

Supplementary Data for Jacobs and Davis

| Sample ID | Depth (cm) | Horizonation | Unit | Lithology | % Sand | %Silt |
|-----------|------------|--------------|------|-----------------|--------|-------|
| S6-1.1 | 10 | Ap | 1 | Peoria | 22 | 65 |
| S6-1.2 | 35 | Bt1 | | | 3 | 68 |
| S6-1.3 | 75 | Bt2 | | | 4 | 72 |
| S6-1.4 | 100 | BC | | | 4 | 70 |
| S6-1.5 | 130 | C1 | | | 3 | 73 |
| S6-1.6 | 200 | C2 | | | 4 | 78 |
| S6-1.7 | 230 | C3 | | | 3 | 79 |
| S6-1.8 | 250 | C/2BCb | | | 3 | 81 |
| S6-1.9 | 265 | 2BCb | 2 | Roxana | 4 | 76 |
| S6-1.10 | 295 | 2BCb | | | 5 | 72 |
| S6-1.11 | 320 | 2Cb | | | 4 | 69 |
| S6-1.12 | 333 | 3Bt1b | 3 | Loveland | 4 | 57 |
| S6-1.13 | 355 | 3Bt1b | | | 3 | 59 |
| S6-1.14 | 375 | 3Bt2b | | | 4 | 65 |
| S6-1.15 | 395 | 3Bt2b | | | 2 | 68 |
| S6-1.16 | 408 | 3Bt2b | | | 3 | 67 |
| S6-1.17 | 423 | 3Bt2b | | | 4 | 63 |
| S6-1.18 | 427 | 4Bt1b | 4 | Crowley's Ridge | 5 | 60 |
| S6-1.19 | 440 | 4Bt1b | | | 8 | 53 |
| S6-1.20 | 458 | 4Bt2b | | | 9 | 53 |
| S6-1.21 | 475 | 4Bt2b | | | 9 | 51 |
| S6-1.22 | 485 | 4Bt2b | | | 11 | 48 |
| S6-1.23 | 500 | 4Bt3b | | | 14 | 43 |
| S6-1.24 | 515 | 4Bt3b | | | 22 | 44 |
| S6-1.25 | 530 | 5Bt1b | 5 | Loamy Colluvium | 26 | 46 |
| S6-1.26 | 545 | 5Bt2b | | | 50 | 29 |
| S6-1.27 | 565 | 5Bt2b | | | 41 | 33 |
| S6-1.28 | 585 | 5Bt3b | | | 72 | 15 |
| S6-1.29 | 605 | 5Bt3b | | | 53 | 27 |
| S6-1.30 | 623 | 6Btb | 6 | Silty Colluvium | 1 | 62 |
| S6-1.31 | 640 | 6Cb | | | 1 | 74 |
| S6-1.32 | 670 | 6Cb | | | 3 | 58 |
| S6-1.33 | 690 | 6Cb | | | 4 | 50 |
| S6-1.34 | 715 | 6Cb | | | 7 | 52 |
| S6-1.35 | 735 | 7ABtb | 7 | Loess V | 11 | 55 |
| S6-1.36 | 765 | 7Btb | | | 10 | 50 |
| S6-1.37 | 795 | 7BCb | | | 6 | 64 |
| S6-1.38 | 815 | 7BCb | | | 22 | 54 |
| S6-1.39 | 843 | 8BCb | 8 | Colluvium | 37 | 41 |
| S6-1.40 | 860 | 8BCb | | | 22 | 56 |
| S6-1.41 | 870 | 8BCb | | | 51 | 32 |

