

U.S. DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

GEOCHEMICAL DATA FOR JURASSIC DIABASE ASSOCIATED WITH EARLY
MESOZOIC BASINS IN THE EASTERN UNITED STATES:
GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

By

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GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

Two-hundred ninety-seven (297) samples of diabase from ten (10) sheets and twelve (12) dikes were collected by four (4) workers in Pennsylvania and New Jersey and analyzed by the U.S. Geological Survey. R.C. Smith, II, of the Pennsylvania Geological Survey, provided twenty (20) samples from the York Haven diabase sheet for which major element chemistry and platinum and palladium are here provided; the balance of the chemistry (selected trace element data) is documented in Smith (1973). Margaret Mangan of the U.S.G.S. provided sixty-nine (69) samples through various parts of the York Haven sheet for which complete chemistry is available for most and major element chemistry for the remainder. James M. McNeal of the U.S.G.S. provided forty-seven (47) whole rock samples from seven (7) sheets and three (3) dikes, and Froelich and Gottfried collected one hundred sixty-one (161) whole rock samples from nine (9) sheets and ten (10) dikes for which complete chemistry is documented here.

The palladium (Pd) and platinum (Pt) abundances and ratios of the chilled margins of many of the sheets and dikes are typical of those in the high Ti, quartz-normative (HTQ - York Haven-type) magmas throughout the province, while others are characteristic of the low Ti, quartz-normative (LTQ - Rossville-type) magmas. The Pd and Pt abundances and ratios of the olivine normative (ON - Quarryville-type) magma is similar to the HTQ magma, although Pd abundance generally exceeds Pt in the interior as well as the chilled margins of the dikes of that swarm. Contents of Pt are consistently greater than Pd in the orthopyroxene zone of the HTQ sheets, and Pd is greater than Pt in the late-stage ferrogabbro differentiates. A significant zone of Pd enrichment was discovered in the ferrogabbro in the Reesers Summit section of the York Haven sheet (see Tables 2k, 2l, 2m, 2n), which is discussed in the publication by Gottfried and others (1990). A single anomalous sample enriched in Pd was discovered in a poorly exposed part of the Orrtanna sheet (Sample FG-87-P6, Table 6B), the only other zone of enrichment in Pd discovered in the Gettysburg basin; however, many areas of thick ferrogabbro, ferrodiorite, and granophyre differentiates are present that were not sampled.

References

- Gottfried, David, Froelich, A.J., Rait, N., and Aruscavage, P.J., 1990, Fractionation of palladium and platinum in a Mesozoic diabase sheet, Gettysburg basin, Pennsylvania: Implications for mineral exploration, *in Journal of Geochemical Exploration*, v. 37, p. 75-89.
- Smith, R.C., II, 1973, Geochemistry of Triassic diabase from southeastern Pennsylvania, unpublished Ph.D. thesis, Pennsylvania State University, University Park, 262 p.

EXPLANATION FOR PLATE 1

Geochemical sample locality

- | | |
|--------|--|
| MM- ● | M.T. Mangan, USGS, 1988; 1989; 1990 |
| JM- ● | J.M. McNeal, USGS, 1985; 1986 |
| S-D- ● | Smith, 1973 |
| ● ● | Froelich and Gottfried, USGS, 1984; 1986; 1987; 1988; 1989 |
| ● | Corehole |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|--|---------------------------|------------------------------------|
| <u>Morgantown sheet</u> - Table 1 | | |
| P-287.5 | High Ti, quartz normative | Cumulate |
| <u>Cornwall sheet</u> - Table 1 | | |
| P-263.2 | High Ti, quartz normative | Cumulate |
| P-265.2A | " | Chill |
| P-265.2B | " | " |
| P-265.2C | " | Cumulate |
| P-265.2D | " | " |
| <u>York Haven sheet</u> (R.C. Smith, II) - Table 2a, 2b | | |
| | High Ti, quartz normative | Distance below upper contact, feet |
| D-175 | Lower chill | 2500 |
| D-176 | Cumulate | 2487 |
| D-177 | " | 2416 |
| D-178 | " | 2339 |
| D-179 | " | 2270 |
| D-180 | " | 2065 |
| D-181 | " | 1930 |
| D-182 | " | 1780 |
| D-183 | " | 1490 |
| D-184 | Upper chill | 0.1 |
| D-185 | " | 0.8 |
| D-186 | Cumulate | 14 |
| D-187 | " | 116 |
| D-188 | " | 160 |
| D-189 | " | 265 |
| D-190 | " | 320 |
| D-191 | " | 515 |
| D-192 | " | 745 |
| D-193 | " | 975 |
| D-194 | " | 1210 |
| USGS Samples - Table 2c | | |
| PYH 84-4 | Cumulate | 2124 |
| PYH 84-1 | Lower chill | 2500 |
| PYH 84-2 | Cumulate | 2433 |
| PYH 84-3 | " | 2300 |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|------------|---------------------------|---------------------------------------|
| | | <u>York Haven sheet</u> |
| | | (Mangan, 1990) - Table 2d, 2e, 2f, 2g |
| MM 88-1 | High Ti, quartz normative | Cumulate |
| 2 | " | " |
| 3 | " | " |
| 4 | " | " |
| 5 | " | " |
| 6 | " | " |
| 7 | " | " |
| 8 | " | " |
| 9 | " | Lower chilled margin |
| 10 | " | " |
| 11 | " | " |
| 12 | " | Cumulate |
| 13 | " | " |
| 14 | " | " |
| 17a | " | Upper chilled margin |
| 18 | " | Fine-grained |
| 19 | " | " |
| 20 | " | Cumulate |
| 21 | " | " |
| 22 | " | " |
| 23 | " | " |
| 24 | " | " |
| 25 | " | " |
| 26 | " | " |
| 27 | " | " |
| 28 | " | " |
| 29 | " | " |
| 30 | " | " |
| 31 | " | " |
| 32 | " | " |
| 33 | " | " |
| 34 | " | " |
| 35 | " | " |
| 36 | " | " |
| 37 | " | " |
| MM 88-38 | " | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|--|---------------------------|------------------------|
| <u>York Haven sheet</u> | | |
| Round Top area - Table 2h | | |
| FG-87 PRT-1 | High Ti, quartz normative | Cumulate |
| P-252.7 | " | " |
| <u>York Haven sheet</u> | | |
| Fisher Cemetery area - Table 2h | | |
| FG-87 PYH-1 | High Ti, quartz normative | Near chill |
| FG-87 PYH-2 | " | Cumulate |
| FG-87 PYH-3 | " | " |
| <u>York Haven sheet,</u> | | |
| Middletown area - Table 2i | | |
| MM 90-1 | High Ti, quartz normative | Cumulate |
| MM 90-2 | " | " |
| MM 90-3 | " | " |
| MM 90-4 | " | " |
| MM 90-5 | " | " |
| MM 90-6 | " | " |
| MM 90-7 | " | " |
| MM 90-8 | " | " |
| MM 90-9 | " | " |
| MM 90-10 | " | " |
| <u>York Haven sheet (Mangan samples)</u> | | |
| Goldsboro section - Table 2j | | |
| MM 89-16 | High Ti, quartz normative | Fine-grained diabase |
| 17 | " | Medium-grained diabase |
| 18 | " | " |
| 19 | " | " |
| 20 | " | " |
| 21 | " | " |
| 22 | " | " |
| 23 | " | " |
| MM 89-24 | " | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|---------------|---------------------------|---------------------------------------|
| | | <u>York Haven sheet</u> |
| | | Reesers Summit Section - Table 2k, 2l |
| | High Ti, quartz normative | Distance below upper contact in feet |
| PYRS-84-1 | " | Upper chill 0.1 |
| PYRS-84-2 | " | Diabase 69 |
| PYRS-84-3 | " | " 139 |
| PYRS-84-4 | " | " 208 |
| PYRS-84-5 | " | Ferrogabbro 277 |
| PYRS-84-6 | " | " 347 |
| PYRS-84-7 | " | " 417 |
| PYRS-84-8 | " | " 485 |
| PYRS-84-9 | " | " 557 |
| PYRS-84-10 | " | " 624 |
| PYRS-84-11 | " | " 693 |
| PYRS-84-12 | " | " 762 |
| PYRS-84-13 | " | " 832 |
| PYRS-84-14 | " | " 900 |
| PYRS-84-15 | " | Lower diabase 1645 |
| FG-87 PYRSN-1 | " | Granophyre |

| | | |
|-----------|---------------------------|--------------------------------------|
| | | <u>York Haven Sheet</u> |
| | | Reesers Summit infill - Table 2m, 2n |
| | | Distance below upper contact in feet |
| 86 RS-292 | High Ti, quartz normative | Ferrogabbro |
| 86 RS-310 | " | " |
| 86 RS-327 | " | " |
| 86 RS-344 | " | " |
| 86 RS-361 | " | " |
| 86 RS-378 | " | " |
| 86 RS-396 | " | " |
| 86 RS-413 | " | " |
| 86 RS-430 | " | " |
| 86 RS-447 | " | " |
| 86 RS-464 | " | " |
| 86 RS-482 | " | " |
| 86 RS-499 | " | " |
| 86 RS-516 | " | " |
| 86 RS-533 | " | " |
| 86 RS-550 | " | " |
| 86 RS-568 | " | " |
| 86 RS-585 | " | " |
| 86 RS-602 | " | " |
| 86 RS-619 | " | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|------------|---------------------------------|---|
| | | <u>York Haven sheet</u> |
| | | Reesers Summit West - Table 20 |
| JM-86-37 | High Ti, quartz normative | Diabase (J.M. McNeal) |
| JM 86-38 | " | " |
| JM 86-39 | " | " |
| JM 86-40 | " | Coarse-grained |
| JM 86-41 | " | " |
| | | <u>York Haven sheet, USGS Core Hole No. 1</u> |
| | | SW Reesers Summit - Table 2p, 2q, 2r |
| CH1-PRS | 21.5' High Ti, quartz normative | Diabase |
| | 36.5' | " |
| | 42' | " |
| | 52.5' | " |
| | 53.5' | " |
| | 61.5' | " |
| | 76' | " |
| | 86.5' | " |
| | 97.6' | " |
| | 106.5' | " |
| | 122.5' | " |
| | 131.5' | " |
| | 145' | " |
| | 149' | " |
| | 172.5' | " |
| | 198.6' | " |
| | 213.5' | " |
| | 239.5' | " |
| | 276' | " |
| | 298' | " |
| | 313.8' | " |
| CH1-PRS | 323' | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE | |
|--------------|---------------------------|--|--|
| | | <u>York Haven sheet</u> , USGS Core Hole No. 2 NE Reesers Summit - Table 2s, 2t, 2u | |
| CH2-PRS 20' | High Ti, quartz normative | Diabase | |
| 45' | " | " | |
| 83' | " | " | |
| 128' | " | " | |
| 137.8' | " | " | |
| 165' | " | " | |
| 168' | " | " | |
| 195' | " | " | |
| 229' | " | " | |
| 235.8' | " | " | |
| 243' | " | " | |
| 272.5' | " | " | |
| 319' | " | " | |
| 352' | " | " | |
| 361.2' | " | " | |
| 405' | " | " | |
| 436' | " | " | |
| 469.5' | " | " | |
| 505' | " | " | |
| 531' | " | " | |
| 540' | " | Sparse OPX cumulate | |
| 564.5' | " | " | |
| 577.5' | " | " | |
| 599.5' | " | " | |
| 618' | " | " | |
| 625.5' | " | Lower chill | |
| 629' | " | " | |
| CH2-PRS 630' | " | " | |
| | | <u>York Haven sheet</u> , | |
| | | Reesers Summit area - Table 2v | |
| FG-87 P-1 | High Ti, quartz normative | Upper chill | |
| FG-87 P-2 | " | Lower chill | |
| FG-87 P-3 | " | Diabase | |
| FG-87 P-4 | " | Ferrogabbro | |
| FG-87 P-5 | " | " | |
| | | <u>York Haven sheet</u> (Mangan samples) | |
| | | Reesers Summit area - Table 2w | |
| MM 89-37 | High Ti, quartz normative | Diorite | |
| MM 89-38 | " | " | |
| MM 89-39 | " | " | |
| MM 89-40 | " | Ferrodiorite | |
| MM 89-41 | " | " | |
| RS-PEG | " | Pegmatite | |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|--|---------------------------|-------------------------|
| <u>York Haven sheet (Mangan samples)</u> | | |
| Granite Quarry section - Table 2x | | |
| MM 89-25 | High Ti, quartz normative | Ferrodiorite |
| 26 | " | " |
| 27 | " | Diabase |
| 28 | " | " |
| 29 | " | " |
| 30 | " | " |
| 31 | " | " |
| MM 89-32 | " | " |
| <u>Rossville sheet - Table 3</u> | | |
| PR-84-1 | Low Ti, quartz normative | Diabase, chilled margin |
| 2 | " | Diabase, near chill |
| 3 | " | " |
| 4 | " | " |
| 5 | " | " |
| 6 | " | " |
| PR-84-7 | " | " |
| <u>Knoxlyn sheet (McNeal samples)- Table 3</u> | | |
| JM 85-16 | Low Ti, quartz normative | Diabase, chilled margin |
| JM 85-20 | " | " |
| <u>Northern Gettysburg sheet</u> | | |
| Wellsville area - Table 4a | | |
| FG-87 PG-1 | High Ti, quartz normative | Fine-grained w/OPX |
| FG-87 PW-1 | " | Chill |
| FG-87 PW-2 | " | Diorite |
| <u>Wellsville area (McNeal samples)</u> | | |
| Table 4a | | |
| JM 86-7 | Low Ti, quartz normative | Diabase, chilled margin |
| <u>Table 4b</u> | | |
| JM 86-1 | High Ti, quartz normative | Ferrogabbro |
| 2 | " | " |
| 3 | " | Granophyre |
| 4 | " | Ferrogabbro |
| 5 | " | Granophyre |
| 6 | " | Ferrogabbro |
| 9 | " | Granophyre |
| 10 | " | " |
| 11 | " | Diabase |
| JM 86-12 | " | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|---|---------------------------|-----------------------------|
| <u>Central Gettysburg sheet,</u> | | |
| Gettysburg area - Table 4c | | |
| FG-87 97G-1P | High Ti, quartz normative | Near chill |
| FG-87 97G-2P | " | " |
| FG-87 97G-4P | " | Cumulate |
| FG-87 97G-5P | " | " |
| <u>Southern Gettysburg sheet - Table 4c</u> | | |
| 86-PEM-1 | High Ti, quartz normative | Fine-grained chilled margin |
| PEM-2 | " | Cumulate |
| PEM-3 | " | " |
| 86-PEM-4 | " | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|---|-------------------------------|-----------------------|
| <u>Southern Gettysburg sheet</u> (McNeal samples) Rte. 15 roadcut - Table 4d | | |
| JM 85-5 | High Ti, quartz normative | Ferrogabbro |
| JM 85-6 | " | Diabase |
| JM 85-7 | " | " |
| JM 85-9 | " (same locality as JM 85-18) | " |
| JM 85-10 | " | " |
| JM 85-18 | " (same locality as JM 85-9) | " |
| <u>Zora Ring sheet</u> (McNeal samples) - Table 5a, 5b | | |
| JM 86-20 | High Ti, quartz normative | Ferrogabbro |
| 21 | " | Granophyre |
| 22 | " | Ferrogabbro |
| 23 | " | " |
| 24 | " | " |
| 25 | " | " |
| 26 | " | " |
| 28 | " | " |
| 29 | " | Granophyre |
| 30 | " | " |
| 31 | " | " |
| 32 | " | " |
| 33 | " | " |
| JM 86-34 | " | " |
| <u>Zora Ring sheet</u> - Table 5c | | |
| JM 86-42 | " | Diabase |
| 43 | " | " |
| FG 89-PF1 | " | Granophyre |
| FG 89-PF2 | " | Ferrodiorite |
| FG 89-PF3 | " | Ferrogabbro |
| FG 89-PF4A | " | Granophyre |
| FG 89-PF4B | " | " |
| FG 89-PF5 | " | Gabbro |
| FG 89-PF6 | " | Diabase |
| <u>Orrtanna sheet and Arendtsville sheet</u> (McNeal samples) - Table 6a | | |
| JM 85-14 | High Ti, quartz normative | Diabase, fine-grained |
| JM 85-15 | " (same as JM 85-19) | Ferrogabbro |
| JM 85-19 | " (same as JM 85-15) | " |
| JM 85-17 | " | Diabase |
| <u>Orrtanna sheet</u> - Table 6b | | |
| FG 87-P6 | " | Ferrodiorite |
| FG 89-PF7 | " | Diabase |
| FG 89-PF8 | " | Ferrogabbro |
| FG 89-PF9 | " | " |
| FG 89-PF10 | " | " |
| FG 89-PF11 | " | Diabase |
| FG 89-PF11A | " | Pegmatoid |
| FG 89-PF12 | " | Ferrodiorite |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|-------------|---------------------------|--|
| PQ84-1 | Olivine normative | <u>Quarryville dike</u> Table 7a |
| 2 | " | Diabase, chilled margin |
| 3 | " | Diabase |
| 4 | " | " |
| 5 | " | Diabase, near chilled margin |
| 6 | " | Diabase |
| PQ84-7 | " | " |
| FG-89-MD-5 | High Ti, quartz normative | Diabase dike NW - Table 7b |
| MD-6 | " | " " NNE |
| MD-8 | " | " " NE |
| FG-89-MD-9 | " | " " N |
| F-87-1 | High Ti, quartz normative | Diabase dike WNW - Table 7b |
| FG-88-4 | High Ti, quartz normative | Diabase dike N - chill - Table 7b |
| FG-88-4A | " | " " N - interior |
| MD-315 | Olivine normative | Diabase dike NW - Table 7c |
| MD-316 | " | " " |
| FG-89-MD-1 | Low Ti, quartz normative | Diabase dike NW - Table 7c |
| 2 | " | " " |
| 3 | " | " " |
| FG-89-MD-3A | " | " " |
| JM 85-3 | Low Ti, quartz normative | Diabase dike, fine-grained, - Table 7c |
| JM 85-8 | " | " " " " |
| JM 85-4 | High Ti, quartz normative | Diabase dike - Table 7c |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|--|---------------------------|------------------------------------|
| <u>Morgantown sheet</u> - Table 1 | | |
| P-287.5 | High Ti, quartz normative | Cumulate |
| <u>Cornwall sheet</u> - Table 1 | | |
| P-263.2 | High Ti, quartz normative | Cumulate |
| P-265.2A | " | Chill |
| P-265.2B | " | " |
| P-265.2C | " | Cumulate |
| P-265.2D | " | " |
| <u>York Haven sheet</u> (R.C. Smith, II) - Table 2a, 2b | | |
| | High Ti, quartz normative | Distance below upper contact, feet |
| D-175 | Lower chill | 2500 |
| D-176 | Cumulate | 2487 |
| D-177 | " | 2416 |
| D-178 | " | 2339 |
| D-179 | " | 2270 |
| D-180 | " | 2065 |
| D-181 | " | 1930 |
| D-182 | " | 1780 |
| D-183 | " | 1490 |
| D-184 | Upper chill | 0.1 |
| D-185 | " | 0.8 |
| D-186 | Cumulate | 14 |
| D-187 | " | 116 |
| D-188 | " | 160 |
| D-189 | " | 265 |
| D-190 | " | 320 |
| D-191 | " | 515 |
| D-192 | " | 745 |
| D-193 | " | 975 |
| D-194 | " | 1210 |
| <u>USGS Samples</u> - Table 2c | | |
| PYH 84-4 | Cumulate | 2124 |
| PYH 84-1 | Lower chill | 2500 |
| PYH 84-2 | Cumulate | 2433 |
| PYH 84-3 | " | 2300 |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|------------|---------------------------|--|
| | | <u>York Haven sheet</u> (Mangan, 1990) - Table 2d, 2e, 2f, 2g |
| MM 88-1 | High Ti, quartz normative | Cumulate |
| 2 | " | " |
| 3 | " | " |
| 4 | " | " |
| 5 | " | " |
| 6 | " | " |
| 7 | " | " |
| 8 | " | " |
| 9 | " | Lower chilled margin |
| 10 | " | " |
| 11 | " | " |
| 12 | " | Cumulate |
| 13 | " | " |
| 14 | " | " |
| 17a | " | Upper chilled margin |
| 18 | " | Fine-grained |
| 19 | " | " |
| 20 | " | Cumulate |
| 21 | " | " |
| 22 | " | " |
| 23 | " | " |
| 24 | " | " |
| 25 | " | " |
| 26 | " | " |
| 27 | " | " |
| 28 | " | " |
| 29 | " | " |
| 30 | " | " |
| 31 | " | " |
| 32 | " | " |
| 33 | " | " |
| 34 | " | " |
| 35 | " | " |
| 36 | " | " |
| 37 | " | " |
| MM 88-38 | " | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|-------------|---------------------------|--|
| | | <u>York Haven sheet</u> |
| | | Round Top area - Table 2h |
| FG-87 PRT-1 | High Ti, quartz normative | Cumulate |
| P-252.7 | " | " |
| | | <u>York Haven sheet</u> |
| | | Fisher Cemetery area - Table 2h |
| FG-87 PYH-1 | High Ti, quartz normative | Near chill |
| FG-87 PYH-2 | " | Cumulate |
| FG-87 PYH-3 | " | " |
| | | <u>York Haven sheet,</u> |
| | | Middletown area - Table 2i |
| MM 90-1 | High Ti, quartz normative | Cumulate |
| MM 90-2 | " | " |
| MM 90-3 | " | " |
| MM 90-4 | " | " |
| MM 90-5 | " | " |
| MM 90-6 | " | " |
| MM 90-7 | " | " |
| MM 90-8 | " | " |
| MM 90-9 | " | " |
| MM 90-10 | " | " |
| | | <u>York Haven sheet (Mangan samples)</u> |
| | | Goldsboro section - Table 2j |
| MM 89-16 | High Ti, quartz normative | Fine-grained diabase |
| 17 | " | Medium-grained diabase |
| 18 | " | " |
| 19 | " | " |
| 20 | " | " |
| 21 | " | " |
| 22 | " | " |
| 23 | " | " |
| MM 89-24 | " | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|---------------|---------------------------|---------------------------------------|
| | | <u>York Haven sheet</u> |
| | | Reesers Summit Section - Table 2k, 2l |
| | High Ti, quartz normative | Distance below upper contact in feet |
| PYRS-84-1 | " | Upper chill 0.1 |
| PYRS-84-2 | " | Diabase 69 |
| PYRS-84-3 | " | " 139 |
| PYRS-84-4 | " | " 208 |
| PYRS-84-5 | " | Ferrogabbro 277 |
| PYRS-84-6 | " | " 347 |
| PYRS-84-7 | " | " 417 |
| PYRS-84-8 | " | " 485 |
| PYRS-84-9 | " | " 557 |
| PYRS-84-10 | " | " 624 |
| PYRS-84-11 | " | " 693 |
| PYRS-84-12 | " | " 762 |
| PYRS-84-13 | " | " 832 |
| PYRS-84-14 | " | " 900 |
| PYRS-84-15 | " | Lower diabase 1645 |
| FG-87 PYRSN-1 | " | Granophyre |
| | | <u>York Haven Sheet</u> |
| | | Reesers Summit infill - Table 2m, 2n |
| | | Distance below upper contact in feet |
| 86 RS-292 | High Ti, quartz normative | Ferrogabbro |
| 86 RS-310 | " | " |
| 86 RS-327 | " | " |
| 86 RS-344 | " | " |
| 86 RS-361 | " | " |
| 86 RS-378 | " | " |
| 86 RS-396 | " | " |
| 86 RS-413 | " | " |
| 86 RS-430 | " | " |
| 86 RS-447 | " | " |
| 86 RS-464 | " | " |
| 86 RS-482 | " | " |
| 86 RS-499 | " | " |
| 86 RS-516 | " | " |
| 86 RS-533 | " | " |
| 86 RS-550 | " | " |
| 86 RS-568 | " | " |
| 86 RS-585 | " | " |
| 86 RS-602 | " | " |
| 86 RS-619 | " | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|------------|---------------------------------|---|
| | | <u>York Haven sheet</u> |
| | | Reesers Summit West - Table 20 |
| JM-86-37 | High Ti, quartz normative | Diabase (J.M. McNeal) |
| JM 86-38 | " | " |
| JM 86-39 | " | " |
| JM 86-40 | " | Coarse-grained |
| JM 86-41 | " | " |
| | | <u>York Haven sheet, USGS Core Hole No. 1</u> |
| | | SW Reesers Summit - Table 2p, 2q, 2r |
| CH1-PRS | 21.5' High Ti, quartz normative | Diabase |
| | 36.5' | " |
| | 42' | " |
| | 52.5' | " |
| | 53.5' | " |
| | 61.5' | " |
| | 76' | " |
| | 86.5' | " |
| | 97.6' | " |
| | 106.5' | " |
| | 122.5' | " |
| | 131.5' | " |
| | 145' | " |
| | 149' | " |
| | 172.5' | " |
| | 198.6' | " |
| | 213.5' | " |
| | 239.5' | " |
| | 276' | " |
| | 298' | " |
| | 313.8' | " |
| CH1-PRS | 323' | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE | |
|--------------|---------------------------|--|--|
| | | <u>York Haven sheet</u> , USGS Core Hole No. 2 NE Reesers Summit - Table 2s, 2t, 2u | |
| CH2-PRS 20' | High Ti, quartz normative | Diabase | |
| 45' | " | " | |
| 83' | " | " | |
| 128' | " | " | |
| 137.8' | " | " | |
| 165' | " | " | |
| 168' | " | " | |
| 195' | " | " | |
| 229' | " | " | |
| 235.8' | " | " | |
| 243' | " | " | |
| 272.5' | " | " | |
| 319' | " | " | |
| 352' | " | " | |
| 361.2' | " | " | |
| 405' | " | " | |
| 436' | " | " | |
| 469.5' | " | " | |
| 505' | " | " | |
| 531' | " | " | |
| 540' | " | Sparse OPX cumulate | |
| 564.5' | " | " | |
| 577.5' | " | " | |
| 599.5' | " | " | |
| 618' | " | " | |
| 625.5' | " | Lower chill | |
| 629' | " | " | |
| CH2-PRS 630' | " | " | |
| | | <u>York Haven sheet</u> , | |
| | | Reesers Summit area - Table 2v | |
| FG-87 P-1 | High Ti, quartz normative | Upper chill | |
| FG-87 P-2 | " | Lower chill | |
| FG-87 P-3 | " | Diabase | |
| FG-87 P-4 | " | Ferrogabbro | |
| FG-87 P-5 | " | " | |
| | | <u>York Haven sheet</u> (Mangan samples) | |
| | | Reesers Summit area - Table 2w | |
| MM 89-37 | High Ti, quartz normative | Diorite | |
| MM 89-38 | " | " | |
| MM 89-39 | " | " | |
| MM 89-40 | " | Ferrodiorite | |
| MM 89-41 | " | " | |
| RS-PEG | " | Pegmatite | |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|---|---------------------------|-------------------------|
| <u>York Haven sheet</u> (Mangan samples) Granite Quarry section - Table 2x | | |
| MM 89-25 | High Ti, quartz normative | Ferrodiorite |
| 26 | " | " |
| 27 | " | Diabase |
| 28 | " | " |
| 29 | " | " |
| 30 | " | " |
| 31 | " | " |
| MM 89-32 | " | " |
| <u>Rossville sheet</u> - Table 3 | | |
| PR-84-1 | Low Ti, quartz normative | Diabase, chilled margin |
| 2 | " | Diabase, near chill |
| 3 | " | " |
| 4 | " | " |
| 5 | " | " |
| 6 | " | " |
| PR-84-7 | " | " |
| <u>Knoxlyn sheet</u> (McNeal samples)- Table 3 | | |
| JM 85-16 | Low Ti, quartz normative | Diabase, chilled margin |
| JM 85-20 | " | " |
| <u>Northern Gettysburg sheet</u> <u>Wellsville area</u> - Table 4a | | |
| FG-87 PG-1 | High Ti, quartz normative | Fine-grained w/OPX |
| FG-87 PW-1 | " | Chill |
| FG-87 PW-2 | " | Diorite |
| <u>Wellsville area</u> (McNeal samples) Table 4a | | |
| JM 86-7 | Low Ti, quartz normative | Diabase, chilled margin |
| Table 4b | | |
| JM 86-1 | High Ti, quartz normative | Ferrogabbro |
| 2 | " | " |
| 3 | " | Granophyre |
| 4 | " | Ferrogabbro |
| 5 | " | Granophyre |
| 6 | " | Ferrogabbro |
| 9 | " | Granophyre |
| 10 | " | " |
| 11 | " | Diabase |
| JM 86-12 | " | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|------------|------------|-----------------------|
|------------|------------|-----------------------|

Central Gettysburg sheet, Gettysburg area - Table 4c

| | | |
|--------------|---------------------------|------------|
| FG-87 97G-1P | High Ti, quartz normative | Near chill |
| FG-87 97G-2P | " | " |
| FG-87 97G-4P | " | Cumulate |
| FG-87 97G-5P | " | " |

Southern Gettysburg sheet - Table 4c

| | | |
|----------|---------------------------|-----------------------------|
| 86-PEM-1 | High Ti, quartz normative | Fine-grained chilled margin |
| PEM-2 | " | Cumulate |
| PEM-3 | " | " |
| 86-PEM-4 | " | " |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|---|-------------------------------|-----------------------|
| <u>Southern Gettysburg sheet</u> (McNeal samples) Rte. 15 roadcut - Table 4d | | |
| JM 85-5 | High Ti, quartz normative | Ferrogabbro |
| JM 85-6 | " | Diabase |
| JM 85-7 | " | " |
| JM 85-9 | " (same locality as JM 85-18) | " |
| JM 85-10 | " | " |
| JM 85-18 | " (same locality as JM 85-9) | " |
| <u>Zora Ring sheet</u> (McNeal samples) - Table 5a, 5b | | |
| JM 86-20 | High Ti, quartz normative | Ferrogabbro |
| 21 | " | Granophyre |
| 22 | " | Ferrogabbro |
| 23 | " | " |
| 24 | " | " |
| 25 | " | " |
| 26 | " | " |
| 28 | " | " |
| 29 | " | Granophyre |
| 30 | " | " |
| 31 | " | " |
| 32 | " | " |
| 33 | " | " |
| JM 86-34 | " | " |
| <u>Zora Ring sheet</u> - Table 5c | | |
| JM 86-42 | " | Diabase |
| 43 | " | " |
| FG 89-PF1 | " | Granophyre |
| FG 89-PF2 | " | Ferrodiorite |
| FG 89-PF3 | " | Ferrogabbro |
| FG 89-PF4A | " | Granophyre |
| FG 89-PF4B | " | " |
| FG 89-PF5 | " | Gabbro |
| FG 89-PF6 | " | Diabase |
| <u>Orrtanna sheet and Arendtsville sheet</u> (McNeal samples) - Table 6a | | |
| JM 85-14 | High Ti, quartz normative | Diabase, fine-grained |
| JM 85-15 | " (same as JM 85-19) | Ferrogabbro |
| JM 85-19 | " (same as JM 85-15) | " |
| JM 85-17 | " | Diabase |
| <u>Orrtanna sheet</u> - Table 6b | | |
| FG 87-P6 | " | Ferrodiorite |
| FG 89-PF7 | " | Diabase |
| FG 89-PF8 | " | Ferrogabbro |
| FG 89-PF9 | " | " |
| FG 89-PF10 | " | " |
| FG 89-PF11 | " | Diabase |
| FG 89-PF11A | " | Pegmatoid |
| FG 89-PF12 | " | Ferrodiorite |

