

GLY 4200C LAB 2

NATIVE ELEMENTS

Mineral Name	H	G	<u>Color/</u> Streak Color	Cleavage, Fracture, or Parting	Luster	Other Properties/ Notes
*COPPER	(2.5 - 3)	(8.9)	Copper, orange, green/ (shiny copper red)	Hackly fracture	dull metallic	dendritic habit
*GOLD	(2.5 - 3)	(15 - 19.3)	yellow/ (shiny yellow)	Uneven fracture (hackly fracture)	metallic	tabular habit
*SILVER	(2.5 - 3)	(10 - 11)	med. gray/ (shiny gray)	hackly fracture	dull metallic	
*PLATINUM	(4 - 4.5)	(14 - 19)	silver/ (light steel gray)	hackly fracture	metallic	some samples magnetic due to iron impurity
SULFUR	2.5	2.3	yellow/white	poor 2-D cleavage not at right angles/sub- conchoidal fracture	greasy to dull	Odor

\* Denotes reference specimen. Do not perform hardness, streak color, or acid tests on these samples. Numbers in parenthesis indicate values from the literature.

GLY 4200C LAB 2

NATIVE ELEMENTS, cont.

Mineral Name	H	G	<u>Color/</u> Streak Color	Cleavage, Fracture, or Parting	Luster	Other Properties/ Notes
GRAPHITE	< 1	2.2	med. gray/ shiny gray	1-D cleavage/ uneven fracture	sub- metallic	feels greasy
*DIAMOND	(10.0)	(3.5)	clear/none	4-D cleavage/ conchoidal fracture	adamantine	transparent
*BISMUTH	(2-2.5)	(9.8)	white silver, pink/(red silver white)	poor 1-D cleavage/ uneven fracture	dull	associated with pink erythrite
*ANTIMONY	(3-3.5)	(6.7)	silver/(tin white)	1-D cleavage?/ uneven fracture	metallic	
*ARSENIC	(3.5)	(5.7)	gray black/(tin white)	1-D cleavage/ hackly fracture	dull to greasy	garlic odor

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SULFIDES

Mineral Name	H	G	<u>Color/ Streak Color</u>	Cleavage, Fracture, or Parting	Luster	Other Properties/ Notes
BORNITE	3.0	4.7	multi-color tarnish, dark gray/black	uneven fracture	metallic	iridescence
GALENA	3.0	(7.5)	dark gray/dull black	good 3-D cubic cleavage/sub- conchoidal fracture	metallic	
SPHALERITE	4.0	4.2	yellow brown/light yellow	6-D cleavage (hard to see)	resinous to vitreous	massive with capillary fractures sulfur odor
CHALCOPYRITE	3.0	4.2	shiny gold/ dull black	uneven fracture	metallic	
PYRRHOTITE	(3 - 4.5)	4.7	silver brass/(gray black)	uneven fracture/parting	metallic	magnetic
NICCOLINE	5.0	(7.8)	pale copper red/dull black	even fracture	dull metallic	smells like sulfur
REALGAR	2.5	2.4	red/red	uneven to subconchoidal fracture	resinous to adamantine	columnar crystals

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SULFIDES, cont.

Mineral Name	H	G	<u>Color/ Streak Color</u>	Cleavage, Fracture, or Parting	Luster	Other Properties/ Notes
ORPIMENT	2.5	3.5	orange yellow/yellow	1-D cleavage/ uneven fracture	pearly	micaceous habit
STIBNITE	2.5	4.6	gray/lead gray	good 1-D cleavage/uneven fracture	submetallic	smells like sulfur
PYRITE	6.5	4.8	greenish gold/greenish black	uneven fracture	metallic	
COBALTITE	5.5	(6.3)	silver to lead/black	perfect 3-D cleavage	metallic	
MARCASITE	6.5	4.9	green gold, dull brass/black- green	uneven fracture	metallic	acid reaction
ARSENOPYRITE	5.5	(6.1)	white - light gray/black	1-D cleavage/uneven to jagged fracture	metallic	
MOLYBDENITE	(1-1.5)	(4.9)	silver to gray/gray	1-D cleavage	shiny metallic	

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SULFIDES, cont.

Mineral Name	H	G	<u>Color/ Streak Color</u>	Cleavage, Fracture, or Parting	Luster	Other Properties/ Notes
CINNABAR	(2.5)	(8.0)	vermillion red/scarlet	(3-D cleavage)	dull to adamantine	translucent
CHALCOCITE	2.5	5.5- 5.8	silver/gray	poor 1-D cleavage	submetallic	
*MILLERITE	(3-3.5)	(5.4)	brass/greenish black	difficult 2-D cleavage	metallic	
*CALAVERITE	(2.5)	(9.4)	brass yellow to silver white/ yellowish to greenish gray	Difficult to see	metallic	very brittle; pronounced "claverite" by miners
SMALTITE	5.5-6	(6.1- 6.9)	tin-white/black	May show distinct cleavage	metallic	tarnish is often iridescent

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SULFOSALTS

Mineral Name	H	G	<u>Color/</u> Streak Color	Cleavage, Fracture, or Parting	Luster	Other Properties/ Notes
TETRAHEDRITE	3-4	(4.5- 5.1)	gray to silver/brown- black	subconchoidal to uneven fracture	Metallic	Tetrahedral crystals sometimes seen
ENARGITE	(3)	4.5	grayish black to iron black/dark gray	perfect 2-D good 2-D	Metallic	Name comes from Greek meaning distinct, in allusion to cleavage

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