119,545 to improve its dust containment equipment. The State also assessed fines against Dragon for similar violations in 2006 and 2007.

64. Neither the federal nor the state violations, however, have been connected in any way to dust found on the Darney property.

65. The Darney property generally is not downwind of Dragon's operations.

66. Since moving into their home, the Darneys frequently have found their home, their yard vegetation, their patio table, their children's toys and swing set to be covered with a layer of dust. They have also found this dust covering their cars, as well as on their computer, electronics and other belongings in their house.

67. The Darneys describe this dust as carrying the color and odor of limestone and cement. The dust is gritty and difficult to wash off.

68. The Darneys claim that the dust accumulates daily, but some days are worse than others depending on the direction of the wind and the kind and level of activity at the Dragon facility. The Darneys spend a significant amount of time, on at least a weekly basis, attempting to clean off dust that has accumulated on their property.

69. On June 19, 2007, as part of its study investigating total suspected particulate in the Thomaston area, the DEP installed total suspended particulate samplers at the Darney residence and at the Midas Muffler shop in Thomaston, to collect data regarding

particulate matter in the area. The samplers were located about one mile apart from each other.

70. Because the sampler in front of the Darney house was placed in front of the barn, it was blocked from any winds that might come from the west—i.e., the direction of the Dragon facility.
71. The sampler at the Midas site, while not being representative of the whole Thomaston area, was generally representative of what the Darneys were seeing at their property.
72. Sampling at the Darney residence stopped, at the Darneys' request, on November 19, 2007.
73. One sample from the Darney residence and five samples from Midas were subjected to gross analysis to determine the percent distribution of five categories of material (biological, general materials, ambiguous opaques, vehicular dust/soot, and lime). Four of the samples from the Midas site were also subjected to scanning electron microscopy analysis, the results of which indicated that more than fifty percent of the lime component of the samples taken was composed of calcium oxide.
74. Calcium oxide is not found naturally and is produced as a result of a process involving high amounts of heat.
75. The cement manufacturing process involves the use of a kiln, whereas rock crushers and other sources of dust in the immediate vicinity of the Darney property do involve high amounts of heat.
76. There are numerous alternative sources of dust in the vicinity of the Darney property.

77. However, while some dust accumulating on the Darney property can therefore be connected to Dragon, the record is void as to whether a substantial percentage of the dust is attributable to Dragon.
78. The record is void as to both the repair costs for any damages to their property and the magnitude of any diminution in the value of their property that can be attributed to dust from Dragon's operations.
79. The preponderance of the evidence does not support a finding that dust from Dragon's operations caused measurable damage to the Darneys' residence, property, vegetation, vehicles or computer equipment.

Noise

80. To prevent damage to residential structures, the BOM has established a safe limit for air blasts of 133 decibels, which was designed to prevent rattling of windows. Damage to windows from air blasts does not occur until 170 decibels and structural damage can occur at 180 decibels. (See Tr. Vol. IV at 807.)
81. Dragon's state license specifies a performance standard of either 129 or 133 decibels for airblast. (See id. at 806)
82. In 2005, Dragon conducted a sound study to measure sound from its operations at the west end of the quarry, near where the Darneys live, for eight hours. This study measured a time-weighted average of sixty-one decibels.
83. The Darneys also testified that the vibrations also cause their windows, dishes and glasses to rattle, and their chandelier to shake. During the relevant time period, there is no record evidence of any air blasts measuring close to 170 decibels.
84. Dragon takes numerous steps to reduce noise from its facility, including the following:

- a. Dragon uses stemming in its blasting operations to reduce noise while blasting;
- b. Dragon designs its shot patterns in order to minimize noise and does not conduct blasting operations on days in which atmospheric conditions make excessive overblast more likely, thus reducing excess noise;
- c. Dragon uses equipment in the plant that has been supplied with acoustic designs built into the equipment, and Dragon has added acoustic designs to equipment to reduce noise; and
- d. Dragon has soundproofed equipment and rooms at the plant in an effort to further reduce noise levels.

(See, e.g., Tr. Vol. IV at 936-37; Tr. Vol. V at 995; Def. Ex. 70 & 79.)

85. There is no record evidence that would establish any air blasts generated by Dragon's blasting operations caused measurable damage to the Darneys' windows or home.

86. The record is similarly void as to both the repair costs for any damages to their property and the magnitude of any diminution in the value of their property that can be attributed to noise from Dragon's operations.

II. CONCLUSIONS OF LAW

1. The Court has jurisdiction over the matter pursuant to 28 U.S.C. § 1332(a).

Count I (common law trespass)

2. Plaintiffs did not prove by a preponderance of the evidence that dust and vibrations from Defendant's operations interfered with their right to exclusive possession of their property.

3. Accordingly, Plaintiffs have not proven by a preponderance of the evidence all of the necessary elements of their common law trespass claim.

4. Defendant is entitled to judgment in its favor on Count I.

Count II (statutory trespass – 14 M.R.S.A. § 7551-B)

5. Plaintiffs have failed to state a claim for statutory trespass under 14 M.R.S.A. § 7551-B(1)(A).

6. Any vibrations or dust from Defendant's operations are not "litter" for purposes of 14 M.R.S.A. § 7551-B(1)(B) and thus cannot be the basis of a statutory trespass claim.

7. Defendant is entitled to judgment in its favor on Count II.

Count III (nuisance)

8. Plaintiffs have failed to prove by a preponderance of the evidence that any blasting vibrations or noise from Dragon's operations caused any damage to their property.

9. Plaintiffs have proven by a preponderance of the evidence that dust from Dragon's operations has accumulated on their property.

10. Plaintiffs have failed to prove by a preponderance of the evidence, however, that the harm to their property caused by vibrations, noise or dust from Dragon's operations involved more than slight inconvenience or petty annoyance.

11. Plaintiffs have also failed to prove by a preponderance of the evidence that any blasting vibrations, noise or dust caused a reduction in the value of their land.

12. As such, Plaintiffs have not proven by a preponderance of the evidence that any interference to their use and enjoyment of their property due to vibrations, noise or dust from Dragon's operations was substantial.

13. Accordingly, Plaintiffs have not proven by a preponderance of the evidence all of the necessary elements of their common law nuisance claim.

14. Defendant is entitled to judgment in its favor on Count III.

Count IV (negligence)

15. Plaintiffs did not establish by a preponderance of the evidence that Dragon breached any duty of care owed to them.
16. Plaintiffs did not establish legal causation by a preponderance of the evidence.
17. Plaintiffs did not establish by a preponderance of the evidence that they suffered any damage as a result of any vibrations, noise or dust from Dragon's operations.
18. Accordingly, Plaintiffs have not proven by a preponderance of the evidence all of the necessary elements of their negligence claim.
19. As such, Defendant is entitled to judgment in its favor on Count IV.

Count V (injunctive relief)

20. Plaintiffs failed to establish by a preponderance of the evidence that they have suffered an irreparable injury.
21. Plaintiffs have not established by a preponderance of the evidence that any injury they might suffer is outweighed by the harm an injunction would inflict upon Defendant.
22. Plaintiffs have also failed to prove by a preponderance of the evidence that the public interest would not be adversely affected by an injunction.
23. There is no record to support awarding to Plaintiffs permanent injunctive relief.
24. As such, Defendant is entitled to judgment on Count V.

Count VI (strict liability)

25. Blasting is inherently dangerous.
26. Plaintiffs, however, have failed to prove by a preponderance of the evidence that the blasting conducted by Defendant is abnormally dangerous.

27. Plaintiffs have also failed to prove by a preponderance of the evidence that any claimed damage to their property was caused by blasting conducted by Defendant.

28. As such, Defendant is entitled to judgment in its favor on Plaintiffs' strict liability claim (Count VI).

Damages

29. Having found that Plaintiffs have not met their burden of proof on any of their substantive claims, the Court finds that there is no basis for awarding any damages to Plaintiffs.