GETTYSBURG BASIN AND VICINITY, PENNSYLVANIA AND MARYLAND

| SAMPLE NO. | MAGMA TYPE | DESCRIPTION OF SAMPLE |
|-------------|---------------------------|--|
| PQ84-1 | Olivine normative | Quarryville dike Table 7a |
| 2 | " | Diabase, chilled margin |
| 3 | " | Diabase |
| 4 | " | " |
| 5 | " | Diabase, near chilled margin |
| 6 | " | Diabase |
| PQ84-7 | " | " |
| FG-89-MD-5 | High Ti, quartz normative | Diabase dike NW - Table 7b |
| MD-6 | " | " " NNE |
| MD-8 | " | " " NE |
| FG-89-MD-9 | " | " " N |
| F-87-1 | High Ti, quartz normative | Diabase dike WNW - Table 7b |
| FG-88-4 | High Ti, quartz normative | Diabase dike N - chill - Table 7b |
| FG-88-4A | " | " " N - interior |
| MD-315 | Olivine normative | Diabase dike NW - Table 7c |
| MD-316 | " | " " |
| FG-89-MD-1 | Low Ti, quartz normative | Diabase dike NW - Table 7c |
| 2 | " | " " |
| 3 | " | " " |
| FG-89-MD-3A | " | " " |
| JM 85-3 | Low Ti, quartz normative | Diabase dike, fine-grained, - Table 7c |
| JM 85-8 | " | " " " " |
| JM 85-4 | High Ti, quartz normative | Diabase dike - Table 7c |

Table 1. Gettysburg basin and vicinity, Pennsylvania and New Jersey. Morgantown and Cornwall sheets.

| | W-243865 P-287.5 | W-243860 P-263.2 | W-243861 P-265.2A | W-243862 P-265.2B | W-243863 P-265.2C | W-243864 P-265.2D |
|--------------------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| Lat. | 40°12'N | 40°13'N | 40°13'N | 40°13'N | 40°13'N | 40°13'N |
| Long. | 76° 3'W | 76°30'W | 76°27'W | 76°27'W | 76°27'W | 76°27'W |
| SiO ₂ (%) | 52.00 | 52.00 | 52.00 | 52.10 | 52.30 | 52.30 |
| TiO ₂ | 0.73 | 0.75 | 1.13 | 1.11 | 0.85 | 0.87 |
| Al ₂ O ₃ | 12.90 | 14.10 | 13.80 | 13.90 | 12.80 | 13.50 |
| Fe ₂ O ₃ | 1.62 | 1.37 | 2.42 | 2.02 | 1.74 | 1.89 |
| FeO | 7.50 | 7.40 | 8.40 | 8.50 | 8.20 | 7.80 |
| MnO | 0.17 | 0.15 | 0.18 | 0.17 | 0.18 | 0.17 |
| MgO | 10.50 | 9.70 | 7.96 | 8.27 | 10.70 | 9.44 |
| CaO | 12.40 | 12.20 | 11.10 | 11.20 | 10.80 | 11.50 |
| Na ₂ O | 1.60 | 1.73 | 1.97 | 1.95 | 1.71 | 1.79 |
| K ₂ O | 0.33 | 0.38 | 0.56 | 0.56 | 0.43 | 0.45 |
| P ₂ O ₅ | 0.08 | 0.09 | 0.14 | 0.14 | 0.10 | 0.10 |
| H ₂ O ⁺ | 0.21 | 0.19 | 0.49 | 0.24 | 0.18 | 0.12 |
| H ₂ O ⁻ | 0.08 | 0.02 | 0.04 | 0.09 | 0.13 | 0.09 |
| CO ₂ | <0.01 | 0.01 | 0.02 | 0.01 | <0.01 | 0.03 |
| S | 0.05 | 0.04 | 0.05 | 0.06 | 0.05 | 0.04 |
| F | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 |
| Cl | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Σ | 100.19 | 100.15 | 100.30 | 100.35 | 100.20 | 100.12 |
| B (ppm) | 8.3 | 6.3 | 9.5 | 4.6 | 6.3 | 9.5 |
| Sc | 41 | 38 | 37 | 37 | 37 | 38 |
| Cr | 570 | 530 | 360 | 390 | 720 | 590 |
| Co | 49 | 46 | 48 | 48 | 52 | 48 |
| Ni | 130 | 123 | 96 | 96 | 132 | 115 |
| Cu | 59 | 63 | 98 | 94 | 69 | 75 |
| Zn | 60 | 65 | 78 | 77 | 60 | 66 |
| Ga | 17.0 | 18.0 | 20.0 | 20.0 | 18.0 | 18.0 |
| As | <1.20 | <1.00 | 1.20 | 1.30 | <1.10 | <1.20 |
| Rb | 14.0 | 11.0 | 20.0 | 11.0 | 17.0 | 20.0 |
| Sr | 158 | 171 | 177 | 166 | 163 | 172 |
| Ag | 0.0220 | 0.033 | 0.046 | 0.040 | 0.035 | 0.033 |
| Sb | 0.150 | <0.100 | 0.230 | 0.200 | 0.30 | 0.150 |
| Cs | 0.48 | 0.41 | 0.74 | 0.95 | 0.64 | 0.63 |
| Ba | 96 | 97 | 154 | 160 | 117 | 121 |
| Y | 14.0 | 13.0 | 21.0 | 20.0 | 16.0 | 16.0 |
| La | 6.1 | 6.6 | 10.9 | 10.2 | 7.9 | 8.3 |
| Ce | 14.0 | 15.0 | 23.0 | 22.0 | 17.0 | 18.0 |
| Nd | 7.2 | 8.3 | 13.0 | 12.0 | 9.8 | 9.0 |
| Sm | 2.10 | 2.15 | 3.5 | 3.4 | 2.55 | 2.66 |
| Eu | 0.70 | 0.78 | 1.05 | 1.00 | 0.84 | 0.85 |
| Tb | 0.44 | 0.40 | 0.63 | 0.56 | 0.50 | 0.51 |
| Yb | 1.60 | 1.50 | 2.40 | 2.00 | 1.70 | 1.80 |
| Lu | 0.220 | 0.210 | 0.32 | 0.32 | 0.260 | 0.270 |
| Zr | 62 | 64 | 101 | 96 | 78 | 80 |
| Hf | 1.50 | 1.50 | 2.40 | 2.40 | 1.80 | 1.94 |
| Nb | 3.8 | 3.9 | 6.4 | 6.2 | 4.6 | 5.3 |
| Ta | 0.31 | 0.31 | 0.48 | 0.49 | 0.37 | 0.40 |
| Th | 1.30 | 1.20 | 2.20 | 2.10 | 1.60 | 1.70 |
| U | <0.40 | <0.60 | 0.45 | 0.36 | 0.60 | 0.30 |
| Pd (ppb) | 3.5 | 3.9 | 11.0 | 7.9 | 7.1 | 5.8 |
| Pt | 11.0 | 17.0 | 11.0 | 7.3 | 16.0 | 14.0 |
| Rh | — | — | 0.7 | — | 0.9 | — |
| Ru | — | — | <0.5 | — | <0.5 | — |
| Ir | — | — | 0.5 | — | 1.2 | — |
| Au | <3.1 | <2.10 | 9.3 | 12.0 | 8.5 | <5.0 |

Table 2a. York Haven sheet.

| | W-241500 | W-241501 | W-241502 | W-241503 | W-241504 | W-241505 | W-241506 | W-241507 | W-241508 | W-241509 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | D-175 | D-176 | D-177 | D-178 | D-179 | D-180 | D-181 | D-182 | D-183 | D-184 |
| Lat. | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N |
| Long. | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W |
| SiO ₂ (%) | 52.40 | 49.50 | 51.50 | 52.00 | 52.00 | 51.50 | 51.50 | 52.30 | 51.80 | 52.00 |
| TiO ₂ | 1.09 | 1.08 | 0.87 | 0.83 | 0.77 | 0.72 | 0.70 | 0.68 | 0.66 | 1.10 |
| Al ₂ O ₃ | 15.00 | 13.85 | 13.05 | 12.30 | 11.95 | 13.60 | 13.00 | 13.60 | 13.65 | 15.55 |
| Fe ₂ O ₃ | 0.57 | 0.66 | 1.08 | 1.09 | 1.17 | 0.96 | 1.00 | 0.99 | 0.90 | 0.85 |
| FeO | 9.70 | 9.07 | 9.29 | 8.91 | 8.44 | 8.04 | 8.05 | 7.88 | 7.69 | 9.31 |
| MnO | 0.18 | 0.17 | 0.18 | 0.18 | 0.17 | 0.17 | 0.17 | 0.16 | 0.16 | 0.17 |
| MgO | 7.12 | 7.35 | 10.80 | 11.45 | 11.10 | 10.60 | 10.80 | 10.35 | 10.10 | 7.30 |
| CaO | 10.55 | 11.50 | 10.50 | 10.90 | 11.15 | 11.50 | 11.50 | 11.55 | 11.85 | 10.60 |
| Na ₂ O | 2.52 | 1.79 | 2.03 | 1.67 | 1.50 | 1.51 | 1.46 | 1.38 | 1.39 | 2.07 |
| K ₂ O | 0.53 | 0.52 | 0.48 | 0.41 | 0.38 | 0.33 | 0.36 | 0.28 | 0.27 | 0.40 |
| P ₂ O ₅ | 0.12 | 0.13 | 0.12 | 0.12 | 0.11 | 0.10 | 0.10 | 0.09 | 0.09 | 0.13 |
| S | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | <0.00 | 0.02 |
| Cl | 0.02 | 0.02 | 0.05 | 0.03 | 0.03 | 0.02 | 0.02 | 0.01 | 0.03 | 0.02 |
| Σ | 99.82 | 95.65 | 99.96 | 99.90 | 98.77 | 99.06 | 98.67 | 99.28 | 98.59 | 99.52 |
| Pd (ppb) | 9.8 | 9.1 | 7.5 | 7.2 | 6.7 | 6.6 | 5.8 | 7.1 | 5.9 | 9.5 |
| Pt | 7.0 | 5.2 | 21.0 | 11.0 | 12.0 | 15.0 | 13.0 | 17.0 | 16.0 | 12.0 |

Table 2b. York Haven sheet.

| | W-241510 | W-241511 | W-241512 | W-241513 | W-241514 | W-241515 | W-241516 | W-241517 | W-241518 | W-241519 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | D-185 | D-186 | D-187 | D-188 | D-189 | D-190 | D-191 | D-192 | D-193 | D-194 |
| Lat. | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N | 40° 7'N |
| Long. | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W | 76°41'W |
| SiO ₂ (%) | 51.50 | 51.30 | 50.50 | 50.30 | 51.90 | 52.60 | 51.90 | 51.90 | 51.90 | 52.00 |
| TiO ₂ | 1.07 | 1.11 | 0.82 | 0.90 | 0.89 | 0.85 | 0.78 | 0.73 | 0.71 | 0.70 |
| Al ₂ O ₃ | 14.50 | 14.70 | 15.50 | 14.15 | 13.60 | 14.00 | 14.00 | 14.45 | 14.05 | 13.05 |
| Fe ₂ O ₃ | 2.04 | 1.81 | 1.29 | 1.29 | 1.06 | 0.96 | 0.88 | 1.00 | 1.08 | 0.94 |
| FeO | 8.42 | 8.22 | 7.79 | 8.51 | 8.67 | 8.22 | 8.21 | 7.96 | 7.44 | 7.80 |
| MnO | 0.17 | 0.17 | 0.16 | 0.17 | 0.17 | 0.17 | 0.17 | 0.16 | 0.16 | 0.17 |
| MgO | 7.30 | 7.10 | 8.70 | 9.50 | 9.10 | 9.30 | 9.45 | 9.70 | 9.90 | 11.10 |
| CaO | 10.60 | 10.50 | 11.25 | 11.50 | 11.10 | 11.65 | 11.55 | 11.85 | 11.65 | 12.50 |
| Na ₂ O | 1.98 | 1.89 | 1.76 | 1.69 | 1.62 | 1.57 | 1.56 | 1.42 | 1.42 | 1.46 |
| K ₂ O | 0.55 | 0.45 | 0.39 | 0.47 | 0.42 | 0.39 | 0.35 | 0.30 | 0.28 | 0.32 |
| P ₂ O ₅ | 0.13 | 0.12 | 0.11 | 0.11 | 0.12 | 0.11 | 0.10 | 0.10 | 0.09 | 0.08 |
| S | 0.02 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| Cl | 0.03 | 0.04 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 |
| Σ | 98.31 | 97.42 | 98.29 | 98.62 | 98.69 | 99.86 | 98.98 | 99.60 | 98.70 | 100.14 |
| Pd (ppb) | 2.50 | 6.5 | 4.8 | 6.0 | 6.5 | 3.8 | 4.1 | 7.3 | 1.40 | 1.50 |
| Pt | 12.0 | 10.0 | 9.0 | 15.0 | 15.0 | 16.0 | 18.0 | 12.0 | 20.0 | 19.0 |

Table 2c. York Haven sheet.

| | W-228203 | W-232401 | W-232402 | W-232403 |
|--------------------------------|----------|-----------|-----------|-----------|
| | P-YH84-4 | P-YH-84-1 | P-YH-84-2 | P-YH-84-3 |
| Lat. | 40° 5'N | 40° 7'N | 40° 7'N | 40° 7'N |
| Long. | 76°11'W | 76°42'W | 76°42'W | 76°42'W |
| SiO ₂ (%) | 52.70 | 51.20 | 52.00 | 52.50 |
| TiO ₂ | 0.84 | 1.20 | 0.99 | 0.92 |
| Al ₂ O ₃ | 12.60 | 14.50 | 12.70 | 11.90 |
| Fe ₂ O ₃ | 1.50 | 0.90 | 1.60 | 1.60 |
| FeO | 8.30 | 9.80 | 8.60 | 8.90 |
| MnO | 0.17 | 0.18 | 0.18 | 0.19 |
| MgO | 10.80 | 7.20 | 10.10 | 11.40 |
| CaO | 11.20 | 10.30 | 9.90 | 10.00 |
| Na ₂ O | 1.60 | 2.56 | 1.89 | 1.75 |
| K ₂ O | 0.37 | 0.59 | 0.58 | 0.40 |
| P ₂ O ₅ | 0.12 | 0.14 | 0.12 | 0.10 |
| H ₂ O ⁺ | 0.26 | 0.21 | 0.45 | 0.44 |
| H ₂ O ⁻ | 0.22 | 0.07 | 0.16 | 0.12 |
| CO ₂ | 0.01 | 0.03 | 0.03 | 0.01 |
| S | <0.00 | 0.03 | 0.03 | 0.01 |
| F | 0.02 | — | — | — |
| Cl | 0.01 | — | — | — |
| Σ | 100.71 | 98.91 | 99.32 | 100.24 |
| B (ppm) | 3.0 | 5.0 | 5.0 | 3.0 |
| Sc | 39 | 36 | 38 | 38 |
| Cr | 760 | 220 | 580 | 670 |
| Co | 55 | 46 | 54 | 57 |
| Ni | 160 | 55 | 100 | 150 |
| Cu | 96 | 110 | 98 | 82 |
| Zn | 70 | 88 | 90 | 88 |
| Rb | 15.0 | 22.0 | 17.0 | 12.0 |
| Sr | 154 | 182 | 165 | 146 |
| Sb | <1.00 | <0.60 | 0.31 | <0.60 |
| Cs | 0.62 | 1.00 | 0.67 | 0.75 |
| Ba | 139 | 170 | 142 | 119 |
| Y | 19.0 | 27.0 | 24.0 | 16.0 |
| La | 8.9 | 11.0 | 9.4 | 8.4 |
| Ce | 19.0 | 23.0 | 19.0 | 19.0 |
| Nd | 11.0 | <19.0 | <19.0 | <16.0 |
| Sm | 2.90 | 3.7 | 3.1 | 2.87 |
| Eu | 0.88 | 1.10 | 0.93 | 0.82 |
| Tb | 0.47 | 0.70 | 0.54 | 0.53 |
| Yb | 1.80 | 2.20 | 1.80 | 1.80 |
| Lu | 0.280 | 0.35 | 0.290 | 0.290 |
| Zr | 79 | 112 | 88 | 77 |
| Hf | 2.00 | 2.50 | 2.00 | 1.90 |
| Nb | 4.6 | 7.3 | 6.3 | 5.5 |
| Ta | 0.45 | 0.52 | 0.50 | 0.40 |
| Th | 1.80 | 2.50 | 1.50 | 1.50 |
| U | <1.60 | <1.70 | <1.70 | <1.80 |
| Pd (ppb) | 9.0 | 13.0 | 9.2 | 8.4 |
| Pt | 10.0 | 7.8 | 11.0 | 13.0 |
| Rh | <0.50 | <0.50 | <0.50 | <0.50 |

Table 2d. York Haven sheet.

| | W-245402 | W-245403 | W-245404 | W-245405 | W-245406 | W-245407 | W-245408 | W-245409 | W-245410 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | MM88-1 | MM88-2 | MM88-3 | MM88-4 | MM88-5 | MM88-6 | MM88-7 | MM88-8 | MM88-9 |
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 52.60 | 52.20 | 52.40 | 52.30 | 52.50 | 52.20 | 52.30 | 52.50 | 52.30 |
| TiO ₂ | 0.83 | 0.79 | 0.76 | 0.72 | 0.77 | 0.71 | 0.72 | 0.83 | 1.12 |
| Al ₂ O ₃ | 11.10 | 12.40 | 12.70 | 13.00 | 13.20 | 13.60 | 12.20 | 11.80 | 13.80 |
| Fe ₂ O ₃ | 1.99 | 1.62 | 1.74 | 1.58 | 1.54 | 1.37 | 1.55 | 1.54 | 1.83 |
| FeO | 8.00 | 7.90 | 7.60 | 7.50 | 7.70 | 7.30 | 7.50 | 8.20 | 8.80 |
| MnO | 0.19 | 0.17 | 0.17 | 0.16 | 0.17 | 0.16 | 0.18 | 0.18 | 0.17 |
| MgO | 11.90 | 11.00 | 10.90 | 10.70 | 10.60 | 10.30 | 11.30 | 11.60 | 8.06 |
| CaO | 11.00 | 11.70 | 11.70 | 12.00 | 11.80 | 12.10 | 12.00 | 11.00 | 11.10 |
| Na ₂ O | 1.44 | 1.56 | 1.55 | 1.56 | 1.55 | 1.62 | 1.52 | 1.58 | 2.04 |
| K ₂ O | 0.40 | 0.44 | 0.34 | 0.35 | 0.37 | 0.37 | 0.32 | 0.39 | 0.57 |
| P ₂ O ₅ | 0.10 | 0.09 | 0.09 | 0.08 | 0.09 | 0.09 | 0.07 | 0.10 | 0.14 |
| H ₂ O ⁺ | 0.73 | 0.63 | 0.35 | 0.31 | 0.33 | 0.27 | 0.42 | 0.49 | 0.66 |
| H ₂ O ⁻ | 0.26 | 0.22 | 0.14 | 0.12 | 0.13 | 0.17 | 0.15 | 0.12 | 0.10 |
| CO ₂ | 0.01 | 0.01 | <0.01 | 0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.02 |
| Σ | 100.55 | 100.73 | 100.44 | 100.39 | 100.75 | 100.27 | 100.23 | 100.33 | 100.71 |
| Sc (ppm) | 41 | 38 | 39 | 38 | 38 | 37 | 38 | 38 | 37 |
| Cr | 840 | 730 | 740 | 690 | 710 | 660 | 690 | 770 | 370 |
| Co | 55 | 51 | 50 | 48 | 50 | 47 | 50 | 52 | 48 |
| Ni | 164 | 147 | 154 | 142 | 143 | 135 | 156 | 151 | 103 |
| Cu | 84 | 65 | 62 | 72 | 55 | 47 | 63 | 68 | 92 |
| Zn | 67 | 57 | 66 | 54 | 52 | 55 | 63 | 54 | 64 |
| As | 1.10 | 1.20 | 1.20 | <0.90 | <0.90 | <0.90 | <1.00 | <1.00 | <1.00 |
| Rb | 11.0 | 22.0 | 8.0 | 19.0 | 8.0 | 11.0 | 11.0 | 16.0 | 19.0 |
| Sr | 128 | 162 | 147 | 174 | 147 | 162 | 143 | 145 | 169 |
| Sb | 0.180 | 0.140 | <0.130 | 0.160 | <0.140 | <0.130 | 0.160 | 0.180 | 0.170 |
| Cs | 0.87 | 0.73 | 0.76 | 0.69 | 0.52 | 0.58 | 0.48 | 0.52 | 1.10 |
| Ba | 114 | 115 | 110 | 107 | 105 | 99 | 106 | 107 | 142 |
| La | 7.4 | 7.3 | 6.7 | 6.5 | 6.8 | 6.3 | 6.1 | 7.3 | 11.0 |
| Ce | 16.0 | 15.0 | 15.0 | 15.0 | 16.0 | 14.0 | 14.0 | 16.0 | 21.0 |
| Nd | 10.0 | 6.8 | <11.0 | 7.4 | 6.7 | 7.9 | 7.8 | 7.9 | <19.0 |
| Sm | 2.53 | 2.44 | 2.28 | 2.21 | 2.33 | 2.13 | 2.10 | 2.39 | 3.4 |
| Eu | 0.73 | 0.75 | 0.76 | 0.68 | 0.71 | 0.70 | 0.67 | 0.77 | 1.00 |
| Tb | 0.46 | 0.45 | 0.46 | 0.40 | 0.42 | 0.40 | 0.36 | 0.44 | 0.61 |
| Yb | 1.40 | 1.50 | 1.50 | 1.60 | 1.50 | 1.50 | 1.40 | 1.60 | 2.10 |
| Lu | 0.230 | 0.260 | 0.250 | 0.210 | 0.230 | 0.200 | 0.220 | 0.220 | 0.31 |
| Zr | 67 | 66 | 63 | 68 | 62 | 61 | 52 | 69 | 90 |
| Hf | 1.70 | 1.60 | 1.60 | 1.50 | 1.40 | 1.40 | 1.50 | 1.60 | 2.50 |
| Ta | 0.37 | 0.33 | 0.31 | 0.270 | 0.30 | 0.32 | 0.260 | 0.35 | 0.52 |
| Th | 1.40 | 1.40 | 1.20 | 1.30 | 1.30 | 1.10 | 1.30 | 1.40 | 2.00 |
| U | 0.290 | 0.42 | <0.50 | 0.30 | 0.40 | 0.34 | <0.50 | 0.94 | 0.47 |
| Pd (ppb) | 6.6 | 6.9 | 7.1 | 7.1 | 6.5 | 6.0 | 3.5 | 6.2 | 12.0 |
| Pt | 22.0 | 23.0 | 25.0 | 24.0 | 23.0 | 26.0 | 22.0 | 21.0 | 15.0 |
| Rh | 0.90 | 0.90 | 1.00 | 0.90 | 0.90 | 0.90 | 0.90 | 0.80 | 0.90 |
| Ru | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ir | 1.10 | 1.30 | 1.20 | 1.00 | 1.00 | 1.10 | 1.00 | 1.00 | <0.50 |
| Au | <7.0 | <7.0 | <7.0 | <4.0 | <7.0 | <7.0 | <7.0 | <7.0 | <7.0 |

Table 2e. York Haven sheet.

| | W-245411 MM88-10 | W-245412 MM88-11 | W-245413 MM88-12 | W-245414 MM88-13 | W-245415 MM88-14 | W-245380 MM88-17a | W-245381 MM88-18 | W-245382 MM88-19 | W-245383 MM88-20 |
|--------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 52.40 | 52.20 | 52.70 | 52.20 | 52.30 | 51.90 | 51.90 | 52.50 | 52.50 |
| TiO ₂ | 1.14 | 1.11 | 0.84 | 0.82 | 0.84 | 1.14 | 0.77 | 1.15 | 0.84 |
| Al ₂ O ₃ | 14.00 | 13.60 | 10.70 | 11.20 | 11.30 | 14.00 | 16.60 | 14.00 | 13.20 |
| Fe ₂ O ₃ | 2.06 | 1.60 | 2.82 | 1.93 | 1.87 | 2.16 | 1.26 | 1.92 | 1.68 |
| FeO | 8.70 | 9.00 | 8.30 | 8.60 | 8.60 | 8.40 | 6.90 | 8.90 | 8.00 |
| MnO | 0.17 | 0.18 | 0.20 | 0.19 | 0.19 | 0.18 | 0.15 | 0.17 | 0.18 |
| MgO | 8.01 | 8.24 | 13.60 | 12.60 | 12.20 | 7.40 | 7.47 | 7.77 | 9.65 |
| CaO | 11.10 | 11.10 | 9.41 | 10.40 | 10.50 | 10.90 | 12.20 | 11.10 | 11.60 |
| Na ₂ O | 1.99 | 1.94 | 1.46 | 1.52 | 1.59 | 2.05 | 2.08 | 2.05 | 1.82 |
| K ₂ O | 0.57 | 0.59 | 0.34 | 0.40 | 0.39 | 0.59 | 0.41 | 0.58 | 0.43 |
| P ₂ O ₅ | 0.14 | 0.13 | 0.08 | 0.10 | 0.10 | 0.14 | 0.09 | 0.14 | 0.10 |
| H ₂ O ⁺ | 0.36 | 0.71 | 0.59 | 0.62 | 0.48 | 0.90 | 0.32 | 0.42 | 0.47 |
| H ₂ O ⁻ | 0.10 | 0.05 | 0.12 | 0.04 | 0.07 | 0.10 | 0.10 | 0.03 | 0.05 |
| CO ₂ | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.15 | 0.02 | 0.01 | <0.01 |
| Σ | 100.75 | 100.47 | 101.16 | 100.64 | 100.44 | 100.01 | 100.26 | 100.74 | 100.52 |
| Sc (ppm) | 38 | 36 | 37 | 38 | 38 | 36 | 30 | 37 | 37 |
| Cr | 420 | 390 | 740 | 780 | 770 | 269 | 140 | 280 | 450 |
| Co | 49 | 47 | 61 | 60 | 58 | 46 | 40 | 48 | 48 |
| Ni | 105 | 109 | 194 | 199 | 198 | 89 | 89 | 75 | 120 |
| Cu | 108 | 88 | 81 | 58 | 77 | 106 | 63 | 101 | 80 |
| Zn | 73 | 76 | 65 | 61 | 71 | 81 | 50 | 65 | 66 |
| As | <1.00 | <1.10 | <1.10 | <1.10 | <1.20 | 2.10 | <0.90 | 1.40 | 1.70 |
| Rb | 23.0 | 22.0 | 17.0 | 17.0 | 15.0 | 22.0 | 9.0 | 22.0 | 18.0 |
| Sr | 181 | 174 | 142 | 142 | 149 | 176 | 205 | 191 | 178 |
| Sb | 0.200 | 0.250 | <0.140 | <0.120 | <0.120 | 0.170 | <0.120 | <0.140 | <0.120 |
| Cs | 0.87 | 1.20 | 0.41 | 0.87 | 0.78 | 1.50 | 0.83 | 0.68 | 0.71 |
| Ba | 146 | 158 | 92 | 120 | 111 | 174 | 122 | 166 | 135 |
| La | 10.0 | 11.0 | 6.1 | 7.6 | 7.8 | 10.7 | 7.3 | 10.0 | 8.0 |
| Ce | 22.0 | 23.0 | 13.0 | 16.0 | 18.0 | 23.0 | 16.0 | 22.0 | 18.0 |
| Nd | 13.0 | 12.0 | 6.2 | 9.2 | 8.9 | 11.0 | 5.7 | 11.0 | 8.6 |
| Sm | 3.3 | 3.4 | 2.17 | 2.58 | 2.59 | 3.4 | 2.38 | 3.5 | 2.64 |
| Eu | 1.00 | 1.00 | 0.70 | 0.78 | 0.79 | 1.03 | 0.82 | 1.10 | 0.81 |
| Tb | 0.58 | 0.57 | 0.37 | 0.44 | 0.43 | 0.63 | 0.42 | 0.60 | 0.47 |
| Yb | 2.00 | 1.90 | 1.60 | 1.60 | 1.70 | 2.20 | 1.50 | 2.20 | 1.70 |
| Lu | 0.35 | 0.290 | 0.220 | 0.250 | 0.260 | 0.33 | 0.220 | 0.31 | 0.240 |
| Zr | 96 | 87 | 66 | 75 | 68 | 97 | 63 | 94 | 72 |
| Hf | 2.30 | 2.40 | 1.40 | 1.90 | 1.90 | 2.47 | 1.50 | 2.50 | 1.60 |
| Ta | 0.50 | 0.52 | 0.37 | 0.41 | 0.36 | 0.52 | 0.36 | 0.53 | 0.36 |
| Th | 2.00 | 2.10 | 1.10 | 1.50 | 1.50 | 2.10 | 1.40 | 2.10 | 1.60 |
| U | 0.50 | <0.90 | <0.50 | <0.50 | 0.38 | 0.45 | 0.44 | 0.50 | 0.270 |
| Pd (ppb) | 11.0 | 11.0 | 12.0 | 8.8 | 8.7 | 11.0 | 5.7 | 9.1 | 5.6 |
| Pt | 15.0 | 15.0 | 15.0 | 20.0 | 18.0 | 12.0 | 9.9 | 11.0 | 12.0 |
| Rh | 0.70 | 0.70 | 0.80 | 0.90 | 0.80 | 0.60 | <0.50 | 0.60 | 0.60 |
| Ru | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ir | <0.50 | 0.50 | 0.80 | 1.20 | 1.10 | <0.50 | <0.50 | <0.50 | 0.50 |
| Au | <13.0 | 7.9 | <4.0 | <7.0 | <4.0 | <13.0 | <7.0 | <15.0 | <7.0 |

