AMBER CONSULTING COMPANY P.O. Box 567 Pittsford, Vermont 05763 (802) 775-1650

Dave Lundy Hilltop Slate P.O. Box 201 Middle Granville, NY 12849

Dear Mr. Lundy:

Vermont Black Slate from the Wells Northeast Quarry was tested per ASTM specifications. A summary of the results is as follows:

- 1. Water Absorption, C121-06, 0.213% (ASTM max. For S1 slate is 0.25%).
- 2. Modulus of Rupture, C120-06, 584 lbs, Ave. thickness 0.275 in. (ASTM min. For S1 slate is 575 lbs)
- 3. Weather Resistance, C217-94, 0.0014 in. (ASTM max. For S1 slate is 0.002 in.)

Tables 1,2 and 3 list the individual tests. From the specimens tested, this variety of roofing slate does qualify as a S1 slate.

Modulus of Rupture tests were conducted on a Tinius Olsen Testing Machine calibrated October 2018. The Weather Resistance tests were conducted using the hand scraping method. Thickness measurements were taken at three (3) different locations along the scrape track. The average depth of softening was recorded.

Please let us know if we can be of further assistance.

Very truly yours,N

- Thema Holson

Thomas H. Olson Test Engineer

TABLE 1 - WATER ABSORPTION Average 0.213%

Specimen No.	Absorption %
1	0.206
2	0.197
3	0.218
4	0.212
5	0.231
6	0.212

TABLE 2 - MODULUS OF RUPTURE Average 584lbs 0.275 in

Specimen No.	Load lbs.	Thick in
1	612	0.280
2	625	0.284
3	562	0.270
4	463	0.251
5	670	0.256
6	463	0.250
7	474	0.244
8	517	0.296
9	710	0.305
10	744	0.314

TABLE 3 - WEATHER RESISTANCE Average 0.0014 in.

Specimen No.	Depth of Softening in.
1	0.0025
2	0.0012
3	0.0005