

Table 1-6. Qualitative mineralogy (XRD) and sulfide morphology (optical microscopy) for samples from CW core. Data from Tuttle (1991a, b).

[Morphology (morph) key: A, anhedral; B, blades; E, euhedral; F, framboids; L, lens; S, iron-sulfide replacing oxide mineral grains]

| Field ID | Depth (ft) | Depth (m) | lithology       | Description                   | Photo of sample | Thin section | Quartz | Calcite | Dolomite | K-feldspar | Na-feldspar | Analcime | Dawsonite | Siderite | Illite | UnID'd clay | Pyrite | other      | Pyrite morph | Marcasite morph | Pyrrhotite morph |
|----------|------------|-----------|-----------------|-------------------------------|-----------------|--------------|--------|---------|----------|------------|-------------|----------|-----------|----------|--------|-------------|--------|------------|--------------|-----------------|------------------|
| CW-38    | 1873.4     | 571.0     | Mahogany Zone   | oil shale                     | no              | polished     | X      | X       | X        |            | X           |          |           | X        |        |             |        |            | E,L          |                 |                  |
| CW-37    | 1926.2     | 587.1     | Mahogany Zone   | oil shale                     | no              | unpolished   | X      | X       | X        |            | X           |          |           |          | X      |             |        |            | A            |                 |                  |
| CW-36    | 1957.6     | 596.7     | Mahogany Zone   | oil shale                     | no              | unpolished   | X      | X       | X        | X          | X           |          |           | X        | X      |             |        |            | A            |                 |                  |
| CW-35    | 1986.8     | 605.6     | Mahogany Zone   | oil shale                     | no              | polished     | X      | X       | X        |            | X           |          |           |          |        |             |        |            | A            |                 |                  |
| CW-34    | 2047.8     | 624.2     | Mahogany Zone   | oil shale                     | no              | polished     | X      | X       | X        |            | X           |          | X         | X        | X      |             | X      |            | A,L          | A               |                  |
| CW-33    | 2105.6     | 641.8     | Mahogany Zone   | oil shale                     | no              | polished     | X      | X       | X        | X          | X           |          | X         |          |        |             | X      |            |              | E               | E                |
| CW-32    | 2137.8     | 651.6     | Mahogany Zone   | oil shale                     | no              | unpolished   | X      | X       | X        |            | X           |          |           |          |        | X           | X      |            | A            | A               |                  |
| CW-31    | 2167.9     | 660.8     | Mahogany Zone   | oil shale                     | no              | unpolished   | X      | X       | X        | X          | X           |          |           |          |        |             | X      |            | A            | A               |                  |
| CW-30    | 2197.2     | 669.7     | Mahogany Zone   | oil shale                     | no              | unpolished   | X      | X       | X        |            | X           |          |           | X        |        |             |        |            | A            | E               |                  |
| CW-29    | 2232.8     | 680.6     | Mahogany Zone   | oil shale                     | no              | polished     | X      | X       | X        |            | X           |          |           |          |        |             | X      |            | A            | E               |                  |
| CW-28    | 2287.4     | 697.2     | Mahogany Zone   | oil shale                     | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      |             |        |            |              |                 |                  |
| CW-27    | 2317.4     | 706.3     | Parachute Creek | marlstone                     | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      |             |        |            | A,F          | A               | A                |
| CW-26    | 2347.7     | 723.6     | Parachute Creek | marlstone                     | no              | unpolished   | X      | X       | X        |            | X           |          |           |          |        |             |        |            |              |                 |                  |
| CW-25    | 2380.4     | 725.5     | Parachute Creek | silty marlstone               | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      |             |        |            | E            | E               |                  |
| CW-24    | 2407.1     | 733.7     | Parachute Creek | marlstone                     | no              | unpolished   | X      | X       | X        | X          | X           |          | X         |          |        |             |        |            | E,F          | E               |                  |
| CW-23    | 2467.2     | 752.0     | Parachute Creek | pyritic oil shale             | no              | polished     | X      | X       | X        | X          | X           | X        |           | X        |        |             | X      |            | A            | A               |                  |
| CW-22    | 2499.8     | 761.9     | Parachute Creek | oil shale                     | no              | unpolished   | X      | X       | X        | X          | X           |          | X         |          |        |             |        |            |              |                 |                  |