30. With respect to punitive damages, Plaintiffs have also failed to prove that Defendant acted with the malice necessary to justify any punitive damages.

III. DISCUSSION

Plaintiffs Stephen and Kathy Darney, personally and on behalf of their children K.D. and S.D., assert claims for common law trespass, statutory trespass, nuisance, negligence, strict liability, and injunctive relief arising out of the operation of Dragon's recently expanded limestone quarry and cement-manufacturing plant near their home in Thomaston, Maine. They are seeking compensation, punitive damage and attorneys' fees, as well as a permanent injunction, for harm allegedly caused to them and their property by fugitive dust, blast vibrations, and noise. (See Compl. (Docket # 1-5) & Am. Compl. (Docket # 103).) The Court assesses each claim, in turn, below. At the close of the Bench Trial, the Court also highlighted many of the difficult questions to be answered in assessing Defendant's liability. (See Tr. Vol. V at 1137-39.) In the discussion that follows, the Court considers the parties' proposed answers to those questions and ultimately provides those answers proving to be relevant in light of the record established at trial.

A. Common Law Trespass (Count I)

1. Legal Standard

Under Maine Law, Dragon “is liable for common law trespass ‘irrespective of whether [it caused] harm to any legally protected interest of the other, if [it] intentionally enter[ed] land in the possession of the other, or cause[d] a thing or a third person to do so.’” Medeika v. Watts, 957 A.2d 980, 982 (Me. 2008) (quoting Restatement (Second) of Torts § 158(a) (1965)). In other words, to establish that Dragon is liable for trespass for this alleged entry on their land, the Darneys must establish both intent and interference with their right to exclusive possession of their property.⁵ See Jacques v. Pioneer Plastics, Inc., 676 A.2d 504, 505 n.1 (Me. 1996) (citation omitted).

As for the intent element, “[t]he minimum ... necessary for the tort of trespass to land is simply acting for the purpose of being on the land or knowing to a substantial certainty that one’s act will result in physical presence on the land.” Gibson v. Farm Family Mut. Ins. Co., 673 A.2d 1350, 1353 (Me. 1996) (quoting Donald N. Zillman et al., *Maine Tort Law* § 5.12 at 5-22 (1995)). In short, “intentional presence suffices.” (Order on Mot. for Partial Summ. J. (Docket # 93) at 9.)

As for the interference with possession element, Maine courts have long held that the “gist of [a trespass] action is unlawful entry.” Gilman v. Wills, 66 Me. 273 (1877); see also, e.g., Medeika, 957 A.2d at 982 (“graveling the land of another” constitutes unlawful entry). Under current Maine precedent, “[i]f a person establishes the elements of a traditional common law trespass claim ... damages need not be proved.” Darney v. Dragon Prods. Co., LLC, 994 A.2d 804, 807 n.3 (Me. 2010) (citing, in *dicta*, Medeika, 957 A.2d at 982).

⁵ Of course, “the first essential element of an action of trespass is proof of the plaintiff’s possession.” Jack H. Simmons et al., *Maine Tort Law* § 5.02, at 5-5 (2004). There appears to be no dispute here that the Darneys had both actual and constructive possession of the premises at the time of the acts of alleged trespass.

2. *Analysis*

The Darneys' common law trespass claim is based on their allegation that fugitive dust and vibrations from Dragon are invading their property. (See Compl. at 8.) Because it disposes of the claim, the Court turns first to the question of interference with exclusive possession/unlawful entry. Dragon's central argument as to why Plaintiffs' trespass claim fails is that Maine law does not recognize trespass claims based on the unlawful entry of dust or vibrations. In so arguing, Dragon once again urges this Court to restrict its analysis to the "traditional view" that limits trespass claims to an invasion of a plaintiff's property by some tangible object or person.⁶ Under this view, intrusions of dust and vibrations—just like other "invisible" irritants such as smoke, gas and noise—are not actionable as a trespass but only as a private nuisance. Plaintiffs, on the other hand, again urge this Court to adopt the so-called "modern theory of trespass" that would permit liability in trespass for invasions of intangible matter in both the air above a plaintiff's property and in the ground below. See also Order on Mot. for Partial Summ. J. at 10-14 (describing the debate between the two theories in detail); Darney, 994 A.2d at 806-807 (same).

The Maine Supreme Judicial Court, sitting as the Law Court, has yet to address whether it will embrace the modern view or reject it altogether. See id. at 807-08 (declining, in "the absence of established facts," to tackle this "area of tort law that remains in evolution"). Perhaps not surprisingly, the Law Court has long dealt with alleged invasions of intangible property in the context of a plaintiff's nuisance action.⁷ But, to this Court's knowledge, the

⁶ Defendant first presented this argument in its motion for partial summary judgment. (Docket # 62.) The Court did not endeavor to resolve the debate but rather certified two related questions to the Supreme Judicial Court of Maine. (See Order on Mot. for Partial Summ. J. at 14.) The Law Court, however, declined to answer the Court's certified questions. See Darney, 994 A.3d at 808.

⁷See, e.g., Johnston v. Maine Energy Recovery Co., 997 A.2d 741 (Me. 2010) (odor); Eaton v. Cormier, 748 A.2d 1006 (Me. 2000) (quarry noise); Town of Stonington v. Galilean Gospel Temple, 722 A.2d 1269 (Me. 1999) (quarry noise and dust); Sprague v. Sampson, 114 A. 305 (Me. 1921) (dust); Norcross v. Thoms, 51 Me. 503 (1863) (cinders, dust and ashes).

Darneys are the first to make such an allegation in a trespass action. On this basis, this Court could make a conservative “informed prophecy” that the Law Court would “most likely” continue to adhere to the traditional view, Janney Montgomery Scott LLC v. Tobin, 571 F.3d 162, 164 (1st Cir. 2009) (citations omitted)—that is, that Maine law does not recognize a common law trespass claim based on intangible dust or vibrations. The Court, however, need not go that far. For, the Court concludes that the Darneys did not prove their common law trespass claim under either the traditional or the modern theory.

a. Traditional View

The Darneys have made no effort to explain how either airborne dust or blasting tremors traveling through the ground or air constitute a “physical presence on the land,” Gibson, 673 A.2d at 1353. The testimony of both Mr. and Mrs. Darney centered almost exclusively on the irritation caused to them by the dust and vibrations. They describe frustration over having to wash down the surface of their cars, patio table and computer equipment, for example, and fear after observing glittery silica floating in the air by their porch light at night. (See, e.g., Tr. Vol. II at 357-60; Tr. Vol. III (Docket # 154) at 499-500.) But, neither describes the dust as interfering with their possessory interest—perhaps, for example, by piling up or accumulating in some sort of measurable way on their property. See, e.g., Jacques, 676 A.2d at 506 (summary judgment record on trespass claim including “a six hundred-foot long mound of sand” deposited on lot). Similarly, the Darneys testified about feeling vibrations from quarry blasts, hearing dishes rattling and seeing the crystal chandelier shake during the relevant time period. (See, e.g., Tr. Vol. II at 444.) But, again, neither described the vibrations as interfering with their possessory interest—perhaps by, for example, witnessing buckling or erosion of their property directly after a Dragon blast. See, e.g., Gelinis v. Marcel Motors, 475 A.2d 1138 (Me. 1984) (upholding

finding of trespass where construction led to an abutter's excavation material spilling onto the plaintiff's property and soil erosion). Moreover, Kathy Darney stated specifically that, to her recollection, no fly rock from Dragon's blasting has ever come onto their property. (Tr. Vol. III at 505.)

