

## Gold Oxide Ore (Andy Well Gold Mine, Western Australia), Certified Reference Material

Art. ID                    OREAS-251b-500G  
Unit                        500 g  
Deliverydetails        No Dangerous Good /not restricted

| Text/Information | Analyte/Parameter | CAS number  | Concentration/Value      | Unit | Method                                                     | Source |
|------------------|-------------------|-------------|--------------------------|------|------------------------------------------------------------|--------|
| Gold             | Gold (Au)         | [7440-57-5] | 0,505 $\hat{A}\pm$ 0,017 | ppm  | Pb Fire As<br>say                                          |        |
| Gold             | Gold (Au)         | [7440-57-5] | 0,497 $\hat{A}\pm$ 0,022 | ppm  | Aqua Regia<br>Digestion<br>(sample w<br>eights 10-<br>50g) |        |
| Gold             | Gold (Au)         | [7440-57-5] | 0,491 $\hat{A}\pm$ 0,028 | ppm  | Cyanide Le<br>ach                                          |        |
| Gold             | Gold (Au)         | [7440-57-5] | 0,495 $\hat{A}\pm$ 0,028 | ppm  | X-ray Phot<br>on Assay                                     |        |
| Silver           | Silver (Ag)       | [7440-22-4] | 0,123 $\hat{A}\pm$ 0,017 | ppm  | 4-Acid Dig<br>estion                                       |        |
| Aluminium        | Aluminium (Al)    | [7429-90-5] | 4,8 $\hat{A}\pm$ 0,114   | %    | 4-Acid Dig<br>estion                                       |        |
| Arsenic          | Arsenic (As)      | [7440-38-2] | 12,9 $\hat{A}\pm$ 0,56   | ppm  | 4-Acid Dig<br>estion                                       |        |
| Barium           | Barium (Ba)       | [7440-39-3] | 311 $\hat{A}\pm$ 14      | ppm  | 4-Acid Dig<br>estion                                       |        |
| Beryllium        | Beryllium (Be)    | [7440-41-7] | 1,25 $\hat{A}\pm$ 0,079  | ppm  | 4-Acid Dig<br>estion                                       |        |
| Bismuth          | Bismuth (Bi)      | [7440-69-9] | 0,31 $\hat{A}\pm$ 0,026  | ppm  | 4-Acid Dig<br>estion                                       |        |
| Calcium          | Calcium (Ca)      | [7440-70-2] | 2,01 $\hat{A}\pm$ 0,073  | %    | 4-Acid Dig<br>estion                                       |        |
| Cadmium          | Cadmium (Cd)      | [7440-43-9] | 0,027 $\hat{A}\pm$ 0,008 | ppm  | 4-Acid Dig<br>estion                                       |        |
| Cerium           | Cerium (Ce)       | [7440-45-1] | 51 $\hat{A}\pm$ 4,8      | ppm  | 4-Acid Dig<br>estion                                       |        |
| Cobalt           | Cobalt (Co)       | [7440-48-4] | 18 $\hat{A}\pm$ 0,73     | ppm  | 4-Acid Dig<br>estion                                       |        |

