

Table 1. Selected representative chemical analyses of rocks and minerals associated with steatitized serpentinite bodies in north-central Vermont.

| Tabulation no.                 | 1                             | 2                                | 3                                | 4                             | 5                           | 6                             | 7                          | 8                             | 9                                    | 10                            | 11                            | 12                                     |
|--------------------------------|-------------------------------|----------------------------------|----------------------------------|-------------------------------|-----------------------------|-------------------------------|----------------------------|-------------------------------|--------------------------------------|-------------------------------|-------------------------------|----------------------------------------|
| Field no.                      | W-DDH-13-146                  | W-71                             | W-43                             | W-83                          | J-103                       | W-23                          | J-106                      | W-DDH-13-65                   | B-DDH-9B1-432                        | W-38                          | W-DDH-11-116                  | B-DDH-8-372                            |
| Laboratory no.                 | ID-50-1993 CDMSW              | ID-50-1989 CDMSW                 | ID-50-1997 CDSW                  | ID-50-1995 CDSW               | ID-50-1996 CDSW             | ID-50-2007 CDSW               | ID-50-2004 CW              | ID-50-2002 CDSW               | ID-50-2003 CDSW                      | ID-50-2009 CDSW               | ID-50-2012 CW                 | ID-50-2017 CW                          |
| Description                    | Carbonate in serpentinite     | Carbonate in talc-carbonate rock | Carbonate in talc-carbonate vein | Talc in talc-carbonate vein   | Pale-green talc in steatite | Schistose steatite            | Talc-carbonate rock 1/     | Massive serpentinite          | Massive serpentinite                 | Blackwall chlorite rock       | Albite porphyroblast rock     | Quartz-sericite-albite-chlorite schist |
| Locality                       | Waterbury mine, Moretown, Vt. | Waterbury mine, Moretown, Vt.    | Waterbury mine, Moretown, Vt.    | Waterbury mine, Moretown, Vt. | Johnson mine, Johnson, Vt.  | Waterbury mine, Moretown, Vt. | Johnson mine, Johnson, Vt. | Waterbury mine, Moretown, Vt. | Barnes Hill prospect, Waterbury, Vt. | Waterbury mine, Moretown, Vt. | Waterbury mine, Moretown, Vt. | Barnes Hill prospect, Waterbury, Vt.   |
| Type of analysis 2/            | S                             | S                                | S                                | S                             | S                           | S                             | R                          | S                             | S                                    | S                             | R                             | R                                      |
| Analyst 2/                     | 1                             | 1                                | 1                                | 1                             | 1                           | 2                             | 3                          | 2                             | 2                                    | 2                             | 3                             | 3                                      |
| Sp. G. { Bulk Powder           |                               |                                  | 2.82                             | 2.76                          | 2.83                        | 2.84                          | 2.83                       | 2.65                          | 2.69                                 | 2.94                          | 2.76                          | 2.81                                   |
| SiO <sub>2</sub>               |                               |                                  |                                  | 62.44                         | 62.24                       | 60.48                         | 42.8                       | 43.10                         | 38.30                                | 25.59                         | 60.4                          | 66.4                                   |
| Al <sub>2</sub> O <sub>3</sub> |                               |                                  |                                  | .07 4/                        | .09 4/                      | .82                           | 1.6                        | 1.06                          | 1.14                                 | 18.93                         | 17.0                          | 16.7                                   |
| Fe <sub>2</sub> O <sub>3</sub> | .34                           | .60                              | .64                              | .19                           | .10                         | .10                           | .24                        | 1.07                          | 5.93                                 | 1.64                          | 1.30                          | 1.7                                    |
| FeO                            | 8.83                          | 12.87                            | 2.65                             | 2.21                          | 4.22                        | 4.59                          | 5.1                        | 5.22                          | 2.25                                 | 20.14                         | 6.0                           | 4.2                                    |
| MgO                            | 39.64                         | 35.97                            | 19.10                            | 30.01                         | 28.57                       | 28.52                         | 32.4                       | 37.14                         | 38.27                                | 18.45                         | 3.1                           | 1.4                                    |
| CaO                            | .06                           | .38                              | 29.98                            | .00                           | .00                         | .02 5/                        | .30                        | .00 5/                        | .23                                  | .01 5/                        | .68                           | .80                                    |
| Na <sub>2</sub> O              |                               |                                  |                                  |                               |                             | .00                           | .15                        | .00                           | .00                                  | .01                           | 7.2                           | 1.8                                    |
| K <sub>2</sub> O               |                               |                                  |                                  |                               |                             | .03                           | .08                        | .03                           | .03                                  | .02                           | 2.2                           | 3.4                                    |
| H <sub>2</sub> O-              |                               |                                  |                                  | .04                           | .00                         | .00                           |                            | .11                           | .07                                  | .09                           |                               |                                        |
