

Accounting the Mineral Resources of the Cordillera Region

by

Aldrin Federico R. Bahit, Jr., Jeannel I. Barcayan & Stephen Dale C. Estigoy
Philippine Statistics Authority – Cordillera Administrative Region

Presented by

Aldrin Federico R. Bahit, Jr.
Stephen Dale C. Estigoy



CAR Mineral Profile

9m ha or 30.0%



high mineral potential



11 approved
MPSA

15,542.9 ha
or 0.8%



5,156 workers
17.8% of the
total
employment

Php9.4 billion in 2004 to
Php7.0 billion in 2016



2.3% growth rate

2.9% to the GRDP
at current prices



Gross Regional
Domestic Product



General

Support the institutionalization
Environmental-economic accounting



Specific



Come up with accounts of mineral reserves



Value the gold and copper reserves



Report the quantity and value of production
of silver and non-metallic minerals



Possible recommendations for the improvement of the
accounting and valuation of mineral resources

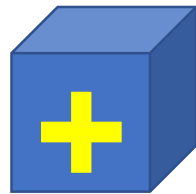


Class A: Commercially recoverable

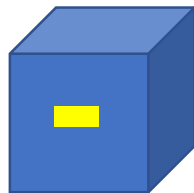
Class B: Potentially commercially recoverable

Class C: Non-commercial and other known deposits

Basic Structure of the Accounting



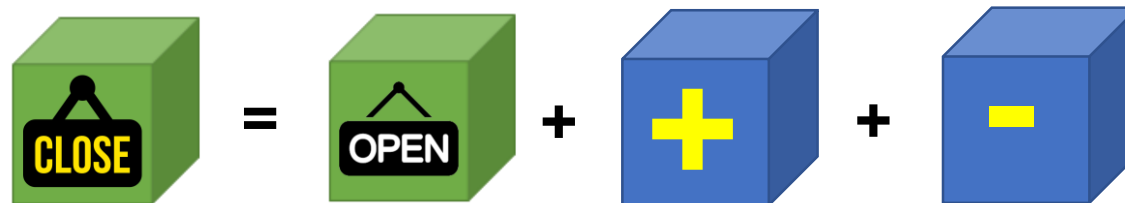
Discoveries
Upward reappraisals
Reclassifications



Extraction
Catastrophic losses
Downward reappraisals
Reclassifications



Physical asset = changes in opening and closing stocks



Monetary asset = Net Present Value (NPV) approach

Physical Asset Accounts for Class A Gold Reserve



Changes in stocks (ore form)

19.8 million MT
(2004 - 2016)
Total additions

10.3 million MT
(2004 - 2016)
Total reductions

6.6 million MT
(2011)
Highest addition

582.6K MT
(2016)
Highest reduction

465.2K MT
(2014)
Lowest addition

295.5K MT
(2008)
Lowest reduction

Changes in stocks (metal content)

3.5 million MT
(2004 - 2016)
Total additions

2.8 million MT
(2004 - 2016)
Total reductions

1.3 million MT
(2011)
Highest addition

898.0K MT
(2014)
Highest reduction

898K kg
(2009)
Lowest addition

39.8K MT
(2016)
Lowest reduction



Ore form
4,910 MT
6.2 million MT
(Total 2004-2016)



Metal content
1.0 kg
1.3 thousand MT
(Total 2004-2016)



Physical Asset Accounts for Class A Copper Reserve



Changes in stocks (ore form)

112.8M MT
(2004 - 2016)
Total additions

117.2M MT
(2004 - 2016)
Total reductions

21.0M MT
(2010)
Highest addition

10.5M MT
(2005)
Highest reduction

77.6K MT
(2011)
Lowest addition

7.3M MT
(2012)
Lowest reduction

Changes in stocks (metal content)

24.1M MT
(2004 - 2016)
Total additions

26.7M MT
(2004 - 2016)
Total reductions

6.7M MT
(2011)
Highest addition

4.0M MT
(2014)
Highest reduction

204.3k MT
(2009)
Lowest addition

1.0M MT
(2016)
Lowest reduction



Ore form
5.2K MT
112.8 million MT
(Total 2004-2016)



Metal content
1.0K MT
21.8 million MT
(Total 2004-2016)



Monetary Asset Accounts for Gold and Copper



At **15%** discount rate, closing stock of gold was valued at **₱12.3 billion**.



While at **12%** discount rate, gold reserve in metal content was valued at **₱14.3 billion** as of closing stock of 2016.



At **12%** discount rate, Class A copper reserve in metal content was valued at **₱5.0 billion** as of closing stock of 2016.



While at **15%** discount rate, closing stock was valued at **₱4.6 billion**.





AS OF CLOSING STOCK OF 2016

Mineral	Reserve in Ore form	Reserve in Metal content	12% discount	Mine Life
Gold	9.9 million MT	1.3 thousand MT	₱14.3 billion	14 years
Copper	59.7 million MT	10.6 million MT	₱5.0 billion	6 years



Table 9. Silver Production, CAR: 2004-2016

Year	Quantity (kg)	Value (PHP)
2004	7,185.0	83,052,194.0
2005	4,978.0	194,369,365.0
2006	5,096.0	92,476,807.0
2007	6,716.0	129,799,325.0
2008	9,889.8	171,129,097.3
2009	5,219.4	118,090,896.0
2010	5,376.0	160,774,209.8
2011	5,181.4	246,041,663.0
2012	3,680.3	97,288,217.0
2013	5,051.3	157,968,022.3
2014	4,564.7	122,603,992.1
2015	4,845.5	104,789,162.1
2016	4,394.4	118,923,247.2

Table 10. Sand and Gravel Production, CAR: 2004-2016

Year	Quantity (m ³)	Value (PHP)
2004	152,773.0	27,160,156.0
2005	115,930.9	29,938,906.0
2006	134,579.9	33,336,918.8
2007	213,694.3	36,781,719.1
2008	161,767.5	28,192,090.7
2009	293,814.8	35,224,697.4
2010	243,646.7	40,157,522.4
2011	372,085.0	41,851,729.0
2012	545,179.2	41,228,199.5
2013	454,525.0	36,007,118.4
2014	756,886.9	139,364,578.4
2015	903,154.6	152,621,915.3
2016	770,275.5	163,621,606.9



Impacts/Outcomes & Recommendations



Hands-on learning on mining operations



Administrative reporting forms better utilized



Defining terms and setting standards



Discussion on small-scale mining

Naimbag nga aldaw!