

Geochemical assay data from U. S. Bureau of Mines hard-rock mineral cores (holes DM1, DM2, and DM3) of the Dust Mountain chromite prospect, northern Chugach Mountains of the Tonsina region west of the Copper River.



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Alaska Geologic Materials Center Data Report No. 295

US BUREAU OF MINES - DUST MT. CORE SAMPLES

| Hole No | Recovery % | Sample # | From | To | Interval | Thickness (ft) | Au Wt (gm) | Au | Pt | Pd | Ag | Cu |
|---------|------------|----------|-------|-------|----------|----------------|------------|----|-----|-----|------|----|
| DM1 | 96 | 459051 | 0 | 5 | 5 | 5 | 32.28 | 4 | 17 | 7 | <0.5 | 15 |
| DM1 | 92 | 459052 | 5 | 10 | 5 | 5 | 31.28 | <1 | 18 | 13 | <0.5 | 9 |
| DM1 | 94 | 459053 | 10 | 15 | 5 | 5 | 30.95 | 1 | 16 | 18 | <0.5 | 10 |
| DM1 | 96 | 459054 | 15 | 20 | 5 | 5 | 31.74 | 1 | 22 | 15 | <0.5 | 8 |
| DM1 | 90 | 459055 | 20 | 25 | 5 | 5 | 32.22 | <1 | 27 | 13 | <0.5 | 7 |
| DM1 | 46 | 459056 | 25 | 30 | 5 | 5 | 30.28 | <1 | 21 | 12 | <0.5 | 13 |
| DM1 | 51 | 459057 | 30 | 36.5 | 6.5 | 6.5 | 30.53 | 1 | 29 | 25 | <0.5 | 19 |
| DM1 | 83 | 459058 | 36.5 | 40.5 | 4 | 4 | 30.15 | <1 | <5 | <1 | <0.5 | 7 |
| DM1 | 84 | 459059 | 40.5 | 45.5 | 5 | 5 | 31.8 | <1 | <5 | <1 | <0.5 | 11 |
| DM1 | 102 | 459060 | 45.5 | 50 | 4.5 | 4.5 | 30.95 | <1 | <5 | 4 | <0.5 | 9 |
| DM1 | 88 | 459061 | 50 | 55 | 5 | 5 | 30.69 | <1 | 24 | 20 | <0.5 | 20 |
| DM1 | 100 | 459062 | 55 | 57 | 2 | 2 | 30.19 | <1 | <5 | 2 | <0.5 | 7 |
| DM2 | 100 | 459063 | 0 | 0.75 | 0.75 | 0.75 | 7.50s | 2 | 155 | 98 | <0.5 | 8 |
| DM2 | 90 | 459064 | 0.75 | 6.5 | 5.75 | 5.75 | 7.50s | <1 | 540 | 328 | 1 | 13 |
| DM2 | 67 | 459065 | 6.5 | 8.9 | 2.4 | 2.4 | 7.50s | <1 | 171 | 110 | <0.5 | 7 |
| DM3 | 100 | 459066 | 0 | 0.65 | 0.65 | 0.65 | 7.50s | <1 | 255 | 125 | <0.5 | 13 |
| DM3 | 67 | 459067 | 1 | 6.6 | 5.6 | 5.15 | 7.50s | <1 | 456 | 282 | 0.7 | 10 |
| DM3 | 56 | 459068 | 6.6 | 10.2 | 3.6 | 3.6 | 31.26 | <1 | 38 | 30 | <0.5 | 3 |
| DM3 | 78 | 459069 | 10.4 | 13.8 | 3.4 | 2.5 | 30.87 | <1 | 36 | 25 | <0.5 | 5 |
| Blank | Blank | 459070 | Blank | Blank | Blank | Blank | 30.16 | 1 | <5 | <1 | 0.6 | <1 |

| Hole No | Recovery % | Sample # | From | To | Pb | Zn | Mo | Ni | Co | Cd | Bi | As | Sb | Fe Tot |