Table 2f. York Haven sheet.

| | W-245384 | W-245385 | W-245386 | W-245387 | W-245388 | W-245389 | W-245390 | W-245391 | W-245392 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | MM88-21 | MM88-22 | MM88-23 | MM88-24 | MM88-25 | MM88-26 | MM88-27 | MM88-28 | MM88-29 |
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 52.40 | 52.60 | 52.20 | 52.50 | 52.40 | 52.40 | 52.50 | 52.50 | 52.30 |
| TiO ₂ | 0.84 | 0.84 | 0.72 | 0.80 | 0.66 | 0.66 | 0.71 | 0.70 | 0.66 |
| Al ₂ O ₃ | 11.30 | 12.70 | 13.30 | 12.50 | 12.90 | 12.00 | 11.80 | 11.30 | 11.80 |
| Fe ₂ O ₃ | 1.44 | 1.69 | 1.39 | 1.59 | 1.56 | 1.39 | 1.56 | 1.53 | 1.36 |
| FeO | 9.00 | 8.30 | 7.50 | 8.00 | 7.80 | 7.90 | 7.80 | 7.90 | 7.60 |
| MnO | 0.20 | 0.19 | 0.17 | 0.17 | 0.17 | 0.18 | 0.18 | 0.22 | 0.18 |
| MgO | 11.20 | 9.76 | 10.20 | 10.60 | 10.80 | 11.60 | 11.60 | 11.90 | 11.90 |
| CaO | 11.30 | 11.60 | 12.10 | 11.70 | 12.30 | 12.20 | 12.30 | 12.20 | 12.20 |
| Na ₂ O | 1.56 | 1.82 | 1.75 | 1.68 | 1.50 | 1.44 | 1.44 | 1.39 | 1.50 |
| K ₂ O | 0.39 | 0.46 | 0.36 | 0.40 | 0.32 | 0.30 | 0.32 | 0.33 | 0.29 |
| P ₂ O ₅ | 0.09 | 0.10 | 0.08 | 0.10 | 0.07 | 0.07 | 0.08 | 0.08 | 0.07 |
| H ₂ O ⁺ | 0.47 | 0.30 | 0.30 | 0.23 | 0.33 | 0.23 | 0.33 | 0.32 | 0.26 |
| H ₂ O ⁻ | 0.03 | 0.10 | 0.10 | 0.11 | 0.06 | 0.11 | 0.13 | 0.10 | 0.08 |
| CO ₂ | <0.01 | <0.01 | <0.01 | 0.01 | 0.01 | <0.01 | 0.02 | 0.01 | 0.01 |
| Σ | 100.22 | 100.46 | 100.17 | 100.40 | 100.87 | 100.48 | 100.77 | 100.48 | 100.21 |
| Sc (ppm) | 41 | 38 | 36 | 40 | 42 | 41 | 42 | 43 | 39 |
| Cr | 580 | 430 | 490 | 600 | 550 | 640 | 640 | 680 | 730 |
| Co | 54 | 50 | 46 | 51 | 52 | 52 | 52 | 64 | 50 |
| Ni | 134 | 117 | 118 | 142 | 130 | 133 | 163 | 154 | 152 |
| Cu | 62 | 74 | 61 | 67 | 32 | 45 | 54 | 57 | 47 |
| Zn | 56 | 67 | 52 | 59 | 47 | 45 | 58 | 65 | 59 |
| As | <1.10 | <1.10 | <1.10 | <1.20 | <1.20 | <1.30 | <0.60 | <1.00 | <0.70 |
| Rb | 19.0 | 22.0 | 10.0 | 15.0 | 11.0 | 15.0 | 6.0 | 9.0 | 11.0 |
| Sr | 150 | 171 | 183 | 164 | 154 | 150 | 133 | 142 | 149 |
| Sb | <0.140 | <0.140 | <0.140 | <0.140 | <0.150 | <0.180 | <0.130 | <0.120 | <0.130 |
| Cs | 0.58 | 0.83 | 0.49 | 0.58 | 0.33 | 0.37 | 0.53 | 0.58 | 0.49 |
| Ba | 113 | 134 | 114 | 115 | 83 | 80 | 95 | 128 | 92 |
| La | 7.5 | 8.1 | 6.6 | 7.4 | 5.7 | 5.7 | 6.2 | 6.1 | 5.9 |
| Ce | 16.0 | 18.0 | 14.0 | 16.0 | 14.0 | 13.0 | 13.0 | 14.0 | 12.0 |
| Nd | 8.6 | 9.4 | 6.7 | 7.3 | 7.9 | 7.4 | 8.9 | 7.3 | 7.0 |
| Sm | 2.56 | 2.67 | 2.21 | 2.50 | 2.10 | 2.04 | 2.17 | 2.19 | 1.95 |
| Eu | 0.76 | 0.82 | 0.76 | 0.82 | 0.71 | 0.67 | 0.67 | 0.69 | 0.64 |
| Tb | 0.43 | 0.48 | 0.40 | 0.44 | 0.39 | 0.43 | 0.39 | 0.40 | 0.38 |
| Yb | 1.60 | 1.70 | 1.40 | 1.50 | 1.50 | 1.50 | 1.60 | 1.50 | 1.40 |
| Lu | 0.250 | 0.270 | 0.220 | 0.210 | 0.200 | 0.190 | 0.220 | 0.210 | 0.220 |
| Zr | 75 | 78 | 65 | 67 | 62 | 58 | 52 | 58 | 52 |
| Hf | 1.80 | 1.90 | 1.40 | 1.70 | 1.30 | 1.20 | 1.50 | 1.50 | 1.20 |
| Ta | 0.37 | 0.35 | 0.33 | 0.39 | 0.190 | 0.280 | 0.31 | 0.32 | 0.32 |
| Th | 1.40 | 1.60 | 1.30 | 1.40 | 1.10 | 1.00 | 1.20 | 1.10 | 1.00 |
| U | 0.38 | 0.270 | 0.30 | 0.230 | 0.170 | <0.31 | <0.30 | 0.260 | 0.210 |
| Pd (ppb) | 6.0 | 7.6 | 5.0 | 3.9 | 5.3 | 4.5 | 3.7 | 3.5 | 3.2 |
| Pt | 16.0 | 13.0 | 16.0 | 19.0 | 21.0 | 22.0 | 21.0 | 22.0 | 22.0 |
| Rh | 0.80 | 0.60 | 0.70 | 0.80 | 0.80 | 1.00 | 0.90 | 0.80 | 0.90 |
| Ru | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ir | 0.70 | 0.50 | 0.70 | 1.10 | 0.60 | 1.10 | 0.90 | 0.80 | 1.20 |
| Au | <7.0 | <7.0 | <7.0 | <8.0 | <8.0 | <6.0 | <6.0 | <6.0 | <7.0 |

Table 2g. York Haven sheet.

| | W-245393 | W-245394 | W-245395 | W-245396 | W-245397 | W-245398 | W-245399 | W-245400 | W-245401 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | MM88-30 | MM88-31 | MM88-32 | MM88-33 | MM88-34 | MM88-35 | MM88-36 | MM88-37 | MM88-38 |
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 51.90 | 52.30 | 52.30 | 52.40 | 52.20 | 52.50 | 52.50 | 52.20 | 52.30 |
| TiO ₂ | 0.62 | 0.65 | 0.67 | 0.75 | 0.71 | 0.73 | 0.79 | 0.86 | 1.12 |
| Al ₂ O ₃ | 14.50 | 13.30 | 13.00 | 11.70 | 12.80 | 12.30 | 12.00 | 12.20 | 13.60 |
| Fe ₂ O ₃ | 1.44 | 1.50 | 1.29 | 1.57 | 1.50 | 1.45 | 1.33 | 1.72 | 1.60 |
| FeO | 6.80 | 7.00 | 7.60 | 7.90 | 7.40 | 7.90 | 8.20 | 8.30 | 8.80 |
| MnO | 0.15 | 0.16 | 0.17 | 0.18 | 0.17 | 0.17 | 0.18 | 0.17 | 0.18 |
| MgO | 9.94 | 10.80 | 10.80 | 11.80 | 11.00 | 11.50 | 11.80 | 11.40 | 8.18 |
| CaO | 12.90 | 12.40 | 12.40 | 11.90 | 12.10 | 11.50 | 11.10 | 11.40 | 11.20 |
| Na ₂ O | 1.63 | 1.59 | 1.58 | 1.48 | 1.60 | 1.55 | 1.56 | 1.66 | 2.02 |
| K ₂ O | 0.30 | 0.32 | 0.32 | 0.34 | 0.34 | 0.36 | 0.37 | 0.43 | 0.56 |
| P ₂ O ₅ | 0.07 | 0.07 | 0.07 | 0.08 | 0.08 | 0.09 | 0.09 | 0.10 | 0.14 |
| H ₂ O ⁺ | 0.32 | 0.31 | 0.40 | 0.29 | 0.36 | 0.39 | 0.28 | 0.47 | 0.54 |
| H ₂ O ⁻ | 0.08 | 0.10 | 0.10 | 0.17 | 0.12 | 0.10 | 0.07 | 0.10 | 0.13 |
| CO ₂ | 0.01 | 0.01 | 0.02 | 0.04 | 0.02 | 0.01 | 0.01 | 0.02 | 0.03 |
| Σ | 100.66 | 100.51 | 100.72 | 100.61 | 100.40 | 100.55 | 100.28 | 101.02 | 100.41 |
| Sc (ppm) | 37 | 38 | 40 | 40 | 38 | 38 | 37 | 39 | 37 |
| Cr | 640 | 600 | 680 | 740 | 730 | 790 | 800 | 830 | 390 |
| Co | 45 | 47 | 49 | 52 | 49 | 51 | 52 | 54 | 47 |
| Ni | 131 | 134 | 141 | 158 | 142 | 155 | 166 | 179 | 79 |
| Cu | 57 | 57 | 42 | 62 | 53 | 43 | 49 | 88 | 80 |
| Zn | 51 | 49 | 51 | 53 | 48 | 53 | 58 | 64 | 52 |
| As | <0.70 | <0.70 | <0.70 | <0.70 | <0.70 | <0.80 | <0.80 | <1.30 | 0.90 |
| Rb | 10.0 | 9.0 | 10.0 | 11.0 | 16.0 | 8.0 | 14.0 | 11.0 | 16.0 |
| Sr | 171 | 157 | 149 | 143 | 161 | 142 | 148 | 153 | 176 |
| Sb | <0.120 | <0.120 | <0.130 | <0.130 | <0.130 | <0.130 | <0.130 | 0.250 | 0.210 |
| Cs | 0.32 | 0.69 | 0.58 | 0.37 | 0.44 | 0.44 | 0.57 | 0.78 | 0.90 |
| Ba | 88 | 94 | 89 | 105 | 99 | 104 | 106 | 125 | 159 |
| La | 5.5 | 5.6 | 6.0 | 6.7 | 6.4 | 6.8 | 7.0 | 7.8 | 10.0 |
| Ce | 12.0 | 13.0 | 15.0 | 14.0 | 15.0 | 14.0 | 16.0 | 18.0 | 22.0 |
| Nd | 7.2 | 7.2 | 7.8 | 8.5 | 9.8 | 7.7 | 7.8 | 8.8 | 12.0 |
| Sm | 1.91 | 1.91 | 2.07 | 2.29 | 2.18 | 2.29 | 2.29 | 2.64 | 3.4 |
| Eu | 0.66 | 0.66 | 0.72 | 0.72 | 0.68 | 0.68 | 0.71 | 0.81 | 1.00 |
| Tb | 0.39 | 0.36 | 0.40 | 0.48 | 0.45 | 0.40 | 0.43 | 0.48 | 0.60 |
| Yb | 1.40 | 1.30 | 1.40 | 1.50 | 1.50 | 1.50 | 1.50 | 1.60 | 2.20 |
| Lu | 0.170 | 0.210 | 0.200 | 0.230 | 0.200 | 0.210 | 0.230 | 0.270 | 0.30 |
| Zr | 50 | 56 | 56 | 65 | 62 | 66 | 67 | 68 | 91 |
| Hf | 1.10 | 1.30 | 1.50 | 1.50 | 1.60 | 1.50 | 1.60 | 1.80 | 2.50 |
| Ta | 0.250 | 0.290 | 0.290 | 0.33 | 0.30 | 0.290 | 0.32 | 0.39 | 0.55 |
| Th | 0.98 | 1.00 | 1.10 | 1.40 | 1.20 | 1.30 | 1.30 | 1.40 | 1.90 |
| U | <0.31 | 0.60 | <0.50 | 0.37 | <0.50 | <0.50 | 0.280 | 0.61 | 0.46 |
| Pd (ppb) | 1.60 | 3.4 | 4.7 | 5.6 | 3.0 | 6.8 | 6.6 | 2.50 | 11.0 |
| Pt | 23.0 | 22.0 | 22.0 | 24.0 | 16.0 | 23.0 | 23.0 | 17.0 | 14.0 |
| Rh | 0.90 | 0.90 | 1.10 | 1.00 | 0.70 | 1.00 | 1.00 | 0.90 | 0.80 |
| Ru | 0.80 | <0.50 | <0.50 | 0.50 | <0.50 | 0.50 | <0.50 | <0.50 | <0.50 |
| Ir | 1.40 | 1.10 | 1.10 | 1.10 | 0.70 | 1.20 | 1.20 | 1.30 | 0.60 |
| Au | <6.0 | <6.0 | <6.0 | <4.0 | <6.0 | <6.0 | <6.0 | <7.0 | <7.0 |

Table 2h. York Haven sheet, Round Top and Fisher Cemetery areas.

| | W-243867 | W-243859 | W-243869 | W-243870 | W-243871 |
|--------------------------------|----------|----------|----------|----------|----------|
| | FG-87 | P-252.7 | FG-87 | FG-87 | FG-87 |
| | PRT-1 | | PYH-1 | PYH-2 | PYH-3 |
| Lat. | 40°13'N | 40°12'N | 40°11'N | 40°11'N | 40°11'N |
| Long. | 76°40'W | 76°30'W | 76°46'W | 76°46'W | 76°46'W |
| SiO ₂ (%) | 52.10 | 51.90 | 52.10 | 52.50 | 52.40 |
| TiO ₂ | 0.81 | 0.77 | 1.12 | 1.03 | 1.10 |
| Al ₂ O ₃ | 14.70 | 13.30 | 13.70 | 14.80 | 13.90 |
| Fe ₂ O ₃ | 1.61 | 1.64 | 2.20 | 3.40 | 2.85 |
| FeO | 7.60 | 7.70 | 8.70 | 7.00 | 8.50 |
| MnO | 0.17 | 0.16 | 0.18 | 0.18 | 0.18 |
| MgO | 8.18 | 10.20 | 8.07 | 7.11 | 7.59 |
| CaO | 12.10 | 12.00 | 11.00 | 11.40 | 11.20 |
| Na ₂ O | 1.99 | 1.63 | 1.98 | 2.12 | 2.06 |
| K ₂ O | 0.42 | 0.41 | 0.57 | 0.60 | 0.58 |
| P ₂ O ₅ | 0.10 | 0.10 | 0.14 | 0.14 | 0.15 |
| H ₂ O ⁺ | 0.17 | 0.22 | 0.63 | 0.25 | 0.39 |
| H ₂ O ⁻ | 0.08 | 0.10 | 0.17 | 0.20 | 0.25 |
| CO ₂ | <0.01 | 0.02 | 0.03 | 0.01 | <0.01 |
| S | 0.05 | 0.05 | 0.04 | 0.04 | 0.04 |
| F | 0.01 | 0.02 | <0.00 | 0.03 | 0.02 |
| Cl | 0.01 | 0.04 | 0.02 | 0.04 | 0.02 |
| Σ | 100.10 | 100.26 | 100.65 | 100.84 | 101.24 |
| B (ppm) | 8.0 | 9.6 | 8.3 | 9.0 | 7.7 |
| Sc | 35 | 39 | 38 | 36 | 39 |
| Cr | 215 | 750 | 350 | 273 | 160 |
| Co | 44 | 48 | 49 | 45 | 49 |
| Ni | 75 | 130 | 94 | 72 | 67 |
| Cu | 79 | 68 | 95 | 111 | 108 |
| Zn | 54 | 67 | 77 | 72 | 72 |
| Ga | 19.0 | 18.0 | 20.0 | 20.0 | 20.0 |
| As | <1.20 | <2.20 | <0.70 | <0.70 | 1.60 |
| Rb | 24.0 | 22.0 | 22.0 | 27.0 | 20.0 |
| Sr | 199 | 166 | 172 | 200 | 184 |
| Ag | 0.0290 | 0.038 | 0.044 | 0.048 | 0.042 |
| Sb | <0.100 | <0.280 | 0.220 | 0.35 | <0.110 |
| Cs | 0.59 | 0.81 | 0.91 | 1.10 | 0.90 |
| Ba | 122 | 97 | 149 | 160 | 162 |
| Y | 15.0 | 17.0 | 20.0 | 19.0 | 20.0 |
| La | 7.7 | 7.1 | 10.8 | 10.9 | 10.8 |
| Ce | 16.8 | 15.4 | 22.0 | 22.0 | 22.0 |
| Nd | 8.3 | 8.3 | 12.0 | 11.0 | 12.0 |
| Sm | 2.49 | 2.35 | 3.4 | 3.3 | 3.4 |
| Eu | 0.85 | 0.76 | 1.04 | 1.10 | 1.00 |
| Tb | 0.47 | 0.48 | 0.60 | 0.60 | 0.58 |
| Yb | 1.70 | 1.70 | 2.50 | 2.10 | 2.20 |
| Lu | 0.240 | 0.240 | 0.32 | 0.30 | 0.33 |
| Zr | 75 | 71 | 101 | 100 | 99 |
| Hf | 1.70 | 1.61 | 2.30 | 2.30 | 2.40 |
| Nb | 4.8 | 4.7 | 6.2 | 6.5 | 7.3 |
| Ta | 0.36 | 0.35 | 0.54 | 0.51 | 0.51 |
| Th | 1.50 | 1.30 | 2.10 | 2.20 | 2.20 |
| U | <0.60 | <0.70 | 0.49 | 0.50 | 0.50 |
| Pd (ppb) | 5.3 | 4.4 | 5.9 | 6.3 | 7.3 |
| Pt | 9.6 | 24.0 | 7.8 | 13.0 | 5.4 |
| Au | <6.0 | <8.0 | <6.0 | <8.0 | 7.1 |

Table 2i. York Haven sheet, Middletown area.

| | W-250626 | W-250627 | W-250628 | W-250629 | W-250630 | W-250631 | W-250632 | W-250633 | W-250634 | W-250635 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | MM-90-1 | MM-90-2 | MM-90-3 | MM-90-4 | MM-90-5 | MM-90-6 | MM-90-7 | MM-90-8 | MM-90-9 | MM-90-10 |
| Lat. | 40°08'N | 40°08'N | 40°09'N | 40°09'N | 40°09'N | 40°10'N | 40°12'N | 40°11'N | 40°13'N | 40°14'N |
| Long. | 76°42'W | 76°40'W | 76°39'W | 76°38'W | 76°39'W | 76°40'W | 76°42'W | 76°42'W | 76°41'W | 76°41'W |
| SiO ₂ (%) | 52.40 | 52.30 | 52.40 | 52.60 | 52.50 | 52.30 | 52.50 | 52.40 | 52.30 | 52.30 |
| TiO ₂ | 0.92 | 0.66 | 0.76 | 0.69 | 0.90 | 0.79 | 0.87 | 0.94 | 0.97 | 0.95 |
| Al ₂ O ₃ | 13.60 | 13.50 | 13.80 | 11.60 | 13.20 | 11.60 | 16.60 | 13.30 | 13.60 | 12.80 |
| Fe ₂ O ₃ | 10.70 | 9.34 | 10.00 | 10.30 | 10.70 | 11.00 | 9.29 | 11.00 | 10.60 | 11.60 |
| MnO | 0.18 | 0.16 | 0.17 | 0.20 | 0.18 | 0.19 | 0.16 | 0.18 | 0.18 | 0.19 |
| MgO | 8.82 | 10.30 | 9.32 | 11.60 | 9.43 | 11.00 | 6.85 | 8.62 | 8.85 | 9.02 |
| CaO | 11.50 | 12.20 | 12.10 | 12.00 | 11.60 | 12.00 | 12.00 | 11.60 | 11.90 | 11.80 |
| Na ₂ O | 1.89 | 1.66 | 1.79 | 1.50 | 1.78 | 1.47 | 2.20 | 1.80 | 1.74 | 1.71 |
| K ₂ O | 0.51 | 0.35 | 0.41 | 0.34 | 0.47 | 0.37 | 0.50 | 0.50 | 0.47 | 0.47 |
| P ₂ O ₅ | 0.11 | 0.07 | 0.09 | 0.08 | 0.08 | 0.08 | 0.10 | 0.11 | 0.10 | 0.13 |
| LOI 925C | 0.11 | 0.16 | <0.01 | 0.03 | 0.14 | <0.01 | 0.02 | <0.01 | <0.01 | 0.11 |
| Σ | 100.74 | 100.70 | 100.84 | 100.94 | 100.98 | 100.80 | 101.09 | 100.45 | 100.71 | 101.08 |

Table 2j. York Haven sheet, Goldsboro section.

| | W-249523 | W-249524 | W-249525 | W-249526 | W-249527 | W-249528 | W-249529 | W-249530 | W-249531 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | MM89-16 | MM89-17 | MM89-18 | MM89-19 | MM89-20 | MM89-21 | MM89-22 | MM89-23 | MM89-24 |
| Lat. | 40°10'N | 40°10'N | 40°10'N | 40°10'N | 40°10'N | 40°10'N | 40°10'N | 40°10'N | 40°10'N |
| Long. | 76°46'W | 76°46'W | 76°46'W | 76°46'W | 76°46'W | 76°46'W | 76°46'W | 76°46'W | 76°46'W |
| SiO ₂ (%) | 52.50 | 52.60 | 52.30 | 52.40 | 52.40 | 52.60 | 52.40 | 52.50 | 52.60 |
| TiO ₂ | 1.16 | 0.99 | 0.99 | 1.21 | 1.07 | 1.07 | 1.12 | 1.08 | 1.12 |
| Al ₂ O ₃ | 14.20 | 14.30 | 12.80 | 13.70 | 13.80 | 14.20 | 13.80 | 14.10 | 15.40 |
| Fe ₂ O ₃ | 11.60 | 10.70 | 11.80 | 12.50 | 11.40 | 11.20 | 11.50 | 11.20 | 10.60 |
| MnO | 0.18 | 0.17 | 0.20 | 0.20 | 0.18 | 0.18 | 0.18 | 0.18 | 0.17 |
| MgO | 7.23 | 7.73 | 8.34 | 6.94 | 7.45 | 7.36 | 7.66 | 7.67 | 6.26 |
| CaO | 11.00 | 11.50 | 11.40 | 10.60 | 11.20 | 11.20 | 10.90 | 11.10 | 11.00 |
| Na ₂ O | 2.13 | 1.99 | 1.96 | 2.18 | 2.09 | 2.03 | 2.05 | 2.03 | 2.26 |
| K ₂ O | 0.58 | 0.57 | 0.51 | 0.65 | 0.60 | 0.62 | 0.67 | 0.64 | 0.73 |
| P ₂ O ₅ | 0.14 | 0.10 | 0.14 | 0.15 | 0.16 | 0.15 | 0.13 | 0.13 | 0.13 |
| LOI 900C | 0.06 | 0.11 | 0.05 | 0.25 | 0.09 | 0.10 | 0.07 | 0.26 | 0.19 |
| Σ | 100.78 | 100.76 | 100.49 | 100.78 | 100.44 | 100.71 | 100.48 | 100.89 | 100.46 |

Table 2k. York Haven sheet, Reesers Summit section.

| | W-228188 | W-228189 | W-228190 | W-228191 | W-228192 | W-228193 | W-228194 | W-228195 | W-228196 | W-228197 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | PYRS | PYRS | PYRS | PYRS | PYRS | PYRS | PYRS | PYRS | PYRS | PYRS |
| | 84-1 | 84-2 | 84-3 | 84-4 | 84-5 | 84-6 | 84-7 | 84-8 | 84-9 | 84-10 |
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 52.00 | 52.30 | 52.00 | 53.00 | 53.10 | 53.00 | 51.80 | 52.30 | 50.80 | 50.80 |
| TiO ₂ | 1.10 | 1.10 | 0.82 | 1.10 | 1.70 | 2.00 | 2.90 | 3.10 | 3.30 | 2.70 |
| Al ₂ O ₃ | 14.00 | 14.70 | 16.40 | 16.20 | 14.00 | 13.60 | 12.90 | 11.80 | 11.90 | 13.40 |
| Fe ₂ O ₃ | 2.40 | 2.00 | 1.70 | 2.80 | 2.80 | 3.50 | 4.10 | 4.10 | 3.60 | 3.80 |
| FeO | 7.60 | 8.20 | 7.30 | 7.50 | 10.00 | 10.40 | 12.20 | 12.50 | 13.20 | 11.40 |
| MnO | 0.17 | 0.17 | 0.16 | 0.17 | 0.18 | 0.20 | 0.22 | 0.23 | 0.23 | 0.20 |
| MgO | 7.20 | 6.40 | 5.90 | 5.10 | 3.80 | 3.80 | 3.20 | 3.00 | 3.50 | 3.50 |
| CaO | 10.30 | 10.50 | 10.20 | 10.30 | 8.80 | 8.70 | 8.50 | 8.10 | 8.50 | 8.90 |
| Na ₂ O | 2.29 | 2.43 | 2.70 | 2.56 | 2.83 | 2.83 | 2.43 | 2.70 | 2.43 | 2.83 |
| K ₂ O | 0.83 | 0.75 | 1.00 | 0.77 | 0.88 | 1.10 | 1.20 | 1.20 | 0.93 | 0.86 |
| P ₂ O ₅ | 0.16 | 0.16 | 0.13 | 0.17 | 0.25 | 0.26 | 0.27 | 0.34 | 0.27 | 0.25 |
| H ₂ O ⁺ | 0.20 | 0.20 | 0.30 | 0.30 | 0.10 | 0.10 | 0.55 | 0.60 | 0.94 | 0.74 |
| H ₂ O ⁻ | 1.50 | 1.00 | 1.00 | 1.10 | 1.10 | 1.10 | 0.40 | 0.40 | 0.36 | 0.36 |
| CO ₂ | 0.03 | 0.04 | 0.04 | 0.01 | 0.05 | 0.08 | 0.03 | 0.05 | 0.05 | 0.34 |
| S | 0.01 | 0.00 | <0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.03 | 0.01 | 0.01 |
| F | 0.03 | 0.03 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 | 0.02 |
| Cl | 0.04 | 0.02 | 0.01 | 0.21 | 0.21 | 0.15 | 0.17 | 0.17 | 0.12 | 0.15 |
| Σ | 99.86 | 100.00 | 99.67 | 101.32 | 99.83 | 100.87 | 100.91 | 100.66 | 100.16 | 100.26 |
| B (ppm) | 15.0 | 31 | 36 | 30 | 30 | 35 | 47 | 44 | 49 | 38 |
| Sc | 38 | 36 | 33 | 33 | 37 | 36 | 39 | 41 | 45 | 38 |
| Cr | 289 | 78 | 55 | 30 | 5.5 | 6.8 | 4.8 | 4.2 | 7.8 | 5.3 |
| Co | 46 | 44 | 41 | 40 | 45 | 46 | 51 | 51 | 57 | 53 |
| Ni | 73 | 59 | 55 | 39 | 18.0 | 24.0 | 11.0 | 5.0 | 8.0 | 22.0 |
| Cu | 128 | 126 | 100 | 124 | 121 | 198 | 208 | 291 | 243 | 109 |
| Zn | 80 | 82 | 67 | 85 | 87 | 107 | 112 | 117 | 153 | 104 |
| Rb | 30 | 34 | 47 | 29.0 | 36 | 44 | 44 | 47 | 36 | 36 |
| Sr | 196 | 238 | 269 | 243 | 218 | 209 | 210 | 197 | 195 | 218 |
| Sb | <0.50 | <1.00 | <0.90 | <0.90 | <1.00 | <0.90 | <1.00 | <1.10 | <1.20 | <1.00 |
| Cs | 0.98 | 1.20 | 1.00 | 1.20 | 1.30 | 1.80 | 1.70 | 2.00 | 1.90 | 1.10 |
| Ba | 215 | 187 | 169 | 221 | 283 | 300 | 310 | 340 | 285 | 273 |
| Y | 23.0 | 26.0 | 24.0 | 22.0 | 36 | 35 | 33 | 40 | 36 | 35 |
| La | 11.0 | 12.1 | 8.8 | 13.0 | 18.0 | 20.0 | 21.0 | 23.0 | 19.0 | 17.0 |
| Ce | 24.0 | 23.8 | 18.0 | 27.0 | 39 | 42 | 42 | 49 | 40 | 36 |
| Nd | 13.0 | 11.0 | 10.0 | 16.0 | 20.0 | 22.0 | 25.0 | 24.0 | 24.0 | 15.0 |
| Sm | 3.6 | 3.6 | 2.80 | 3.9 | 5.6 | 6.2 | 6.4 | 7.2 | 6.1 | 5.4 |
| Eu | 1.08 | 1.06 | 1.00 | 1.30 | 1.60 | 1.60 | 1.70 | 1.90 | 1.70 | 1.50 |
| Tb | 0.64 | 0.64 | 0.57 | 0.64 | 1.00 | 1.10 | 1.10 | 1.20 | 0.90 | 0.92 |
| Yb | 2.30 | 2.23 | 1.80 | 2.30 | 3.5 | 3.8 | 3.8 | 4.2 | 3.8 | 3.2 |
| Lu | 0.32 | 0.35 | 0.260 | 0.36 | 0.51 | 0.53 | 0.56 | 0.61 | 0.56 | 0.46 |
| Zr | 138 | 103 | 81 | 111 | 149 | 170 | 169 | 202 | 161 | 148 |
| Hf | 2.55 | 2.48 | 2.10 | 2.70 | 4.2 | 4.4 | 4.5 | 5.2 | 4.5 | 3.9 |
| Nb | 7.0 | 6.6 | 4.7 | 7.4 | 12.3 | 14.0 | 14.6 | 16.8 | 15.9 | 12.6 |
| Ta | 0.53 | 0.54 | 0.40 | 0.60 | 0.95 | 0.94 | 1.10 | 1.30 | 1.10 | 0.87 |
| Th | 2.35 | 2.30 | 1.90 | 2.60 | 3.9 | 4.4 | 4.4 | 4.8 | 4.1 | 3.5 |
| U | 0.71 | 0.65 | 0.44 | <1.00 | 0.81 | 1.10 | 1.20 | 1.60 | <1.10 | <1.80 |
| Pd (ppb) | 9.2 | 9.6 | 9.0 | 10.0 | 15.0 | 14.0 | 69 | 90 | 150 | 17.0 |
| Pt | 7.9 | 6.2 | 4.2 | 4.8 | 2.80 | 2.40 | 6.2 | 16.0 | 31 | 2.60 |
| Rh | 1.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 2.3 | 3.8 | <0.50 |