| % Clay | % quartz | %K-feldspar | % plagioclase | Q/P | Q/K | K2O (ppm) |
|--------|----------|-------------|---------------|-----|-----|-----------|
| 13 | 63 | 13 | 17 | 13 | 19 | 19018 |
| 29 | 67 | 14 | 19 | 12 | 20 | 19852 |
| 24 | 67 | 13 | 20 | 11 | 21 | 20566 |
| 26 | 63 | 17 | 20 | 11 | 16 | 21043 |
| 24 | 59 | 20 | 22 | 9 | 12 | 21881 |
| 17 | 64 | 15 | 21 | 10 | 17 | 23425 |
| 18 | 60 | 14 | 26 | 8 | 17 | 23862 |
| 16 | 61 | 16 | 23 | 9 | 16 | 21877 |
| 20 | 65 | 15 | 20 | 11 | 17 | 21877 |
| 23 | 67 | 15 | 18 | 13 | 17 | 22154 |
| 27 | 73 | 14 | 13 | 19 | 20 | 20090 |
| 39 | 68 | 17 | 15 | 16 | 16 | 22234 |
| 38 | 63 | 17 | 21 | 11 | 15 | 24179 |
| 31 | 66 | 17 | 17 | 13 | 16 | 24537 |
| 30 | 61 | 18 | 21 | 10 | 13 | 24537 |
| 30 | 65 | 14 | 21 | 11 | 19 | 22988 |
| 33 | 64 | 16 | 20 | 12 | 16 | 22671 |
| 35 | 69 | 13 | 17 | 14 | 21 | 20844 |
| 39 | 72 | 14 | 14 | 18 | 21 | 20288 |
| 37 | 67 | 16 | 17 | 14 | 17 | 29301 |
| 41 | 74 | 14 | 12 | 21 | 21 | 20725 |
| 42 | 74 | 15 | 11 | 25 | 20 | 21678 |
| 43 | 73 | 17 | 10 | 27 | 18 | 25688 |
| 34 | 71 | 19 | 11 | 24 | 15 | 29222 |
| 28 | 72 | 18 | 10 | 26 | 16 | 31763 |
| 21 | 63 | 29 | 8 | 27 | 9 | 45937 |
| 26 | 69 | 22 | 8 | 30 | 12 | 43435 |
| 13 | 69 | 24 | 7 | 35 | 11 | 42086 |
| 20 | 66 | 24 | 10 | 24 | 11 | 41808 |
| 37 | 67 | 20 | 12 | 19 | 13 | 35654 |
| 24 | 63 | 17 | 19 | 12 | 15 | 26681 |
| 39 | 64 | 18 | 19 | 12 | 15 | 24418 |
| 46 | 69 | 15 | 16 | 16 | 18 | 23584 |
| 41 | 72 | 17 | 11 | 22 | 17 | 24894 |
| 33 | 73 | 19 | 8 | 31 | 16 | 31048 |
| 40 | 68 | 22 | 10 | 23 | 12 | 34983 |
| 31 | 69 | 17 | 14 | 17 | 16 | 27554 |
| 25 | 66 | 18 | 16 | 15 | 15 | 32001 |
| 22 | 67 | 20 | 13 | 18 | 13 | 35058 |
| 21 | 74 | 14 | 12 | 22 | 22 | 20646 |
| 17 | 66 | 22 | 12 | 20 | 12 | 39068 |

| CaO (ppm) | TiO2 (ppm) | Rb (ppm) | Sr (ppm) | Zr (ppm) | React with 10% HCl |
|-----------|------------|----------|----------|----------|--------------------|
| 41219 | 5588 | 52 | 146 | 425 | Y |
| 8375 | 5679 | 59 | 154 | 387 | N |
| 9847 | 5581 | 56 | 169 | 423 | N |
| 10177 | 6091 | 57 | 174 | 421 | N |
| 10516 | 6019 | 61 | 190 | 408 | N |
| 13527 | 6548 | 52 | 176 | 512 | N |
| 14562 | 6719 | 60 | 160 | 387 | N |
| 37877 | 6291 | 59 | 173 | 384 | Y |
| 10484 | 6570 | 58 | 136 | 348 | N |
| 7213 | 6516 | 55 | 133 | 461 | N |
| 4806 | 5534 | 49 | 96 | 320 | N |
| 5065 | 5819 | 58 | 114 | 375 | N |
| 6083 | 6069 | 56 | 142 | 497 | N |
| 6577 | 5736 | 57 | 149 | 413 | N |
| 7715 | 5838 | 65 | 165 | 392 | N |
| 6959 | 6019 | 61 | 154 | 363 | N |
| 6617 | 6025 | 57 | 140 | 354 | N |
| 4436 | 6076 | 53 | 118 | 377 | N |
| 3724 | 5993 | 55 | 95 | 400 | N |
| 5379 | 5930 | 63 | 124 | 463 | N |
| 2526 | 5936 | 52 | 74 | 396 | N |
| 2753 | 6041 | 52 | 77 | 418 | N |
| 2749 | 5908 | 59 | 83 | 428 | N |
| 2904 | 5962 | 60 | 84 | 416 | N |
| 2853 | 5759 | 70 | 90 | 427 | N |
| 2845 | 5198 | 52 | 60 | 345 | N |
| 1918 | 5943 | 71 | 79 | 547 | N |
| 2463 | 5676 | 66 | 74 | 466 | N |
| 2928 | 5651 | 69 | 83 | 451 | N |
| 3239 | 5996 | 76 | 99 | 283 | N |
| 7866 | 6307 | 65 | 150 | 417 | N |
| 5892 | 5790 | 53 | 133 | 364 | N |
| 4361 | 5857 | 59 | 113 | 363 | N |
| 3549 | 6034 | 56 | 99 | 447 | N |
| 2964 | 5838 | 57 | 90 | 463 | N |
| 3629 | 5486 | 58 | 94 | 396 | N |
| 5292 | 5955 | 59 | 124 | 400 | N |
| 4703 | 5895 | 65 | 116 | 390 | N |
| 4743 | 5464 | 65 | 114 | 436 | N |
| 2328 | 6168 | 50 | 80 | 438 | N |
| 4146 | 5657 | 67 | 105 | 469 | N |