Thus, if the Court limits its view to tangible matter, the Darneys have failed to establish by a preponderance of the evidence that they were at any time deprived of the exclusive possession of their property. See, e.g., Adams v. Cleveland-Cliffs Iron Co., 602 N.W.2d 215, 217 (Mich. Ct. App. 1999) (confirming the validity of the traditional rules of trespass, and holding that where a possessor of land is menaced by noise, dust, smoke, soot or fumes, the possessory interest implicated is the use and enjoyment of land, and not the right to exclusive possession of it). As such, under the traditional view, the Darneys cannot prevail on their common law trespass claim.

b. Modern View

Under the modern theory, by contrast, the Court could entertain the possibility that the alleged invasion of these irritants caused the Darneys to share their property against their will. However, “[u]nder this modern theory, invasions of intangible matter are actionable in trespass *only* if they cause substantial damage to the plaintiff's property, sufficient to be considered an infringement on the plaintiff's right to exclusive possession of the property.” John Larkin, Inc. v. Marceau, 959 A.2d 551, 554 (Vt. 2008) (emphasis supplied). As the Court has already found, and will be discussed in detail below in the Court's discussion of the Darneys' nuisance claim, *infra*, the record here simply is devoid of the requisite “proof of damage to the invaded property.” Darney, 994 A.2d at 807 (citation omitted). As such, the Darneys' common law trespass claim fails even if the Court were to apply the modern standard.

The Court therefore concludes the Darneys have failed to prove their common law trespass claim by a preponderance of the evidence.⁸ Accordingly, Dragon is entitled to judgment on Count I.

B. Statutory Trespass (Count II)

The Darneys have also asserted a claim for statutory trespass under 14 M.R.S.A. § 7551-B based on dust and vibrations. (See Compl. at 8-9.) Section 7551-B(1) provides as follows:

A person who intentionally enters the land of another without permission and causes damage to property is liable to the owner in a civil action if the person:

- (A) Damages or throws down any fence, bar or gate; leaves a gate open; breaks glass; damages any road, drainage ditch, culvert, bridge, sign or paint marking; or does other damage to any structure on property not that person's own; or
- (B) Throws, drops, deposits, discards, dumps or otherwise disposes of litter, as defined in Title 17, section 2263, subsection 2, in any manner or amount, on property not that person's own.

In their Complaint, the Darneys allege that “Dragon has intentionally entered onto the Darneys’ property with dust and blasting vibrations from its Plant operations.” (Compl. ¶ 40.) By focusing on the entry onto their property by dust and vibrations, the Darneys’ Complaint cannot be fairly read to contain any sort of allegation that a legal person⁹ intentionally entered their property and caused damage to a structure, as would be required to state a claim under Section 7551-B(1)(A) of this statute.

Section 7551-B(1)(B), on the other hand, applies to the disposal of “litter” on the property in question. “Litter” is further defined by a different statutory section as encompassing:

⁸ To prove a claim of common law trespass, a plaintiff must establish both interference with exclusive possession and intent. See *Jacques*, 676 A.2d at 505 n.1. The Court previously concluded that Dragon operated with sufficient intent to survive summary judgment on the common law trespass claim. (Order on Mot. for Partial Summ. J. at 10.) As the Darneys have not established exclusive possession after trial, however, the Court need not, and does not, now reach the issue of “intent” on the full record (i.e., whether Dragon has knowingly operated with “substantial certainty” that its conduct would result in presence on the Darneys’ property, *Gibson*, 673 A.2d at 1353).

⁹ In other words, the Court is finding, in essence, that dust and vibrations are not “persons.” The Court is in no way overlooking the fact that a corporation such as Dragon would be considered a “person” under the statute. (See Pls.’ Post-Trial Reply Mem. (Docket # 166) at 17 (citing 31 M.R.S.A. § 1502(21) (‘person’ includes a limited liability company)).)

all waste materials including, but not limited to, bottles, glass, crockery, cans, scrap metal, junk, paper, garbage, rubbish, offal, except waste parts or remains resulting from the normal field dressing of lawfully harvested wild game or the lawful use of waste parts or remains of wild game as bait, feathers, except feathers from live birds while being transported, abandoned ice-fishing shacks, old automobiles or parts of automobiles or similar refuse, or disposable packages or containers thrown or deposited as prohibited in this chapter, *but not including the wastes of the primary processes of mining, logging, sawmilling, farming or manufacturing.*

17 M.R.S.A. 2263(2) (emphasis supplied). The Court finds that neither dust nor blasting vibrations fit within the statutory definition of “litter.” While dust may indeed be a waste material, the record contains no basis for the Court to conclude that dust resulting from Dragon’s limestone mining and cement manufacturing operations are anything but the “wastes of the primary processes of mining ... or manufacturing”—and thus are expressly excluded from the statute’s reach. Moreover, no finessing of the English language could lead this Court to read “waste materials” as encompassing blast vibrations.

In short, Dragon is entitled to judgment on the Darneys’ statutory trespass claim (Count II).

C. Nuisance (Count III)

1. Legal Standard

Whereas trespass protects the “exclusive possession of ... land,” the common law doctrine of nuisance protects a land possessor from interference with his “use and enjoyment” of that land. Jacques, 676 A.2d at 505 n.1 (citing, in *dicta*, W. Page Keeton et al., Prosser and Keeton on the Law of Torts § 87, at 619 (5th ed. 1984) (“Prosser and Keeton”); see also Town of Stonington v. Galilean Gospel Temple, 722 A.2d 1269, 1272 (Me. 1999) (“The essence of a private nuisance is an interference with the use and enjoyment of land.”) (quoting Prosser and Keeton § 87, at 619). “A private nuisance ‘consists in a use of one’s own property in such a manner as to cause injury to the property, or other right, or interest of another.’” Johnston v.

Maine Energy Recovery Co., 997 A.2d 741, 745 (Me. 2010) (quoting Norcross v. Thoms, 51 Me. 503, 504 (1863)). As the Law Court explained in Johnston, the elements of a nuisance claim are:

(1) “[t]he defendant acted with the intent of interfering with the use and enjoyment of the land by those entitled to that use,” with intent meaning only that “the defendant has created or continued the condition causing the interference with full knowledge that the harm to the plaintiff’s interests are occurring or are substantially certain to follow”; (2) there was some interference of the kind intended; (3) the interference was substantial such that it caused a reduction in the value of the land; and (4) the interference “was of such a nature, duration or amount as to constitute unreasonable interference with the use and enjoyment of the land.”

Johnston, 997 A.2d at 745 (quoting Charlton v. Town of Oxford, 774 A.2d 366, 377-78 (Me. 2001)).

As for what makes interference “substantial,” this Court previously has stated that this “element focuses on the gravity of the harm, caused by the defendant’s conduct, to a plaintiff’s use and enjoyment of her land. A substantial harm is one of ‘importance, involving more than slight inconvenience or petty annoyance.’” (Order on Mot. for Partial Summ. J. at 4-5 (quoting Restatement (Second) of Torts § 821F, cmt. c).) See also Charlton, 774 A.2d at 377 & n.10. While “overall depreciation in a property’s estimated market value is one method of demonstrating a substantial interference”, a plaintiff can prove substantial interference in a number of ways, including “offering evidence that the magnitude of the property’s appreciation was less than it would have been but for the defendant’s conduct” or “offer[ing] evidence of the costs of repairing the nuisance.” (Order on Mot. for Partial Summ. J. at 5.)

Of course, the Darneys’ nuisance claim “is not barred by the fact that [Dragon’s] activit[ies are] licensed” by the State of Maine. Johnston, 997 A.2d at 746. The Law Court has “never held that any activity conducted pursuant to a license is necessarily immune from private actions.”

Id.; see also Norcross, 51 Me. at 504 (“A lawful as well as unlawful business may be carried on so as to prove a nuisance.”). Rather, proved violations of such a license may be relevant to the Court’s analysis. See Johnston, 997 A.2d at 746 (“Any specifically authorized activity must be conducted ‘in the manner contemplated by the legislative authorization.’”) (quoting Foss v. Maine Turnpike Auth., 309 A.2d 339, 343 (Me. 1973)).