|            |                 |             |                |     |                  |
|------------|-----------------|-------------|----------------|-----|------------------|
| Chromium   | Chromium (Cr)   | [7440-47-3] | 115 Å± 11      | ppm | 4-Acid Digestion |
| Caesium    | Caesium (Cs)    | [7440-46-2] | 2,8 Å± 0,161   | ppm | 4-Acid Digestion |
| Copper     | Copper (Cu)     | [7440-50-8] | 26,7 Å± 2,35   | ppm | 4-Acid Digestion |
| Dysprosium | Dysprosium (Dy) | [7429-91-6] | 3,14 Å± 0,286  | ppm | 4-Acid Digestion |
| Erbium     | Erbium (Er)     | [7440-52-0] | 1,54 Å± 0,18   | ppm | 4-Acid Digestion |
| Europium   | Europium (Eu)   | [7440-53-1] | 1,1 Å± 0,055   | ppm | 4-Acid Digestion |
| Iron       | Iron (Fe)       | [7439-89-6] | 3,69 Å± 0,098  | %   | 4-Acid Digestion |
| Gallium    | Gallium (Ga)    | [7440-55-3] | 12,6 Å± 1,03   | ppm | 4-Acid Digestion |
| Gadolinium | Gadolinium (Gd) | [7440-54-2] | 4,03 Å± 0,21   | ppm | 4-Acid Digestion |
| Germanium  | Germanium (Ge)  | [7440-56-4] | 0,11 Å± 0,02   | ppm | 4-Acid Digestion |
| Hafnium    | Hafnium (Hf)    | [7440-58-6] | 2,94 Å± 0,266  | ppm | 4-Acid Digestion |
| Holmium    | Holmium (Ho)    | [7440-60-0] | 0,57 Å± 0,05   | ppm | 4-Acid Digestion |
| Indium     | Indium (In)     | [7440-74-6] | 0,065 Å± 0,005 | ppm | 4-Acid Digestion |
| Potassium  | Potassium (K)   | [7440-09-7] | 1,17 Å± 0,036  | %   | 4-Acid Digestion |
| Lanthanum  | Lanthanum (La)  | [7439-91-0] | 25,8 Å± 1,79   | ppm | 4-Acid Digestion |
| Lithium    | Lithium (Li)    | [7439-93-2] | 21 Å± 1,66     | ppm | 4-Acid Digestion |
| Lutetium   | Lutetium (Lu)   | [7439-94-3] | 0,2 Å± 0,014   | ppm | 4-Acid Digestion |
| Magnesium  | Magnesium (Mg)  | [7439-95-4] | 1,67 Å± 0,063  | %   | 4-Acid Digestion |
| Manganese  | Manganese (Mn)  | [7439-96-5] | 0,042 Å± 0,001 | %   | 4-Acid Digestion |

|              |                   |             |                |     |                  |
|--------------|-------------------|-------------|----------------|-----|------------------|
| Molybdenum   | Molybdenum (Mo)   | [7439-98-7] | 1,84 Å± 0,106  | ppm | 4-Acid Digestion |
| Sodium       | Sodium (Na)       | [7440-23-5] | 0,774 Å± 0,024 | %   | 4-Acid Digestion |
| Niobium      | Niobium (Nb)      | [7440-03-1] | 14,4 Å± 1,5    | ppm | 4-Acid Digestion |
| Neodymium    | Neodymium (Nd)    | [7440-00-8] | 23,7 Å± 0,85   | ppm | 4-Acid Digestion |
| Nickel       | Nickel (Ni)       | [7440-02-0] | 72 Å± 3,5      | ppm | 4-Acid Digestion |
| Phosphorus   | Phosphorus (P)    | [7723-14-0] | 0,07 Å± 0,001  | %   | 4-Acid Digestion |
| Lead         | Lead (Pb)         | [7439-92-1] | 9,06 Å± 0,718  | ppm | 4-Acid Digestion |
| Praseodymium | Praseodymium (Pr) | [7440-10-0] | 6,21 Å± 0,245  | ppm | 4-Acid Digestion |
| Rubidium     | Rubidium (Rb)     | [7440-17-7] | 63 Å± 2,6      | ppm | 4-Acid Digestion |
| Rhenium      | Rhenium (Re)      | [7440-15-5] | <0,002         | ppm | 4-Acid Digestion |
| Sulphur      | Sulfur (S)        | [7704-34-9] | 0,017 Å± 0,004 | %   | 4-Acid Digestion |
| Antimony     | Antimony (Sb)     | [7440-36-0] | 0,79 Å± 0,071  | ppm | 4-Acid Digestion |
| Scandium     | Scandium (Sc)     | [7440-20-2] | 9,68 Å± 0,574  | ppm | 4-Acid Digestion |
| Selenium     | Selenium (Se)     | [7782-49-2] | <1,00          | ppm | 4-Acid Digestion |
| Samarium     | Samarium (Sm)     | [7440-19-9] | 4,72 Å± 0,221  | ppm | 4-Acid Digestion |
| Tin          | Tin (Sn)          | [7440-31-5] | 3,65 Å± 0,327  | ppm | 4-Acid Digestion |
| Strontium    | Strontium (Sr)    | [7440-24-6] | 196 Å± 8       | ppm | 4-Acid Digestion |
| Tantalum     | Tantalum (Ta)     | [7440-25-7] | 1,03 Å± 0,082  | ppm | 4-Acid Digestion |
| Terbium      | Terbium (Tb)      | [7440-27-9] | 0,58 Å± 0,038  | ppm | 4-Acid Digestion |