| CW-21    | 2527.8     | 770.5     | Parachute Creek | pyritic marlstone             | no              | polished     | X      | X       | X        | X          | X           | X        |           | X        | X      |             |        |            | A            | A               | B                |
| CW-20    | 2587.9     | 788.8     | Parachute Creek | pyritic oil shale             | no              | polished     | X      |         | X        | X          | X           | X        |           |          | X      |             |        |            |              | E               | B                |
| CW-19    | 2647.3     | 806.9     | Parachute Creek | marly oil shale               | no              | polished     | X      | X       | X        | X          | X           |          | X         |          | X      |             |        | muscovite  | E,F          | A               |                  |
| CW-18    | 2674.4     | 815.2     | Parachute Creek | pyritic marlstone             | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      |             |        |            | B,A          | B,A             | B                |
| CW-17    | 2707.1     | 825.1     | Parachute Creek | pyritic, tuffaceous marlstone | no              | polished     | X      | X       | X        | X          |             | X        |           |          | X      | X           |        |            |              |                 |                  |
| CW-16    | 2767.2     | 843.4     | Parachute Creek | oil shale                     | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      | X           |        |            | A,F,B        | A               |                  |
| CW-15    | 2827.6     | 861.9     | Parachute Creek | pyritic marlstone             | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      | X           |        | hornblende | E,F          | A               |                  |
| CW-14    | 2857.5     | 871.0     | Parachute Creek | oil shale                     | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      | X           |        |            | E            | E               |                  |
| CW-13    | 2887.7     | 880.2     | Parachute Creek | pyritic oil shale             | no              | polished     | X      |         | X        | X          |             | X        |           |          | X      |             | X      |            | A,E,L        | E               |                  |
| CW-12    | 2946.8     | 898.2     | Parachute Creek | silty mudstone                | no              | unpolished   | X      | X       | X        | X          | X           | X        |           |          | X      |             |        |            | E            |                 |                  |
| CW-11    | 2977.2     | 907.5     | Parachute Creek | silty mudstone                | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      |             |        |            | E,A          |                 |                  |
| CW-10    | 3007.4     | 916.7     | Douglas Creek   | calcareous mudstone           | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      | X           | X      |            | A,E,F        | A               |                  |
| CW-9     | 3037.2     | 925.7     | Douglas Creek   | calcareous mudstone           | no              | unpolished   | X      | X       | X        | X          | X           | X        |           |          | X      | X           |        |            | A,F          |                 |                  |
| CW-8     | 3067.1     | 934.9     | Douglas Creek   | mudstone                      | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      | X           | X      |            | E,A,F        | A               |                  |
| CW-7     | 3127.6     | 953.3     | Douglas Creek   | tuffaceous mudstone           | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      | X           |        |            | E,F          | A               |                  |
| CW-6     | 3186.6     | 971.3     | Douglas Creek   | silty mudstone                | no              | polished     | X      | X       | X        | X          | X           | X        |           | X        | X      | X           | X      |            | E,F          |                 |                  |
| CW-5A    | 3217.0     | 980.5     | Douglas Creek   | silty, calcareous mudstone    | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      | X           |        |            | E,F          | A               |                  |
| CW-5     | 3247.7     | 989.9     | Douglas Creek   | mudstone                      | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      | X           |        |            | E,F          | E               |                  |
| CW-4     | 3307.0     | 1008.0    | Douglas Creek   | mudstone                      | no              | polished     | X      | X       | X        | X          | X           | X        |           |          | X      |             |        |            | E,F          |                 |                  |
| CW-3     | 3367.0     | 1026.3    | Douglas Creek   | oil shale                     | no              | unpolished   | X      | X       | X        |            | X           |          |           |          | X      | X           |        |            | F            | E               |                  |
| CW-2     | 3396.9     | 1035.4    | Douglas Creek   | siltstone                     | no              | polished     | X      | X       | X        | X          | X           | X        |           | X        | X      | X           |        |            | A            |                 |                  |
| CW-1     | 3423.0     | 1043.3    | Douglas Creek   | oil shale                     | no              | polished     | X      |         | X        | X          | X           | X        |           |          |        | X           | X      |            | A,E          |                 |                  |