Finally, the Court is likewise cognizant of the “well-established principle that ‘coming to the nuisance’ does not act as a bar to a suit for nuisance.” Eaton v. Cormier, 748 A.2d 1006, 1008 (Me. 2000) (citations omitted). Neither, however, is it “wholly irrelevant to a determination of the appropriate remedy in a nuisance action.” Id.

2. *Analysis*

The Darneys’ nuisance claim is based on vibrations, noise and dust. (See Compl. at 9.) More specifically, in their Complaint and briefing the Darneys assert that both ground and airborne vibration from Dragon’s quarrying operations have interfered with the use and enjoyment of their property, including causing permanent property damage. They also claim that the use and enjoyment of their property has been impacted by noise coming from Dragon’s plant operations and trucks. Finally, the Darneys allege that as a result of Dragon’s operations, caustic dust continually accumulates inside their home, on vegetation in their yard, on their patio table, and on their children’s toys and swing set, causing permanent damage.

While it was likely a reach for the Darneys to assert a trespass cause of action here, aggravation caused to a neighboring property by blasting vibrations, noise and dust—in theory at least—presents as the quintessential nuisance case. See, e.g., Eaton v. Cormier, 748 A.2d 1006 (Me. 2000) (quarrying); Town of Stonington v. Galilean Gospel Temple, 722 A.2d 1269 (Me. 1999) (same); Sprague v. Sampson, 114 A. 305 (Me. 1921) (noise and dust); Norcross v. Thoms,

51 Me. 503 (1863) (dust); Plourde v. Valley Sno-Riders, Inc., No. CARSC-CV-02-007, 2002 WL 747903 (Me. Super Ct. March 18, 2002) (noise). But, of course, just because the Darneys feel vibrations and hear noise during blasting events, and just because they have dust which they believe is from Dragon accumulating on their property, does not mean that they have proven nuisance violations for which Dragon is liable.

Defendant argues that the record in no way supports a finding that vibrations, noise or dust from Dragon were responsible for interfering with the Darneys' use and enjoyment of their property during the relevant time period. In so arguing, Dragon primarily focuses on the "substantial interference" element—i.e., that "the interference was *substantial* such that it *caused* a *reduction* in the value of the land." Johnston, 997 A.2d at 745 (emphasis supplied).¹⁰ Specifically, Dragon argues that the Darneys have not established that: (1) any of the claimed interference was caused by Dragon; and, that even if it had been caused by Dragon, that the asserted interference was not substantial because it (2) involved nothing more than slight inconvenience or petty annoyance and/or (3) did not cause the Darneys' property to diminish in value. As will be explained in the discussion that follows, the Court agrees with Dragon.

a. Causation

The Darneys gloss over the issue of causation almost entirely—arguing, essentially, that their property's proximity to Dragon leads directly to the conclusion that Dragon is the source of all the alleged damages.¹¹ At trial and in their written submissions, the Darneys argue, again and

¹⁰ Dragon's arguments here are once again nearly identical to that argued to the Court on its motion for partial summary judgment. (Docket # 62.)

¹¹However, without even turning to expert testimony, a brief examination of the record also makes clear that: the Darneys house is well over a hundred and fifty years old, and neither it, nor the similarly-aged barn, were in pristine condition when purchased; Route One is a busy road with significant traffic volume; Old County Road and Route One are sanded and salted in the winter; and the house is located near an area zoned for non-residential uses including both the Ferraiolo Rock Crusher and Chemrock Corporation (entities that are separately licensed from Dragon). Thus, the record provides multiple other potential explanations for the damage claimed by the Darneys.

again, that the Law Court has made clear that a plaintiff can establish causation without an expert. In so arguing, the Darneys primarily rely on the recent case of Dyer v. Maine Drilling & Blasting, Inc., in which the Law Court reiterated, within the context of a strict liability and negligence cause of action, that “expert testimony is not necessary to prove ... causation[] in a blasting damages case.” 984 A.2d 210, 220 (Me. 2009) (citing Cratty v. Samuel Aceto & Co., 116 A.2d 623, 626 (Me. 1955)).

With a more careful presentation of their case, it is perhaps true that an expert would not have been needed here to establish causation for the Darneys. In Dyer, for example, the Law Court noted that “the record has significant evidence concerning the condition of the premises before blasting began,” including the testimony of family members who had lived in the house for over fifty years prior to the commencement of any blasting, videotape of the pre-blast condition of the home, and pre-blast survey of the condition of the home completed by Maine Drilling with recorded findings. Dyer, 984 A.2d at 220. Additionally, “[t]he record also contain[ed] evidence that six blasts exceeded the Bureau of Mine’s threshold.” Id. This evidence was coupled with the testimony of family members of the house shaking during at least two of these blasts (that was not felt during the passing of heavy equipment in the area) as well as testimony about specific changes to the condition of the house when compared to its condition immediately before blasting began. Id.¹²

In this case, the record does not contain similar corroborating non-expert evidence.¹³ Rather, Plaintiffs’ evidence as to the impact of the blasting vibrations consists only of the

¹² In the Dyer case, the plaintiffs also offered expert testimony that “it was possible that blasting caused settlement and the damage observed in the home and garage.” Id.

¹³ In an attachment of record citations meant to provide support for their proposed factual findings and conclusions of law, the Darneys also cite to Defendant’s Trial Ex. 24 at SMITH000000063-64, in which Dr. James Smith—a toxicologist formerly (but not currently) designated by the Darneys as an expert on issues relating to dust—observes that the Darney basement has cracks “from blasting” and that “blasting knocks loose fieldstone mortar in basement.”

emotional testimony of both Mr. and Mrs. Darney, and the testimony of their neighbor, and friend, Richard Hunt.¹⁴ The Darneys' testimony that they can feel the vibrations at their property when blasting occurs, and that there also has been what they describe as being significant—but unsubstantiated—deterioration to the condition of their home, does not establish that Dragon's blasting is the cause of the damage to their home. Rather, it is just as likely that the deterioration is the typical wear and tear one would expect to find in an old home located near a busy road.

The weight of this testimony is further diminished by the evidence that the Darneys consistently took steps to prevent the collection of evidence to support their claims against Dragon. The Darneys ordered Dragon to stop conducting any seismographic testing on their property after only two blasts had been monitored. (See Def.'s Exs. 51 & 81.) Dragon offered to conduct a pre-blast survey in 2004, which would have established a baseline of the condition of the Darney residence. But the Darneys refused to permit access to Dragon so that the pre-blast survey could be completed. (See Tr. Vol. IV at 801; Def.'s Ex. 53 at P069.)¹⁵

Moreover, the Darneys' reliance on layperson testimony and circumstantial evidence on causation in this case is simply no match to the extensive and persuasive testimony by Dragon's blasting expert, Andrew McKown. Mr. McKown testified that, during the relevant time period, no blasting by Dragon produced ground vibrations at the Darney residence that exceeded 0.1

(Pls.' Proposed Findings & Conclusions, Attach. 1 (Docket # 163-1) at 7.) The Court has no idea what the Darneys expect it to do with this purported evidence, given that the record before it is entirely devoid of any way for the Court to assess Dr. Smith's qualifications, let alone the basis for such observations.

¹⁴ The Darneys sought to have Richard Hunt, who works in "general construction," and who also has made complaints regarding Dragon's operations, to testify as an expert on damages. Mr. Hunt testified that he was only able to determine what damage specifically happened within the claims period based on Mr. Darney's own recollections. (Tr. Vol II at 404.) The Court did not permit Mr. Hunt to give an expert opinion given his lack of expertise. (See id. at 406.) The Court also did not allow his report into evidence, which gave repair estimates based on the "cost of repairing [the property] to brand new, perfect condition." (See id. at 411-13.)