|           |                |              |                         |     |                      |
|-----------|----------------|--------------|-------------------------|-----|----------------------|
| Tellurium | Tellurium (Te) | [13494-80-9] | <0,050                  | ppm | 4-Acid Digestion     |
| Thorium   | Thorium (Th)   | [7440-29-1]  | 8,65 $\hat{\pm}$ 0,589  | ppm | 4-Acid Digestion     |
| Titanium  | Titanium (Ti)  | [7440-32-6]  | 0,481 $\hat{\pm}$ 0,02  | %   | 4-Acid Digestion     |
| Thallium  | Thallium (Tl)  | [7440-28-0]  | 0,35 $\hat{\pm}$ 0,021  | ppm | 4-Acid Digestion     |
| Thulium   | Thulium (Tm)   | [7440-30-4]  | 0,21 $\hat{\pm}$ 0,02   | ppm | 4-Acid Digestion     |
| Uranium   | Uranium (U)    | [7440-61-1]  | 1,27 $\hat{\pm}$ 0,079  | ppm | 4-Acid Digestion     |
| Vanadium  | Vanadium (V)   | [7440-62-2]  | 75 $\hat{\pm}$ 3,5      | ppm | 4-Acid Digestion     |
| Tungsten  | Tungsten (W)   | [7440-33-7]  | 1,97 $\hat{\pm}$ 0,22   | ppm | 4-Acid Digestion     |
| Yttrium   | Yttrium (Y)    | [7440-65-5]  | 15,2 $\hat{\pm}$ 1,13   | ppm | 4-Acid Digestion     |
| Ytterbium | Ytterbium (Yb) | [7440-64-4]  | 1,39 $\hat{\pm}$ 0,16   | ppm | 4-Acid Digestion     |
| Zinc      | Zinc (Zn)      | [7440-66-6]  | 60 $\hat{\pm}$ 3,1      | ppm | 4-Acid Digestion     |
| Zirconium | Zirconium (Zr) | [7440-67-7]  | 108 $\hat{\pm}$ 9       | ppm | 4-Acid Digestion     |
| Silver    | Silver (Ag)    | [7440-22-4]  | 0,104 $\hat{\pm}$ 0,01  | ppm | Aqua Regia Digestion |
| Aluminium | Aluminium (Al) | [7429-90-5]  | 0,871 $\hat{\pm}$ 0,126 | %   | Aqua Regia Digestion |
| Arsenic   | Arsenic (As)   | [7440-38-2]  | 6,01 $\hat{\pm}$ 0,62   | ppm | Aqua Regia Digestion |
| Boron     | Boron (B)      | [7440-42-8]  | <10,0                   | ppm | Aqua Regia Digestion |
| Barium    | Barium (Ba)    | [7440-39-3]  | 67 $\hat{\pm}$ 3,7      | ppm | Aqua Regia Digestion |
| Beryllium | Beryllium (Be) | [7440-41-7]  | 0,39 $\hat{\pm}$ 0,025  | ppm | Aqua Regia Digestion |
| Bismuth   | Bismuth (Bi)   | [7440-69-9]  | 0,29 $\hat{\pm}$ 0,015  | ppm | Aqua Regia Digestion |