|---------|------------|----------|-------|-------|----|-----|----|------|-----|------|----|----|-----|--------|
| DM1 | 96 | 459051 | 0 | 5 | 13 | 47 | 3 | 1440 | 110 | <1.0 | <5 | <5 | <5 | 7.63 |
| DM1 | 92 | 459052 | 5 | 10 | 8 | 56 | 5 | 1515 | 117 | <1.0 | <5 | <5 | <5 | 7.93 |
| DM1 | 94 | 459053 | 10 | 15 | 7 | 63 | 3 | 1547 | 124 | <1.0 | <5 | <5 | <5 | 8.31 |
| DM1 | 96 | 459054 | 15 | 20 | 7 | 46 | 5 | 1445 | 110 | <1.0 | <5 | <5 | <5 | 7.47 |
| DM1 | 90 | 459055 | 20 | 25 | 3 | 45 | 1 | 1575 | 110 | <1.0 | <5 | <5 | <5 | 7.05 |
| DM1 | 46 | 459056 | 25 | 30 | 7 | 36 | 4 | 1447 | 104 | <1.0 | <5 | <5 | <5 | 6.42 |
| DM1 | 51 | 459057 | 30 | 36.5 | 7 | 32 | 3 | 1141 | 86 | <1.0 | <5 | <5 | <5 | 5.41 |
| DM1 | 83 | 459058 | 36.5 | 40.5 | <2 | 48 | 4 | 1712 | 103 | <1.0 | <5 | <5 | <5 | 6.36 |
| DM1 | 84 | 459059 | 40.5 | 45.5 | 6 | 66 | 4 | 1719 | 111 | <1.0 | <5 | <5 | 13 | 7.08 |
| DM1 | 102 | 459060 | 45.5 | 50 | 5 | 32 | 3 | 1608 | 93 | <1.0 | <5 | <5 | 9 | 5.75 |
| DM1 | 88 | 459061 | 50 | 55 | 8 | 39 | 3 | 1493 | 105 | <1.0 | <5 | <5 | <5 | 6.4 |
| DM1 | 100 | 459062 | 55 | 57 | 7 | 41 | 2 | 1614 | 105 | <1.0 | <5 | <5 | <5 | 6.18 |
| DM2 | 100 | 459063 | 0 | 0.75 | <2 | 208 | 7 | 1034 | 135 | <1.0 | <5 | <5 | 74 | >10.00 |
| DM2 | 90 | 459064 | 0.75 | 6.5 | <2 | 491 | 7 | 1003 | 212 | <1.0 | <5 | <5 | 229 | >10.00 |
| DM2 | 67 | 459065 | 6.5 | 8.9 | <2 | 239 | 6 | 652 | 120 | <1.0 | <5 | <5 | 98 | >10.00 |
| DM3 | 100 | 459066 | 0 | 0.65 | <2 | 203 | 8 | 806 | 117 | <1.0 | <5 | <5 | 56 | >10.00 |
| DM3 | 67 | 459067 | 1 | 6.6 | <2 | 407 | 6 | 981 | 188 | 1.1 | <5 | <5 | 144 | >10.00 |
| DM3 | 56 | 459068 | 6.6 | 10.2 | 9 | 43 | 4 | 298 | 42 | <1.0 | <5 | <5 | <5 | 4.13 |
| DM3 | 78 | 459069 | 10.4 | 13.8 | 6 | 65 | 4 | 1014 | 115 | <1.0 | <5 | <5 | <5 | 8.49 |
| Blank | Blank | 459070 | Blank | Blank | 16 | 8 | 4 | 7 | 2 | <1.0 | <5 | <5 | <5 | 0.26 |

| Hole No | Recovery % | Sample # | From | To | Mn | Te | Ba | Cr | V | Sn | W | La | Al |
|---------|------------|----------|-------|-------|------|-----|-----|--------|-----|-----|-----|----|------|
| DM1 | 96 | 459051 | 0 | 5 | 1059 | <25 | 7 | 1778 | 11 | <20 | <20 | <5 | 0.17 |
| DM1 | 92 | 459052 | 5 | 10 | 1105 | <25 | <5 | 2507 | 20 | <20 | <20 | <5 | 0.26 |