¹⁵ As previously found, the Darneys also demanded that the DEP remove an air sampler collecting data regarding total suspended particulate (aka dust), and did not provide Dragon with their new phone number to remain on its pre-blast call list. (See Tr. Vol. III at 521-22, 617, 723-25, 727; Def. Ex. 50; Pls.' Ex. 123.1.)

inches per second.¹⁶ (See Tr. Vol. IV at 849-53.) To put this into context, Mr. McKown explained that the BOM has determined that ground vibrations of 0.5 inches per second or more can cause cosmetic damage to plaster walls in houses, and that ground vibrations of 0.75 inches per second or more can cause cosmetic damage to drywall. (See *id.* at 845-47, 849.) Mr. McKown also relayed that the BOM has determined that both environmental changes and human activity similarly can produce ground vibrations that also lead to strains in residential structures. (See *id.* at 847-48.) Mr. McKown also testified that Dragon has adopted and engaged in numerous best management practices, based on the BOM data, to ensure that their blasting operations pose a low degree of risk of harm to other persons or property. (See, e.g., *id.* at 855-57.) In short, Dragon presented credible evidence that, at the Darney residence, there were no ground vibrations as a result of Dragon's blasting during the relevant time period which were even close to those levels which would be necessary to cause cosmetic damage. See *Cratty*, 116 A.2d at 627 ("It is nevertheless rare that damage is caused to adjoining property, if the blaster uses the reasonable care that the law requires that he should use. This is common knowledge to every school boy and every adult citizen. Dishes may rattle on our shelves and our house may slightly shake if the blast is heavy and a short distance away, but substantial damage is very unusual.").

¹⁶ Mr. McKown's testimony and opinion were based on his review of Dragon's blasting records for all blasts which occurred between November 12, 2004 and April 17, 2009 (the claims period agreed upon by the parties), including the seismographic records taken at the Darney residence for two blast events, as well as his review of a number of videos of blasts conducted by Dragon and observations of Dragon's blasting techniques for the loading and firing of a typical blast. (See Tr. Vol. IV at 849-55, 882, 923-924, 929-930; see also Def. Exs. 41, 43, 45, 47, 49 (examples of blasting records); Def. Exs. 30, 31 (seismographic records from the Darney property); Def. Exs. 40, 42, 44, 46, 48 (examples of video blasts).)

In their Reply Brief, the Darneys examine Defendant's Trial Exhibits 34 through 37 and assert that Dragon's monitors (not located on the Darneys' property) "showed blast readings exceeding 0.5 inches per second at least 133 times (2005-2008)." (Pls.' Reply Mem. (Docket # 166) at 6.) Of course, in assessing damage on the Darney property, what matters to the Court is what monitors have measured on the Darneys' property or can be extrapolated to the Darneys' property based on monitor readings taken elsewhere. What is more, the Darneys did not explore this issue on cross-examination with Mr. McKown (see Tr. Vol. IV at 861-88), and have not otherwise provided the Court with any reason why it should rely on its layperson conclusion rather than Mr. McKown's expert opinion.

Similarly, Mr. McKown credibly testified that no airblasts (a contributor of both “noise” and airborne “vibrations”) generated by Dragon’s blasting operations could have caused any damage to the Darneys’ windows or home. Rather, Mr. McKown testified that, at all times at the Darney residence, airblasts were well below the safe decibel levels dictated by the BOM’s 133-decibel limit (and, indeed, Thomaston’s 75-decibel limit). (See Tr. Vol. IV at 853-54.)¹⁷ Mr. McKown further described numerous steps Dragon takes to minimize noise coming from its facility. (See, e.g., Tr. Vol. IV at 936-937; Def.’s Ex. 70 at 10; Def.’s Ex. 79 at 10.)

The Darneys offered no admissible expert testimony to counter Mr. McKown’s testimony or to otherwise establish that blasting or noise from Dragon’s operations have had any impact at all on their property. In this case, giving due consideration to the credible testimony of Mr. McKown, the Court readily concludes that the preponderance of the evidence does not support a finding that Dragon caused any substantial interference in the form of blasting vibrations and noise.

With respect to dust, by contrast, the Darneys have record evidence in the testimony and analysis of DEP employee Richard Marriner that substantively corroborates their subjective impression that dust on their property appears to be coming from Dragon’s operations. (See generally Tr. Vol. III at 530-95.) Mr. Marriner testified that, as part of its study investigating total suspected particulate in the Thomaston area (the results of which were compiled in an extensive report), the DEP installed air samplers at the Darney residence and at the Midas Muffler shop in Thomaston to collect data regarding total suspended particulate. (See Pls.’ Ex. 123.1 at 2 (Maine Department of Environmental Protection Air Bureau, Report on Total

¹⁷ This opinion finds support in a study, during the relevant time period, that measured sound from Dragon’s operations at the west end of the quarry, near where the Darneys live, for eight hours and measured a time-weighted average of sixty-one decibels. (See Def. Ex. 4 at FedDrag 20172, 20185-86.)

Suspended Particulate Sampling in Thomaston, Maine During 2007) (hereinafter “the Marriner Report”).) The samplers were located about one mile apart from each other. The air sampler at the Darney property collected data until November 2007.¹⁸ The Marriner Report details soil sampling obtained from the Darney residence and the Midas location and includes the conclusion that more than fifty percent of the lime component of samples taken from the Midas site were composed of calcium oxide, which is not found naturally and is produced as a result of a process involving high amounts of heat such as that involved in the production of cement. (Pls.’ Ex. 123.1 at 11; see also Tr. Vol. III at 555-56, 558.). Thus, in Mr. Marriner’s opinion, the calcium oxide “is probably coming from [Dragon], either directly or indirectly.” (Pls.’ Ex. 123.1 at 11; Tr. Vol. III at 585.) Mr. Marriner also specifically testified that even though the Darney samples were not also specifically analyzed for calcium oxide, given that the Darney property and Midas Muffler were “within a half a mile of the plant,” “[t]he dust that they’re getting would be similar dust... from pretty much the same sources in the area.” (Id. at 576-77.)

The Court finds the testimony of Mr. Marriner, as well the Marriner Report, to credibly establish, by a preponderance of the evidence, that at least *some* of the dust accumulating on the Darneys’ property during the relevant time period came from Dragon’s operation. This conclusion also draws some corroboration from the fact that Dragon has been sanctioned in the past by both the state government and the federal government for emissions violations.¹⁹ Cf. Charlton, 774 A.2d at 377 (“[Plaintiffs] satisfied the first element of common law private nuisance because [Defendant], by his code violations, acted with the intent of interfering with their use and enjoyment of the land.”).

¹⁸ In November 2007, the Darneys requested that the sampler be discontinued because Mrs. Darney was “tired of hearing it run” and it was “getting on her nerves.” (Tr. Vol. III at 727:12-19; see also id. at 617:1-12.).

¹⁹ Although, as the Court has found, the Darneys have not established that these violations can be connected to dust they were seeing on their property.

In short, Plaintiffs have failed to establish that the damage they attribute to vibrations and noise was caused by Dragon but have established by a preponderance of the evidence that some of the dust found on their property was caused by Dragon's operations. Thus, the Court proceeds to consider Dragon's argument that any interference caused by Dragon was not substantial.

b. Substantial harm analysis (dust)

The record is devoid of any evidence that would allow the Court to assess how much of the dust on the Darneys' property can fairly be attributed to Dragon—in other words, the Darneys have given the Court no information with which it can conclude that the accumulation of dust *from Dragon's operations* was significant in that it “involve[d] more than a slight inconvenience or annoyance.” Restatement (Second) of Torts 821F, cmt. c; see also Charlton, 774 A.2d at 377 n.10 (observing that “[s]ubstantial simply means a significant harm to the plaintiff”) (quoting Prosser and Keeton § 88, at 626).