Table 21. York Haven sheet, Reesers Summit section.

| | W-228198 PYRS84 11 | W-228199 PYRS84 12 | W-228200 PYRS84 13 | W-228201 PYRS84 14 | W-228202 PYRS84 15 | W-243868 FG-87 PYRSN-1 |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------------------------------|
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 50.40 | 53.40 | 52.70 | 52.70 | 52.40 | 50.80 |
| TiO ₂ | 2.40 | 1.30 | 1.50 | 1.50 | 1.20 | 1.36 |
| Al ₂ O ₃ | 14.30 | 16.60 | 16.00 | 16.00 | 15.10 | 14.70 |
| Fe ₂ O ₃ | 4.00 | 2.60 | 2.60 | 3.00 | 2.20 | 3.33 |
| FeO | 11.10 | 8.20 | 9.10 | 8.70 | 8.40 | 8.80 |
| MnO | 0.19 | 0.16 | 0.17 | 0.17 | 0.17 | 0.15 |
| MgO | 3.90 | 3.70 | 3.80 | 4.00 | 6.30 | 6.33 |
| CaO | 9.50 | 9.80 | 9.60 | 9.80 | 10.70 | 5.44 |
| Na ₂ O | 2.56 | 2.83 | 2.97 | 2.83 | 2.56 | 4.72 |
| K ₂ O | 0.75 | 0.96 | 0.83 | 0.85 | 0.58 | 1.31 |
| P ₂ O ₅ | 0.20 | 0.19 | 0.20 | 0.21 | 0.21 | 0.16 |
| H ₂ O ⁺ | 0.72 | 0.44 | 0.59 | 0.61 | 0.48 | 2.90 |
| H ₂ O ⁻ | 0.48 | 0.47 | 0.33 | 0.39 | 0.32 | 0.34 |
| CO ₂ | 0.03 | 0.02 | 0.04 | 0.04 | 0.03 | 0.02 |
| S | 0.01 | 0.02 | 0.02 | 0.01 | 0.00 | 0.03 |
| F | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 |
| Cl | 0.22 | 0.17 | 0.18 | 0.13 | 0.02 | 0.04 |
| Σ | 100.78 | 100.88 | 100.64 | 100.97 | 100.69 | 100.46 |
| B (ppm) | 34 | 21.0 | 61 | 55 | 12.0 | 12.0 |
| Sc | 38 | 29.0 | 32 | 33 | 36 | 38 |
| Cr | 5.5 | 8.4 | 9.7 | 11.0 | 132 | 79 |
| Co | 56 | 38 | 41 | 42 | 45 | 49 |
| Ni | 30 | 25.0 | 26.0 | 29.0 | 63 | 66 |
| Cu | 165 | 156 | 170 | 131 | 110 | 127 |
| Zn | 98 | 64 | 85 | 90 | 73 | 99 |
| Ga | — | — | — | — | — | 18.0 |
| As | — | — | — | — | — | 2.80 |
| Rb | 33 | 33 | 38 | 34 | 26.0 | 37 |
| Sr | 217 | 250 | 236 | 235 | 203 | 340 |
| Ag | — | — | — | — | — | 0.0130 |
| Sb | <1.00 | <0.90 | <0.90 | <1.00 | <1.00 | 0.30 |
| Cs | 1.20 | 0.92 | 0.93 | 0.80 | 0.79 | 0.64 |
| Ba | 242 | 259 | 229 | 265 | 178 | 560 |
| Y | 28.0 | 27.0 | 28.0 | 29.0 | 28.0 | 24.0 |
| La | 15.0 | 15.0 | 16.6 | 17.0 | 14.0 | 11.6 |
| Ce | 29.0 | 31 | 33 | 34 | 28.0 | 26.5 |
| Nd | 18.0 | 18.0 | 18.0 | 18.0 | 13.0 | 14.0 |
| Sm | 4.5 | 4.6 | 4.9 | 5.1 | 4.3 | 4.1 |
| Eu | 1.30 | 1.30 | 1.40 | 1.40 | 1.20 | 1.10 |
| Tb | 0.82 | 0.71 | 0.84 | 0.79 | 0.74 | 0.72 |
| Yb | 2.60 | 2.60 | 2.91 | 3.1 | 2.60 | 2.90 |
| Lu | 0.45 | 0.39 | 0.43 | 0.48 | 0.44 | 0.39 |
| Zr | 123 | 131 | 133 | 140 | 108 | 126 |
| Hf | 2.90 | 3.1 | 3.6 | 3.6 | 2.70 | 3.2 |
| Nb | 10.4 | 8.5 | 9.8 | 9.8 | 8.1 | 8.9 |
| Ta | 0.67 | 0.69 | 0.74 | 0.79 | 0.62 | 0.69 |
| Th | 3.0 | 3.2 | 3.4 | 3.5 | 2.80 | 2.80 |
| U | 0.95 | <1.40 | 0.91 | 0.79 | 1.10 | 0.65 |
| Pd (ppb) | 15.0 | 8.8 | 17.0 | 14.0 | 11.0 | 12.0 |
| Pt | 5.6 | 3.2 | 7.0 | 8.2 | 11.0 | 5.6 |
| Rh | 0.60 | <0.50 | <0.50 | <0.50 | <0.50 | — |
| Au | — | — | — | — | — | <8.0 |

Table 2m. York Haven sheet, Reesers Summit infill.

| | W-237190 86RS-292 | W-237182 86RS-310 | W-237176 86RS-327 | W-237188 86RS-344 | W-237175 86RS-361 | W-237194 86RS-378 | W-237180 86RS-396 | W-237193 86RS-413 | W-237177 86RS-430 | W-237178 86RS-447 |
|------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| Fe ₂ O ₃ (%) | 16.30 | 15.44 | 16.45 | 15.59 | 15.87 | 15.44 | 15.87 | 19.02 | 17.88 | 19.02 |
| Na ₂ O | 2.82 | 2.78 | 2.80 | 2.86 | 2.66 | 2.80 | 2.84 | 2.74 | 2.74 | 2.63 |
| S | 0.03 | 0.05 | 0.03 | 0.04 | 0.01 | 0.01 | 0.04 | 0.04 | 0.03 | 0.04 |
| F | 0.06 | 0.06 | 0.06 | 0.05 | 0.06 | 0.06 | 0.06 | 0.07 | 0.06 | 0.06 |
| Cl | 0.22 | 0.21 | 0.10 | 0.02 | 0.20 | 0.25 | 0.20 | 0.25 | 0.21 | 0.22 |
| B (ppm) | 22.0 | 35 | 12.0 | 9.0 | 130 | 18.0 | 18.0 | 28.0 | 26.0 | 28.0 |
| Sc | 33 | 34 | 34 | 34 | 38 | 34 | 34 | 39 | 38 | 39 |
| Cr | 6.9 | 4.3 | 33 | 6.2 | 24.0 | 7.8 | 31 | 20.0 | 23.0 | 26.0 |
| Co | 44 | 44 | 49 | 48 | 48 | 46 | 46 | 50 | 51 | 55 |
| Ni | 26.0 | 24.0 | 28.0 | 29.0 | 28.0 | 25.0 | 27.0 | 11.0 | 17.0 | 17.0 |
| Cu | 114 | 147 | 178 | 196 | 222 | 173 | 170 | 320 | 235 | 178 |
| Zn | 73 | 105 | 92 | 90 | 106 | 94 | 99 | 108 | 115 | 111 |
| Rb | 50 | 46 | 46 | 37 | 46 | 47 | 39 | 57 | 57 | 42 |
| Sr | 211 | 230 | 220 | 215 | 207 | 240 | 217 | 209 | 231 | 207 |
| Ag | 0.060 | 0.074 | 0.140 | 0.130 | 0.120 | 0.190 | 0.120 | 0.093 | 0.076 | 0.110 |
| Sb | <0.70 | <0.70 | <0.80 | <0.70 | 0.40 | 0.38 | 0.40 | 0.45 | <0.90 | <0.80 |
| Cs | 1.30 | 1.90 | 2.30 | 2.30 | 2.30 | 1.80 | 1.90 | 2.10 | 2.50 | 1.70 |
| Ba | 360 | 340 | 310 | 286 | 340 | 330 | 295 | 400 | 350 | 340 |
| Y | 40 | 43 | 42 | 36 | 30 | 40 | 34 | 46 | 38 | 31 |
| La | 21.1 | 21.2 | 23.4 | 20.6 | 21.5 | 21.5 | 23.3 | 26.9 | 22.0 | 21.4 |
| Ce | 45 | 47 | 47 | 42 | 44 | 44 | 50 | 54 | 48 | 43 |
| Nd | <19.0 | 28.0 | <30 | <31 | 24.0 | 24.0 | <30 | <50 | 27.0 | 28.0 |
| Sm | 6.6 | 6.5 | 6.5 | 5.9 | 6.4 | 6.2 | 6.5 | 7.9 | 6.6 | 6.3 |
| Eu | 1.80 | 1.80 | 1.70 | 1.60 | 1.80 | 1.80 | 1.70 | 2.30 | 1.90 | 1.70 |
| Tb | 1.20 | 1.10 | 1.10 | 0.95 | 1.20 | 1.10 | 1.30 | 1.40 | 1.10 | 1.30 |
| Yb | 3.8 | 3.8 | 3.9 | 3.6 | 3.8 | 3.6 | 3.8 | 4.8 | 3.9 | 3.9 |
| Lu | 0.58 | 0.56 | 0.54 | 0.49 | 0.55 | 0.50 | 0.53 | 0.65 | 0.58 | 0.54 |
| Zr | 185 | 175 | 185 | 168 | 162 | 187 | 166 | 217 | 194 | 180 |
| Hf | 5.4 | 5.3 | 5.5 | 4.9 | 4.9 | 5.4 | 5.1 | 6.3 | 5.0 | 5.5 |
| Nb | 18.0 | 17.0 | 18.0 | 16.0 | 15.0 | 15.0 | 18.0 | 20.0 | 18.0 | 19.0 |
| Ta | 1.20 | 1.10 | 1.20 | 1.00 | 1.10 | 0.98 | 1.10 | 1.40 | 1.10 | 1.30 |
| Th | 4.7 | 4.8 | 5.1 | 4.7 | 4.4 | 4.9 | 5.0 | 5.8 | 4.7 | 5.0 |
| U | 0.83 | 1.00 | 1.20 | 0.98 | 0.92 | 1.20 | 1.00 | 1.30 | 0.82 | 0.92 |
| Pd (ppb) | 13.0 | 13.0 | 18.0 | 11.0 | 11.0 | 17.0 | 16.0 | 34 | 48 | 42 |
| Pt | 7.9 | 4.9 | 4.7 | 4.0 | 2.70 | 6.4 | 7.0 | 6.8 | 6.6 | 6.3 |
| Rh | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |

Table 2n. York Haven sheet, Reesers Summit infill.

| | W-237185 86RS-464 | W-237192 86RS-482 | W-237181 86RS-499 | W-237186 86RS-516 | W-237187 86RS-533 | W-237191 86RS-550 | W-237184 86RS-568 | W-237189 86RS-585 | W-237179 86RS-602 | W-237183 86RS-619 |
|------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| Fe ₂ O ₃ (%) | 18.59 | 19.31 | 14.03 | 19.02 | 19.88 | 19.59 | 19.45 | 19.73 | 18.45 | 19.88 |
| Na ₂ O | 2.66 | 2.72 | 3.10 | 2.64 | 2.71 | 2.63 | 2.70 | 2.71 | 2.86 | 2.60 |
| S | 0.04 | 0.03 | 0.07 | 0.04 | 0.04 | 0.03 | 0.04 | 0.04 | 0.04 | 0.02 |
| F | 0.06 | 0.06 | 0.07 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.05 | 0.05 |
| Cl | 0.30 | 0.23 | 0.17 | 0.28 | 0.28 | 0.44 | 0.28 | 0.36 | 0.21 | 0.34 |
| B (ppm) | 36 | 30 | 21.0 | 29.0 | 26.0 | 31 | 26.0 | 25.0 | 19.0 | 22.0 |
| Sc | 39 | 39 | 29.8 | 39 | 40 | 41 | 41 | 41 | 38 | 43 |
| Cr | 29.0 | <0.250 | <0.250 | <0.250 | <0.250 | <0.250 | 4.8 | 23.0 | 25.0 | 7.8 |
| Co | 54 | 56 | 34 | 52 | 55 | 55 | 56 | 57 | 55 | 62 |
| Ni | 17.0 | 15.0 | 9.0 | 12.0 | 14.0 | 11.0 | 16.0 | 13.0 | 15.0 | 16.0 |
| Cu | 170 | 196 | 176 | 276 | 198 | 205 | 219 | 207 | 140 | 148 |
| Zn | 125 | 101 | 93 | 120 | 97 | 123 | 91 | 105 | 105 | 103 |
| Rb | 58 | 54 | 56 | 50 | 46 | 56 | 37 | 50 | 40 | 46 |
| Sr | 228 | 217 | 199 | 217 | 213 | 218 | 210 | 217 | 236 | 226 |
| Ag | 0.120 | 0.150 | 0.120 | 0.100 | 0.068 | 0.130 | 0.110 | 0.100 | 0.080 | 0.120 |
| Sb | <0.80 | <0.80 | <0.50 | <0.80 | <0.80 | <0.90 | <0.90 | 0.55 | <0.80 | <0.90 |
| Cs | 2.60 | 1.70 | 1.80 | 2.70 | 1.90 | 2.40 | 1.70 | 2.00 | 1.80 | 2.10 |
| Ba | 330 | 330 | 470 | 360 | 330 | 330 | 330 | 300 | 310 | 297 |
| Y | 47 | 38 | 49 | 40 | 45 | 47 | 33 | 38 | 37 | 36 |
| La | 22.3 | 23.3 | 35 | 24.3 | 25.1 | 23.5 | 22.7 | 21.7 | 18.1 | 18.4 |
| Ce | 46 | 49 | 72 | 51 | 53 | 48 | 46 | 45 | 37 | 40 |
| Nd | 29.0 | <30 | 41 | 33 | 34 | <40 | <40 | 24.0 | 19.0 | <40 |
| Sm | 6.4 | 6.6 | 9.2 | 7.0 | 7.4 | 6.9 | 6.5 | 6.4 | 5.2 | 5.5 |
| Eu | 1.84 | 1.90 | 2.20 | 2.10 | 2.00 | 1.90 | 1.90 | 1.80 | 1.80 | 1.80 |
| Tb | 1.20 | 1.20 | 1.50 | 1.20 | 1.30 | 1.40 | 1.10 | 1.30 | 1.00 | 0.94 |
| Yb | 3.7 | 3.8 | 5.2 | 4.0 | 4.3 | 4.1 | 3.8 | 3.7 | 3.0 | 3.3 |
| Lu | 0.57 | 0.56 | 0.70 | 0.58 | 0.63 | 0.60 | 0.55 | 0.52 | 0.45 | 0.49 |
| Zr | 183 | 193 | 278 | 210 | 219 | 195 | 181 | 175 | 164 | 151 |
| Hf | 5.1 | 5.8 | 7.6 | 5.7 | 6.2 | 5.9 | 5.7 | 5.0 | 4.5 | 4.5 |
| Nb | 19.0 | 18.0 | 18.0 | 21.0 | 23.0 | 19.0 | 23.0 | 19.0 | 20.0 | 18.0 |
| Ta | 1.20 | 1.30 | 1.40 | 1.40 | 1.50 | 1.30 | 1.50 | 1.20 | 1.20 | 0.99 |
| Th | 4.8 | 5.4 | 8.2 | 5.5 | 5.5 | 5.3 | 5.1 | 4.6 | 4.0 | 4.1 |
| U | 0.91 | 1.00 | 1.80 | 0.93 | 1.50 | 0.89 | 1.50 | 0.98 | 0.91 | <1.00 |
| Pd (ppb) | 41 | 61 | 19.0 | 100 | 71 | 89 | 130 | 75 | 110 | 100 |
| Pt | 4.7 | 16.0 | 6.2 | 21.0 | 16.0 | 11.0 | 19.0 | 11.0 | 16.0 | 16.0 |
| Rh | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |

Table 2o. York Haven sheet, Reesers Summit West.

| | W-238465 | W-238457 | W-238458 | W-238446 | W-238441 |
|--------------------------------|----------|----------|----------|----------|----------|
| | JM-86 | JM-86 | JM-86 | JM-86 | JM-86 |
| | 37 | 38 | 39 | 40 | 41 |
| Lat. | 40°12'N | 40°12'N | 40°11'N | 40°11'N | 40°11'N |
| Long. | 76°52'W | 76°53'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 52.70 | 52.50 | 52.40 | 53.70 | 52.20 |
| TiO ₂ | 1.17 | 1.36 | 1.15 | 0.88 | 1.12 |
| Al ₂ O ₃ | 14.00 | 14.70 | 14.00 | 17.90 | 14.40 |
| Fe ₂ O ₃ | 2.87 | 2.88 | 3.20 | 2.27 | 3.04 |
| FeO | 8.10 | 8.60 | 7.80 | 7.00 | 7.60 |
| MnO | 0.17 | 0.18 | 0.18 | 0.14 | 0.17 |
| MgO | 6.82 | 5.69 | 7.19 | 3.42 | 6.85 |
| CaO | 10.70 | 10.30 | 11.00 | 9.57 | 10.70 |
| Na ₂ O | 2.28 | 2.37 | 2.12 | 3.25 | 2.26 |
| K ₂ O | 0.67 | 0.76 | 0.58 | 1.00 | 0.80 |
| P ₂ O ₅ | 0.12 | 0.16 | 0.14 | 0.21 | 0.15 |
| H ₂ O ⁺ | 0.65 | 0.73 | 0.37 | 1.00 | 0.67 |
| H ₂ O ⁻ | 0.36 | 0.28 | 0.21 | 0.18 | 0.34 |
| CO ₂ | 0.04 | 0.02 | 0.01 | 0.01 | 0.01 |
| S | 0.01 | 0.01 | 0.01 | 0.02 | <0.01 |
| F | 0.02 | 0.03 | 0.02 | 0.03 | 0.02 |
| Cl | 0.23 | 0.06 | 0.02 | 0.04 | 0.03 |
| Σ | 100.91 | 100.63 | 100.40 | 100.62 | 100.36 |
| B (ppm) | — | — | — | — | — |
| Sc | 37 | 36 | 37 | 25.2 | 37 |
| Cr | 217 | 75 | 279 | 6.7 | 310 |
| Co | 45 | 46 | 46 | 32 | 43 |
| Ni | 97 | 68 | 91 | 28.0 | 95 |
| Cu | 88 | 93 | 105 | 93 | 121 |
| Zn | 78 | 79 | 75 | 84 | 73 |
| As | <3.0 | <2.60 | <2.60 | <4.0 | <3.0 |
| Rb | 28.0 | 25.0 | 22.0 | 37 | 27.0 |
| Sr | 210 | 208 | 185 | 264 | 201 |
| Sb | <0.290 | 0.160 | <0.40 | <0.40 | <0.50 |
| Cs | 0.96 | 1.20 | 0.97 | 1.00 | 1.80 |
| Ba | 188 | 219 | 197 | 271 | 197 |
| Y | 25.0 | 29.0 | 25.0 | 27.0 | 19.0 |
| La | 12.0 | 13.1 | 11.0 | 16.0 | 11.0 |
| Ce | 25.0 | 29.0 | 23.0 | 31 | 23.0 |
| Nd | 14.0 | 16.0 | 15.0 | 16.0 | 14.0 |
| Sm | 3.7 | 4.0 | 3.6 | 4.5 | 3.5 |
| Eu | 1.10 | 1.20 | 1.10 | 1.53 | 1.10 |
| Tb | 0.65 | 0.75 | 0.51 | 0.83 | 0.61 |
| Yb | 2.40 | 2.50 | 1.90 | 2.30 | 2.20 |
| Lu | 0.33 | 0.37 | 0.35 | 0.39 | 0.36 |
| Zr | 108 | 116 | 103 | 125 | 95 |
| Hf | 2.83 | 3.1 | 2.50 | 3.2 | 2.40 |
| Nb | 8.1 | 8.5 | 6.1 | 8.4 | 6.9 |
| Ta | 0.55 | 0.65 | 0.52 | 0.68 | 0.53 |
| Th | 2.60 | 2.70 | 2.20 | 3.1 | 2.40 |
| U | 0.56 | 0.61 | 0.48 | 0.57 | 0.45 |
| Pd (ppb) | 11.0 | 13.0 | 5.9 | 2.00 | 9.9 |
| Pt | 12.0 | 10.0 | 9.1 | 6.1 | 10.0 |
| Rh | <1.00 | <1.00 | <0.50 | <1.00 | <0.50 |
| Ru | <1.00 | 1.00 | 0.50 | 1.00 | <0.50 |
| Ir | <1.00 | <1.00 | <0.50 | <1.00 | <0.50 |
| Au | <19.0 | <21.0 | <21.0 | <20.0 | <23.0 |

Table 2p. York Haven sheet, USGS Corehole No. 1.

| | W-241388 | W-241389 | W-241390 | W-241391 | W-241392 | W-241393 | W-241394 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|
| | CH1-PRS | CH1-PRS | CH1-PRS | CH1-PRS | CH1-PRS | CH1-PRS | CH1-PRS |
| | 21.5 | 36.5 | 42 | 52.5 | 53.5 | 61.5 | 76 |
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 52.90 | 52.70 | 52.80 | 51.90 | 52.70 | 50.40 | 52.90 |
| TiO ₂ | 1.22 | 1.22 | 1.20 | 1.48 | 1.32 | 1.13 | 1.22 |
| Al ₂ O ₃ | 18.00 | 17.30 | 17.90 | 15.60 | 16.80 | 18.00 | 18.20 |
| Fe ₂ O ₃ | 2.31 | 2.44 | 2.48 | 3.19 | 2.71 | 3.20 | 2.46 |
| FeO | 7.60 | 7.99 | 7.62 | 9.29 | 8.28 | 5.73 | 7.42 |
| MnO | 0.15 | 0.16 | 0.16 | 0.18 | 0.17 | 0.17 | 0.14 |
| MgO | 3.63 | 4.16 | 3.86 | 4.81 | 4.38 | 3.09 | 3.85 |
| CaO | 10.60 | 10.60 | 10.60 | 10.50 | 10.60 | 12.00 | 10.80 |
| Na ₂ O | 2.98 | 2.80 | 2.90 | 2.44 | 2.72 | 2.90 | 2.84 |
| K ₂ O | 0.74 | 0.68 | 0.72 | 0.68 | 0.68 | 0.69 | 0.70 |
| P ₂ O ₅ | 0.14 | 0.14 | 0.13 | 0.14 | 0.14 | 0.13 | 0.13 |
| H ₂ O ⁺ | 0.61 | 0.51 | 0.63 | 0.51 | 0.49 | 0.71 | 0.38 |
| H ₂ O ⁻ | 0.15 | 0.25 | 0.17 | 0.22 | 0.21 | 0.63 | 0.23 |
| CO ₂ | 0.02 | 0.01 | 0.02 | 0.04 | 0.05 | 1.94 | 0.10 |
| S | 0.01 | 0.02 | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 |
| F | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | <0.01 |
| Cl | 0.04 | 0.04 | 0.05 | 0.05 | 0.04 | 0.04 | 0.05 |
| Σ | 101.10 | 101.05 | 101.28 | 101.06 | 101.33 | 100.80 | 101.44 |
| B (ppm) | 9.3 | 4.0 | 7.8 | 4.0 | 3.0 | 2.00 | 3.0 |
| Sc | 29.0 | 32 | 29.9 | 40 | 34 | 29.4 | 30 |
| Cr | 7.4 | 13.0 | 12.0 | 17.0 | 23.0 | 13.0 | 14.0 |
| Co | 37 | 40 | 38 | 49 | 43 | 34 | 38 |
| Ni | 32 | 40 | 34 | 40 | 39 | 36 | 39 |
| Cu | 92 | 114 | 80 | 97 | 92 | 100 | 85 |
| Zn | 63 | 80 | 70 | 69 | 76 | 68 | 69 |
| As | 1.10 | 1.20 | 1.40 | 1.20 | 1.20 | 1.30 | 1.00 |
| Rb | 25.0 | 20.0 | 24.0 | 21.0 | 20.0 | 31 | 18.0 |
| Sr | 248 | 233 | 243 | 209 | 222 | 258 | 239 |
| Sb | 0.180 | 0.190 | 0.160 | 0.130 | 0.140 | 0.100 | 0.170 |
| Cs | 1.00 | 0.98 | 0.90 | 0.99 | 1.20 | 1.20 | 1.00 |
| Ba | 212 | 198 | 194 | 187 | 195 | 188 | 178 |
| Y | 26.0 | 24.0 | 25.0 | 28.0 | 20.0 | 30 | 21.0 |
| La | 12.2 | 12.3 | 11.8 | 11.9 | 12.6 | 11.8 | 12.0 |
| Ce | 25.3 | 25.2 | 24.3 | 24.9 | 26.0 | 24.2 | 24.3 |
| Nd | 14.0 | 13.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| Sm | 3.6 | 3.7 | 3.6 | 3.8 | 3.8 | 3.5 | 3.6 |
| Eu | 1.24 | 1.22 | 1.22 | 1.15 | 1.22 | 1.18 | 1.20 |
| Tb | 0.69 | 0.67 | 0.66 | 0.73 | 0.66 | 0.63 | 0.61 |
| Yb | 2.15 | 2.20 | 2.18 | 2.46 | 2.30 | 2.12 | 2.12 |
| Lu | 0.298 | 0.32 | 0.32 | 0.35 | 0.35 | 0.290 | 0.31 |
| Zr | 99 | 98 | 93 | 98 | 95 | 105 | 95 |
| Hf | 2.70 | 2.71 | 2.70 | 2.60 | 2.70 | 2.40 | 2.50 |
| Nb | 8.2 | 8.6 | 7.9 | 9.0 | 8.8 | 8.4 | 8.0 |
| Ta | 0.62 | 0.54 | 0.53 | 0.55 | 0.59 | 0.54 | 0.57 |
| Th | 2.29 | 2.50 | 2.40 | 2.40 | 2.50 | 2.40 | 2.40 |
| U | 0.48 | 0.62 | 0.41 | 0.44 | 0.46 | 0.58 | 0.47 |
| Pd (ppb) | 12.0 | 11.0 | 12.0 | 11.0 | 13.0 | 10.0 | 9.7 |
| Pt | 11.0 | 6.4 | 7.7 | 5.3 | 5.9 | 7.2 | 8.0 |
| Rh | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ru | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ir | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |

Table 2g York Haven sheet, USGS Corehole No. 1.

| | W-241395 CH1-PRS 86.5 | W-241396 CH1-PRS 97.6 | W-241397 CH1-PRS 106.5 | W-241398 CH1-PRS 122.5 | W-241399 CH1-PRS 131.5 | W-241400 CH1-PRS 145 | W-241401 CH1-PRS 149 |
|--------------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|----------------------------|----------------------------|
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 52.80 | 52.90 | 52.50 | 52.90 | 53.00 | 52.20 | 53.00 |
| TiO ₂ | 1.24 | 1.27 | 1.25 | 1.22 | 1.22 | 1.25 | 1.15 |
| Al ₂ O ₃ | 16.60 | 16.90 | 17.50 | 17.20 | 17.50 | 15.40 | 17.30 |
| Fe ₂ O ₃ | 2.40 | 2.71 | 2.21 | 2.30 | 2.30 | 1.84 | 1.69 |
| FeO | 8.35 | 8.16 | 7.92 | 7.79 | 7.72 | 9.04 | 7.70 |
| MnO | 0.17 | 0.16 | 0.15 | 0.15 | 0.15 | 0.17 | 0.15 |
| MgO | 4.47 | 4.41 | 4.06 | 4.36 | 4.28 | 5.32 | 4.44 |
| CaO | 10.50 | 10.70 | 10.50 | 10.70 | 10.70 | 10.60 | 10.50 |
| Na ₂ O | 2.74 | 2.74 | 2.87 | 2.74 | 2.88 | 2.47 | 2.82 |
| K ₂ O | 0.75 | 0.72 | 0.80 | 0.78 | 0.73 | 0.73 | 0.80 |
| P ₂ O ₅ | 0.14 | 0.14 | 0.15 | 0.14 | 0.14 | 0.14 | 0.14 |
| H ₂ O ⁺ | 0.62 | 0.56 | 0.57 | 0.58 | 0.52 | 0.77 | 0.57 |
| H ₂ O ⁻ | 0.15 | 0.15 | 0.16 | 0.13 | 0.09 | 0.14 | 0.22 |
| CO ₂ | 0.02 | 0.08 | 0.02 | 0.02 | 0.01 | 0.03 | 0.03 |
| S | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| F | <0.01 | 0.01 | 0.01 | 0.02 | <0.01 | <0.01 | 0.01 |
| Cl | 0.06 | 0.04 | 0.10 | 0.04 | 0.02 | 0.13 | 0.04 |
| Σ | 101.03 | 101.66 | 100.79 | 101.08 | 101.29 | 100.24 | 100.58 |
| B (ppm) | 8.9 | 6.5 | 5.2 | 34 | 4.2 | 3.0 | 9.3 |
| Sc | 33 | 33 | 30 | 31 | 30 | 35 | 29.2 |
| Cr | 18.0 | 18.0 | 19.0 | 20.0 | 26.0 | 30 | 23.0 |
| Co | 41 | 42 | 38 | 39 | 38 | 44 | 37 |
| Ni | 38 | 35 | 36 | 38 | 34 | 57 | 46 |
| Cu | 114 | 92 | 107 | 101 | 97 | 117 | 97 |
| Zn | 70 | 68 | 69 | 72 | 65 | 71 | 77 |
| As | 1.20 | 1.30 | 1.40 | 1.80 | 1.10 | 1.50 | 0.96 |
| Rb | 25.0 | 20.0 | 19.0 | 25.0 | 33 | 22.0 | 22.0 |
| Sr | 221 | 232 | 231 | 231 | 246 | 204 | 230 |
| Sb | 0.150 | 0.140 | 0.200 | 0.210 | 0.180 | 0.150 | 0.140 |
| Cs | 1.00 | 1.10 | 0.97 | 1.00 | 0.96 | 0.77 | 0.82 |
| Ba | 208 | 195 | 199 | 207 | 197 | 197 | 195 |
| Y | 25.0 | 27.0 | 19.0 | 30 | 30 | 21.0 | 24.0 |
| La | 13.1 | 12.6 | 12.1 | 12.2 | 12.7 | 12.0 | 12.1 |
| Ce | 26.9 | 27.0 | 24.0 | 25.0 | 26.0 | 25.0 | 25.0 |
| Nd | 13.0 | 13.0 | 13.0 | 13.0 | 14.0 | 12.0 | 14.0 |
| Sm | 3.9 | 3.9 | 3.7 | 3.7 | 3.8 | 3.7 | 3.7 |
| Eu | 1.26 | 1.23 | 1.20 | 1.19 | 1.22 | 1.17 | 1.23 |
| Tb | 0.71 | 0.73 | 0.67 | 0.63 | 0.68 | 0.68 | 0.57 |
| Yb | 2.39 | 2.41 | 2.20 | 2.27 | 2.25 | 2.30 | 2.10 |
| Lu | 0.35 | 0.33 | 0.32 | 0.34 | 0.33 | 0.32 | 0.290 |
| Zr | 107 | 100 | 103 | 107 | 112 | 98 | 99 |
| Hf | 2.85 | 2.65 | 2.63 | 2.70 | 2.86 | 2.54 | 2.50 |
| Nb | 8.8 | 8.7 | 8.3 | 8.0 | 8.5 | 8.1 | 8.7 |
| Ta | 0.65 | 0.62 | 0.55 | 0.56 | 0.65 | 0.61 | 0.57 |
| Th | 2.50 | 2.70 | 2.40 | 2.40 | 2.70 | 2.20 | 2.50 |
| U | 0.67 | 0.60 | 0.46 | 0.51 | 0.53 | 0.54 | 0.65 |
| Pd (ppb) | 10.0 | 12.0 | 12.0 | 10.0 | 11.0 | 12.0 | 11.0 |
| Pt | 7.2 | 8.8 | 7.3 | 7.7 | 8.5 | 7.1 | 8.3 |
| Rh | <0.50 | 0.50 | 0.50 | <0.50 | <0.50 | <0.50 | 0.50 |
| Ru | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ir | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |

Table 2r. York Haven sheet, USGS Corehole No. 1.

| | W-241402 | W-241403 | W-241404 | W-241405 | W-241406 | W-241407 | W-241408 | W-241409 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | CH1-PRS | CH1-PRS | CH1-PRS | CH1-PRS | CH1-PRS | CH1-PRS | CH1-PRS | CH1-PRS |
| | 172.5 | 198.6 | 213.5 | 239.5 | 276 | 298 | 313.8 | 323 |
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 53.00 | 52.70 | 53.20 | 52.90 | 52.70 | 52.90 | 52.70 | 52.70 |
| TiO ₂ | 1.18 | 1.28 | 1.17 | 1.14 | 1.08 | 1.06 | 1.11 | 1.09 |
| Al ₂ O ₃ | 15.30 | 14.90 | 16.00 | 15.80 | 15.20 | 14.30 | 14.90 | 15.30 |
| Fe ₂ O ₃ | 1.64 | 1.70 | 2.09 | 2.36 | 1.32 | 1.67 | 1.48 | 1.44 |
| FeO | 8.97 | 9.20 | 8.04 | 8.17 | 8.42 | 8.96 | 8.46 | 8.28 |
| MnO | 0.17 | 0.18 | 0.16 | 0.17 | 0.17 | 0.19 | 0.17 | 0.17 |
| MgO | 5.33 | 5.82 | 5.34 | 5.93 | 6.70 | 7.34 | 6.77 | 6.59 |
| CaO | 10.30 | 10.40 | 10.40 | 10.80 | 11.00 | 11.20 | 11.20 | 11.10 |
| Na ₂ O | 2.43 | 2.39 | 2.48 | 2.35 | 2.24 | 2.17 | 2.25 | 2.22 |
| K ₂ O | 0.86 | 0.84 | 0.78 | 0.76 | 0.66 | 0.58 | 0.61 | 0.65 |
| P ₂ O ₅ | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 | 0.10 | 0.13 | 0.13 |
| H ₂ O ⁺ | 0.74 | 0.78 | 0.48 | 0.48 | 0.49 | 0.41 | 0.52 | 0.52 |
| H ₂ O ⁻ | 0.13 | 0.17 | 0.23 | 0.15 | 0.11 | 0.12 | 0.07 | 0.07 |
| CO ₂ | 0.03 | 0.05 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| S | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 |
| F | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 |
| Cl | 0.09 | 0.09 | 0.03 | 0.04 | 0.02 | 0.02 | 0.02 | 0.02 |
| Σ | 100.35 | 100.68 | 100.59 | 101.23 | 100.29 | 101.07 | 100.45 | 100.33 |
| B (ppm) | 21.3 | 9.3 | 8.1 | 8.7 | 3.0 | 3.0 | 3.0 | 3.0 |
| Sc | 34 | 36 | 33 | 36 | 35 | 38 | 36 | 35 |
| Cr | 41 | 57 | 63 | 98 | 125 | 150 | 145 | 140 |
| Co | 43 | 45 | 41 | 45 | 43 | 48 | 44 | 43 |
| Ni | 51 | 54 | 48 | 64 | 67 | 70 | 79 | 63 |
| Cu | 101 | 99 | 86 | 94 | 84 | 87 | 82 | 83 |
| Zn | 72 | 75 | 67 | 77 | 71 | 70 | 72 | 65 |
| As | 1.40 | 25.0 | 1.30 | 0.90 | <1.70 | 0.99 | 0.80 | 1.20 |
| Rb | 25.0 | 35 | 32 | 29.0 | 18.0 | 17.0 | 20.0 | 26.0 |
| Sr | 202 | 201 | 210 | 208 | 193 | 185 | 193 | 199 |
| Sb | 0.190 | 0.110 | 0.140 | 0.160 | 0.190 | <0.270 | <0.270 | 0.170 |
| Cs | 0.86 | 0.90 | 0.99 | 0.86 | 0.79 | 0.72 | 0.78 | 0.81 |
| Ba | 215 | 197 | 197 | 183 | 540 | 153 | 170 | 166 |
| Y | 22.0 | 34 | 25.0 | 27.0 | 21.0 | 25.0 | 25.0 | 21.0 |
| La | 13.4 | 12.7 | 12.3 | 11.5 | 10.4 | 10.1 | 10.9 | 10.4 |
| Ce | 27.0 | 26.2 | 25.3 | 24.6 | 22.0 | 22.0 | 22.0 | 23.0 |
| Nd | 13.0 | 13.0 | 12.0 | 11.0 | 11.0 | 14.0 | 12.0 | 14.0 |
| Sm | 4.0 | 3.8 | 3.7 | 3.5 | 3.3 | 3.2 | 3.4 | 3.3 |
| Eu | 1.20 | 1.16 | 1.22 | 1.10 | 1.10 | 1.04 | 1.00 | 1.04 |
| Tb | 0.71 | 0.70 | 0.68 | 0.65 | 0.57 | 0.60 | 0.63 | 0.57 |
| Yb | 2.36 | 2.30 | 2.20 | 2.10 | 2.00 | 2.10 | 2.00 | 2.00 |
| Lu | 0.33 | 0.31 | 0.31 | 0.30 | 0.280 | 0.270 | 0.30 | 0.290 |
| Zr | 100 | 117 | 105 | 101 | 97 | 93 | 95 | 100 |
| Hf | 2.80 | 2.90 | 2.80 | 2.40 | 2.40 | 2.40 | 2.40 | 2.20 |
| Nb | 8.8 | 8.9 | 8.8 | 8.4 | 7.9 | 7.5 | 8.1 | 8.2 |
| Ta | 0.62 | 0.58 | 0.61 | 0.51 | 0.46 | 0.43 | 0.55 | 0.56 |
| Th | 2.50 | 2.60 | 2.60 | 2.50 | 2.10 | 2.10 | 2.30 | 2.20 |
| U | 0.61 | 0.50 | 0.60 | 0.51 | 0.45 | <0.80 | 0.67 | 0.67 |
| Pd (ppb) | 12.0 | 14.0 | 12.0 | 11.0 | 11.0 | 9.3 | 11.0 | 10.0 |
| Pt | 6.7 | 8.1 | 9.6 | 10.0 | 12.0 | 12.0 | 45 | 13.0 |
| Rh | <0.50 | 0.50 | 0.50 | <0.50 | 0.60 | 0.60 | 0.60 | 0.60 |
| Ru | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ir | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |

Table 2a. York Haven sheet, USGS Corehole No. 2.

| | W-241948 | W-241949 | W-241950 | W-241951 | W-245416 | W-241952 | W-241953 | W-241954 | W-241955 | W-245418 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS |
| | 20 | 45 | 83 | 128 | 137.8 | 165 | 168 | 195 | 229 | 235.8 |
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 50.30 | 53.00 | 52.30 | 52.90 | 53.30 | 52.90 | 52.70 | 52.70 | 52.90 | 52.80 |
| TiO ₂ | 2.20 | 1.44 | 1.57 | 1.57 | 1.49 | 1.62 | 1.45 | 1.40 | 1.41 | 1.44 |
| Al ₂ O ₃ | 14.20 | 15.90 | 16.70 | 15.90 | 16.50 | 15.70 | 15.80 | 15.70 | 15.00 | 14.50 |
| Fe ₂ O ₃ | 4.89 | 3.10 | 3.21 | 3.27 | 2.82 | 3.64 | 3.53 | 2.91 | 3.12 | 2.15 |
| FeO | 10.40 | 8.40 | 8.20 | 8.60 | 6.70 | 8.60 | 7.50 | 8.90 | 8.90 | 9.40 |
| MnO | 0.19 | 0.15 | 0.18 | 0.15 | 0.13 | 0.16 | 0.13 | 0.17 | 0.16 | 0.19 |
| MgO | 4.35 | 3.90 | 3.57 | 3.81 | 3.83 | 4.05 | 4.03 | 4.51 | 4.89 | 5.14 |
| CaO | 9.98 | 9.81 | 9.86 | 9.22 | 10.20 | 9.42 | 10.20 | 9.99 | 9.85 | 9.99 |
| Na ₂ O | 2.63 | 3.03 | 3.05 | 2.92 | 3.40 | 2.80 | 3.05 | 2.79 | 2.71 | 2.47 |
| K ₂ O | 0.77 | 0.83 | 0.89 | 1.19 | 0.65 | 1.04 | 0.75 | 1.01 | 0.95 | 0.97 |
| P ₂ O ₅ | 0.15 | 0.17 | 0.17 | 0.18 | 0.20 | 0.19 | 0.18 | 0.17 | 0.18 | 0.18 |
| H ₂ O ⁺ | 0.59 | 0.73 | 0.78 | 0.86 | 0.96 | 0.66 | 0.63 | 0.69 | 0.73 | 0.71 |
| H ₂ O ⁻ | 0.41 | 0.22 | 0.22 | 0.14 | 0.34 | 0.24 | 0.37 | 0.21 | 0.18 | 0.17 |
| CO ₂ | 0.25 | 0.08 | 0.02 | 0.04 | 0.17 | 0.04 | 0.42 | 0.03 | 0.02 | 0.02 |
| S | 0.02 | 0.02 | 0.03 | 0.04 | — | 0.03 | 0.03 | 0.03 | 0.03 | — |
| F | 0.02 | 0.02 | 0.02 | 0.02 | — | 0.03 | 0.02 | 0.03 | 0.02 | — |
| Cl | 0.06 | 0.12 | 0.14 | 0.19 | — | 0.10 | 0.14 | 0.19 | 0.09 | — |
| Σ | 101.41 | 100.93 | 100.91 | 101.00 | 100.69 | 101.22 | 100.93 | 101.42 | 101.14 | 100.13 |
| B (ppm) | 16.7 | 23.8 | 20.7 | — | — | 39 | 19.0 | — | 30 | — |
| Sc | 40 | 33 | 29.7 | 32 | 29.9 | 34 | 33 | 34 | 35 | 34 |
| Cr | 6.0 | 4.5 | 8.9 | 10.0 | 9.9 | 12.0 | 13.0 | 21.0 | 28.0 | 37 |
| Co | 59 | 41 | 40 | 41 | 33 | 43 | 39 | 43 | 45 | 44 |
| Ni | 42 | 35 | 32 | 31 | 27.0 | 35 | 40 | 36 | 41 | 50 |
| Cu | 141 | 133 | 152 | 115 | 70 | 130 | 92 | 111 | 107 | 137 |
| Zn | 113 | 68 | 102 | 61 | 62 | 66 | 65 | 51 | 63 | 65 |
| As | 3.6 | 0.91 | <0.80 | 2.10 | <1.20 | 1.70 | 2.10 | 1.80 | 2.00 | 1.60 |
| Rb | 28.0 | 31 | 25.0 | 40 | 19.0 | 36 | 25.0 | 43 | 21.0 | 29.0 |
| Sr | 194 | 218 | 246 | 219 | 231 | 219 | 225 | 215 | 190 | 202 |
| Sb | 0.32 | <0.090 | 0.150 | 0.240 | 0.37 | 0.200 | <0.110 | 0.210 | 0.250 | 0.220 |
| Cs | 1.20 | 1.00 | 1.00 | 0.89 | 0.56 | 0.84 | 0.78 | 1.10 | 0.87 | 0.94 |
| Ba | 178 | 199 | 221 | 261 | 195 | 237 | 213 | 234 | 218 | 256 |
| Y | 32 | 31 | 24.0 | 28.0 | — | 34 | 30 | 33 | 27.0 | — |
| La | 13.4 | 14.7 | 14.2 | 15.6 | 14.7 | 16.6 | 14.7 | 14.7 | 15.6 | 15.0 |
| Ce | 28.4 | 29.6 | 28.0 | 33 | 31 | 33 | 31 | 29.0 | 33 | 30 |
| Nd | 14.0 | 16.0 | 15.0 | 17.0 | 17.0 | 17.0 | 16.0 | 15.0 | 17.0 | 16.0 |
| Sm | 4.1 | 4.4 | 4.2 | 4.6 | 4.6 | 4.8 | 4.6 | 4.3 | 4.5 | 4.5 |
| Eu | 1.33 | 1.41 | 1.40 | 1.50 | 1.40 | 1.41 | 1.45 | 1.40 | 1.36 | 1.30 |
| Tb | 0.72 | 0.74 | 0.79 | 0.83 | 0.79 | 0.87 | 0.88 | 0.75 | 0.74 | 0.73 |
| Yb | 2.60 | 2.70 | 2.50 | 2.70 | 2.80 | 2.90 | 2.80 | 2.70 | 2.80 | 2.80 |
| Lu | 0.37 | 0.38 | 0.38 | 0.38 | 0.42 | 0.39 | 0.41 | 0.36 | 0.39 | 0.37 |
| Zr | 119 | 124 | 123 | 121 | 129 | 127 | 129 | 120 | 126 | 133 |
| Hf | 3.3 | 3.3 | 3.1 | 3.4 | 3.4 | 3.6 | 3.5 | 3.3 | 3.3 | 3.4 |
| Nb | 11.0 | 10.0 | 10.0 | 11.0 | — | 11.0 | 10.0 | 10.0 | 11.0 | — |
| Ta | 0.71 | 0.69 | 0.72 | 0.82 | 0.74 | 0.83 | 0.73 | 0.69 | 0.75 | 0.74 |
| Th | 2.80 | 2.80 | 2.80 | 3.4 | 3.2 | 3.4 | 3.3 | 2.90 | 3.1 | 3.0 |
| U | 0.57 | 0.63 | <0.60 | 0.69 | 0.65 | 0.74 | 0.75 | 0.69 | 0.70 | 0.87 |
| Pd (ppb) | 9.0 | 8.1 | 12.0 | 11.0 | 13.0 | 8.6 | 9.1 | 9.1 | 6.9 | 12.0 |
| Pt | 3.1 | 2.90 | 3.0 | 4.2 | 6.7 | 4.1 | 3.9 | 4.3 | 3.5 | 6.9 |
| Rh | — | — | — | — | <0.50 | — | — | — | — | <0.50 |
| Ru | — | — | — | — | <0.50 | — | — | — | — | <0.50 |
| Ir | — | — | — | — | <0.50 | — | — | — | — | <0.50 |
| Au | — | <6.0 | <5.0 | 7.8 | <7.0 | — | 6.3 | 5.9 | 5.0 | <2.70 |

Table 2t. York Haven sheet, USGS Corehole No. 2.

| | W-241956 | W-241957 | W-241958 | W-241959 | W-245417 | W-241960 | W-241961 | W-241962 | W-241963 | W-241964 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS |
| | 243 | 272.5 | 319 | 352 | 361.2 | 405 | 436 | 469.5 | 505 | 531 |
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 53.10 | 52.80 | 52.60 | 55.60 | 53.10 | 52.70 | 52.70 | 52.70 | 50.30 | 42.80 |
| TiO ₂ | 1.43 | 1.41 | 1.34 | 0.83 | 1.25 | 1.22 | 1.33 | 1.21 | 1.16 | 1.11 |
| Al ₂ O ₃ | 14.40 | 14.80 | 14.40 | 11.00 | 14.90 | 15.00 | 14.80 | 14.50 | 14.10 | 13.00 |
| Fe ₂ O ₃ | 2.96 | 2.34 | 2.43 | 0.80 | 1.48 | 2.29 | 2.46 | 2.58 | 2.78 | 3.10 |
| FeO | 9.20 | 8.20 | 8.80 | 2.30 | 8.60 | 8.50 | 7.10 | 8.40 | 6.70 | 4.20 |
| MnO | 0.18 | 0.16 | 0.17 | 0.10 | 0.15 | 0.17 | 0.15 | 0.18 | 0.17 | 0.21 |
| MgO | 5.33 | 5.53 | 6.31 | 4.17 | 6.01 | 5.92 | 6.23 | 6.52 | 6.18 | 4.67 |
| CaO | 10.00 | 10.20 | 10.50 | 14.40 | 10.80 | 10.70 | 10.90 | 10.70 | 12.50 | 15.60 |
| Na ₂ O | 2.51 | 2.94 | 2.06 | 4.84 | 2.57 | 2.40 | 2.88 | 2.32 | 2.44 | 2.61 |
| K ₂ O | 0.97 | 0.71 | 0.86 | 0.45 | 0.63 | 0.78 | 0.77 | 0.72 | 0.99 | 2.26 |
| P ₂ O ₅ | 0.18 | 0.17 | 0.16 | <0.05 | 0.16 | 0.15 | 0.16 | 0.14 | 0.11 | 0.09 |
| H ₂ O ⁺ | 0.77 | 0.64 | 0.72 | 0.66 | 0.74 | 0.59 | 0.63 | 0.67 | 0.97 | 1.70 |
| H ₂ O ⁻ | 0.20 | 0.21 | 0.17 | 0.16 | 0.16 | 0.20 | 0.25 | 0.25 | 0.63 | 1.70 |
| CO ₂ | 0.03 | 0.04 | 0.02 | 5.20 | 0.02 | 0.02 | 0.03 | 0.02 | 1.90 | 6.30 |
| S | 0.04 | 0.04 | 0.03 | 0.03 | — | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 |
| F | 0.02 | 0.02 | 0.02 | 0.01 | — | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 |
| Cl | 0.13 | 0.09 | 0.13 | 0.05 | — | 0.10 | 0.08 | 0.07 | 0.06 | 0.05 |
| Σ | 101.44 | 100.30 | 100.73 | 100.59 | 100.58 | 100.79 | 100.52 | 101.02 | 101.05 | 99.47 |
| B (ppm) | — | — | 26.9 | — | — | 22.4 | — | 33 | 22.4 | — |
| Sc | 36 | 35 | 36 | 34 | 34 | 34 | 35 | 36 | 37 | 36 |
| Cr | 39 | 61 | 110 | 106 | 94 | 99 | 120 | 170 | 214 | 229 |
| Co | 45 | 41 | 47 | 11.6 | 41 | 43 | 39 | 45 | 40 | 28.3 |
| Ni | 59 | 50 | 50 | 21.0 | 60 | 58 | 60 | 68 | 71 | 75 |
| Cu | 134 | 70 | 93 | 79 | 67 | 118 | 69 | 96 | 76 | 71 |
| Zn | 76 | 74 | 56 | 59 | 58 | 71 | 76 | 86 | 67 | 47 |
| As | 1.80 | 1.50 | 1.60 | <1.00 | 2.10 | 1.40 | <2.10 | <1.20 | 2.40 | 3.0 |
| Rb | 30 | 15.0 | 29.0 | 10.0 | 15.0 | 36 | 22.0 | 27.0 | 30 | 68 |
| Sr | 196 | 181 | 191 | 121 | 203 | 200 | 200 | 191 | 206 | 242 |
| Sb | 0.260 | 0.270 | 0.230 | <0.250 | 0.220 | 0.270 | <0.190 | <0.180 | 0.180 | 0.270 |
| Cs | 0.99 | 0.53 | 0.98 | <0.270 | 0.66 | 0.67 | 0.74 | 0.86 | 0.82 | 1.00 |
| Ba | 232 | 149 | 206 | 85 | 194 | 207 | 182 | 183 | 261 | 690 |
| Y | 30 | 24.0 | 28.0 | 17.0 | — | 34 | 25.0 | 26.0 | 23.0 | 23.0 |
| La | 15.4 | 12.8 | 12.2 | 8.3 | 14.0 | 13.4 | 13.1 | 11.8 | 11.7 | 16.4 |
| Ce | 31 | 28.0 | 26.0 | 17.0 | 28.0 | 27.4 | 27.5 | 25.4 | 24.6 | 32 |
| Nd | 16.0 | 15.0 | 13.0 | 9.1 | 14.0 | 14.0 | 14.0 | 11.0 | 13.0 | 14.0 |
| Sm | 4.5 | 4.2 | 3.7 | 2.19 | 4.1 | 4.0 | 3.9 | 3.6 | 3.5 | 4.0 |
| Eu | 1.29 | 1.25 | 1.10 | 0.63 | 1.20 | 1.16 | 1.20 | 1.20 | 1.05 | 1.15 |
| Tb | 0.81 | 0.68 | 0.69 | 0.42 | 0.80 | 0.64 | 0.69 | 0.69 | 0.67 | 0.73 |
| Yb | 2.77 | 2.50 | 2.30 | 1.40 | 2.50 | 2.40 | 2.30 | 2.40 | 2.30 | 2.40 |
| Lu | 0.38 | 0.35 | 0.33 | 0.190 | 0.36 | 0.33 | 0.34 | 0.33 | 0.33 | 0.32 |
| Zr | 127 | 119 | 106 | 120 | 113 | 118 | 113 | 110 | 106 | 95 |
| Hf | 3.2 | 3.1 | 2.85 | 3.5 | 3.0 | 2.90 | 2.92 | 2.90 | 2.90 | 2.69 |
| Nb | 11.0 | 10.0 | 8.8 | 4.6 | — | 8.5 | 9.0 | 8.1 | 8.5 | 7.3 |
| Ta | 0.76 | 0.69 | 0.67 | 0.54 | 0.61 | 0.69 | 0.63 | 0.59 | 0.54 | 0.58 |
| Th | 3.2 | 2.80 | 2.80 | 2.00 | 2.80 | 2.70 | 2.60 | 2.60 | 2.70 | 2.20 |
| U | 0.73 | 0.70 | 0.69 | <0.40 | 0.57 | 0.69 | 0.61 | 0.62 | 0.56 | 0.70 |
| Pd (ppb) | 9.1 | 6.1 | 7.2 | 1.30 | 12.0 | 5.8 | 5.5 | 6.4 | 6.6 | 4.5 |
| Pt | 4.7 | 4.5 | 6.6 | <1.00 | 10.0 | 5.8 | 4.3 | 7.7 | 8.6 | 6.5 |
| Rh | — | — | — | — | 0.50 | — | — | — | — | — |
| Ru | — | — | — | — | <0.50 | — | — | — | — | — |
| Ir | — | — | — | — | <0.50 | — | — | — | — | — |
| Au | 8.5 | — | — | — | <5.0 | <6.0 | — | <6.0 | <1.90 | <1.70 |

Table 2u. York Haven sheet, USGS Corehole No. 2.

| | W-241965 | W-241966 | W-241967 | W-241968 | W-241969 | W-241970 | W-241971 | W-241972 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS | CH2-PRS |
| | 540 | 564.5 | 577.5 | 599.5 | 618 | 625.5 | 629 | 630 |
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 52.50 | 52.70 | 53.00 | 53.20 | 52.30 | 52.30 | 52.30 | 51.50 |
| TiO ₂ | 1.17 | 1.21 | 1.28 | 1.29 | 1.17 | 1.14 | 1.13 | 1.10 |
| Al ₂ O ₃ | 14.30 | 14.00 | 14.10 | 13.90 | 13.70 | 14.00 | 13.80 | 13.30 |
| Fe ₂ O ₃ | 2.79 | 2.83 | 3.29 | 2.97 | 2.49 | 2.30 | 2.79 | 3.97 |
| FeO | 8.00 | 8.40 | 7.60 | 8.30 | 8.40 | 8.40 | 8.00 | 5.90 |
| MnO | 0.19 | 0.18 | 0.17 | 0.19 | 0.18 | 0.18 | 0.18 | 0.15 |
| MgO | 7.21 | 7.03 | 6.86 | 6.79 | 7.93 | 7.75 | 7.54 | 7.79 |
| CaO | 10.50 | 10.70 | 10.70 | 10.20 | 10.80 | 10.70 | 10.90 | 10.70 |
| Na ₂ O | 2.44 | 2.25 | 2.32 | 2.24 | 2.08 | 1.99 | 2.14 | 2.26 |
| K ₂ O | 0.78 | 0.77 | 0.87 | 0.96 | 0.69 | 0.70 | 0.59 | 0.54 |
| P ₂ O ₅ | 0.16 | 0.16 | 0.17 | 0.16 | 0.14 | 0.14 | 0.14 | 0.13 |
| H ₂ O ⁺ | 0.56 | 0.57 | 0.60 | 0.74 | 0.65 | 0.55 | 0.64 | 1.30 |
| H ₂ O ⁻ | 0.32 | 0.21 | 0.24 | 0.26 | 0.25 | 0.24 | 0.36 | 1.50 |
| CO ₂ | 0.02 | 0.01 | 0.06 | 0.02 | 0.03 | 0.03 | 0.05 | 0.44 |
| S | 0.03 | 0.03 | 0.03 | 0.06 | 0.04 | 0.03 | 0.04 | 0.05 |
| F | 0.02 | 0.05 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Cl | 0.05 | 0.15 | 0.10 | 0.06 | 0.02 | 0.06 | 0.03 | 0.02 |
| Σ | 101.04 | 101.25 | 101.41 | 101.36 | 100.88 | 100.54 | 100.66 | 100.68 |
| B (ppm) | — | 22.5 | 31 | — | 28.4 | 24.7 | 23.6 | — |
| Sc | 37 | 38 | 38 | 37 | 36 | 36 | 37 | 35 |
| Cr | 256 | 237 | 214 | 221 | 278 | 272 | 287 | 257 |
| Co | 46 | 47 | 44 | 46 | 47 | 47 | 47 | 42 |
| Ni | 69 | 76 | 68 | 67 | 87 | 97 | 88 | 86 |
| Cu | 97 | 106 | 86 | 110 | 97 | 114 | 104 | 87 |
| Zn | 83 | 91 | 68 | 108 | 74 | 91 | 76 | 127 |
| As | <1.40 | <1.50 | 3.1 | <1.50 | <1.60 | <1.60 | 2.80 | 8.8 |
| Rb | 29.0 | 20.0 | 29.0 | 23.0 | 29.0 | 27.0 | 15.0 | 15.0 |
| Sr | 195 | 192 | 189 | 195 | 177 | 176 | 168 | 177 |
| Sb | <0.230 | <0.140 | 0.230 | 0.170 | <0.120 | <0.270 | <0.40 | 0.280 |
| Cs | 1.10 | 0.77 | 1.00 | 1.10 | 1.20 | 1.40 | 1.00 | 1.10 |
| Ba | 168 | 180 | 199 | 191 | 159 | 168 | 153 | 134 |
| Y | 24.0 | 22.0 | 25.0 | 25.0 | 24.0 | 30 | 23.0 | 21.0 |
| La | 11.8 | 12.4 | 13.4 | 12.6 | 11.3 | 10.9 | 11.3 | 11.7 |
| Ce | 25.7 | 26.2 | 28.4 | 26.5 | 25.2 | 24.3 | 23.8 | 25.2 |
| Nd | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 13.0 | 13.0 | 12.0 |
| Sm | 3.6 | 3.7 | 3.9 | 3.8 | 3.4 | 3.4 | 3.5 | 3.5 |
| Eu | 1.15 | 1.14 | 1.17 | 1.20 | 1.07 | 1.00 | 1.07 | 1.00 |
| Tb | 0.67 | 0.73 | 0.75 | 0.81 | 0.67 | 0.61 | 0.65 | 0.62 |
| Yb | 2.20 | 2.40 | 2.40 | 2.50 | 2.00 | 2.00 | 2.20 | 2.20 |
| Lu | 0.32 | 0.32 | 0.34 | 0.35 | 0.31 | 0.31 | 0.290 | 0.30 |
| Zr | 103 | 106 | 98 | 120 | 103 | 103 | 96 | 106 |
| Hf | 2.70 | 2.50 | 3.0 | 2.80 | 2.60 | 2.80 | 2.50 | 2.60 |
| Nb | 8.3 | 8.8 | 8.6 | 9.4 | 7.9 | 7.9 | 7.7 | 7.5 |
| Ta | 0.58 | 0.57 | 0.59 | 0.62 | 0.55 | 0.50 | 0.66 | 0.53 |
| Th | 2.40 | 2.40 | 2.70 | 2.80 | 2.30 | 2.40 | 2.20 | 2.30 |
| U | 0.37 | 0.37 | 0.62 | 0.73 | <0.60 | 0.64 | 0.32 | 0.63 |
| Pd (ppb) | 7.1 | 6.9 | 5.5 | 5.0 | 5.8 | 5.2 | 7.2 | 8.3 |
| Pt | 8.3 | 8.1 | 5.9 | 5.6 | 6.0 | 5.1 | 7.2 | 11.0 |
| Au | <9.0 | 6.6 | <7.0 | <1.10 | <7.0 | <8.0 | <7.0 | <1.40 |

Table 2v. York Haven sheet, Reesers Summit and Bunches area.