|            |                 |             |                          |     |                         |
|------------|-----------------|-------------|--------------------------|-----|-------------------------|
| Calcium    | Calcium (Ca)    | [7440-70-2] | 0,593 $\hat{A}\pm$ 0,051 | %   | Aqua Regia<br>Digestion |
| Cadmium    | Cadmium (Cd)    | [7440-43-9] | 0,016 $\hat{A}\pm$ 0,006 | ppm | Aqua Regia<br>Digestion |
| Cerium     | Cerium (Ce)     | [7440-45-1] | 31,2 $\hat{A}\pm$ 2,26   | ppm | Aqua Regia<br>Digestion |
| Cobalt     | Cobalt (Co)     | [7440-48-4] | 12,2 $\hat{A}\pm$ 1,5    | ppm | Aqua Regia<br>Digestion |
| Chromium   | Chromium (Cr)   | [7440-47-3] | 52 $\hat{A}\pm$ 4,7      | ppm | Aqua Regia<br>Digestion |
| Caesium    | Caesium (Cs)    | [7440-46-2] | 0,72 $\hat{A}\pm$ 0,1    | ppm | Aqua Regia<br>Digestion |
| Copper     | Copper (Cu)     | [7440-50-8] | 19,4 $\hat{A}\pm$ 1,59   | ppm | Aqua Regia<br>Digestion |
| Dysprosium | Dysprosium (Dy) | [7429-91-6] | 1,6 $\hat{A}\pm$ 0,084   | ppm | Aqua Regia<br>Digestion |
| Erbium     | Erbium (Er)     | [7440-52-0] | 0,71 $\hat{A}\pm$ 0,054  | ppm | Aqua Regia<br>Digestion |
| Europium   | Europium (Eu)   | [7440-53-1] | 0,63 $\hat{A}\pm$ 0,057  | ppm | Aqua Regia<br>Digestion |
| Iron       | Iron (Fe)       | [7439-89-6] | 2,36 $\hat{A}\pm$ 0,195  | %   | Aqua Regia<br>Digestion |
| Gallium    | Gallium (Ga)    | [7440-55-3] | 2,75 $\hat{A}\pm$ 0,42   | ppm | Aqua Regia<br>Digestion |
| Gadolinium | Gadolinium (Gd) | [7440-54-2] | 2,43 $\hat{A}\pm$ 0,26   | ppm | Aqua Regia<br>Digestion |
| Germanium  | Germanium (Ge)  | [7440-56-4] | <0,10                    | ppm | Aqua Regia<br>Digestion |
| Hafnium    | Hafnium (Hf)    | [7440-58-6] | 0,41 $\hat{A}\pm$ 0,05   | ppm | Aqua Regia<br>Digestion |
| Mercury    | Mercury (Hg)    | [7439-97-6] | 0,018 $\hat{A}\pm$ 0,006 | ppm | Aqua Regia<br>Digestion |
| Holmium    | Holmium (Ho)    | [7440-60-0] | 0,28 $\hat{A}\pm$ 0,02   | ppm | Aqua Regia<br>Digestion |
| Indium     | Indium (In)     | [7440-74-6] | 0,024 $\hat{A}\pm$ 0,004 | ppm | Aqua Regia<br>Digestion |
| Potassium  | Potassium (K)   | [7440-09-7] | 0,133 $\hat{A}\pm$ 0,023 | %   | Aqua Regia<br>Digestion |

|              |                   |             |                         |     |                         |
|--------------|-------------------|-------------|-------------------------|-----|-------------------------|
| Lanthanum    | Lanthanum (La)    | [7439-91-0] | 14,8 $\hat{\pm}$ 1,35   | ppm | Aqua Regia<br>Digestion |
| Lithium      | Lithium (Li)      | [7439-93-2] | 7,57 $\hat{\pm}$ 1,05   | ppm | Aqua Regia<br>Digestion |
| Lutetium     | Lutetium (Lu)     | [7439-94-3] | 0,073 $\hat{\pm}$ 0,005 | ppm | Aqua Regia<br>Digestion |
| Magnesium    | Magnesium (Mg)    | [7439-95-4] | 0,704 $\hat{\pm}$ 0,067 | %   | Aqua Regia<br>Digestion |
| Manganese    | Manganese (Mn)    | [7439-96-5] | 0,021 $\hat{\pm}$ 0,002 | %   | Aqua Regia<br>Digestion |
| Molybdenum   | Molybdenum (Mo)   | [7439-98-7] | 1,28 $\hat{\pm}$ 0,079  | ppm | Aqua Regia<br>Digestion |
| Sodium       | Sodium (Na)       | [7440-23-5] | 0,088 $\hat{\pm}$ 0,014 | %   | Aqua Regia<br>Digestion |
| Niobium      | Niobium (Nb)      | [7440-03-1] | 0,37 $\hat{\pm}$ 0,08   | ppm | Aqua Regia<br>Digestion |
| Neodymium    | Neodymium (Nd)    | [7440-00-8] | 15,2 $\hat{\pm}$ 1,46   | ppm | Aqua Regia<br>Digestion |
| Nickel       | Nickel (Ni)       | [7440-02-0] | 57 $\hat{\pm}$ 3,3      | ppm | Aqua Regia<br>Digestion |
| Phosphorus   | Phosphorus (P)    | [7723-14-0] | 0,051 $\hat{\pm}$ 0,002 | %   | Aqua Regia<br>Digestion |
| Lead         | Lead (Pb)         | [7439-92-1] | 6,76 $\hat{\pm}$ 0,369  | ppm | Aqua Regia<br>Digestion |
| Palladium    | Palladium (Pd)    | [7440-05-3] | <10,0                   | ppb | Aqua Regia<br>Digestion |
| Praseodymium | Praseodymium (Pr) | [7440-10-0] | 3,65 $\hat{\pm}$ 0,256  | ppm | Aqua Regia<br>Digestion |
| Rubidium     | Rubidium (Rb)     | [7440-17-7] | 8,58 $\hat{\pm}$ 1,23   | ppm | Aqua Regia<br>Digestion |
| Rhenium      | Rhenium (Re)      | [7440-15-5] | <0,001                  | ppm | Aqua Regia<br>Digestion |
| Sulphur      | Sulfur (S)        | [7704-34-9] | 0,012 $\hat{\pm}$ 0,003 | %   | Aqua Regia<br>Digestion |
| Antimony     | Antimony (Sb)     | [7440-36-0] | 0,42 $\hat{\pm}$ 0,05   | ppm | Aqua Regia<br>Digestion |
| Scandium     | Scandium (Sc)     | [7440-20-2] | 2,3 $\hat{\pm}$ 0,34    | ppm | Aqua Regia<br>Digestion |