Once again, the Darneys actively prevented the collection of scientific evidence—here, air monitoring data—that might have supported their claims if they had some basis. The DEP simply did not have many samples from the Darney property from which to draw conclusions. And, the DEP did not analyze any of the Darney samples for calcium oxide, which might have provided the Court with more concrete information. While the Court has found that some extrapolations can be drawn from the Midas samples, it is far from clear that the Darney samples would have yielded identical results to the Midas samples. For, the record also firmly establishes that the Midas location and the Darney property, though just a mile apart, differ in significant ways. For example, Mr. Marriner testified that during the time period of June 19 through December 31, 2007, the wind blew from Dragon's kiln to the Darneys' property only three percent of the time whereas it blew from Dragon's kiln to Midas about ten to twelve percent of

the time. (Tr. Vol. III at 588-90.) Moreover, the record also establishes numerous other potential sources of dust in the area. For example, the Marriner report itself, in explaining one spike in detected concentrations of dust at the Darney property (which appeared to be an anomaly), attributes dust on the Darney property to the following potential sources in addition to Dragon: road repairs in the area, construction of a large commercial center nearby, the operations of Chemrock (a nearby manufacturer), usual summer traffic, lawn maintenance, backyard grills or a “myriad of other human activities, and natural events.” (Trial Ex. 123.1 at 2.)

On the other hand, Dragon has pointed the Court to significant record evidence to establish that the vast majority of the dust on the Darney property is likely from a source other than Dragon. Dragon points out, for example, that historical data obtained from three other monitoring stations in close proximity to Dragon demonstrate that there have been no exceedances of the state nuisance standard (150 micrograms of dust per cubic meter) in the area since 1982. (See Pls.’ Ex. 123.1 at 15; Tr. Vol. III at 612-616.).²⁰ Dragon’s own dust expert, Patrick Gwinn, performed a “fingerprinting analysis” of six Dragon dust samples (from Dragon’s CKD pile, quarry dust, clinker pile) and two dust samples taken from the Darneys’ property to compare potential emission sources from Dragon to off-site sources. As a result of this analysis, which was then confirmed by a “principal component analysis,” Mr. Gwinn concluded that the Dragon samples differed significantly from the Darney samples, which also differed from each

²⁰ Maine’s nuisance statute provides that “[n]o person may discharge total suspended particulate matter to the ambient air in an amount or concentration that ... creates a nuisance condition.” 38 M.R.S.A. § 592-A(1). The statute defines the level at which nuisance conditions are created by suspended particulate matter as follows: “[t]otal suspended particulate matter concentrations of less than 150 micrograms per cubic meter for any 24-hour period in the ambient air are presumed not to constitute ... nuisance conditions.” *Id.* The Maine nuisance standard for dust is the same as, and is based upon, the national secondary ambient air quality standard, which is required by statute to be “requisite to protect the public welfare from any known or anticipated adverse effects association with the presence of such air pollutant in the ambient air.” 42 U.S.C. § 7409(b)(2); *see also* Tr. Vol. III at 546-547. While the Court is in no way concluding that the state’s public nuisance standard is the same as the common law nuisance standard, the Court again finds that evidence of compliance, or lack thereof, informs its analysis. *See Charlton*, 774 A.2d at 377

other—suggesting, in his opinion, that sources other than Dragon were contributing significantly to the Darney samples. (See Tr. Vol. V at 1031-39, 1046-57 (testimony explaining methodology and conclusions); Def.’s Exs. 13, 91, 92.)

Mr. Gwinn also testified that if he were to engage in a theoretical exercise to determine what the maximum possible contribution from Dragon might be, if there is any at all, it would be no more than 11.5%. (Tr. Vol. V at 1076-77 (explaining calculations); see also Def.’s Ex. 93.) While the Court is not fully persuaded by Mr. Gwinn’s opinion that Dragon was not responsible for any of the dust appearing on the Darneys’ property, the preponderance of the evidence indicates that the great majority of the dust on the Darney property was likely coming from sources other than Dragon. In short, the Court is doubtful that the Darneys’ have proven the harm to be “significant.” See Charlton, 774 A.2d at 377 n.10.

c. Diminished Value

According to the Restatement (Second) of Torts, “the fact that other persons contribute to a nuisance is not a bar to the defendant’s liability for his own contribution.” Restatement (Second) of Torts § 840E. Ultimately, however, the Court need not determine what percentage of the dust on the Darneys’ property can be attributed to Dragon because the Darneys have also failed to prove by a preponderance of the evidence that any amount of dust justifies a recovery for damages. For, while compensation for a nuisance action “may include elements for inconvenience and annoyance,” Eaton, 748 A.2d at 1008, as well as recovery for loss of time, In re Hannaford Bros. Co. Customer Data Sec. Breach Litig., 4 A.3d 492, 496 n.1 (Me. 2010), the Law Court has made clear that the Court does not reach this assessment until it determines that there was measurable damage to the Darneys’ property during the relevant time period.

Even if the Court were to assume that Dragon was responsible for 11.5 percent of the dust accumulating on Dragon's property (and indeed, even if the Court were to assume that Dragon's blasting had some impact on the Dragon's property), the record before the Court is devoid of any evidence—beyond the Darneys' own subjective impressions—that the alleged interference “caused a reduction in the value of the land.” Johnston, 997 A.2d at 745.

At trial, the evidence presented regarding property damage was extremely limited. First, no evidence was offered that the Darneys' property has been reduced in value by Dragon's activities since they purchased it. They purchased their property in 2002 for \$80,500. (Tr. Vol. II at 431; Vol. III at 519; Vol. V at 1010.) They consider it to be worth \$140,000 (both as of April 17, 2009 and currently)—an increase of seventy-five percent in seven years. (Tr. Vol. III at 522.) The Darneys presented no evidence as to how much greater, if any, their property's appreciation might have been but for Dragon's conduct. By contrast, Dragon presented the testimony of the Darneys' real estate agent who gave his lay opinion that the relatively affordable price of the Darneys' property in 2002 already reflected its proximity to Dragon's operations.

The Darneys likewise offered no admissible expert testimony as to the cost of repairing the damages they have attributed to the dust alleged to be from Dragon's operations. The Darneys testified that they had to fix scratches on their car and replace certain computer equipment—but, they in no way established that these repairs were in fact necessitated by the dust accumulating on their property (let alone that such dust was from Dragon's operations). Additionally, and as will be explained in more detail in section (d) below, while the Darneys testified that they have made some repairs to their property (primarily for alleged blasting damage), they could not estimate the cost of such repairs. (Tr. Vol. III at 716-17.) Cf. Reardon

v. Lovely Dev., Inc., 852 A.2d 66, 69 (Me. 2004) (“In order to be recoverable, damages must not be uncertain or speculative, but must be grounded on facts and evidence.”).

In short, the Court concludes that the Darneys failed to prove by a preponderance of the evidence that the alleged interference to their use and enjoyment of their property from dust, vibrations or noise resulted in a reduction in the value of the land. The Law Court has found this factor to be essential to an assessment of “substantiality,” and therefore serves as a prerequisite to any recovery on a nuisance action. See Johnston, 997 A.2d at 745.

d. Substantial harm analysis (blasting vibrations and noise)

For the sake of completeness of the record, even if the Darneys had established that vibrations and noise from Dragon’s blasting was the proximate cause of damage to their property, the Court would also conclude that the Darneys failed to prove by a preponderance of the evidence that the interference to their property from blasting was “substantial.”