| | W-243875 | W-243876 | W-243877 | W-243878 | W-243879 |
|--------------------------------|----------|----------|----------|----------|----------|
| | FG-87 | FG-87 | FG-87 | FG-87 | FG-87 |
| | P1 | P2 | P3 | P4 | P5 |
| Lat. | 40°11'N | 40° 0'N | 40°11'N | 40°11'N | 40°11'N |
| Long. | 76°52'W | 76°52'W | 76°52'W | 76°52'W | 76°52'W |
| SiO ₂ (%) | 52.30 | 52.30 | 52.10 | 52.90 | 53.40 |
| TiO ₂ | 1.15 | 1.16 | 1.14 | 1.50 | 1.53 |
| Al ₂ O ₃ | 14.20 | 13.90 | 13.80 | 16.10 | 15.00 |
| Fe ₂ O ₃ | 2.81 | 2.50 | 2.84 | 3.19 | 3.21 |
| FeO | 8.20 | 8.50 | 8.10 | 7.80 | 8.80 |
| MnO | 0.18 | 0.18 | 0.19 | 0.16 | 0.16 |
| MgO | 7.35 | 7.46 | 7.73 | 4.00 | 3.74 |
| CaO | 11.00 | 10.90 | 10.90 | 10.10 | 9.04 |
| Na ₂ O | 2.13 | 2.10 | 2.08 | 2.90 | 2.60 |
| K ₂ O | 0.60 | 0.40 | 0.62 | 0.97 | 1.17 |
| P ₂ O ₅ | 0.15 | 0.15 | 0.14 | 0.19 | 0.21 |
| H ₂ O ⁺ | 0.35 | 0.68 | 0.44 | 0.38 | 0.74 |
| H ₂ O ⁻ | 0.14 | 0.29 | 0.26 | 0.19 | 0.20 |
| CO ₂ | 0.02 | 0.05 | 0.02 | 0.01 | <0.01 |
| S | 0.07 | 0.06 | 0.04 | 0.03 | 0.05 |
| F | 0.02 | 0.03 | 0.02 | 0.03 | 0.03 |
| Cl | 0.01 | 0.01 | 0.01 | 0.05 | 0.20 |
| Σ | 100.69 | 100.66 | 100.43 | 100.50 | 100.09 |
| B (ppm) | 6.9 | 9.0 | 5.0 | 11.0 | 11.0 |
| Sc | 37 | 38 | 37 | 32 | 32 |
| Cr | 274 | 259 | 320 | 15.0 | 18.0 |
| Co | 47 | 47 | 50 | 39 | 42 |
| Ni | 85 | 79 | 98 | 33 | 28.0 |
| Cu | 115 | 110 | 103 | 85 | 162 |
| Zn | 75 | 66 | 77 | 127 | 75 |
| Ga | 19.0 | 19.0 | 20.0 | 23.0 | 25.0 |
| As | <0.90 | 1.50 | <1.30 | <1.30 | 5.8 |
| Rb | 22.0 | 19.0 | 19.0 | 31 | 42 |
| Sr | 174 | 181 | 183 | 234 | 222 |
| Ag | 0.044 | 0.044 | 0.067 | 0.092 | 0.100 |
| Sb | <0.120 | 0.190 | <0.30 | 0.200 | 0.37 |
| Cs | 1.10 | 0.79 | 1.00 | 0.93 | 1.40 |
| Ba | 152 | 152 | 161 | 258 | 300 |
| Y | 21.0 | 23.0 | 21.0 | 26.0 | 32 |
| La | 11.3 | 12.0 | 11.0 | 16.0 | 16.5 |
| Ce | 24.0 | 24.0 | 23.0 | 32 | 34 |
| Nd | 13.0 | 12.0 | 13.0 | 18.0 | 18.0 |
| Sm | 3.6 | 3.7 | 3.5 | 4.7 | 5.0 |
| Eu | 1.09 | 1.11 | 1.10 | 1.38 | 1.46 |
| Tb | 0.64 | 0.68 | 0.63 | 0.81 | 0.92 |
| Yb | 2.60 | 2.60 | 2.30 | 2.90 | 3.1 |
| Lu | 0.34 | 0.37 | 0.32 | 0.41 | 0.44 |
| Zr | 100 | 110 | 100 | 127 | 143 |
| Hf | 2.50 | 2.70 | 2.50 | 3.6 | 3.6 |
| Nb | 7.1 | 7.2 | 7.3 | 9.9 | 12.0 |
| Ta | 0.53 | 0.55 | 0.51 | 0.79 | 0.83 |
| Th | 2.20 | 2.10 | 2.10 | 3.3 | 3.5 |
| U | 0.57 | 0.51 | 0.48 | 0.70 | 0.76 |
| Pd (ppb) | 10.0 | 11.0 | 11.0 | 13.0 | 12.0 |
| Pt | 10.0 | 10.0 | 9.5 | 5.2 | 4.4 |
| Rh | 0.7 | 0.6 | — | <1.0 | <0.5 |
| Au | <4.0 | <4.0 | <3.0 | <9.0 | <1.70 |

Table 2w. York Haven sheet, Reesers Summit area.

| | W-250620 MM-89-37 | W-250621 MM-89-38 | W-250622 MM-89-39 | W-250623 MM-89-40 | W-250624 MM-89-41 | W-250625 RS-PEG |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|--------------------|
| Lat. | 40°09'N | 40°10'N | 40°12'N | 40°11'N | 40°11'N | 40°12'N |
| Long. | 76°50'W | 76°52'W | 76°53'W | 76°54'W | 76°53'W | 76°52'W |
| SiO ₂ (%) | 52.30 | 52.50 | 52.10 | 52.30 | 52.80 | 53.20 |
| TiO ₂ | 0.97 | 1.04 | 0.84 | 1.43 | 1.32 | 2.07 |
| Al ₂ O ₃ | 15.30 | 14.70 | 16.70 | 15.70 | 14.50 | 12.80 |
| Fe ₂ O ₃ [*] | 10.60 | 10.50 | 10.00 | 12.30 | 12.10 | — |
| Fe ₂ O ₃ | — | — | — | — | — | 4.50 |
| FeO | — | — | — | — | — | 8.10 |
| MnO | 0.17 | 0.16 | 0.16 | 0.18 | 0.18 | 0.19 |
| MgO | 6.98 | 7.62 | 6.03 | 4.71 | 6.04 | 4.83 |
| CaO | 11.50 | 11.40 | 11.40 | 10.40 | 10.20 | 9.15 |
| Na ₂ O | 2.10 | 2.09 | 2.44 | 2.54 | 2.43 | 2.31 |
| K ₂ O | 0.57 | 0.57 | 0.57 | 0.81 | 0.78 | 1.09 |
| P ₂ O ₅ | 0.12 | 0.13 | 0.10 | 0.14 | 0.16 | 0.22 |
| F | — | — | — | — | — | 0.03 |
| Cl | — | — | — | — | — | 0.05 |
| H ₂ O ⁺ | — | — | — | — | — | 0.74 |
| H ₂ O ⁻ | — | — | — | — | — | 0.86 |
| LOI 925C | 0.15 | 0.20 | 0.36 | 0.17 | 0.31 | — |
| Σ | 100.76 | 100.91 | 100.70 | 100.68 | 100.82 | 100.14 |
| Co (ppm) | 50 | 50 | 47 | 50 | 53 | — |
| Ni | 72 | 75 | 58 | 64 | 45 | — |
| Cu | 100 | 98 | 95 | 120 | 140 | — |
| Pd (ppb) | 8.6 | 8.2 | 9.2 | 11.0 | 12.0 | — |
| Pt | 11.0 | 19.0 | 7.3 | 8.8 | 5.4 | — |
| Rh | 0.60 | 0.80 | 0.70 | <0.50 | 0.70 | — |
| Ru | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | — |
| Ir | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | — |

Table 2x. York Haven sheet, Granite Quarry section.

| | W-249532 MM89-25 | W-249533 MM89-26 | W-249534 MM89-27 | W-249535 MM89-28 | W-249536 MM89-29 | W-249537 MM89-30 | W-249538 MM89-31 | W-249539 MM89-32 |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Lat. | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N | 40°12'N |
| Long. | 76°49'W | 76°49'W | 76°49'W | 76°49'W | 76°49'W | 76°49'W | 76°49'W | 76°49'W |
| SiO ₂ (%) | 52.20 | 52.40 | 53.10 | 52.90 | 53.00 | 52.40 | 52.40 | 52.60 |
| TiO ₂ | 1.58 | 1.60 | 1.23 | 1.30 | 1.22 | 1.19 | 1.25 | 1.23 |
| Al ₂ O ₃ | 13.00 | 13.50 | 15.90 | 14.50 | 15.00 | 15.00 | 14.60 | 14.20 |
| Fe ₂ O ₃ [*] | 14.10 | 14.00 | 11.50 | 12.70 | 11.30 | 11.40 | 11.70 | 11.80 |
| MnO | 0.21 | 0.21 | 0.17 | 0.19 | 0.17 | 0.18 | 0.18 | 0.18 |
| MgO | 5.89 | 5.42 | 4.81 | 5.44 | 5.84 | 6.07 | 6.35 | 6.84 |
| CaO | 9.88 | 9.87 | 10.30 | 10.30 | 10.40 | 10.80 | 11.00 | 10.80 |
| Na ₂ O | 2.44 | 2.39 | 2.59 | 2.45 | 2.35 | 2.31 | 2.20 | 2.17 |
| K ₂ O | 0.68 | 0.87 | 0.78 | 0.73 | 0.76 | 0.68 | 0.69 | 0.67 |
| P ₂ O ₅ | 0.18 | 0.18 | 0.16 | 0.16 | 0.16 | 0.15 | 0.15 | 0.15 |
| LOI 900C | 0.73 | 0.24 | 0.12 | 0.13 | 0.24 | <0.01 | <0.01 | 0.18 |
| Σ | 100.89 | 100.68 | 100.66 | 100.80 | 100.44 | 100.18 | 100.52 | 100.82 |

Table 3. Rossville and Knoxlyn sheets.

| | W-236279 PR-84-1 | W-236286 PR-84-2 | W-236284 PR-84-3 | W-236285 PR-84-4 | W-236280 PR-84-5 | W-236287 PR-84-6 | W-236283 PR-84-7 | W-236271 JM85-16 | W-236268 JM85-20 |
|--------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Lat. | 44°21'N | 44° 2'N | 44° 2'N | 44° 2'N | 44° 2'N | 44° 2'N | 44° 2'N | 39°50'N | 39°50'N |
| Long. | 76°55'W | 76°55'W | 76°55'W | 76°55'W | 76°55'W | 76°55'W | 76°55'W | 77°17'W | 77°17'W |
| SiO ₂ (%) | 51.20 | 51.40 | 51.40 | 51.60 | 51.40 | 51.80 | 51.40 | 51.60 | 50.80 |
| TiO ₂ | 0.79 | 0.74 | 0.76 | 0.77 | 0.74 | 0.75 | 0.70 | 0.74 | 0.72 |
| Al ₂ O ₃ | 14.80 | 15.20 | 15.00 | 15.10 | 15.30 | 15.50 | 15.20 | 15.20 | 15.20 |
| Fe ₂ O ₃ | 2.90 | 1.20 | 1.20 | 1.40 | 1.20 | 1.40 | 0.90 | 1.60 | 1.10 |
| FeO | 7.80 | 9.10 | 9.20 | 9.00 | 9.10 | 8.80 | 9.00 | 9.00 | 9.20 |
| MnO | 0.20 | 0.19 | 0.19 | 0.19 | 0.19 | 0.18 | 0.18 | 0.19 | 0.19 |
| MgO | 7.60 | 7.90 | 7.90 | 7.90 | 7.80 | 7.80 | 7.80 | 8.20 | 8.10 |
| CaO | 10.70 | 11.10 | 11.00 | 11.10 | 11.20 | 11.20 | 11.20 | 11.30 | 11.10 |
| Na ₂ O | 2.08 | 2.14 | 2.18 | 2.16 | 2.25 | 2.22 | 2.32 | 2.14 | 2.17 |
| K ₂ O | 0.43 | 0.34 | 0.40 | 0.35 | 0.35 | 0.35 | 0.32 | 0.32 | 0.35 |
| P ₂ O ₅ | 0.12 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.10 | 0.10 | 0.11 |
| H ₂ O ⁺ | 0.72 | — | 0.48 | 0.32 | 0.34 | 0.11 | 0.21 | 0.62 | 1.10 |
| H ₂ O ⁻ | <0.01 | — | 0.02 | 0.08 | 0.08 | 0.09 | 0.14 | <0.01 | <0.01 |
| CO ₂ | 0.02 | 0.02 | 0.07 | 0.07 | 0.02 | 0.02 | 0.01 | 0.02 | 0.03 |
| S | 0.05 | — | 0.05 | 0.05 | 0.05 | 0.04 | 0.03 | 0.04 | 0.05 |
| F | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | 0.04 |
| Cl | 0.05 | — | 0.01 | 0.01 | 0.01 | <0.00 | 0.00 | 0.01 | <0.00 |
| Σ | 99.47 | 99.46 | 99.99 | 100.22 | 100.16 | 100.39 | 99.53 | 101.10 | 100.26 |
| Sc (ppm) | 45 | 44 | 44 | 44 | 44 | 44 | 46 | 44 | 44 |
| Cr | 196 | 232 | 226 | 236 | 229 | 230 | 242 | 253 | 257 |
| Co | 48 | 49 | 48 | 50 | 49 | 48 | 49 | 49 | 50 |
| Ni | 65 | 76 | 73 | 76 | 70 | 73 | 73 | 78 | 76 |
| Cu | 41 | 43 | 41 | 48 | 53 | 44 | 58 | 52 | 54 |
| Zn | 81 | 67 | 65 | 71 | 68 | 65 | 74 | 71 | 77 |
| As | <3.0 | <4.0 | <4.0 | <4.0 | <5.0 | <4.0 | <4.0 | <2.80 | 1.40 |
| Rb | 24.0 | 10.0 | 18.0 | 13.0 | 9.0 | 10.0 | 11.0 | 13.0 | 13.0 |
| Sr | 149 | 132 | 144 | 135 | 132 | 140 | 145 | 129 | 123 |
| Sb | <0.60 | <0.60 | <0.60 | <0.60 | <0.60 | <0.60 | <0.60 | <0.60 | <0.60 |
| Cs | 1.50 | 0.79 | 0.66 | 0.72 | 0.66 | 0.63 | <0.70 | 0.48 | 0.57 |
| Ba | 82 | 100 | 92 | 112 | 105 | 95 | 97 | 94 | 94 |
| Y | 27.0 | 22.0 | 22.0 | 23.0 | 21.0 | 20.0 | 21.0 | 23.0 | 23.0 |
| La | 6.9 | 5.9 | 6.1 | 5.9 | 6.0 | 6.1 | 5.6 | 5.6 | 7.0 |
| Ce | 15.0 | 13.0 | 13.0 | 12.0 | 13.0 | 13.0 | 12.0 | 13.0 | 12.0 |
| Nd | 7.5 | 8.8 | <5.0 | 7.6 | 7.8 | 7.9 | <10.0 | <5.0 | 7.1 |
| Sm | 2.51 | 2.31 | 2.23 | 2.25 | 2.27 | 2.24 | 2.14 | 2.17 | 2.30 |
| Eu | 0.86 | 0.80 | 0.79 | 0.82 | 0.80 | 0.83 | 0.83 | 0.78 | 0.79 |
| Tb | 0.57 | 0.55 | 0.54 | 0.51 | 0.57 | 0.52 | 0.49 | 0.52 | 0.55 |
| Yb | 2.40 | 2.40 | 2.30 | 2.50 | 2.40 | 2.60 | 2.10 | 2.30 | 2.50 |
| Lu | 0.37 | 0.38 | 0.37 | 0.36 | 0.38 | 0.36 | 0.37 | 0.35 | 0.37 |
| Zr | 75 | 68 | 63 | 66 | 61 | 58 | 59 | 64 | 61 |
| Hf | 1.70 | 1.60 | 1.50 | 1.60 | 1.60 | 1.60 | 1.40 | 1.50 | 1.60 |
| Nb | 3.8 | 3.1 | 3.6 | 3.4 | 3.2 | 3.4 | 2.70 | 2.90 | 2.60 |
| Ta | 0.290 | 0.220 | 0.220 | 0.240 | 0.260 | 0.240 | 0.220 | 0.210 | 0.220 |
| Th | 1.40 | 1.40 | 1.30 | 1.50 | 1.50 | 1.40 | 1.20 | 1.40 | 1.20 |
| U | 1.00 | 0.49 | <0.50 | <0.50 | 0.44 | 0.270 | 0.260 | <0.50 | 0.45 |
| Pd (ppb) | 0.80 | <0.50 | 0.60 | 0.80 | 0.70 | 1.30 | — | 0.80 | 0.60 |
| Pt | 2.20 | 1.30 | 1.40 | 1.60 | 1.60 | 1.60 | — | 1.50 | 1.60 |
| Rh | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | — | <0.50 | <0.50 |
| Au | <22.0 | <20.0 | <22.0 | <22.0 | <22.0 | <23.0 | <23.0 | <21.0 | <21.0 |

Table 4a. North Gettysburg sheets, Wellsville area.

| | W-243872 | W-243873 | W-243874 | W-238440 |
|--------------------------------|----------|----------|----------|----------|
| | FG-87 | FG-87 | FG-87 | JM-86-7 |
| | PG-1 | PW-1 | PW-2 | |
| Lat. | 39°50'N | 40° 4'N | 40° 6'N | 40° 5'N |
| Long. | 77° 9'W | 76°58'W | 76°56'W | 76°59'W |
| SiO ₂ (%) | 51.60 | 52.40 | 52.60 | 51.40 |
| TiO ₂ | 0.53 | 1.16 | 1.12 | 0.80 |
| Al ₂ O ₃ | 14.60 | 14.20 | 15.90 | 14.90 |
| Fe ₂ O ₃ | 1.58 | 1.83 | 2.00 | 2.09 |
| FeO | 6.80 | 8.80 | 7.90 | 9.20 |
| MnO | 0.16 | 0.18 | 0.16 | 0.20 |
| MgO | 10.10 | 7.39 | 5.87 | 7.52 |
| CaO | 12.80 | 11.10 | 10.90 | 11.00 |
| Na ₂ O | 1.56 | 2.13 | 2.37 | 2.22 |
| K ₂ O | 0.18 | 0.62 | 0.67 | 0.41 |
| P ₂ O ₅ | 0.05 | 0.15 | 0.15 | 0.11 |
| H ₂ O ⁺ | 0.11 | 0.25 | 0.33 | 0.60 |
| H ₂ O ⁻ | 0.25 | 0.10 | 0.13 | 0.11 |
| CO ₂ | <0.01 | 0.02 | 0.01 | 0.01 |
| S | 0.03 | 0.05 | 0.04 | 0.05 |
| F | 0.01 | 0.03 | 0.02 | 0.01 |
| Cl | 0.00 | 0.13 | 0.04 | <0.00 |
| Σ | 100.37 | 100.54 | 100.21 | 100.63 |
| B (ppm) | 6.5 | 7.1 | 9.6 | — |
| Sc | 38 | 36 | 32 | 44 |
| Cr | 510 | 265 | 84 | 200 |
| Co | 47 | 46 | 41 | 47 |
| Ni | 118 | 75 | 59 | 61 |
| Cu | 47 | 104 | 132 | 53 |
| Zn | 55 | 72 | 67 | 77 |
| Ga | 17.0 | 21.0 | 22.0 | — |
| As | 0.85 | <0.80 | <0.90 | <3.0 |
| Rb | 4.0 | 19.0 | 18.0 | 11.0 |
| Sr | 172 | 183 | 211 | 136 |
| Ag | 0.0150 | 0.040 | 0.044 | — |
| Sb | <0.120 | 0.260 | <0.110 | <0.50 |
| Cs | <0.31 | 0.98 | 0.90 | 0.59 |
| Ba | 62 | 156 | 176 | 118 |
| Y | 11.0 | 21.0 | 20.0 | 22.0 |
| La | 3.9 | 11.0 | 11.1 | 6.7 |
| Ce | 8.6 | 23.0 | 23.0 | 14.0 |
| Nd | <4.0 | 13.0 | 13.0 | 8.7 |
| Sm | 1.54 | 3.5 | 3.5 | 2.47 |
| Eu | 0.59 | 1.00 | 1.10 | 0.80 |
| Tb | 0.31 | 0.63 | 0.58 | 0.57 |
| Yb | 1.10 | 2.20 | 2.10 | 2.30 |
| Lu | 0.170 | 0.32 | 0.31 | 0.37 |
| Zr | 51 | 104 | 93 | 66 |
| Hf | 1.00 | 2.40 | 2.50 | 1.60 |
| Nb | 2.60 | 7.1 | 6.8 | 3.3 |
| Ta | 0.210 | 0.51 | 0.52 | 0.32 |
| Th | 0.66 | 2.20 | 2.40 | 1.40 |
| U | <0.40 | 0.57 | 0.51 | 0.50 |
| Pd (ppb) | 4.5 | 7.1 | 3.3 | 0.80 |
| Pt | 12.0 | 6.5 | 5.1 | 3.7 |
| Rh | — | — | — | <0.50 |
| Ru | — | — | — | <0.50 |
| Ir | — | — | — | <0.50 |
| Au | <6.0 | <6.0 | <2.50 | <24.0 |

Table 4b. North Gettysburg sheet, Wellsville area.

| | W-238461 JM-86-1 | W-238448 JM-86-2 | W-238439 JM-86-3 | W-238431 JM-86-4 | W-238427 JM-86-5 | W-238463 JM-86-6 | W-238428 JM-86-9 | W-238459 JM-86-10 | W-238452 JM-86-11 | W-238433 JM-86-12 |
|--------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|
| Lat. | 40° 5'N | 40° 5'N | 40° 15'N | 40° 5'N | 40° 5'N | 40° 5'N | 40° 5'N | 40° 5'N | 40° 5'N | 40° 9'N |
| Long. | 78° 57'W | 78° 58'W | 78° 58'W | 78° 58'W | 78° 58'W | 78° 58'W | 77° 58'W | 77° 58'W | 77° 50'W | 76° 58'W |
| SiO ₂ (%) | 50.50 | 59.30 | 60.00 | 51.60 | 62.00 | 62.30 | 63.30 | 66.90 | 52.60 | 52.70 |
| TiO ₂ | 2.93 | 1.52 | 1.61 | 3.54 | 1.46 | 1.43 | 1.24 | 0.91 | 1.16 | 1.05 |
| Al ₂ O ₃ | 11.40 | 11.70 | 11.80 | 12.10 | 11.90 | 12.00 | 11.90 | 12.10 | 14.20 | 13.60 |
| Fe ₂ O ₃ | 7.13 | 3.84 | 5.39 | 5.89 | 6.08 | 5.72 | 6.29 | 5.50 | 2.87 | 2.22 |
| FeO | 11.60 | 9.80 | 7.60 | 11.30 | 6.20 | 6.50 | 5.60 | 3.70 | 8.10 | 8.10 |
| MnO | 0.24 | 0.24 | 0.16 | 0.21 | 0.10 | 0.15 | 0.13 | 0.08 | 0.18 | 0.17 |
| MgO | 2.32 | 0.96 | 0.85 | 2.84 | 0.73 | 0.78 | 0.55 | 0.38 | 7.13 | 8.18 |
| CaO | 7.44 | 4.17 | 4.78 | 7.83 | 3.59 | 4.62 | 2.56 | 1.71 | 10.90 | 10.70 |
| Na ₂ O | 2.74 | 3.79 | 3.32 | 2.95 | 3.54 | 3.30 | 3.80 | 3.95 | 2.25 | 2.17 |
| K ₂ O | 1.23 | 2.33 | 2.47 | 1.11 | 2.59 | 2.49 | 2.97 | 3.16 | 0.61 | 0.53 |
| P ₂ O ₅ | 1.16 | 0.53 | 0.53 | 0.24 | 0.45 | 0.48 | 0.37 | 0.21 | 0.14 | 0.13 |
| H ₂ O ⁺ | 1.00 | 1.40 | 1.00 | 0.91 | 1.10 | 0.59 | 1.00 | 0.87 | 0.71 | 0.79 |
| H ₂ O ⁻ | 0.38 | 0.32 | 0.39 | 0.40 | 0.44 | 0.27 | 0.30 | 0.35 | 0.18 | 0.32 |
| CO ₂ | <0.01 | 0.08 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | 0.01 | 0.02 |
| S | 0.03 | 0.05 | 0.02 | 0.03 | <0.01 | 0.03 | <0.01 | <0.01 | 0.01 | 0.01 |
| F | 0.10 | 0.09 | 0.08 | 0.04 | 0.08 | 0.08 | 0.09 | 0.06 | 0.02 | 0.02 |
| Cl | 0.21 | 0.24 | 0.20 | 0.11 | 0.25 | 0.13 | 0.12 | 0.14 | 0.07 | 0.03 |
| Σ | 100.41 | 100.35 | 100.20 | 101.10 | 100.51 | 100.88 | 100.21 | 100.01 | 101.15 | 100.75 |
| Sc (ppm) | 35 | 22.2 | 23.9 | 44 | 21.8 | 22.4 | 18.2 | 13.2 | 37 | 37 |
| Cr | 4.6 | 2.10 | 8.8 | <11.0 | <7.0 | <2.20 | 2.20 | <3.0 | 259 | 440 |
| Co | 45 | 21.6 | 17.0 | 50 | 15.5 | 18.8 | 14.6 | 9.0 | 45 | 47 |
| Ni | 5.6 | 8.0 | <5.0 | 5.1 | <5.0 | <5.0 | <5.0 | <5.0 | 75 | 110 |
| Cu | 850 | 218 | 370 | 760 | 32 | 259 | 177 | 89 | 102 | 93 |
| Zn | 86 | 182 | 85 | 102 | 33 | 135 | 106 | 102 | 67 | 79 |
| As | 1.80 | 3.9 | 4.9 | <3.0 | 2.10 | 2.80 | 1.40 | 3.8 | <2.30 | <4.0 |
| Rb | 51 | 71 | 93 | 41 | 76 | 84 | 86 | 83 | 32 | 26.0 |
| Sr | 230 | 203 | 201 | 207 | 190 | 193 | 185 | 74 | 202 | 184 |
| Sb | 0.32 | 0.56 | 0.39 | <0.60 | 0.270 | 0.280 | 0.33 | 0.77 | 0.140 | <0.50 |
| Cs | 1.10 | 2.97 | 2.00 | 1.50 | 0.39 | 1.70 | 0.50 | 0.34 | 0.61 | 0.71 |
| Ba | 350 | 580 | 630 | 262 | 620 | 630 | 800 | 770 | 163 | 152 |
| Y | 61 | 75 | 88 | 41 | 110 | 80 | 98 | 120 | 27.0 | 27.0 |
| La | 29.2 | 43 | 52 | 21.2 | 87 | 46 | 62 | 96 | 11.0 | 10.9 |
| Ce | 62 | 88 | 99 | 41 | 96 | 95 | 100 | 140 | 24.0 | 21.9 |
| Nd | 42 | 49 | 51 | 27.0 | 100 | 50 | 72 | 99 | 11.0 | 12.0 |
| Sm | 10.3 | 12.8 | 15.0 | 6.6 | 25.8 | 12.8 | 18.3 | 24.0 | 3.6 | 3.4 |
| Eu | 2.70 | 2.89 | 3.6 | 1.98 | 5.7 | 2.99 | 4.1 | 4.6 | 1.10 | 10.00 |
| Tb | 1.70 | 2.13 | 2.50 | 1.10 | 3.6 | 2.20 | 3.1 | 4.1 | 0.62 | 0.60 |
| Yb | 5.2 | 7.2 | 7.5 | 3.7 | 9.7 | 7.5 | 9.4 | 10.9 | 2.10 | 1.90 |
| Lu | 0.71 | 0.98 | 1.00 | 0.58 | 1.27 | 1.00 | 1.25 | 1.39 | 0.33 | 0.31 |
| Zr | 195 | 330 | 380 | 170 | 400 | 380 | 430 | 490 | 106 | 102 |
| Hf | 5.3 | 9.0 | 9.2 | 4.5 | 10.0 | 10.5 | 11.3 | 12.9 | 2.50 | 2.32 |
| Nb | 20.0 | 26.0 | 28.0 | 15.0 | 26.0 | 30 | 25.0 | 30 | 7.3 | 6.0 |
| Ta | 1.40 | 1.93 | 2.11 | 1.20 | 2.12 | 2.10 | 2.30 | 2.39 | 0.52 | 0.52 |
| Th | 5.1 | 8.6 | 9.0 | 4.1 | 9.9 | 10.0 | 11.4 | 13.0 | 2.10 | 2.10 |
| U | 1.10 | 1.50 | 2.10 | 0.94 | 1.80 | 2.10 | 2.30 | 3.3 | 0.53 | 0.55 |
| Pd (ppb) | 2.00 | <1.00 | <0.80 | 9.8 | 9.9 | <0.80 | <0.80 | <0.80 | 12.0 | 9.5 |
| Pt | 1.90 | <0.70 | <0.50 | 3.1 | 3.0 | 0.60 | <0.50 | 0.80 | 11.0 | 16.0 |
| Rh | <0.50 | <0.70 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.60 | 0.70 |
| Ru | 0.50 | <0.70 | <0.50 | <0.50 | 0.60 | <0.50 | 0.50 | <0.50 | <0.50 | 0.70 |
| Ir | <0.50 | <0.70 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 |
| Au | <17.0 | 52 | <17.0 | 12.0 | <13.0 | <15.0 | <19.0 | <11.0 | <21.0 | <23.0 |

Table 4c. Central and southern Gettysburg sheet, Gettysburg and Emmitsburg areas.