| DM1 | 94 | 459053 | 10 | 15 | 1127 | <25 | <5 | 4281 | 31 | <20 | <20 | <5 | 0.29 |
| DM1 | 96 | 459054 | 15 | 20 | 1056 | <25 | <5 | 1763 | 16 | <20 | <20 | <5 | 0.17 |
| DM1 | 90 | 459055 | 20 | 25 | 1002 | <25 | <5 | 1582 | 11 | <20 | <20 | <5 | 0.12 |
| DM1 | 46 | 459056 | 25 | 30 | 908 | <25 | <5 | 1565 | 10 | <20 | <20 | <5 | 0.14 |
| DM1 | 51 | 459057 | 30 | 36.5 | 901 | <25 | <5 | 1887 | 43 | <20 | <20 | 8 | 0.37 |
| DM1 | 83 | 459058 | 36.5 | 40.5 | 897 | <25 | <5 | 4371 | 19 | <20 | <20 | <5 | 0.26 |
| DM1 | 84 | 459059 | 40.5 | 45.5 | 968 | <25 | <5 | 8871 | 35 | <20 | <20 | <5 | 0.52 |
| DM1 | 102 | 459060 | 45.5 | 50 | 847 | <25 | <5 | 2127 | 8 | <20 | <20 | <5 | 0.12 |
| DM1 | 88 | 459061 | 50 | 55 | 932 | <25 | 11 | 1426 | 11 | <20 | <20 | 5 | 0.29 |
| DM1 | 100 | 459062 | 55 | 57 | 889 | <25 | 9 | 1747 | 11 | <20 | <20 | <5 | 0.27 |
| DM2 | 100 | 459063 | 0 | 0.75 | 1184 | <25 | <5 | >20000 | 417 | <20 | <20 | 6 | 3.22 |
| DM2 | 90 | 459064 | 0.75 | 6.5 | 1501 | <25 | <5 | >20000 | 988 | <20 | <20 | 6 | 7.49 |
| DM2 | 67 | 459065 | 6.5 | 8.9 | 1182 | <25 | 12 | >20000 | 565 | <20 | <20 | 9 | 4.19 |
| DM3 | 100 | 459066 | 0 | 0.65 | 1129 | <25 | <5 | >20000 | 463 | <20 | <20 | 8 | 3.48 |
| DM3 | 67 | 459067 | 1 | 6.6 | 1344 | <25 | <5 | >20000 | 857 | <20 | <20 | 7 | 6.13 |
| DM3 | 56 | 459068 | 6.6 | 10.2 | 770 | <25 | <5 | 5321 | 196 | <20 | <20 | 11 | 1.43 |
| DM3 | 78 | 459069 | 10.4 | 13.8 | 1166 | <25 | <5 | 3532 | 82 | <20 | <20 | <5 | 0.57 |
| Blank | Blank | 459070 | Blank | Blank | 71 | <25 | 249 | 173 | 7 | <20 | <20 | 14 | 0.67 |

| Hole No | Recovery % | Sample # | From | To | Mg | Ca | Na | K | Sr | Y | Ga | Li | Nb |
|---------|------------|----------|-------|-------|--------|--------|------|-------|-----|----|-----|----|----|
| DM1 | 96 | 459051 | 0 | 5 | >10.00 | 0.45 | 0.02 | 0.02 | <1 | <5 | <10 | 2 | <5 |
| DM1 | 92 | 459052 | 5 | 10 | >10.00 | 0.64 | 0.02 | <0.01 | <1 | <5 | <10 | <2 | <5 |
| DM1 | 94 | 459053 | 10 | 15 | >10.00 | 0.77 | 0.02 | <0.01 | <1 | <5 | <10 | 2 | <5 |
| DM1 | 96 | 459054 | 15 | 20 | >10.00 | 0.8 | 0.02 | <0.01 | <1 | <5 | <10 | 2 | <5 |
| DM1 | 90 | 459055 | 20 | 25 | >10.00 | 0.33 | 0.02 | <0.01 | <1 | <5 | <10 | 2 | <5 |
| DM1 | 46 | 459056 | 25 | 30 | >10.00 | 0.38 | 0.02 | <0.01 | <1 | <5 | <10 | 2 | <5 |