The Darneys neglected to provide the Court with any information at all as to when most of the alleged blasting damage occurred.²¹ For other items of claimed damage, including damage to their chimney which has allegedly caused damage to their master bedroom and cracks in their son’s room and the stairway, the Darneys specifically testified that the damage occurred around February of 2004—nearly a full year before the November 2004 start of the agreed upon claim period.²² Similarly, Mr. Darney specifically testified that the damage to their master bedroom has remained unchanged since February 2004; that the alleged cracks in their son’s room remain

²¹ This includes the following alleged damage from Dragon’s blasting operations: that the retaining wall next to their barn has shifted (see Tr. Vol. II at 445:2-5); that a cement step has separated from their deck (see id. at 445:10-13); that a small border of railroad ties now slants down the hill (see id. at 445:13-17); that their side garden has shifted (see id. at 444:22-445:5); that cracks have appeared in some of their barn windows (see id. at 447:3-8, Tr. Vol. III at 709:4-7); that cracks have appeared in the mortar inside of their chimney and that mortar has fallen out of their chimney (see id. at 508:12-509:9); and their barn is settling (see id. 709:24-710:6).

²² (See Tr. Vol. III at 688:2-689:11, 691:4-14, 695:24-696:2, 717:13-718:18, 719:12-720:22, 721:1-5; see also Pls.’ Exs. 102A, 102B, 102C, 102D (photographs of alleged damage).).

pretty much the same today as compared to February 2004 (having grown no more than six inches in either direction); and that the cracks in their stairway have gotten a little longer since February of 2004 and have opened up a little more, but are otherwise the same.²³

In fact, of all the claimed damages allegedly caused by Dragon's blasting, the Darneys only testified about three areas that actually occurred during the relevant time period: cracks have gotten slightly longer in their son's room and in the stairway, and a window sill has separated from vertical molding. (See Tr. Vol. III at 695-696, 703, 717-21; Pls.' Ex. 102C, 102D.) The Court agrees with Dragon that the Darneys have in no way established that this alleged harm has caused them "more than slight inconvenience or petty annoyance." (Order on Mot. for Partial Summ. J. at 5; Charlton, 774 A.2d at 377.) Thus, the Court has no basis for concluding that substantial harm occurred during the relevant four-and-a-half year time period.

With respect to noise, the Darneys also complained that they are bothered by the noise caused by trucks early in the morning and a "constant humming" at night from the plant. (Tr. Vol. III at 503-504.) The Darneys presented no evidence, however, that this noise was caused by Dragon. The Darney house is located on Old County Road and near Route One, both of which are busy roads with loud road noise. (See id. at 521.) The Darneys also presented no evidence relating to how the noise damaged them, only that it existed. In short, the record is entirely devoid of any evidence that such additional noise is significant or more than a "slight inconvenience or petty annoyance."

Therefore, even if any damage from vibrations or noise had been shown to be the result of Dragon's operations, the Court concludes that such damage constitutes nothing more than a slight inconvenience or petty annoyance, and thus are not "substantial."

²³ (See Tr. Vol. III at 717-18, Pls.' Ex. 102A, 102B (master bedroom); Tr. Vol. III at 695-696, 717-20, Pls.' Ex. 102C, 102D (son's room); Tr. Vol. III at 721 (stairway).)

In sum, the Darneys have failed to prove by a preponderance of the evidence all of the necessary elements of a nuisance claim as to any of the three claimed nuisances, that is vibrations, noise or dust.²⁴ Thus, Dragon is entitled to judgment on all of Count III.

D. Negligence (Count IV)

1. Legal Standard

The Darneys negligence claim against Dragon is based on their allegation that Dragon had a duty to take reasonable precautions to prevent the migration of noise, vibrations and dust from its plant to the Darneys' property. (See Compl. at 10.). In order to prove a claim for negligence, a plaintiff must establish four familiar elements: duty, breach, causation, and damages. Reid v. Town of Mount Vernon, 932 A.2d 539, 544 (Me. 2007); Maravell v. R.J. Grondin & Sons, 914 A.2d 709, 712 (Me. 2007).

An essential element of a claim for negligence is that the defendant's negligence was the proximate cause of the plaintiff's harm. See, e.g., Walter v. Wal-Mart Stores, Inc., 748 A.2d 961, 968 (Me. 2000). Not only must a plaintiff show "that there be some reasonable connection between the act or omission of the defendant and the damage which the plaintiff has suffered," the defendant's conduct must also "be a 'substantial factor' in bringing about the plaintiff's harm in order for there to be proximate cause." Id. (citing Wheeler v. White, 714 A.2d 125, 127 (Me. 1998).); see also Addy v. Jenkins, Inc., 969 A.2d 935 (Me. 2009) (same). Further, to prove causation, the Law Court has established that the plaintiff "must show more than a 'mere possibility' of proximate cause; evidence that requires speculation or conjecture by the factfinder entitles [the defendant] to judgment as a matter of law." Johnson v. Carleton, 765 A.2d 571, 575 (Me. 2001).

²⁴ Given the strength of the record evidence on the substantial interference factor, the Court need not, and does not, examine the other three Johnston/Charlton nuisance factors.

“Where a court imposes a duty in a negligence case, that duty is ‘to conform to the legal standard of reasonable conduct in light of the apparent risk.’ Reid, 932 A.2d at 544 (citation omitted).

2. *Analysis*

As described in extensive detail above, the Darneys have failed to prove they have suffered “actual damage” or “economic loss” as a result of noise, vibrations or dust from Dragon’s operations. In re Hannaford Bros. Co., 4 A.3d at 495. In the case of noise, they did not present any evidence at trial relating to any damages they have suffered, much less evidence that such damage was caused by Dragon. Similarly, the Court has found that Dragon never created any ground vibrations which could have damaged the Darney residence during the relevant period. Finally, the evidence at trial established that much of the dust on the Darney property may have come from sources other than Dragon. In short, for the same reasons as recited above in the Court’s analysis of the Darneys’ nuisance cause of action, the Darneys have failed to prove either damages or causation by a preponderance of the evidence. Without being able to prove these elements, the Darneys’ negligence claim fails. See, e.g., In re Hannaford Bros. Co., 4 A.3d at 496; Houde v. Millett, 787 A.2d 757, 759 (Me. 2001) (“The mere possibility of such causation is not enough, and when the matter remains one of pure speculation or conjecture, or even if the possibilities are evenly balanced, a defendant is entitled to a judgment.”)

For the sake of completeness of the record, the Court also briefly addresses why the Darneys also have not established that Dragon breached any duty owed to them. The Darneys allege Dragon owed them a duty to take reasonable precautions to prevent the migration of noise, vibrations and dust from its plant to their property. Assuming Dragon owed such a duty

(although this is by no means clear), the Darneys have in no way established that Dragon breached that duty.

The evidence at trial demonstrated that Dragon takes numerous steps to reduce noise and ground vibrations from its quarrying operations and facility. (See, e.g., Tr. Vol. IV at 936-37; Tr. Vol. V at 995.) Similarly, at trial Dragon presented extensive evidence of the numerous steps it takes to prevent damage to neighboring structures from its blasting operations. (See, e.g., Tr. Vol. IV at 801, 856-57.) The Darneys made no effort to identify other reasonable steps Dragon could take to minimize ground vibrations or noise from its blasting operations or reduce noise from the plant. Similarly, Dragon presented extensive evidence at trial relating to the numerous steps Dragon takes to prevent dust from leaving its facility. (See, e.g., Tr. Vol. IV at 902-12, 915-20; Tr. Vol. V at 997-98; Def. Exs. 57, 75, 79 & 85-89.) On the other hand, the Darneys presented no evidence regarding additional reasonable steps Dragon might take to further prevent dust from leaving its facility. In short, the evidence before the Court does not establish that Dragon breached any duty owed to the Darneys related to blasting vibrations, noise or dust.

Failing to establish breach, causation or damages, the Darneys cannot prove their negligence claim. Thus, Dragon is entitled to judgment on Count IV.