| | W-243882 | W-243883 | W-243884 | W-243885 | W-241413 | W-241415 | W-241412 | W-241414 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | FG-87 | FG-87 | FG-87 | FG-87 | 86-PEM | 86-PEM | 86-PEM | 86-PEM |
| | 97G-1P | 97G-2P | 97G-4P | 97G-5P | 1 | 2 | 3 | 4 |
| Lat. | 39°48'N | 39°48'N | 39°48'N | 39°48'N | 42°30'N | 42°30'N | 42°30'N | 42°30'N |
| Long. | 77°12'W | 77°12'W | 77°12'W | 77°12'W | 77°18'W | 77°18'W | 77°18'W | 77°18'W |
| SiO ₂ (%) | 52.30 | 52.80 | 52.20 | 52.40 | 52.10 | 52.30 | 52.10 | 52.40 |
| TiO ₂ | 1.13 | 1.15 | 0.63 | 0.58 | 1.14 | 1.02 | 0.98 | 0.76 |
| Al ₂ O ₃ | 13.90 | 14.00 | 12.50 | 12.60 | 13.70 | 13.30 | 13.20 | 16.20 |
| Fe ₂ O ₃ | 2.43 | 1.96 | 1.67 | 1.62 | 1.81 | 1.95 | 1.76 | 1.91 |
| FeO | 8.40 | 9.20 | 7.60 | 7.20 | 8.95 | 8.67 | 8.58 | 7.16 |
| MnO | 0.17 | 0.18 | 0.17 | 0.17 | 0.18 | 0.17 | 0.17 | 0.15 |
| MgO | 7.72 | 7.80 | 11.30 | 11.60 | 8.08 | 9.67 | 9.67 | 7.50 |
| CaO | 11.10 | 11.10 | 12.70 | 12.70 | 11.10 | 11.10 | 11.20 | 12.30 |
| Na ₂ O | 2.06 | 2.06 | 1.44 | 1.44 | 2.05 | 1.94 | 1.86 | 2.09 |
| K ₂ O | 0.60 | 0.58 | 0.28 | 0.27 | 0.57 | 0.50 | 0.48 | 0.43 |
| P ₂ O ₅ | 0.15 | 0.15 | 0.07 | 0.06 | 0.13 | 0.12 | 0.12 | 0.09 |
| H ₂ O ⁺ | 0.53 | 0.15 | 0.29 | 0.27 | 0.66 | 0.26 | 0.31 | 0.19 |
| H ₂ O ⁻ | <0.01 | <0.01 | 0.01 | 0.02 | 0.09 | 0.05 | 0.08 | 0.11 |
| CO ₂ | 0.05 | 0.01 | <0.01 | <0.01 | 0.06 | <0.01 | <0.01 | <0.01 |
| S | 0.05 | 0.05 | 0.05 | 0.03 | 0.03 | 0.02 | 0.01 | 0.01 |
| F | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | <0.01 | <0.01 | <0.01 |
| Cl | 0.01 | 0.01 | <0.00 | <0.00 | 0.01 | <0.01 | <0.01 | <0.01 |
| Σ | 100.63 | 101.22 | 100.91 | 100.97 | 100.66 | 101.07 | 100.52 | 101.30 |
| B (ppm) | 5.1 | 7.3 | 4.9 | 9.0 | 3.0 | 2.00 | 2.00 | 2.00 |
| Sc | 37 | 38 | 43 | 42 | 37 | 39 | 38 | 36 |
| Cr | 320 | 310 | 630 | 700 | 350 | 590 | 600 | 200 |
| Co | 48 | 49 | 52 | 51 | 47 | 52 | 51 | 43 |
| Ni | 93 | 89 | 135 | 140 | 96 | 117 | 126 | 85 |
| Cu | 124 | 106 | 64 | 64 | 109 | 104 | 104 | 73 |
| Zn | 78 | 76 | 58 | 61 | 76 | 66 | 67 | 57 |
| Ga | 19.0 | 19.0 | 16.0 | 15.0 | — | — | — | — |
| As | <1.50 | 1.70 | <1.30 | <1.30 | <2.00 | <2.20 | <1.90 | <2.00 |
| Rb | 20.0 | 22.0 | 12.0 | 11.0 | 15.0 | 15.0 | 20.0 | 12.0 |
| Sr | 178 | 176 | 147 | 147 | 165 | 162 | 175 | 197 |
| Ag | 0.042 | 0.042 | 0.0170 | 0.0150 | 0.047 | 0.034 | 0.034 | 0.030 |
| Sb | 0.250 | <0.150 | 0.150 | <0.090 | <0.40 | <0.40 | <0.40 | 0.180 |
| Cs | 0.97 | 0.88 | 0.46 | 0.40 | 1.10 | 0.68 | 0.71 | 0.54 |
| Ba | 152 | 152 | 72 | 76 | 146 | 128 | 116 | 107 |
| Y | 21.0 | 21.0 | 13.0 | 11.0 | 21.0 | 19.0 | 24.0 | 16.0 |
| La | 11.0 | 11.0 | 5.2 | 4.8 | 10.7 | 9.8 | 9.6 | 7.7 |
| Ce | 22.0 | 23.0 | 12.0 | 11.0 | 22.0 | 20.0 | 20.0 | 15.0 |
| Nd | 13.0 | 12.0 | 5.6 | 6.9 | <21.0 | 11.0 | 9.6 | <12.0 |
| Sm | 3.5 | 3.6 | 1.86 | 1.71 | 3.4 | 3.1 | 3.1 | 2.45 |
| Eu | 1.00 | 1.10 | 0.62 | 0.61 | 1.00 | 0.93 | 0.89 | 0.85 |
| Tb | 0.63 | 0.66 | 0.37 | 0.37 | 0.66 | 0.56 | 0.54 | 0.45 |
| Yb | 2.10 | 2.20 | 1.30 | 1.20 | 2.10 | 2.00 | 2.00 | 1.60 |
| Lu | 0.32 | 0.36 | 0.200 | 0.190 | 0.31 | 0.290 | 0.290 | 0.250 |
| Zr | 105 | 104 | 55 | 54 | 86 | 81 | 83 | 69 |
| Hf | 2.40 | 2.50 | 1.20 | 1.10 | 2.40 | 2.22 | 2.20 | 1.70 |
| Nb | 7.2 | 7.0 | 3.3 | 2.70 | 7.5 | 6.2 | 5.9 | 5.0 |
| Ta | 0.53 | 0.52 | 0.230 | 0.190 | 0.50 | 0.47 | 0.44 | 0.32 |
| Th | 2.10 | 2.20 | 1.00 | 0.82 | 2.00 | 1.80 | 1.80 | 1.40 |
| U | 0.59 | 0.66 | <0.40 | <0.40 | 0.41 | 0.43 | 0.39 | 0.47 |
| Pd (ppb) | 4.5 | 3.2 | 0.50 | 1.50 | 10.0 | 7.2 | 8.4 | 7.2 |
| Pt | 3.5 | 5.5 | 5.8 | 15.0 | 12.0 | 18.0 | 17.0 | 18.0 |
| Rh | — | — | — | — | 0.6 | 0.7 | 0.8 | 0.7 |
| Ru | — | — | — | — | 0.6 | 0.8 | 0.9 | 0.8 |
| Ir | — | — | — | — | 0.6 | 0.7 | 0.9 | <0.5 |
| Au | <13.0 | <7.0 | <2.60 | <6.0 | 7.1 | <10.0 | <6.0 | <10.0 |

Table 4d. Southern Gettysburg sheet, Rte. 15 roadcut.

| | W-236270 | W-236262 | W-236275 | W-236263 | W-236265 | W-236276 |
|--------------------------------|----------|----------|----------|----------|----------|----------|
| | JM85-5 | JM85-6 | JM85-7 | JM85-9 | JM85-10 | JM85-18 |
| Lat. | 39°44'N | 39°44'N | 39°44'N | 39°44'N | 39°44'N | 39°44'N |
| Long. | 77°18'W | 77°16'W | 77°16'W | 77°16'W | 77°16'W | 77°18'W |
| SiO ₂ (%) | 49.40 | 52.40 | 52.20 | 52.20 | 52.60 | 53.20 |
| TiO ₂ | 1.80 | 1.20 | 1.20 | 1.10 | 1.10 | 1.10 |
| Al ₂ O ₃ | 14.10 | 15.90 | 14.20 | 14.40 | 13.10 | 14.50 |
| Fe ₂ O ₃ | 2.40 | 2.50 | 1.50 | 1.70 | 3.70 | 1.50 |
| FeO | 10.00 | 8.00 | 8.90 | 8.60 | 5.70 | 8.80 |
| MnO | 0.20 | 0.17 | 0.17 | 0.17 | 0.16 | 0.17 |
| MgO | 6.50 | 5.40 | 7.40 | 7.20 | 6.10 | 7.40 |
| CaO | 9.40 | 10.00 | 10.70 | 10.40 | 8.80 | 10.50 |
| Na ₂ O | 2.72 | 2.60 | 2.16 | 2.48 | 4.88 | 2.40 |
| K ₂ O | 0.74 | 0.85 | 1.00 | 0.67 | 0.21 | 0.67 |
| P ₂ O ₅ | 0.27 | 0.18 | 0.16 | 0.15 | 0.15 | 0.15 |
| H ₂ O ⁺ | 3.10 | 1.20 | 0.47 | 0.73 | 2.60 | 0.51 |
| H ₂ O ⁻ | 0.24 | 0.05 | 0.07 | 0.04 | 1.20 | 0.14 |
| CO ₂ | 0.06 | 0.01 | 0.01 | 0.05 | 0.01 | 0.03 |
| S | 0.01 | <0.01 | 0.02 | 0.01 | <0.01 | 0.02 |
| F | 0.04 | 0.00 | 0.03 | 0.02 | 0.02 | 0.03 |
| Cl | 0.05 | 0.05 | 0.01 | 0.03 | 0.01 | 0.01 |
| Σ | 101.04 | 100.52 | 100.19 | 99.95 | 100.34 | 101.13 |
| Sc (ppm) | 34 | 34 | 38 | 38 | 34 | 37 |
| Cr | 66 | 53 | 257 | 258 | 217 | 253 |
| Co | 49 | 43 | 48 | 47 | 40 | 47 |
| Ni | 81 | 65 | 97 | 86 | 89 | 95 |
| Cu | 93 | 116 | 90 | 95 | 112 | 87 |
| Zn | 77 | 77 | 70 | 65 | 56 | 64 |
| As | 2.50 | 2.10 | <4.0 | 1.50 | 2.40 | 1.40 |
| Rb | 26.0 | 39 | 26.0 | 25.0 | 7.0 | 22.0 |
| Sr | 108 | 220 | 196 | 199 | 110 | 192 |
| Sb | <0.60 | <0.50 | <0.60 | 0.240 | <0.50 | <0.60 |
| Cs | <0.60 | 1.10 | 1.00 | 0.85 | <0.60 | 0.88 |
| Ba | 121 | 178 | 171 | 151 | 34 | 156 |
| Y | 31 | 26.0 | 30 | 23.0 | 25.0 | 24.0 |
| La | 15.0 | 14.1 | 11.6 | 13.0 | 11.0 | 11.0 |
| Ce | 30 | 27.0 | 25.0 | 23.0 | 20.6 | 23.0 |
| Nd | 18.0 | 14.0 | 13.0 | 15.0 | 13.0 | 12.0 |
| Sm | 4.3 | 4.0 | 3.7 | 3.7 | 3.2 | 3.6 |
| Eu | 1.19 | 1.28 | 1.10 | 1.10 | 1.08 | 1.10 |
| Tb | 0.79 | 0.73 | 0.68 | 0.66 | 0.56 | 0.63 |
| Yb | 2.50 | 2.40 | 2.10 | 2.30 | 2.00 | 2.30 |
| Lu | 0.37 | 0.39 | 0.36 | 0.39 | 0.30 | 0.32 |
| Zr | 146 | 112 | 101 | 105 | 91 | 103 |
| Hf | 4.0 | 2.90 | 2.60 | 2.70 | 2.30 | 2.60 |
| Nb | 10.0 | 7.3 | 7.8 | 7.0 | 6.2 | 7.3 |
| Ta | 0.71 | 0.61 | 0.55 | 0.54 | 0.49 | 0.53 |
| Th | 2.70 | 2.60 | 2.30 | 2.30 | 2.00 | 2.30 |
| U | 0.56 | 0.270 | <0.60 | 0.42 | 0.37 | 0.53 |
| Pd (ppb) | 5.9 | 9.2 | 9.0 | 4.9 | 7.0 | 8.9 |
| Pt | 19.0 | 0.60 | 9.6 | 3.4 | 7.3 | 8.3 |
| Rh | <0.50 | <0.50 | 0.70 | <0.50 | 0.80 | <0.50 |
| Au | <23.0 | <18.0 | <23.0 | <22.0 | <25.0 | <21.0 |

Table 5a. Zora Ring sheet.

| | W-238435 JM-86-20 | W-238455 JM-86-21 | W-238466 JM-86-22 | W-238444 JM-86-23 | W-238434 JM-86-24 | W-238430 JM-86-25 | W-238451 JM-86-26 | W-238437 JM-86-28 |
|--------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Lat. | 39°43'N | 39°43'N | 39°43'N | 39°43'N | 39°43'N | 39°43'N | 39°43'N | 39°43'N |
| Long. | 77°22'W | 77°22'W | 77°22'W | 77°22'W | 77°22'W | 77°22'W | 77°22'W | 77°22'W |
| SiO ₂ (%) | 52.40 | 71.70 | 52.70 | 52.70 | 52.40 | 52.20 | 52.60 | 52.90 |
| TiO ₂ | 2.07 | 0.69 | 1.99 | 2.21 | 2.24 | 2.08 | 1.77 | 1.85 |
| Al ₂ O ₃ | 14.40 | 12.00 | 14.40 | 14.20 | 14.20 | 14.00 | 14.10 | 15.20 |
| Fe ₂ O ₃ | 3.88 | 5.23 | 3.30 | 4.30 | 4.73 | 3.98 | 2.96 | 4.37 |
| FeO | 9.50 | 1.60 | 9.90 | 9.90 | 9.90 | 9.80 | 10.20 | 8.60 |
| MnO | 0.18 | <0.02 | 0.19 | 0.19 | 0.19 | 0.19 | 0.18 | 0.17 |
| MgO | 3.18 | 0.18 | 3.16 | 3.25 | 3.24 | 3.47 | 3.43 | 3.32 |
| CaO | 7.81 | 0.81 | 8.30 | 8.25 | 8.18 | 7.98 | 7.89 | 8.66 |
| Na ₂ O | 3.41 | 7.05 | 3.22 | 3.05 | 3.13 | 3.42 | 3.14 | 3.23 |
| K ₂ O | 1.39 | 0.08 | 1.25 | 1.08 | 1.11 | 1.22 | 1.50 | 0.98 |
| P ₂ O ₅ | 0.25 | 0.14 | 0.25 | 0.26 | 0.24 | 0.24 | 0.23 | 0.22 |
| H ₂ O ⁺ | 1.40 | 0.49 | 1.00 | 1.00 | 0.91 | 1.40 | 1.50 | 0.83 |
| H ₂ O ⁻ | 0.32 | 0.27 | 0.31 | 0.22 | 0.27 | 0.21 | 0.29 | 0.28 |
| CO ₂ | 0.05 | <0.01 | 0.04 | 0.01 | <0.01 | 0.02 | 0.02 | <0.01 |
| S | 0.03 | <0.01 | 0.02 | 0.02 | 0.02 | 0.04 | 0.02 | 0.03 |
| F | 0.04 | 0.02 | 0.04 | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 |
| Cl | 0.10 | 0.01 | 0.15 | 0.05 | 0.11 | 0.09 | 0.13 | 0.08 |
| Σ | 100.41 | 100.27 | 100.21 | 100.72 | 100.90 | 100.39 | 100.01 | 100.76 |
| Sc (ppm) | 33 | 8.8 | 32 | 34 | 36 | 35 | 35 | 33 |
| Cr | 6.1 | <1.80 | 6.5 | <11.0 | 6.7 | 7.4 | 6.7 | <11.0 |
| Co | 43 | 8.6 | 41 | 45 | 46 | 45 | 44 | 44 |
| Ni | 22.0 | 20.0 | 13.0 | 19.0 | 19.0 | 25.0 | 43 | 24.0 |
| Cu | 147 | 41 | 168 | 189 | 183 | 133 | 130 | 108 |
| Zn | 94 | 36 | 118 | 89 | 113 | 108 | 105 | 88 |
| As | 1.50 | 2.70 | 1.80 | <4.0 | 3.5 | <2.90 | 3.1 | 3.3 |
| Rb | 58 | 4.8 | 46 | 40 | 43 | 47 | 57 | 38 |
| Sr | 243 | 31 | 242 | 230 | 223 | 219 | 216 | 226 |
| Sb | 0.270 | 0.120 | 0.32 | 0.30 | 0.33 | 0.290 | 0.39 | 0.36 |
| Cs | 1.20 | 0.33 | 1.40 | 1.60 | 1.30 | 0.92 | 0.79 | 1.10 |
| Ba | 310 | 40 | 289 | 286 | 278 | 261 | 380 | 262 |
| Y | 40 | 67 | 33 | 39 | 34 | 34 | 40 | 35 |
| La | 19.9 | 40 | 19.2 | 20.5 | 20.1 | 18.8 | 18.6 | 18.2 |
| Ce | 39 | 88 | 40 | 41 | 40 | 38 | 39 | 37 |
| Nd | 25.0 | 48 | 21.0 | 22.0 | 22.0 | 22.0 | 21.0 | 19.0 |
| Sm | 6.0 | 12.0 | 5.7 | 6.1 | 5.9 | 5.7 | 5.8 | 5.5 |
| Eu | 1.60 | 2.04 | 1.66 | 1.70 | 1.65 | 1.50 | 1.50 | 1.57 |
| Tb | 0.97 | 2.20 | 1.00 | 0.98 | 1.10 | 0.91 | 1.00 | 0.95 |
| Yb | 3.3 | 6.2 | 3.4 | 3.6 | 3.8 | 3.3 | 3.5 | 3.3 |
| Lu | 0.50 | 0.79 | 0.48 | 0.52 | 0.56 | 0.48 | 0.49 | 0.48 |
| Zr | 166 | 289 | 156 | 184 | 158 | 162 | 153 | 150 |
| Hf | 4.2 | 8.9 | 4.0 | 4.4 | 4.2 | 4.0 | 4.2 | 4.1 |
| Nb | 13.0 | 23.0 | 11.0 | 14.0 | 14.0 | 12.0 | 11.0 | 11.0 |
| Ta | 0.94 | 1.98 | 0.94 | 1.00 | 1.00 | 0.91 | 0.90 | 0.88 |
| Th | 4.1 | 12.4 | 3.7 | 4.2 | 4.1 | 3.8 | 3.8 | 4.0 |
| U | 0.67 | 1.90 | 0.85 | 0.59 | 0.93 | 0.79 | 0.83 | 0.94 |
| Pd (ppb) | 18.0 | <0.80 | 18.0 | 18.0 | 22.0 | <0.80 | 17.0 | 17.0 |
| Pt | 4.4 | 1.00 | 4.8 | 4.7 | 5.5 | <0.50 | 4.3 | 6.0 |
| Rh | <1.00 | <0.50 | <0.50 | <1.00 | <0.50 | <0.50 | <1.00 | 0.50 |
| Ru | <1.00 | <0.50 | <0.50 | <1.00 | 0.50 | <0.50 | <1.00 | <0.50 |
| Ir | <1.00 | <0.50 | <0.50 | <1.00 | <0.50 | <0.50 | <1.00 | <0.50 |
| Au | <25.0 | <23.0 | <20.0 | <25.0 | <22.0 | <13.0 | 12.0 | <25.0 |

Table 5b. Zora Ring sheet.

| | W-238464 | W-238462 | W-238447 | W-238442 | W-238445 | W-238429 |
|--------------------------------|----------|----------|----------|----------|----------|----------|
| | JM-86-29 | JM-86-30 | JM-86-31 | JM-86-32 | JM-86-33 | JM-86-34 |
| Lat. | 39°43'N | 39°43'N | 39°43'N | 39°43'N | 39°43'N | 39°43'N |
| Long. | 77°22'W | 77°22'W | 77°22'W | 77°22'W | 77°22'W | 77°22'W |
| SiO ₂ (%) | 60.20 | 60.70 | 59.10 | 63.40 | 62.20 | 62.50 |
| TiO ₂ | 1.53 | 1.52 | 1.65 | 1.26 | 1.35 | 1.30 |
| Al ₂ O ₃ | 11.70 | 11.80 | 11.70 | 12.10 | 12.00 | 12.00 |
| Fe ₂ O ₃ | 9.43 | 6.30 | 4.63 | 5.52 | 4.78 | 8.21 |
| FeO | 4.00 | 6.90 | 8.70 | 5.40 | 6.30 | 3.90 |
| MnO | 0.18 | 0.15 | 0.18 | 0.13 | 0.13 | 0.13 |
| MgO | 0.96 | 0.93 | 0.96 | 0.71 | 0.89 | 0.72 |
| CaO | 4.24 | 3.11 | 5.10 | 2.68 | 3.40 | 2.68 |
| Na ₂ O | 4.18 | 4.52 | 3.23 | 5.53 | 5.15 | 4.89 |
| K ₂ O | 2.40 | 2.02 | 2.25 | 1.82 | 1.90 | 1.80 |
| P ₂ O ₅ | 0.56 | 0.52 | 0.58 | 0.39 | 0.45 | 0.42 |
| H ₂ O ⁺ | 0.44 | 1.20 | 0.91 | 0.78 | 0.91 | 0.71 |
| H ₂ O ⁻ | 0.25 | 0.44 | 0.46 | 0.13 | 0.26 | 0.30 |
| CO ₂ | <0.01 | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| S | 0.43 | <0.01 | 0.03 | <0.01 | 0.02 | 0.04 |
| F | 0.08 | 0.10 | 0.08 | 0.08 | 0.10 | 0.05 |
| Cl | 0.02 | 0.24 | 0.27 | 0.07 | 0.10 | 0.01 |
| Σ | 100.59 | 100.45 | 99.83 | 100.00 | 99.94 | 99.65 |
| Sc (ppm) | 21.0 | 21.7 | 25.4 | 18.7 | 20.6 | 19.0 |
| Cr | <2.80 | <2.50 | 3.2 | <7.0 | <7.0 | <5.0 |
| Co | 25.0 | 19.6 | 20.0 | 12.2 | 15.3 | 12.8 |
| Ni | <5.0 | 8.0 | 7.0 | 6.0 | <5.0 | <5.0 |
| Cu | 310 | 320 | 320 | 174 | 135 | 177 |
| Zn | 99 | 156 | 88 | 65 | 77 | 132 |
| As | 2.70 | 3.0 | 3.1 | <4.0 | <4.0 | 4.9 |
| Rb | 76 | 58 | 78 | 41 | 51 | 51 |
| Sr | 166 | 151 | 207 | 94 | 142 | 171 |
| Sb | 0.38 | 0.45 | 0.33 | 0.190 | 0.40 | 0.49 |
| Cs | 0.57 | 1.10 | 2.10 | 0.47 | 0.38 | 0.91 |
| Ba | 540 | 560 | 540 | 252 | 350 | 1270 |
| Y | 77 | 104 | 71 | 61 | 78 | 84 |
| La | 43 | 56 | 42 | 46 | 58 | 56 |
| Ce | 89 | 93 | 88 | 92 | 97 | 86 |
| Nd | 47 | 61 | 48 | 44 | — | 53 |
| Sm | 12.4 | 16.2 | 12.6 | 11.5 | 14.5 | 15.1 |
| Eu | 2.93 | 4.5 | 2.90 | 2.28 | 2.67 | 3.3 |
| Tb | 2.20 | 3.0 | 2.15 | 1.80 | 2.20 | 2.40 |
| Yb | 6.6 | 10.3 | 7.0 | 6.0 | 6.9 | 7.4 |
| Lu | 0.97 | 1.36 | 0.97 | 0.85 | 1.00 | 1.05 |
| Zr | 370 | 350 | 320 | 400 | 390 | 390 |
| Hf | 9.7 | 9.4 | 9.3 | 10.7 | 10.5 | 9.9 |
| Nb | 28.0 | 26.0 | 24.0 | 23.0 | 26.0 | 23.0 |
| Ta | 2.00 | 2.02 | 2.00 | 2.15 | 2.08 | 2.10 |
| Th | 9.5 | 9.7 | 9.2 | 9.9 | 10.0 | 9.9 |
| U | 2.00 | 1.50 | 2.00 | 1.60 | 2.20 | 1.70 |
| Pd (ppb) | <2.00 | <2.00 | <0.80 | <2.00 | <2.00 | <2.00 |
| Pt | 11.0 | <1.00 | <0.50 | <1.00 | <1.00 | 2.00 |
| Rh | <1.00 | <1.00 | <0.50 | <1.00 | <1.00 | <1.00 |
| Ru | <1.00 | <1.00 | <0.50 | <1.00 | <1.00 | <1.00 |
| Ir | <1.00 | <1.00 | <0.50 | <1.00 | <1.00 | <1.00 |
| Au | <16.0 | <15.0 | <23.0 | <24.0 | <21.0 | <17.0 |

Table 5c. Zora Ring sheet.

| | W-238438 JM-86 42 | W-238456 JM-86 43 | W-251495 FG-89 PF1 | W-251496 FG-89 PF2 | W-251497 FG-89 PF3 | W-251498 FG-89 PF4A | W-251499 FG-89 PF4B | W-251500 FG-89 PF5 | W-251501 FG-89 PF6 |
|--------------------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|--------------------------|--------------------------|
| Lat. | 39°43'N | 39°43'N | 39°45'N | 39°45'N | 39°45'N | 39°45'N | 39°45'N | 39°45'N | 39°45'N |
| Long. | 77°18'W | 77°18'W | 77°22'W | 77°22'W | 77°22'W | 77°22'W | 77°22'W | 77°22'W | 77°22'W |
| SiO ₂ (%) | 52.20 | 51.70 | 63.50 | 52.80 | 52.70 | 69.10 | 66.00 | 51.60 | 52.30 |
| TiO ₂ | 1.14 | 0.97 | 1.23 | 1.83 | 1.89 | 0.70 | 0.87 | 1.33 | 1.20 |
| Al ₂ O ₃ | 13.70 | 13.90 | 12.40 | 14.80 | 14.60 | 11.90 | 12.50 | 15.80 | 14.70 |
| Fe ₂ O ₃ | 2.31 | 2.04 | 7.93 | 3.59 | 3.66 | 5.32 | 7.24 | 2.48 | 1.83 |
| FeO | 8.60 | 8.20 | 2.40 | 9.10 | 9.30 | 1.80 | 1.90 | 8.30 | 8.70 |
| MnO | 0.18 | 0.17 | 0.12 | 0.18 | 0.20 | 0.07 | 0.12 | 0.17 | 0.17 |
| MgO | 7.99 | 9.13 | 0.49 | 2.93 | 2.95 | 0.28 | 0.27 | 4.67 | 5.87 |
| CaO | 11.10 | 11.30 | 2.42 | 7.90 | 8.45 | 1.02 | 0.93 | 7.87 | 8.84 |
| Na ₂ O | 2.13 | 2.05 | 4.60 | 3.03 | 2.63 | 4.65 | 4.11 | 3.45 | 2.79 |
| K ₂ O | 0.54 | 0.51 | 3.10 | 1.55 | 1.37 | 3.26 | 3.89 | 1.83 | 1.59 |
| P ₂ O ₅ | 0.14 | 0.13 | 0.33 | 0.24 | 0.24 | 0.15 | 0.20 | 0.17 | 0.13 |
| H ₂ O ⁺ | 0.55 | 0.70 | 0.61 | 1.30 | 1.10 | 0.30 | 0.80 | 1.30 | 0.96 |
| H ₂ O ⁻ | 0.11 | 0.15 | 0.59 | 0.34 | 0.46 | 0.51 | 0.70 | 0.62 | 0.54 |
| CO ₂ | 0.02 | 0.01 | <0.01 | 0.01 | 0.01 | <0.01 | <0.01 | 0.03 | 0.03 |
| S | 0.01 | <0.01 | — | — | — | — | — | — | — |
| F | 0.02 | 0.02 | — | — | — | — | — | — | — |
| Cl | 0.00 | 0.01 | — | — | — | — | — | — | — |
| Σ | 100.75 | 100.99 | 99.72 | 99.60 | 99.56 | 99.06 | 99.53 | 99.61 | 99.65 |
| Sc (ppm) | 38 | 37 | 17.0 | 30 | 31 | 9.4 | 12.4 | 32 | 34 |
| Cr | 380 | 580 | 4.1 | 8.5 | 6.5 | 5.5 | 3.9 | 36 | 89 |
| Co | 48 | 50 | 6.1 | 39 | 41 | 4.1 | 7.1 | 41 | 42 |
| Ni | 120 | 130 | 10.0 | 32 | 36 | 11.0 | 22.0 | 62 | 70 |
| Cu | 100 | 96 | 30 | 210 | 240 | 29.0 | 41 | 140 | 130 |
| Zn | 73 | 61 | 38 | 82 | 175 | 37 | 64 | 88 | 81 |
| Ga | — | — | 23.0 | 21.0 | 23.0 | 21.0 | 22.0 | 21.0 | 20.0 |
| As | <3.0 | <2.40 | 2.20 | 4.2 | 3.0 | 2.10 | 2.20 | 2.30 | 1.60 |
| Rb | 18.0 | 25.0 | 87 | 66 | 62 | 90 | 98 | 79 | 68 |
| Sr | 177 | 179 | 120 | 257 | 244 | 78 | 105 | 370 | 310 |
| Sb | <0.50 | 0.140 | 0.31 | 0.38 | 0.42 | 0.31 | 0.41 | 0.200 | 0.270 |
| Cs | 1.10 | 1.00 | 0.210 | 1.40 | 4.8 | 0.240 | 0.39 | 0.84 | 0.70 |
| Ba | 144 | 142 | 750 | 370 | 350 | 1360 | 590 | 330 | 228 |
| Y | 24.0 | 18.0 | 73 | 34 | 35 | 72 | 78 | 26.0 | 24.0 |
| La | 11.0 | 9.2 | 46 | 19.6 | 20.0 | 50 | 47 | 14.0 | 12.4 |
| Ce | 21.0 | 20.0 | 81 | 41 | 41 | 95 | 92 | 30 | 25.0 |
| Nd | 11.0 | 11.0 | 53 | 22.0 | 21.0 | 57 | 46 | 16.0 | 12.0 |
| Sm | 3.5 | 3.0 | 15.1 | 5.8 | 5.9 | 13.8 | 12.6 | 4.3 | 3.8 |
| Eu | 1.03 | 0.94 | 2.92 | 1.66 | 1.66 | 2.52 | 2.52 | 1.30 | 1.13 |
| Tb | 0.60 | 0.57 | 2.34 | 1.00 | 1.00 | 2.28 | 2.20 | 0.82 | 0.69 |
| Yb | 2.10 | 1.80 | 7.3 | 3.3 | 3.5 | 7.2 | 7.5 | 2.70 | 2.40 |
| Lu | 0.33 | 0.290 | 0.95 | 0.47 | 0.49 | 0.91 | 0.96 | 0.39 | 0.34 |
| Zr | 99 | 82 | 360 | 250 | <200 | 520 | 400 | <260 | <240 |
| Hf | 2.50 | 2.10 | 9.5 | 4.3 | 4.5 | 13.6 | 11.6 | 3.3 | 2.87 |
| Nb | 6.7 | 6.0 | 27.0 | 17.0 | 20.0 | 28.0 | 30 | 12.0 | 8.4 |
| Ta | 0.51 | 0.43 | 1.98 | 0.96 | 1.00 | 2.17 | 2.12 | 0.68 | 0.62 |
| Th | 2.30 | 1.90 | 8.7 | 4.1 | 4.2 | 13.3 | 9.3 | 3.0 | 2.65 |
| U | 0.53 | 0.35 | 2.00 | 1.00 | 1.00 | 2.50 | 2.20 | 0.86 | 0.66 |
| Pd (ppb) | 11.0 | 9.6 | <0.5 | 17 | 19 | <0.5 | <0.5 | 14 | 12 |
| Pt | 13.0 | 22.0 | <0.6 | 4.4 | 5.1 | <0.6 | <0.6 | 8.5 | 9.2 |
| Rh | 0.60 | 1.00 | <0.5 | 0.9 | 0.7 | <0.5 | <0.5 | 0.9 | 0.9 |
| Ru | 0.60 | 1.00 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ir | 0.50 | 1.20 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Au | <23.0 | <20.0 | 10.0 | 10.0 | <7.0 | <6.0 | <1.30 | <4.0 | <4.0 |