| DM1 | 51 | 459057 | 30 | 36.5 | >10.00 | 3.95 | 0.05 | <0.01 | 6 | <5 | <10 | 3 | <5 |
| DM1 | 83 | 459058 | 36.5 | 40.5 | >10.00 | 0.23 | 0.02 | <0.01 | <1 | <5 | <10 | 2 | <5 |
| DM1 | 84 | 459059 | 40.5 | 45.5 | >10.00 | 0.23 | 0.02 | <0.01 | <1 | <5 | <10 | <2 | <5 |
| DM1 | 102 | 459060 | 45.5 | 50 | >10.00 | 0.5 | 0.02 | <0.01 | <1 | <5 | <10 | <2 | <5 |
| DM1 | 88 | 459061 | 50 | 55 | >10.00 | 0.86 | 0.02 | <0.01 | 6 | <5 | <10 | <2 | <5 |
| DM1 | 100 | 459062 | 55 | 57 | >10.00 | 0.41 | 0.02 | <0.01 | 8 | <5 | <10 | <2 | <5 |
| DM2 | 100 | 459063 | 0 | 0.75 | >10.00 | 3.69 | 0.03 | <0.01 | 5 | <5 | 44 | <2 | 14 |
| DM2 | 90 | 459064 | 0.75 | 6.5 | >10.00 | 0.29 | 0.02 | <0.01 | 4 | <5 | 140 | 2 | 33 |
| DM2 | 67 | 459065 | 6.5 | 8.9 | >10.00 | 7 | 0.04 | <0.01 | 15 | <5 | 63 | <2 | 19 |
| DM3 | 100 | 459066 | 0 | 0.65 | >10.00 | 6.22 | 0.04 | <0.01 | 5 | <5 | 35 | 2 | 19 |
| DM3 | 67 | 459067 | 1 | 6.6 | >10.00 | 0.88 | 0.02 | <0.01 | <1 | <5 | 92 | <2 | 33 |
| DM3 | 56 | 459068 | 6.6 | 10.2 | >10.00 | >10.00 | 0.07 | <0.01 | 5 | <5 | <10 | 3 | 14 |
| DM3 | 78 | 459069 | 10.4 | 13.8 | >10.00 | 2.35 | 0.02 | <0.01 | <1 | <5 | <10 | <2 | <5 |
| Blank | Blank | 459070 | Blank | Blank | 0.87 | >10.00 | 0.04 | 0.23 | 346 | <5 | <10 | 2 | <5 |

| Hole No | Recovery % | Sample # | From | To | Sc | Ta | Ti | Zr | Be | U | P | S | Bi |
|---------|------------|----------|-------|-------|----|----|-------|----|------|-----|-----|-------|------|
| DM1 | 96 | 459051 | 0 | 5 | <5 | <5 | <0.01 | <5 | <1.0 | <20 | 65 | 0.012 | 0.8 |
| DM1 | 92 | 459052 | 5 | 10 | <5 | <5 | <0.01 | <5 | <1.0 | <20 | 57 | 0.015 | <0.2 |
| DM1 | 94 | 459053 | 10 | 15 | 5 | 14 | <0.01 | <5 | <1.0 | 24 | 53 | 0.015 | <0.2 |
| DM1 | 96 | 459054 | 15 | 20 | 5 | 7 | <0.01 | <5 | <1.0 | <20 | 62 | 0.016 | <0.2 |
| DM1 | 90 | 459055 | 20 | 25 | <5 | <5 | <0.01 | <5 | <1.0 | 21 | 44 | 0.011 | <0.2 |
| DM1 | 46 | 459056 | 25 | 30 | <5 | <5 | <0.01 | <5 | <1.0 | <20 | 43 | 0.01 | <0.2 |
| DM1 | 51 | 459057 | 30 | 36.5 | 16 | <5 | 0.02 | <5 | <1.0 | <20 | 49 | 0.024 | <0.2 |
| DM1 | 83 | 459058 | 36.5 | 40.5 | <5 | 7 | <0.01 | <5 | <1.0 | 43 | 47 | 0.013 | <0.2 |
| DM1 | 84 | 459059 | 40.5 | 45.5 | <5 | 9 | 0.01 | <5 | <1.0 | 37 | 35 | 0.015 | <0.2 |