| H <sub>2</sub> O+              |                               |                                  |                                  | 4.63                          | 4.47                        | 4.94                          | 3.21 6/                    | 11.77                         | 10.73                                | 10.80                         | 1.8 6/                        | 2.9 6/                                 |
| TiO <sub>2</sub>               |                               |                                  |                                  |                               |                             | .01                           | .05                        | .01                           | .01                                  | 3.47                          | .92                           | .80                                    |
| CO <sub>2</sub>                | 44.61                         | 47.12                            | 46.73                            | .04                           | .04                         | .00                           | 14.53 6/                   | .08                           | 2.46                                 | .05                           | .00 6/                        | .00 6/                                 |
| P <sub>2</sub> O <sub>5</sub>  |                               |                                  |                                  |                               |                             | .02                           | .02                        | .01                           | .01                                  | .01                           | .12                           | .10                                    |
| S                              |                               |                                  |                                  | tr                            | .00                         | .01                           | .06                        | .06                           | .02                                  | .01                           | .05                           |                                        |
| C                              |                               |                                  |                                  |                               |                             |                               |                            |                               |                                      |                               | .01                           |                                        |
| Cr <sub>2</sub> O <sub>3</sub> |                               |                                  |                                  |                               |                             | .26                           |                            | .31                           | .30                                  |                               |                               |                                        |
| NiO                            |                               |                                  |                                  | .13                           | .18                         | .20                           |                            | .22                           | .22                                  | .02                           |                               |                                        |
| MnO                            | .51                           | .96                              | .81                              |                               |                             | .09                           | .07                        | .11                           | .09                                  | .90                           | .52                           | .16                                    |
| PbO                            | .00                           | .00                              | .00                              |                               |                             |                               |                            |                               |                                      |                               |                               |                                        |
| ZnO                            | .00                           | .00                              | .00                              |                               |                             |                               |                            |                               |                                      |                               |                               |                                        |
| CoO                            | .0063                         | .0032                            | .0003                            |                               |                             | .01                           |                            | .01                           | .01                                  | .01                           |                               |                                        |
| As <sub>2</sub> O <sub>3</sub> |                               |                                  |                                  |                               |                             | .0023 7/                      |                            | .006 8/                       | .065 9/                              | .0003 10/                     |                               |                                        |
| Sum                            | 94.00                         | 97.90                            | 99.91                            | 99.76                         | 99.91                       | 100.10                        | 101                        | 100.32                        | 100.14                               | 100.15                        | 101                           | 100                                    |
| Less O for S                   |                               |                                  |                                  | .00                           | .00                         | .00                           | .03                        | .03                           | .01                                  | .00                           |                               |                                        |
| Total                          | 94.00                         | 97.90                            | 99.91                            | 99.76                         | 99.91                       | 100.10                        | 101                        | 100.29                        | 100.13                               | 100.15                        | 101                           | 100                                    |

1/ The sample analyzed was abnormally low in carbonate.

2/ S = standard (conventional method); R = rapid (colorimetric method).

3/ (1) Wilbur J. Blake.

(2) Robert N. Eccher.

(3) S. M. Berthold, E. A. Nygaard, and E. I. Goldenthal. S, C, and Sp. G. determinations by Leonard Shapiro, Paul W. Scott, and Harry F. Phillips.

4/ Determined by quantitative spectrographic analysis. Elizabeth L. Hufschmidt, analyst.

5/ The analyst states: "With this unfavorable ratio of calcium to magnesium, it is possible that as much as 0.1% of CaO may be missed."

6/ Estimated. For basis of estimation see Chidester

7/ Average of 0.0020 and 0.0026. Redetermination after NaOH fusion of the sample; Hy Almond, analyst.

8/ Average of 0.005 and 0.007. Redetermination after NaOH fusion of the sample; Hy Almond, analyst.

9/ Average of 0.05 and 0.08. Redetermination after NaOH fusion of the sample; Hy Almond, analyst.

10/ Average of 0.0005 and 0.0001. Redetermination after NaOH fusion of the sample; Hy Almond, analyst.

Note: A blank space means "not determined."