Table 6a. Orrtanna sheet and Arendtsville sheet.

| | W-236266 JM85-14 | W-236273 JM85-15 | W-236261 JM85-19 | W-236264 JM85-17 |
|--------------------------------|---------------------|---------------------|---------------------|---------------------|
| Lat. | 39°49'N | 39°49'N | 39°49'N | 39°54'N |
| Long. | 77°20'W | 77°20'W | 77°20'W | 77°19'W |
| SiO ₂ (%) | 52.00 | 51.40 | 51.80 | 51.50 |
| TiO ₂ | 1.10 | 3.00 | 3.10 | 1.20 |
| Al ₂ O ₃ | 14.10 | 12.50 | 12.60 | 14.80 |
| Fe ₂ O ₃ | 1.30 | 4.10 | 4.50 | 2.60 |
| FeO | 8.80 | 11.60 | 11.40 | 8.00 |
| MnO | 0.17 | 0.21 | 0.21 | 0.16 |
| MgO | 7.30 | 2.70 | 2.70 | 6.00 |
| CaO | 10.40 | 6.90 | 7.10 | 10.30 |
| Na ₂ O | 2.57 | 2.83 | 2.92 | 2.61 |
| K ₂ O | 0.67 | 1.50 | 1.70 | 0.62 |
| P ₂ O ₅ | 0.15 | 0.29 | 0.29 | 0.15 |
| H ₂ O ⁺ | 0.82 | 1.30 | 1.40 | 1.70 |
| H ₂ O ⁻ | 0.17 | 0.46 | 0.35 | 0.38 |
| CO ₂ | 0.04 | 0.02 | 0.01 | 0.03 |
| S | 0.02 | 0.05 | 0.05 | 0.03 |
| F | 0.02 | 0.04 | 0.04 | 0.02 |
| Cl | 0.06 | 0.26 | 0.02 | 0.02 |
| Σ | 99.70 | 99.17 | 100.21 | 100.12 |
| Sc (ppm) | 38 | 41 | 41 | 37 |
| Cr | 267 | 4.9 | <6.0 | 132 |
| Co | 47 | 49 | 49 | 47 |
| Ni | 95 | 9.4 | 8.0 | 84 |
| Cu | 86 | 620 | 600 | 103 |
| Zn | 70 | 149 | 138 | 70 |
| As | 1.90 | 3.0 | 3.3 | 2.50 |
| Rb | 30 | 64 | 60 | 22.0 |
| Sr | 202 | 255 | 243 | 194 |
| Sb | <0.60 | <0.60 | <0.70 | <0.60 |
| Cs | 3.2 | 1.60 | 1.70 | 1.00 |
| Ba | 170 | 380 | 380 | 184 |
| Y | 25.0 | 69 | 65 | 31 |
| La | 12.0 | 26.2 | 26.5 | 14.3 |
| Ce | 24.0 | 47 | 46 | 26.0 |
| Nd | 16.0 | 26.0 | 27.0 | 14.0 |
| Sm | 3.6 | 7.8 | 7.9 | 4.0 |
| Eu | 1.10 | 2.60 | 2.60 | 1.30 |
| Tb | 0.69 | 1.60 | 1.60 | 0.75 |
| Yb | 2.20 | 4.6 | 4.8 | 2.40 |
| Lu | 0.35 | 0.71 | 0.73 | 0.41 |
| Zr | 97 | 183 | 177 | 110 |
| Hf | 2.50 | 5.2 | 5.2 | 2.99 |
| Nb | 7.3 | 17.0 | 17.0 | 7.3 |
| Ta | 0.57 | 1.31 | 1.30 | 0.63 |
| Th | 2.20 | 4.7 | 4.5 | 2.50 |
| U | 0.54 | 1.00 | 0.78 | 0.51 |
| Pd (ppb) | 8.5 | 0.60 | <0.50 | 9.9 |
| Pt | 8.0 | <0.50 | <0.50 | 8.3 |
| Rh | <0.50 | <0.50 | <0.50 | <0.50 |
| Au | <21.0 | <19.0 | <18.0 | <10.0 |

Table 6b. Orrtanna sheet.

| | W-243880 | W-251502 | W-251503 | W-251504 | W-251505 | W-251506 | W-251508 | W-251507 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | FG-87 | FG-89 | FG-89 | FG-89 | FG-89 | FG-89 | FG-89 | FG-89 |
| | P6 | PF7 | PF8 | PF9 | PF10 | PF11 | PF11A | PF12 |
| Lat. | 39°49'N | 39°49'N | 39°49'N | 39°50'N | 39°50'N | 39°50'N | 39°50'N | 39°50'N |
| Long. | 77°21'W | 77°21'W | 77°21'W | 77°20'W | 77°20'W | 77°20'W | 77°20'W | 77°21'W |
| SiO ₂ (%) | 46.70 | 52.40 | 47.80 | 53.30 | 52.00 | 52.10 | 50.70 | 54.30 |
| TiO ₂ | 4.38 | 1.06 | 2.95 | 2.82 | 1.47 | 1.16 | 1.85 | 2.53 |
| Al ₂ O ₃ | 11.80 | 13.90 | 12.20 | 11.90 | 16.10 | 15.90 | 15.80 | 11.90 |
| Fe ₂ O ₃ | 3.80 | 2.14 | 3.56 | 4.35 | 2.57 | 1.81 | 3.73 | 3.38 |
| FeO | 14.60 | 8.60 | 13.80 | 11.20 | 7.50 | 8.00 | 8.70 | 11.90 |
| MnO | 0.24 | 0.19 | 0.20 | 0.20 | 0.15 | 0.16 | 0.18 | 0.22 |
| MgO | 4.04 | 7.24 | 3.85 | 2.76 | 5.11 | 5.95 | 4.24 | 2.32 |
| CaO | 8.19 | 10.80 | 8.50 | 7.14 | 10.30 | 10.50 | 9.07 | 6.33 |
| Na ₂ O | 2.74 | 2.13 | 3.02 | 2.68 | 3.09 | 2.64 | 2.94 | 2.99 |
| K ₂ O | 1.03 | 0.64 | 0.99 | 1.52 | 0.76 | 0.86 | 0.64 | 1.80 |
| P ₂ O ₅ | 0.18 | 0.14 | 0.22 | 0.27 | 0.15 | 0.13 | 0.24 | 0.36 |
| H ₂ O ⁺ | 1.50 | 0.61 | 2.00 | 0.86 | 0.79 | 0.63 | 1.10 | 0.97 |
| H ₂ O ⁻ | 0.21 | 0.31 | 0.50 | 0.64 | 0.41 | 0.37 | 0.57 | 0.63 |
| CO ₂ | <0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.01 | 0.11 |
| S | 0.04 | — | — | — | — | — | — | — |
| F | 0.03 | — | — | — | — | — | — | — |
| Cl | 0.35 | — | — | — | — | — | — | — |
| Σ | 99.83 | 100.17 | 99.60 | 99.66 | 100.42 | 100.23 | 99.77 | 99.73 |
| B (ppm) | 25.0 | — | — | — | — | — | — | — |
| Sc | 48 | 37 | 45 | 38 | 32 | 33 | 35 | 34 |
| Cr | 6.2 | 112 | 4.5 | 4.5 | 40 | 66 | 14.0 | 4.5 |
| Co | 65 | 47 | 66 | 45 | 39 | 41 | 40 | 40 |
| Ni | 22.0 | 89 | 65 | 34 | 67 | 74 | 53 | 29.0 |
| Cu | 66 | 110 | 62 | 410 | 90 | 110 | 130 | 410 |
| Zn | 88 | 75 | 99 | 125 | 65 | 70 | 120 | 161 |
| Ga | 25.0 | 19.0 | 23.0 | 23.0 | 20.0 | 18.0 | 20.0 | 23.0 |
| As | <1.70 | <0.80 | 1.40 | 1.70 | 2.60 | <1.40 | 1.60 | 3.2 |
| Rb | 25.0 | 25.0 | 33 | 58 | 30 | 38 | 26.0 | 65 |
| Sr | 206 | 196 | 193 | 212 | 229 | 234 | 230 | 200 |
| Ag | 0.038 | — | — | — | — | — | — | — |
| Sb | 0.290 | 0.150 | <0.270 | 0.250 | 0.200 | 0.160 | 0.270 | 0.290 |
| Cs | <0.40 | 0.94 | <0.260 | 2.40 | 0.96 | 1.10 | 0.93 | 2.00 |
| Ba | 254 | 184 | 237 | 380 | 208 | 183 | 450 | 430 |
| Y | 41 | 22.0 | 47 | 44 | 23.0 | 20.0 | 35 | 50 |
| La | 19.5 | 12.0 | 23.1 | 23.7 | 13.0 | 11.0 | 22.5 | 28.2 |
| Ce | 30 | 23.1 | 38 | 49 | 25.2 | 21.3 | 43 | 58 |
| Nd | 26.0 | 13.0 | 27.0 | 24.0 | 15.0 | 12.0 | 21.0 | 30 |
| Sm | 7.3 | 3.6 | 7.8 | 7.3 | 3.8 | 3.3 | 5.8 | 8.4 |
| Eu | 2.41 | 1.06 | 2.43 | 2.05 | 1.20 | 1.06 | 1.48 | 2.28 |
| Tb | 1.40 | 0.65 | 1.48 | 1.28 | 0.70 | 0.60 | 0.99 | 1.48 |
| Yb | 5.4 | 2.20 | 5.1 | 4.5 | 2.40 | 2.10 | 3.6 | 5.1 |
| Lu | 0.82 | 0.32 | 0.72 | 0.62 | 0.33 | 0.290 | 0.49 | 0.70 |
| Zr | 104 | 140 | <400 | 290 | 120 | 160 | 410 | 200 |
| Hf | 3.0 | 2.40 | 3.7 | 5.6 | 3.0 | 2.45 | 8.3 | 6.3 |
| Nb | 14.0 | 8.1 | 17.0 | 23.0 | 9.5 | 8.6 | 16.0 | 27.0 |
| Ta | 1.00 | 0.52 | 0.86 | 1.30 | 0.55 | 0.48 | 0.97 | 1.50 |
| Th | 1.90 | 2.30 | 2.73 | 5.2 | 2.60 | 2.20 | 4.3 | 5.8 |
| U | <0.50 | 0.62 | 0.48 | 1.00 | 0.71 | 0.57 | 1.10 | 1.20 |
| Pd (ppb) | 130 | 3.9 | 17 | 21 | 12 | 9.9 | 16 | 3.2 |
| Pt | 9.1 | 6.6 | 4.2 | 15 | 5.9 | 8.8 | 2.9 | 1.7 |
| Rh | <0.5 | <0.5 | 0.9 | 0.8 | <0.5 | 0.6 | 0.6 | <0.5 |
| Ru | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ir | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Au | <1.90 | <6.0 | <3.0 | 39 | <2.00 | 6.5 | 14.0 | <6.0 |

Table 7a. Quarryville dike.

| | W-232394 P-Q-84-1 | W-232395 P-Q-84-2 | W-232396 P-Q-84-3 | W-232397 P-Q-84-4 | W-232398 P-Q-84-5 | W-232399 P-Q-84-6 | W-232400 P-Q-84-7 |
|--------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Lat. | 39°54'N | 39°54'N | 39°54'N | 39°54'N | 39°54'N | 39°54'N | 39°54'N |
| Long. | 76° 7'W | 76° 7'W | 76° 7'W | 76° 7'W | 76° 7'W | 76° 7'W | 76° 7'W |
| SiO ₂ (%) | 47.10 | 47.20 | 45.90 | 45.80 | 45.90 | 46.50 | 46.40 |
| TiO ₂ | 0.43 | 0.42 | 0.38 | 0.37 | 0.36 | 0.41 | 0.40 |
| Al ₂ O ₃ | 14.50 | 14.90 | 14.50 | 14.40 | 14.00 | 14.70 | 14.70 |
| Fe ₂ O ₃ | 2.70 | 2.40 | 2.90 | 2.20 | 1.90 | 2.30 | 2.80 |
| FeO | 7.80 | 7.80 | 7.60 | 8.20 | 8.50 | 7.80 | 7.20 |
| MnO | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.17 | 0.17 |
| MgO | 12.60 | 12.20 | 13.50 | 13.80 | 14.60 | 12.30 | 12.40 |
| CaO | 9.90 | 10.20 | 9.50 | 9.50 | 9.30 | 10.30 | 10.20 |
| Na ₂ O | 1.75 | 1.89 | 1.48 | 1.48 | 1.48 | 1.62 | 1.62 |
| K ₂ O | 0.61 | 0.61 | 0.46 | 0.53 | 0.61 | 0.29 | 0.38 |
| P ₂ O ₅ | 0.06 | 0.06 | 0.05 | 0.06 | 0.05 | 0.06 | 0.07 |
| H ₂ O ⁺ | 0.94 | 0.95 | 1.30 | 1.50 | 1.40 | 1.20 | 1.20 |
| H ₂ O ⁻ | 0.16 | 0.25 | 0.24 | 0.28 | 0.16 | 0.29 | 0.26 |
| CO ₂ | 0.12 | 0.21 | 0.49 | 0.31 | 0.12 | 0.74 | 0.86 |
| S | 0.09 | 0.09 | 0.07 | 0.06 | 0.06 | 0.11 | 0.06 |
| Σ | 98.94 | 99.35 | 98.55 | 98.68 | 98.62 | 98.79 | 98.72 |
| B (ppm) | 10.0 | 12.0 | 3.0 | 3.0 | 3.0 | 3.0 | 2.00 |
| Sc | 43 | 43 | 39 | 38 | 37 | 41 | 41 |
| Cr | 950 | 910 | 1080 | 1120 | 1200 | 940 | 920 |
| Co | 67 | 65 | 70 | 70 | 72 | 65 | 64 |
| Ni | 400 | 390 | 460 | 470 | 520 | 460 | 450 |
| Cu | 95 | 100 | 90 | 91 | 91 | 98 | 96 |
| Zn | 89 | 89 | 88 | 92 | 85 | 81 | 94 |
| Rb | 28.0 | 29.0 | 20.0 | 22.0 | 27.0 | 14.0 | 13.0 |
| Sr | 99 | 113 | 77 | 81 | 77 | 72 | 73 |
| Sb | <0.60 | <0.60 | <0.50 | <0.50 | <0.60 | <0.60 | <0.60 |
| Cs | 1.90 | 2.50 | 2.00 | 2.60 | 1.60 | 1.30 | 0.83 |
| Ba | 120 | 127 | 98 | 98 | 70 | 98 | 96 |
| Y | 27.0 | 25.0 | 22.0 | 20.0 | 21.0 | 24.0 | 27.0 |
| La | 6.2 | 5.9 | 5.2 | 5.2 | 4.8 | 6.2 | 5.8 |
| Ce | 14.0 | 12.0 | 11.0 | 11.0 | 11.0 | 13.0 | 12.0 |
| Nd | <11.0 | <8.0 | <10.0 | <10.0 | <11.0 | <10.0 | <12.0 |
| Sm | 1.67 | 1.60 | 1.40 | 1.40 | 1.40 | 1.60 | 1.60 |
| Eu | 0.50 | 0.47 | 0.43 | 0.42 | 0.39 | 0.50 | 0.44 |
| Tb | 0.44 | 0.44 | 0.36 | 0.38 | 0.33 | 0.39 | 0.42 |
| Yb | 2.50 | 2.50 | 2.10 | 2.10 | 1.80 | 2.40 | 2.40 |
| Lu | 0.41 | 0.40 | 0.32 | 0.37 | 0.34 | 0.38 | 0.38 |
| Zr | 58 | 51 | 49 | 48 | 45 | 56 | 53 |
| Hf | 1.20 | 1.20 | 0.91 | 0.93 | 0.86 | 1.00 | 1.00 |
| Nb | 2.80 | 2.40 | 2.20 | <2.00 | <2.00 | 2.60 | 2.60 |
| Ta | 0.210 | 0.190 | 0.160 | 0.160 | <0.50 | 0.200 | 0.200 |
| Th | 1.40 | 1.30 | 0.90 | 0.95 | 1.00 | 1.30 | 1.50 |
| U | <2.00 | <1.70 | <1.60 | <1.90 | <1.70 | <1.80 | <2.00 |
| Pd (ppb) | 15.0 | 16.0 | 16.0 | 22.0 | 15.0 | 16.0 | 15.0 |
| Pt | 15.0 | 11.0 | 14.0 | 12.0 | 15.0 | 13.0 | 11.0 |
| Rh | 1.0 | 0.60 | 0.50 | 0.60 | 1.0 | <0.50 | <0.50 |
| Ru | 2.0 | — | — | — | 2.7 | — | — |

Table 7b. Unnamed dikes.

| | W-249278 | W-249279 | W-249281 | W-243816 | W-247415 | W-247416 |
|--------------------------------|----------|----------|----------|----------|----------|----------|
| | FG-89 | FG-89 | FG-89 | F-87-1 | FG-88 | FG-88 |
| | MD-5 | MD-6 | MD-8 | | FR4 | FR4A |
| Lat. | 39°36'N | 39°35'N | 39°30'N | 39°22'N | 39°23'N | 39°23'N |
| Long. | 77°16'W | 77°16'W | 77°20'W | 77°25'W | 77°28'W | 77°28'W |
| SiO ₂ (%) | 52.20 | 52.10 | 52.20 | 52.10 | 52.20 | 52.30 |
| TiO ₂ | 1.14 | 1.14 | 1.16 | 1.16 | 1.17 | 1.18 |
| Al ₂ O ₃ | 14.00 | 14.00 | 13.90 | 14.00 | 13.80 | 13.90 |
| Fe ₂ O ₃ | 2.07 | 1.94 | 2.62 | 2.73 | 2.44 | 2.85 |
| FeO | 8.40 | 8.60 | 7.90 | 8.20 | 8.70 | 8.10 |
| MnO | 0.20 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| MgO | 7.47 | 7.50 | 7.28 | 7.41 | 7.59 | 7.49 |
| CaO | 11.30 | 10.10 | 10.90 | 10.80 | 10.70 | 10.70 |
| Na ₂ O | 2.10 | 2.09 | 1.98 | 1.94 | 2.02 | 2.05 |
| K ₂ O | 0.13 | 1.12 | 0.83 | 0.71 | 0.78 | 0.83 |
| P ₂ O ₅ | 0.14 | 0.14 | 0.15 | 0.15 | 0.14 | 0.15 |
| H ₂ O ⁺ | 0.83 | 0.89 | 0.72 | 0.79 | 0.68 | 1.10 |
| H ₂ O ⁻ | 0.17 | 0.23 | 0.14 | 0.21 | 0.22 | 0.21 |
| CO ₂ | 0.25 | 0.07 | 0.25 | 0.28 | 0.04 | 0.03 |
| S | <0.01 | 0.01 | 0.02 | 0.04 | 0.01 | 0.02 |
| F | 0.04 | 0.05 | 0.05 | 0.03 | 0.02 | 0.02 |
| Cl | 0.01 | <0.00 | 0.01 | 0.01 | 0.01 | 0.02 |
| Σ | 100.44 | 100.16 | 100.30 | 100.74 | 100.71 | 101.12 |
| B (ppm) | — | — | — | 2.00 | — | — |
| Sc | 40 | 39 | 39 | 37 | 38 | 37 |
| Cr | 390 | 370 | 271 | 288 | 300 | 291 |
| Co | 44.4 | 46 | 44.4 | 47 | 48 | 48 |
| Ni | 98 | 91 | 93 | 88 | 94 | 83 |
| Cu | 124 | 125 | 125 | 106 | 108 | 119 |
| Zn | 71 | 79 | 83 | 67 | 77 | 71 |
| Ga | 20.0 | 20.0 | 19.0 | 20.0 | 20.0 | 20.0 |
| As | 1.5 | 1.2 | 1.7 | 1.20 | 1.40 | <1.20 |
| Rb | <0.5 | 31.0 | 21.6 | 25.0 | 38 | 29.0 |
| Sr | 220 | 260 | 180 | 195 | 184 | 178 |
| Sb | 0.25 | 0.20 | 0.16 | 0.130 | <0.110 | <0.120 |
| Cs | <0.3 | 1.33 | 1.20 | 3.0 | 1.70 | 1.60 |
| Ba | 263 | 218 | 173 | 191 | 179 | 227 |
| Y | 23.0 | 21.0 | 21.0 | 22.0 | 22.0 | 22.0 |
| La | 10.7 | 11.2 | 11.1 | 11.2 | 11.0 | 11.0 |
| Ce | 22.3 | 23.9 | 23.5 | 23.5 | 26.0 | 24.0 |
| Nd | 11.7 | 11.7 | 12.4 | 13.0 | 12.0 | 13.0 |
| Sm | 3.41 | 3.53 | 3.47 | 3.6 | 3.6 | 3.5 |
| Eu | 1.00 | 1.03 | 1.04 | 1.10 | 1.10 | 1.10 |
| Tb | 0.65 | 0.66 | 0.67 | 0.65 | 0.64 | 0.64 |
| Yb | 2.18 | 2.30 | 2.24 | 2.27 | 2.40 | 2.30 |
| Lu | 0.32 | 0.32 | 0.31 | 0.35 | 0.34 | 0.32 |
| Zr | 140 | <240 | <300 | 103 | 100 | 91 |
| Hf | 2.43 | 2.64 | 2.58 | 2.61 | 2.60 | 2.70 |
| Nb | 8.2 | 8.1 | 10.0 | 8.7 | 8.8 | 8.7 |
| Ta | 0.49 | 0.63 | 0.54 | 0.53 | 0.58 | 0.51 |
| Th | 2.23 | 2.42 | 2.19 | 2.30 | 2.30 | 2.20 |
| U | 0.63 | 0.64 | 0.84 | 0.53 | 0.46 | <0.40 |
| Pd (ppb) | 12.0 | 12.0 | 12.0 | 9.0 | 11.0 | 11.0 |
| Pt | 9.4 | 9.3 | 9.6 | 14.0 | 13.0 | 12.0 |
| Rh | 0.90 | 0.80 | 0.80 | — | 0.60 | 0.60 |
| Ru | <0.50 | <0.50 | <0.50 | — | <0.50 | <0.50 |
| Ir | <0.50 | <0.50 | <0.50 | — | <0.50 | <0.50 |
| Au | 10 | <7 | <2 | <7.0 | <4.0 | <5.0 |

Table 7c. Unnamed dikes.

| | W-249274 MD-89 315 | W-249275 MD-89 316 | W-249267 MD-89 FG-1 | W-249268 MD-89 FG-2 | W-249269 MD-89 FG-3 | W-249270 FG-89 MD-3A | W-236277 JM85 3 | W-236274 JM85 8 | W-236260 JM85 4 |
|--------------------------------|--------------------------|--------------------------|---------------------------|---------------------------|---------------------------|----------------------------|-----------------------|-----------------------|-----------------------|
| Lat. | 39°20'N | 39°27'N | 39°19'N | 39°19'N | 39°19'N | 39°19'N | 39°44'N | 39°44'N | 39°46'N |
| Long. | 77°40'W | 77°37'W | 77°40'W | 77°40'W | 77°40'W | 77°40'W | 77°18'W | 77°16'W | 77°19'W |
| SiO ₂ (%) | 47.40 | 47.10 | 50.40 | 50.40 | 50.60 | 56.00 | 51.00 | 50.20 | 52.60 |
| TiO ₂ | 0.27 | 0.30 | 0.68 | 0.70 | 0.72 | 0.72 | 0.72 | 0.77 | 1.10 |
| Al ₂ O ₃ | 14.60 | 15.30 | 15.20 | 15.20 | 15.20 | 15.20 | 15.30 | 14.60 | 14.30 |
| Fe ₂ O ₃ | 2.27 | 2.18 | 1.64 | 2.31 | 2.52 | 1.71 | 1.60 | 1.70 | 1.90 |
| FeO | 8.40 | 8.30 | 8.60 | 8.00 | 7.90 | 5.20 | 8.80 | 8.00 | 8.60 |
| MnO | 0.17 | 0.17 | 0.18 | 0.18 | 0.18 | 0.10 | 0.19 | 0.18 | 0.20 |
| MgO | 13.10 | 11.50 | 8.23 | 8.06 | 8.06 | 4.69 | 8.10 | 7.80 | 7.50 |
| CaO | 11.30 | 11.50 | 11.80 | 11.90 | 11.80 | 5.16 | 11.30 | 9.70 | 10.70 |
| Na ₂ O | 1.48 | 1.50 | 1.87 | 1.96 | 1.98 | 3.63 | 2.12 | 3.49 | 2.25 |
| K ₂ O | 0.28 | 0.32 | 0.26 | 0.25 | 0.31 | 4.16 | 0.35 | 0.90 | 1.10 |
| P ₂ O ₅ | 0.07 | 0.07 | 0.08 | 0.08 | 0.09 | 0.28 | 0.10 | 0.10 | 0.14 |
| H ₂ O ⁺ | 0.90 | 1.10 | 0.80 | 0.63 | 0.70 | 1.80 | 0.58 | 2.70 | 0.72 |
| H ₂ O ⁻ | 0.30 | 0.36 | 0.30 | 0.27 | 0.30 | 0.28 | 0.15 | 0.29 | 0.20 |
| CO ₂ | 0.08 | 0.13 | 0.18 | 0.11 | 0.10 | 0.63 | 0.02 | 0.04 | 0.07 |
| S | 0.03 | 0.03 | 0.08 | 0.10 | 0.10 | <0.01 | 0.05 | <0.01 | 0.01 |
| F | 0.02 | 0.02 | 0.03 | 0.03 | 0.01 | 0.03 | 0.02 | 0.02 | 0.03 |
| Cl | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.04 | <0.00 | 0.05 | 0.02 |
| Σ | 100.68 | 99.89 | 100.34 | 100.18 | 100.58 | 99.64 | 100.39 | 100.54 | 101.44 |
| Sc (ppm) | 39 | 40 | 42 | 42 | 43 | 14.3 | 43 | 39 | 37 |
| Cr | 940 | 780 | 267 | 264 | 262 | 115 | 250 | 117 | 275 |
| Co | 65 | 60 | 48 | 47 | 47 | 26.4 | 49 | 49 | 47 |
| Ni | 470 | 370 | 79 | 73 | 73 | 47 | 76 | 95 | 92 |
| Cu | — | — | — | — | — | — | 48 | 14.0 | 92 |
| Zn | 93 | 91 | 86 | 88 | 115 | 68 | 63 | 59 | 80 |
| Ga | 14.0 | 14.0 | 18.0 | 19.0 | 18.0 | 17.0 | — | — | — |
| As | <0.80 | <1.20 | 1.94 | <1.50 | 2.02 | 5.8 | <3.0 | 1.70 | 1.90 |
| Rb | 17.6 | 12.1 | 15.0 | 14.2 | 17.1 | 122 | 11.0 | 29.0 | 32 |
| Sr | 64 | 63 | 143 | 132 | 146 | 98 | 129 | 215 | 203 |
| Sb | <0.070 | <0.070 | <0.070 | 0.126 | <0.30 | 0.108 | <0.60 | <0.60 | <0.60 |
| Cs | 0.89 | 1.25 | 0.92 | 0.62 | 0.43 | <0.180 | 0.78 | 2.30 | 1.50 |
| Ba | 85 | 94 | 66 | 69 | 76 | 282 | 89 | 163 | 189 |
| Y | 13.0 | 18.0 | 19.0 | 19.0 | 19.0 | 20.0 | 22.0 | 15.0 | 25.0 |
| La | 4.5 | 4.5 | 4.8 | 5.0 | 4.9 | 21.4 | 5.5 | 6.8 | 12.0 |
| Ce | 9.7 | 8.6 | 11.5 | 10.8 | 10.3 | 44 | 12.0 | 15.0 | 23.0 |
| Nd | 5.2 | 5.7 | 6.3 | 7.1 | 7.2 | 22.1 | <10.0 | 9.0 | 12.0 |
| Sm | 1.21 | 1.20 | 1.93 | 2.00 | 1.95 | 4.8 | 2.18 | 2.25 | 3.5 |
| Eu | 0.32 | 0.32 | 0.69 | 0.67 | 0.71 | 1.10 | 0.78 | 0.80 | 1.09 |
| Tb | 0.32 | 0.31 | 0.51 | 0.45 | 0.48 | 0.61 | 0.49 | 0.43 | 0.67 |
| Yb | 1.90 | 2.00 | 2.21 | 2.23 | 2.29 | 2.31 | 2.20 | 1.60 | 2.30 |
| Lu | 0.292 | 0.30 | 0.32 | 0.32 | 0.32 | 0.34 | 0.33 | 0.240 | 0.32 |
| Zr | <220 | <130 | <100 | <110 | <110 | 258 | 63 | 65 | 105 |
| Hf | 0.83 | 0.93 | 1.34 | 1.46 | 1.51 | 5.3 | 1.40 | 1.50 | 2.60 |
| Nb | 1.90 | 2.10 | 2.90 | 3.4 | 3.2 | 7.8 | 2.90 | 4.7 | 7.0 |
| Ta | 0.127 | 0.199 | 0.176 | 0.232 | 0.190 | 0.47 | 0.210 | 0.31 | 0.53 |
| Th | 0.88 | 1.01 | 1.08 | 1.10 | 1.16 | 3.2 | 1.10 | 1.40 | 2.30 |
| U | <0.70 | <0.30 | <0.31 | <0.30 | 0.90 | 0.92 | <0.80 | 0.40 | 0.58 |
| Pd (ppb) | 24.0 | 21.0 | <0.80 | <0.80 | <0.80 | <0.80 | 0.70 | 4.8 | 8.3 |
| Pt | 15.0 | 14.0 | 1.50 | 1.10 | 1.00 | <0.50 | 1.00 | 4.2 | 6.7 |
| Rh | 2.00 | 1.40 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ru | 1.80 | 1.00 | <0.50 | <0.50 | <0.50 | <0.50 | — | — | — |
| Ir | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | — | — | — |
| Au | <4.0 | 4.7 | 5.1 | <2.80 | <3.0 | 4.4 | <21.0 | <22.0 | <23.0 |