| DM1 | 102 | 459060 | 45.5 | 50 | <5 | <5 | <0.01 | <5 | <1.0 | <20 | 38 | 0.016 | <0.2 |
| DM1 | 88 | 459061 | 50 | 55 | 6 | <5 | <0.01 | <5 | <1.0 | <20 | 29 | 0.021 | <0.2 |
| DM1 | 100 | 459062 | 55 | 57 | <5 | <5 | <0.01 | <5 | <1.0 | <20 | 50 | 0.022 | <0.2 |
| DM2 | 100 | 459063 | 0 | 0.75 | 18 | 23 | 0.07 | <5 | <1.0 | <20 | 54 | 0.02 | <0.2 |
| DM2 | 90 | 459064 | 0.75 | 6.5 | 8 | 61 | 0.16 | <5 | <1.0 | 171 | 26 | 0.007 | <0.2 |
| DM2 | 67 | 459065 | 6.5 | 8.9 | 29 | 29 | 0.11 | <5 | <1.0 | 35 | <10 | 0.033 | <0.2 |
| DM3 | 100 | 459066 | 0 | 0.65 | 27 | 26 | 0.08 | <5 | <1.0 | <20 | 34 | 0.034 | <0.2 |
| DM3 | 67 | 459067 | 1 | 6.6 | 9 | 49 | 0.13 | <5 | <1.0 | 120 | 58 | 0.01 | <0.2 |
| DM3 | 56 | 459068 | 6.6 | 10.2 | 48 | <5 | 0.05 | <5 | <1.0 | <20 | 25 | 0.047 | <0.2 |
| DM3 | 78 | 459069 | 10.4 | 13.8 | 11 | 8 | 0.02 | <5 | <1.0 | <20 | 47 | 0.018 | <0.2 |
| Blank | Blank | 459070 | Blank | Blank | <5 | <5 | 0.02 | <5 | <1.0 | <20 | 65 | 0.116 | <0.2 |

| Hole No | Recovery % | Sample # | From | To | Description |
|---------|------------|----------|-------|-------|---------------------------------------------------------------------------------------------------------------|
| DM1 | 96 | 459051 | 0 | 5 | Mostly serpentinized dunite with light green 1-2 mm veinlets of brucite(?) coating fractures. |
| DM1 | 92 | 459052 | 5 | 10 | ~50% serpentinized dunite and ~50% clinopyroxenite. Brucite along fractures and trace of chromite. |
| DM1 | 94 | 459053 | 10 | 15 | As above, but with ~2% chromite disseminated in the clinopyroxenite. |
| DM1 | 96 | 459054 | 15 | 20 | Mostly serpentinized dunite with brucite along fractures and a couple of small 1-2 cm clinopyroxenite layers. |
| DM1 | 90 | 459055 | 20 | 25 | Serpentinized dunite with brucite along fractures. |
| DM1 | 46 | 459056 | 25 | 30 | Serpentinized dunite (as above)--poor recovery--rubby. |
| DM1 | 51 | 459057 | 30 | 36.5 | Rubby serpentinized dunite and clinopyroxenite (~50/50) with disseminated chromite in the clinopyroxenite. |
| DM1 | 83 | 459058 | 36.5 | 40.5 | Rubby serpentinized dunite with brucite along fractures. |
| DM1 | 84 | 459059 | 40.5 | 45.5 | Serpentinized dunite and clinopyroxenite with brucite along fractures and 2-3% disseminated chromite. |