E. Strict Liability (Counts VI)

1. Legal Standard

In Dyer v. Maine Drilling & Blasting, Inc., the Maine Law Court for the first time stated that it would henceforth apply strict liability for damage caused by “abnormally dangerous activity.” 984 A.2d at 219. In so holding, the Maine Law Court adopted Sections 519 through 520 of the Restatement (Second) of Torts, which imposes liability on defendants conducting an abnormally dangerous activity without requiring proof of negligence. Id. at 215 (“In doing so,

we overrule our prior opinions requiring proof of negligence in blasting cases.”). Notably, “[u]nder a strict liability analysis, proof of a causal relationship between the blasting and the property damage is still required.” *Id.* at 219.

Just as here, the *Dyer* case involved damages alleged to be caused by blasting. And, the Court had little difficulty recognizing that blasting constitutes a so-called “inherently dangerous activity”—which, apparently, legally differs from an abnormally dangerous activity. As such, the Court remanded for further factual findings. Specifically, following the Restatement, the Law Court identified the following six factors that a fact-finder must consider in determining whether an activity is abnormally dangerous:

- (a) existence of a high degree of risk of some harm to the person, land or chattels of others;
- (b) likelihood that the harm that results from it will be great;
- (c) inability to eliminate the risk by the exercise of reasonable care;
- (d) extent to which the activity is not a matter of common usage;
- (e) inappropriateness of the activity to the place where it is carried on; and
- (f) extent to which its value to the community is outweighed by its dangerous attributes.

Id. at 215 n.4 (citing Restatement (Second) of Torts §§ 519-520).

2. *Analysis*

After the *Dyer* decision came down, the Darneys were granted leave to amend their complaint to include a strict liability count. (Mem. of Decision (Docket # 102); see also First Am. Compl. (Docket # 103).) In their Amended Complaint, the Darneys assert that Dragon should be held strictly liable for any and all damage caused to their property by their blasting operation. (See *id.* ¶¶61-62.)

The Court has little difficulty agreeing with the Darneys that blasting poses a high degree of risk of *some* harm to both persons and property. Even defense expert Mr. McKown specifically stated on direct that “Yes, I believe that the handling of explosives is inherently dangerous”. (Tr. Vol. IV at 856.) Indeed, the Bureau of Mines conducted extensive studies on blasting done near

residential structures, which demonstrated quite conclusively that blasting has the potential to cause damage to buildings from fly rock, ground vibration, and airblast. Similarly, given the extensive best practices recommended by the BOM by those engaging in quarrying activities, and the rigor with which the State of Maine oversees such activities, the Court has little difficulty that any such resulting harm has the potential to be great. In short, in applying these first two factors, the Court agrees with the Dyer Court that “blasting is inherently dangerous.” Dyer, 984 A.2d at 216 (citing Maravell, 914 A.2d at 714).

But, of course, this finding does not end the Court’s inquiry. For, here Dragon has managed to amass uncontradicted evidence establishing that the danger can largely be eliminated by the exercise of care. The Darneys, for example, did not present any evidence to establish that would allow the Court to find that “blasting may cause damage even when it is within the Bureau of Mines’s (sic) guidelines.” Dyer, 984 A.2d at 216 (presenting expert testimony on this point). By contrast, Dragon presented the testimony of Mr. McKown who specifically testified that Dragon takes extensive precautions to minimize any risk of harm to persons or property, and credibly offered his opinion that based on these precautions, Dragon’s blasting operations pose a low degree of risk of harm to other persons or property. (See Tr. Vol. IV at 856-59.)

Mr. McKown’s testimony also established that blasting of the type conducted by Dragon is very common, particularly in New England; that the aggregate produced from quarrying operations such as Dragon’s is needed in the production of concrete and asphalt that is used in our roadways, among other uses; that quarries are located where there is rock near the ground surface; and that, as such, it is common for residential structures to be near quarries in New England. (See id. at 858.) In short, Dragon provided uncontradicted expert evidence that

Dragon's blasting operations are common and appropriate to the location in which they are carried out.

Finally, Dragon presented significant and uncontradicted evidence that its operations have substantial value to the surrounding community. For example, as the Court has found that, at the time of trial, Dragon employed ninety-seven employees at its Thomaston facility, paying them wages and benefits of approximately five million dollars. (*Id.* at 898.)²⁵ Similarly, Dragon pays about \$1.2 million in annual property taxes to the Town of Thomaston. In short, Dragon has established that any dangerous attributes of its blasting operations are substantially outweighed by the value Dragon provides to its community.

The Court concludes that the Darneys have failed to establish by a preponderance of the evidence that blasting conducted by Dragon is "abnormally dangerous." In any event, even assuming Dragon's blasting were an abnormally dangerous activity, the Darneys have failed to prove they suffered any damage as a result of Dragon's blasting. In short, as previously discussed in extensive detail, the Darneys have not proven any causal connection between any alleged property damage and Dragon's blasting operations.

Thus, Plaintiffs have failed to prove by a preponderance of the evidence that Dragon should be held strictly liable for blasting damage on their property. As such, Dragon is entitled to judgment on Count VI.

F. Injunctive Relief (Count V)

1. Legal Standard

"[A] plaintiff seeking a permanent injunction must satisfy a four-factor test before a court may grant such relief. A plaintiff must demonstrate: (1) that it has suffered an irreparable injury;

²⁵ The Darneys note in their Post-Trial Memorandum that there is no evidence in the record that any of these employees actually live in the Thomaston area. (*See* Pls' Post-Trial Mem. at 24.) Of course, as the plaintiffs in this case, it would be their burden to bring this type of evidence before the Court.

(2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.” Monsanto Co. v. Geertson Seed Farms, -- U.S. --, 130 S. Ct. 2743, 2756 (2010)) (quoting eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 391 (2006)). See also Windham Land Trust v. Jeffords, 967 A.2d 690, 702 (Me. 2009) (reciting a similar four factor test).

2. Analysis

The Darneys have asserted a claim for injunctive relief based upon their successful assertion of claims for trespass, nuisance, negligence and (by amendment) strict liability. The Darneys, however, have failed on the merits in their entire case. See Windham Land Trust, 967 A.2d at 702 (the party seeking a permanent injunction must show, *inter alia*, that he “succeeds on the merits” of his claim). What is more, the Darneys have in no way proven that the balance of hardships weighs in their favor or that the public interest would not be disserved by a permanent injunction—which would effectively force Dragon to cease its operations,²⁶ inflicting enormous collateral damage on the community of Thomaston. (See Tr. Vol. II at 264; Tr. Vol. IV at 901, 935-36.)

Because they have failed to successfully assert their substantive claims (and therefore have failed to establish that they have suffered an irreparable injury), and because they have failed to prove any of the other necessary prerequisites to obtaining injunctive relief, Dragon is entitled to judgment on Count V.

²⁶ In their Post-Trial Reply Memorandum, Plaintiffs also suggest that an alternative way “to stop vibrations” from coming onto their property would be to move Dragon’s quarry operations further away from the Darney property or to reduce the amount of explosive material in each blast. (See Pls’ Post-Trial Reply Mem. (Docket # 166) at 18.) There quite simply is nothing in the record that would equip this Court with the information necessary to evaluate the potential impact, if any, of such alternative injunctive measures.

IV. CONCLUSION

The Plaintiffs have failed to present any factual foundation to establish liability on the part of Defendant. The Plaintiffs have failed to prove any of their claims by a preponderance of the evidence. As such, the Court need not reach the issue of damages, including the imposition of punitive damages.

Much of the deficiency in the case is a deficiency in the evidence presented by the Plaintiffs. The Court does not speculate as to the outcome of a similar case where additional admissible evidence is presented.

Judgment shall enter for Defendant as to all counts.

SO ORDERED.

/s/ George Z. Singal
United States District Judge

Dated this 22nd day of March, 2011.

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