|           |                |              |                         |     |                         |
|-----------|----------------|--------------|-------------------------|-----|-------------------------|
| Selenium  | Selenium (Se)  | [7782-49-2]  | <1,00                   | ppm | Aqua Regia<br>Digestion |
| Samarium  | Samarium (Sm)  | [7440-19-9]  | 3,05 $\hat{\pm}$ 0,244  | ppm | Aqua Regia<br>Digestion |
| Tin       | Tin (Sn)       | [7440-31-5]  | 1 $\hat{\pm}$ 0,091     | ppm | Aqua Regia<br>Digestion |
| Strontium | Strontium (Sr) | [7440-24-6]  | 39,7 $\hat{\pm}$ 3,47   | ppm | Aqua Regia<br>Digestion |
| Tantalum  | Tantalum (Ta)  | [7440-25-7]  | <0,010                  | ppm | Aqua Regia<br>Digestion |
| Terbium   | Terbium (Tb)   | [7440-27-9]  | 0,32 $\hat{\pm}$ 0,025  | ppm | Aqua Regia<br>Digestion |
| Tellurium | Tellurium (Te) | [13494-80-9] | <0,10                   | ppm | Aqua Regia<br>Digestion |
| Thorium   | Thorium (Th)   | [7440-29-1]  | 5,75 $\hat{\pm}$ 0,296  | ppm | Aqua Regia<br>Digestion |
| Titanium  | Titanium (Ti)  | [7440-32-6]  | 0,102 $\hat{\pm}$ 0,024 | %   | Aqua Regia<br>Digestion |
| Thallium  | Thallium (Tl)  | [7440-28-0]  | 0,067 $\hat{\pm}$ 0,01  | ppm | Aqua Regia<br>Digestion |
| Uranium   | Uranium (U)    | [7440-61-1]  | 0,58 $\hat{\pm}$ 0,021  | ppm | Aqua Regia<br>Digestion |
| Vanadium  | Vanadium (V)   | [7440-62-2]  | 19,5 $\hat{\pm}$ 2      | ppm | Aqua Regia<br>Digestion |
| Tungsten  | Tungsten (W)   | [7440-33-7]  | 0,36 $\hat{\pm}$ 0,05   | ppm | Aqua Regia<br>Digestion |
| Yttrium   | Yttrium (Y)    | [7440-65-5]  | 7,18 $\hat{\pm}$ 0,406  | ppm | Aqua Regia<br>Digestion |
| Ytterbium | Ytterbium (Yb) | [7440-64-4]  | 0,54 $\hat{\pm}$ 0,047  | ppm | Aqua Regia<br>Digestion |
| Zinc      | Zinc (Zn)      | [7440-66-6]  | 32,8 $\hat{\pm}$ 4,8    | ppm | Aqua Regia<br>Digestion |
| Zirconium | Zirconium (Zr) | [7440-67-7]  | 17,7 $\hat{\pm}$ 1,24   | ppm | Aqua Regia<br>Digestion |