| DM1 | 102 | 459060 | 45.5 | 50 | Serpentinized dunite with brucite along fractures and a trace of chromite. |
| DM1 | 88 | 459061 | 50 | 55 | Serpentinized dunite with brucite along fractures (parts rubby) with a trace of chromite. |
| DM1 | 100 | 459062 | 55 | 57 | As above, ~50% rubby at the end of the hole. |
| DM2 | 100 | 459063 | 0 | 0.75 | Clinopyroxenite with massive and disseminated chromite. |
| DM2 | 90 | 459064 | 0.75 | 6.5 | Massive chromite with clinopyroxenite matrix. |
| DM2 | 67 | 459065 | 6.5 | 8.9 | Clinopyroxenite with banded and disseminated chromite. |
| DM3 | 100 | 459066 | 0 | 0.65 | Clinopyroxenite with ~5% disseminated chromite, 0.1' massive chromite at the top of the hole. |
| DM3 | 67 | 459067 | 1 | 6.6 | ~80% massive chromite with ~2-5 cm clinopyroxenite layers containing disseminated chromite. |
| DM3 | 56 | 459068 | 6.6 | 10.2 | Clinopyroxenite with ~20% disseminated and blebby (massive) chromite. |
| DM3 | 78 | 459069 | 10.4 | 13.8 | Serpentinized dunite and clinopyroxenite with disseminated chromite. |
| Blank | Blank | 459070 | Blank | Blank | Sample blank--Tolovana Limestone. |

| Hole No | Recovery % | Sample # | From | To | Comments |
|---------|------------|----------|-------|-------|-------------------------------------------------------------------------------------------------|
| DM1 | 96 | 459051 | 0 | 5 | |
| DM1 | 92 | 459052 | 5 | 10 | |
| DM1 | 94 | 459053 | 10 | 15 | |
| DM1 | 96 | 459054 | 15 | 20 | |
| DM1 | 90 | 459055 | 20 | 25 | |
| DM1 | 46 | 459056 | 25 | 30 | |
| DM1 | 51 | 459057 | 30 | 36.5 | |
| DM1 | 83 | 459058 | 36.5 | 40.5 | |
| DM1 | 84 | 459059 | 40.5 | 45.5 | |
| DM1 | 102 | 459060 | 45.5 | 50 | |
| DM1 | 88 | 459061 | 50 | 55 | |
| DM1 | 100 | 459062 | 55 | 57 | |
| DM2 | 100 | 459063 | 0 | 0.75 | |
| DM2 | 90 | 459064 | 0.75 | 6.5 | |
| DM2 | 67 | 459065 | 6.5 | 8.9 | |
| DM3 | 100 | 459066 | 0 | 0.65 | |
| DM3 | 67 | 459067 | 1 | 6.6 | Intervals 0.65'-1.0' and 1.9'-2.35' were not included due to previous sampling. |
| DM3 | 56 | 459068 | 6.6 | 10.2 | |
| DM3 | 78 | 459069 | 10.4 | 13.8 | Intervals 10.2'-10.4', 12.4'-12.9', and 13.1'-13.5' were not included due to previous sampling. |
| Blank | Blank | 459070 | Blank | Blank | The quality of this blank has never been tested, but unlikely to contain Pt, Pd, Cr. |